

Base Station Antennas

Product Catalog
North America, 2024



DENGYO: A Legacy of Innovation in RF Technology

Founded in 1947, Nihon Dengyo Kosaku (DENGYO) Group has been at the forefront of RF technology for nearly eight decades. Our deep-rooted expertise in antenna and filter technologies has enabled us to develop a diverse range of products and solutions that enhance countless aspects of daily life. Beyond product creation, we've been instrumental in constructing the infrastructure necessary to deploy these technologies on a broad scale.

Customer satisfaction is paramount at DENGYO. We are committed to delivering exceptional value through groundbreaking innovation and a relentless pursuit of technological advancement. As a responsible corporate citizen, we prioritize sustainability, balancing business growth with environmental stewardship and social responsibility.

As we navigate the rapidly evolving technological landscape of the 21st century, characterized by advancements in AI, robotics, and data science, DENGYO is poised to capitalize on new opportunities. We will leverage our core competencies in radio wave technology to pioneer solutions for emerging challenges and markets. Through strategic partnerships and a steadfast focus on innovation, we aim to be a trusted partner in shaping the future.

Our mission, "Enriching the Future through Better Use of Radio Waves," is a guiding principle that drives our work. By harnessing the power of radio waves, we aspire to create a more prosperous and vibrant world for generations to come.



Tsutomu Taguchi

President, Representative

Nihon Dengyo Kosaku Co, Ltd.

DENGYO's antennas are known for their reliability and quality.

Our base station antenna portfolio covers sub-6GHz frequencies with up to four frequency bands in a single antenna and up to 16 RF ports. Panel antennas include the DUA, QUA, HEX, OCT, DEC, DOD, and HED/2OCT series, which designate the number of ports. The beam-forming (BMF) series is also panel style, while the cannister (CAN) series feature omni and quasi-omni antennas. A variety of remote electrical tilt (RET) options are available, including smart bias tee.

With over 200 base station antenna models to choose from, our portfolio covers a wide range of deployment scenarios. If you don't find the configurations you need, send us your specifications and we will develop the antenna to match your requirements.

DENGYO Series	Style	Ports	Frequency bands MHz		Half-Power Beamwidth	Height
DUA	panel	2	698 – 960		65°	6' – 8'
QUA	panel	4	617 – 960 1695 – 2690	3300 - 4200	33° / 45° / 65° / 90°	3' – 8'
HEX	panel	6	617 – 960 1695 – 2690		45° / 65° / 90°	4' – 8'
OCT	panel	8	617 – 960 1695 – 2690	3300 - 4200	45° / 65° / 90°	2' – 9'
DEC	panel	10	617 – 894 1695 – 2690	3300 – 4200 5150 - 5925	45° / 65° / 85°	2' – 8'
DOD	panel	12	617 – 894 1695 – 2690	3300 – 4200	45° / 65°	3' – 9'
HED / 2OCT	panel	16	617 – 894 1695 – 2690	2400 – 2690 3300 – 4200	33° / 45° / 65°	6' – 8'
BMF	beam forming	8 – 16	617 – 894 1695 – 2690	2400 – 3800 3300 – 4200	65° / 80°	3' – 9'
CAN	cannister	various	617 – 894 1695 – 2690	3300 – 4200 5150 - 5925	360° / 65°	1' – 6'

Click on the part number to view the data sheet.

Part number	Frequency Range MHz	Gain dBi	HBW	Height feet
DUA series 2-port antennas				
DUA6-1B-RA65	698-960	15.5	65°	6
DUA8-1B-RA65	698-960	18	65°	8

QUA series 4-port antennas					
QUA3-2HX-CB65		3300-4200	18	65°	3
QUA4-1B1R-RB65	698-960	3300-4200	13.5/17.5	65°	4
QUA4-1LX1HX-BW45	617-894	1695-2400	14/18	45°	4
QUA4-1LX1HX-BW65	617-894	1695-2400	13.5/17.5	65°	4
QUA4-2A-RB45	617-894		14.5	45°	4
QUA4-2HX-BR65		1695-2690	18.5	65°	4
QUA4-2HX-BW65		3300-3800	18.2	65°	4
QUA4-2HX-CB65		3300-4200	18.5	65°	4
QUA4-2LX-BW65	617-894		13.5	65°	4
QUA6-1LX1HX-BW45	617-894	1695-2400	15.5/18	45°	6
QUA6-1LX1HX-BW65	617-894	1695-2400	15/18	65°	6
QUA6-1LX1HX-BW90	617-894	1695-2400	14/17	90°	6
QUA6-2A-RB33	617-894		17	33°	6
QUA6-2A-RB65	617-894		15.5	65°	6
QUA6-2HX-BR65		1695-2690	20/20	65°	6
QUA6-2HX-CB65		3300-4200	19/19	65°	6
QUA6-2LX-BW65	617-894		15/15	65°	6
QUA8-1LX1HX-BW45	617-894	1695-2400	16.5/18	45°	8
QUA8-1LX1HX-BW65	617-894	1695-2400	16/18	65°	8
QUA8-1LX1HX-BW90	617-894	1695-2400	15/17	90°	8
QUA8-2A-RB33	617-894		18.5	33°	8
QUA8-2A-RB45	617-894		17	45°	8
QUA8-2A-RB65	617-894		16.5	65°	8
QUA8-2HX-BR65		1695-2690	20.5	65°	8
QUA8-2HX-CB65		3300-4200	19.5	65°	8
QUA8-2LX-BW65	617-894		15	65°	8

Part number	Frequency Range MHz		Gain dBi	HBW	Height feet
HEX series 6-port antennas					
HEX4-1A2J-RC65A	617-894	1695-2690	14/18	65°	4
HEX6-1A2J-RB33	617-894	1695-2690	17/20	33°	6
HEX6-1A2J-RC65A	617-894	1695-2690	15/19	65°	6
HEX6-1B2J-RC65	698-960	1695-2690	15.5/18.5	65°	6
HEX6-1B2K-RB65-S	698-894	1695-2200	16/20	65°	6
HEX6-1LX2HX-BW45	617-894	1695-2400	16.5/18	45°	6
HEX6-1LX2HX-BW65	617-894	1695-2400	15/18	65°	6
HEX6-1LX2HX-BW90	617-894	1695-2400	14/17	90°	6
HEX6-2LX1HX-BW45	617-894	1695-2400	15.5/18	45°	6
HEX6-2LX1HX-BW65	617-894	1695-2400	15/18	65°	6
HEX6-2LX1HX-BW90	617-894	1695-2400	14/17	90°	6
HEX8-1A2J-RC65A	617-894	1695-2690	16.5/19	65°	8
HEX8-1B2J-RC65	694-960	1695-2690	16.5/18.5	65°	8
HEX8-1B2K-RB65-S	694-894	1695-2200	18/20	65°	8
HEX8-1LX2HX-BW45	617-894	1695-2400	16.5/18	45°	8
HEX8-1LX2HX-BW65	617-894	1695-2400	16/18	65°	8
HEX8-1LX2HX-BW90	617-894	1695-2400	15/17	90°	8
HEX8-2LX1HX-BW45	617-894	1695-2400	16.5/18	45°	8
HEX8-2LX1HX-BW65	617-894	1695-2400	16/18	65°	8
HEX8-2LX1HX-BW90	617-894	1695-2400	15/17	90°	8
OCT series 8-port antennas					
OCT2-2A2K-RA65	617-894	1695-2200	9.5/15	65°	2
OCT2-2LX2HX-BW65	617-894	1695-2400	10.5/15	65°	2
OCT3-4HX-CB65		3300-4200	18	65°	3
OCT4-1A1G2U-RD85	617-894	1695-2690	13/17/15	85°	4
OCT4-2A2J-RC65 LP	617-894	1695-2690	14/18	65°	4
OCT4-2A2J-RC65A	617-894	1695-2690	12.5/18	65°	4
OCT4-2A2J-RD65-S	617-894	1695-2690	12.5/17	65	4
OCT4-2A2K-RB65	617-894	1695-2200	13.5/17	65°	4
OCT4-2A2K-RB65A	617-894	1695-2200	12.5/17	65°	4
OCT4-2AA2Q-RD65	790-960	3300-3800	14/17	65°	4
OCT4-2B2R-RD65	698-960	3300-4200	13.5/17.5	65°	4

Part number	Frequency Range MHz		Gain dBi	HBW	Height feet
OCT4-2LX2HX-BR45	617-894	1695-2690	14/18	45°	4
OCT4-2LX2HX-BR65	617-894	1695-2690	13.5/17	65°	4
OCT4-2LX2HX-BW45	617-894	1695-2400	14/18	45°	4
OCT4-2LX2HX-BW65	617-894	1695-2400	13.5/17	65°	4
OCT4-2J2R-RD65		1695-2700 3300-4200	18/18	65°	4
OCT4-4HX-CB65		3300-4200	18.5	65°	4
OCT6-2A2J-RC45LP	617-894	1695-2690	15/18.5	65°	6
OCT6-2A2J-RC65A	617-894	1695-2690	14/18.5	65°	6
OCT6-2A2J-RC65B	617-894	1695-2690	14/18.5	65°	6
OCT6-2A2J-RC65LP	617-894	1695-2690	15/18.5	65°	6
OCT6-2A2K-RB45	617-894	1695-2200	15.5/20.5	45°	6
OCT6-2A2K-RB65	617-894	1695-2200	15/19	65°	6
OCT6-2A2K-RB65A	617-894	1695-2200	14/19	65°	6
OCT6-2A2K-RB65HG	617-894	1695-2200	16/19.5	65°	6
OCT6-2A2K-RB65HGC	617-894	1695-2200	16.5/20	65°	6
OCT6-2A2K-RB90HG	617-894	1695-2200	15/18.5	90°	6
OCT6-2A2K-RD45	617-894	1695-2200	15.5/19	45°	6
OCT6-2A2K-RD65	617-894	1695-2200	15/19	65°	6
OCT6-2LX2HX-BR45	617-894	1695-2690	15.5/18	45°	6
OCT6-2LX2HX-BR65	617-894	1695-2690	15/18.5	65°	6
OCT6-2LX2HX-BR90	617-894	1695-2690	14/17	90°	6
OCT6-2LX2HX-BW45	617-894	1695-2400	15.5/18	45°	6
OCT6-2LX2HX-BW65	617-894	1695-2400	15/18	65°	6
OCT6-2LX2HX-BW90	617-894	1695-2400	14/17	45°	6
OCT8-2A2G-RB45-S	617-894	1695-2400	16.5/18	65°	8
OCT8-2A2G-RB65-S	617-894	1695-2400	16/18	90°	8
OCT8-2A2J-RC65A	617-894	1695-2690	15.5/18.5	45°	8
OCT8-2A2K-RB65HG	617-894	1695-2200	17/20	65°	8
OCT8-2A2K-RB65HGC	617-894	1695-2200	18/20	65°	8
OCT8-2A2K-RB90HG	617-894	1695-2200	16/19	90°	8
OCT8-2LX2HX-BR45	617-894	1695-2690	16.5/18	65°	8
OCT8-2LX2HX-BR65	617-894	1695-2690	16/18	65°	8
OCT8-2LX2HX-BR90	694-894 824-894	1695-2200	16/18 14.5	65° 90°	8
OCT8-2LX2HX-BW45	617-894	1695-2400	16.5/18	45°	8
OCT8-2LX2HX-BW65	617-894	1695-2400	16/18	65°	8

Part number	Frequency Range MHz		Gain dBi	HBW	Height feet
OCT8-2LX2HX-BW90	617-894	1695-2400	15/17	90°	8
OCT9-2LX2HX-HG65	617-894	1695-2400	17/18	45°	8

DEC series 10-port antennas

DEC2-5HX-CB65		1695-2690	3400-4200	5150-5925	13.5/11/5	65°	2
DEC3-1A2G2U-RC85	617-894	1695-2400	3400-4200		13/13/15	85°	3
DEC3-1A2J2U-RC65	617-894	1695-2690	3400-4200		13/14/15	65°	3
DEC4-1A2G2U-RC65	617-894	1695-2400	3400-4200		14/17/15	65°	4
DEC4-1A2G2U-RC85	617-894	1695-2400	3400-4200		13/14/15	85°	4
DEC4-1A2J2U-RC65	617-894	1695-2690	3400-4200		14/17/15	65°	4
DEC4-2B2M1J-RC65		1695-2200			17	65°	4
		1695-2690			17		
		2490-2690			18		
DEC6-1A2G2U-RC65	617-894	1695-2400	3400-4200		15/17/16	65°	6
DEC6-1A2J2U-RC65-S	617-894	1695-2690	3300-4200		15/17.5/16	65°	6
DEC6-3A2J-RE45	617-894	1695-2690			15.5/20	45°	6
DEC8-1A2J2U-RC65-S	617-894	1695-2690	3300-4200		16/17.5/16	65°	8

DOD series 12-port antennas

DOD3-2LX4HX-CB65	617-894	1695-2690	3400-4200		11/17/18	65°	3
DOD4-2LX4HX-BR45	617-894	1695-2690			14/18.5	45°	4
DOD4-2LX4HX-BR65	617-894	1695-2690			14/18	65°	4
DOD4-2LX4HX-BW45	617-894	1695-2400			14/18.1	45°	4
DOD4-2LX4HX-BW65	617-894	1695-2400			13.5/17.5	65°	4
DOD4-2LX4HX-CB65	617-894	1695-2690	3300-4200		13/18/18	65°	4
DOD6-2A2J2R-RF45	617-894	1695-2690	3300-4200		15.5/19/18.5	45°	6
DOD6-2A2J2R-RF65	617-894	1695-2690	3300-4200		15/18/18	65°	6
DOD6-2A4J-RD45	617-894	1695-2690			16.5/20	45°	6
DOD6-2A4J-RF65	617-894	1695-2690			15/17.5	65°	6
DOD6-2LX4HX-BR45	617-894	1695-2690			15.5/18.5	45°	6
DOD6-2LX4HX-BR65	617-894	1695-2690			15/18.5	65°	6
DOD6-2LX4HX-BW45	617-894	1695-2400			15.5/18	45°	6
DOD6-2LX4HX-BW65	617-894	1695-2400			15/17.5	65°	6
DOD6-2LX4HX-CB65	617-894	1695-2690	3300-4200		15/18/17.5	65°	6
DOD7-2A4J-RD45	617-894	1695-2690			17/19	45°	6

Part number	Frequency Range MHz			Gain dBi	HBW	Height feet
DOD8-2A2J2R-RF45	617-894	1695-2690	3300-4200	17/19/18.5	45°	6
DOD8-2A2J2R-RF65	617-894	1695-2690	3300-4200	16/18/18	65°	6
DOD8-2A4J-RD45	617-894	1695-2690		17.5/20	45°	6
DOD8-2A4J-RF45	617-894	1695-2690		17.5/20	45°	6
DOD8-2A4J-RF65	617-894	1695-2690		16/17.5	65°	6
DOD8-2LX4HX-BR45	617-894	1695-2690		16.5/18.5	45°	6
DOD8-2LX4HX-BR65	617-894	1695-2690		16.5/18.5	65°	8
DOD8-2LX4HX-BW45	617-894	1695-2400		16.5/18	45°	8
DOD8-2LX4HX-BW65	617-894	1695-2400		16/17.5	65°	8
DOD8-2LX4HX-CB65	617-894	1695-2690	3300-4200	16/18/17.5	65°	8
DOD9-1B4J1L-RF65	694-960	1427-2690		17/18	65°	9
		1695-2200		18		

HED/2OCT series 16-port antennas

Part number	Frequency Range MHz			Gain dBi	HBW	Height feet
2OCT6-2A2G2N2R-RH45	617-894	1695-2400	2400-2690 3300-4200	15.5/18.5/19/18.5	45°	6
2OCT6-2A2G2N2R-RH65	617-894	1695-2400	2400-2690 3300-4200	15/18/18/18	65°	6
2OCT8-2A2G2N2R-RH45	617-894	1695-2400	2400-2690 3300-4200	17/18.5/19/18.5	45°	8
2OCT8-2A2G2N2R-RH65	617-894	1695-2400	2400-2690 3300-4200	16/18/18/18	65°	8
2OCT8-2A6J-RD65	617-894	1695-2690		16/17.5	65°	8
2OCT8-8J-RD65		1695-2690		18	65°	8
HED6-4LX4HX-BW33	698-894	1695-2400		17/20	33°	6
HED6-4LX4HX-BW33-M	617-894	1695-2690		15.5/19	33°	6

BMF series beam-forming antennas

Part number	Ports		Frequency Range (MHz)			Gain dBi	HBW	Height feet
	4.3-10 cluster							
BMF3-1R-RA80	9		3300-4200			16	80°	3
BMF4-2LX3HX-CB65	8	2	617-894	1695-2690	3300-4200	14/14/16	65°	4
BMF4-2LX5HX-CB65	12	2	617-894	1695-2690	3300-4200	14/14/16	65°	4
BMF5-2B2J1L-RE65	8	2	698-960	1695-2690	2490-3800	14/18/16	65°	5
BMF5-2LX5HX-CB65	12	2	617-894	1695-2690	3400-4200	14/15/16	65°	5
BMF5-2LX6HX-CB65	12	4	617-894	1695-2690	2500-2690 3300-3800	14/15/15/15	65°	5
BMF5-2LX7HX-CB65	16	2	617-894	1695-2690	3300-3800	14/15/16	65°	5
BMF6-2A2J1N1Q-RF65	8	4	617-894	1695-2690	2490-2690 3300-3800	15/18/14.5/15	65°	6

Part number	Ports		Frequency Range (MHz)			Gain dBi	HBW	Height feet
	4.3-10 cluster							
BMF6-2LX3HX-CB65	8	2	617-894	1695-2690	3300-4200	15/18/16	65°	6
BMF6-2LX5HX-CB65	12	2	617-894	1695-2690	3300-4200	15/18/16	65°	6
BMF7-2A4J1M-RG65	12	2	617-894	1695-2690	2300-3800	13/18/18	65°	7
BMF7-2A4J1Q-RG65	12	2	617-894	1695-2690	3300-3800	16/17/17	65°	7
BMF7-2B2J1L-RE65	8	2	698-960	1695-2690	2490-3800	16/18/16	65°	7
BMF7-2LX5HX-CB65	12	2	617-894	1695-2690	3300-3800	16/17/17	65°	7
BMF7-2LX6HX-CB65	12	4	617-894	1695-2690	2500-2690 3300-3800	16/17/16/17	65°	7
BMF7-2LX7HX-CB65	16	2	617-894	1695-2690	3300-3800	16/17/17	65°	7
BMF8-2A2J1N1Q-RF65	8	4	617-894	1695-2690	2490-2690 3300-3800	16/18/14.5/15	65°	8
BMF8-2LX3HX-CB65	8	2	617-894	1695-2690	3300-4200	17/19/18.5	65°	8
BMF8-2LX5HX-CB65	12	2	617-894	1695-2690	3300-4200	16/18/16	65°	8
BMF9-2B2J1L-RE65	8	2	617-894	1695-2690	2490-3800	17/18/16	65°	9
BMF9-2LX5HX-CB65	12	2	617-894	1695-2690	3300-3800	17/18/16	65°	9
BMF9-2LX6HX-CB65	12	4	617-894	1695-2690	2500-2690 3300-3800	17/17/16/17	65°	9
BMF9-2LX7HX-CB65	16	2	617-894	1695-2400	3300-3800	17/17/17	65°	9

CAN series cannister antennas

Part number	Ports	Frequency Range MHz			Gain dBi	HBW	Height feet
CAN2-1HX	2			3300-3700	12.5	360°	2
CAN2-2HX	4			3300-3700	13	360°	2
CAN3-2HX	4			3300-3700	15	360°	3
NW23450756517DVIS	6		1710-2690	3400-5000	17/17	65°	6
CAN2-1A1J2Q-0R360	8	617-894	1695-2690		9/10/8	360°	2
CAN1-4J2R-0R360	12		1695-2690	3300-4200	5/6	360°	1
CAN2-1LX5HX	12	698-894	1695-2400	3400-4200 5150-5925	5/8/4.1/5	360°	2
CAN6-2A4J-RF360	12	617-894	1695-2690	3400-3800	9/10/8	360°	6
CAN6-2LX4HX	12	617-894	1695-2690	3400-4200	9/18/18	360°	6
CAN2-1LX7HX	16	617-894	1695-2690	3400-4200 5150-5925	6/10/6/6	360°	2
CAN2-2LX6HX	16	617-894	1695-2690	3300-4200	4/10/6	360°	2
CAN2-2LX7HX	18	617-894	1695-2690	3400-4200 5150-5925	5/7/10/5	360°	2
CAN2-2A4J2R2V-0R360	20+1	617-906	1695-2690	3300-4200 5150-5925	5/7/10/5	360°	2
N263524977151516DVIS	4+4		2545-2645	3400-3600 3700-5000	15/15/16	77°	3

DENGYO **DUA** series

2-port base station antennas



DUA6-1B-RA65

2-ports 698-960 MHz 65°, 16.0 dBi, 2°-12°Tilt Antenna With 1 Integrated RCU.

Electrical Specifications

Frequency Range(MHz)		698-960		
		698-806	790-894	880-960
Polarization		±45°		
Horizontal 3dB Beamwidth(°)		67	65	65
Vertical 3dB Beamwidth(°)		12	11	10
Gain (dBi)		14.7	15.2	15.7
Electrical Downtilt		2°-12°		
Upper Sidelobe Suppression(dB)	First	≥18	≥18	≥18
Front-to-Back Ratio Total Power,±30° (dB)		≥28	≥28	≥28
Isolation ports		≥28dB		
VSWR		<1.5		
Intermodulation IM3 (dBc) (2x43dBm carrier)		<-153		
Impedance		50 Ω		
Max. Power per Input (at 50°C ambient temperature)		500 W		
Lightning Protection		DC Ground		



Electrical Specifications,BASTA

Frequency Range(MHz)		698-960		
		698-806	790-894	880-960
Polarization		±45°		
Beamwidth, Horizontal Tolerance (°)		±4.2	±5.1	±5.3
Beamwidth, Vertical Tolerance (°)		±1.1	±0.9	±0.8
Gain by all Beam Tilts,average, (dBi)		14.2	14.7	15.2
Gain by all Beam Tilts,Tolerance, (dB)		±0.5	±0.5	±0.5
Gain by all Beam Tilt,average (dBi)		2 14.2	2 14.6	2 15.1
		7 14.4	7 14.9	7 15.4
		12 14.1	12 14.4	12 15.0
Front-to-Back Ratio Total Power, ±30° (dB)		≥28	≥28	≥28
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17
	±60° (dB)	≥8	≥10	≥10



Mechanical Specifications

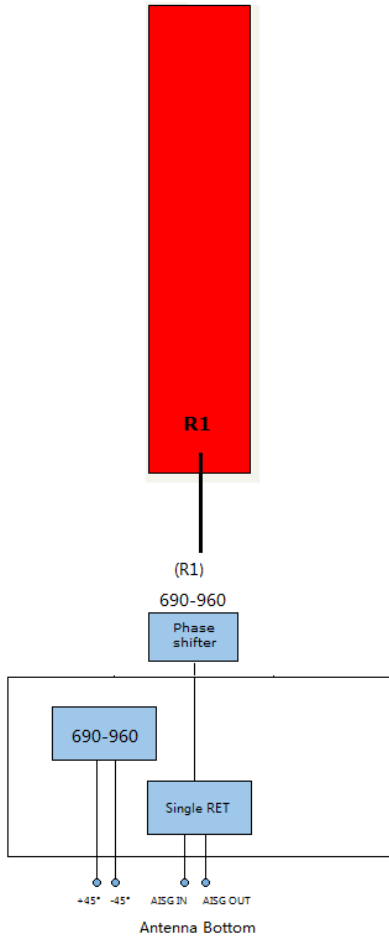
Radome Material	Fiberglass
Connector Type and Location	4.3-10x2 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1828 x 265 x 150 / 71.9 x 10.4x 5.9
Packing Size(mm)/(inches)	2140 x 690 x 300 / 84.2 x 27.2 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	20 / 44.0
Weight w/ Downtilt Bracket(kg)/(lbs)	26 / 57.2
Weight w/ Fixed Bracket(kg)/(lbs)	24 / 52.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	34 / 74.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	32 / 70.4
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	560/236/404

Integrated RET Properties

RET Type	1x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

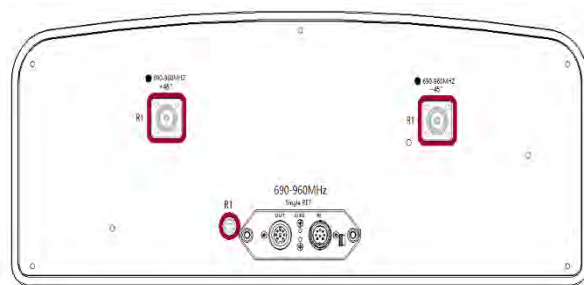


COMPREHENSIVE TILT CONFIGURATION

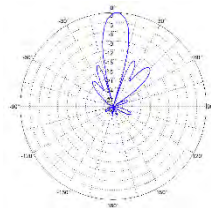
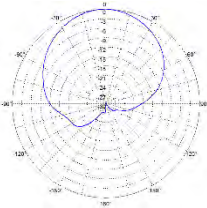


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1

Note: (1) Physical RET Unit containing (1) Single RET



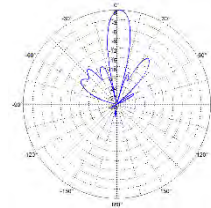
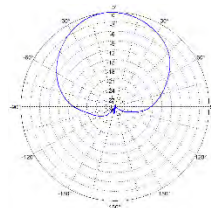
Radiation Pattern (698 - 806 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (806 - 960 MHz)



Horizontal Pattern

Vertical Pattern



DUA8-1B-RA65

2-ports 698-960 MHz 65°, 17.0 dBi, 2°-12°Tilt Antenna With 1 Integrated RCU.

Electrical Specifications

Frequency Range(MHz)		698-960		
		698-806	790-894	880-960
Polarization		±45°		
Horizontal 3dB Beamwidth(°)		67	65	65
Vertical 3dB Beamwidth(°)		8.5	8	7.5
Gain (dBi)		15.9	16.4	16.9
Electrical Downtilt		2°-12°		
Upper Sidelobe Suppression(dB)	First	≥18	≥18	≥18
Front-to-Back Ratio Total Power,±30° (dB)		≥28	≥28	≥28
Isolation ports		≥28dB		
VSWR		<1.5		
Intermodulation IM3 (dBc) (2x43dBm carrier)		<-153		
Impedance		50 Ω		
Max. Power per Input (at 50°C ambient temperature)		500 W		
Lightning Protection		DC Ground		



Electrical Specifications, BASTA

Frequency Range(MHz)		698-960		
		698-806	790-894	880-960
Polarization		±45°		
Beamwidth, Horizontal Tolerance (°)		±4.2	±5.2	±5.4
Beamwidth, Vertical Tolerance (°)		±0.8	±0.7	±0.7
Gain by all Beam Tilts,average, (dBi)		15.4	15.9	16.4
Gain by all Beam Tilts,Tolerance, (dB)		±0.5	±0.5	±0.5
Gain by all Beam Tilt,average (dBi)		2 15.4	2 15.8	2 16.3
		7 15.6	7 16.1	7 16.6
		12 15.3	12 15.6	12 16.2
Front-to-Back Ratio Total Power, ±30° (dB)		≥28	≥28	≥28
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17
	±60° (dB)	≥8	≥10	≥10



Mechanical Specifications

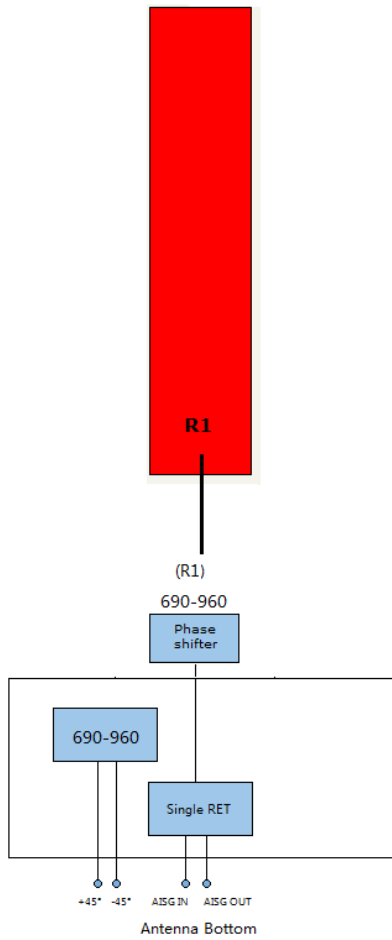
Radome Material	Fiberglass
Connector Type and Location	4.3-10x2 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 265 x 150 / 96.0 x 10.4x 5.9
Packing Size(mm)/(inches)	2750 x 690 x 300 / 108.2 x 27.2 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	24 / 52.8
Weight w/ Downtilt Bracket(kg)/(lbs)	30 / 66
Weight w/ Fixed Bracket(kg)/(lbs)	28 / 61.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	38 / 83.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	36 / 79.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	744/313/537

Integrated RET Properties

RET Type	1x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

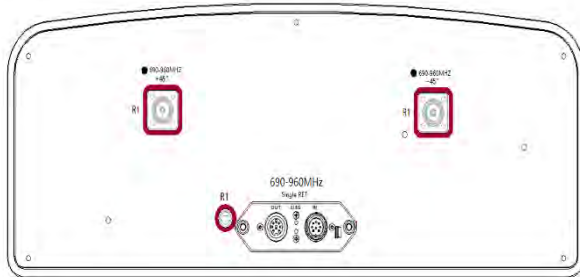


COMPREHENSIVE TILT CONFIGURATION

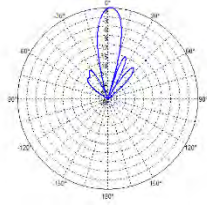
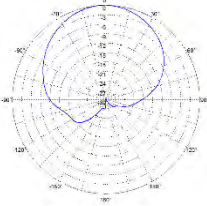


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1

Note: (1) Physical RET Unit containing (1) Single RET



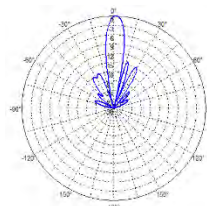
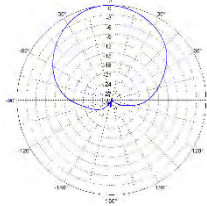
Radiation Pattern (698 - 806 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (806 - 960 MHz)



Horizontal Pattern

Vertical Pattern

DENGYO **QUA** series

4-port base station antennas



QUA3-2HX-CB65

4-ports 3300-4200 / 3300-4200 MHz 65°, 18 / 18 /dBi, 0°-10° / 0°-10°Tilt Antenna With 2 Integrated RCUs and 2 Indicators

Electrical Specifications

Frequency Range(MHz)		2x3300-4200	
		3300-3600	3600-4200
Polarization		±45	
Horizontal 3dB Beamwidth(°)		65	60
Vertical 3dB Beamwidth(°)		5.5	5
Gain (dBi)		17.2	17.7
Electrical Downtilt		0°- 10°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25
Cross polar ratio	Main direction(d B)	≥17	≥17
	± 60° (dB)	≥7	≥7
Isolation ports		≥28 dB	
VSWR		< 1.5	
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		250 W	
Lightning Protection		DC Ground	



Mechanical Specifications

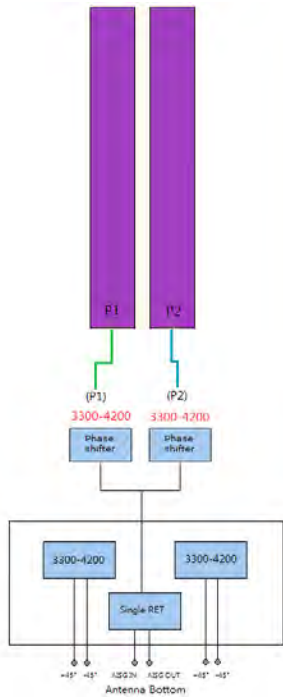
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	900 x 168 x 90 / 35.4 x 6.6 x 3.5
Packing Size(mm)/(inches)	1200 x 290 x 235 / 47.2 x 11.4 x 9.3
Weight ,w/o Mounting kit(kg)/(lbs)	10 / 22
Weight w/ Downtilt Bracket(kg)/(lbs)	15.5 / 34.1
Weight w/ Fixed Bracket(kg)/(lbs)	13 / 28.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	21.5 / 47.3
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	19.5 / 42.9
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	175/58/125



Integrated RET Properties

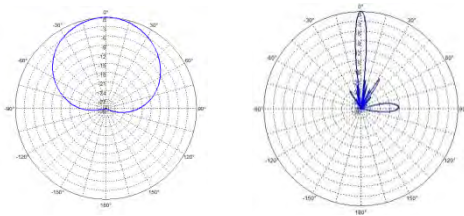
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs, 200 Repetitions Min. @ 6kA

COMPREHENSIVE TILT CONFIGURATION



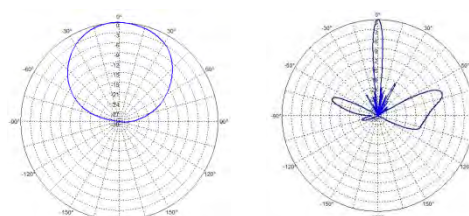
Frequency Range	Array	RET Unique ID
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P2

Radiation Patterns (3300 - 3600 MHz)



Horizontal Pattern Vertical Pattern

Radiation Patterns (3600-4200 MHz)



Horizontal Pattern Vertical Pattern



QUA4-1B1R-RB65

4-ports 698-960 /3300-4200MHz 65°, 13.5 /17.5 dBi, 2°-12° /2°-12°Tilt Antenna With 2 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		698-960			3300-4200	
		698-824	824-894	894-960	3300-3800	3800-4200
Polarization		±45°				
Horizontal 3dB Beamwidth(°)		68	64	60	68	64
Vertical 3dB Beamwidth(°)		17	15.5	14.5	6.8	6
Gain (dBi)		12.5	13	13.5	17	17.5
Electrical Downtilt		2°-12°			2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB				
Isolation Frequency		≥30 dB				
VSWR		< 1.5				
Intermodulation IM3		< -150 dBc(2x43dBm carrier)			/	
Impedance		50 Ω				
Max. Power per Input (at 50°C ambient)		500 W			200 W	
Lightning Protection		DC Ground				



Mechanical Specifications

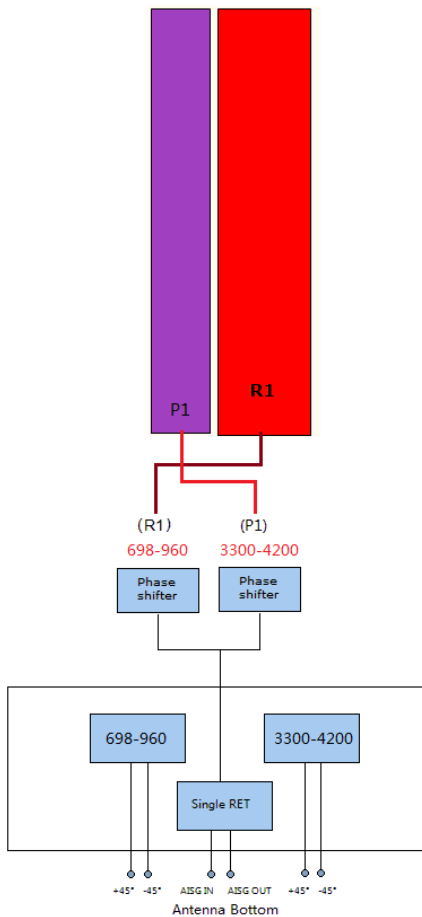
Radome Material	FiberGlass
Connector Type and Location	4.3-10x4, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1300 x 355 x 165 / 51.2 x 13.9 x 6.5
Packing Size(mm)/(inches)	1570 x 470 x 275 / 61.8 x 18.5 x 10.8
Weight ,w/o Mounting kit(kg)/(lbs)	17 / 37.4
Weight w/ Downtilt Bracket(kg)/(lbs)	24 / 52.8
Weight w/ Fixed Bracket(kg)/(lbs)	22 / 48.4
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	28 / 61.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	26 / 57.2
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	532/153/382



Integrated RET Properties

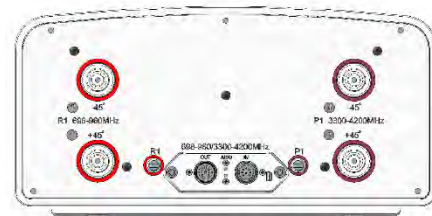
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



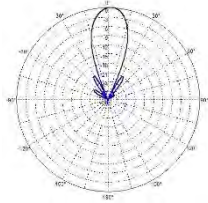
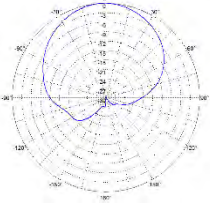
Frequency Range	Array	RET Unique ID
698-960MHz	R1	NDPMXXXXXXXX-7090R1
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1

Note: (1) Physical RET Unit containing (2) Single RET





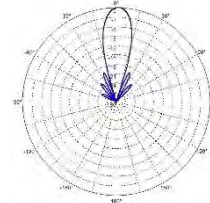
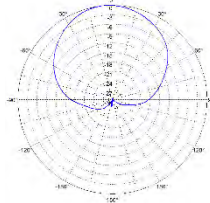
Radiation Pattern (698 - 824 MHz)



Horizontal Pattern

Vertical Pattern

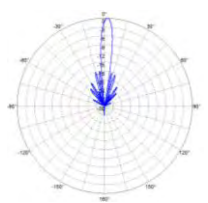
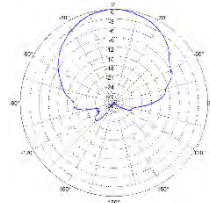
Radiation Patterns (824 - 960 MHz)



Horizontal Pattern

Vertical Pattern

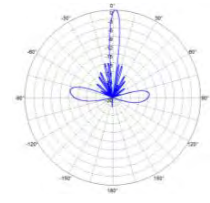
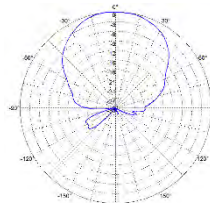
Radiation Pattern (3300 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



QUA4-1LX1HX-BW45

4-ports 617-894 /1695-2400 MHz 45°, 14/ 18 dBi, 2°-12° / 2°-12°Tilt Antenna With 2 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		617-894			1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		50	46	42	48	45	41
Vertical 3dB Beamwidth(°)		19	16.5	14.5	7.5	6.5	6
Gain (dBi)		13	13.5	14	16.8	17.3	17.8
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16	≥16
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					



Mechanical Specifications

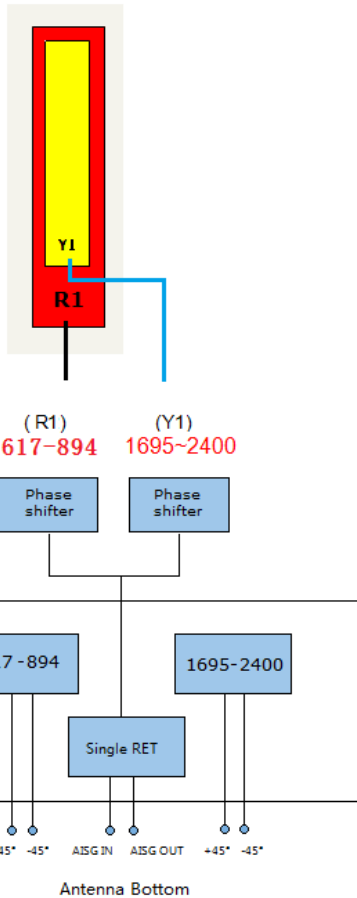
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 450 x 175 / 51.2 x 17.7 x 6.9
Packing Size(mm)/(inches)	1600 x 620 x 325 / 63.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	23 / 50.6
Weight w/ Downtilt Bracket(kg)/(lbs)	30 / 66
Weight w/ Fixed Bracket(kg)/(lbs)	28 / 61.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	36 / 79.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	34 / 74.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	668/152/484



Integrated RET Properties

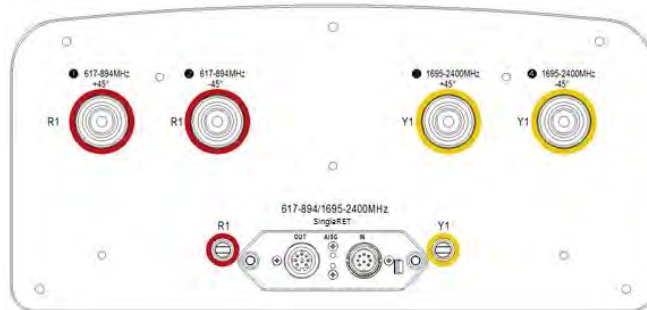
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



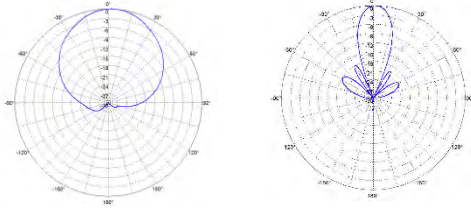
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing
(2) Single RET





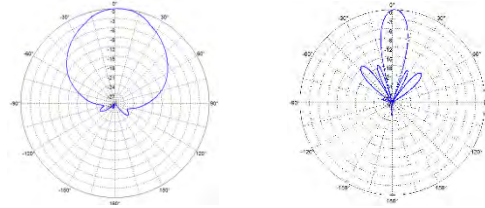
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

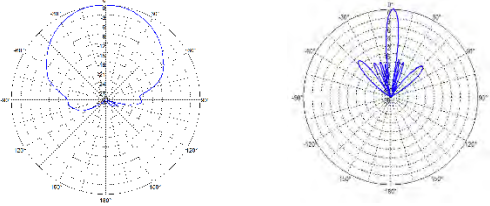
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

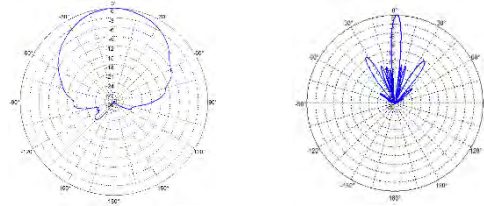
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

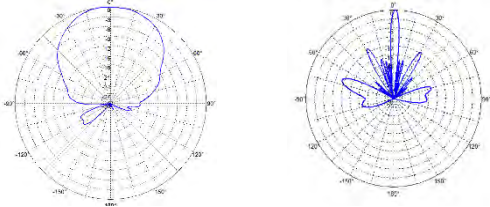
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



QUA4-1LX1HX-BW65

4-ports 617-894 /1695-2400 MHz 65°, 13.5 / 17.5 dBi, 2°-12° / 2°-12°Tilt Antenna With 2 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	617-894			1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	70	63	60	66	63	58
Vertical 3dB Beamwidth(°)	19.5	16.8	14.1	7.5	6.5	6
Gain (dBi)	12.4	12.9	13.4	16.5	17.0	17.5
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16
	± 60° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

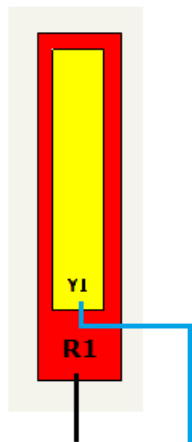
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 355 x 165 / 51.2 x 14.0x 6.5
Packing Size(mm)/(inches)	1600 x 460 x 275 / 63.0 x 18.1 x 10.8
Weight ,w/o Mounting kit(kg)/(lbs)	20 / 44
Weight w/ Downtilt Bracket(kg)/(lbs)	27 / 59.4
Weight w/ Fixed Bracket(kg)/(lbs)	25 / 55
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	33 /72.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	31 / 68.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	541/146/506



Integrated RET Properties

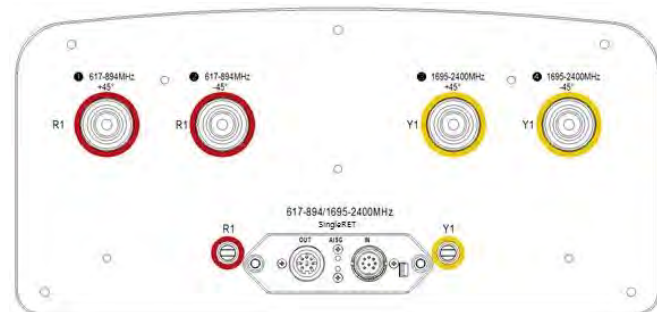
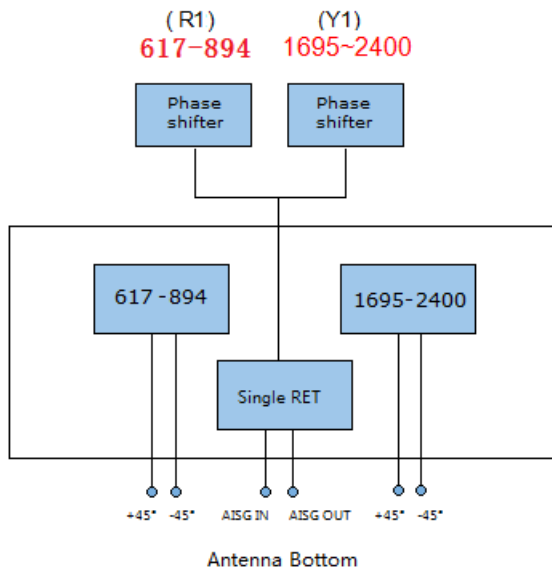
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



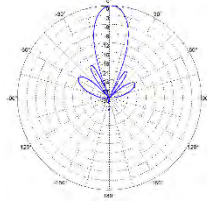
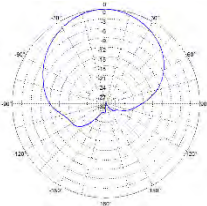
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing (2) Single RET





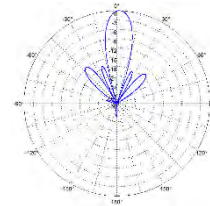
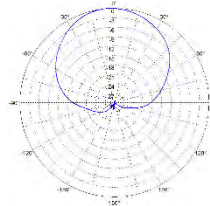
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

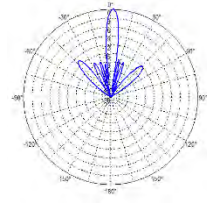
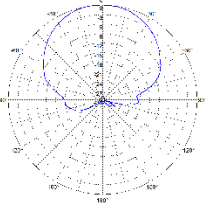
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

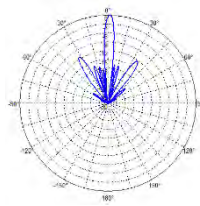
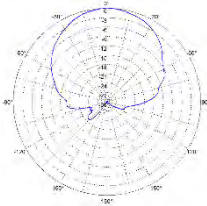
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

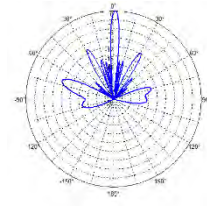
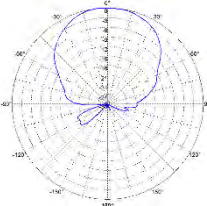
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



QUA4-2A-RB45

4-ports 617-894 / 617-894 MHz 45°, 14.5/ 14.5 dBi, 2°-12° / 2°-12°Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894		
		617-698	698-824	824-894
Polarization		±45°		
Horizontal 3dB Beamwidth(°)		50	46	42
Vertical 3dB Beamwidth(°)		19	16.5	14.5
Gain (dBi)		13.3	13.8	14.3
Electrical Downtilt		2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥22	≥23	≥24
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17
	±30° (dB)	≥7	≥7	≥7
Isolation ports		≥25 dB		
Isolation Frequency		≥30 dB		
VSWR		< 1.5		
Intermodulation IM3		< -153 dBc(2x43dBm carrier)		
Impedance		50 Ω		
Max. Power per Input (at 50°C ambient temperature)		500 W		
Lightning Protection		DC Ground		



Mechanical Specifications

Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 499 x 180 / 51.2 x 19.6 x 7.1
Packing Size(mm)/(inches)	1600 x 620 x 325 / 63.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	25 / 55
Weight w/ Downtilt Bracket(kg)/(lbs)	32 / 70.4
Weight w/ Fixed Bracket(kg)/(lbs)	30/ 66
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	38/ 83.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	36 / 79.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	755/149/544



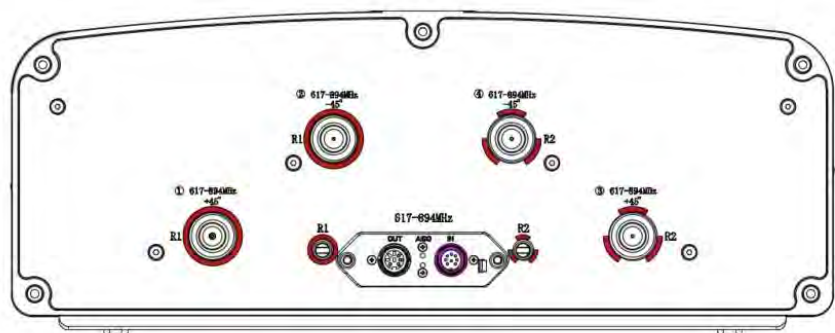
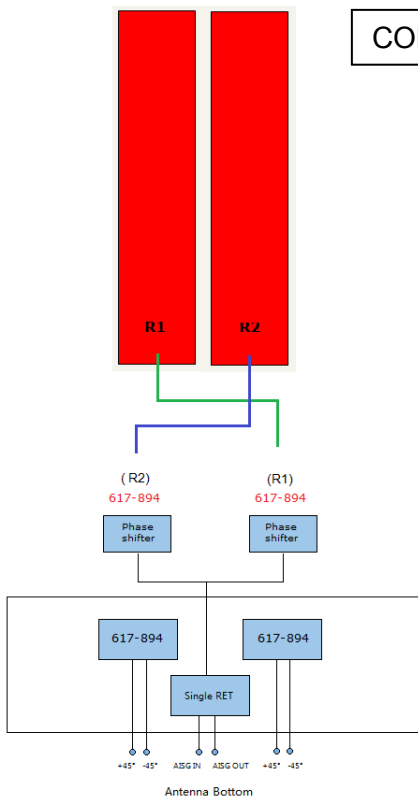
Integrated RET Properties

RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

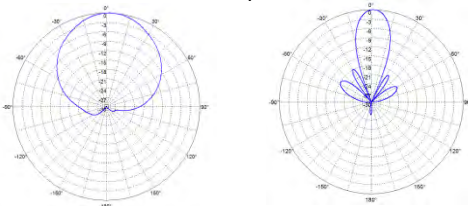
COMPREHENSIVE TILT CONFIGURATION

Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2

Note: (1) Physical RET Unit containing (2) Single RET



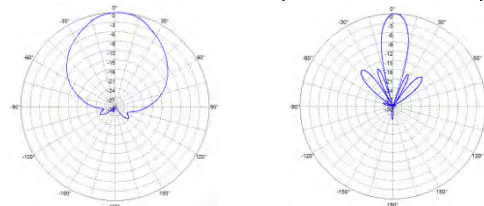
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern



QUA4-2HX-BR65

4-ports 1695-2690 /1695-2690 MHz 65°, 18.5/ 18.5 dBi, 2°-12° / 2°-12° Tilt Antenna with 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x1695-2690				
	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°				
Horizontal 3dB Beamwidth(°)	67	66	63	62	60
Vertical 3dB Beamwidth(°)	7.1	6.5	6	5.3	4.8
Gain (dBi)	17.1	17.4	17.7	18.3	18.6
Electrical Downtilt	2°-12°				
Upper Sidelobe Suppression(dB)	First	≥18	≥18	≥18	≥18
Front-to-Back Ratio Total Power, ±30° (dB)		≥27	≥27	≥27	≥27
Isolation ports	≥28dB				
VSWR	< 1.5				
Intermodulation IM3 dBc (2x43dBm carrier)	< -153				
Impedance	50 Ω				
Max. Power per Input (at 50°C ambient temperature)	200 W				
Lightning Protection	DC Ground				



Electrical Specifications, BASTA

Frequency Range(MHz)	2x1695-2690				
	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°				
Beamwidth, Horizontal Tolerance (°)	±4.2	±4.0	±4.1	±3.9	±4.2
Beamwidth, Vertical Tolerance (°)	±0.5	±0.5	±0.4	±0.3	±0.3
Gain by all Beam Tilts, average, (dBi)	17	17.1	17.5	18.2	18.4
Gain by all Beam Tilts, Tolerance, (dB)	±0.4	±0.4	±0.5	±0.5	±0.5
Gain by all Beam Tilt, average (dBi)	2 16.9	2 17.1	2 17.2	2 17.9	2 17.8
	6 17.1	6 17.2	6 17.4	6 18.2	6 18.2
	10 16.8	10 17	10 17.3	10 17.9	10 17.7
Front-to-Back Ratio Total Power, ±30° (dB)	≥27	≥27	≥27	≥27	≥27
Cross polar ratio	Main direction(dB)	≥20	≥20	≥20	≥20
	±60° (dB)	≥10	≥10	≥10	≥10



Mechanical Specifications

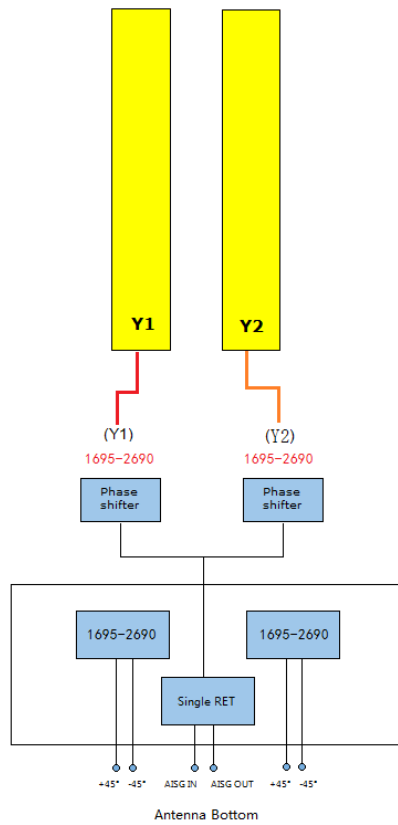
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1360 x 320 x 105 / 53.5 x 12.6x 4.1
Packing Size(mm)/(inches)	1560 x 441 x 240 / 61.4 x 17.4 x 9.4
Weight ,w/o Mounting kit(kg)/(lbs)	16/35.2
Weight w/ Downtilt Bracket(kg)/(lbs)	22/48.4
Weight w/ Fixed Bracket(kg)/(lbs)	20/44
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	30/66
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	28/61.6
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	620/105/446

Integrated RET Properties

RET Type	2x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

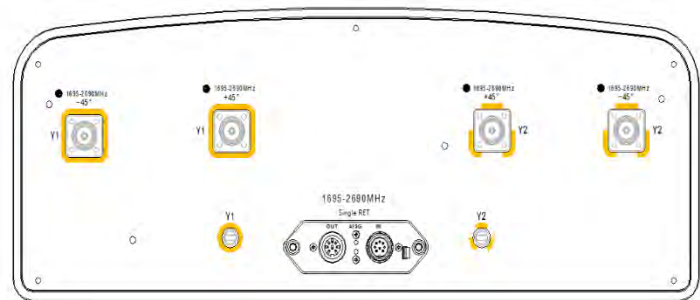


COMPREHENSIVE TILT CONFIGURATION

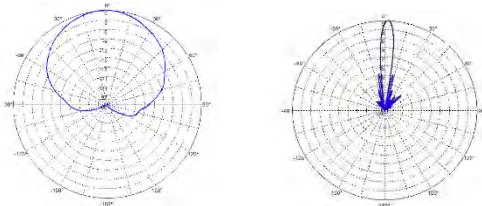


Frequency Range	Array	RET Unique ID
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (2) Single RET



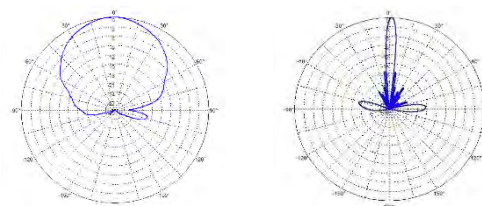
Radiation Pattern (1695 - 2200 MHz)



Horizontal Pattern

Vertical Pattern

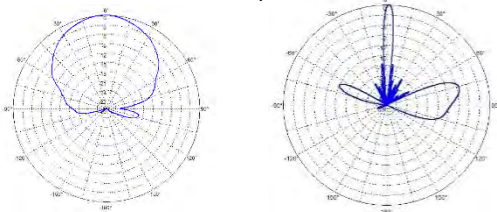
Radiation Patterns (2300 - 2500 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2500 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



QUA4-2HX-BW65

4-ports 3300-3800 / 3300-3800 MHz 65°, 18.2 / 18.2 /dBi, 0°-8° / 0°-8°Tilt Antenna With 2 Integrated RCUs and 2 Indicators

Electrical Specifications

Frequency Range(MHz)		2x3300-3800	
		3300-3500	3500-3800
Polarization		±45	
Horizontal 3dB Beamwidth(°)		65	60
Vertical 3dB Beamwidth(°)		4.5	4.2
Gain (dBi)		17.7	18.2
Electrical Downtilt		0°-8°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17
	±60° (dB)	≥7	≥7
Isolation ports		≥25 dB	
Isolation Frequency		≥28 dB	
VSWR		< 1.5	
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		250 W	
Lightning Protection		DC Ground	



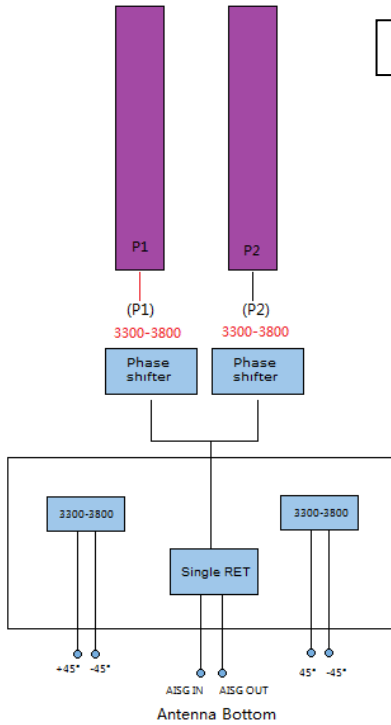
Mechanical Specifications

Redome Material	Fiberglass
Connector Type and Location	4.3-10x4, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1200 x 168 x 90 / 47.2 x 6.6 x 3.5
Packing Size(mm)/(inches)	1500 x 290 x 235 / 59.1 x 11.4 x 9.3
Weight ,w/o Mounting kit(kg)/(lbs)	12.5/ 27.5
Weight w/ Downtilt Barcket(kg)/(lbs)	17.5 / 38.5
Weight w/ Fixed Barcket(kg)/(lbs)	15.5 /34.1
Packing Weight (w/ Downtilt Barcket) (kg)/(lbs)	23.5 / 51.7
Packing Weight (w/ Fixed Barcket) (kg)/(lbs)	21.5/47.3
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	233/77/167



Integrated RET Properties

RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by); <13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3); Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs, 200 Repetitions Min. @ 0.6kA

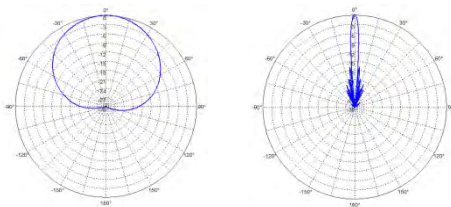


COMPREHENSIVE TILT CONFIGURATION

Frequency Range	Array	RET Unique ID
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1
3300-3800MHz	P2	NDPMXXXXXXXX-3338P2

Note: (1) Physical RET Unit containing (2) Single RET

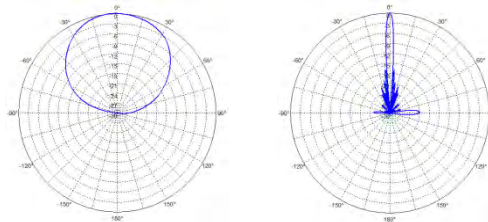
Radiation Patterns (3300 - 3500 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (3500-3800 MHz)



Horizontal Pattern

Vertical Pattern



QUA4-2HX-CB65

4-ports 3300-4200 / 3300-4200 MHz 65°, 18.5 / 18.5 /dBi, 0°-8° / 0°-8°Tilt Antenna With 2 Integrated RCUs and 2 Indicators

Electrical Specifications.

Frequency Range(MHz)		2x3300-4200	
		3300-3600	3600-4200
Polarization		±45	
Horizontal 3dB Beamwidth(°)		65	60
Vertical 3dB Beamwidth(°)		4.5	4.2
Gain (dBi)		18	18.5
Electrical Downtilt		0°- 8°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17
	±60° (dB)	≥7	≥7
Isolation ports		≥28dB	
VSWR		< 1.5	
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		250 W	
Lightning Protection		DC Ground	



Mechanical Specifications

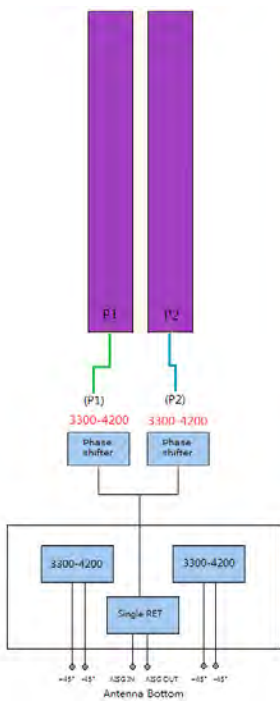
Radome Material	Fiberglass
Connector Type and Location	4,3-10x4,Bottom iRCU in:1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1200 x 168 x 90 / 47.2 x 6.6 x 3.5
Packing Size(mm)/(inches)	1500 x 290 x 235 / 59.1 x 11.4 x 9.3
Weight ,w/o Mounting kit(kg)/(lbs)	9.9/ 21.8
Weight w/ Downtilt Bracket(kg)/(lbs)	11.5 / 25.3
Weight w/ Fixed Bracket(kg)/(lbs)	10.9 /24.0
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	15.5 / 34.1
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	14.9/32.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	233/77/167



Integrated RET Properties

RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

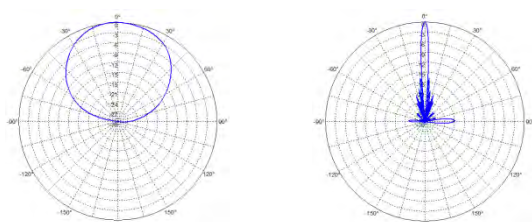
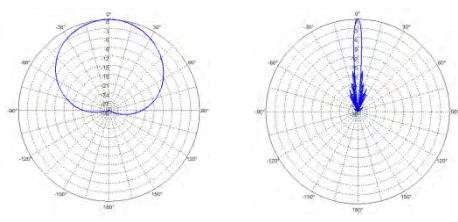
COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P2

Radiation Patterns (3300 - 3600 MHz)

Radiation Patterns (3600-4200 MHz)



Horizontal Pattern Vertical Pattern

Horizontal Pattern Vertical Pattern



QUA4-2LX-BW65

4-ports 617-894 / 617-894 MHz 65°, 13.5 / 13.5 dBi, 2°-12° / 2°-12°Tilt Antenna With 1 Integrated RCU.

Electrical Specifications

Frequency Range(MHz)		2x617-894	
		617-698	698-894
Polarization		±45°	
Horizontal 3dB Beamwidth(°)		68	62
Vertical 3dB Beamwidth(°)		19.5	15.5
Gain (dBi)		12.7	13.6
Electrical Downtilt		2°-12°	
Upper Sidelobe Suppression(dB)	First	≥17	≥17
Front-to-Back Ratio Total Power,±30° (dB)		≥23	≥25
Isolation ports		≥25dB	
VSWR		< 1.5	
Intermodulation IM3 (dBc) (2x43dBm carrier)		< -150	< -153
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		500 W	
Lightning Protection		DC Ground	



Electrical Specifications,BASTA

Frequency Range(MHz)		2x617-894	
		617-698	698-894
Polarization		±45°	
Beamwidth, Horizontal Tolerance (°)		±4.5	±5.1
Beamwidth, Vertical Tolerance (°)		±1.5	±1.8
Gain by all Beam Tilts,average, (dBi)		12.6	13.3
Gain by all Beam Tilts,Tolerance, (dB)		±0.7	±0.9
Gain by all Beam Tilt,average (dBi)		2 12.7	2 13.1
		7 12.9	7 13.4
		12 12.5	12 13
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17
	±60° (dB)	≥8	≥8



Mechanical Specifications

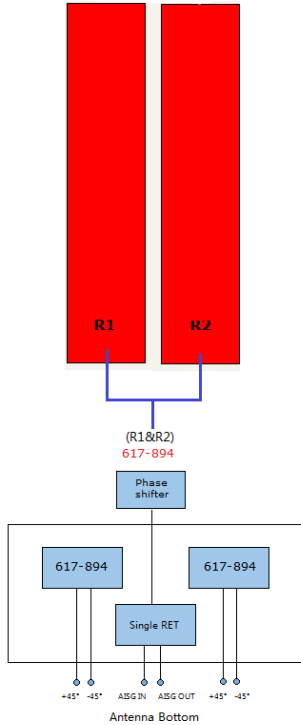
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 499 x 180 / 51.2 x 19.6 x 7.1
Packing Size(mm)/(inches)	1600 x 620 x 325 / 63.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	25/ 55
Weight w/ Downtilt Bracket(kg)/(lbs)	31/68.2
Weight w/ Fixed Bracket(kg)/(lbs)	29/75.9
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	39/85.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	37/81.4
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	755/149/544

Integrated RET Properties

RET Type	1x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

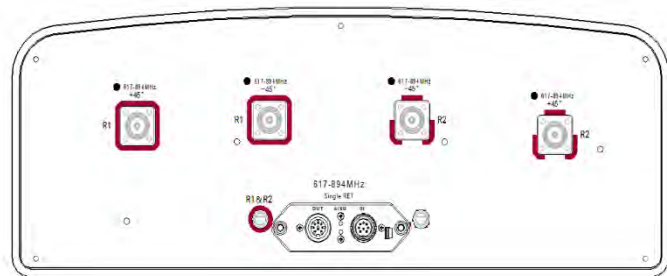


COMPREHENSIVE TILT CONFIGURATION

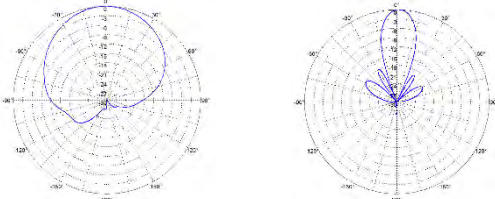


Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1

Note: (1) Physical RET Unit containing (1) Single RET



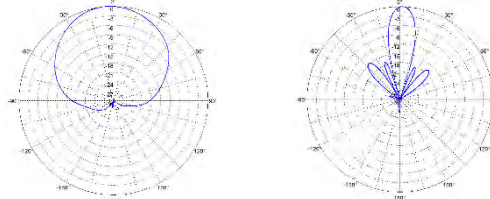
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern



QUA6-1LX1HX-BW45

4-ports 617-894 /1695-2400 MHz 45°, 15.5 / 18dBi, 2°-12°/ 2°-12°Tilt Antenna With 2 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		617-894			1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		50	46	42	48	45	41
Vertical 3dB Beamwidth(°)		13.5	12	10.5	5.5	5	4.3
Gain (dBi)		14.4	14.9	15.5	17.6	18.0	18.1
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16	≥16
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					



Mechanical Specifications

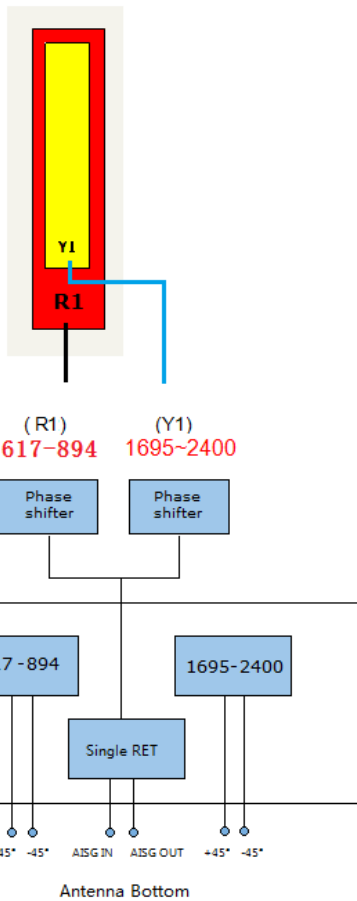
Radome Material	Fiber Glass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 450 x 175 / 72.8 x 17.7 x 6.9
Packing Size(mm)/(inches)	2071 x 551 x 296 / 81.5 x 21.7 x 11.6
Weight ,w/o Mounting kit(kg)/(lbs)	27 / 59.4
Weight w/ Downtilt Bracket(kg)/(lbs)	34 / 74.8
Weight w/ Fixed Bracket(kg)/(lbs)	32 / 70.4
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	40 / 88.0
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	38 / 83.6
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	955/218/692



Integrated RET Properties

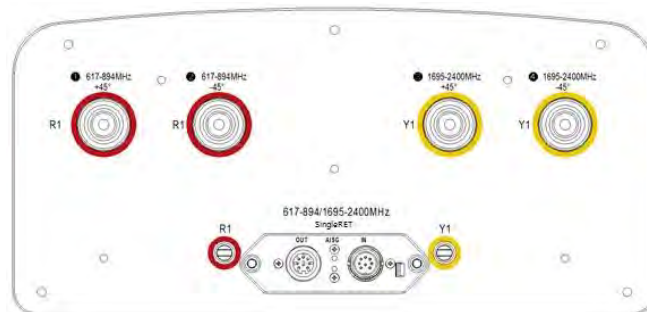
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



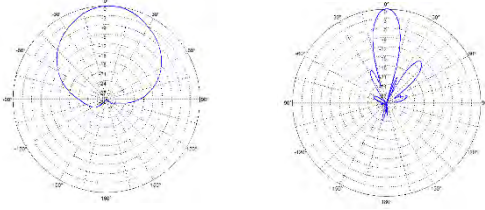
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing (2) Single RET





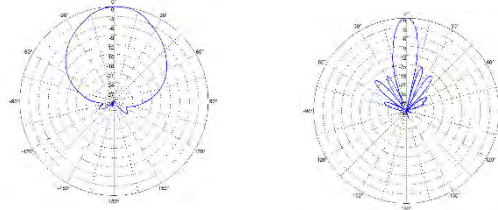
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

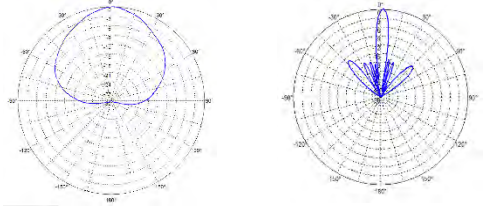
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

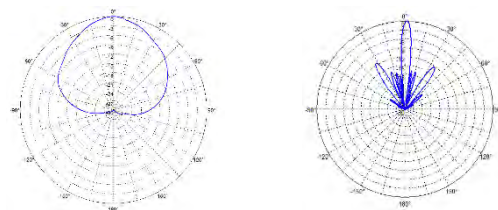
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

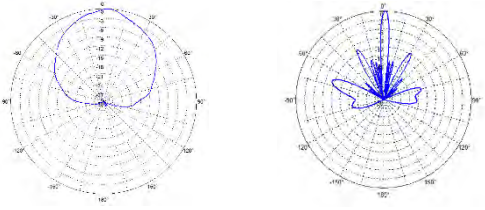
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



QUA6-1LX1HX-BW65

4-ports 617-894 /1695-2400 MHz 65°, 15 / 18 dBi, 2°-12° / 2°-12° Tilt Antenna With 2 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		617-894			1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		70	65	60	66	63	58
Vertical 3dB Beamwidth(°)		13.5	12	10.5	5.5	5	4.3
Gain (dBi)		13.9	14.4	14.9	17.6	18.0	18.1
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16	≥16
	± 60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					



Mechanical Specifications

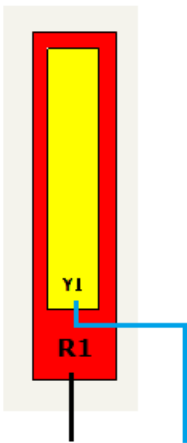
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 355 x 165 / 72.8 x 14.0x 6.5
Packing Size(mm)/(inches)	2071 x 460 x 275 / 81.5 x 18.1 x 10.8
Weight ,w/o Mounting kit(kg)/(lbs)	24 / 52.8
Weight with Downtilt Bracket(kg)/(lbs)	31 / 68.2
Weight with Fixed Bracket(kg)/(lbs)	29 / 63.8
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	37 / 81.4
Packing Weight (with Fixed Bracket) (kg)/(lbs)	35 / 77.0
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	770/209/723



Integrated RET Properties

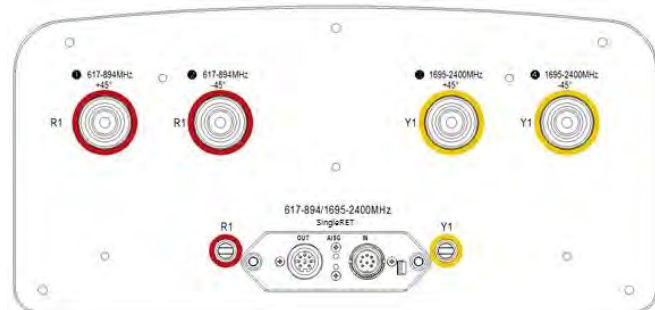
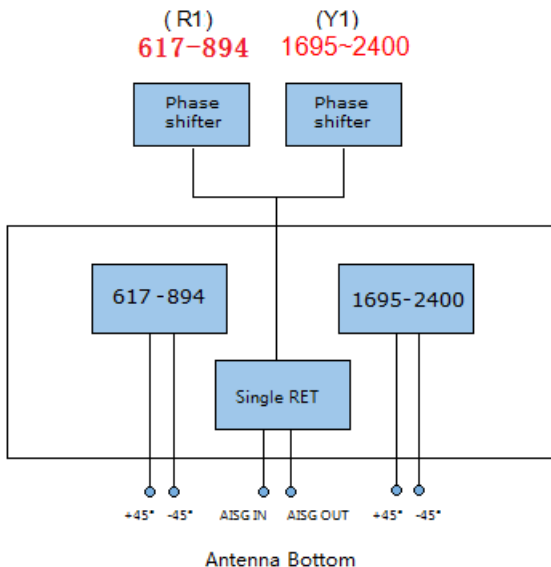
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



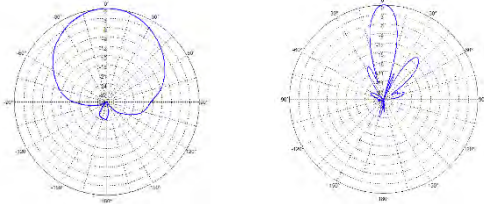
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing (2) Single RET





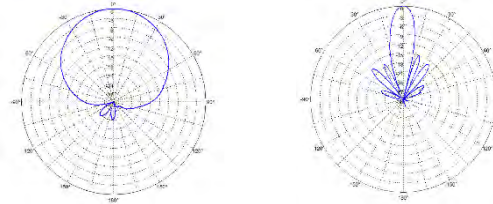
Radiation Pattern (617 - 880 MHz)



Horizontal Pattern

Vertical Pattern

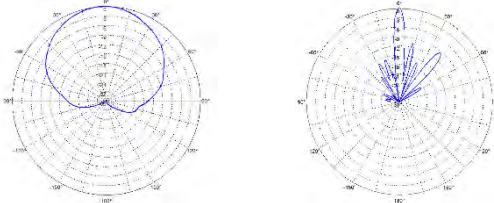
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

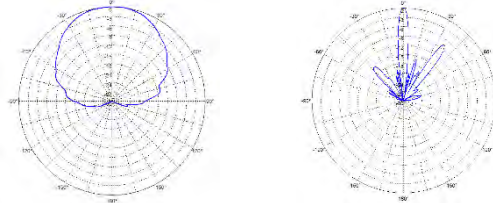
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

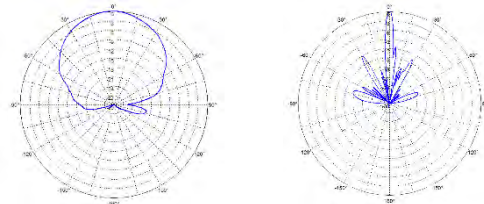
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



QUA6-1LX1HX-BW90

4-ports 617-894 /1695-2400 MHz 90°, 14 / 17 dBi, 2°-12° / 2°-12° Tilt Antenna With 2 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		617-894			1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		88	83	78	88	83	78
Vertical 3dB Beamwidth(°)		13.5	12	10.5	5.5	5.5	5.5
Gain (dBi)		12.9	13.4	13.9	16.6	17.0	17.1
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥23	≥23	≥23	≥23	≥23	≥23
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16	≥16
	± 60° (dB)	≥8	≥8	≥8	≥8	≥8	≥8
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					



Mechanical Specifications

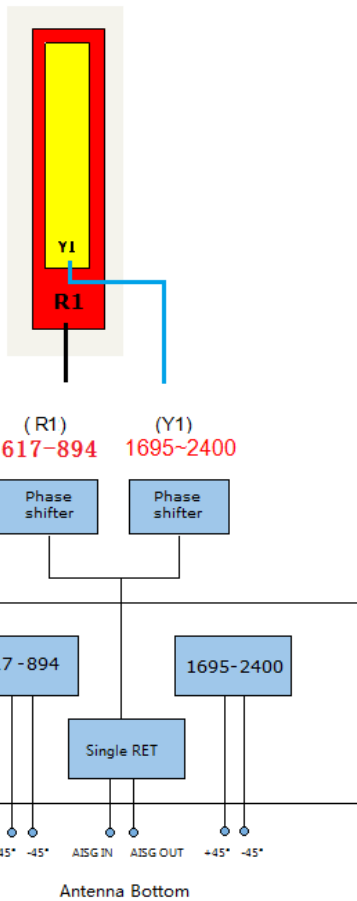
Radome Material	FiberGlass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 355 x 165 / 72.8 x 14.0x 6.5
Packing Size(mm)/(inches)	2071 x 456 x 296 / 81.5 x 17.9 x 11.6
Weight ,w/o Mounting kit(kg)/(lbs)	24 / 52.8
Weight w/ Downtilt Bracket(kg)/(lbs)	31 /68.2
Weight w/ Fixed Bracket(kg)/(lbs)	29 / 63.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	37 / 81.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	35 / 77
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	770/209/723



Integrated RET Properties

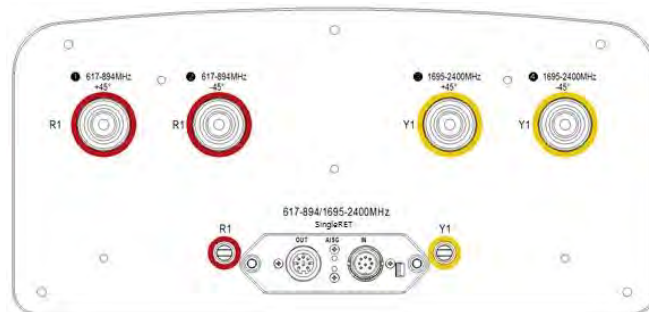
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



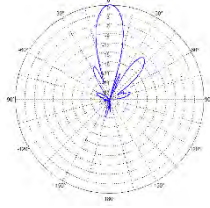
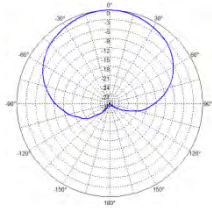
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing (2) Single RET





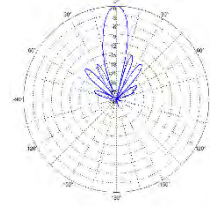
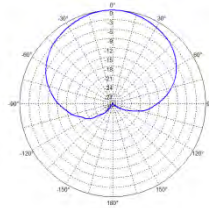
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

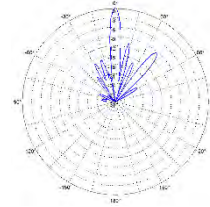
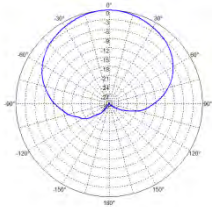
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

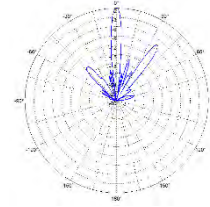
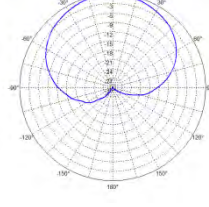
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

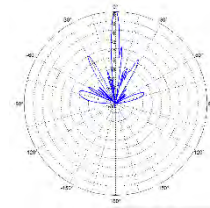
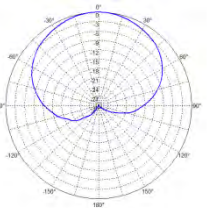
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



QUA6-2A-RB33

4-ports 617-894 / 617-894 MHz 33°, 17 / 17 dBi, 2°-12° / 2°-12°Tilt Antenna With 2 Integrated RCU.



Electrical Specifications

Frequency Range(MHz)		2x617-894	
		617-698	698-894
Polarization		±45°	
Horizontal 3dB Beamwidth(°)		37	32.
Vertical 3dB Beamwidth(°)		14	12
Gain (dBi)		16.2	17
Electrical Downtilt		2°-12°	
Upper Sidelobe Suppression(dB)	First	≥17	≥17
Front-to-Back Ratio Total Power,±30° (dB)		≥25	≥25
Isolation ports		≥25dB	
VSWR		< 1.5	
Intermodulation IM3 (dBc) (2x43dBm carrier)		< -150	< -153
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		500 W	
Lightning Protection		DC Ground	



Electrical Specifications,BASTA

Frequency Range(MHz)		2x617-894	
		617-698	698-894
Polarization		±45°	
Beamwidth, Horizontal Tolerance (°)		±4.2	±5.1
Beamwidth, Vertical Tolerance (°)		±1.1	±1.4
Gain by all Beam Tilts,average, (dBi)		16	16.4
Gain by all Beam Tilts,Tolerance, (dB)		±0.4	±0.7
Gain by all Beam Tilt,average (dBi)		2 16.0	2 16.4
		7 16.2	7 16.5
		12 15.9	12 16.2
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17



Mechanical Specifications

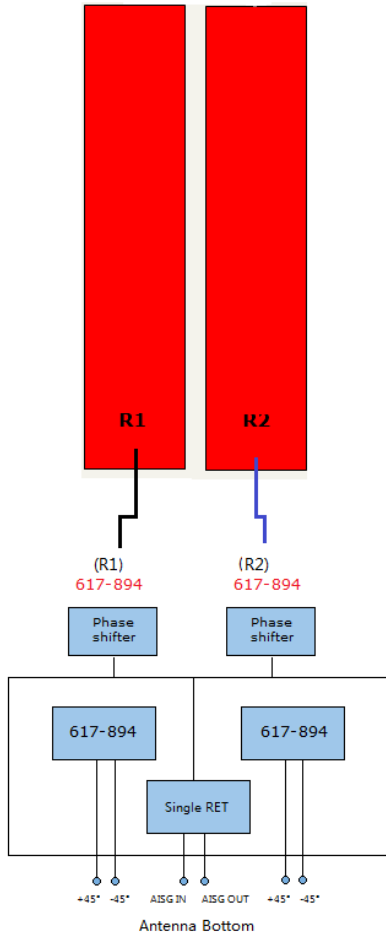
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1828 x 630 x 165 / 71.9 x 24.8x 6.5
Packing Size(mm)/(inches)	2140 x 750 x 310 / 84.2 x 29.5 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	36.5/ 80.3
Weight w/ Downtilt Bracket(kg)/(lbs)	42.5/93.5
Weight w/ Fixed Bracket(kg)/(lbs)	40.5/89.1
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	50.5/111.1
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	48.5/106.7
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1248/216/903

Integrated RET Properties

RET Type	1x Type 1 Single RET
Protocols	Compliant to AISG 2.0/3GPP
Input voltage range	+10~+30VDC(pin 6)
Power consumption	<2W(stand by);<13W(motor activated)
Connectors	AISG 2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna Two motor shaft(Embedded motor)
Hardware interface	AISG RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)
Adjustment Cycles	≥10000
Torque Max	≥160mN.m
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

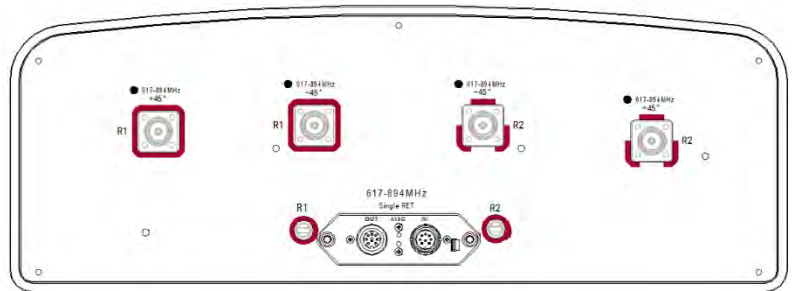


COMPREHENSIVE TILT CONFIGURATION

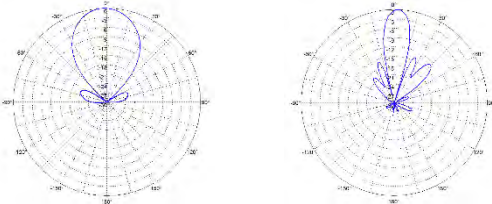


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2

Note: (1) Physical RET Unit containing (2) Single RET



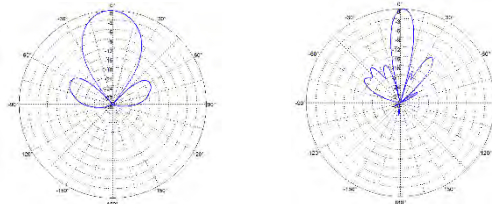
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern



QUA6-2A-RB65

4-ports 617-894 / 617-894 MHz 65°, 15.5 / 15.5 dBi, 2°-12° / 2°-12°Tilt Antenna With 2 Integrated RCU.



Electrical Specifications

Frequency Range(MHz)		2x617-894	
		617-698	698-894
Polarization		±45°	
Horizontal 3dB Beamwidth(°)		68	62
Vertical 3dB Beamwidth(°)		14	12
Gain (dBi)		14.5	15.3
Electrical Downtilt		2°-12°	
Upper Sidelobe Suppression(dB)	First	≥17	≥17
Front-to-Back Ratio Total Power,±30° (dB)		≥23	≥25
Isolation ports		≥25dB	
VSWR		< 1.5	
Intermodulation IM3 (dBc) (2x43dBm carrier)		< -150	< -153
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		500 W	
Lightning Protection		DC Ground	



Electrical Specifications,BASTA

Frequency Range(MHz)		2x617-894	
		617-698	698-894
Polarization		±45°	
Beamwidth, Horizontal Tolerance (°)		±4.2	±5.1
Beamwidth, Vertical Tolerance (°)		±1.1	±1.4
Gain by all Beam Tilts,average, (dBi)		14.3	14.7
Gain by all Beam Tilts,Tolerance, (dB)		±0.4	±0.7
Gain by all Beam Tilt,average (dBi)		2 14.3	2 14.7
		7 14.5	7 14.8
		12 14.2	12 14.5
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17
	±60° (dB)	≥8	≥8



Mechanical Specifications

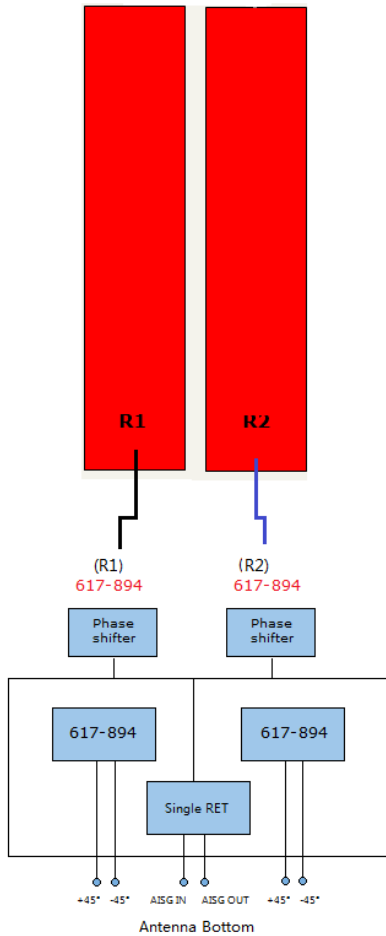
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1828 x 499 x 180 / 71.9 x 19.6x 7.1
Packing Size(mm)/(inches)	2140 x 620 x 325 / 84.2 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	30.5/ 67.1
Weight w/ Downtilt Bracket(kg)/(lbs)	36.5/80.3
Weight w/ Fixed Bracket(kg)/(lbs)	34.5/75.9
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	44.5/97.9
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	42.5/93.5
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1056/236/764

Integrated RET Properties

RET Type	2x Type 1 Single RET
Protocols	Compliant to AISG 2.0/3GPP
Input voltage range	+10~+30VDC(pin 6)
Power consumption	<2W(stand by);<13W(motor activated)
Connectors	AISG 2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna Two motor shaft(Embedded motor)
Hardware interface	AISG RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)
Adjustment Cycles	≥10000
Torque Max	≥160mN.m
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

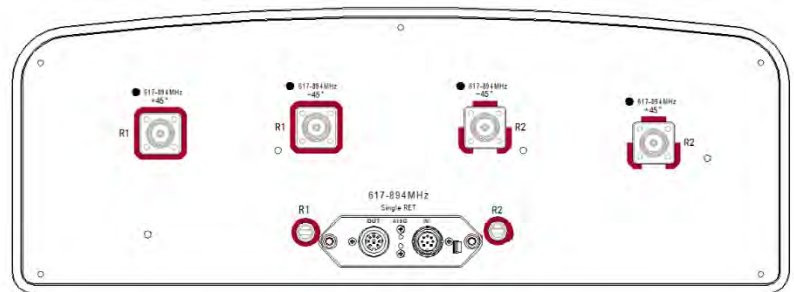


COMPREHENSIVE TILT CONFIGURATION

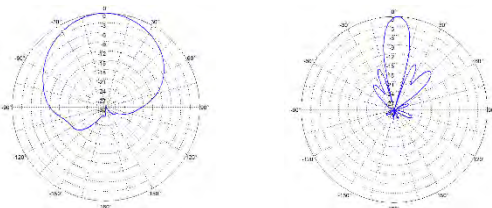


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2

Note: (1) Physical RET Unit containing (2) Single RET



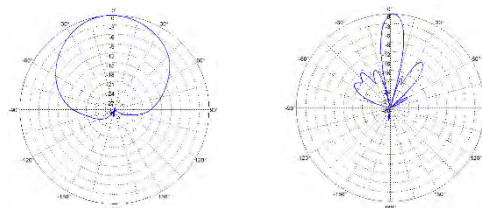
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern



QUA6-2HX-BR65

4-ports 1695-2690 /1695-2690 MHz 65°, 20 / 20 dBi, 2°-10° / 2°-10° Tilt Antenna With 2 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		2x1695-2690				
		1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization		±45°				
Horizontal 3dB Beamwidth(°)		67	66	63	62	60
Vertical 3dB Beamwidth(°)		5.1	4.8	4.5	3.8	3.5
Gain (dBi)		18.3	18.6	18.9	19.5	19.8
Electrical Downtilt		2°-10°				
Upper Sidelobe Suppression(dB)	First	≥18	≥18	≥18	≥18	≥18
Front-to-Back Ratio Total Power, ±30° (dB)		≥27	≥27	≥27	≥27	≥27
Isolation ports		≥28dB				
VSWR		< 1.5				
Intermodulation IM3 dBc (2x43dBm carrier)		< -153				
Impedance		50 Ω				
Max. Power per Input (at 50°C ambient temperature)		200 W				
Lightning Protection		DC Ground				



Electrical Specifications, BASTA

Frequency Range(MHz)		2x1695-2690				
		1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization		±45°				
Beamwidth, Horizontal Tolerance (°)		±4.2	±4.0	±4.1	±3.9	±4.2
Beamwidth, Vertical Tolerance (°)		±0.3	±0.4	±0.4	±0.3	±0.3
Gain by all Beam Tilts, average, (dBi)		18.1	18.3	18.6	19.2	19.4
Gain by all Beam Tilts, Tolerance, (dB)		±0.4	±0.4	±0.5	±0.5	±0.5
Gain by all Beam Tilt, average (dBi)		2 18.1	2 18.3	2 18.4	2 19.1	2 19.1
		6 18.2	6 18.4	6 18.7	6 19.5	6 19.6
		10 17.9	10 18.2	10 18.5	10 19.1	10 19.2
Front-to-Back Ratio Total Power, ±30° (dB)		≥27	≥27	≥27	≥27	≥27
Cross polar ratio	Main direction(dB)	≥20	≥20	≥20	≥20	≥20
	±60° (dB)	≥10	≥10	≥10	≥10	≥10



Mechanical Specifications

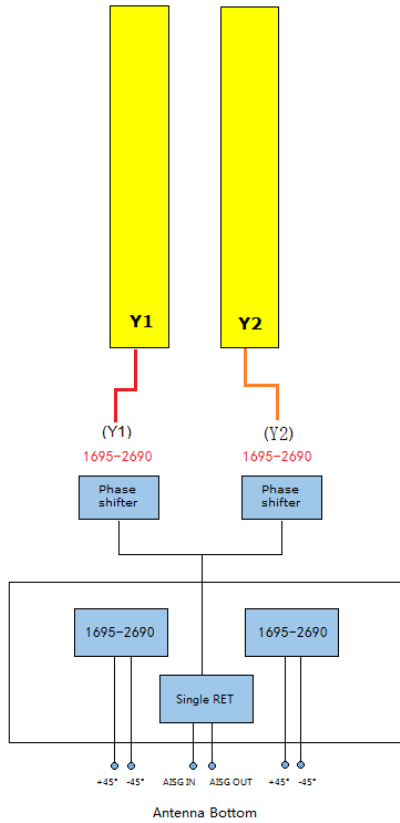
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 320 x 105 / 72.8 x 12.6x 4.1
Packing Size(mm)/(inches)	2160 x 440 x 250 / 85.0 x 17.3 x 9.8
Weight ,w/o Mounting kit(kg)/(lbs)	20/44
Weight w/ Downtilt Bracket(kg)/(lbs)	26/57.2
Weight w/ Fixed Bracket(kg)/(lbs)	24/52.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	34/74.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	32/70.4
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	844/142/607

Integrated RET Properties

RET Type	2x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

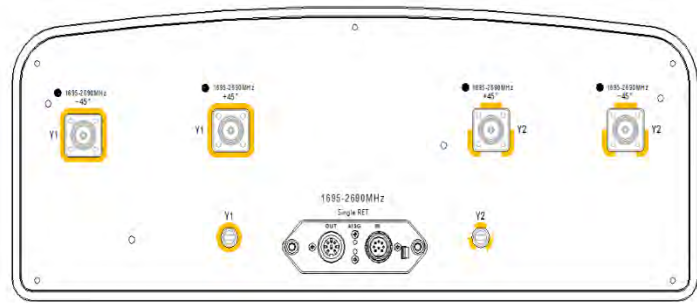


COMPREHENSIVE TILT CONFIGURATION

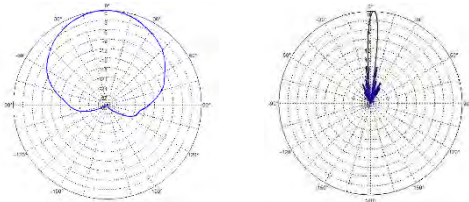


Frequency Range	Array	RET Unique ID
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (2) Single RET

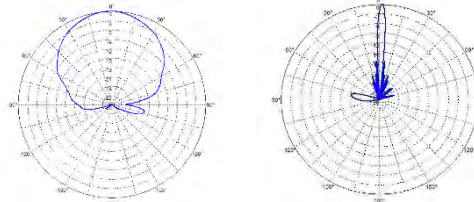


Radiation Pattern (1695 - 2200 MHz)



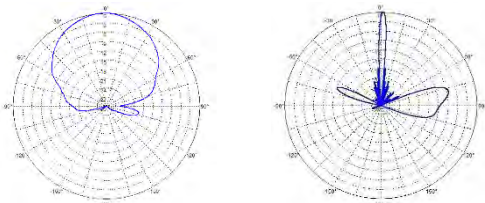
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2500 MHz)



Horizontal Pattern Vertical Pattern

Radiation Pattern (2500 - 2690 MHz)



Horizontal Pattern Vertical Pattern



QUA6-2HX-CB65

4-ports 3300-4200 / 3300-4200 MHz 65°, 20.0 / 20.5dBi, 0°-6° / 0°-6°Tilt Antenna With 2 Integrated RCUs and 2 Indicators

Electrical Specifications

Frequency Range(MHz)		2x3300-4200	
		3300-3800	3800-4200
Polarization		±45	
Horizontal 3dB Beamwidth(°)		65	60
Vertical 3dB Beamwidth(°)		3	2.8
Gain (dBi)		20.0	20.5
Electrical Downtilt		0°- 6°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25
Cross polar ratio	Main direction(d B)	≥17	≥17
	±60° (dB)	≥7	≥7
Isolation ports		≥28 dB	
VSWR		< 1.5	
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		250 W	
Lightning Protection		DC Ground	



Mechanical Specifications

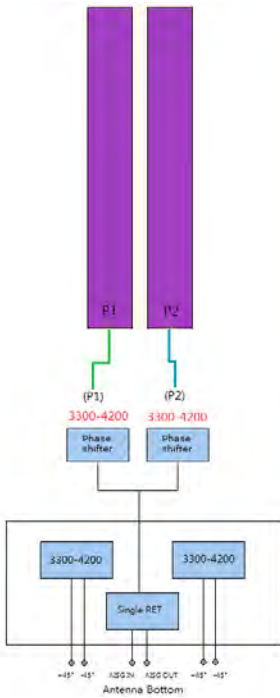
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1800 x 168 x 90 / 70.9 x 6.6 x 3.5
Packing Size(mm)/(inches)	2100 x 290 x 235 / 82.7x 11.4 x 9.3
Weight ,w/o Mounting kit(kg)/(lbs)	16.5 / 36.3
Weight w/ Downtilt Bracket(kg)/(lbs)	22.5 / 49.5
Weight w/ Fixed Bracket(kg)/(lbs)	20.5 / 45.1
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	30.5 / 67.1
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	28.5 / 62.7
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	350/115/250



Integrated RET Properties

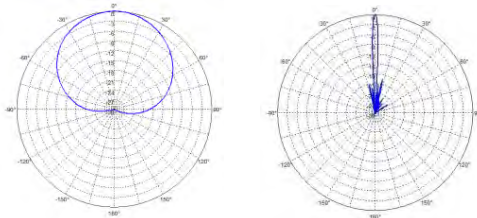
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min.

COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P2

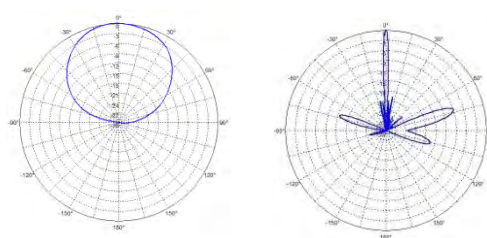
Radiation Patterns (3300 - 3600 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (3600-4200 MHz)



Horizontal Pattern

Vertical Pattern



QUA6-2LX-BW65

4-ports 617-894 / 617-894 MHz 65°, 15 / 15 dBi, 2°-12° / 2°-12°Tilt Antenna With 1 Integrated RCU.

Electrical Specifications

Frequency Range(MHz)		2x617-894	
		617-698	698-894
Polarization		±45°	
Horizontal 3dB Beamwidth(°)		68	62
Vertical 3dB Beamwidth(°)		14	12
Gain (dBi)		14.2	15
Electrical Downtilt		2°-12°	
Upper Sidelobe Suppression(dB)	First	≥17	≥17
Front-to-Back Ratio Total Power,±30° (dB)		≥23	≥25
Isolation ports		≥25dB	
VSWR		< 1.5	
Intermodulation IM3 (dBc) (2x43dBm carrier)		< -150	< -153
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		500 W	
Lightning Protection		DC Ground	



Electrical Specifications,BASTA

Frequency Range(MHz)		2x617-894	
		617-698	698-894
Polarization		±45°	
Beamwidth, Horizontal Tolerance (°)		±4.2	±5.1
Beamwidth, Vertical Tolerance (°)		±1.1	±1.4
Gain by all Beam Tilts,average, (dBi)		14	14.4
Gain by all Beam Tilts,Tolerance, (dB)		±0.4	±0.7
Gain by all Beam Tilt,average (dBi)		2 14.0	2 14.4
		7 14.2	7 14.5
		12 13.9	12 14.2
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17
	±60° (dB)	≥8	≥8



Mechanical Specifications

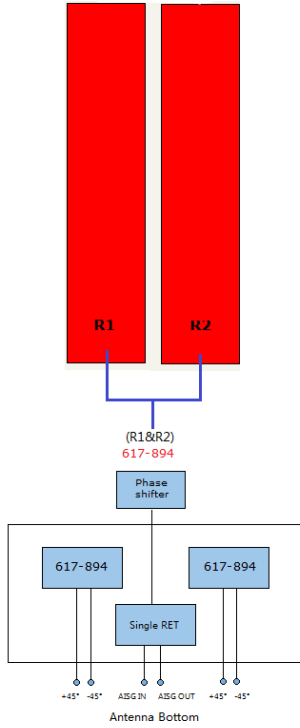
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6x 7.1
Packing Size(mm)/(inches)	2160 x 620 x 325 / 85.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	30.5/ 67.1
Weight w/ Downtilt Bracket(kg)/(lbs)	36.5/80.3
Weight w/ Fixed Bracket(kg)/(lbs)	34.5/75.9
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	44.5/97.9
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	42.5/93.5
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772

Integrated RET Properties

RET Type	1x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

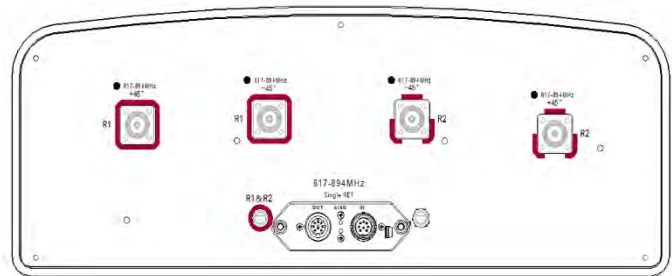


COMPREHENSIVE TILT CONFIGURATION

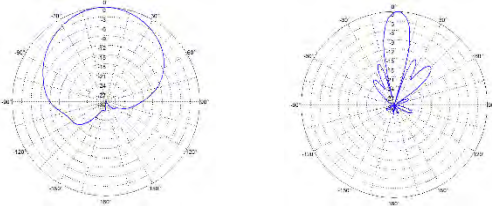


Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1

Note: (1) Physical RET Unit containing (1) Single RET



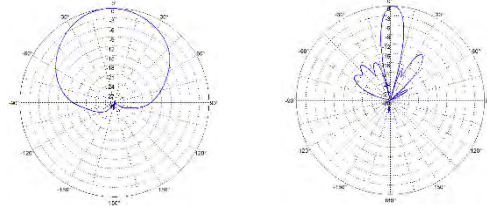
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern



QUA8-1LX1HX-BW45

4-ports 617-894 /1695-2400 MHz 45°, 16.5 / 18dBi, 2°-12°/ 2°-12°Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		617-894			1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		50	46	42	48	45	41
Vertical 3dB Beamwidth(°)		10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)		15.6	16.1	16.6	17.6	18.0	18.1
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16	≥16
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					



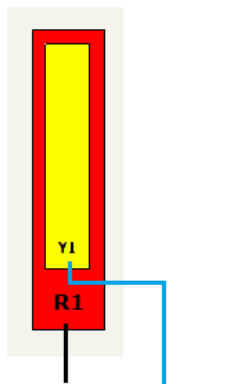
Mechanical Specifications

Radome Material	Fiber Glass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 450 x 175 / 95.9 x 17.7 x 6.9
Packing Size(mm)/(inches)	2700 x 550 x 286 / 106.3 x 21.6 x 11.3
Weight ,w/o Mounting kit(kg)/(lbs)	36 / 79.2
Weight w/ Downtilt Bracket(kg)/(lbs)	43 / 94.6
Weight w/ Fixed Bracket(kg)/(lbs)	41 / 90.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	50 / 110
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	48 / 105.6
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1261/305/914



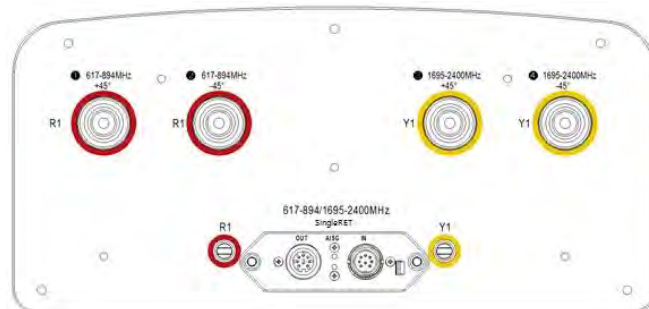
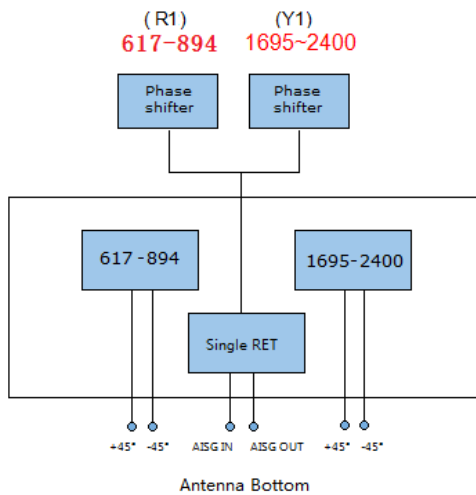
Integrated RET Properties

RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA



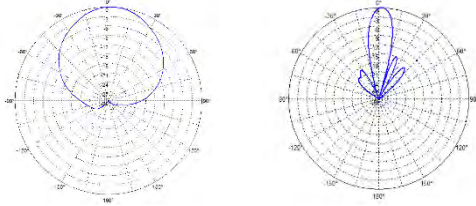
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing (2) Single RET





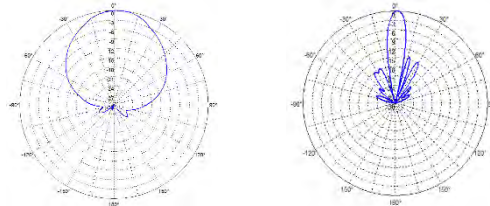
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

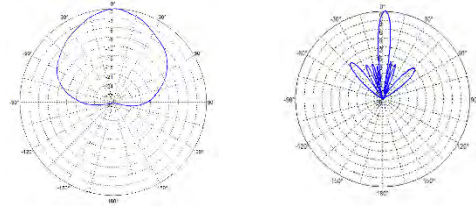
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

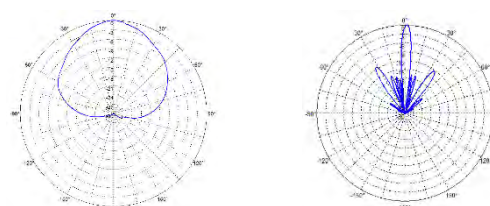
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

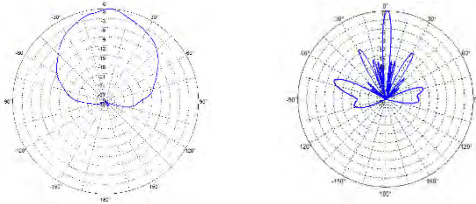
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



QUA8-1LX1HX-BW65

4-ports 617-894 /1695-2400 MHz 65°, 16 / 18 dBi, 2°-12° / 2°-12° Tilt Antenna With 2 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		617-894			1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		70	65	60	66	63	58
Vertical 3dB Beamwidth(°)		10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)		15.1	15.6	16.0	17.6	18.0	18.1
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16	≥16
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					



Mechanical Specifications

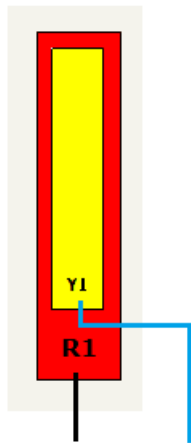
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 355 x 165 / 95.9 x 14.0x 6.5
Packing Size(mm)/(inches)	2710 x 460 x 275 / 106.7 x 18.1 x 10.8
Weight ,w/o Mounting kit(kg)/(lbs)	29 / 63.8
Weight with Downtilt Bracket(kg)/(lbs)	36 / 79.2
Weight with Fixed Bracket(kg)/(lbs)	34 / 74.8
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	42 / 92.4
Packing Weight (with Fixed Bracket) (kg)/(lbs)	40 / 88
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1001/271/723



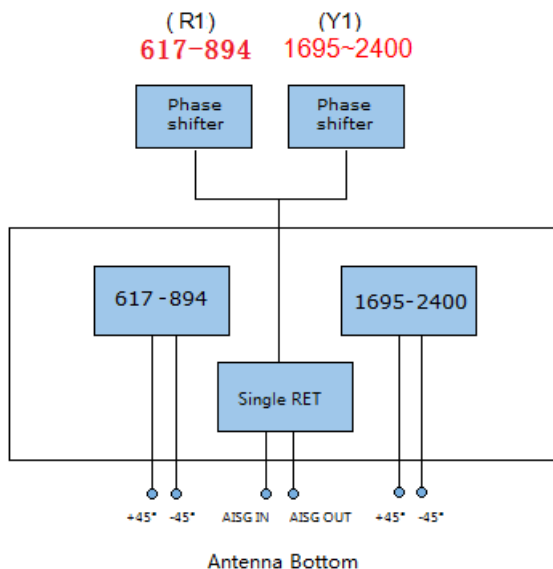
Integrated RET Properties

RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs, 200 Repetitions Min. @ 0.6KA

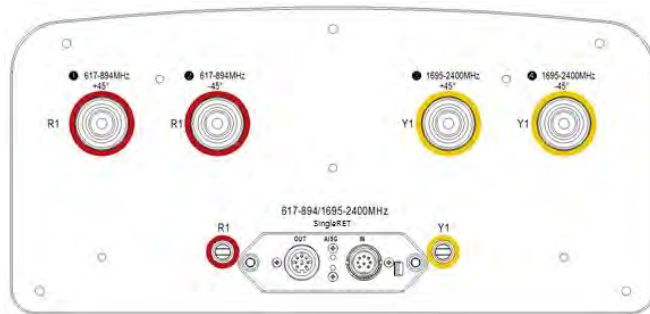
COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1

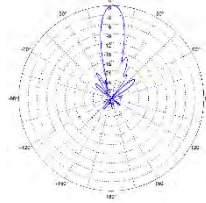


Note: (1) Physical RET Unit containing (2) Single RET





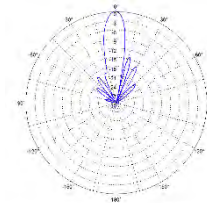
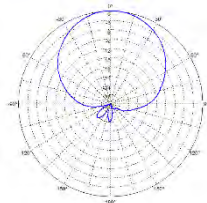
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

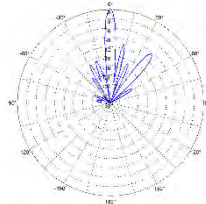
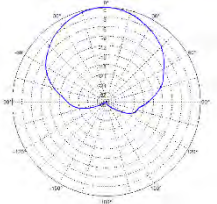
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

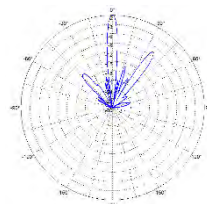
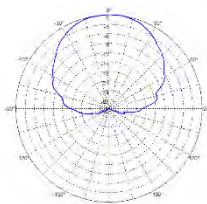
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

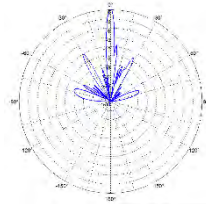
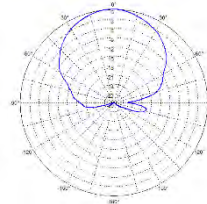
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



QUA8-1LX1HX-BW90

4-ports 617-894 /1695-2400 MHz 90°, 15 / 17 dBi, 2°-12° / 2°-12° Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		617-894			1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		88	83	78	88	83	78
Vertical 3dB Beamwidth(°)		10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)		14.1	14.6	15.0	16.6	17.0	17.1
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥23	≥23	≥23	≥23	≥23	≥23
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16	≥16
	±60° (dB)	≥8	≥8	≥8	≥8	≥8	≥8
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					



Mechanical Specifications

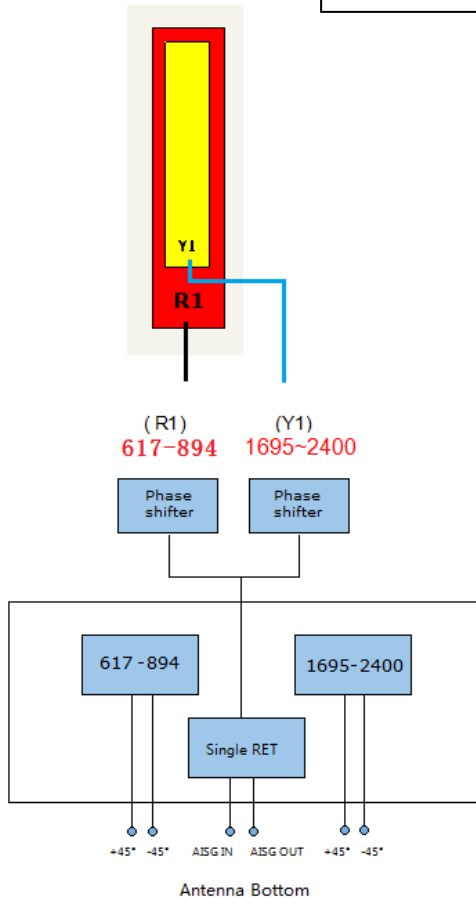
Radome Material	FiberGlass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 355 x 165 / 95.9 x 14.0x 6.5
Packing Size(mm)/(inches)	2660 x 456 x 296 / 104.7 x 17.9 x 11.6
Weight ,w/o Mounting kit(kg)/(lbs)	29 / 63.8
Weight w/ Downtilt Bracket(kg)/(lbs)	36 / 79.2
Weight w/ Fixed Bracket(kg)/(lbs)	34 / 77
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	42 / 92.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	40 / 90.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1001/271/723



Integrated RET Properties

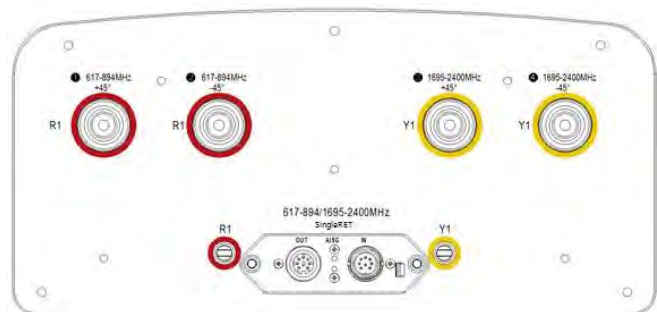
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



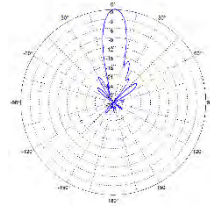
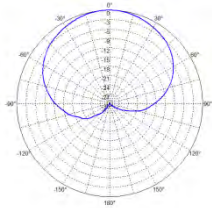
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	724Y1

Note: (1) Physical RET Unit containing (2) Single RET





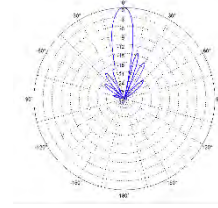
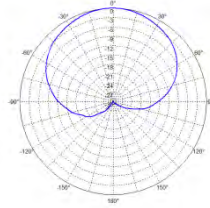
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

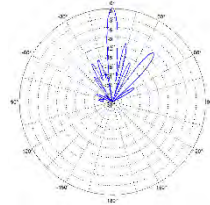
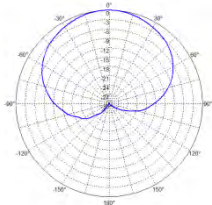
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

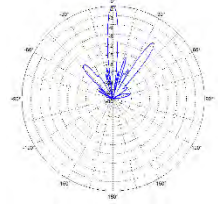
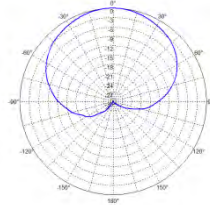
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

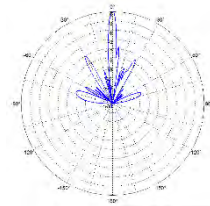
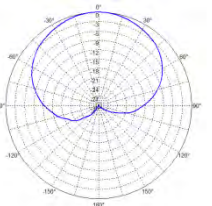
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

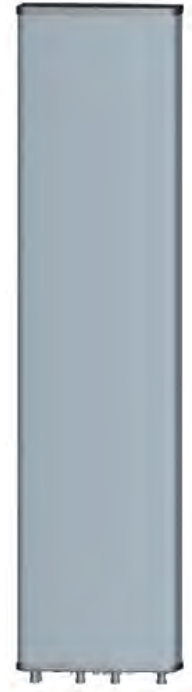


QUA8-2A-RB33

4-ports 617-894 MHz / 617-894 MHz, HBW 33°, 18.5 dBi / 18.5 dBi, 2°-12° / 2°-12° Tilt Antenna With 2 Integrated RCU.

Electrical Specifications

Frequency Range (MHz)	(2x) 617-894	
	617-698	698-894
Polarization	±45°	
Horizontal 3dB Beamwidth (°)	37 ±4	32 ±5.1
Vertical 3dB Beamwidth (°)	10.3 ±0.6	8.7 ±1.2
Gain (dBi)	17.6	18.3
Gain by all Beam Tilts, average, (dBi)	17.5 ±0.5	17.8 ±0.6
Electrical Downtilt	2°-12°	
First Upper Sidelobe Suppression (dB)	≥17	≥17
Cross polar discrimination ratio (dB) at boresight.	≥17	≥17
Front-to-Back Ratio Total Power, ±30° (dB)	≥25	≥26
Isolation port to port (all ports) (dB)	≥25	
VSWR	< 1.5	
Intermodulation IM3 (dBc) (2x43 dBm carrier)	<-150	<-153
Impedance (Ohms Ω)	50	
Max. Power per Input (Watts) (at 50°C ambient temperature)	500	
Lightning Protection	DC Ground	



All specifications follow BASTA standards



Mechanical Specifications

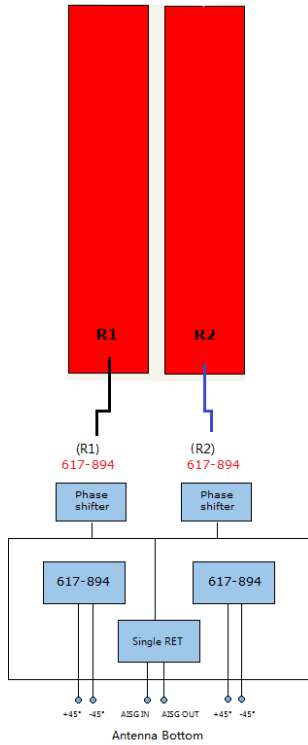
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4, Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions, HxWxD (mm) / (inches)	2438 x 630 x 165 / 95.9 x 24.8 x 6.5
Packing Size (mm) / (inches)	2860 x 695 x 305 / 112.6 x 27.4 x 12.0
Weight w/o Mounting kit (kg) / (lbs)	39.5 / 86.9
Weight w/ Downtilt Bracket (kg) / (lbs)	45.5 / 100.1
Weight w/ Fixed Bracket (kg) / (lbs)	43.5 / 95.7
Packing Weight (w/ Downtilt Bracket) (kg) / (lbs)	57 / 125.4
Packing Weight (w/ Fixed Bracket) (kg) / (lbs)	55 / 121
Max. Wind Velocity (mph)	150
Mast diameter supported (mm)	φ 50 ~ φ 115
Operational Temperature (°C)	-40 to +65
Operational Humidity (%)	<95
Wind Load at 100mph (Frontal / lateral / Rearside) (N)	1660 / 287 / 1200

Integrated RET Properties

RET Type	2x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range (DC V)	+10~+30 (pin 6)	
Power consumption (W)	<2 (stand by); <13 (motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna	Two motor shaft (Embedded motor)
Hardware interface	AISG	RS485A/B (pin5/pin3); Power supply (pin6); DC return (pin7) Acc.to AISG
Adjustment time (full range)	40 sec (typically, depending on antenna)	
Adjustment Cycles	≥10000	
Motor Torque Max (mN-m)	≥160	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile, 8/20 μs, 10 Repetitions Min.@ 6 kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs, 200 Repetitions Min. @ 0.6kA	

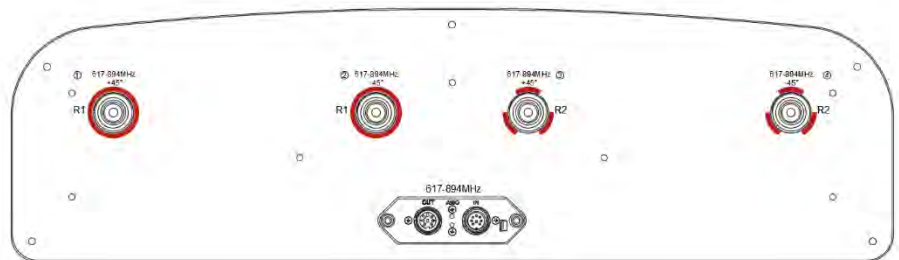


COMPREHENSIVE TILT CONFIGURATION



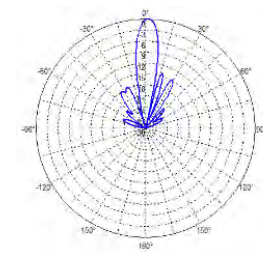
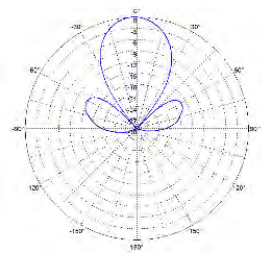
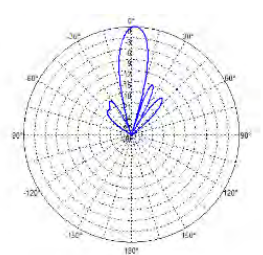
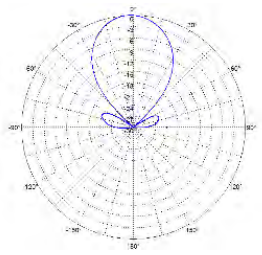
Frequency Range	Array	RET Unique ID
617-894 MHz	R1	NDPMXXXXXXXX-6089R1
617-894 MHz	R2	NDPMXXXXXXXX-6089R2

Note: (1) Physical RET Unit containing (2) Single RET



Radiation Pattern (617 - 824 MHz)

Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

Horizontal Pattern

Vertical Pattern



QUA8-2A-RB45

4-ports 617-894 /617-894 MHz 45°, 17.0 / 17.0 dBi, 2°-12°/2°-12°Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894		
		617-698	698-824	824-894
Polarization		±45°		
Horizontal 3dB Beamwidth (°)		50	46	42
Vertical 3dB Beamwidth (°)		10.4	9.1	8
Gain (dBi)		15.6	16.1	16.6
Electrical Downtilt		2°-12°		
First upper Sidelobe Suppression	dB	≥16	≥16	≥16
Front-to-Back Ratio	Total Power, ±20° dB	≥25	≥25	≥25
Cross polar ratio	Main direction dB	≥16	≥16	≥16
Isolation ports		≥25 dB		
VSWR		< 1.5		
Intermodulation IM3		< -153 dBc(2x43dBm carrier)		
Impedance		50 Ω		
Max. Power per Input (at 50°C ambient temperature)		500 W		
Lightning Protection		DC Ground		



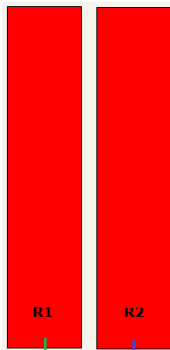
Mechanical Specifications

Radome Material	Fiber Glass
Connector Type and Location	4.3-10x4, Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2880 x 560 x 300 / 113.4 x 22.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	39 / 86
Weight w/ Downtilt Bracket(kg)/(lbs)	46 / 101.4
Weight w/ Fixed Bracket(kg)/(lbs)	44 / 97
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	57 / 125.7
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	55 / 121.3
Max. Wind Velocity(mph)	150
Mounting hardware	φ 50 mm ~ φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416 / 280 / 1027



Integrated RET Properties

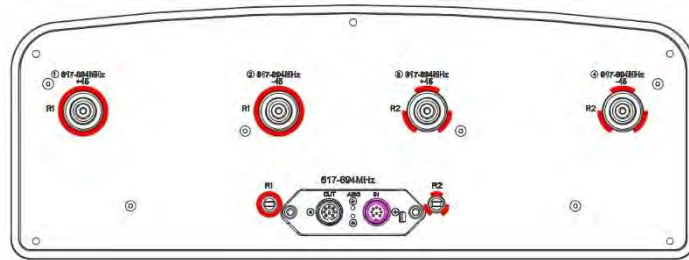
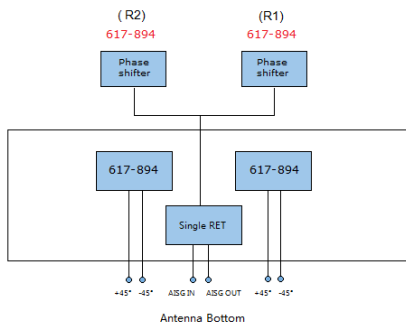
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA



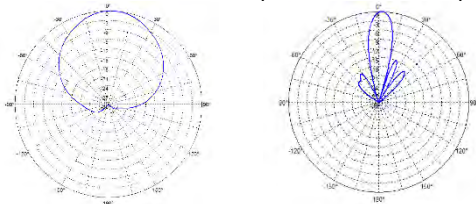
COMPREHENSIVE TILT CONFIGURATION

Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2

Note: (1) Physical RET Unit containing (2) Single RET



Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern



QUA8-2A-RB65

4-ports 617-894 / 617-894 MHz 65°, 16.5/ 16.5 dBi, 2°-12° / 2°-12° Tilt Antenna With 1 Integrated RCU.

Electrical Specifications

Frequency Range(MHz)		2x617-894	
		617-698	698-894
Polarization		±45°	
Horizontal 3dB Beamwidth(°)		68	62
Vertical 3dB Beamwidth(°)		10.3	8.7
Gain (dBi)		16.3	16.6
Electrical Downtilt		2°-12°	
Upper Sidelobe Suppression(dB)	First	≥17	≥17
Front-to-Back Ratio Total Power, ±30° (dB)		≥24	≥25
Isolation ports		≥25dB	
VSWR		< 1.5	
Intermodulation IM3 dBc (2x43dBm carrier)		< -150	< -153
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		500 W	
Lightning Protection		DC Ground	



Electrical Specifications, BASTA

Frequency Range(MHz)		2x617-894	
		617-698	698-894
Polarization		±45°	
Beamwidth, Horizontal Tolerance (°)		±4	±5.1
Beamwidth, Vertical Tolerance (°)		±0.6	±1.2
Gain by all Beam Tilts, average, (dBi)		15.8	15.8
Gain by all Beam Tilts, Tolerance, (dB)		±0.5	±0.6
Gain by all Beam Tilt, average (dBi)		2 15.7	2 16.0
		7 16.0	7 16.3
		12 15.9	12 15.9
Front-to-Back Ratio Total Power, ±30° (dB)		≥24	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17
	±60° (dB)	≥8	≥8



Mechanical Specifications

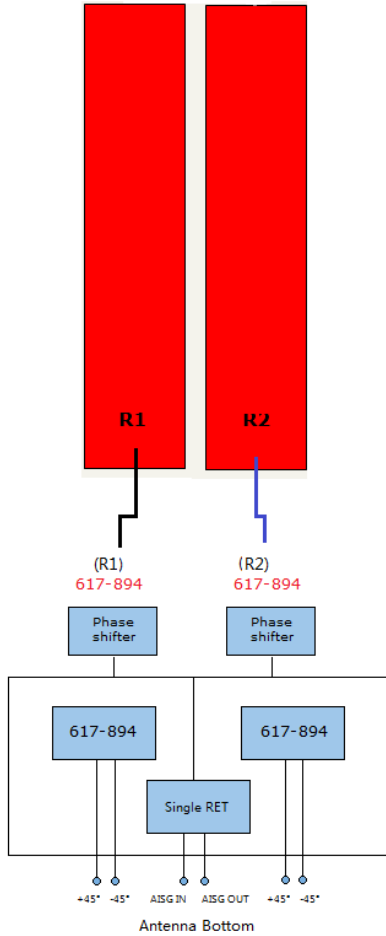
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 620 x 325 / 108.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	37/81.4
Weight w/ Downtilt Bracket(kg)/(lbs)	43/94.6
Weight w/ Fixed Bracket(kg)/(lbs)	41/90.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	51/112.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	49/107.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027

Integrated RET Properties

RET Type	2x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

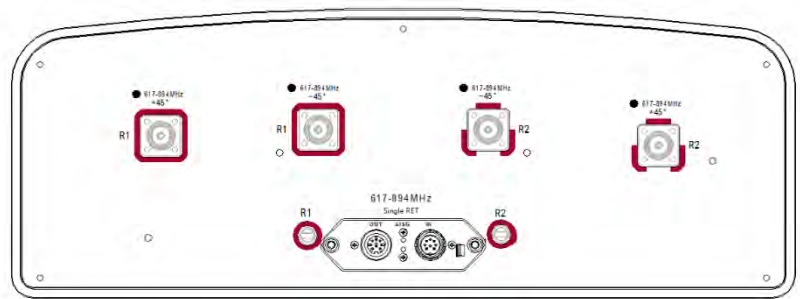


COMPREHENSIVE TILT CONFIGURATION

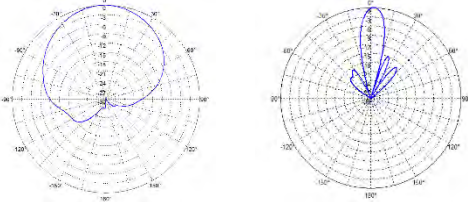


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2

Note: (1) Physical RET Unit containing (2) Single RET



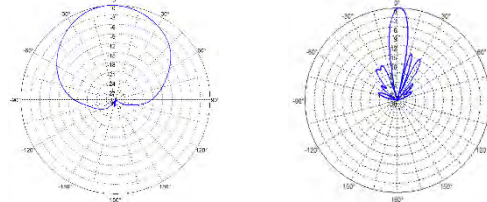
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern



QUA8-2HX-BR65

4-ports 1695-2690 /1695-2690 MHz 65°, 20.5 / 20.5 dBi, 2°- 8° / 2°- 8° Tilt Antenna With 2 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x1695-2690					
	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690	
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	67	66	63	62	60	
Vertical 3dB Beamwidth(°)	3.8	3.5	3.3	2.8	2.6	
Gain (dBi)	18.8	19.1	19.4	20	20.3	
Electrical Downtilt	2°- 8°					
Upper Sidelobe Suppression(dB)	First	≥18	≥18	≥18	≥18	≥18
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥27	≥27	≥27	≥27
Isolation ports	≥28dB					
VSWR	< 1.5					
Intermodulation IM3 dBc (2x43dBm carrier)	< -153					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	200 W					
Lightning Protection	DC Ground					



Electrical Specifications, BASTA

Frequency Range(MHz)	2x1695-2690				
	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°				
Beamwidth, Horizontal Tolerance (°)	±3.2	±3.8	±4.1	±4.0	±4.0
Beamwidth, Vertical Tolerance (°)	±0.2	±0.3	±0.3	±0.2	±0.2
Gain by all Beam Tilts, average, (dBi)	18.2	18.5	18.8	19.4	19.6
Gain by all Beam Tilts, Tolerance, (dB)	±0.3	±0.3	±0.4	±0.4	±0.4
Gain by all Beam Tilt, average (dBi)	2 18.5	2 18.6	2 18.8	2 19.6	2 19.7
	5 18.6	5 18.8	5 19.2	5 19.8	5 19.9
	8 18.4	8 18.5	8 19	8 19.2	8 19.8
Front-to-Back Ratio Total Power, ±30° (dB)	≥27	≥27	≥27	≥27	≥27
Cross polar ratio	≥20	≥20	≥20	≥20	≥17
	≥10	≥10	≥10	≥10	≥7



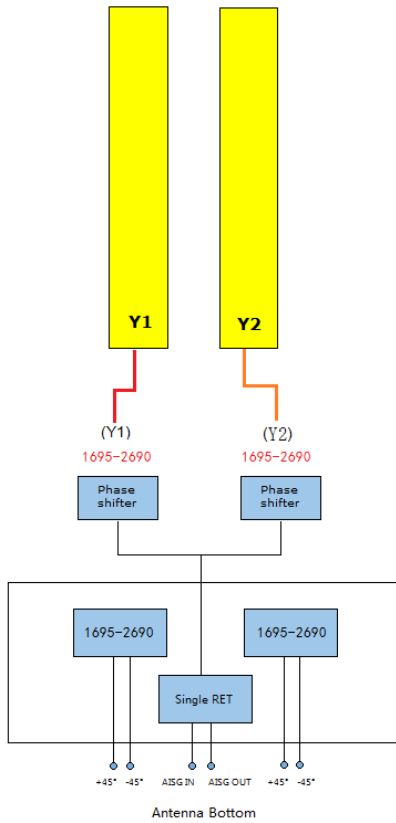
Mechanical Specifications

Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2430 x 320 x 105 / 95.7 x 12.6x 4.1
Packing Size(mm)/(inches)	2750 x 440 x 250 / 108.3 x 17.3 x 9.8
Weight ,w/o Mounting kit(kg)/(lbs)	24.5/53.9
Weight w/ Downtilt Bracket(kg)/(lbs)	30.5/67.1
Weight w/ Fixed Bracket(kg)/(lbs)	28.5/62.7
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	38.5/84.7
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	36.5/80.3
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1108/187/798

Integrated RET Properties

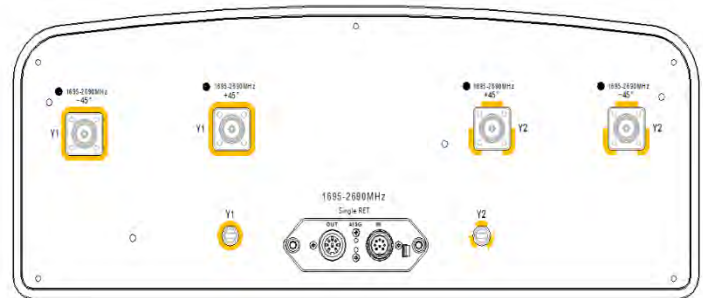
RET Type	2x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

COMPREHENSIVE TILT CONFIGURATION

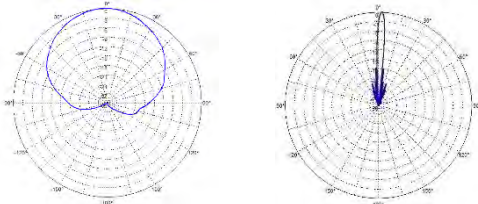


Frequency Range	Array	RET Unique ID
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (2) Single RET

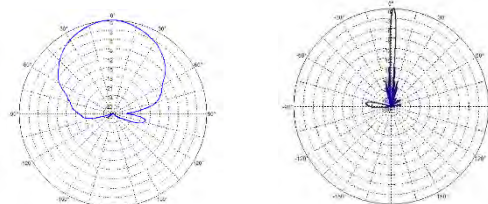


Radiation Pattern (1695 - 2200 MHz)



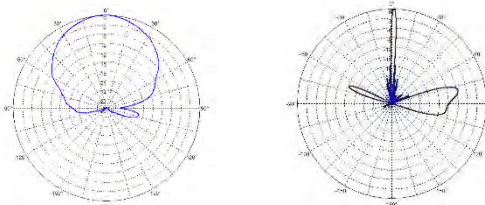
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2500 MHz)



Horizontal Pattern Vertical Pattern

Radiation Pattern (2500 - 2690 MHz)



Horizontal Pattern Vertical Pattern



QUA8-2HX-CB65

4-ports 3300-4200 / 3300-4200 MHz 65°, 21 / 21.5dBi, 0°-4° / 0°-4°Tilt Antenna With 2 Integrated RCUs and 2 Indicators

Electrical Specifications

Frequency Range(MHz)		2x3300-4200	
		3300-3800	3800-4200
Polarization		±45	
Horizontal 3dB Beamwidth(°)		65	60
Vertical 3dB Beamwidth(°)		2.6	2.3
Gain (dBi)		21	21.5
Electrical Downtilt		0°- 4°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17
	±60° (dB)	≥7	≥7
Isolation ports		≥28 dB	
VSWR		< 1.5	
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		250 W	
Lightning Protection		DC Ground	



Mechanical Specifications

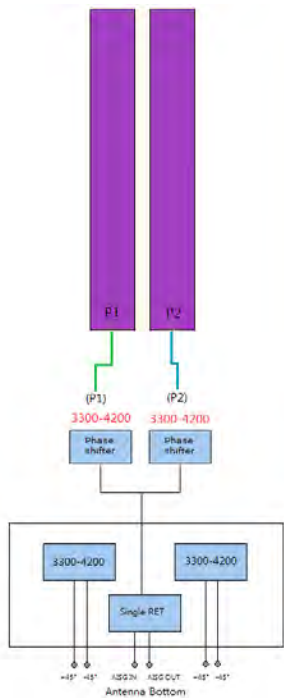
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	2400 x 168 x 90 / 94.4 x 6.6 x 3.5
Packing Size(mm)/(inches)	3000 x 290 x 235 / 118.2x 11.4 x 9.3
Weight ,w/o Mounting kit(kg)/(lbs)	23 / 27.5
Weight w/ Downtilt Bracket(kg)/(lbs)	33 / 38.5
Weight w/ Fixed Bracket(kg)/(lbs)	31 / 34.1
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	45 / 51.7
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	41 / 47.3
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	466/154/334



Integrated RET Properties

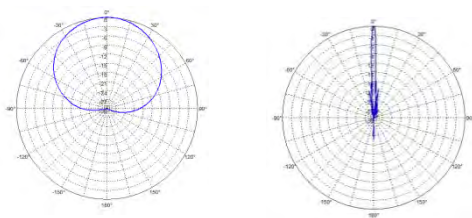
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P2

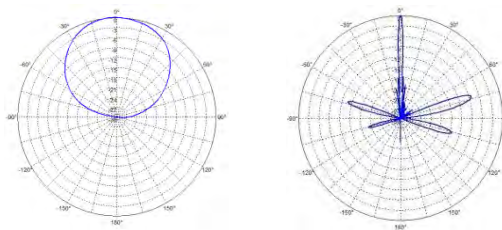
Radiation Patterns (3300 - 3600 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (3600-4200 MHz)



Horizontal Pattern

Vertical Pattern



QUA8-2LX-BW65

4-ports 617-894 / 617-894 MHz 65°, 16.5/ 16.5 dBi, 2°-12° / 2°-12°Tilt Antenna With 1 Integrated RCU.

Electrical Specifications

Frequency Range(MHz)		2x617-894	
		617-698	698-894
Polarization		±45°	
Horizontal 3dB Beamwidth(°)		68	62
Vertical 3dB Beamwidth(°)		10.3	8.7
Gain (dBi)		16	16.3
Electrical Downtilt		2°-12°	
Upper Sidelobe Suppression(dB)	First	≥17	≥17
Front-to-Back Ratio Total Power,±30° (dB)		≥24	≥25
Isolation ports		≥25dB	
VSWR		< 1.5	
Intermodulation IM3 dBc (2x43dBm carrier)		< -150	< -153
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		500 W	
Lightning Protection		DC Ground	



Electrical Specifications,BASTA

Frequency Range(MHz)		2x617-894	
		617-698	698-894
Polarization		±45°	
Beamwidth, Horizontal Tolerance (°)		±4	±5.1
Beamwidth, Vertical Tolerance (°)		±0.6	±1.2
Gain by all Beam Tilts,average, (dBi)		15.5	15.8
Gain by all Beam Tilts,Tolerance, (dB)		±0.5	±0.6
Gain by all Beam Tilt,average (dBi)		2 15.4	2 15.7
		7 15.7	7 16
		12 15.6	12 15.6
Front-to-Back Ratio Total Power, ±30° (dB)		≥24	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17
	±60° (dB)	≥8	≥8



Mechanical Specifications

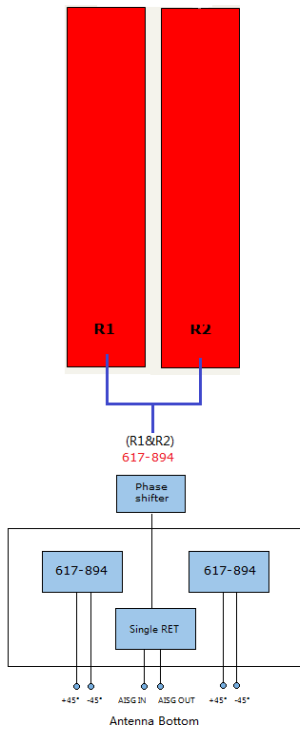
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 620 x 325 / 108.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	37/81.4
Weight w/ Downtilt Bracket(kg)/(lbs)	43/94.6
Weight w/ Fixed Bracket(kg)/(lbs)	41/90.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	51/112.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	49/107.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027

Integrated RET Properties

RET Type	1x Type 1 Single RET
Protocols	Compliant to AISG 2.0/3GPP
Input voltage range	+10~+30VDC(pin 6)
Power consumption	<2W(stand by);<13W(motor activated)
Connectors	AISG 2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna Two motor shaft(Embedded motor)
Hardware interface	AISG RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)
Adjustment Cycles	≥10000
Torque Max	≥160mN.m
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

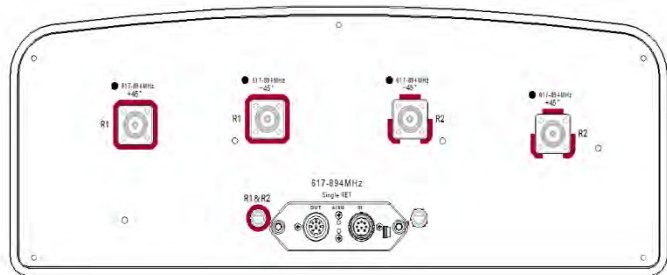


COMPREHENSIVE TILT CONFIGURATION

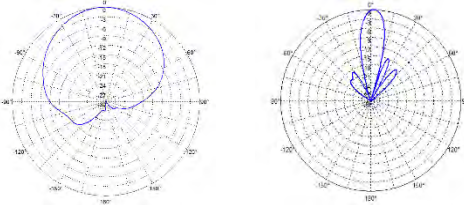


Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMSXXXXXXXX-6089R1

Note: (1) Physical RET Unit containing (1) Single RET



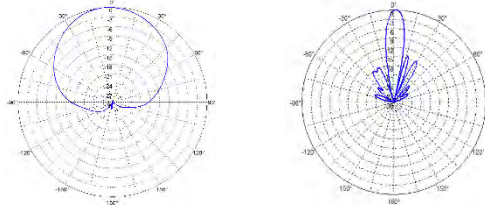
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

DENGYO **HEX** series

6-port base station antennas



HEX4-1A2J-RC65A

6-ports 617-894 /1695-2690 /1695-2690 MHz 65°, 14 / 18 / 18 dBi, 2°-12° / 2°-12° / 2 -12 °Tilt Antenna
With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	617-894		2x1695-2690				
	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	70	66	66	65	62	58	60
Vertical 3dB Beamwidth(°)	18.5	15.5	7.2	6.8	6.3	5.5	5.1
Gain (dBi)	12.7	13.6	16.8	17.2	17.7	17.7	17.8
Electrical Downtilt	2°-12°		2°-12°				
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥24	≥25	≥25	≥25	≥25
Isolation ports	≥25 dB						
Isolation Frequency	≥28 dB						
VSWR	< 1.5						
Intermodulation IM3(2x43dBm carrier)(dBc)	< -153						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						



Electrical Specifications, BASTA

Frequency Range(MHz)	617-894		2x1695-2690				
	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°						
Beamwidth, Horizontal Tolerance (°)	±4.4	±6.0	±3.6	±4.2	±6.3	±5.6	±6.1
Beamwidth, Vertical Tolerance (°)	±1.5	±1.7	±0.5	±0.5	±0.4	±0.4	±0.4
Gain by all Beam Tilts, average, (dBi)	12.6	13.2	16.7	17.1	17.6	17.6	17.7
Gain by all Beam Tilts, Tolerance, (dB)	±0.6	±0.8	±0.5	±0.5	±0.6	±0.5	±0.5
Gain by all Beam Tilt, average (dBi)	2 12.3	2 13.2	2 16.6	2 17.1	2 17.4	2 17.5	2 17.6
	7 12.7	7 13.3	7 16.8	7 17.2	7 17.6	7 17.7	7 17.8
	12 12.3	12 13.1	12 16.5	12 17.0	12 17.3	12 17.4	12 17.5
Front-to-Back Ratio Total Power, ±30° (dB)	≥22	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥8	≥8	≥8	≥9	≥9	≥9



Mechanical Specifications

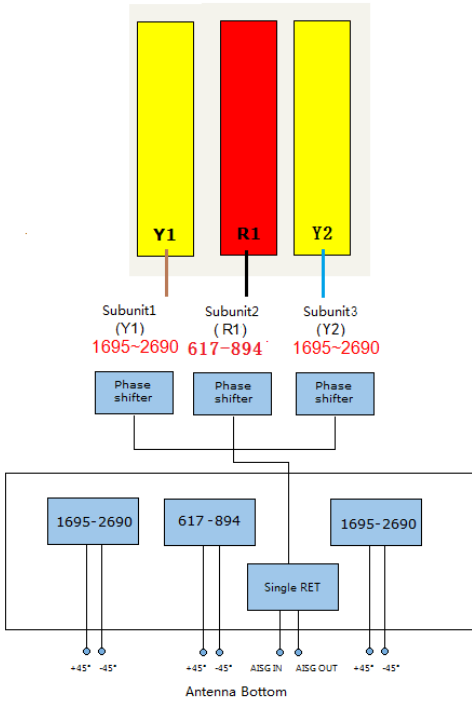
Radome Material	ASA
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 320 x 165 / 48 x 12.6 x 6.5
Packing Size(mm)/(inches)	1560x 440 x 290 / 58.3 x 17.3 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	15 / 33
Weight w/ Downtilt Bracket(kg)/(lbs)	22 / 48.4
Weight w/ Fixed Bracket(kg)/(lbs)	20 / 44
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	28 / 61.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	26 / 57.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	471/143/341

Integrated RET Properties

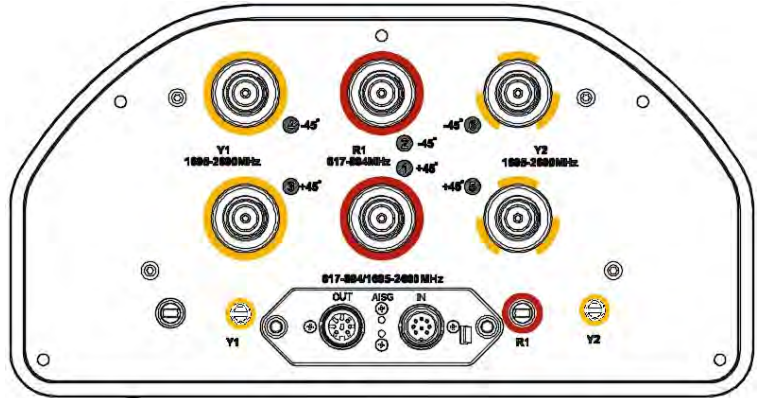
RET Type	3x Type 1 Single RET
Protocols	Compliant to AISG 2.0/3GPP
Input voltage range	+10~+30VDC(pin 6)
Power consumption	<2W(stand by);<13W(motor activated)
Connectors	AISG 2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna Two motor shaft(Embedded motor)
Hardware interface	AISG RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)
Adjustment Cycles	≥10000
Torque Max	≥160mN.m
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA



COMPREHENSIVE TILT CONFIGURATION

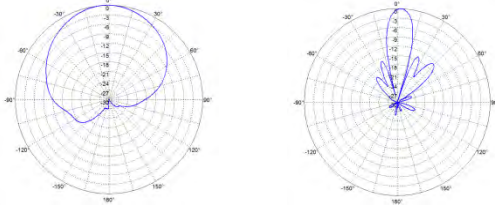


Note: (1) Physical RET Unit containing (3) Single RET



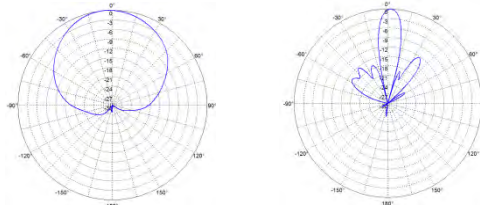
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Radiation Pattern (617 - 824 MHz)



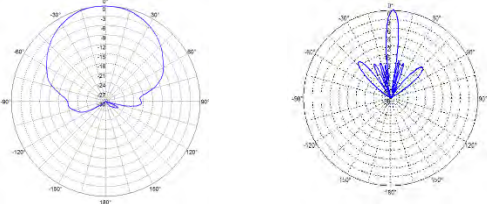
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



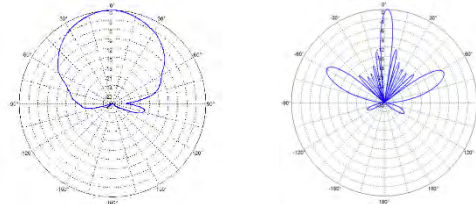
Horizontal Pattern Vertical Pattern

Radiation Pattern (1695 - 2200 MHz)



Horizontal Pattern Vertical Pattern

Radiation Patterns (2200 - 2690 MHz)



Horizontal Pattern Vertical Pattern



HEX6-1A2J-RB33

6-ports 617-894 / 1695-2690 /1695-2690 MHz 33°, 17.5 / 20.0 / 20.0 dBi, 2°-12° / 2°-12° / 2°-12°Tilt Antenna
With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	617-894			2x1695-2690			
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°) ¹	35±3	33±3	32±3	35±3	34±3	29±3	27+3
Vertical 3dB Beamwidth(°) ¹	15.0±1.0	13.1±1.0	12.0±0.8	5.4±0.5	5.0±0.5	4.3±0.5	3.9±0.5
Gain over all tilts ,max,(dBi)	16.4	16.9	17.5	19.6	19.9	20.1	20.3
Average gain over all tilts,dBi	15.8±0.6	16.3±0.6	16.9±0.6	19.2±0.4	19.5±0.4	19.7±0.4	19.9±0.4
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB) ¹	First	≥17	≥17	≥17	≥19	≥19	≥19
	Boresight to 20° ¹	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Co-polar power (dB)	@180°	≥26	≥28	≥28	≥30	≥30	≥32
	@180±30°	≥25	≥27	≥27	≥28	≥28	≥28
Cross polar ratio	Main direction(dB)	≥20	≥20	≥20	≥20	≥20	≥20
Minimum cross-polar isolation, port-to-port, dB ¹	≥25dB						
Isolation Frequency	≥30 dB						
VSWR	< 1.5						
Intermodulation IM3	< -153 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						

¹Typical value over frequency and tilt



Mechanical Specifications

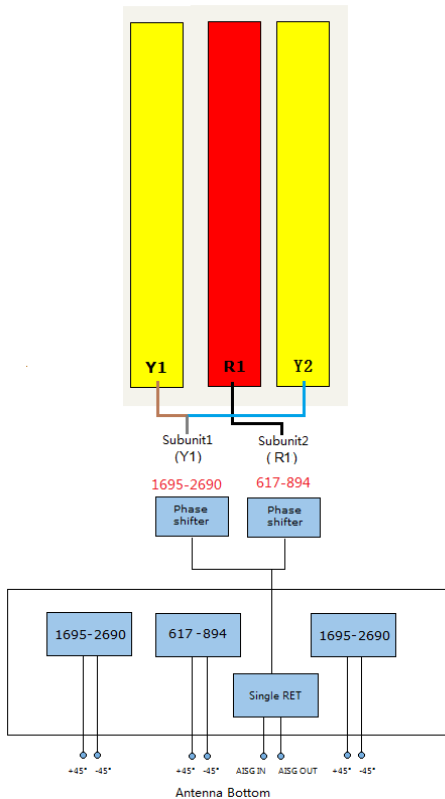
Radome Material	FiberGlass
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1828 x 630 x 175 / 72 x 24.8x 6.9
Packing Size(mm)/(inches)	2190 x 695 x 310 / 86.2 x 27.4 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	38 / 83.6
Weight w/ Downtilt Bracket(kg)/(lbs)	45 / 99
Weight,w/ Fixed Bracket (kg)/(lbs)	43 / 94.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	54 / 118.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	52/114.4
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1344/232/910



Integrated RET Properties

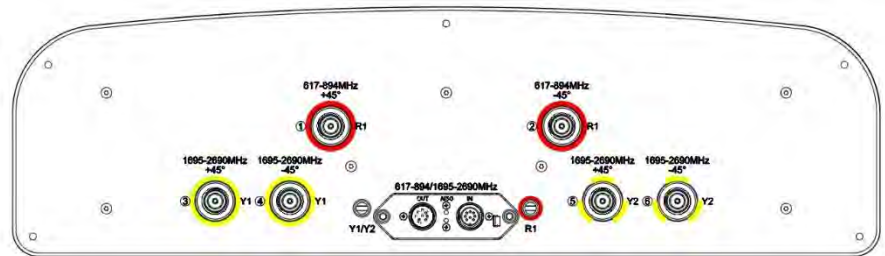
RET Type	2x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

COMPREHENSIVE TILT CONFIGURATION



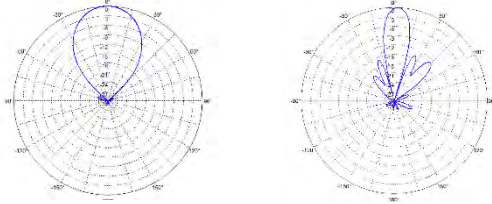
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXXX- 6089R1
1695-2690MHz	Y1/Y2	NDPMXXXXXXXXX- 1727Y1

Note: (1) Physical RET Unit
containing (2) Single RET





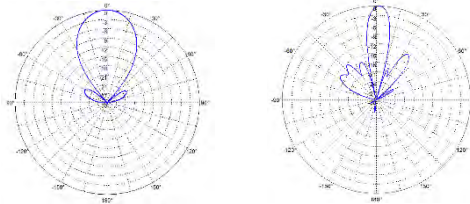
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

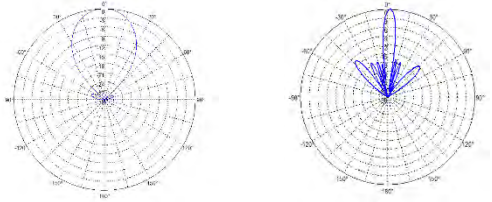
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

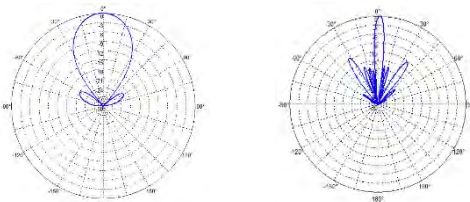
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

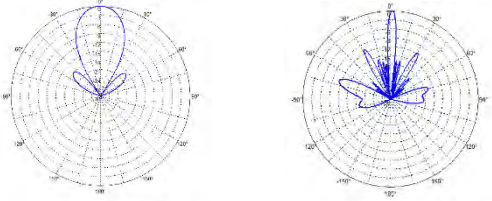
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



HEX6-1A2J-RC65A

6-ports 617-894 /1695-2690 /1695-2690 MHz 65°, 15 / 19 / 19 dBi, 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna
With 3 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		2x617-894		2x1695-2690				
		617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		68	62	66	65	62	58	60
Vertical 3dB Beamwidth(°)		14	12	5.7	5.5	5.1	4.5	4.1
Gain (dBi)		14.2	15	17.6	18	18.5	18.5	18.6
Electrical Downtilt		2°-12°		2°-12°				
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25
Isolation ports		≥25dB						
Isolation Frequency		≥28dB						
VSWR		< 1.5						
Intermodulation IM3 dBc (2x43dBm carrier)		< -153						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W		200 W				
Lightning Protection		DC Ground						



Electrical Specifications, BASTA

Frequency Range(MHz)		617-894		2x1695-2690				
		617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization		±45°						
Beamwidth, Horizontal Tolerance (°)		±4.2	±5.8	±3.5	±4.1	±6.4	±5.7	±6.0
Beamwidth, Vertical Tolerance (°)		±1.1	±1.4	±0.3	±0.4	±0.4	±0.3	±0.3
Gain by all Beam Tilts, average, (dBi)		14	14.4	17.4	17.7	18.2	18.2	18.2
Gain by all Beam Tilts, Tolerance, (dB)		±0.4	±0.7	±0.4	±0.4	±0.6	±0.5	±0.5
Gain by all Beam Tilt, average (dBi)		2 14.0	2 14.4	2 17.4	2 17.7	2 18	2 18.1	2 18.1
		7 14.2	7 14.5	7 17.5	7 17.8	7 18.3	7 18.5	7 18.5
		12 13.9	12 14.2	12 17.2	12 17.6	12 18.2	12 18.1	12 18.0
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥8	≥8	≥8	≥9	≥9	≥9	≥9



Mechanical Specifications

Redome Material	ASA
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 320 x 165 / 72.8x 12.6 x 6.5
Packing Size(mm)/(inches)	2110x 440 x 290 / 83.1 x 17.3 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	19 / 41.8
Weight w/ Downtilt Bracket(kg)/(lbs)	26 / 57.2
Weight w/ Fixed Bracket(kg)/(lbs)	24 / 52.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	32 / 70.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	30 / 66.0
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	671/203/483

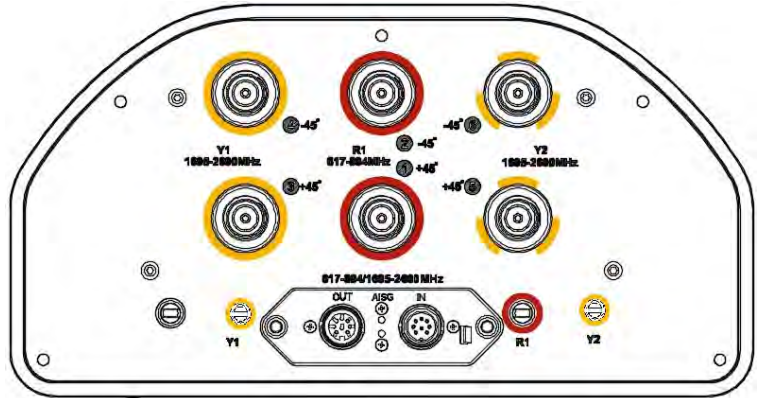
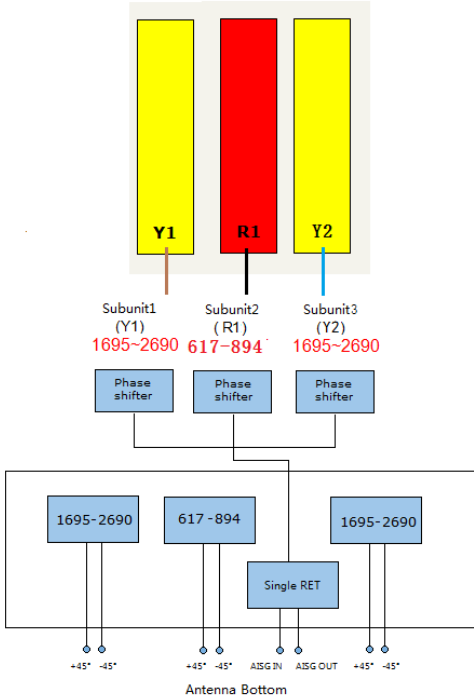
Integrated RET Properties

RET Type	3x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	



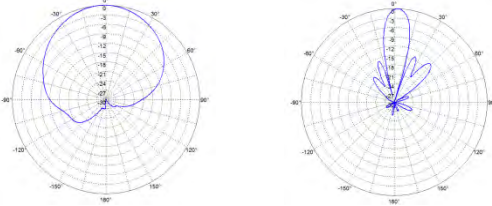
COMPREHENSIVE TILT CONFIGURATION

Note: (1) Physical RET Unit containing (3) Single RET



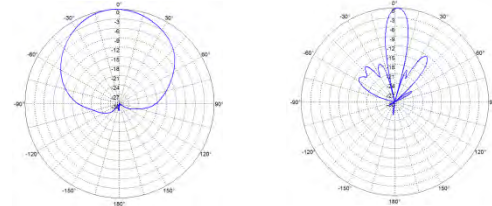
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Radiation Pattern (617 - 824 MHz)



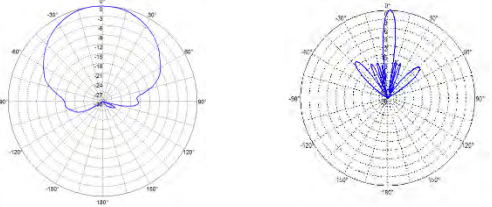
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



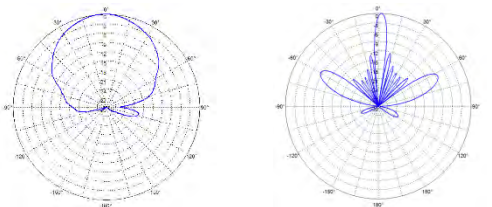
Horizontal Pattern Vertical Pattern

Radiation Pattern (1695 - 2200 MHz)



Horizontal Pattern Vertical Pattern

Radiation Patterns (2200 - 2690 MHz)



Horizontal Pattern Vertical Pattern



HEX6-1B2J-RC65

6-ports 694-960 / 1695-2690 / 1695-2690 MHz 65°, 15.5 / 18.5 / 18.5 dBi, 2°-12° / 2°-12° / 2 -12 °Tilt Antenna
With 3 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	694-960			2x 1695-2690			
	694-790	790-890	890-960	1695-1920	1920-2180	2300-2400	2490-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	73	69	66	66	63	58	60
Vertical 3dB Beamwidth(°)	12.0	10.8	9.8	5.5	5	4.5	4.1
Gain (dBi)	14.4	14.9	15.3	17.6	18.0	18.3	18.5
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥18	≥18	≥18	≥19	≥19	≥19
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥26	≥27	≥27	≥28	≥29
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥10	≥10	≥10	≥10	≥10	≥10
Isolation ports	≥25 dB						
Isolation Frequency	≥30 dB						
VSWR	< 1.5						
Intermodulation IM3	< -153 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						



Mechanical Specifications

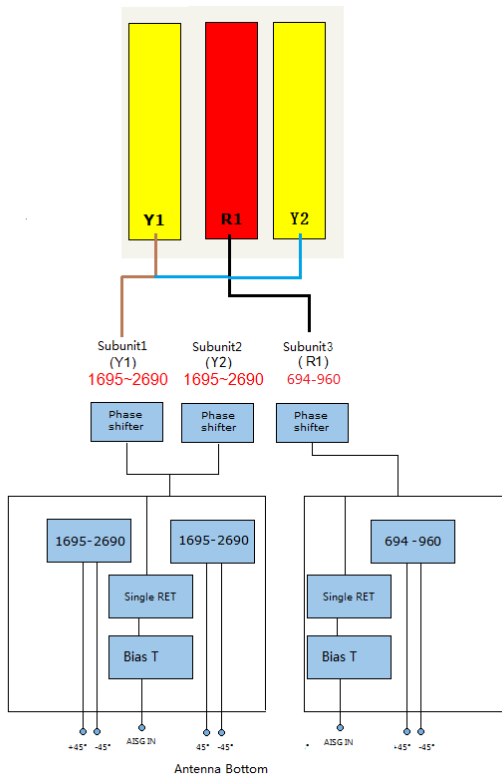
Radome Material	ASA
Connector Type and Location	4.3-10x6 ,Bottom RCU in:2 x 4.3-10 Female
Dimensions,HxWxD(mm)/(inches)	1828 x 304 x 180 / 72.0 x 11.9 x 7.1
Packing Size(mm)/(inches)	2070 x 400x 300 / 81.5x 15.7 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	20 / 44
Weight w/ Downtilt Bracket(kg)/(lbs)	27 / 59.4
Weight w/ Fixed Bracket(kg)/(lbs)	25 / 55.0
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	33 / 72.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	31 / 68.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	641/214/463



Integrated RET Properties

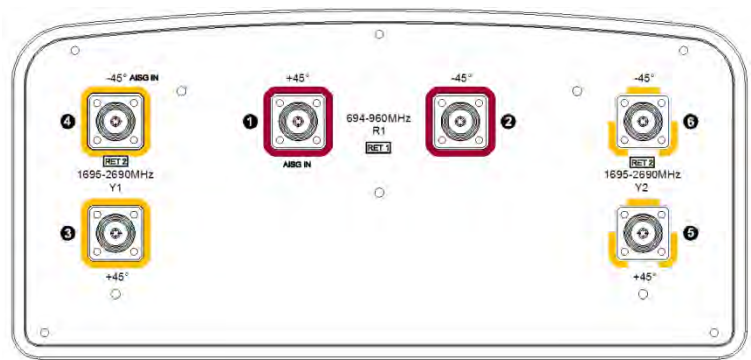
RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2x4.3-10 Female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



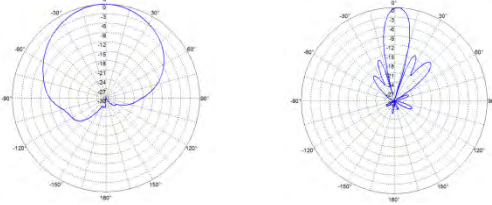
Frequency Range	Array	RET Unique ID
694-960MHz	R1	NDPMXXXXXXXXX-7090R1
1695-2690MHz	Y1	NDPMXXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXXX-1727Y2

Note: (2) Physical RET Unit containing (3) Single RET





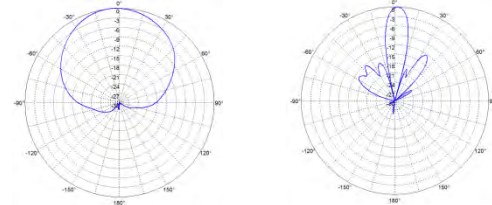
Radiation Pattern (694 - 824 MHz)



Horizontal Pattern

Vertical Pattern

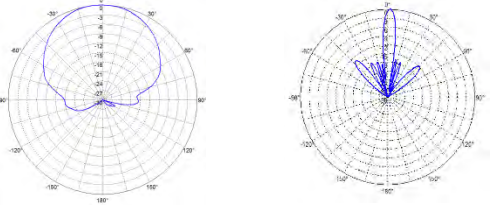
Radiation Patterns (824 - 960 MHz)



Horizontal Pattern

Vertical Pattern

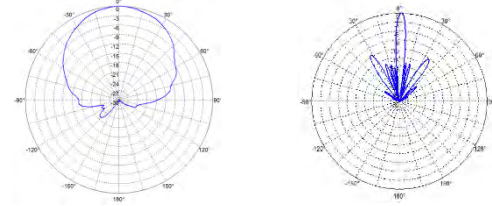
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

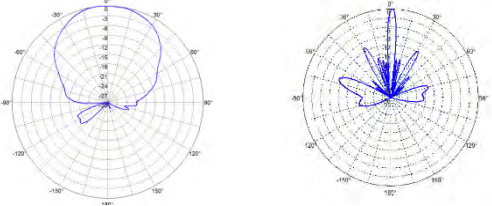
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

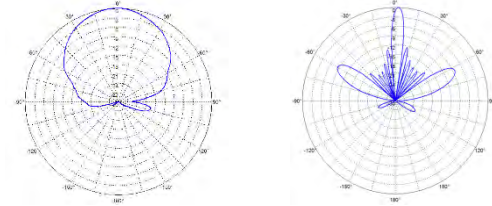
Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2500 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



HEX6-1B2K-RB65-S

6-ports 698-894 /1695-2200 /1695-2200 MHz 65°, 16 / 20 / 20 dBi, 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna
With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x698-894		2x1695-2200		
		698-806	806-894	1695-1880	1850-1990	1920-2200
Polarization		±45°				
Horizontal 3dB Beamwidth(°)		68	62	66	65	62
Vertical 3dB Beamwidth(°)		14	12.5	5.7	5.5	5.1
Gain (dBi)		15.2	16	18.8	19.2	19.7
Electrical Downtilt		2°-12°		2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25
Isolation ports		≥25dB				
Isolation Frequency		≥28dB				
VSWR		< 1.5				
Intermodulation IM3 dBc (2x43dBm carrier)		< -153				
Impedance		50 Ω				
Max. Power per Input (at 50°C ambient temperature)		500 W		200 W		
Lightning Protection		DC Ground				



Electrical Specifications, BASTA

Frequency Range(MHz)		698-894		2x1695-2200		
		698-806	806-894	1695-1880	1850-1990	1920-2200
Polarization		±45°				
Beamwidth, Horizontal Tolerance (°)		±4.2	±5.8	±3.5	±4.1	±6.4
Beamwidth, Vertical Tolerance (°)		±1.1	±1.4	±0.3	±0.4	±0.4
Gain by all Beam Tilts, average, (dBi)		15	15.4	18.6	18.9	19.4
Gain by all Beam Tilts, Tolerance, (dB)		±0.4	±0.7	±0.4	±0.4	±0.6
Gain by all Beam Tilt, average (dBi)		2 14.0	2 14.4	2 18.6	2 18.9	2 19.3
		7 14.2	7 14.5	7 18.7	7 19.0	7 19.5
		12 13.9	12 14.2	12 18.4	12 18.8	12 19.2
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥20	≥20	≥20	≥22	≥22
	±60° (dB)	≥8	≥8	≥8	≥9	≥9



Mechanical Specifications

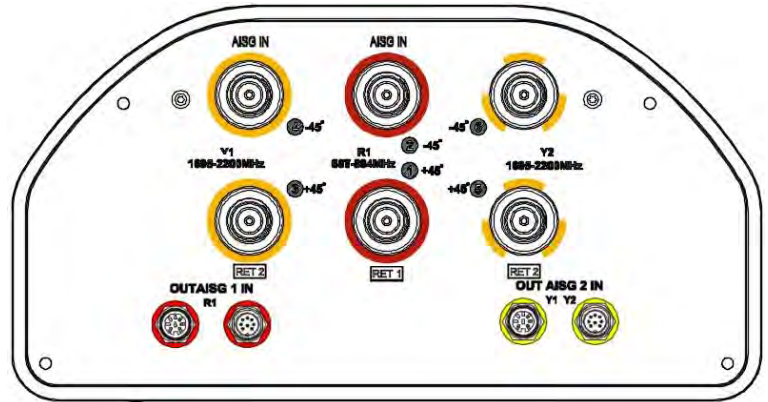
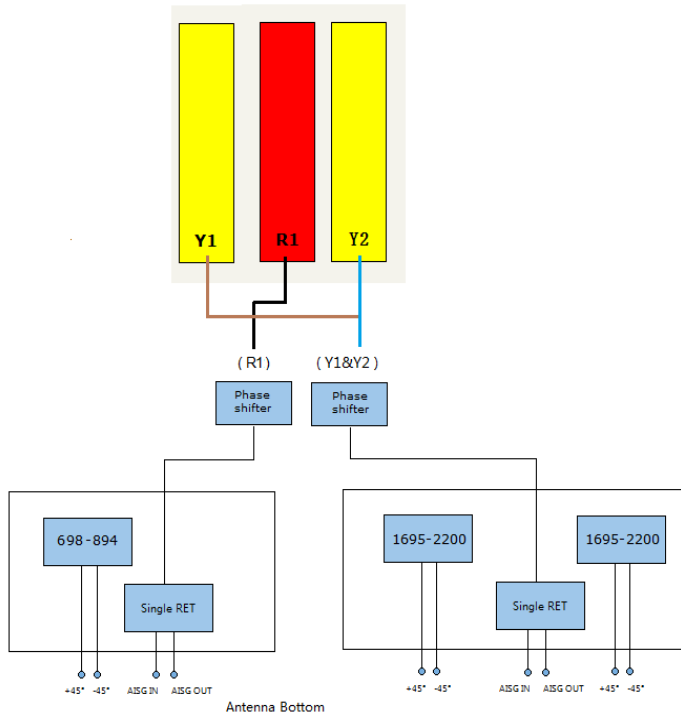
Redome Material	ASA
Connector Type and Location	4.3-10x6 ,Bottom RCU RF in: 2 ports in 4.3-10 Female iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 320 x 165 / 72.8x 12.6 x 6.5
Packing Size(mm)/(inches)	2110x 440 x 290 / 83.1 x 17.3 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	18 / 39.6
Weight w/ Downtilt Bracket(kg)/(lbs)	25 / 55
Weight w/ Fixed Bracket(kg)/(lbs)	23 / 50.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	31 / 68.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	29 / 63.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	671/203/483

Integrated RET Properties

RET Type	2x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 Ports in 4.3-10 Female 2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

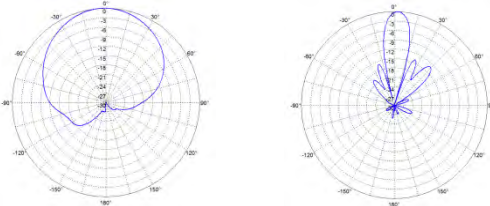


COMPREHENSIVE TILT CONFIGURATION



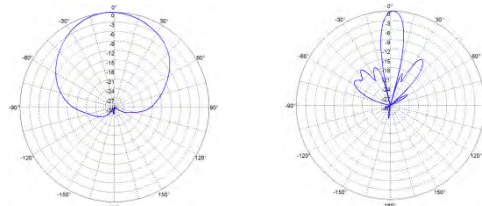
Frequency Range	Array	RET Unique ID
698-894MHz	R1	NDPMXXXXXXXX-7089R1
1695-2200MHz	Y1/Y2	NDPMXXXXXXXX-1722Y1

Radiation Pattern (698 - 806 MHz)



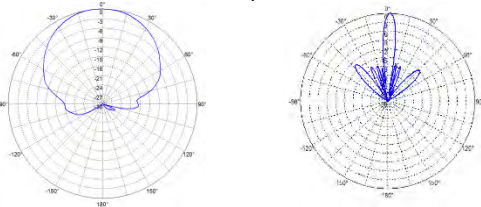
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



Horizontal Pattern Vertical Pattern

Radiation Pattern (1695 - 2200 MHz)



Horizontal Pattern Vertical Pattern



HEX6-1LX2HX-BW45

6-ports 617-894 /1695-2400 /1695-2400 MHz 45°, 15.5 / 18 / 18dBi, 2°-12°/2°-12°/ 2°-12°Tilt Antenna With 3 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	617-894			2x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41
Vertical 3dB Beamwidth(°)	13.5	12	10.5	5.5	5	4.3
Gain (dBi)	14.4	14.9	15.5	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

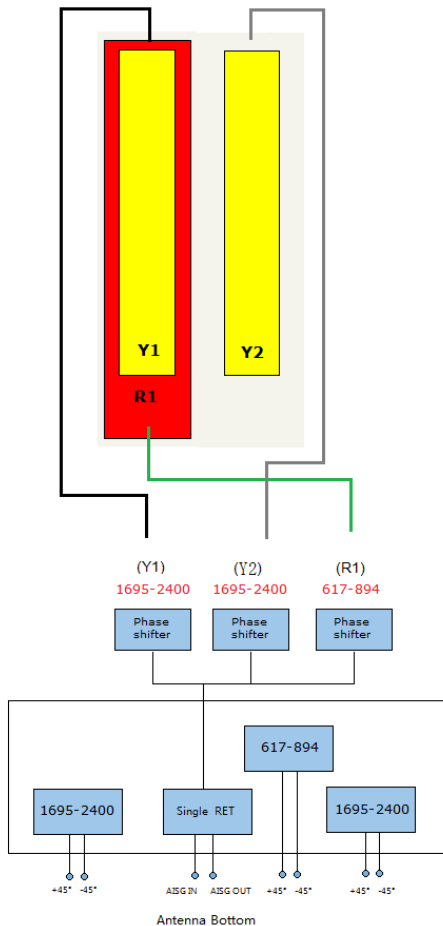
Radome Material	Fiber Glass
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2160 x 620 x 325 / 85.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	33 / 72.6
Weight w/ Downtilt Bracket(kg)/(lbs)	40 / 88
Weight w/ Fixed Bracket(kg)/(lbs)	38 / 83.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	46 / 101.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	44 / 96.8
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

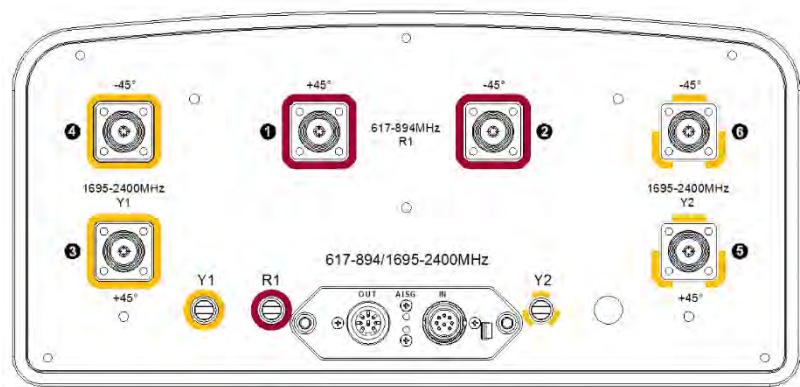
RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



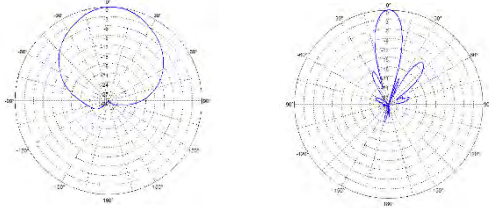
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (3) Single RET





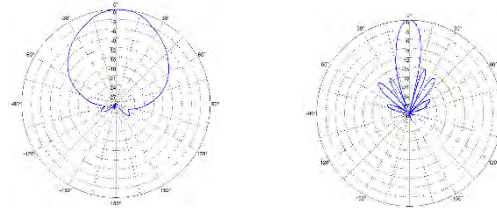
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

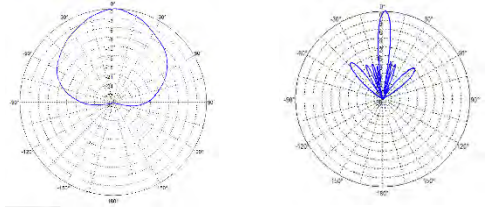
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

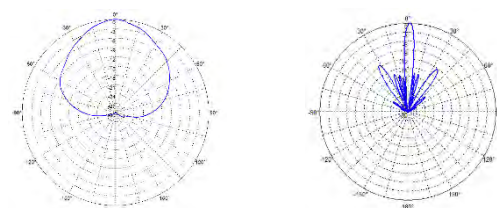
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

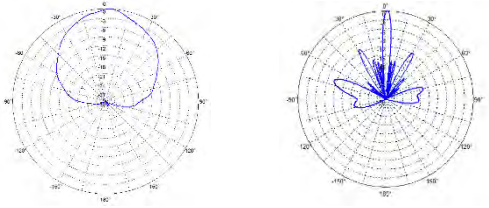
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



HEX6-1LX2HX-BW65

6-ports 617-894 / 1695-2400 / 1695-2400 MHz 65°, 15 / 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° Tilt Antenna
With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	617-894			2x 1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	70	65	60	66	63	58
Vertical 3dB Beamwidth(°)	13.5	12	10.5	5.5	5	4.3
Gain (dBi)	13.9	14.4	14.9	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

Mechanical Specifications

Radome Material	Fiberglass
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 400 x 180 / 72.8 x 15.7 x 7.1
Packing Size(mm)/(inches)	2071 x 501x 311 / 81.5 x 19.7 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	28 / 61.6
Weight w/ Downtilt Bracket(kg)/(lbs)	35 / 77
Weight w/ Fixed Bracket(kg)/(lbs)	33 / 72.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	41 / 90.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	39 / 85.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	856/238/620



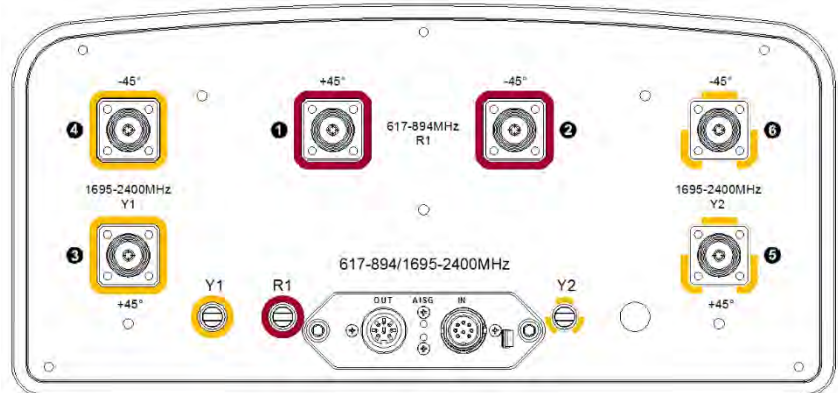
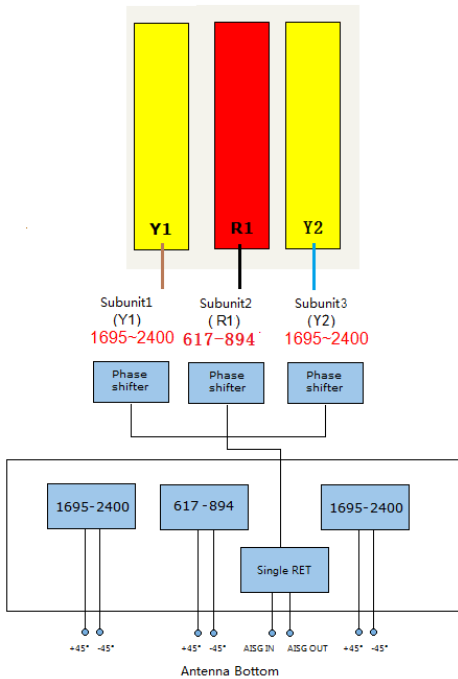
Integrated RET Properties

RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

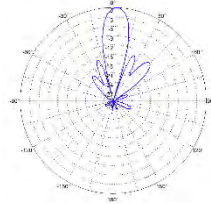
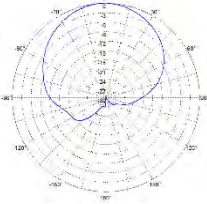
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (3) Single RET





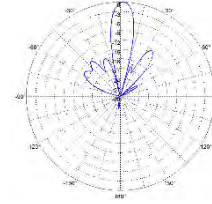
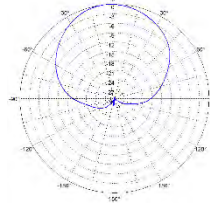
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

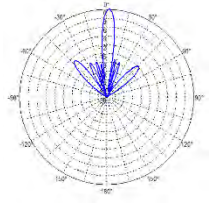
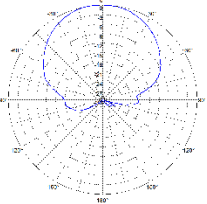
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

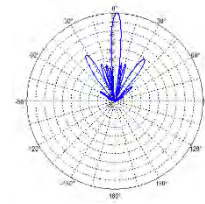
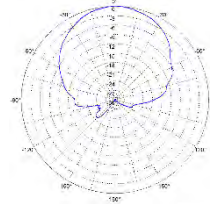
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

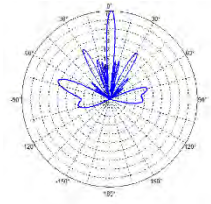
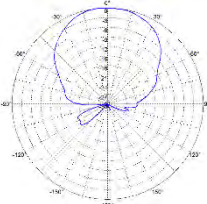
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



HEX6-1LX2HX-BW90

6-ports 617-894 / 1695-2400 / 1695-2400 MHz 90°, 14 / 17 / 17 dBi, 2°-12° / 2°-12° / 2°-12° Tilt Antenna
With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		617-894			2x 1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		88	83	78	88	83	78
Vertical 3dB Beamwidth(°)		13.5	12	10.5	5.5	5	4.3
Gain (dBi)		12.9	13.4	13.9	16.6	17.0	17.1
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥23	≥23	≥23	≥23	≥23
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥8	≥8	≥8	≥8	≥8	≥8
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					

Mechanical Specifications

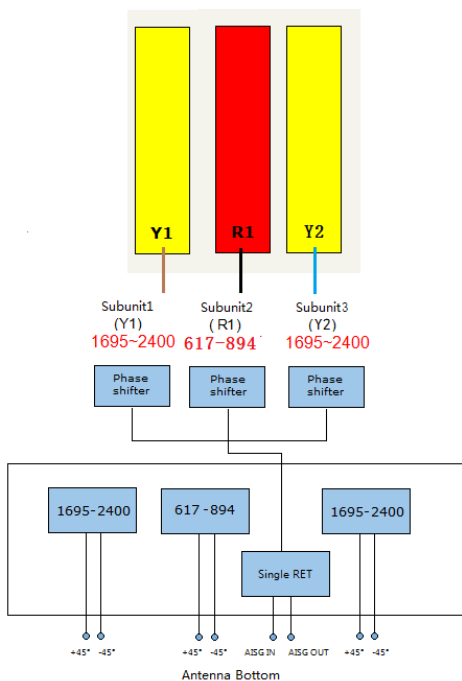
Radome Material	FiberGlass
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 400 x 180 / 72.8 x 15.7 x 7.1
Packing Size(mm)/(inches)	2071 x 501x 311 / 81.5 x 19.7 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	28 / 61.6
Weight w/ Downtilt Bracket(kg)/(lbs)	35 / 77
Weight w/ Fixed Bracket(kg)/(lbs)	33 / 72.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	41 / 90.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	39 / 85.8
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	856/238/620



Integrated RET Properties

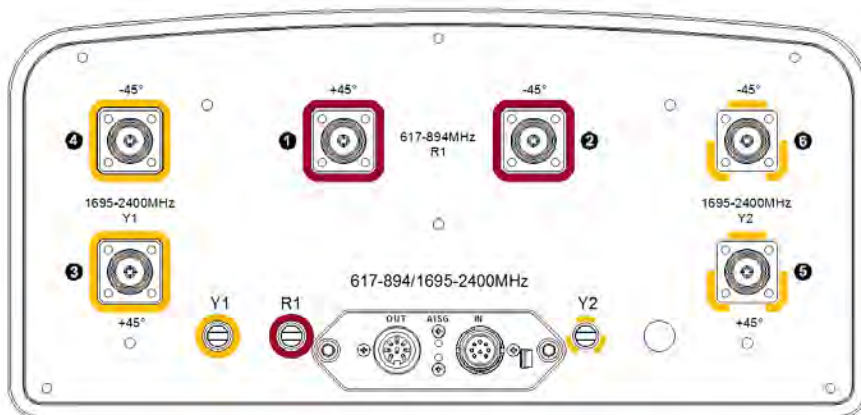
RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



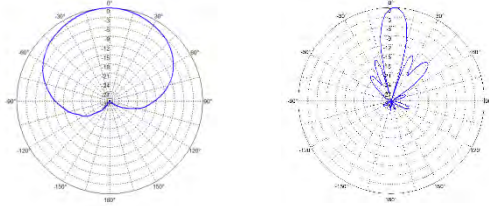
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (3) Single RET





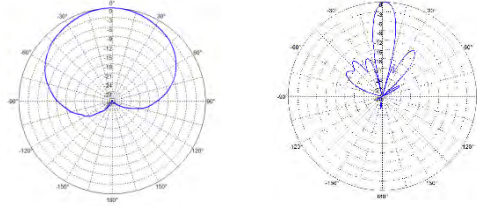
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

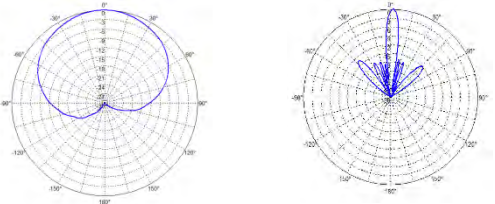
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

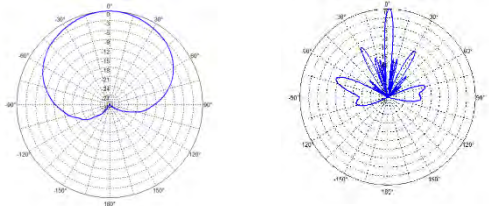
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



HEX6-2LX1HX-BW45

6-ports 617-894 /617-894 /1695-2400 MHz 45°, 15.5 / 15.5 / 18dBi, 2°-12°/2°-12°/ 2°-12°Tilt Antenna With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2 x 617-894			1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41
Vertical 3dB Beamwidth(°)	13.5	12	10.5	5.5	5	4.3
Gain (dBi)	14.4	14.9	15.5	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

Mechanical Specifications

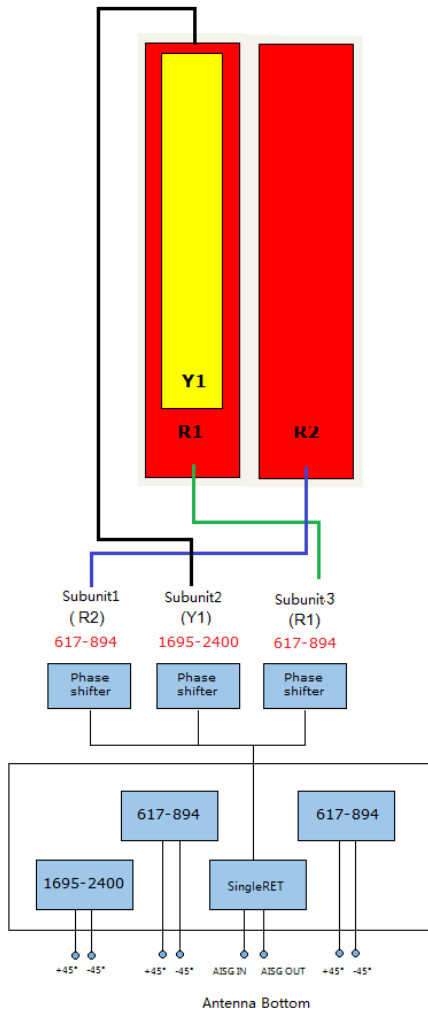
Radome Material	Fiber Glass
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2160 x 620 x 325 / 85.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	37 / 81.4
Weight w/ Downtilt Bracket(kg)/(lbs)	44 / 96.8
Weight w/ Fixed Bracket(kg)/(lbs)	42 / 92.4
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	52 / 114.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	50 / 110.0
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

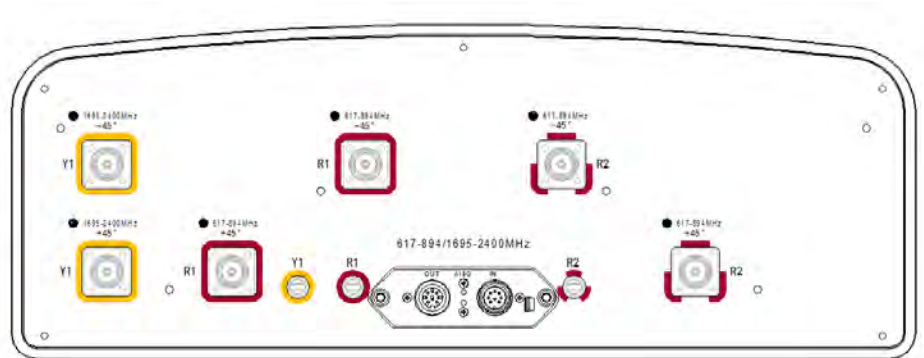
RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



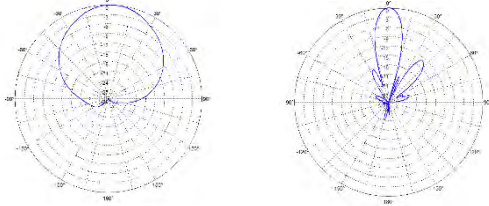
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing (3) Single RET





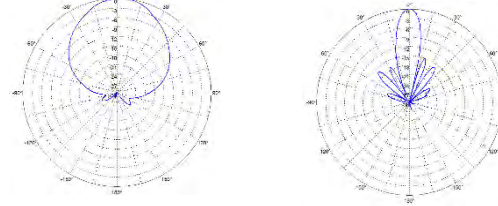
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

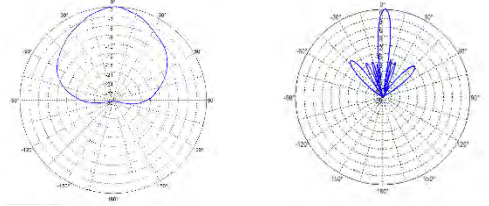
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

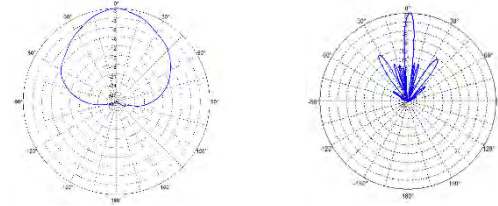
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

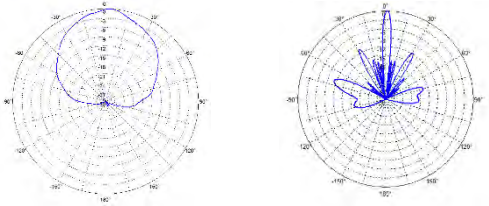
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



HEX6-2LX1HX-BW65

6-ports 617-894 / 617-894 / 1695-2400 MHz 65°, 15 / 15 / 18 dBi, 2°-12° / 2°-12° / 2°-12° Tilt Antenna
With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	70	65	60	66	63	58
Vertical 3dB Beamwidth(°)	13.5	12	10.5	5.5	5	4.3
Gain (dBi)	13.9	14.4	14.9	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

Mechanical Specifications

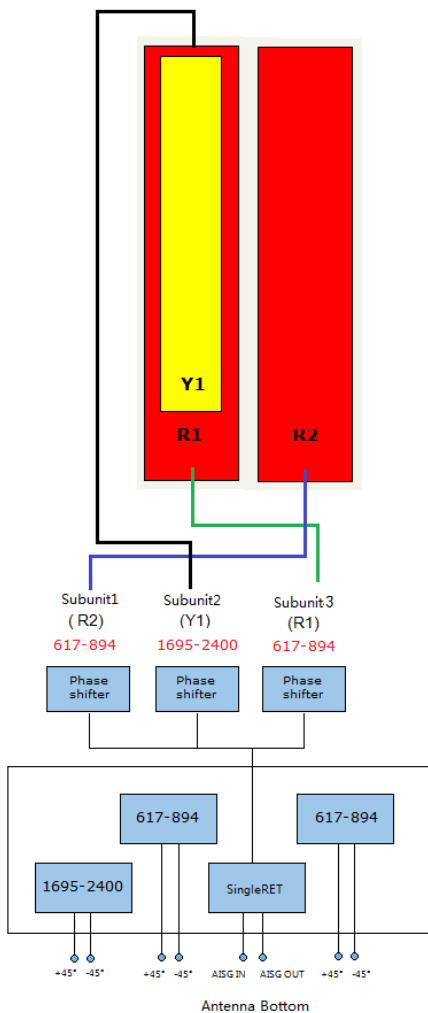
Radome Material	FiberGlass
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2160 x 620 x 325 / 85.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	36 / 79.2
Weight w/ Downtilt Bracket(kg)/(lbs)	43 / 94.6
Weight w/ Fixed Bracket(kg)/(lbs)	41 / 90.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	51 / 112.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	49 / 107.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

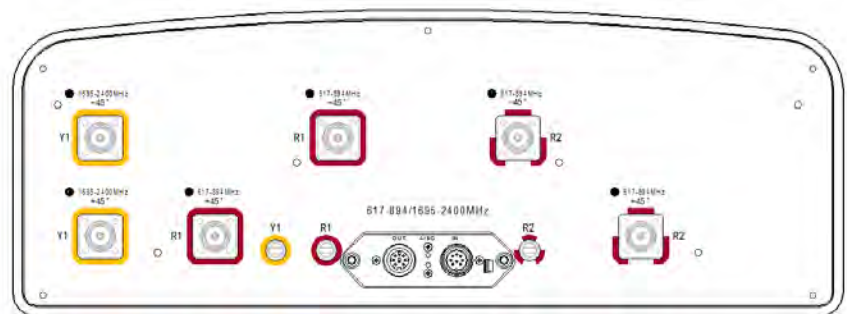
RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



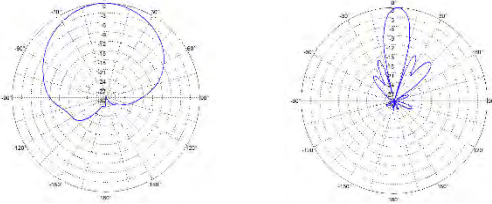
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing (3) Single RET





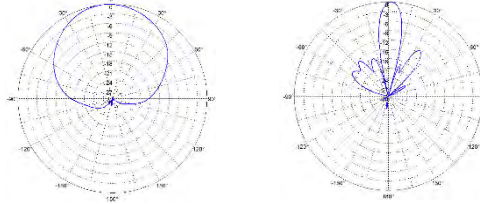
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

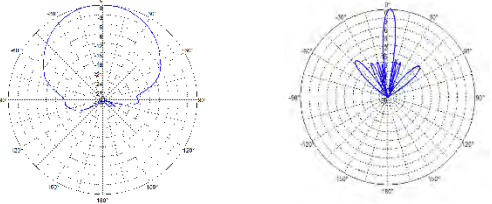
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

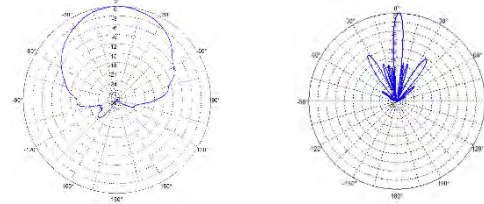
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

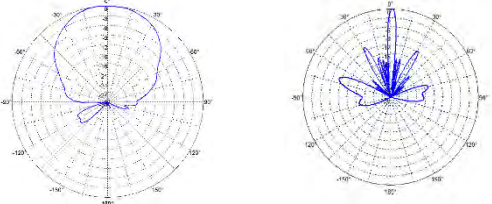
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



HEX6-2LX1HX-BW90

6-ports 617-894 / 617-894 / 1695-2400 MHz 90°, 14 / 14 / 17 dBi, 2°-12° / 2°-12° / 2°-12° Tilt Antenna
With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	88	83	78	88	83	78
Vertical 3dB Beamwidth(°)	13.5	12	10.5	5.5	5	4.3
Gain (dBi)	12.9	13.4	13.9	16.6	17.0	17.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥23	≥23	≥23	≥23
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60°(dB)	≥8	≥8	≥8	≥8	≥8
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

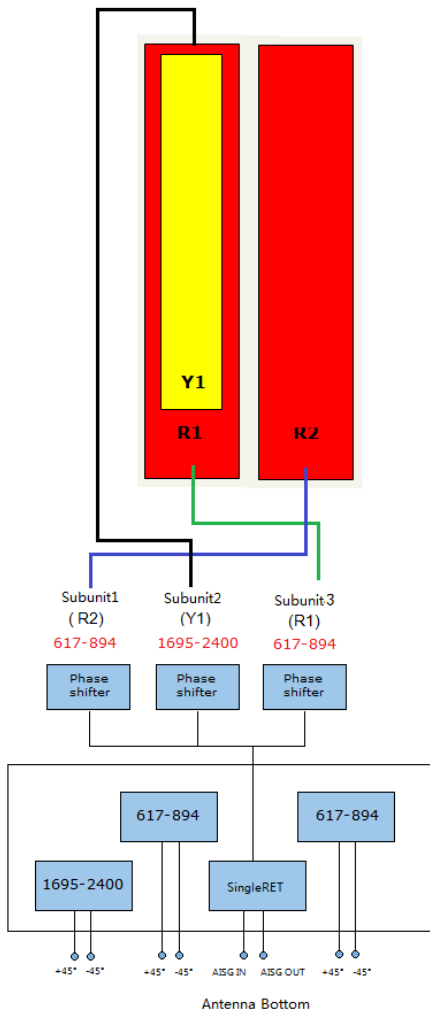
Radome Material	ASA
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2160 x 620 x 325 / 85.0 x 24.4 x 12.8
Weight w/ Downtilt Bracket(kg)/(lbs)	29 / 63.8
Weight w/ Fixed Bracket(kg)/(lbs)	36 / 79.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	34 / 74.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	44 / 96.8
Weight w/ Downtilt Bracket(kg)/(lbs)	42 / 92.4
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

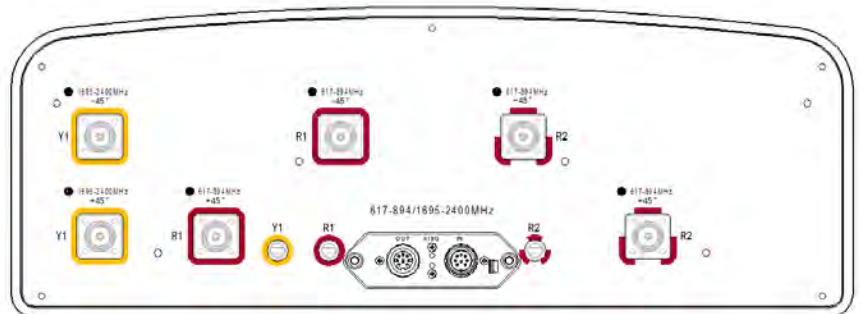
RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



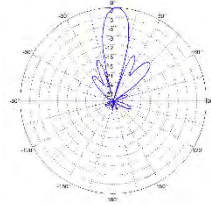
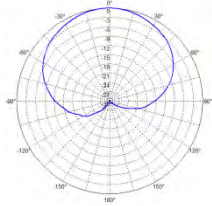
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing (3) Single RET





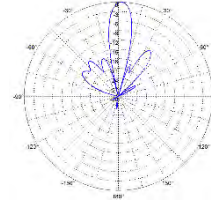
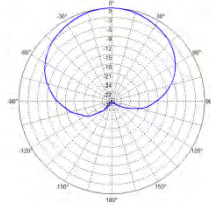
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

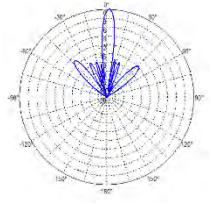
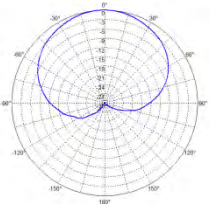
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

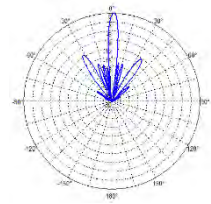
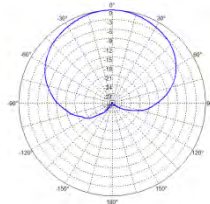
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

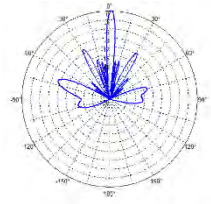
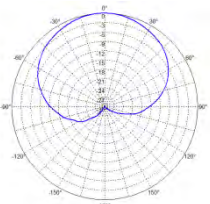
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



HEX8-1A2J-RC65A

6-ports 617-894 / 1695-2690 / 1695-2690 MHz 65°, 16.5 / 19 / 19 dBi, 2°-12° / 2°-12° / 2°-12° / Tilt Antenna
With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		617-894		2x1695-2690				
		617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		68	62	66	65	62	58	60
Vertical 3dB Beamwidth(°)		10.3	8.7	5.7	5.5	5.1	4.5	4.1
Gain (dBi)		16	16.3	17.5	18	18.5	18.5	18.6
Electrical Downtilt		2°-12°		2°-12°				
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25
Isolation ports		≥25dB						
Isolation Frequency		≥28dB						
VSWR		< 1.5						
Intermodulation IM3 dBc (2x43dBm carrier)		< -153						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W		200 W				
Lightning Protection		DC Ground						



Electrical Specifications, BASTA

Frequency Range(MHz)		617-894		2x1695-2690				
		617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization		±45°						
Beamwidth, Horizontal Tolerance (°)		±4	±5.5	±3.2	±3.9	±6.1	±5.8	±6.3
Beamwidth, Vertical Tolerance (°)		±0.6	±1.2	±0.3	±0.4	±0.4	±0.3	±0.3
Gain by all Beam Tilts, average, (dBi)		15.5	15.8	17.3	17.7	18.2	18.2	18.2
Gain by all Beam Tilts, Tolerance, (dB)		±0.5	±0.6	±0.3	±0.4	±0.6	±0.4	±0.5
Gain by all Beam Tilt, average (dBi)		2 15.4	2 15.7	2 17.4	2 17.7	2 18	2 18.1	2 18.1
		7 15.7	7 16	7 17.5	7 17.8	7 18.3	7 18.5	7 18.5
		12 15.6	12 15.6	12 17.2	12 17.6	12 18.2	12 18.1	12 18.0
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥8	≥8	≥8	≥9	≥9	≥9	≥9



Mechanical Specifications

Radome Material	ASA
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 320x 165 / 95.9 x 12.6 x 6.5
Packing Size(mm)/(inches)	2660 x 440 x 290 / 104.7 x 17.3 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	25 / 55
Weight w/ Downtilt Bracket(kg)/(lbs)	32 / 70.4
Weight w/ Fixed Bracket(kg)/(lbs)	30 / 66.0
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	38 / 83.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	36 / 79.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	885/266/632

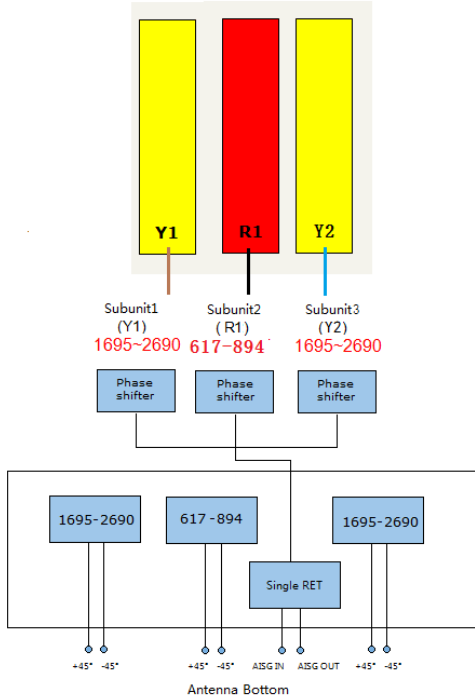
Integrated RET Properties

RET Type	3x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

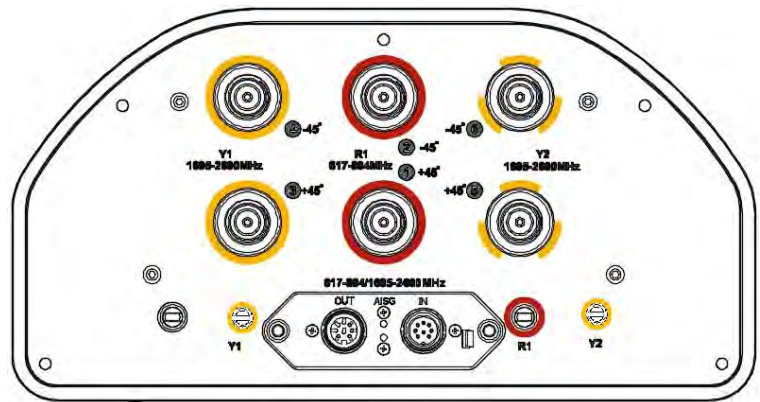


COMPREHENSIVE TILT CONFIGURATION

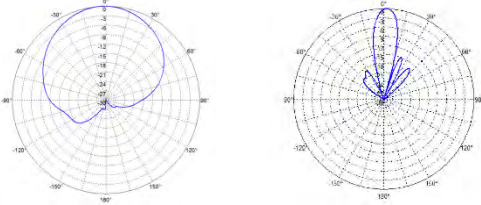
Note: (1) Physical RET Unit containing (3) Single RET



Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

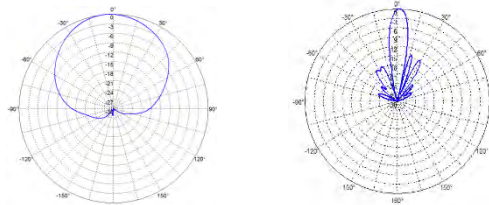


Radiation Pattern (617 - 824 MHz)



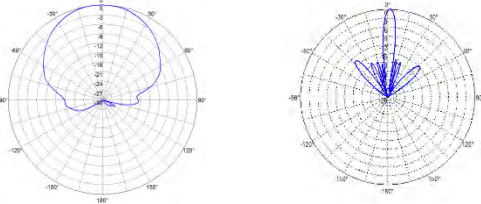
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



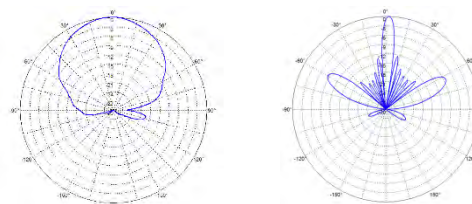
Horizontal Pattern Vertical Pattern

Radiation Pattern (1695 - 2200 MHz)



Horizontal Pattern Vertical Pattern

Radiation Patterns (2200 - 2690 MHz)



Horizontal Pattern Vertical Pattern



HEX8-1B2J-RC65

6-ports 690-960 / 1710-2690 / 1710-2690 MHz 65°, 17 / 20 / 20 dBi, 0°-10° / 0°-6° / 0°-6° Tilt Antenna
With 3 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		2x690-960			2x1710-2690			
		690-824	824-894	880-960	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		69	65	63	66	63	58	60
Vertical 3dB Beamwidth(°)		9.5	8.5	8	4.2	3.8	3.3	3
Gain (dBi)		15.8	16.2	16.5	19	19.5	20	20.3
Electrical Downtilt		0°-10°			0°-6°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports(dB)		≥25						
Isolation Frequency(dB)		≥30						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W			
Lightning Protection		DC Ground						



Mechanical Specifications

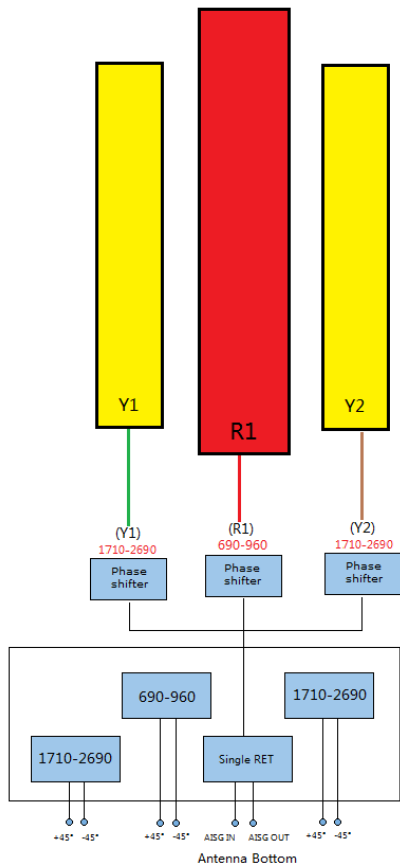
Radome Material	Fiberglass
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2300 x 355 x 165 / 90.6 x 14 x 6.5
Packing Size(mm)/(inches)	2600 x 470 x 300 / 102.4 x 18.5 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	31 / 68.2
Weight w/ Downtilt Bracket(kg)/(lbs)	38 / 83.6
Weight w/ Fixed Bracket(kg)/(lbs)	36 / 79.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	44 / 96.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	42 / 92.4
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	950/187/882



Integrated RET Properties

RET Type		3 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

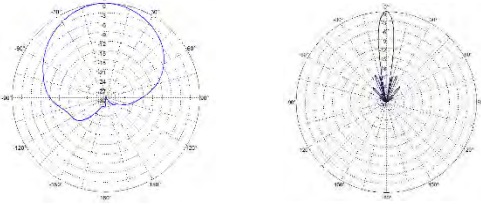


Frequency Range	Array	RET Unique ID
690-960MHz	R1	NDPMXXXXXXXX-7090R1
1710-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1710-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (3) Single RET



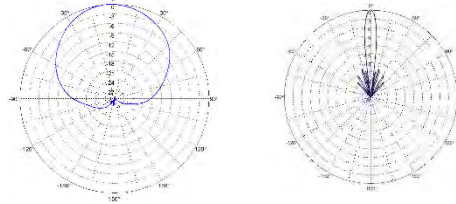
Radiation Pattern (690 - 824 MHz)



Horizontal Pattern

Vertical Pattern

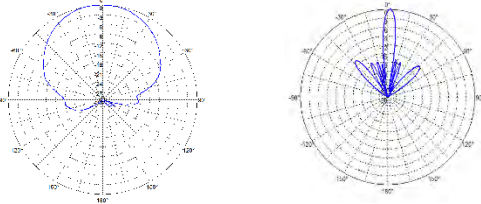
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

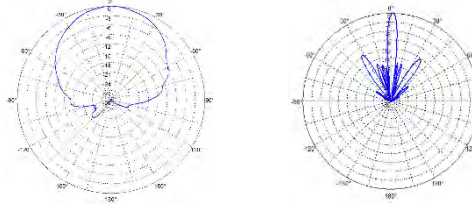
Radiation Pattern (1710 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

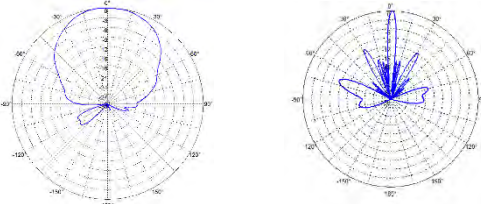
Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2490 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



HEX8-1B2K-RB65-S

6-ports 698-894 / 1695-2200 / 1695-2200 MHz 65°, 18 / 20 / 20 dBi, 2°-12° / 2°-12° / 2°-12° / Tilt Antenna
With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		698-894		2x1695-2200		
		698-806	806-894	1695-1880	1850-1990	1920-2200
Polarization		±45°				
Horizontal 3dB Beamwidth(°)		68	62	66	65	62
Vertical 3dB Beamwidth(°)		9.3	8.5	5.1	4.8	4.5
Gain (dBi)		17.2	17.7	19.2	19.7	20.2
Electrical Downtilt		2°-12°		2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25
Isolation ports		≥25dB				
Isolation Frequency		≥28dB				
VSWR		< 1.5				
Intermodulation IM3 dBc (2x43dBm carrier)		< -153				
Impedance		50 Ω				
Max. Power per Input (at 50°C ambient temperature)		500 W		200 W		
Lightning Protection		DC Ground				



Electrical Specifications, BASTA

Frequency Range(MHz)		698-894		2x1695-2200		
		698-806	806-894	1695-1880	1850-1990	1920-2200
Polarization		±45°				
Beamwidth, Horizontal Tolerance (°)		±4	±5.5	±3.2	±3.9	±6.1
Beamwidth, Vertical Tolerance (°)		±0.6	±1.2	±0.3	±0.4	±0.4
Gain by all Beam Tilts, average, (dBi)		16.5	16.8	18.5	18.9	19.4
Gain by all Beam Tilts, Tolerance, (dB)		±0.5	±0.6	±0.3	±0.4	±0.6
Gain by all Beam Tilt, average (dBi)		2 16.6	2 16.9	2 19.1	2 19.4	2 19.7
		7 16.9	7 17.2	7 19.2	7 19.5	7 20.0
		12 16.8	12 16.8	12 18.9	12 19.3	12 19.9
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥20	≥20	≥22	≥22	≥22
	±60° (dB)	≥8	≥8	≥8	≥9	≥9



Mechanical Specifications

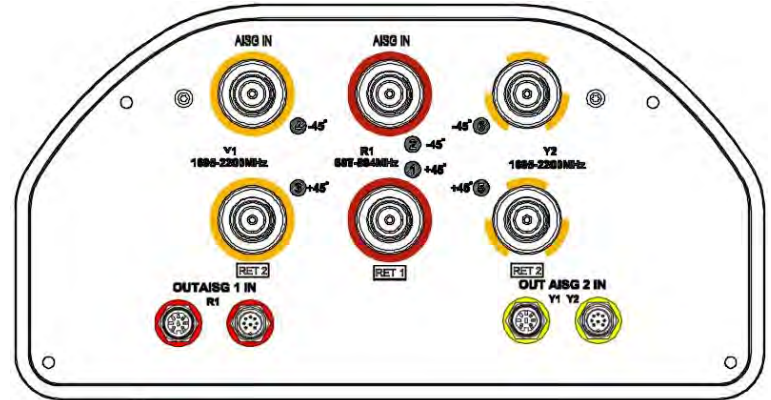
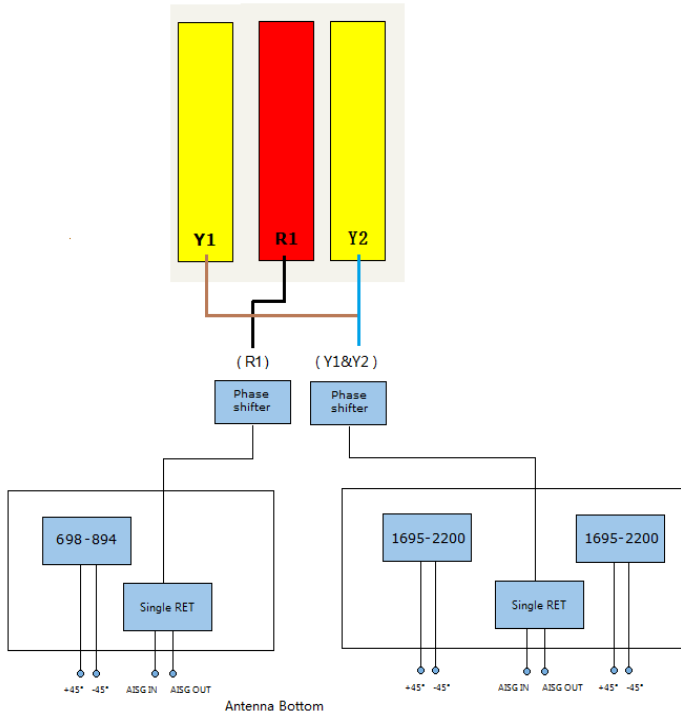
Radome Material	ASA
Connector Type and Location	4.3-10x6 ,Bottom RCU RF in: 2 ports in 4.3-10 Female iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 320x 165 / 95.9 x 12.6 x 6.5
Packing Size(mm)/(inches)	2660 x 440 x 290 / 104.7 x 17.3 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	24 / 52.8
Weight w/ Downtilt Bracket(kg)/(lbs)	31 / 68.2
Weight w/ Fixed Bracket(kg)/(lbs)	29 / 63.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	37 / 81.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	35 / 77.0
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	885/266/632

Integrated RET Properties

RET Type	2x Type 1 Single RET
Protocols	Compliant to AISG 2.0/3GPP
Input voltage range	+10~+30VDC(pin 6)
Power consumption	<2W(stand by);<13W(motor activated)
Connectors	AISG 2 Ports in 4.3-10 Female 2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna Two motor shaft(Embedded motor)
Hardware interface	AISG RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)
Adjustment Cycles	≥10000
Torque Max	≥160mN.m
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

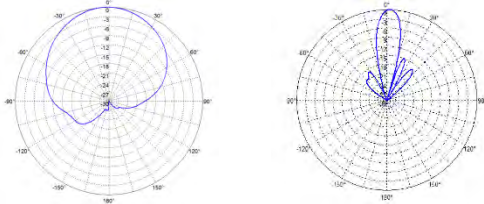


COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
698-894MHz	R1	NDPMXXXXXXXX-7089R1
1695-2200MHz	Y1/Y2	NDPMXXXXXXXX-1722Y1

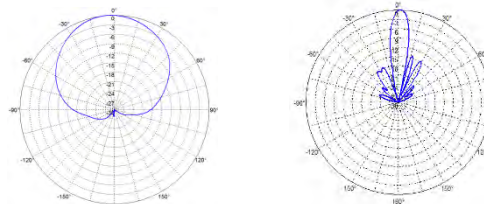
Radiation Pattern (698 - 806 MHz)



Horizontal Pattern

Vertical Pattern

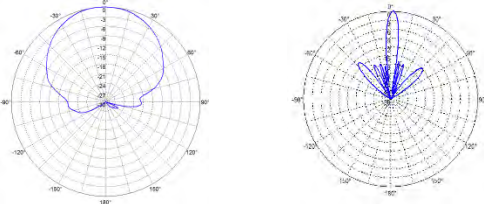
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (1695 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



HEX8-1LX2HX-BW45

6-ports 617-894 /1695-2400 /1695-2400 MHz 45°, 16.5 / 18 / 18dBi, 2°-12°/ 2°-12°/ 2°-12°Tilt Antenna With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	617-894			2x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41
Vertical 3dB Beamwidth(°)	10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)	15.6	16.1	16.6	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

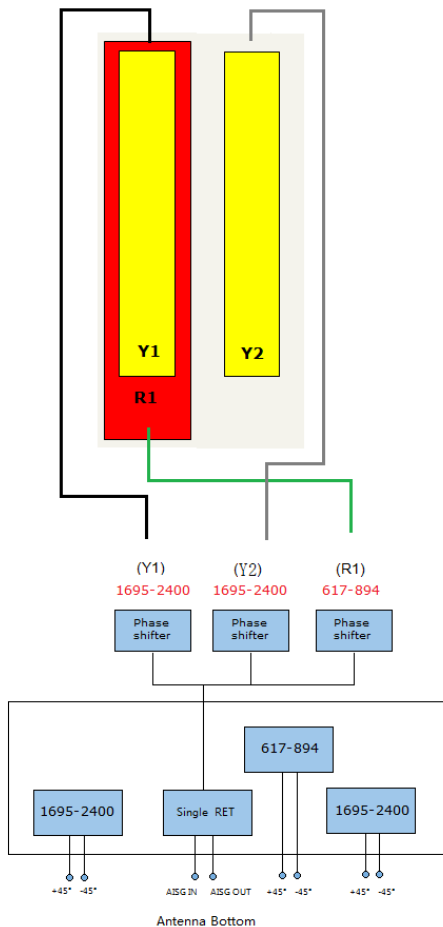
Radome Material	Fiber Glass
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 620 x 325 / 108.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	40 / 88
Weight w/ Downtilt Bracket(kg)/(lbs)	47 / 103.4
Weight w/ Fixed Bracket(kg)/(lbs)	45 / 99
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	53 / 116.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	51 / 112.2
Max. Wind Velocity(mph)	150
Mounting hardware	φ 50 mm ~ φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027



Integrated RET Properties

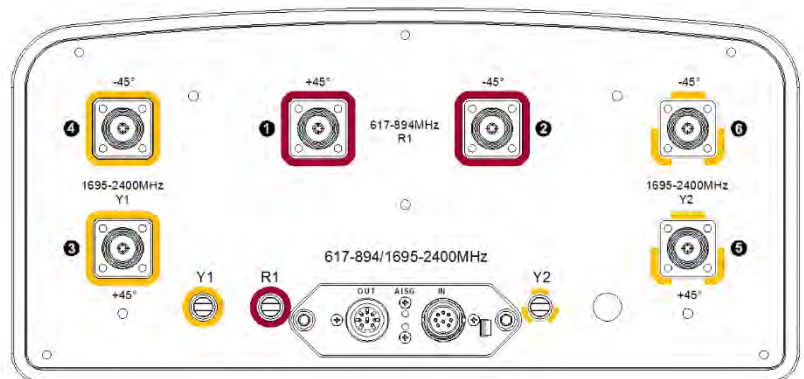
RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



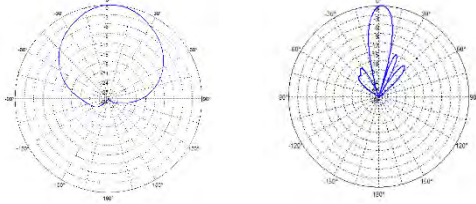
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (3) Single RET





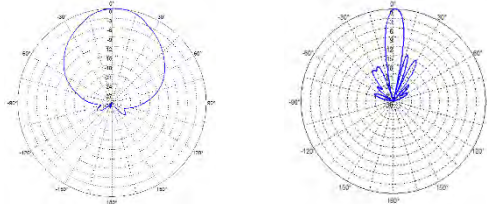
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

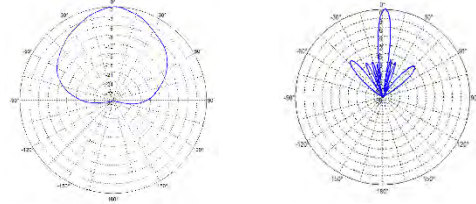
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

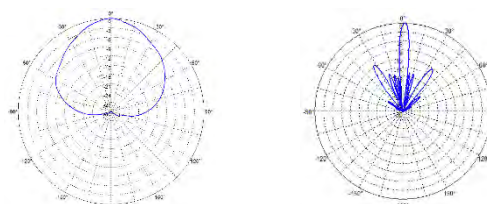
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

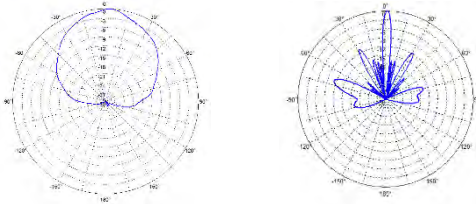
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



HEX8-1LX2HX-BW65

6-ports 617-894 / 1695-2400 /1695-2400 MHz 65°, 16 / 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / Tilt Antenna
With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		617-894			2x 1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		70	65	60	66	63	58
Vertical 3dB Beamwidth(°)		10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)		15.1	15.6	16.0	17.6	18.0	18.1
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					



Mechanical Specifications

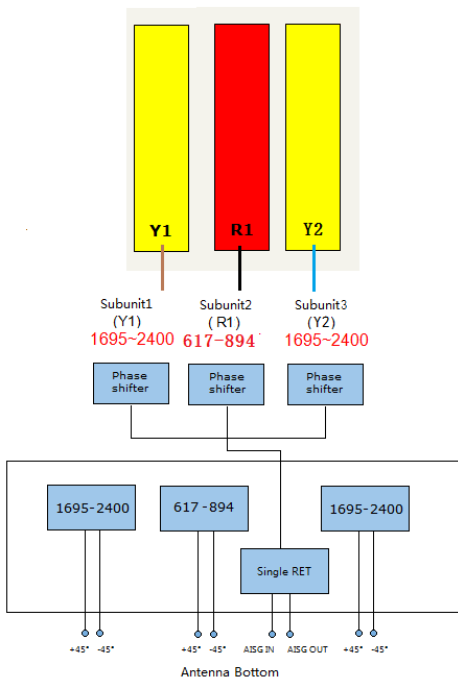
Radome Material	Fiberglass
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 400 x 180 / 95.9 x 15.7 x 7.1
Packing Size(mm)/(inches)	2660 x 501 x 311 / 104.7 x 19.7 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	34 / 74.8
Weight w/ Downtilt Bracket(kg)/(lbs)	41 / 90.2
Weight w/ Fixed Bracket(kg)/(lbs)	39 / 85.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	47 / 103.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	45 / 99.0
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1121/311/812



Integrated RET Properties

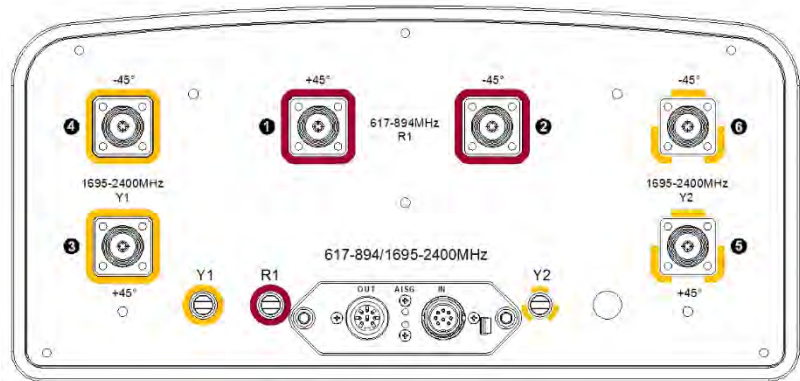
RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs, 200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



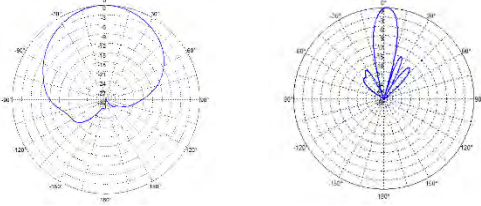
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (3) Single RET





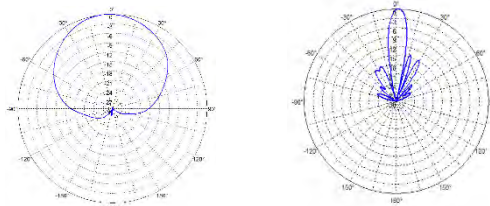
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

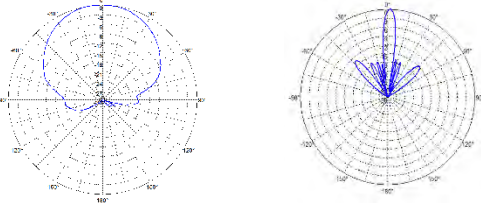
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

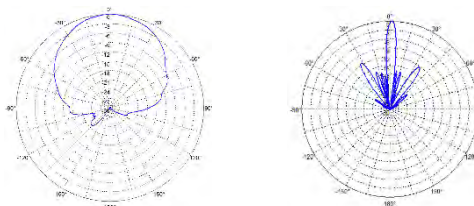
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

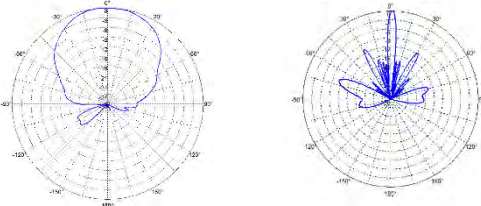
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



HEX8-1LX2HX-BW90

6-ports 617-894 / 1695-2400 / 1695-2400 MHz 90°, 15 / 17 / 17 dBi, 2°-12° / 2°-12° / 2°-12° / Tilt Antenna
With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	617-894			2x 1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	88	83	78	88	83	78
Vertical 3dB Beamwidth(°)	10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)	14.1	14.6	15.0	16.6	17.0	17.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥23	≥23	≥23	≥23
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥8	≥8	≥8	≥8	≥8
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

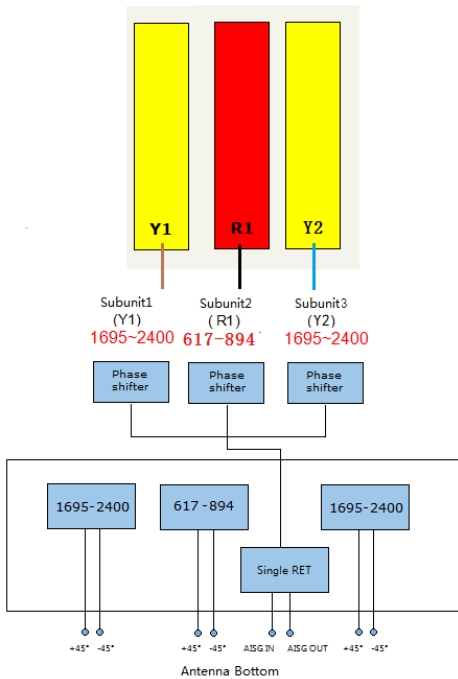
Radome Material	FiberGlass
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 400 x 180 / 96.0 x 15.7 x 7.1
Packing Size(mm)/(inches)	2660 x 501 x 311 / 104.7 x 19.7 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	34 / 74.8
Weight w/ Downtilt Bracket(kg)/(lbs)	41 / 90.2
Weight w/ Fixed Bracket(kg)/(lbs)	39 / 85.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	47 / 103.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	45 / 99
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1121/311/812



Integrated RET Properties

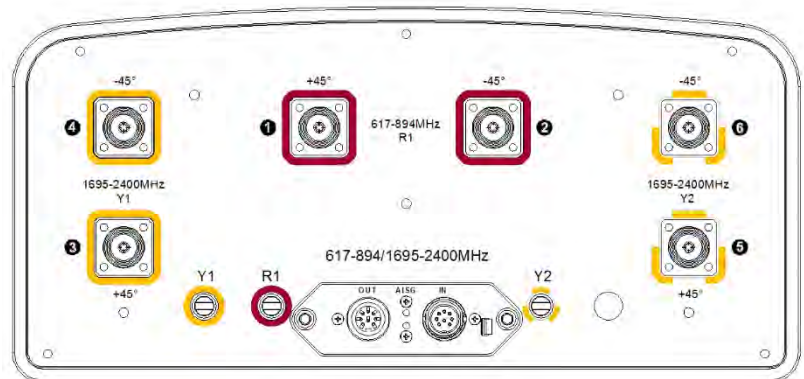
RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (3) Single RET





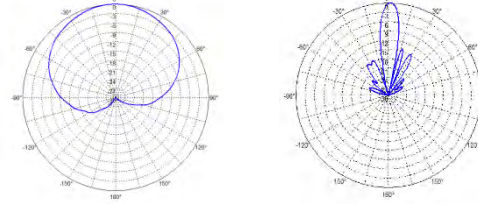
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

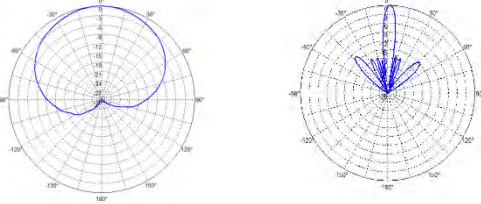
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

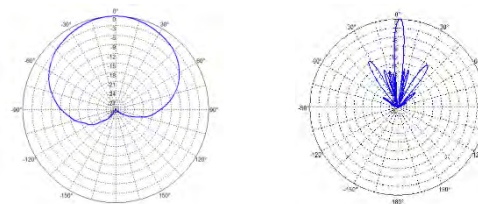
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

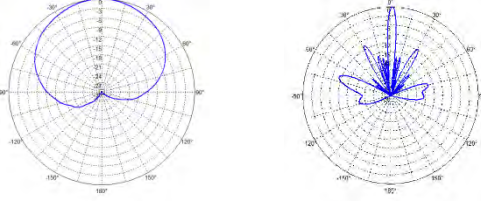
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



HEX8-2LX1HX-BW45

6-ports 617-894 /617-894 /1695-2400 MHz 45°, 16.5 / 16.5 / 18dBi, 2°-12°/2°-12°/ 2°-12°Tilt Antenna With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41
Vertical 3dB Beamwidth(°)	10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)	15.6	16.1	16.6	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

Mechanical Specifications

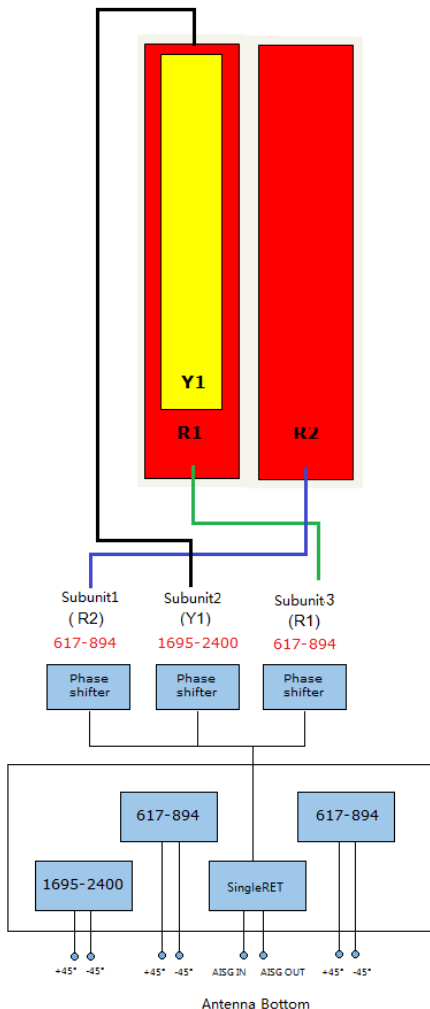
Radome Material	Fiber Glass
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 620 x 325 / 108.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	46 / 101.2
Weight w/ Downtilt Bracket(kg)/(lbs)	53 / 116.6
Weight w/ Fixed Bracket(kg)/(lbs)	51 / 112.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	63 /138.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	61 / 134.2
Max. Wind Velocity(mph)	150
Mounting hardware	φ 50 mm ~ φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027



Integrated RET Properties

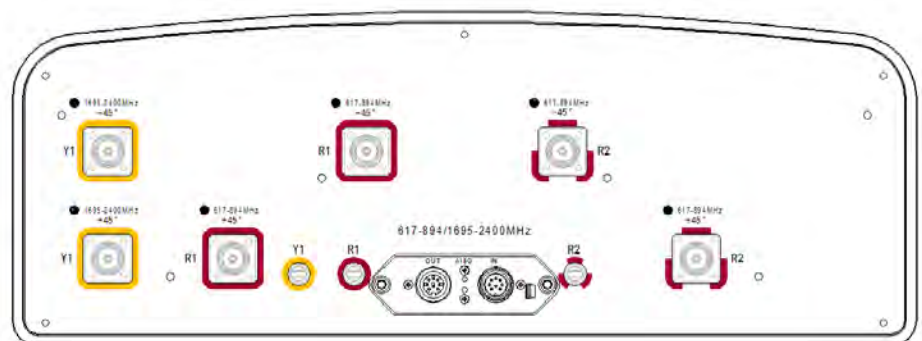
RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



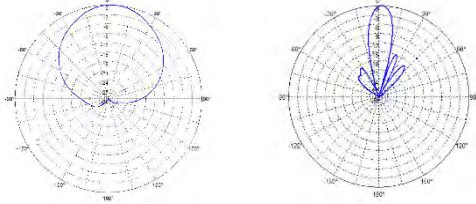
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing (3) Single RET





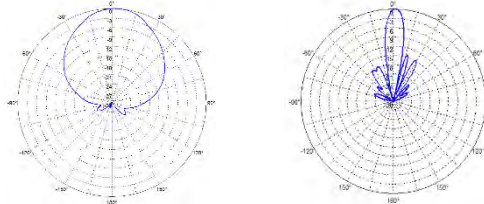
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

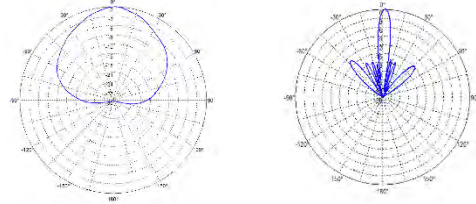
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

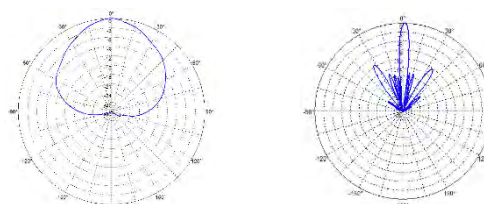
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

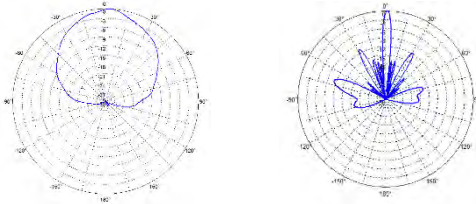
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



HEX8-2LX1HX-BW65

6-ports 617-894 / 617-894 / 1695-2400 MHz 65°, 16 / 16 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / Tilt Antenna
With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	70	65	60	66	63	58
Vertical 3dB Beamwidth(°)	10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)	15.1	15.6	16.0	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60°(dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

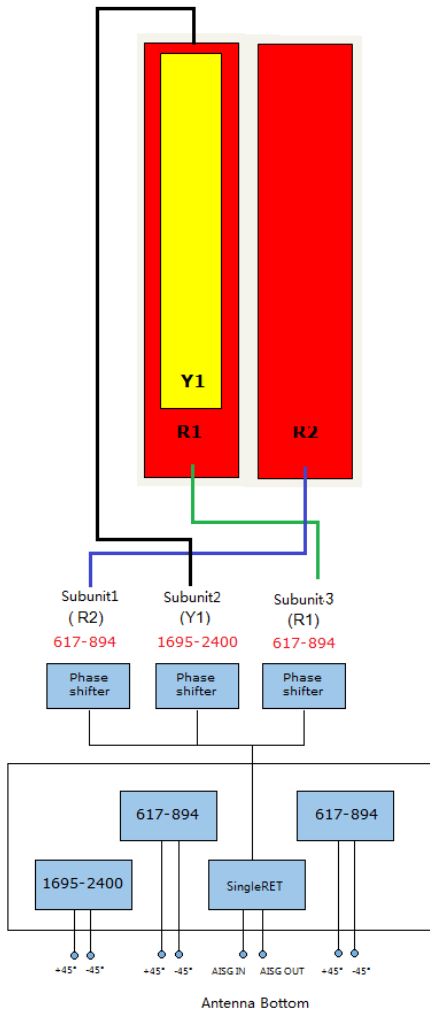
Radome Material	Fiber Glass
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 620 x 325 / 108.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	45 / 99.0
Weight w/ Downtilt Bracket(kg)/(lbs)	52 / 114.4
Weight w/ Fixed Bracket(kg)/(lbs)	50 / 110
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	62 / 136.4
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	60 / 132.0
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027



Integrated RET Properties

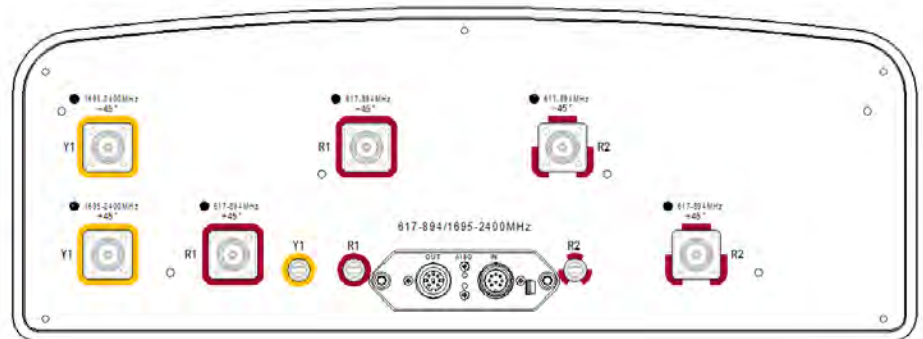
RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



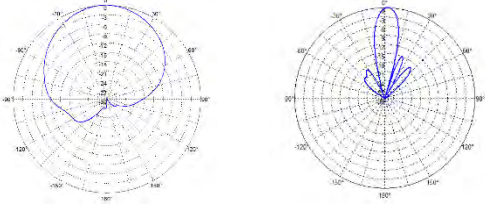
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing (3) Single RET





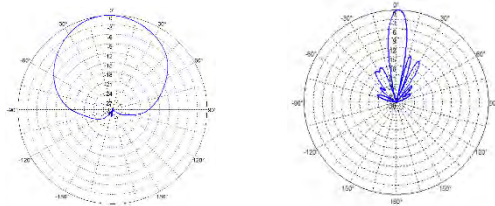
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

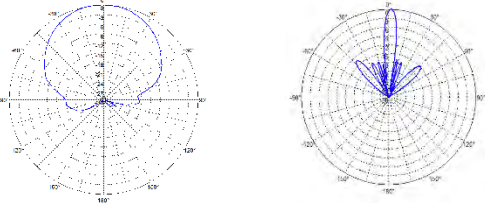
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

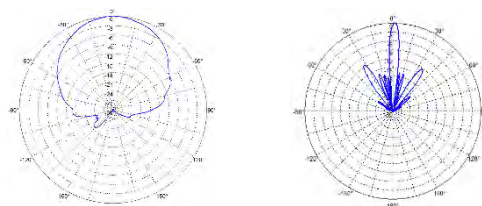
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

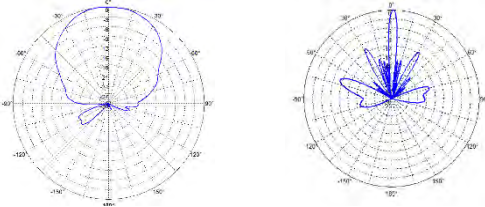
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



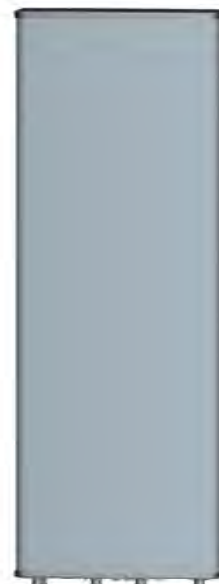
Horizontal Pattern

Vertical Pattern



HEX8-2LX1HX-BW90

6-ports 617-894 / 617-894 / 1695-2400 MHz 90°, 15 / 15 / 17 dBi, 2°-12° / 2°-12° / 2°-12° / Tilt Antenna
With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		88	83	78	88	83	78
Vertical 3dB Beamwidth(°)		10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)		14.1	14.6	15.0	16.6	17.0	17.1
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥23	≥23	≥23	≥23	≥23
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥8	≥8	≥8	≥8	≥8	≥8
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					

Mechanical Specifications

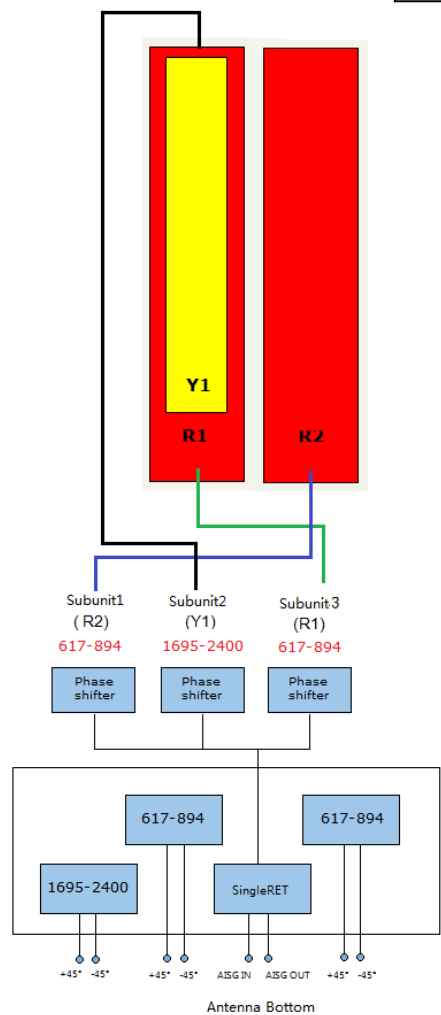
Radome Material	ASA
Connector Type and Location	4.3-10x6 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 620 x 325 / 108.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	38 / 83.6
Weight w/ Downtilt Bracket(kg)/(lbs)	45 / 99
Weight w/ Fixed Bracket(kg)/(lbs)	43 / 94.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	55 / 121
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	53 / 116.6
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027



Integrated RET Properties

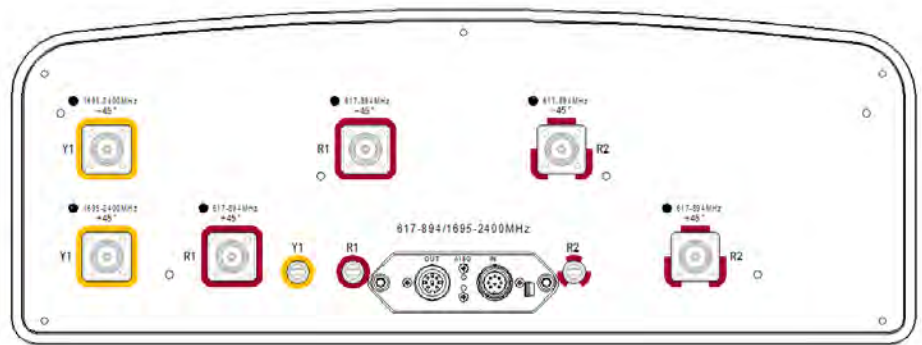
RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



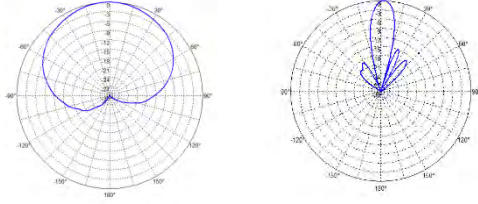
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing (3) Single RET





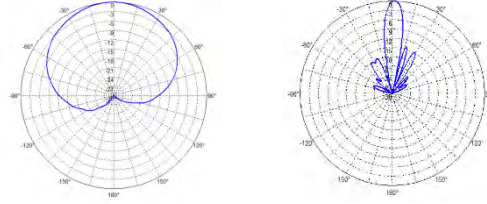
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

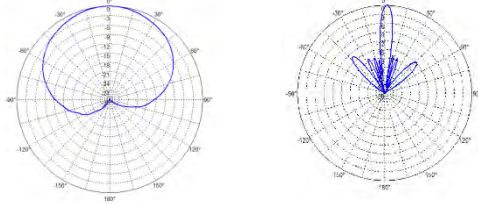
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

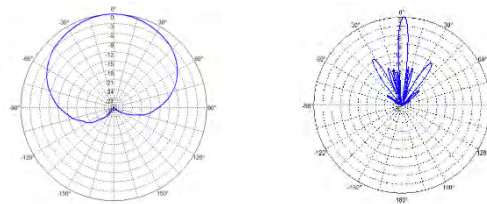
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

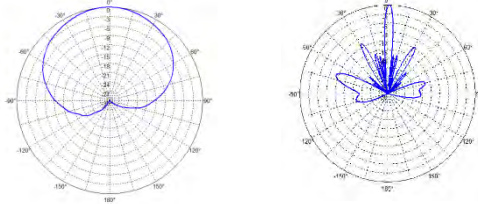
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

DENGYO **OCT** series

8-port base station antennas



OCT2-2A2K-RA65

8-ports 617-894x2 / 1695-2200x2 MHz 65°, 9.5 / 15 dBi, 0°x2 / 2°-12° x2 Tilt Antenna With 1 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200			
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200	
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	70	65	60	66	63	58	
Vertical 3dB Beamwidth(°)	78	71	60	14.2	13.5	12.7	
Gain (dBi)	8.7	8.9	9.4	13.7	14.2	14.7	
Electrical Downtilt	0°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥15	≥12	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16	≥16
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥20 dB			≥25dB			
Isolation Frequency	≥28 dB						
VSWR	< 1.5						
Intermodulation IM3	< -150 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						



Mechanical Specifications

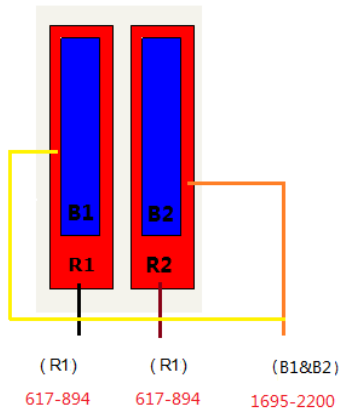
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	620 x 380 x 177 / 24.4 x 14.9x 6.9
Packing Size(mm)/(inches)	800 x 480 x 310 / 31.4 x 18.9 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	11 / 24.2
Weight with Fixed Bracket(kg)/(lbs)	14 / 30.8
Packing Weight (with Fixed Bracket) (kg)/(lbs)	19 / 41.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	271/75/254



Integrated RET Properties

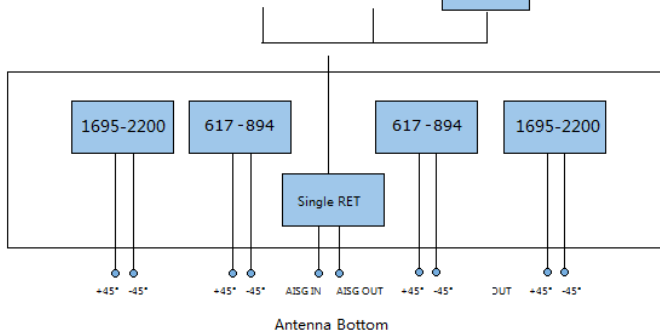
RET Type		1x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



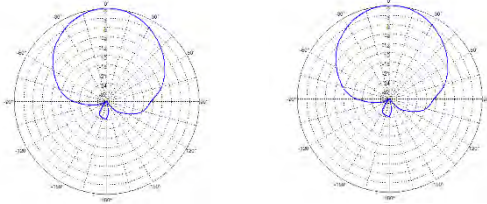
Frequency Range	Array	RET Unique ID
617-894MHz	R1	/
617-894MHz	R2	/
1695-2200MHz	B1/B2	NDPMXXXXXXXX-1722B1

Note: (1) Physical RET Unit containing (1) Single RET





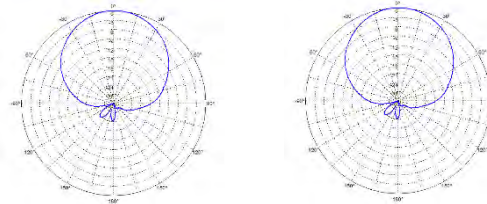
Radiation Pattern (617 - 880 MHz)



Horizontal Pattern

Vertical Pattern

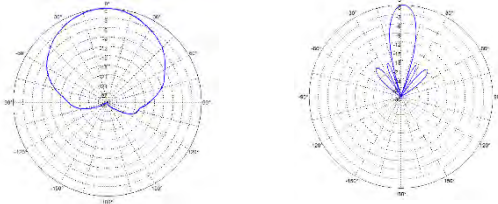
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

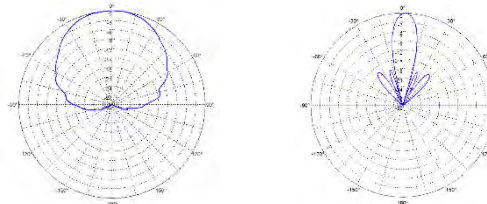
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

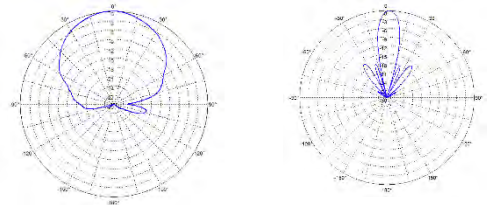
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



OCT2-2LX2HX-BW65

8-ports 617-894 /617-894 /1695-2400 /1695-2400 MHz 65°, 10.5 / 10.5 / 15 / 15 dBi, 0° / 0° / 0° / 0° Tilt Antenna

Electrical Specifications

Frequency Range(MHz)	2x 617-894			2x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	74	71	65	69	65	58
Vertical 3dB Beamwidth(°)	40	37	34	15	13.5	11.5
Gain (dBi)	9.5	10	10.5	14	14.5	15
Electrical Downtilt	0°			0°		
Upper Sidelobe Suppression(dB)	First	≥10	≥10	≥10	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥22	≥23	≥23	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

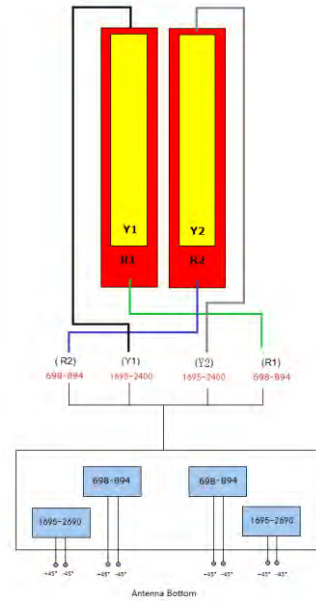


Mechanical Specifications

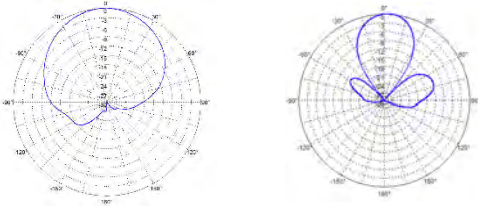
Redome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom
Dimensions,HxWxD(mm)/(inches)	600x499x180/23.6x19.6x7.1
Packing Size(mm)/(inches)	945x599x310/37.2x23.6x12.2
Weight ,w/o Mounting kit(kg)/(lbs)	11.5/25.3
Weight,with Mounting kit(kg)/(lbs)	15.5/34.1
Packing Weight(kg)/(lbs)	20.5/45.1
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	346/77/249



COMPREHENSIVE TILT CONFIGURATION



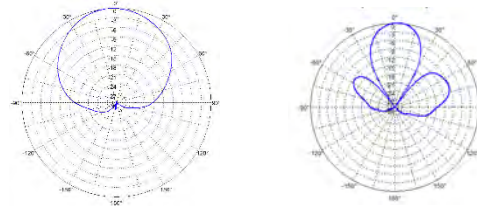
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

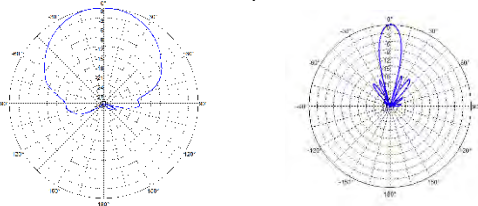
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

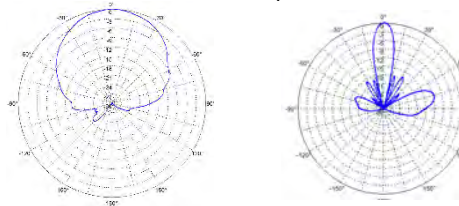
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

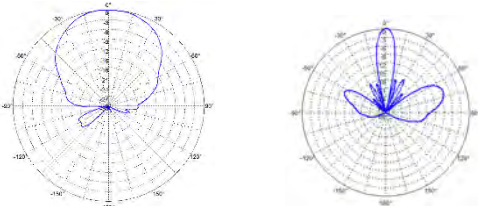
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



OCT3-4HX-CB65

8-ports 3300-4200 / 3300-4200 / 3300-4200 / 3300-4200 MHz 65°, 18 / 18 /18 /18 dBi, 0°-10° / 0°-10°/ 0°-10°/ 0°-10°Tilt Antenna
With 4 Integrated RCUs and 4 Indicators

Electrical Specifications

Frequency Range(MHz)		4x3300-4200	
		3300-3600	3600-4200
Polarization		±45	
Horizontal 3dB Beamwidth(°)		65	60
Vertical 3dB Beamwidth(°)		5.5	5
Gain (dBi)		17.2	17.7
Electrical Downtilt		0°- 10°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17
	±60° (dB)	≥7	≥7
Isolation ports		≥28 dB	
VSWR		< 1.5	
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		250 W	
Lightning Protection		DC Ground	



Mechanical Specifications

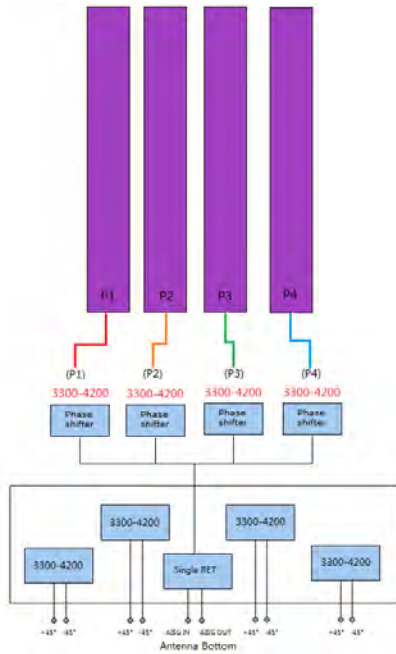
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	900 x 295 x 115 / 35.4 x 11.6 x 4.5
Packing Size(mm)/(inches)	1200 x 420 x 260 / 47.2 x 16.5 x 10.2
Weight ,w/o Mounting kit(kg)/(lbs)	15.5 / 34.1
Weight w/ Downtilt Bracket(kg)/(lbs)	22.5 / 49.5
Weight w/ Fixed Bracket(kg)/(lbs)	20.5 / 45.1
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	28.5 / 62.7
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	26.5 / 58.3
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	307/74/219



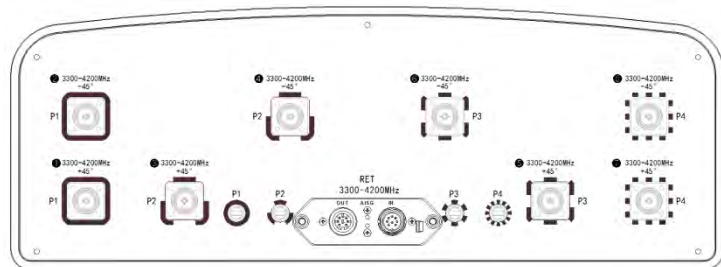
Integrated RET Properties

RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

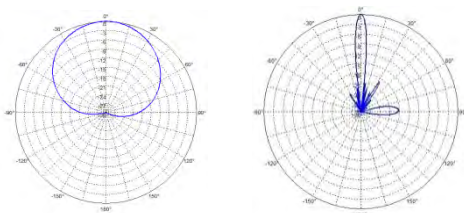
COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P2
3300-4200MHz	P3	NDPMXXXXXXXX-3342P3
3300-4200MHz	P4	NDPMXXXXXXXX-3342P4



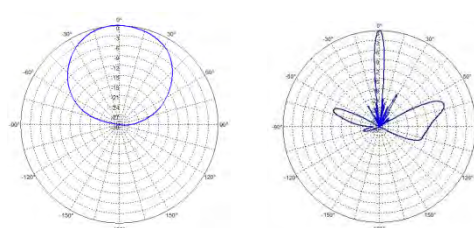
Radiation Patterns (3300 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (3800-4200 MHz)



Horizontal Pattern

Vertical Pattern



OCT4-1A1G2U-RD85

10-ports 617-894 / 1695-2400 / 1695-2400/ 3300-4200 / 3300-4200 MHz 85°, 13 /17 /17 /15 /15 dBi, 2°-12°/ 2°-12° / 2°-12° / 2°-12°/ 2°-12°Tilt Antenna With 3 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		617-894			2x1695-2400			2x3300-4200	
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	3300-3800	3800-4200
Polarization		±45°							
Horizontal 3dB Beamwidth(°)		88	85	80	85	83	78	83	77
Vertical 3dB Beamwidth(°)		20.5	18	16	7.7	6.9	6	7.5	6.5
Gain (dBi)		12.5	12.8	13.0	16.2	16.6	16.9	14.3	14.7
Electrical Downtilt		2°-12°			2°-12°			2°-12°	
Upper Sidelobe Suppression(dB)	First	≥14	≥14	≥14	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥21	≥21	≥21	≥23	≥23	≥23	≥23	≥23
Cross polar ratio	Main direction (dB)	≥15	≥15	≥15	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB							
Isolation Frequency		≥30 dB							
VSWR		< 1.5							
Intermodulation IM3		< -150 dBc(2x43dBm carrier)							
Impedance		50 Ω							
Max. Power per Input (at 50°C ambient temperature)		500 W			200 W			200 W	
Lightning Protection		DC Ground							



Mechanical Specifications

Radome Material	ASA
Connector Type and Location	4.3-10x10, Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1220 x 320 x 165 / 48 x 12.6 x 6.5
Packing Size(mm)/(inches)	1480x 440 x 290 / 58.3 x 17.3 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	15.5 / 34.1
Packing Weight (kg)/(lbs)	20.5 / 45.1
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	445/135/322



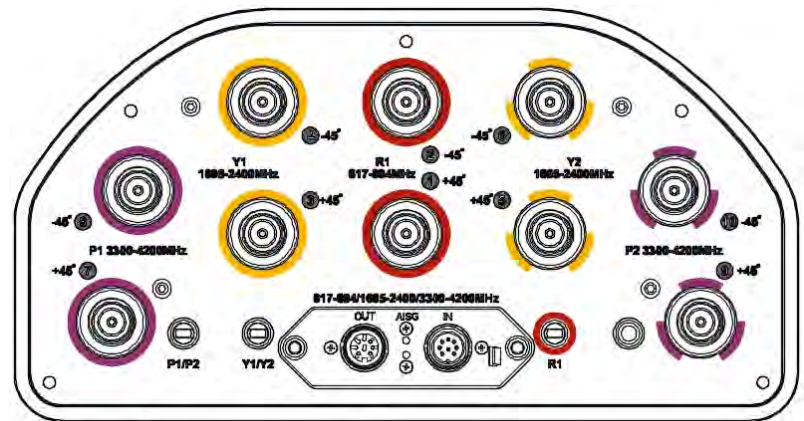
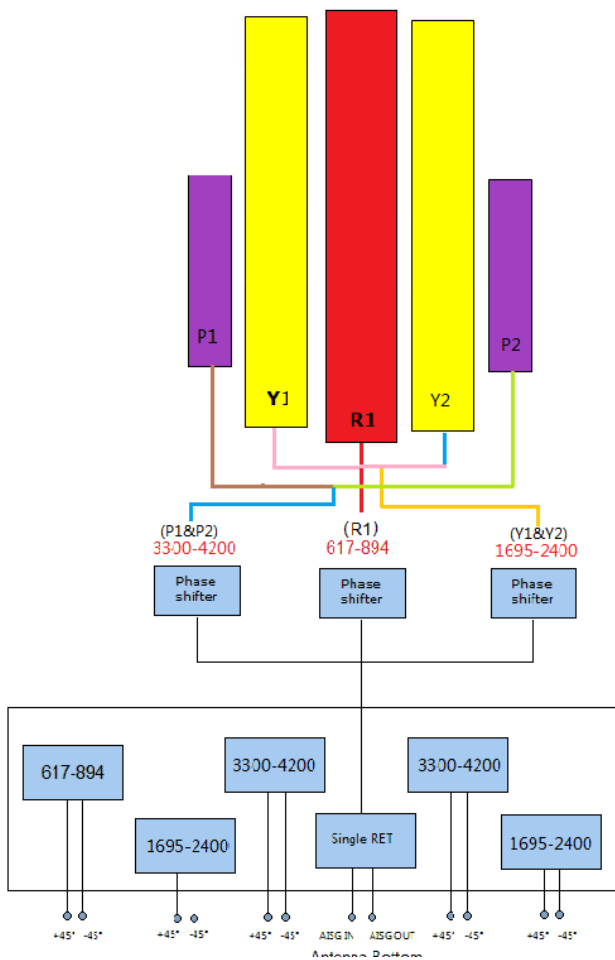
Integrated RET Properties

RET Type		3 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

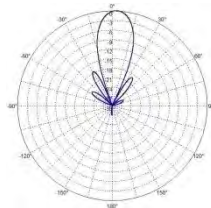
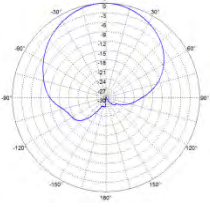
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6090R1
1695-2400MHz	Y1/Y2	NDPMXXXXXXXX-1724Y1
3300-4200MHz	P1/P2	NDPMXXXXXXXX-3442P1

Note: (1) Physical RET Unit containing (3) Single RET





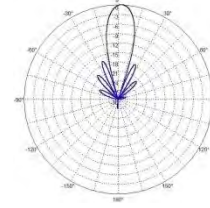
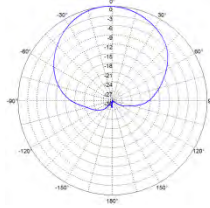
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

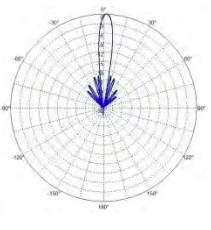
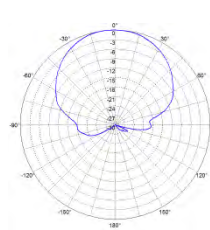
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

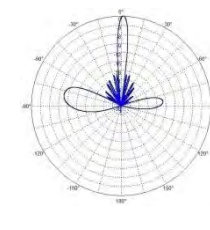
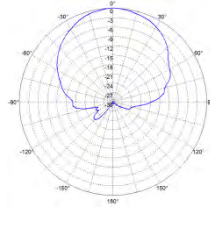
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

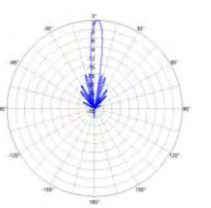
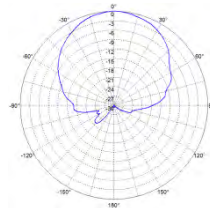
Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

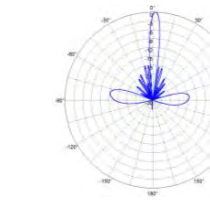
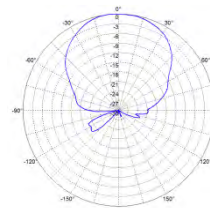
Radiation Pattern (3300 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



OCT4-2A2J-RC65_LP

8-ports 617-894 / 617-894 / 1695-2690 / 1695-2690 MHz 65°, 14 / 14 / 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12°
Tilt Antenna With 3 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894		2x1695-2690				
	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	70	63	66	65	62	58	60
Vertical 3dB Beamwidth(°)	18.5	15.5	7.2	6.8	6.3	5.5	5.1
Gain (dBi)	12.7	13.6	16.8	17.2	17.7	17.7	17.8
Electrical Downtilt	2°-12°		2°-12°				
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB						
Isolation Frequency	≥28 dB						
VSWR	< 1.5						
Intermodulation IM3(2x43dBm carrier)(dBc)	<-159		< -159				
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						



Electrical Specifications, BASTA

Frequency Range(MHz)	2x617-894		2x1695-2690				
	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°						
Beamwidth, Horizontal Tolerance (°)	±4.4	±6.0	±3.6	±4.2	±6.3	±5.6	±6.1
Beamwidth, Vertical Tolerance (°)	±1.5	±1.7	±0.5	±0.5	±0.4	±0.4	±0.4
Gain by all Beam Tilts, average, (dBi)	12.6	13.2	16.7	17.1	17.6	17.6	17.7
Gain by all Beam Tilts, Tolerance, (dB)	±0.6	±0.8	±0.5	±0.5	±0.6	±0.5	±0.5
Gain by all Beam Tilt, average (dBi)	2 12.3	2 13.2	2 16.6	2 17.1	2 17.4	2 17.5	2 17.6
	7 12.7	7 13.3	7 16.8	7 17.2	7 17.6	7 17.7	7 17.8
	12 12.3	12 13.1	12 16.5	12 17.0	12 17.3	12 17.4	12 17.5
Front-to-Back Ratio Total Power, ±30° (dB)	≥22	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7



Mechanical Specifications

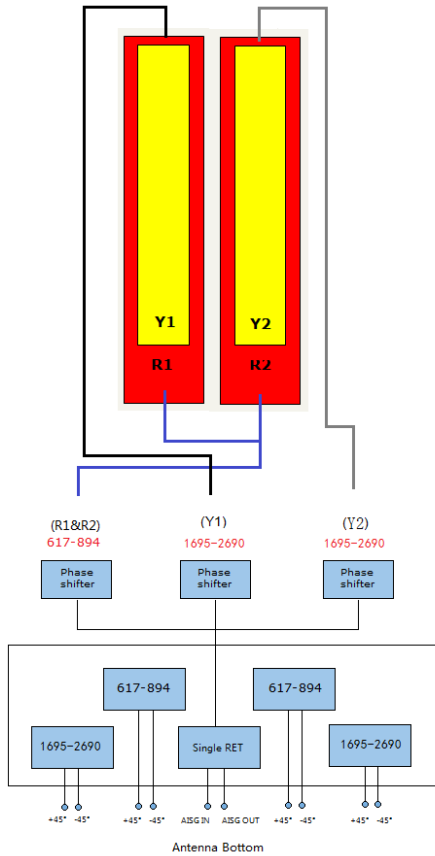
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 499 x 180 / 51.2 x 19.6 x 7.1
Packing Size(mm)/(inches)	1600 x 620 x 325 / 63.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	31 / 68.2
Weight w/ Downtilt Bracket(kg)/(lbs)	38 / 83.6
Weight w/ Fixed Bracket(kg)/(lbs)	36 / 79.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	44 / 96.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	42 / 92.4
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	755/149/544

Integrated RET Properties

RET Type	3x Type 1 Single RET
Protocols	Compliant to AISG 2.0/3GPP
Input voltage range	+10~+30VDC(pin 6)
Power consumption	<2W(stand by);<13W(motor activated)
Connectors	AISG 2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna Two motor shaft(Embedded motor)
Hardware interface	AISG RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)
Adjustment Cycles	≥10000
Torque Max	≥160mN.m
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

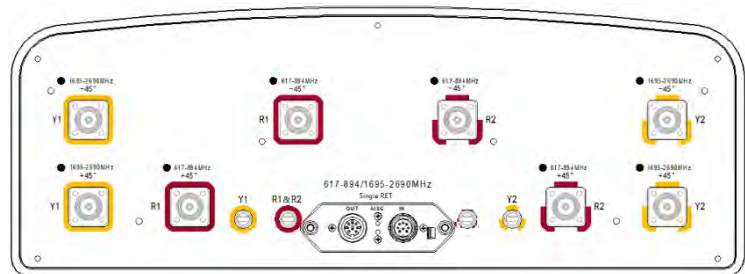


COMPREHENSIVE TILT CONFIGURATION



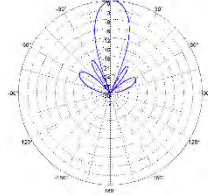
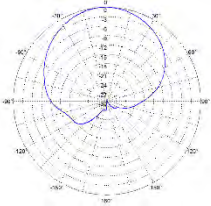
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (3) Single RET





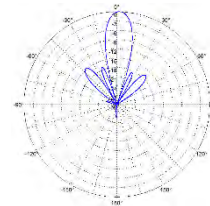
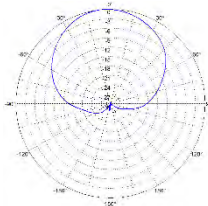
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

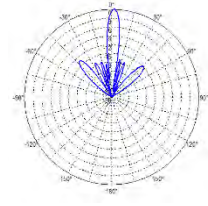
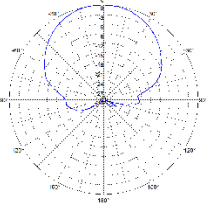
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

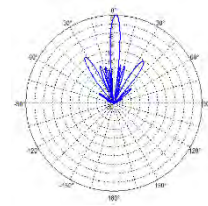
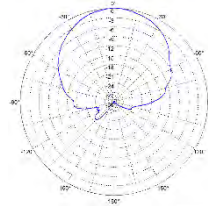
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

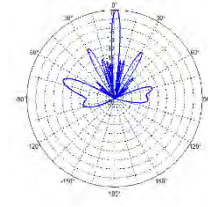
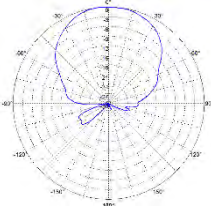
Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2490 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT4-2A2J-RC65A

8-ports 617-894 / 617-894 /1695-2690 /1695-2690 MHz 65°, 12.5 / 12.5 / 18/ 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894		2x1695-2690				
	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	71	60	66	65	62	58	60
Vertical 3dB Beamwidth(°)	18.5	15.5	7.2	6.8	6.3	5.5	5.1
Gain (dBi)	11.6	12.5	16.8	17.2	17.7	17.7	17.8
Electrical Downtilt	2°-12°		2°-12°				
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥21	≥22	≥25	≥25	≥25	≥25
Isolation ports	≥23dB						
Isolation Frequency	≥28dB						
VSWR	< 1.5						
Intermodulation IM3 dBc (2x43dBm carrier)	< -150	< -153	< -153				
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W		200 W				
Lightning Protection	DC Ground						



Electrical Specifications,BASTA

Frequency Range(MHz)	2x617-894		2x1695-2690				
	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°						
Beamwidth, Horizontal Tolerance (°)	±5	±6.5	±3.6	±4.2	±6.4	±5.7	±6.2
Beamwidth, Vertical Tolerance (°)	±1.5	±1.7	±0.5	±0.5	±0.4	±0.4	±0.4
Gain by all Beam Tilts,average, (dBi)	11.5	12.1	16.7	17.1	17.6	17.6	17.7
Gain by all Beam Tilts,Tolerance, (dB)	±0.6	±0.8	±0.5	±0.5	±0.6	±0.5	±0.5
Gain by all Beam Tilt,average (dBi)	2 11.2	2 12.1	2 16.6	2 17.1	2 17.4	2 17.5	2 17.6
	7 11.6	7 12.2	7 16.8	7 17.2	7 17.6	7 17.7	7 17.8
	12 11.2	12 12.0	12 16.5	12 17.0	12 17.3	12 17.4	12 17.5
Front-to-Back Ratio Total Power, ±30° (dB)	≥23	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7



Mechanical Specifications

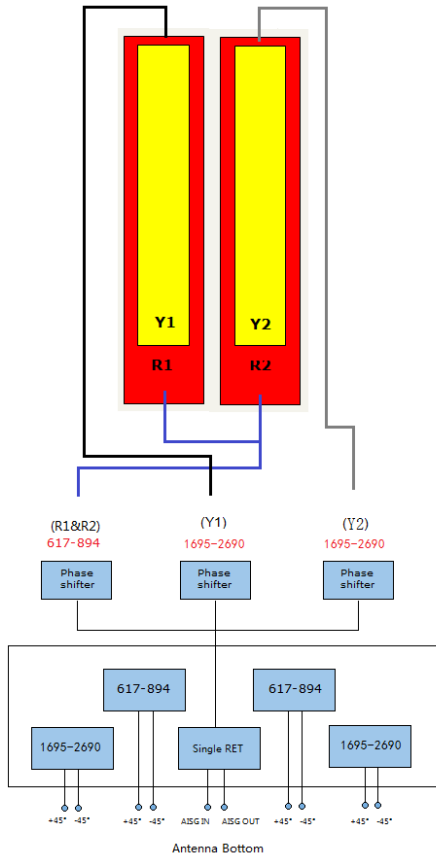
RET Type	3x Type 1 Single RET
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 420 x 180 / 51.2 x 16.5x 7.1
Packing Size(mm)/(inches)	1600 x 540 x 325 / 63.0 x 21.3 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	29 / 63.8
Weight w/ Downtilt Bracket(kg)/(lbs)	36 / 79.2
Weight w/ Fixed Bracket(kg)/(lbs)	34 / 74.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	42 / 92.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	40 / 88.0
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	630/149/456

Integrated RET Properties

RET Type	3x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

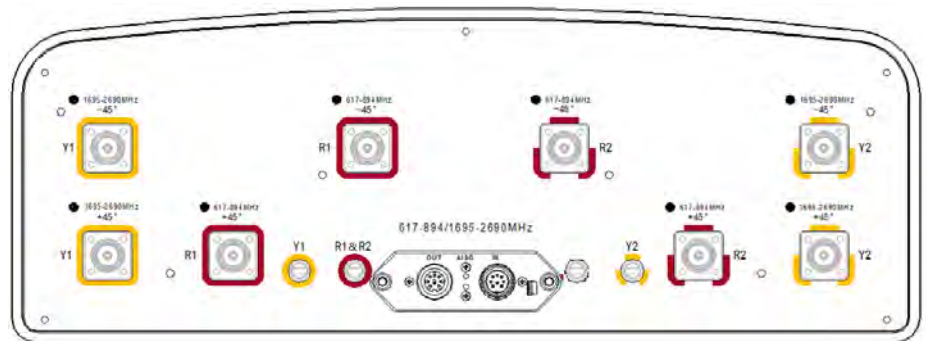


COMPREHENSIVE TILT CONFIGURATION



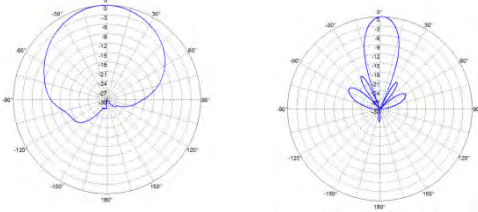
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (3) Single RET





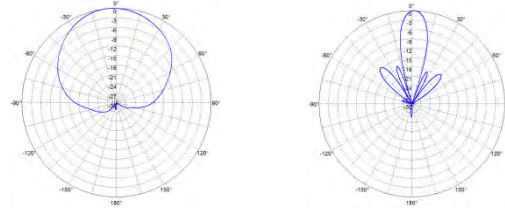
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

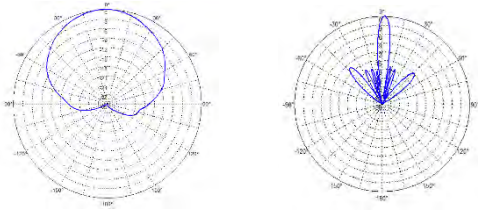
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

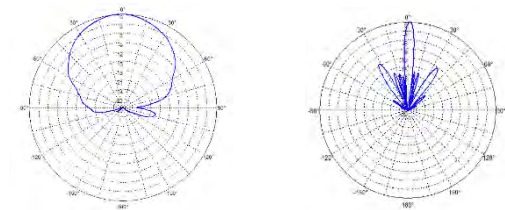
Radiation Pattern (1695 - 2200 MHz)



Horizontal Pattern

Vertical Pattern

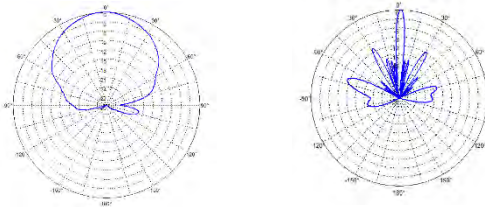
Radiation Patterns (2300 - 2500 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2500 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT4-2A2J-RD65-S

8-ports 617-894 / 617-894 /1695-2690 /1695-2690 MHz 65°, 12.5 / 12.5 / 17 / 17 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12°
Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2690			
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	70	63	60	66	63	58	60
Vertical 3dB Beamwidth(°)	25.0	21.0	18.8	9.0	8.0	7.0	6.5
Gain (dBi)	11.3	11.8	12.3	15.4	15.9	16.4	16.7
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB						
Isolation Frequency	≥30 dB						
VSWR	< 1.5						
Intermodulation IM3	< -150 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						



Mechanical Specifications

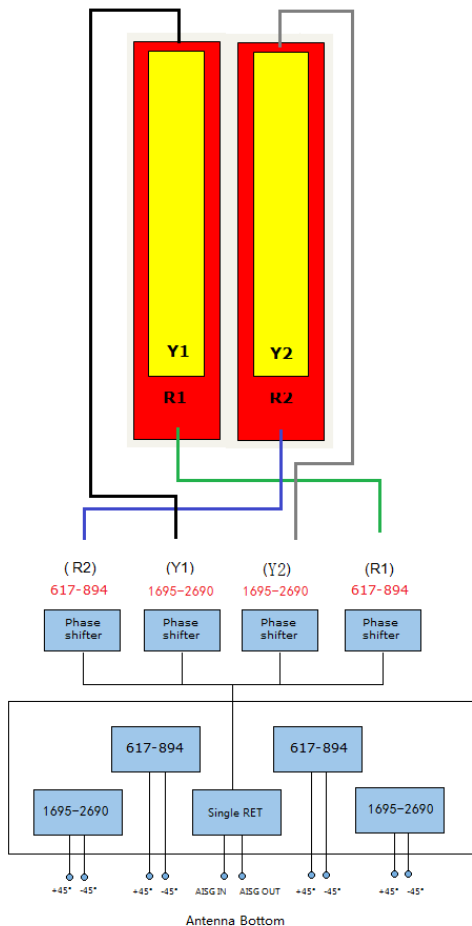
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	990 x 499 x 180 / 38.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	1355 x 560 x 300 / 53.3 x 22x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	25 / 55
Weight w/ Downtilt Bracket(kg)/(lbs)	32 / 70.4
Weight w/ Fixed Bracket(kg)/(lbs)	30 / 66.0
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	39 / 85.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	37 / 81.4
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	574/113/413



Integrated RET Properties

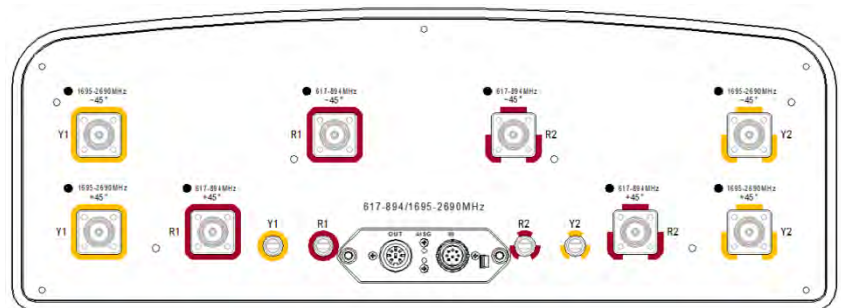
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



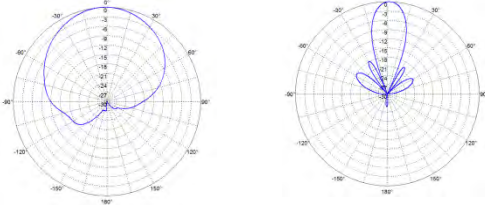
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET





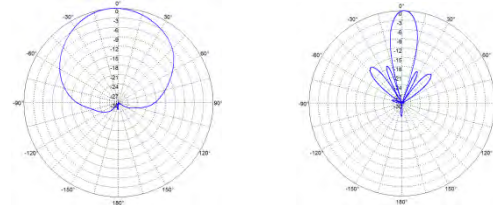
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

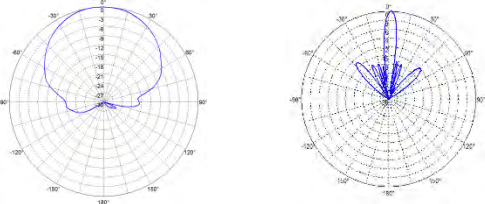
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

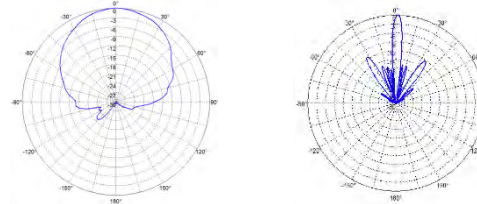
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

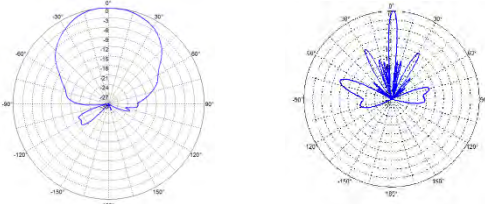
Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2490 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT4-2A2K-RB65

8-ports 617-894 / 617-894 /1695-2200 /1695-2200 MHz 65°, 13.5 / 13.5/ 17 / 17 dBi, 2°-14° / 2°-14° / 2°-12° / 2°-12° Tilt Antenna With 2 Integrated RCUs

Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200		
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200
Polarization	±45°					
Horizontal 3dB Beamwidth(°) ¹	68±5	64±5	60±5	66±4	65±4	63±4
Vertical 3dB Beamwidth(°) ¹	19.0±1.0	16.5±1.0	14.5±1.0	8.1±0.5	7.5±0.5	7.0±0.5
Gain over all tilts ,max.(dBi)	12.1	12.8	13.3	16.6	17.0	17.2
Average gain over all tilts,dBi	11.5±0.6	12.2±0.6	12.7±0.6	16.2±0.4	16.6±0.4	16.8±0.4
Electrical Downtilt	2°-14°			2°-12°		
Upper Sidelobe Suppression(dB) ¹	First	≥16	≥16	≥16	≥19	≥19
	Boresight to 20° ¹	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Co-polar power (dB)	@180°	≥26	≥27	≥27	≥30	≥30
	@180±30°	≥25	≥25	≥25	≥26	≥26
Cross polar ratio	Main direction(dB)	≥20	≥20	≥20	≥20	≥20
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Minimum cross-polar isolation, port-to-port, dB ¹	≥25dB					
Isolation Frequency	≥30dB					
VSWR	< 1.5					
Intermodulation IM3	< -153 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

¹Typical value over frequency and tilt



Mechanical Specifications

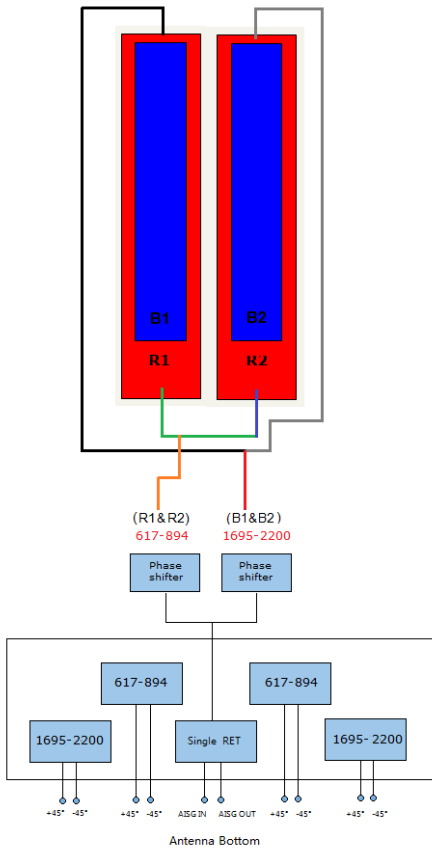
Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1220 x 499 x 180 / 48.0 x 19.6x 7.1
Packing Size(mm)/(inches)	1585 x 560 x 300 / 62.4 x 22.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	26 / 57.2
Weight w/ Downtilt Bracket(kg)/(lbs)	33 / 72.6
Weight,w/ Fixed Bracket (kg)/(lbs)	31 / 68.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	42 / 92.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	40 / 88
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	992/222/717



Integrated RET Properties

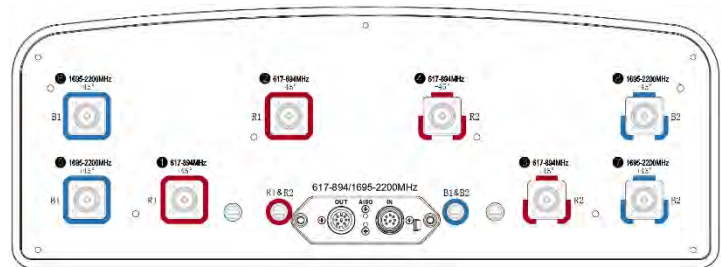
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



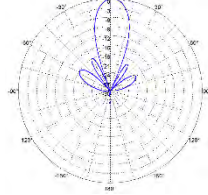
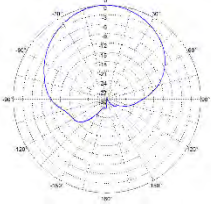
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2200MHz	B1/B2	NDPMXXXXXXXX-1722B1

Note: (1) Physical RET Unit containing (2) Single RET





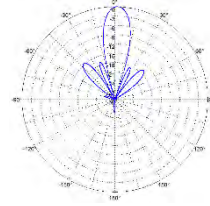
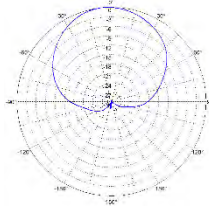
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

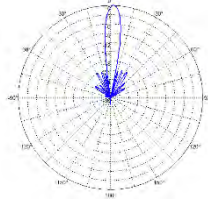
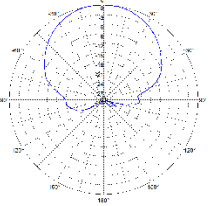
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

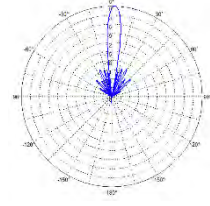
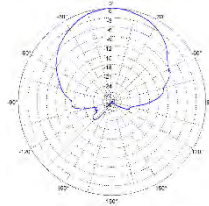
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



OCT4-2A2K-RB65A

8-ports 617-894 / 617-894 / 1695-2200 / 1695-2200 MHz 65°, 12.5 / 12.5 / 17 / 17 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200		
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200
Polarization	±45°					
Horizontal 3dB Beamwidth(°) ¹	70±5	64±5	60±5	66±4	65±4	63±4
Vertical 3dB Beamwidth(°) ¹	19.0±1.0	16.5±1.0	14.5±1.0	8.1±0.5	7.5±0.5	7.0±0.5
Gain over all tilts ,max.(dBi)	11.3	12.0	12.5	16.6	17.0	17.2
Average gain over all tilts,dBi	10.7±0.6	11.4±0.6	11.9±0.6	16.2±0.4	16.6±0.4	16.8±0.4
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB) ¹	First	≥16	≥16	≥16	≥19	≥19
	Boresight to 20° ¹	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Co-polar power (dB)	@180°	≥22	≥23	≥23	≥30	≥30
	@180±30°	≥21	≥22	≥22	≥26	≥26
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Minimum cross-polar isolation, port-to-port, dB ¹	≥23dB					
Isolation Frequency	≥28dB					
VSWR	< 1.5					
Intermodulation IM3	< -153 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

¹Typical value over frequency and tilt



Mechanical Specifications

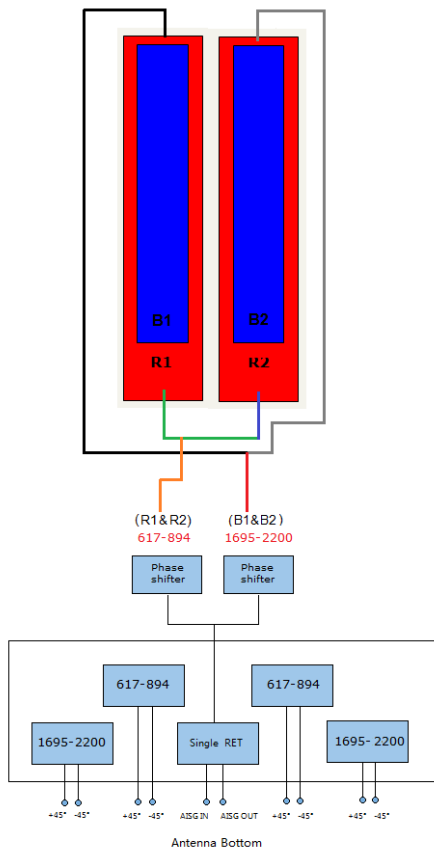
Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300x 420x 180 / 51.2x 16.5x 7.1
Packing Size(mm)/(inches)	1600 x 540 x 325 / 63.0 x 21.3x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	24 / 52.8
Weight w/ Downtilt Bracket(kg)/(lbs)	31 / 68.2
Weight,w/ Fixed Bracket (kg)/(lbs)	29 / 63.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	40 / 88.0
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	38 / 83.6
Max. Wind Velocity(mph)	150
Mounting hardware	φ 50 mm ~ φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	630/149/456



Integrated RET Properties

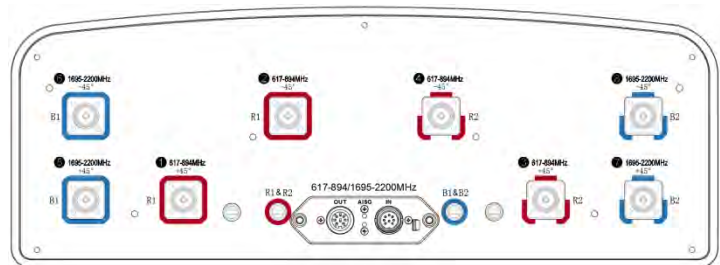
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



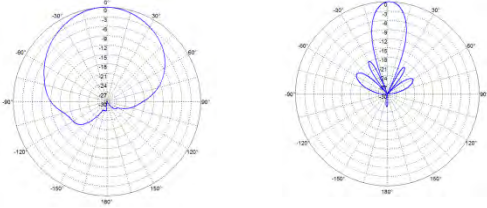
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2200MHz	B1/B2	NDPMXXXXXXXX-1722B1

Note: (1) Physical RET Unit
containing (2) Single RET





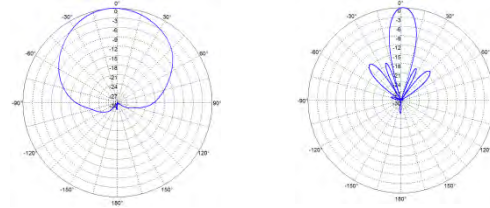
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

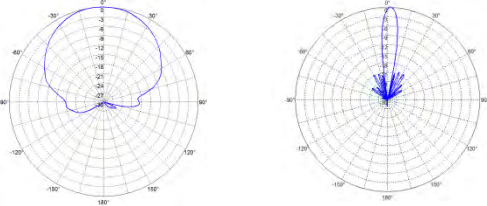
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

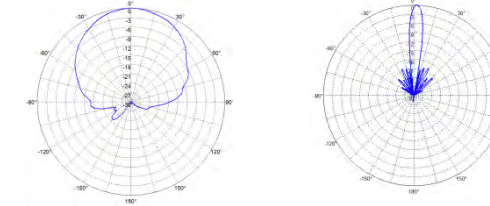
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



OCT4-2AA2Q-RD65

8-ports 790-960 /790-960 /3300-3800 /3300-3800 MHz 65°, 14 / 14 / 17 / 17 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 4 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		2x790-960		2x3300-3800	
		790-880	880-960	3300-3600	3600-3800
Polarization		±45°			
Horizontal 3dB Beamwidth(°)		67	63	66	63
Vertical 3dB Beamwidth(°)		14.8	13.6	5.5	5
Gain (dBi)		13.5	14.0	16.8	17.3
Electrical Downtilt		2°-12°		2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	ni≥7
Isolation ports		≥25 dB			
Isolation Frequency		≥30 dB			
VSWR		< 1.5			
Intermodulation IM3		< -150 dBc(2x43dBm carrier)			
Impedance		50 Ω			
Max. Power per Input (at 50°C ambient temperature)		500 W		200 W	
Lightning Protection		DC Ground			



Mechanical Specifications

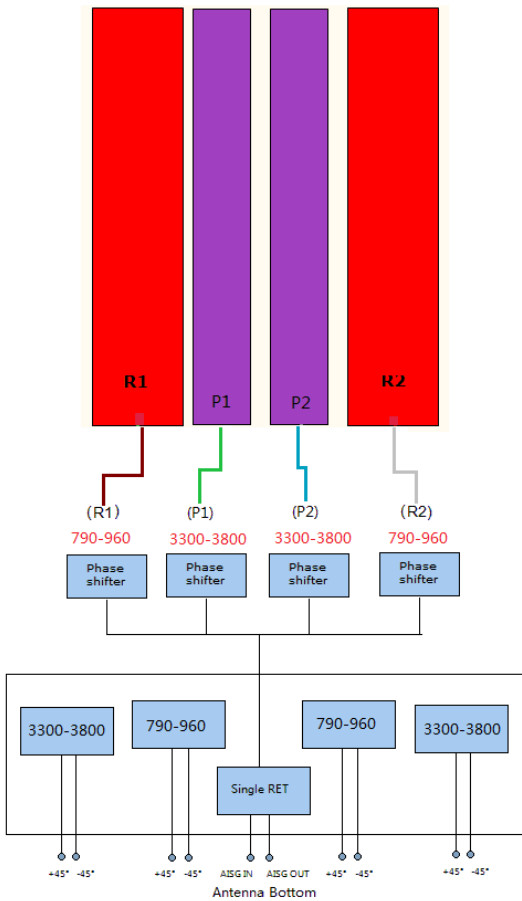
Radome Material	Fiber Glass
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 499 x 180 / 51.2 x 19.6 x 7.1
Packing Size(mm)/(inches)	1665 x 560 x 300 / 65.5 x 22 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	30/66
Weight with Downtilt Bracket(kg)/(lbs)	37/81.4
Weight with Fixed Bracket(kg)/(lbs)	35/ 77
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	45 / 99
Packing Weight (with Fixed Bracket) (kg)/(lbs)	43 / 94.6
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	755/149/544



Integrated RET Properties

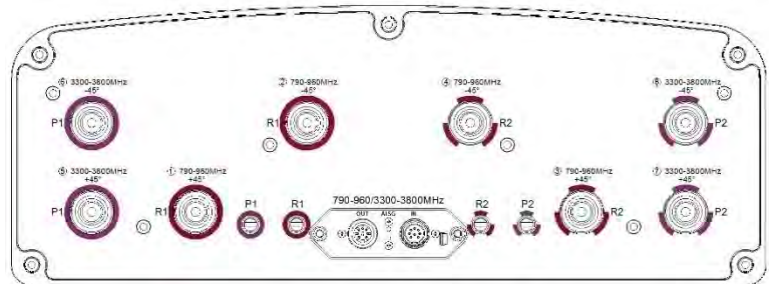
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



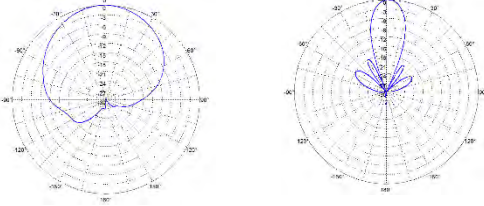
Frequency Range	Array	RET Unique ID
790-960MHz	R1	NDPMXXXXXXXX-7090R1
790-960MHz	R2	NDPMXXXXXXXX-7090R2
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1
3300-3800MHz	P2	NDPMXXXXXXXX-3338P2

Note: (1) Physical RET Unit containing (4) Single RET





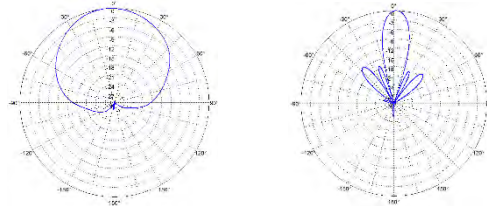
Radiation Pattern (790 - 880 MHz)



Horizontal Pattern

Vertical Pattern

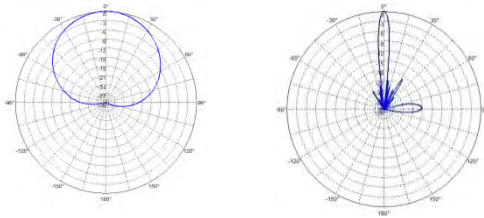
Radiation Patterns (880 - 960 MHz)



Horizontal Pattern

Vertical Pattern

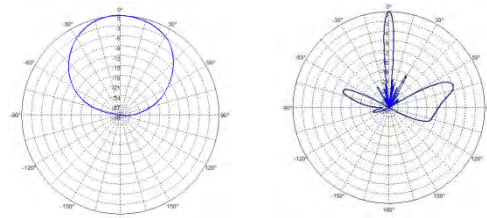
Radiation Patterns (3300 - 3600 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (3600-3800 MHz)



Horizontal Pattern

Vertical Pattern



OCT4-2B2R-RD65

8-ports 698-960 / 698-960 /3300-4200 / 3300-4200 MHz 65°, 13.5 /13.5 /17.5 /17.5 dBi, 2°-12° /2°-12°/ 2°-12°/ 2°-12° / 2°-12° / 2 - 12°Tilt Antenna With 4 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		2x698-960			2x3300-4200	
		698-824	824-894	894-960	3300-3800	3800-4200
Polarization		±45°				
Horizontal 3dB Beamwidth(°)		68	64	60	68	64
Vertical 3dB Beamwidth(°)		17	15.5	14.5	6.8	6
Gain (dBi)		12.5	13	13.5	17	17.5
Electrical Downtilt		2°-12°			2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB				
Isolation Frequency		≥30 dB				
VSWR		< 1.5				
Intermodulation IM3		< -150 dBc(2x43dBm carrier)			/	
Impedance		50 Ω				
Max. Power per Input (at 50°C ambient)		500 W			200 W	
Lightning Protection		DC Ground				



Mechanical Specifications

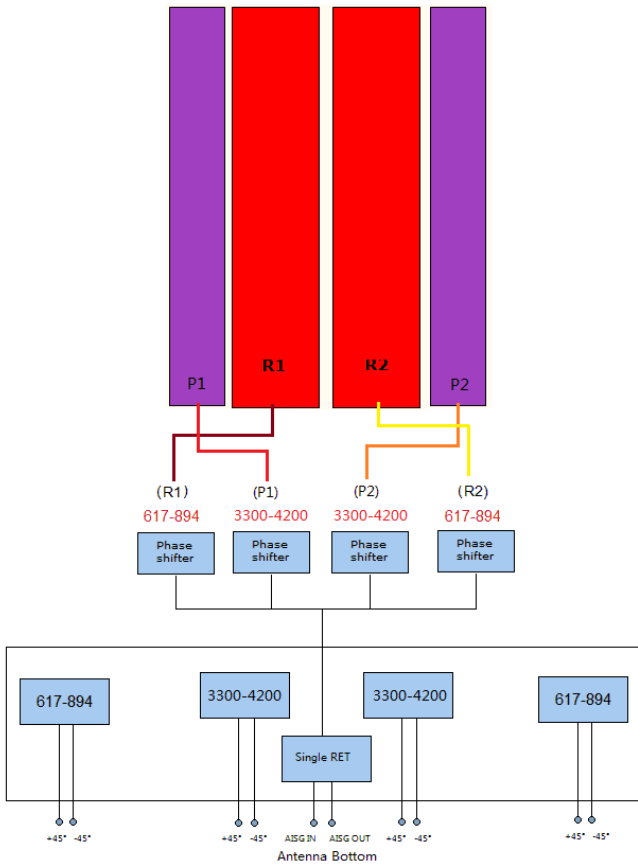
Radome Material	FiberGlass
Connector Type and Location	4.3-10x8, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1300 x 499 x 180 / 51.2 x 19.6 x 7.1
Packing Size(mm)/(inches)	1600 x 600 x 310 / 63 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	28.5 / 62.7
Weight w/ Downtilt Bracket(kg)/(lbs)	34.5 / 75.9
Weight w/ Fixed Bracket(kg)/(lbs)	32.5 / 71.5
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	43.5 / 95.7
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	41.5 / 91.3
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	748/167/539



Integrated RET Properties

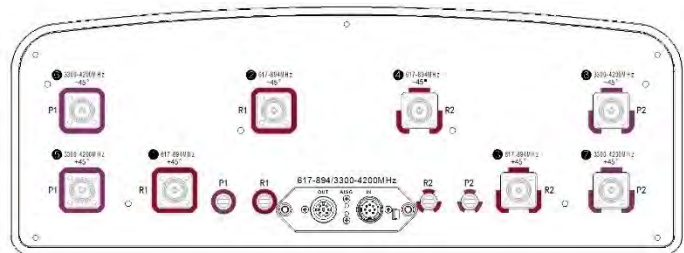
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



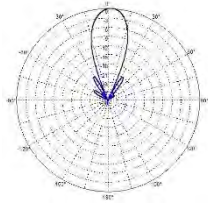
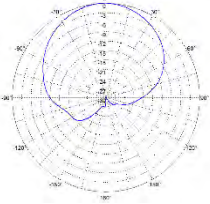
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P2

Note: (1) Physical RET Unit containing (4) Single RET





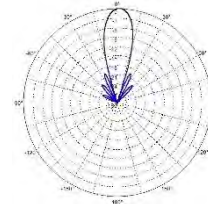
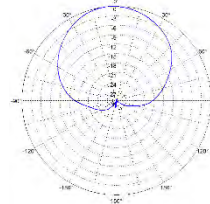
Radiation Pattern (698 - 824 MHz)



Horizontal Pattern

Vertical Pattern

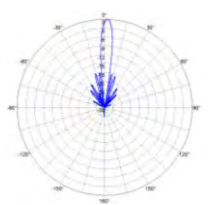
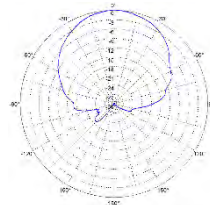
Radiation Patterns (824 - 960 MHz)



Horizontal Pattern

Vertical Pattern

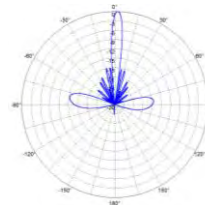
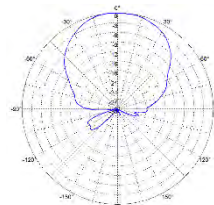
Radiation Pattern (3300 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



OCT4-2LX2HX-BR45

8-ports 617-894 / 617-894 /1695-2690 /1695-2690 MHz 65°, 14.0 / 14.0/ 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12°
Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2690			
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41	38
Vertical 3dB Beamwidth(°)	19.5	16.8	14.1	7.5	6.5	6	5.5
Gain (dBi)	13.0	13.5	13.9	17.0	17.5	18.0	18.3
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥24	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16	≥16
Isolation ports	≥25 dB						
Isolation Frequency	≥30 dB						
VSWR	< 1.5						
Intermodulation IM3	< -150 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						

Mechanical Specifications

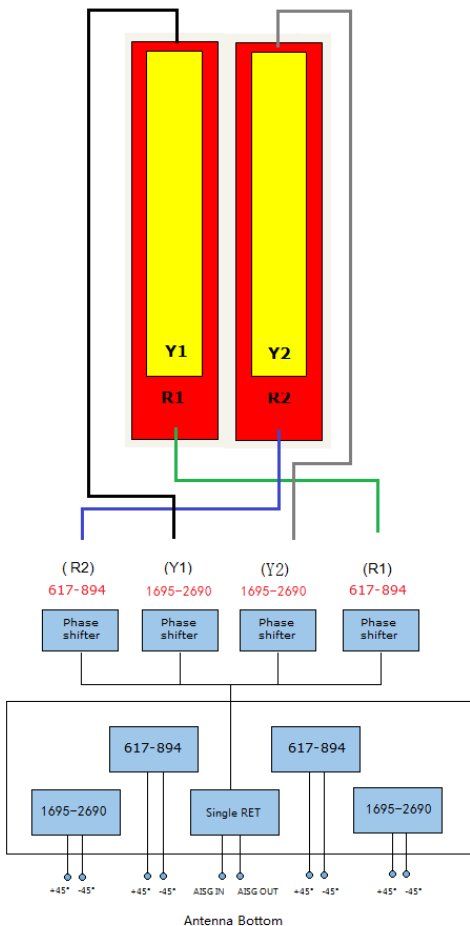
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 499 x 180 / 51.2 x 19.6 x 7.1
Packing Size(mm)/(inches)	1600 x 620 x 325 / 63.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	31 / 68.2
Weight w/ Downtilt Bracket(kg)/(lbs)	38 / 83.6
Weight w/ Fixed Bracket(kg)/(lbs)	36 / 79.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	44 / 96.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	42 / 92.4
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	755/149/544



Integrated RET Properties

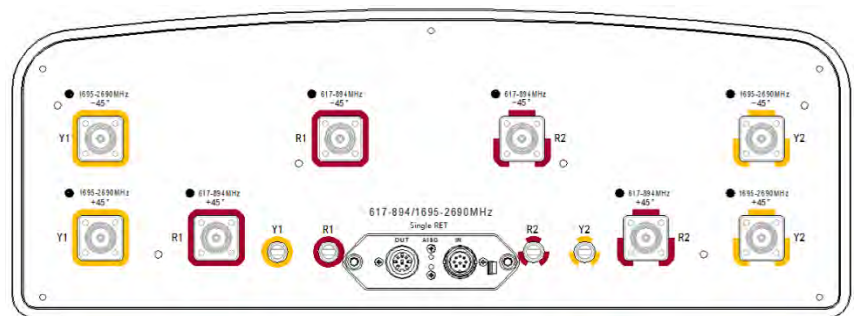
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs, 200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



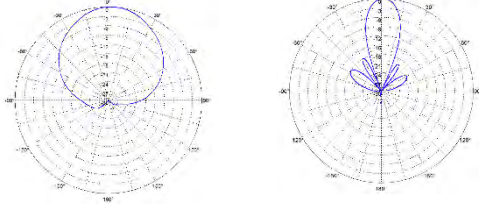
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET





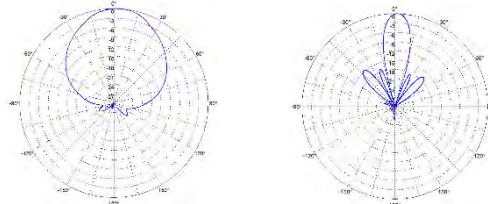
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

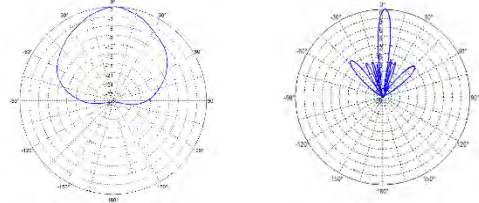
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

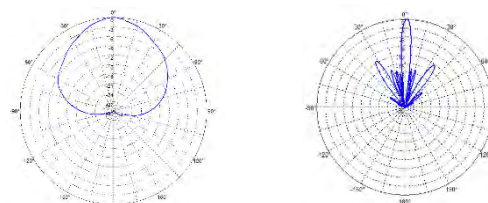
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

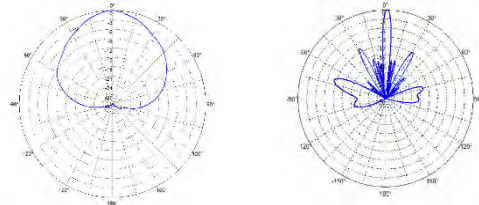
Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2490 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT4-2LX2HX-BR65

8-ports 617-894 / 617-894 /1695-2690 /1695-2690 MHz 65°, 13.5 / 13.5 / 17 / 17 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12°
Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2690			
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	70	63	60	66	63	58	60
Vertical 3dB Beamwidth(°)	19.5	16.8	14.1	7.5	6.5	6	5.5
Gain (dBi)	12.4	12.9	13.4	16.5	17.0	17.5	17.8
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB						
Isolation Frequency	≥30 dB						
VSWR	< 1.5						
Intermodulation IM3	< -150 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						

Mechanical Specifications

Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 499 x 180 / 51.2 x 19.6 x 7.1
Packing Size(mm)/(inches)	1600 x 620 x 325 / 63.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	31 / 68.2
Weight w/ Downtilt Bracket(kg)/(lbs)	37 / 81.4
Weight w/ Fixed Bracket(kg)/(lbs)	35 / 77
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	43 / 94.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	41 / 90.2
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	755/149/544

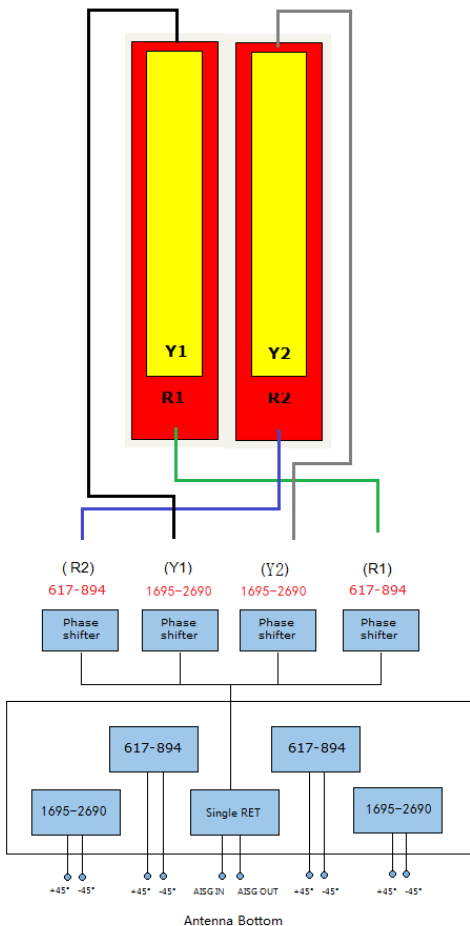


Integrated RET Properties

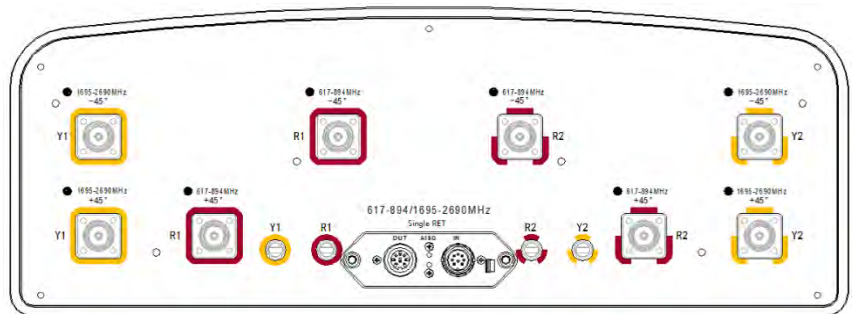
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

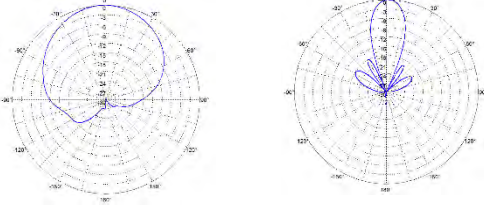


Note: (1) Physical RET Unit containing (4) Single RET





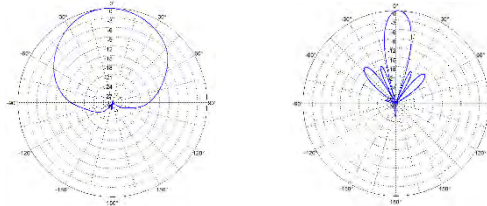
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

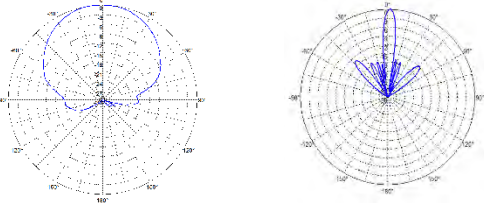
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

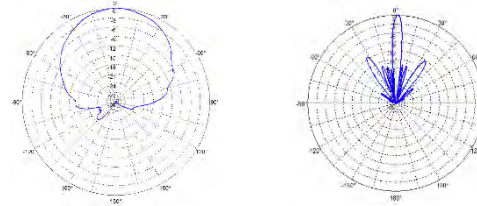
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

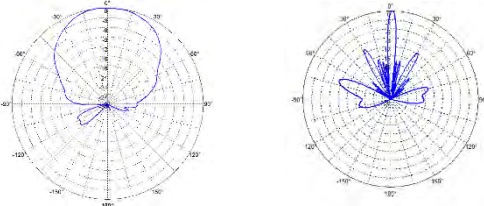
Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2490 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT4-2LX2HX-BW45

8-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 MHz 45°, 14/ 14 / 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 °
Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41
Vertical 3dB Beamwidth(°)	19	16.5	14.5	7.5	6.5	6
Gain (dBi)	13	13.5	14	16.8	17.3	17.8
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥23	≥24	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±30° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

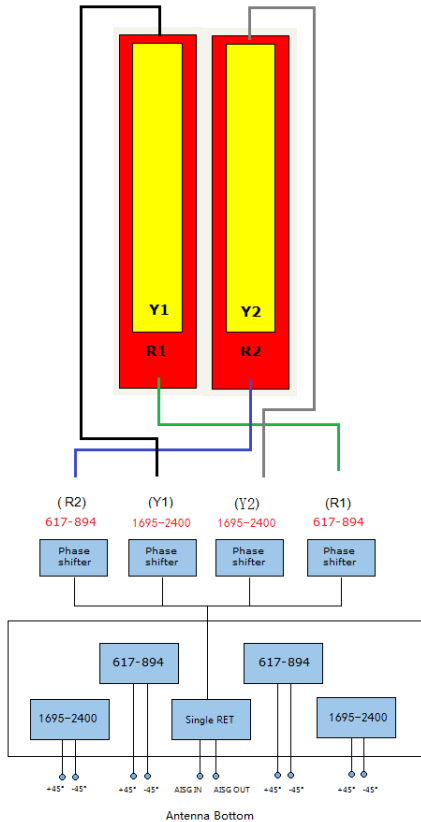
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 499 x 180 / 51.2 x 19.6 x 7.1
Packing Size(mm)/(inches)	1600 x 620 x 325 / 63.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	30 / 66
Weight w/ Downtilt Bracket(kg)/(lbs)	37 / 81.4
Weight w/ Fixed Bracket(kg)/(lbs)	35/ 77
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	43/ 94.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	41 / 90.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	755/149/544



Integrated RET Properties

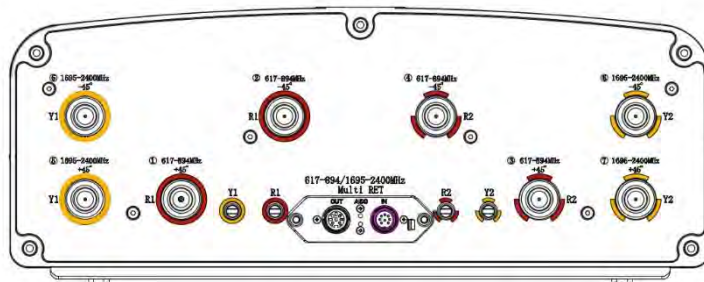
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



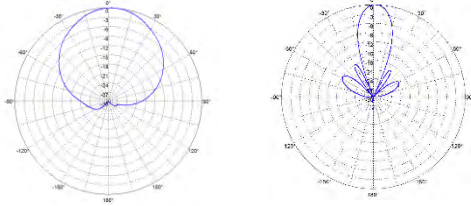
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (4) Single RET





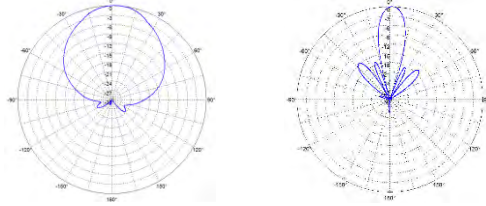
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

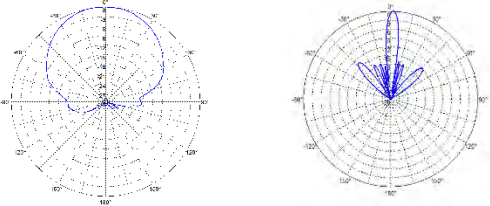
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

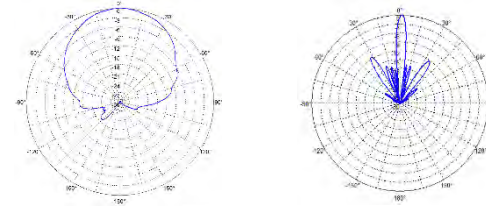
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

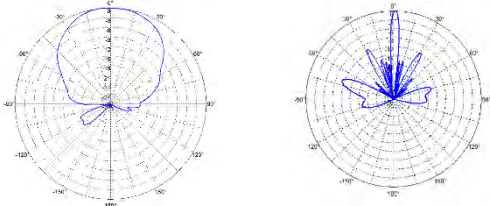
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



OCT4-2LX2HX-BW65

8-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 MHz 65°, 13.5 / 13.5 / 17.5 / 17.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	70	63	60	66	63	58
Vertical 3dB Beamwidth(°)	19.5	16.8	14.1	7.5	6.5	6
Gain (dBi)	12.4	12.9	13.4	16.5	17.0	17.5
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥23	≥24	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

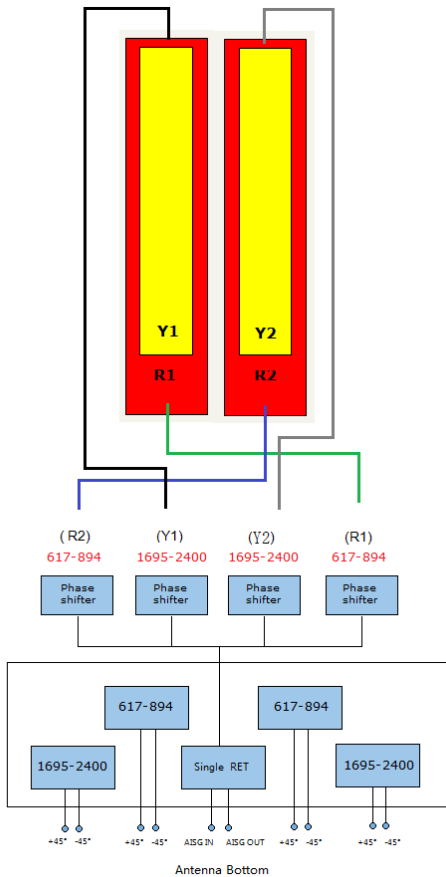
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	300 x 499 x 180 / 51.2 x 19.6 x 7.1
Packing Size(mm)/(inches)	1600 x 620 x 325 / 63.0 x 24.4 x 12.8
Weight w/o Mounting kit(kg)/(lbs)	31 / 68.2
Weight w/ Downtilt Bracket(kg)/(lbs)	38 / 83.6
Weight w/ Fixed Bracket(kg)/(lbs)	36 / 79.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	44 / 96.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	42 / 92.4
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	755/149/544



Integrated RET Properties

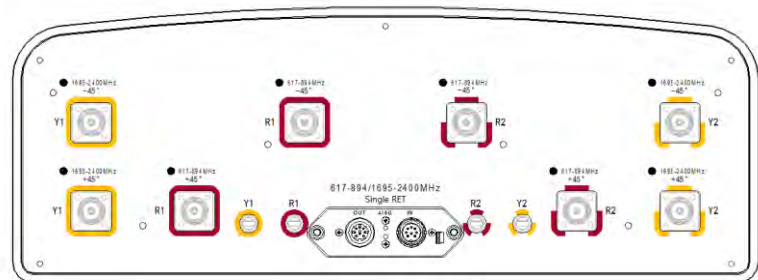
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



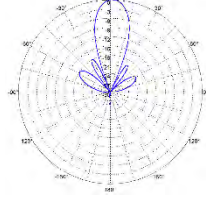
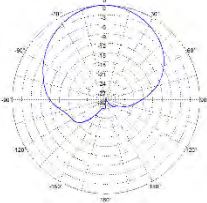
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (4) Single RET





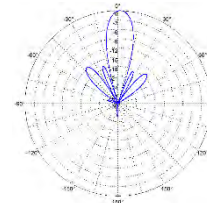
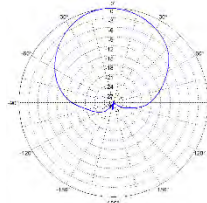
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

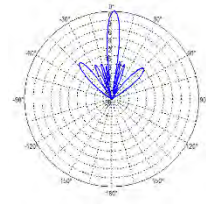
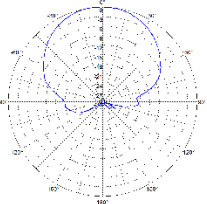
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

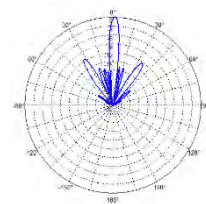
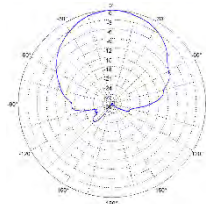
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

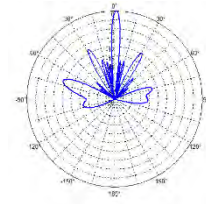
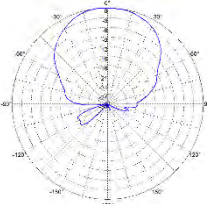
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



OCT4-4HX-CB65

8-ports 3300-4200 / 3300-4200/ 3300-4200 / 3300-4200 MHz 65°, 18.5 / 18.5 / 18.5/18.5 dBi, 0°-8° / 0°-8°/ 0°-8° / 0°-8°Tilt Antenna With 4 Integrated RCUs and 4 Indicators

Electrical Specifications

Frequency Range(MHz)		4x3300-4200	
		3300-3600	3600-4200
Polarization		±45	
Horizontal 3dB Beamwidth(°)		65	60
Vertical 3dB Beamwidth(°)		4.5	4.2
Gain (dBi)		18	18.5
Electrical Downtilt		0°- 8°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17
	±60° (dB)	≥7	≥7
Isolation ports		≥28dB	
VSWR		< 1.5	
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		250 W	
Lightning Protection		DC Ground	



Mechanical Specifications

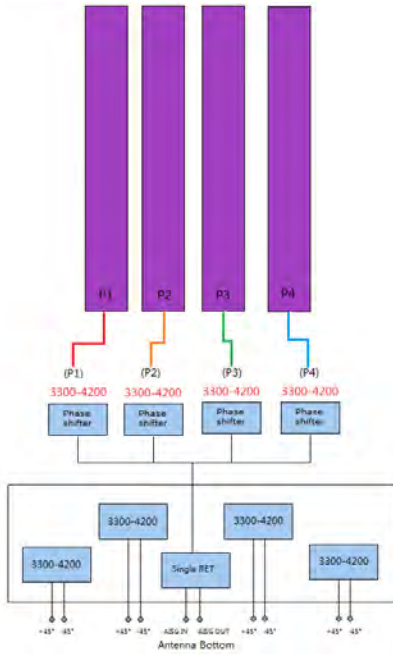
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1200 x 295 x 115 / 47.2 x 11.6 x 4.5
Packing Size(mm)/(inches)	1500 x 420 x 260 / 59.1 x 16.5 x 10.2
Weight ,w/o Mounting kit(kg)/(lbs)	18/39.6
Weight w/ Downtilt Bracket(kg)/(lbs)	23 /50.6
Weight w/ Fixed Bracket(kg)/(lbs)	21/46.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	29/63.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	27/59.4
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	409/98/293



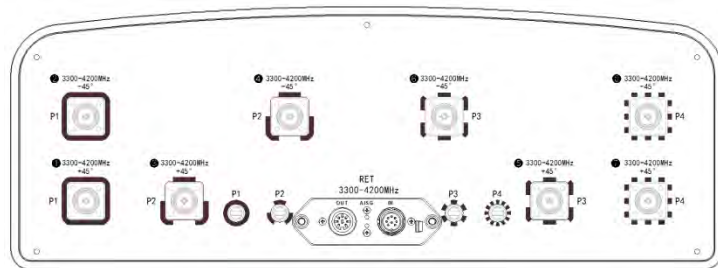
Integrated RET Properties

RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

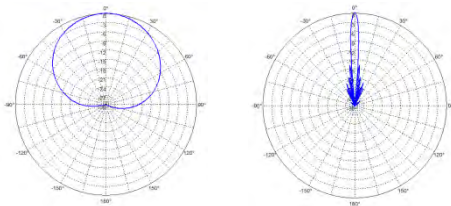
COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P2
3300-4200MHz	P3	NDPMXXXXXXXX-3342P3
3300-4200MHz	P4	NDPMXXXXXXXX-3342P4

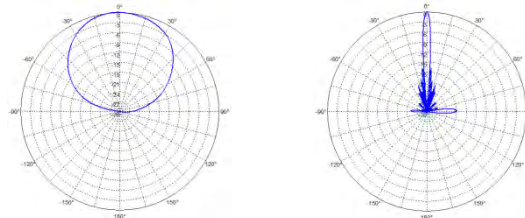


Radiation Patterns (3300 - 3600 MHz)



Horizontal Pattern Vertical Pattern

Radiation Patterns (3600-4200 MHz)



Horizontal Pattern Vertical Pattern



OCT6-2A2J-RC45LP

8-ports 617-894 /617-894 /1695-2690 /1695-2690 MHz 45°, 15.5 / 15.5 / 18/ 18dBi, 2°-12°/2°-12°/ 2°-12°/ 2°-12°
Tilt Antenna With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2 x 617-894			2x1695-2690			
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41	38
Vertical 3dB Beamwidth(°)	13.5	12	10.5	7.5	6.5	6	5.5
Gain (dBi)	14.4	14.9	15.5	17.0	17.5	18.0	18.3
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16	≥16
Isolation ports	≥25 dB						
Isolation Frequency	≥30 dB						
VSWR	< 1.5						
Intermodulation IM3	< -153 dBc(2x46dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						



Mechanical Specifications

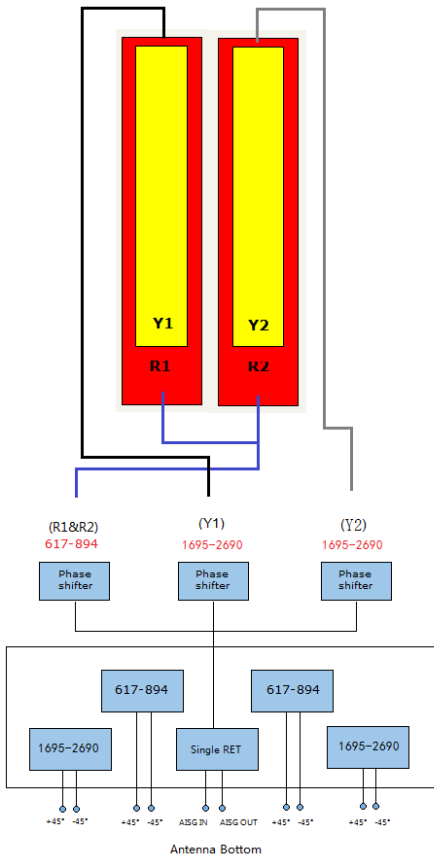
Radome Material	Fiber Glass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2220 x 560 x 300 / 87.4 x 22.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	39 / 85.8
Weight w/ Downtilt Bracket(kg)/(lbs)	46 / 101.2
Weight w/ Fixed Bracket(kg)/(lbs)	44 / 96.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	54.5 / 119.9
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	52.5 / 115.5
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

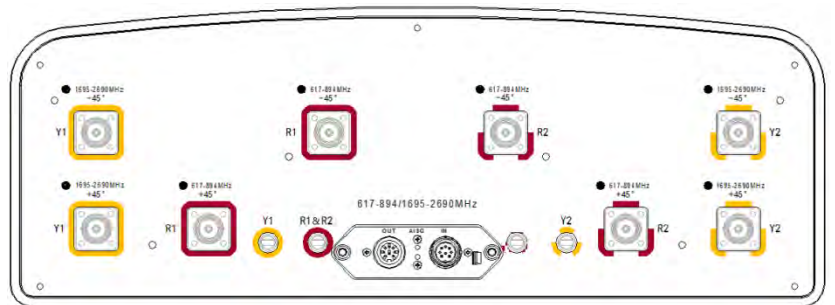
RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



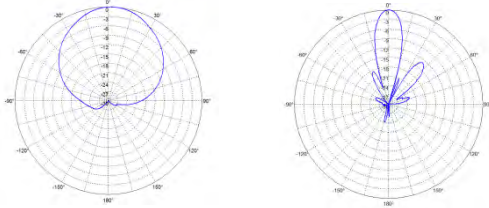
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (3) Single RET





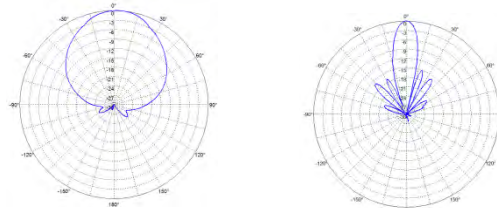
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

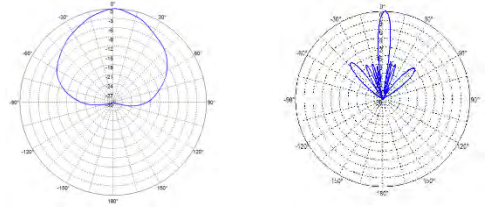
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

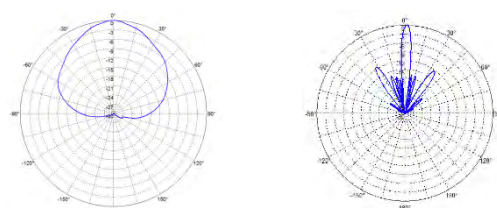
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

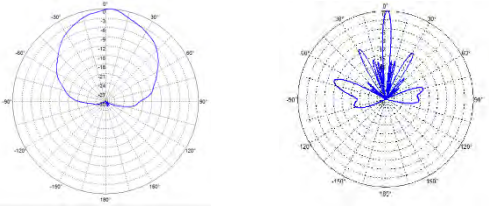
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

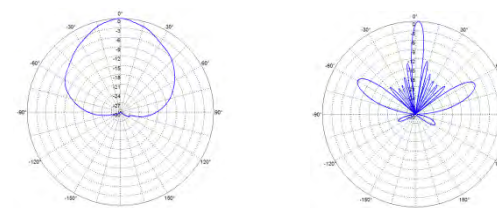
Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2400 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2A2J-RC65A

8-ports 617-894 / 617-894 /1695-2690 /1695-2690 MHz 65°, 12.5 / 12.5 / 18/ 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894		2x1695-2690				
	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	71	60	66	65	62	58	60
Vertical 3dB Beamwidth(°)	18.5	15.5	7.2	6.8	6.3	5.5	5.1
Gain (dBi)	11.6	12.5	16.8	17.2	17.7	17.7	17.8
Electrical Downtilt	2°-12°		2°-12°				
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)	≥21	≥22	≥25	≥25	≥25	≥25	≥25
Isolation ports	≥23dB						
Isolation Frequency	≥28dB						
VSWR	< 1.5						
Intermodulation IM3 dBc (2x43dBm carrier)	< -150	< -153	< -153				
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W		200 W				
Lightning Protection	DC Ground						

Electrical Specifications,BASTA

Frequency Range(MHz)	2x617-894		2x1695-2690				
	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°						
Beamwidth, Horizontal Tolerance (°)	±5	±6.5	±3.6	±4.2	±6.4	±5.7	±6.2
Beamwidth, Vertical Tolerance (°)	±1.5	±1.7	±0.5	±0.5	±0.4	±0.4	±0.4
Gain by all Beam Tilts,average, (dBi)	11.5	12.1	16.7	17.1	17.6	17.6	17.7
Gain by all Beam Tilts,Tolerance, (dB)	±0.6	±0.8	±0.5	±0.5	±0.6	±0.5	±0.5
Gain by all Beam Tilt,average (dBi)	2 11.2	2 12.1	2 16.6	2 17.1	2 17.4	2 17.5	2 17.6
	7 11.6	7 12.2	7 16.8	7 17.2	7 17.6	7 17.7	7 17.8
	12 11.2	12 12.0	12 16.5	12 17.0	12 17.3	12 17.4	12 17.5
Front-to-Back Ratio Total Power, ±30° (dB)	≥23	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7



Mechanical Specifications

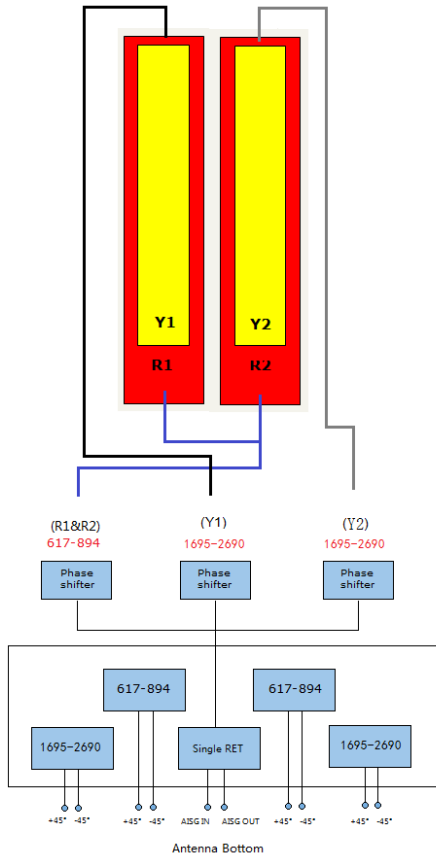
RET Type	3x Type 1 Single RET
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 420 x 180 / 51.2 x 16.5x 7.1
Packing Size(mm)/(inches)	1600 x 540 x 325 / 63.0 x 21.3 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	29 / 63.8
Weight w/ Downtilt Bracket(kg)/(lbs)	36 / 79.2
Weight w/ Fixed Bracket(kg)/(lbs)	34 / 74.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	42 / 92.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	40 / 88.0
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	630/149/456

Integrated RET Properties

RET Type	3x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

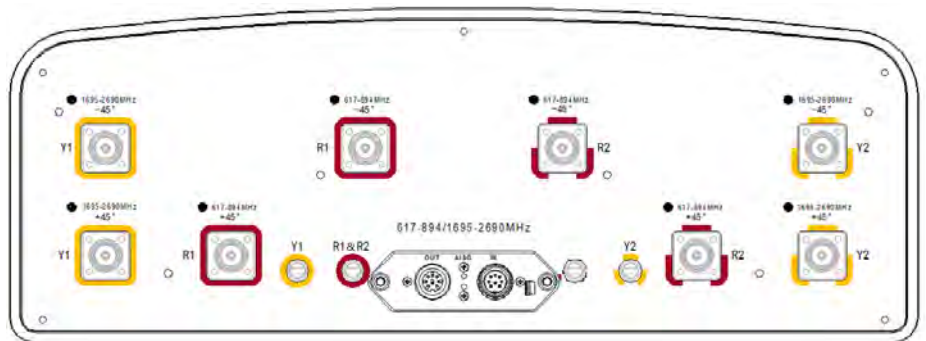


COMPREHENSIVE TILT CONFIGURATION



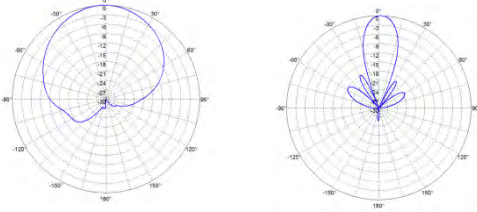
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (3) Single RET





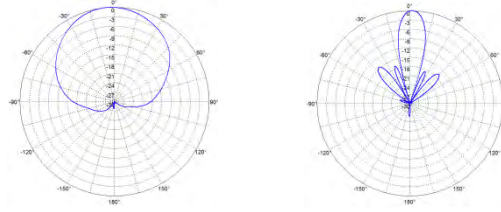
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

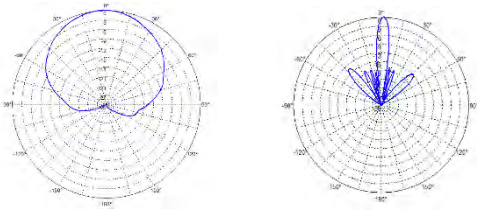
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

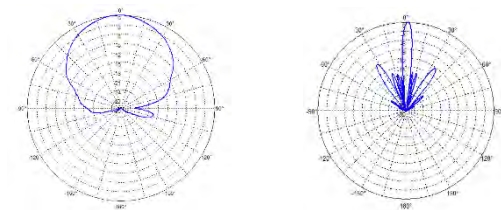
Radiation Pattern (1695 - 2200 MHz)



Horizontal Pattern

Vertical Pattern

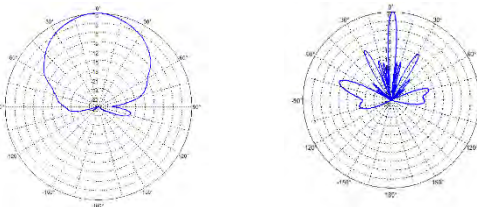
Radiation Patterns (2300 - 2500 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2500 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2A2J-RC65B

8-ports 617-894 / 617-894 /1695-2690 /1695-2690 MHz 65°, 14 / 14 / 18.5/ 18.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894		2x1695-2690				
	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	71	60	66	65	62	58	60
Vertical 3dB Beamwidth(°)	14	12	5.7	5.5	5.1	4.5	4.1
Gain (dBi)	13.5	13.9	17.6	18	18.5	18.5	18.6
Electrical Downtilt	2°-12°		2°-12°				
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)	≥22	≥23	≥25	≥25	≥25	≥25	≥25
Isolation ports	≥24dB						
Isolation Frequency	≥28dB						
VSWR	< 1.5						
Intermodulation IM3 dBc (2x43dBm carrier)	< -153	< -153	< -153				
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W		200 W				
Lightning Protection	DC Ground						



Electrical Specifications,BASTA

Frequency Range(MHz)	2x617-894		2x1695-2690				
	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°						
Beamwidth, Horizontal Tolerance (°)	±5	±6.5	±3.5	±4.1	±6.4	±5.7	±6.0
Beamwidth, Vertical Tolerance (°)	±1.1	±1.4	±0.3	±0.4	±0.4	±0.3	±0.3
Gain by all Beam Tilts,average, (dBi)	13.3	13.7	17.4	17.7	18.2	18.2	18.2
Gain by all Beam Tilts,Tolerance, (dB)	±0.4	±0.7	±0.4	±0.4	±0.6	±0.5	±0.5
Gain by all Beam Tilt,average (dBi)	2 13.3	2 13.7	2 17.4	2 17.7	2 18	2 18.1	2 18.1
	7 13.5	7 13.8	7 17.5	7 17.8	7 18.3	7 18.5	7 18.5
	12 13.2	12 13.5	12 17.2	12 17.6	12 18.2	12 18.1	12 18.0
Front-to-Back Ratio Total Power, ±30° (dB)	≥23	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7



Mechanical Specifications

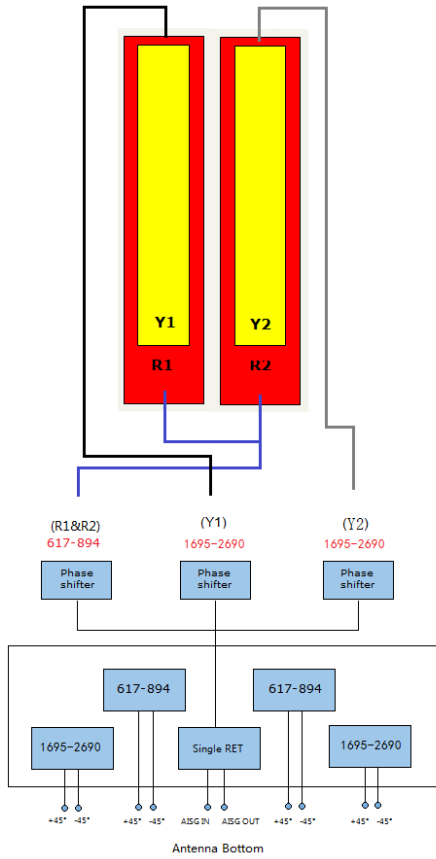
RET Type	3x Type 1 Single RET
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 430 x 197 / 72.8 x 16.9 x 7.7
Packing Size(mm)/(inches)	2220 x 540 x 300 / 87.4 x 21.3 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	34 / 74.8
Weight w/ Downtilt Bracket(kg)/(lbs)	40 / 88
Weight w/ Fixed Bracket(kg)/(lbs)	38 / 83.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	48 / 105.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	46 / 101.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	916/264/663

Integrated RET Properties

RET Type	3x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

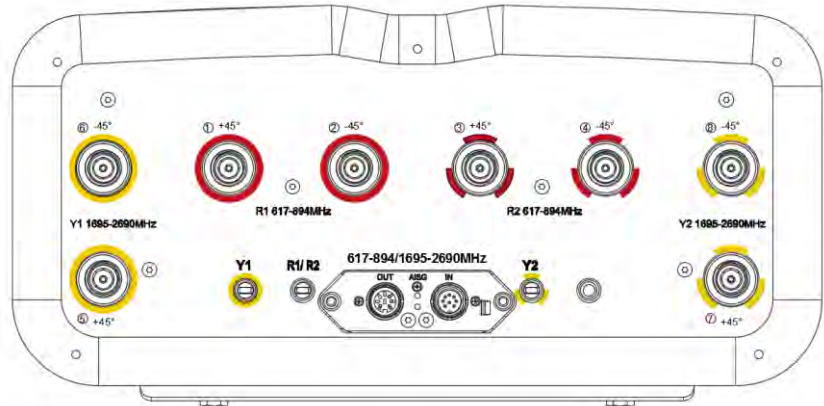


COMPREHENSIVE TILT CONFIGURATION



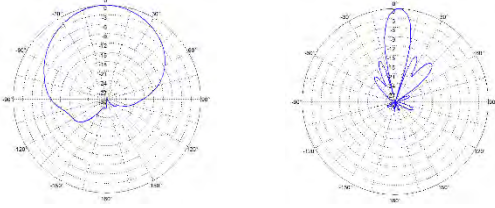
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (3) Single RET





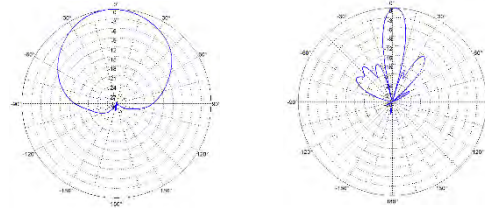
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

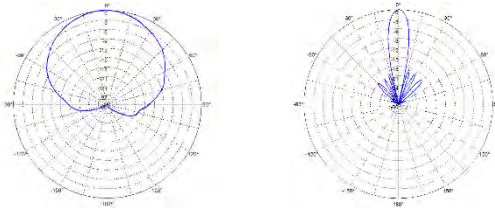
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

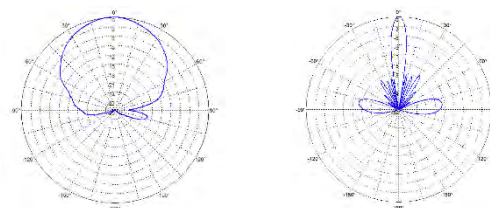
Radiation Pattern (1695 - 2200 MHz)



Horizontal Pattern

Vertical Pattern

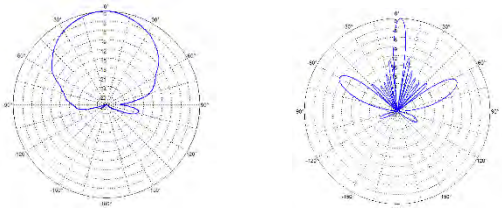
Radiation Patterns (2300 - 2500 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2500 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2A2J-RC65LP

8-ports 617-894 / 617-894 /1695-2690 /1695-2690 MHz 65°, 15 / 15/ 18.5/ 18.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894		2x1695-2690				
	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	68	62	66	65	62	58	60
Vertical 3dB Beamwidth(°)	14	12	5.7	5.5	5.1	4.5	4.1
Gain (dBi)	14.2	15	17.6	18	18.5	18.5	18.6
Electrical Downtilt	2°-12°		2°-12°				
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25
Isolation ports	≥25dB						
Isolation Frequency	≥28dB						
VSWR	< 1.5						
Intermodulation IM3 dBc (2x46 dBm carrier)		< -153	< -153				
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W	200 W				
Lightning Protection	DC Ground						



Electrical Specifications,BASTA

Frequency Range(MHz)	2x617-894		2x1695-2690				
	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization	±45°						
Beamwidth, Horizontal Tolerance (°)	±4.2	±5.8	±3.5	±4.1	±6.4	±5.7	±6.0
Beamwidth, Vertical Tolerance (°)	±1.1	±1.4	±0.3	±0.4	±0.4	±0.3	±0.3
Gain by all Beam Tilts,average, (dBi)	14	14.4	17.4	17.7	18.2	18.2	18.2
Gain by all Beam Tilts,Tolerance, (dB)	±0.4	±0.7	±0.4	±0.4	±0.6	±0.5	±0.5
Gain by all Beam Tilt,average (dBi)	2 14.0	2 14.4	2 17.4	2 17.7	2 18	2 18.1	2 18.1
	7 14.2	7 14.5	7 17.5	7 17.8	7 18.3	7 18.5	7 18.5
	12 13.9	12 14.2	12 17.2	12 17.6	12 18.2	12 18.1	12 18.0
Front-to-Back Ratio Total Power, ±30° (dB)	≥23	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7



Mechanical Specifications

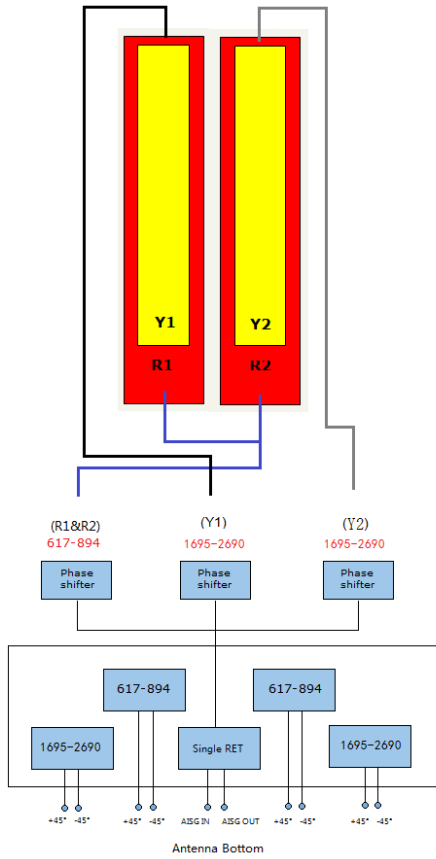
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6x 7.1
Packing Size(mm)/(inches)	2160 x 620 x 325 / 85.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	38 / 83.6
Weight w/ Downtilt Bracket(kg)/(lbs)	44 / 96.8
Weight w/ Fixed Bracket(kg)/(lbs)	42 / 92.4
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	52.5 / 115.5
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	50.5 /111.1
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772

Integrated RET Properties

RET Type	3x Type 1 Single RET
Protocols	Compliant to AISG 2.0/3GPP
Input voltage range	+10~+30VDC(pin 6)
Power consumption	<2W(stand by);<13W(motor activated)
Connectors	AISG 2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna Two motor shaft(Embedded motor)
Hardware interface	AISG RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)
Adjustment Cycles	≥10000
Torque Max	≥160mN.m
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

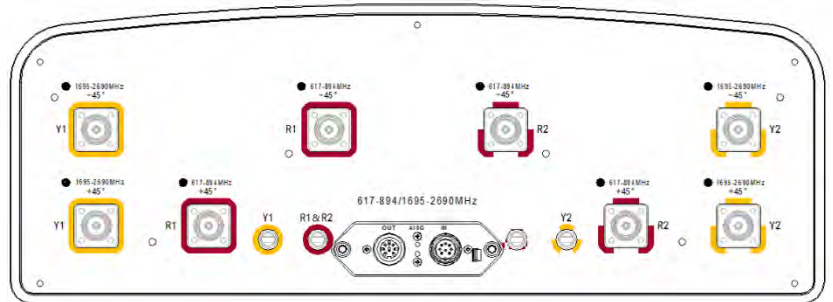


COMPREHENSIVE TILT CONFIGURATION



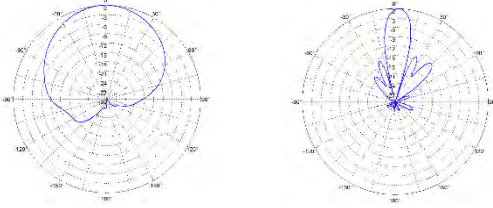
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (3) Single RET





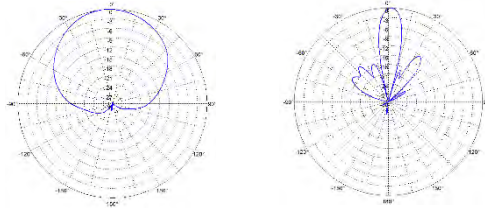
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

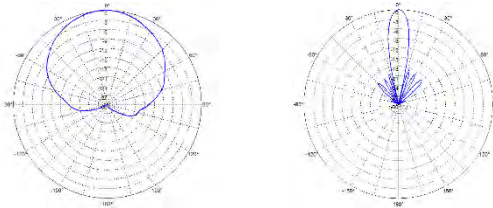
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

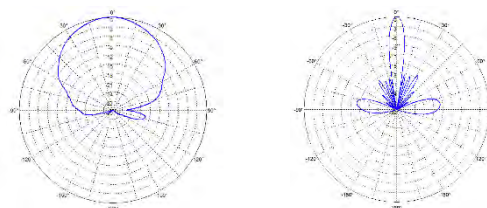
Radiation Pattern (1695 - 2200 MHz)



Horizontal Pattern

Vertical Pattern

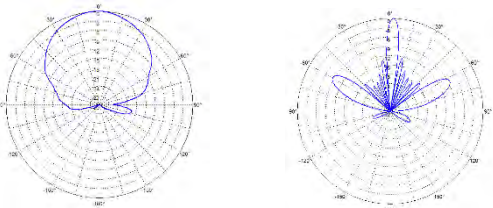
Radiation Patterns (2300 - 2500 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2500 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2A2K-RB45

8-ports 617-894 / 617-894 /1695-2200 /1695-2200 MHz 45°, 15.5 / 15.5/ 20.5 / 20.5 dBi, 2°-14° / 2°-14° / 2°-12° / 2°-12 °Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200		
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200
Polarization	±45°					
Horizontal 3dB Beamwidth(°) ¹	50±4	46±4	42±4	45±4	42±4	38±4
Vertical 3dB Beamwidth(°) ¹	13.5±0.5	12±0.5	10.5±0.5	5.4±0.3	5.2±0.3	4.9±0.5
Gain over all tilts ,max,(dBi)	14.4	14.9	15.5	19.2	19.8	20.4
Average gain over all tilts,dBi	13.8±0.6	14.3±0.6	14.9±0.6	18.8±0.4	19.4±0.4	20.0±0.4
Electrical Downtilt	2°-14°			2°-12°		
Upper Sidelobe Suppression(dB) ¹	First	≥17	≥17	≥17	≥19	≥19
	Boresight to 20° ¹	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Co-polar power (dB)	@180°	≥28	≥29	≥29	≥32	≥32
	@180±30°	≥27	≥26	≥26	≥27	≥27
Cross polar ratio	Main direction(dB)	≥20	≥20	≥20	≥20	≥20
Minimum cross-polar isolation, port-to-port, dB ¹	≥25dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -153 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

¹Typical value over frequency and tilt



Mechanical Specifications

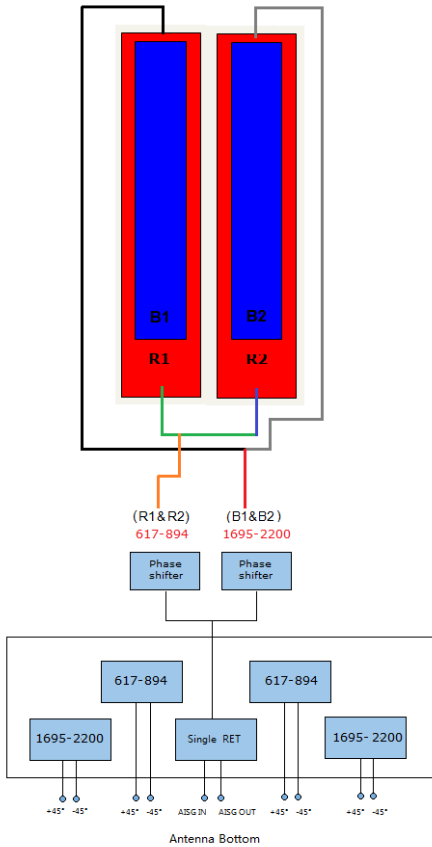
Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1828 x 499 x 180 / 72.0 x 19.6x 7.1
Packing Size(mm)/(inches)	2200 x 560 x 300 / 86.6 x 22.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	32 / 70.4
Weight w/ Downtilt Bracket(kg)/(lbs)	39 / 83.6
Weight,w/ Fixed Bracket (kg)/(lbs)	37 / 81.4
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	48 / 105.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	46 /101.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

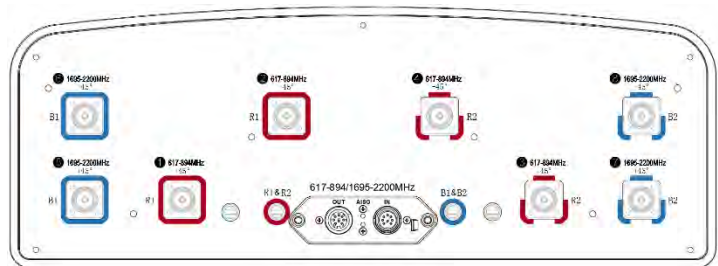
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by); <13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3); Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs, 200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



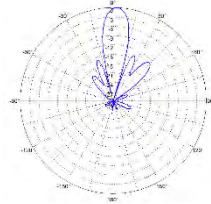
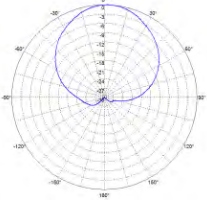
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2200MHz	B1/B2	NDPMXXXXXXXX-1722B1

Note: (1) Physical RET Unit containing (2) Single RET





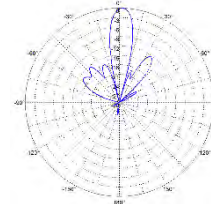
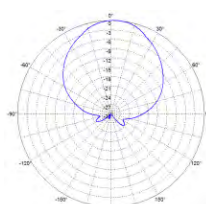
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

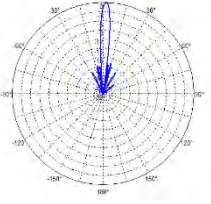
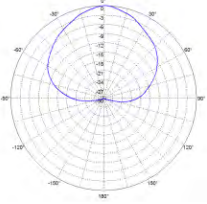
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

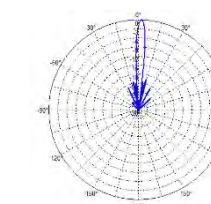
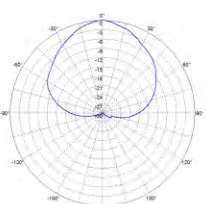
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2A2K-RB65

8-ports 617-894 / 617-894 / 1695-2200 / 1695-2200 MHz 65°, 15 / 15/ 19 / 19 dBi, 2°-14° / 2°-14° / 2°-12° / 2°-12° Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200		
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200
Polarization	±45°					
Horizontal 3dB Beamwidth(°) ¹	68±5	64±5	62±5	66±4	65±4	63±4
Vertical 3dB Beamwidth(°) ¹	13.5±0.5	12±0.5	10.5±0.5	5.4±0.3	5.2±0.3	4.9±0.5
Gain over all tilts ,max,(dBi)	14.2	14.7	15.2	18.3	18.6	18.8
Average gain over all tilts,dBi	13.6±0.6	14.1±0.6	14.6±0.6	17.9±0.4	18.2±0.4	18.4±0.4
Electrical Downtilt	2°-14°			2°-12°		
Upper Sidelobe Suppression(dB) ¹	First	≥19	≥19	≥19	≥20	≥20
	Boresight to 20° ¹	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Co-polar power (dB)	@180°	≥28	≥29	≥29	≥32	≥32
	@180±30°	≥27	≥26	≥26	≥27	≥27
Cross polar ratio	Main 7direction(dB)	≥20	≥20	≥20	≥20	≥20
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Minimum cross-polar isolation, port-to-port, dB ¹	≥25dB					
Isolation Frequency	≥30dB					
VSWR	< 1.5					
Intermodulation IM3	< -153 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

¹Typical value over frequency and tilt



Mechanical Specifications

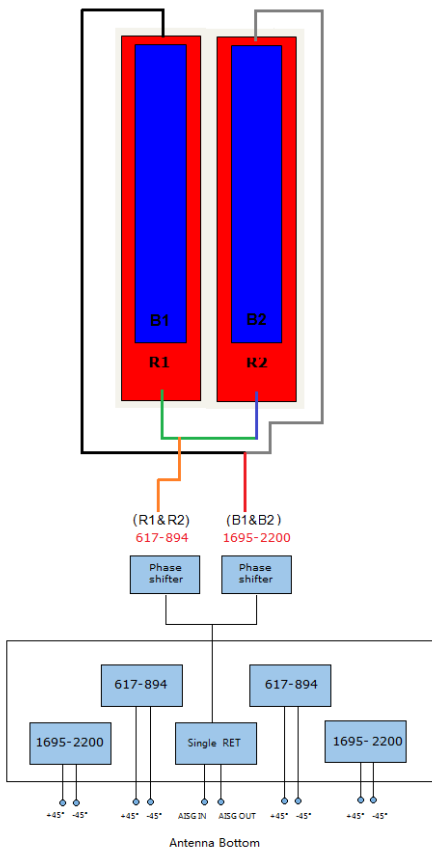
Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1828 x 499 x 180 / 72.0 x 19.6x 7.1
Packing Size(mm)/(inches)	2200 x 560 x 300 / 86.6 x 22.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	32 / 70.4
Weight w/ Downtilt Bracket(kg)/(lbs)	39 / 85.8
Weight,w/ Fixed Bracket (kg)/(lbs)	37 / 81.4
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	48 / 105.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	46 / 101.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

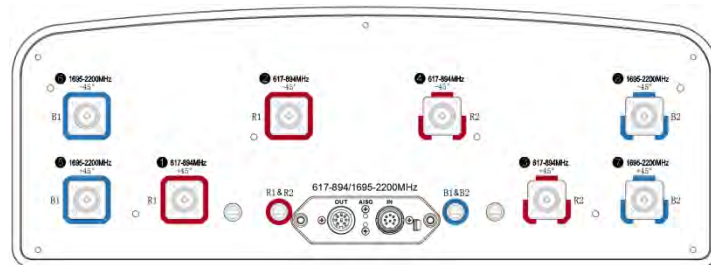
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 3.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<10W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



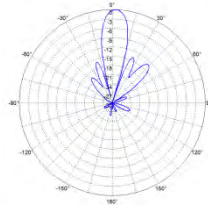
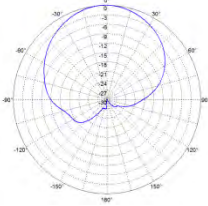
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2200MHz	B1/B2	NDPMXXXXXXXX-1722B1

Note: (1) Physical RET Unit containing (2) Single RET





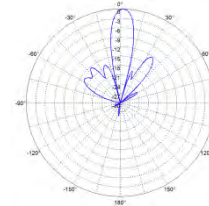
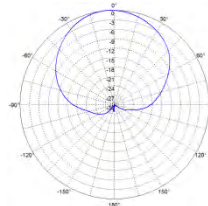
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

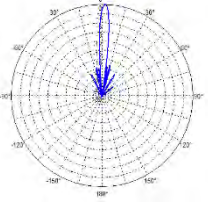
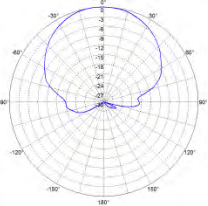
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

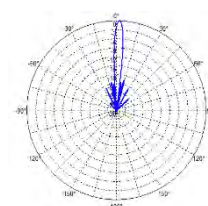
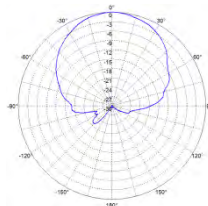
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2A2K-RB65A

8-ports 617-894 / 617-894 / 1695-2200 / 1695-2200 MHz 65°, 14 / 14/ 19 / 19 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200		
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200
Polarization	±45°					
Horizontal 3dB Beamwidth(°) ¹	70±5	64±5	60±5	66±4	65±4	63±4
Vertical 3dB Beamwidth(°) ¹	13.5±0.5	12±0.5	10.5±0.5	5.4±0.3	5.2±0.3	4.9±0.5
Gain over all tilts ,max,(dBi)	13.0	13.7	14.2	18.3	18.6	18.8
Average gain over all tilts,dBi	12.4±0.6	13.1±0.6	13.6±0.6	17.9±0.4	18.2±0.4	18.4±0.4
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB) ¹	First	≥16	≥16	≥16	≥19	≥19
	Boresight to 20° ¹	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Co-polar power (dB)	@180°	≥22	≥23	≥23	≥32	≥32
	@180±30°	≥21	≥22	≥22	≥27	≥27
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Minimum cross-polar isolation, port-to-port, dB ¹	≥24dB					
Isolation Frequency	≥28dB					
VSWR	< 1.5					
Intermodulation IM3	< -153 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

¹Typical value over frequency and tilt



Mechanical Specifications

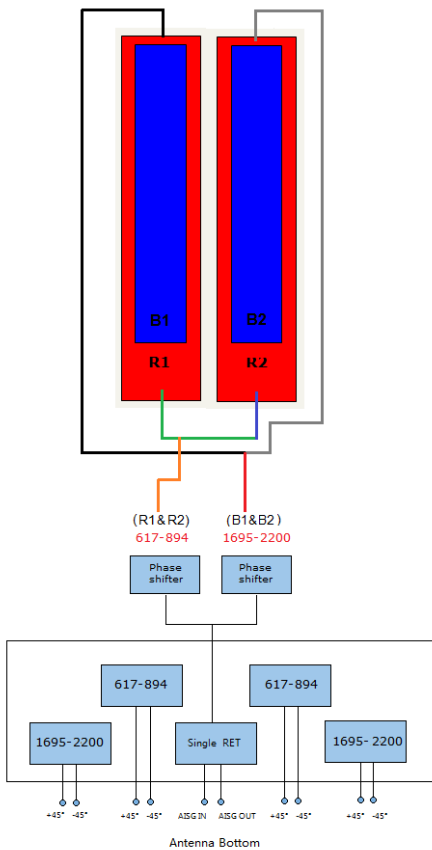
Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 420x 180 / 72.8 x 16.5x 7.1
Packing Size(mm)/(inches)	2160 x 540 x 325 / 85.0 x 21.3x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	35 / 77
Weight w/ Downtilt Bracket(kg)/(lbs)	41 / 90.2
Weight,w/ Fixed Bracket (kg)/(lbs)	39 / 85.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	49.5 / 108.9
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	47.5 / 104.5
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	898/239/650



Integrated RET Properties

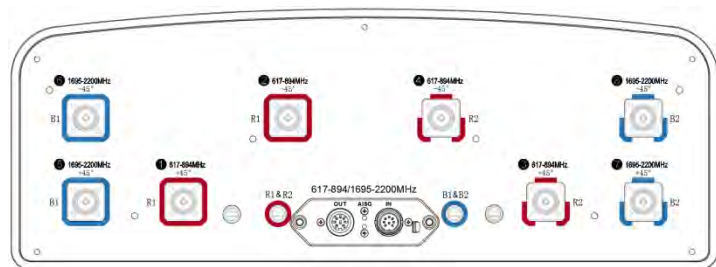
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



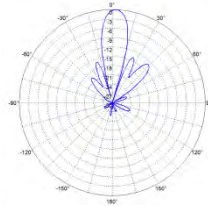
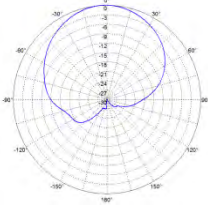
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2200MHz	B1/B2	NDPMXXXXXXXX-1722B1

Note: (1) Physical RET Unit containing (2) Single RET





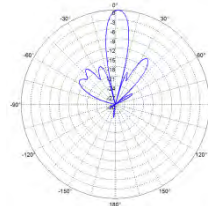
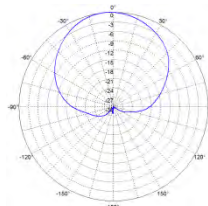
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

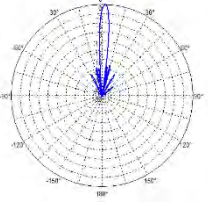
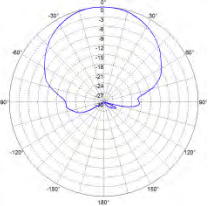
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

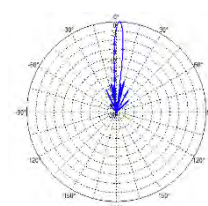
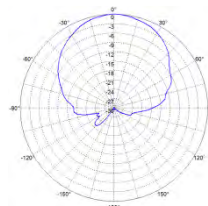
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2A2K-RB65HG

8-ports 617-894 / 617-894 /1695-2200 /1695-2200 MHz 65°, 16.5 / 16.5/ 20.0 / 20.0 dBi, 2°-12° / 2°-12° / 2°-10° / 2°-10° Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200		
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200
Polarization	±45°					
Horizontal 3dB Beamwidth(°) ¹	68±5	64±5	62±5	66±4	65±4	63±4
Vertical 3dB Beamwidth(°) ¹	13.5±0.5	12±0.5	10.5±0.5	5.4±0.3	5.2±0.3	4.9±0.5
Gain over all tilts ,max.(dBi)	15.4	16.1	16.5	19.7	20.0	20.2
Average gain over all tilts,dBi	14.8±0.6	15.5±0.6	15.9±0.6	19.3±0.4	19.6±0.4	19.8±0.4
Electrical Downtilt	2°-12°			2°-10°		
Upper Sidelobe Suppression(dB) ¹	First	≥17	≥17	≥17	≥19	≥19
	Boresight to 20° ¹	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Co-polar power (dB)	@180°	≥28	≥29	≥29	≥32	≥32
	@180±30°	≥27	≥27	≥27	≥30	≥30
Cross polar ratio	Main direction(dB)	≥20	≥20	≥20	≥22	≥22
	±60° (dB)	≥9	≥9	≥9	≥8	≥8
Minimum cross-polar isolation, port-to-port, dB ¹	≥25dB					
Isolation Frequency	≥30dB					
VSWR	< 1.5					
Intermodulation IM3	< -153 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

¹Typical value over frequency and tilt



Mechanical Specifications

Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1828 x 635 x 180 / 72.0 x 25.0x 7.1
Packing Size(mm)/(inches)	2200 x 760 x 300 / 86.6 x 30.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	32 / 70.4
Weight w/ Downtilt Bracket(kg)/(lbs)	39 / 85.8
Weight,w/ Fixed Bracket (kg)/(lbs)	37 / 81.4
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	48 / 105.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	46 /101.2
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1355/303/980

o changes specifications without prior

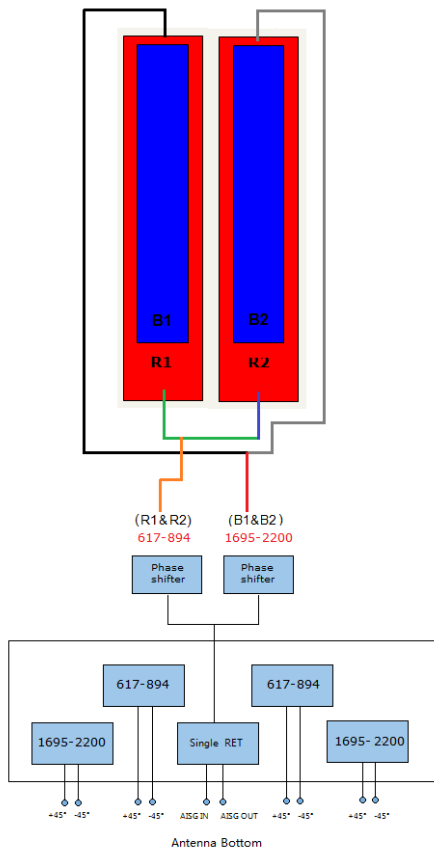
The information in this publication is not to form part of any order or contract. DENGYO reserves the right to change specifications without prior notice.



Integrated RET Properties

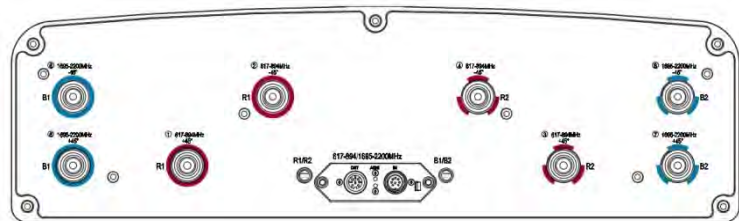
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 3.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<10W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



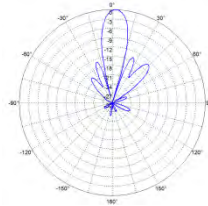
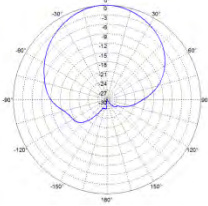
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2200MHz	B1/B2	NDPMXXXXXXXX-1722B1

Note: (1) Physical RET Unit containing (2) Single RET





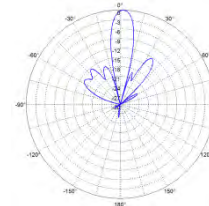
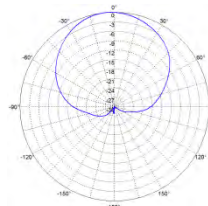
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

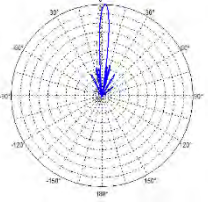
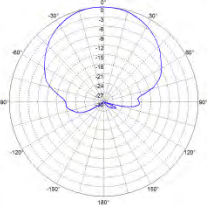
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

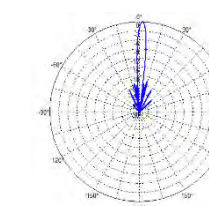
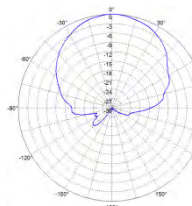
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2A2K-RB65HGC

8-ports 617-894 / 617-894 / 1695-2200 / 1695-2200 MHz 65°, 16.5 / 16.5/ 20.0 / 20.0 dBi, 2°-12° / 2°-12° / 2°-10° / 2°-10° Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200		
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200
Polarization	±45°					
Horizontal 3dB Beamwidth(°) ¹	68±5	64±5	62±5	66±4	65±4	63±4
Vertical 3dB Beamwidth(°) ¹	13.5±0.5	12±0.5	10.5±0.5	5.4±0.3	5.2±0.3	4.9±0.5
Gain over all tilts ,max.(dBi)	15.4	16.1	16.5	19.9	20.2	20.4
Average gain over all tilts,dBi	14.8±0.6	15.5±0.6	15.9±0.6	19.5±0.4	19.8±0.4	20.0±0.4
Electrical Downtilt	2°-12°			2°-10°		
Upper Sidelobe Suppression(dB) ¹	First	≥17	≥17	≥17	≥19	≥19
	Boresight to 20° ¹	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Co-polar power (dB)	@180°	≥28	≥29	≥29	≥32	≥32
	@180±30°	≥27	≥27	≥27	≥30	≥30
Cross polar ratio	Main direction(dB)	≥20	≥20	≥20	≥22	≥22
	±60° (dB)	≥9	≥9	≥9	≥8	≥8
Minimum cross-polar isolation, port-to-port, dB ¹	≥25dB					
Isolation Frequency	≥30dB					
VSWR	< 1.5					
Intermodulation IM3	< -153 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

¹Typical value over frequency and tilt



Mechanical Specifications

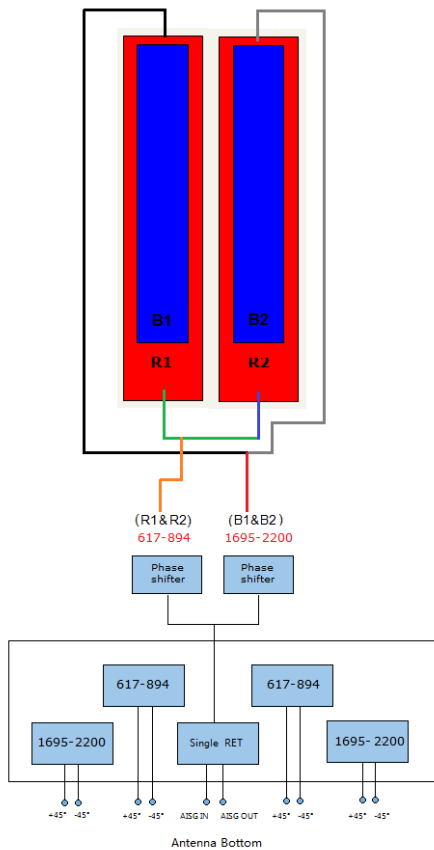
Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1828 x 635 x 180 / 72.0 x 25.0x 7.1
Packing Size(mm)/(inches)	2200 x 760 x 300 / 86.6 x 30.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	32 / 70.4
Weight w/ Downtilt Bracket(kg)/(lbs)	39 / 85.8
Weight,w/ Fixed Bracket (kg)/(lbs)	37 / 81.4
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	48 / 105.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	46 / 101.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1355/303/980



Integrated RET Properties

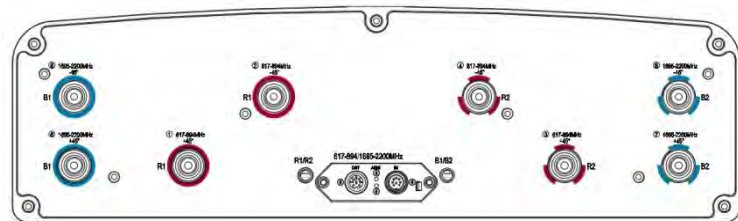
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 3.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<10W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



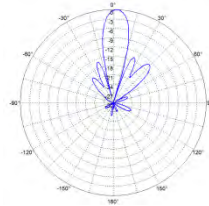
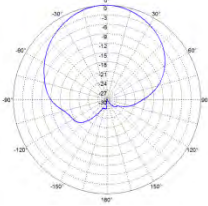
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2200MHz	B1/B2	NDPMXXXXXXXX-1722B1

Note: (1) Physical RET Unit containing (2) Single RET





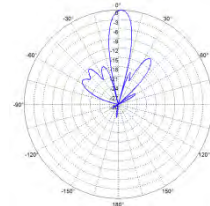
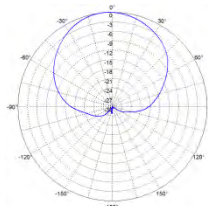
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

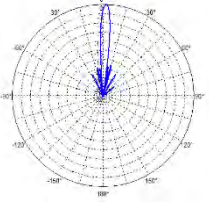
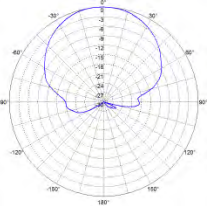
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

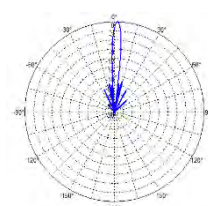
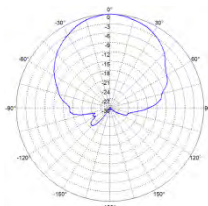
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2A2K-RB90HG

8-ports 617-894 / 617-894 /1695-2200 /1695-2200 MHz 90°, 15.0 / 15.0/ 18.5 / 18.5 dBi, 2°-12° / 2°-12° / 2°-10° / 2°-10 °Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200		
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200
Polarization	±45°					
Horizontal 3dB Beamwidth(°) ¹	88±8	83±8	78±8	88±7	85±7	83±7
Vertical 3dB Beamwidth(°) ¹	13.5±0.5	12±0.5	10.5±0.5	5.4±0.3	5.2±0.3	4.9±0.5
Gain over all tilts ,max,(dBi)	13.8	14.3	14.8	18.0	18.3	18.5
Average gain over all tilts,dBi	13.2±0.8	13.7±0.8	14.2±0.8	17.6±0.6	17.9±0.6	18.1±0.6
Electrical Downtilt	2°-12°			2°-10°		
Upper Sidelobe Suppression(dB) ¹	First	≥16	≥16	≥16	≥17	≥17
	Boresight to 20° ¹	≥15	≥15	≥15	≥15	≥15
Front-to-Back Ratio Co-polar power (dB)	@180°	≥26	≥27	≥27	≥28	≥28
	@180±30°	≥25	≥25	≥25	≥26	≥26
Cross polar ratio	Main direction(dB)	≥18	≥18	≥18	≥18	≥18
	±60° (dB)	≥10	≥10	≥10	≥10	≥10
Minimum cross-polar isolation, port-to-port, dB ¹	≥25dB					
Isolation Frequency	≥30dB					
VSWR	< 1.5					
Intermodulation IM3	< -153 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

¹Typical value over frequency and tilt



Mechanical Specifications

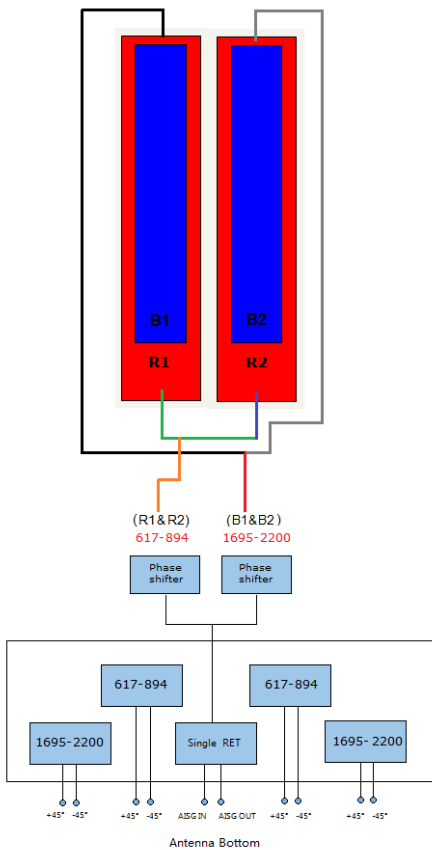
Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1828 x 635 x 180 / 72.0 x 25.0x 7.1
Packing Size(mm)/(inches)	2200 x 760 x 300 / 86.6 x 30.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	34 / 74.8
Weight w/ Downtilt Bracket(kg)/(lbs)	41 / 90.2
Weight,w/ Fixed Bracket (kg)/(lbs)	39 / 85.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	50/ 110.0
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	48 /105.6
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1355/303/980



Integrated RET Properties

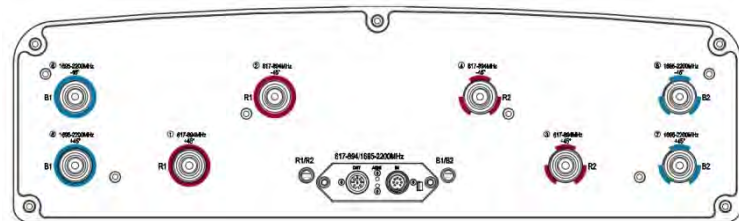
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 3.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<10W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



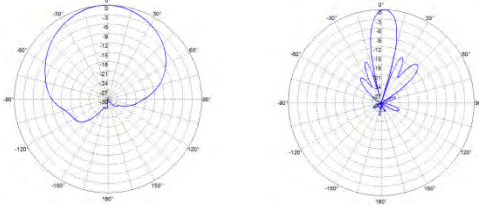
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2200MHz	B1/B2	NDPMXXXXXXXX-1722B1

Note: (1) Physical RET Unit containing (2) Single RET





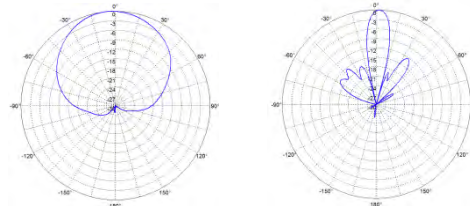
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

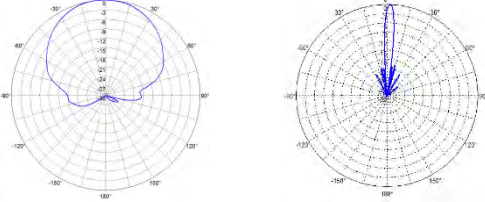
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

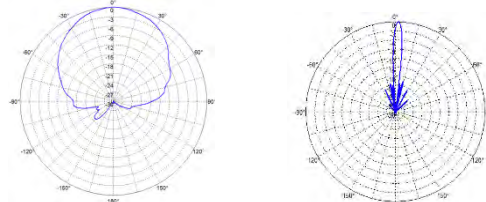
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2A2K-RD45

8-ports 617-894 / 617-894 /1695-2200 /1695-2200 MHz 45°, 15.5 / 15.5/ 19 / 19 dBi, 2°-14° / 2°-14° / 2°-12° / 2°-12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200		
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200
Polarization	±45°					
Horizontal 3dB Beamwidth(°)¹	50±4	46±4	42±4	48±4	45±4	41±4
Vertical 3dB Beamwidth(°)¹	13.5±0.5	12±0.5	10.5±0.5	5.4±0.3	5.2±0.3	4.9±0.5
Gain over all tilts ,max,(dBi)	14.4	14.9	15.5	18.6	18.9	19.1
Average gain over all tilts,dBi	13.8±0.6	14.3±0.6	14.9±0.6	18.2±0.4	18.5±0.4	18.7±0.4
Electrical Downtilt	2°-14°			2°-12°		
Upper Sidelobe Suppression(dB)¹	First	≥17	≥17	≥17	≥19	≥19
	Boresight to 20° ¹	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Co-polar power (dB)	@180°	≥28	≥29	≥29	≥32	≥32
	@180±30°	≥27	≥26	≥26	≥27	≥27
Cross polar ratio	Main direction(dB)	≥20	≥20	≥20	≥20	≥20
Minimum cross-polar isolation, port-to-port, dB¹	≥25dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -153 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



¹Typical value over frequency and tilt

Mechanical Specifications

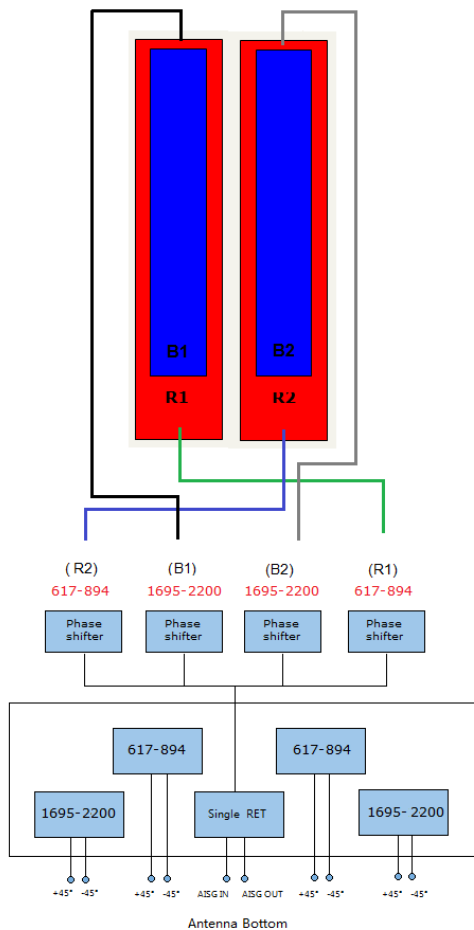
Radome Material	FiberGlass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6x 7.1
Packing Size(mm)/(inches)	2220 x 560 x 300 / 87.4 x 22.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	39 / 85.8
Weight w/ Downtilt Bracket(kg)/(lbs)	46 / 101.2
Weight,w/ Fixed Bracket (kg)/(lbs)	44 / 96.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	55 / 121
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	53 /116.6
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

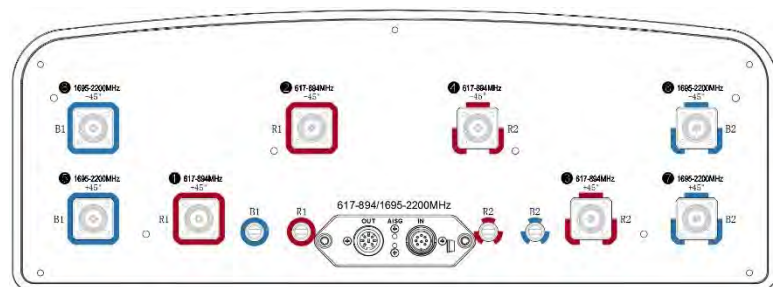
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



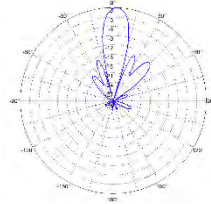
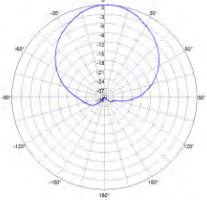
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2200MHz	B1	NDPMXXXXXXXX-1722B1
1695-2200MHz	B2	NDPMXXXXXXXX-1722B2

Note: (1) Physical RET Unit containing (4) Single RET





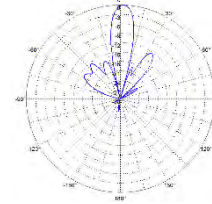
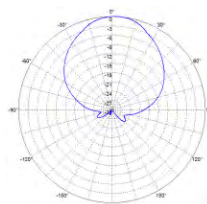
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

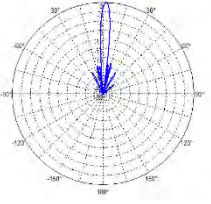
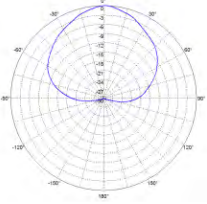
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

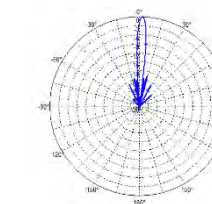
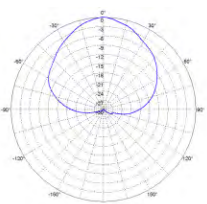
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2A2K-RD65

8-ports 617-894 / 617-894 /1695-2200 /1695-2200 MHz 65°, 15 / 15/ 19 / 19 dBi, 2°-14° / 2°-14° / 2°-12° / 2°-12° Tilt Antenna With 4 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200		
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200
Polarization	±45°					
Horizontal 3dB Beamwidth(°) ¹	68±5	64±5	60±5	66±4	65±4	63±4
Vertical 3dB Beamwidth(°) ¹	13.5±0.5	12±0.5	10.5±0.5	5.4±0.3	5.2±0.3	4.9±0.5
Gain over all tilts ,max,(dBi)	13.8	14.5	15.0	18.3	18.6	18.8
Average gain over all tilts,dBi	13.2±0.6	13.9±0.6	14.4±0.6	17.9±0.4	18.2±0.4	18.4±0.4
Electrical Downtilt	2°-14°			2°-12°		
Upper Sidelobe Suppression(dB) ¹	First	≥17	≥17	≥17	≥19	≥19
	Boresight to 20° ¹	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Co-polar power (dB)	@180°	≥28	≥29	≥29	≥32	≥32
	@180±30°	≥27	≥26	≥26	≥27	≥27
Cross polar ratio	Main direction(dB)	≥20	≥20	≥20	≥20	≥20
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Minimum cross-polar isolation, port-to-port, dB ¹	≥25dB					
Isolation Frequency	≥30dB					
VSWR	< 1.5					
Intermodulation IM3	< -153 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

¹Typical value over frequency and tilt



Mechanical Specifications

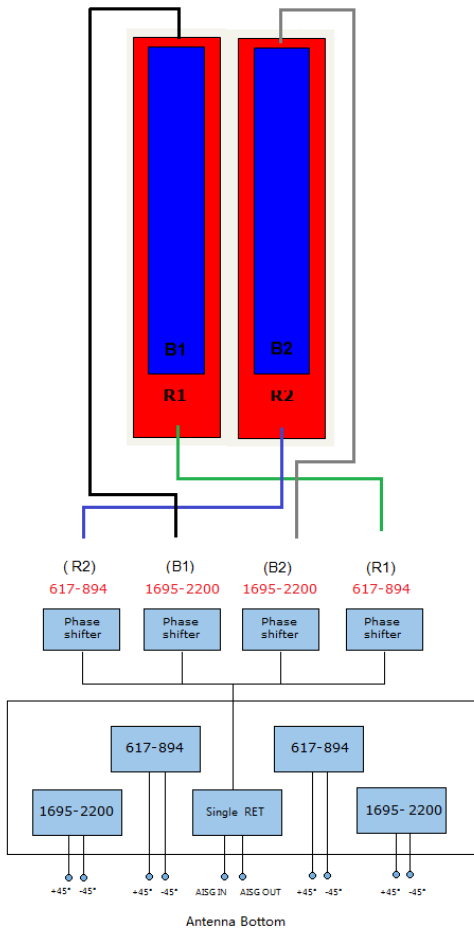
Radome Material	FiberGlass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6x 7.1
Packing Size(mm)/(inches)	2220 x 560 x 300 / 87.4 x 22.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	38 / 83.6
Weight w/ Downtilt Bracket(kg)/(lbs)	45 / 99
Weight,w/ Fixed Bracket (kg)/(lbs)	43 / 94.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	54 / 118.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	52 /114.4
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

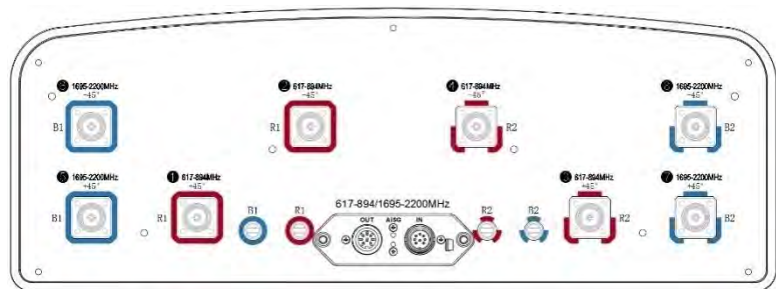
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



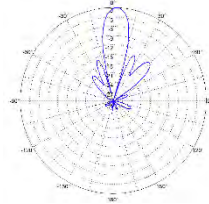
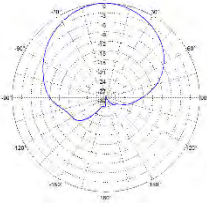
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2200MHz	B1	NDPMXXXXXXXX-1722B1
1695-2200MHz	B2	NDPMXXXXXXXX-1722B2

Note: (1) Physical RET Unit containing (4) Single RET





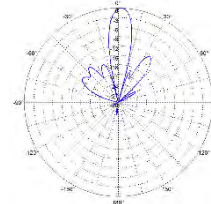
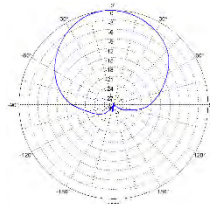
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

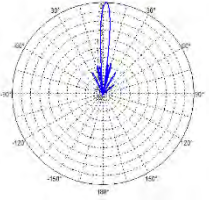
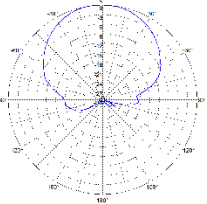
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

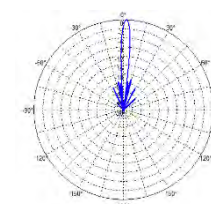
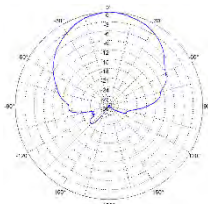
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2LX2HX-BR45

8-ports 617-894 /617-894 /1695-2690 /1695-2690 MHz 45°, 15.5 / 15.5 / 18/ 18dBi, 2°-12°/2°-12°/ 2°-12°/ 2°-12°
Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2 x 617-894			2x1695-2690			
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41	38
Vertical 3dB Beamwidth(°)	13.5	12	10.5	7.5	6.5	6	5.5
Gain (dBi)	14.4	14.9	15.5	17.0	17.5	18.0	18.3
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16	≥16
Isolation ports	≥25 dB						
Isolation Frequency	≥30 dB						
VSWR	< 1.5						
Intermodulation IM3	< -150 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						



Mechanical Specifications

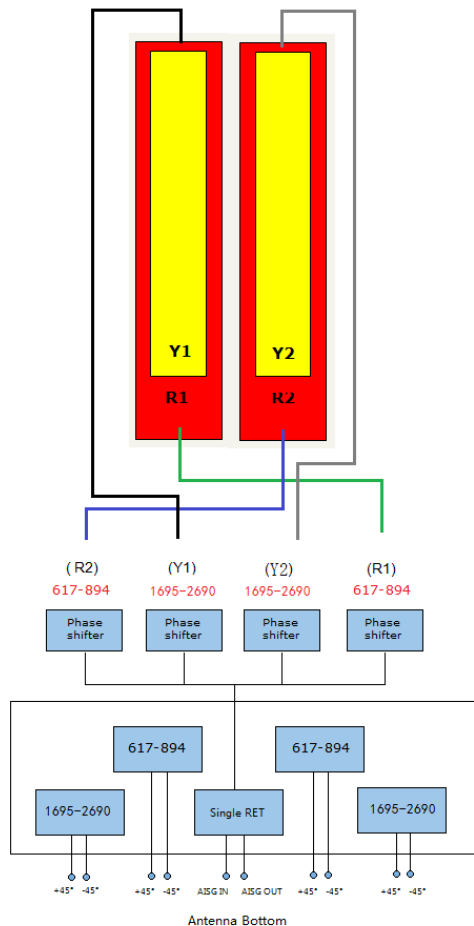
Radome Material	Fiber Glass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2160 x 620 x 325 / 85.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	39 / 85.8
Weight w/ Downtilt Bracket(kg)/(lbs)	46 / 101.2
Weight w/ Fixed Bracket(kg)/(lbs)	44 / 99
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	54 / 118.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	52 / 114.4
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

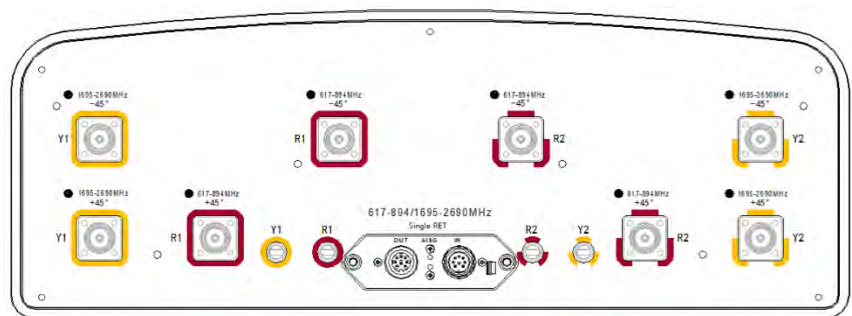
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



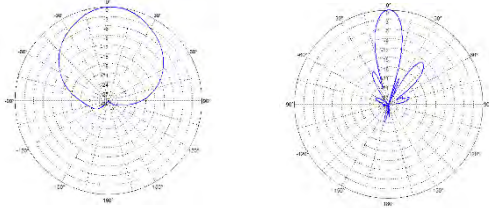
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET





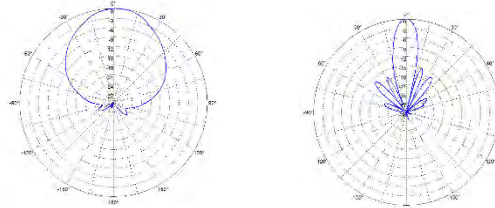
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

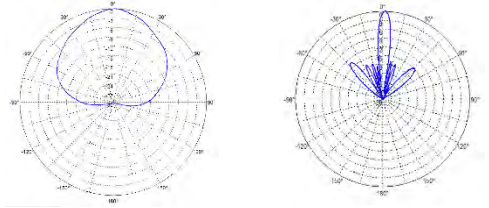
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

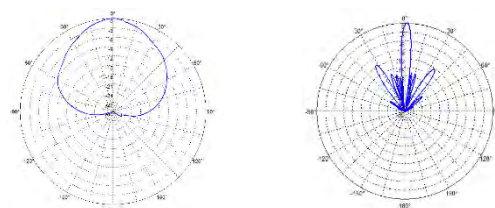
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

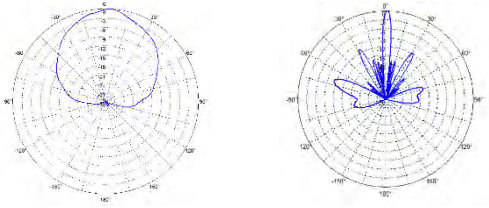
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

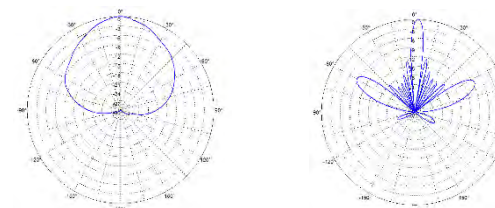
Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2400 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2LX2HX-BR65

8-ports 617-894 / 617-894 / 1695-2690 / 1695-2690 MHz 65°, 15 / 15/ 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2690			
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	70	63	60	66	63	58	60
Vertical 3dB Beamwidth(°)	13.5	12	10.5	7.5	6.5	6	5.5
Gain (dBi)	13.9	14.4	14.9	16.5	17.0	17.5	17.8
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB						
Isolation Frequency	≥30 dB						
VSWR	< 1.5						
Intermodulation IM3	< -150 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						



Mechanical Specifications

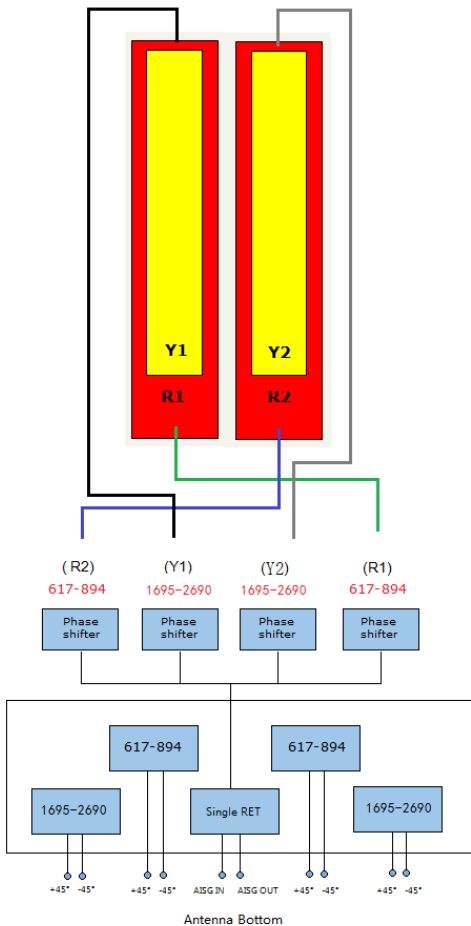
Radome Material	FiberGlass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6x 7.1
Packing Size(mm)/(inches)	2220 x 560 x 300 / 87.4 x 22.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	38 / 83.6
Weight w/ Downtilt Bracket(kg)/(lbs)	45 / 99
Weight w/ Fixed Bracket(kg)/(lbs)	43 / 94.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	54 / 118.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	52 /114.4
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

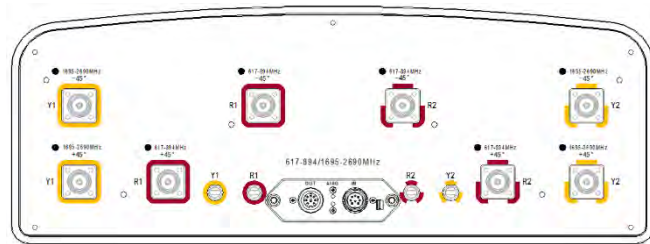
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



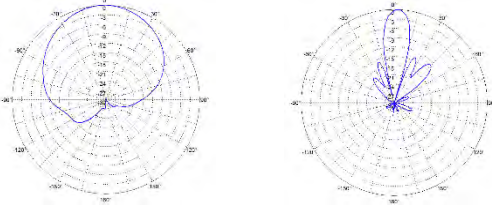
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET





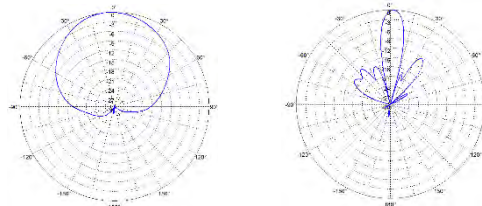
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

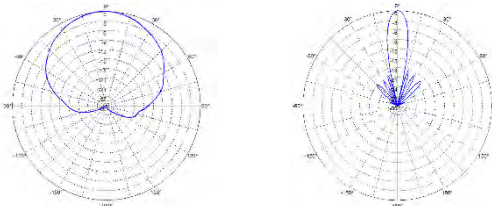
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

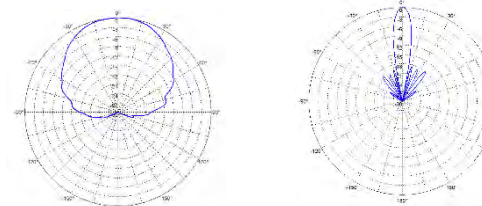
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

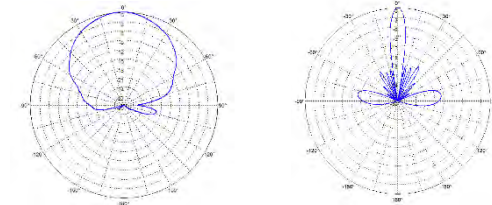
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

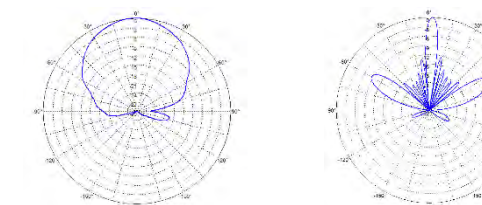
Radiation Pattern (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2490 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2LX2HX-BR90

8-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 MHz 90°, 14 / 14/ 17 / 17 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400			
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	88	83	78	88	83	78	73
Vertical 3dB Beamwidth(°)	13.5	12	10.5	5.5	5	4.3	4.1
Gain (dBi)	12.9	13.4	13.9	16.6	17.0	17.1	17.3
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥23	≥23	≥23	≥23	≥23
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥8	≥8	≥8	≥8	≥8	≥8
Isolation ports	≥25 dB						
Isolation Frequency	≥30 dB						
VSWR	< 1.5						
Intermodulation IM3	< -150 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						



Mechanical Specifications

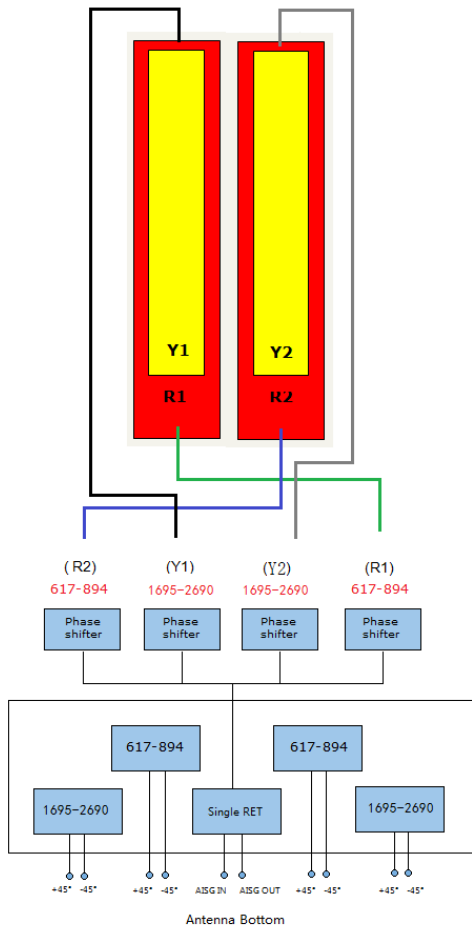
Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2160 x 620 x 325 / 85.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	30.5 / 67.1
Weight w/ Downtilt Bracket(kg)/(lbs)	37.5 / 82.5
Weight w/ Fixed Bracket(kg)/(lbs)	35.5 / 78.1
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	45 / 99
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	43 / 94.6
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

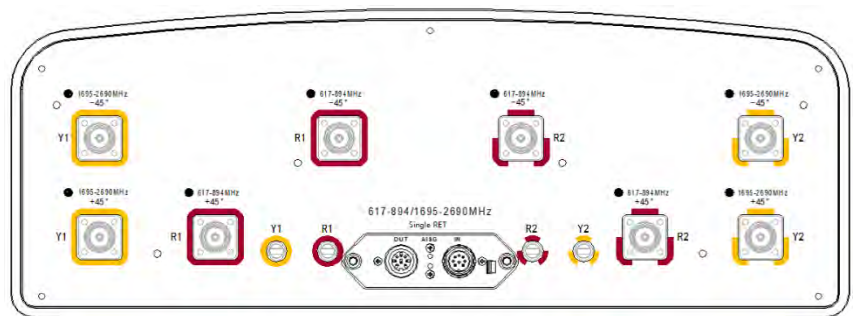
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



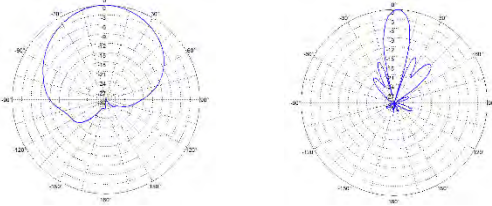
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET





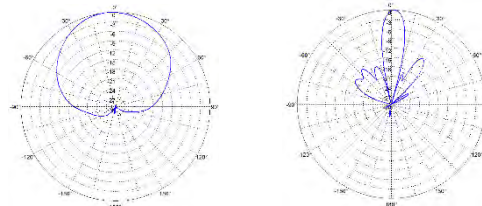
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

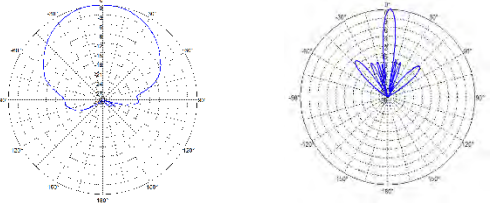
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

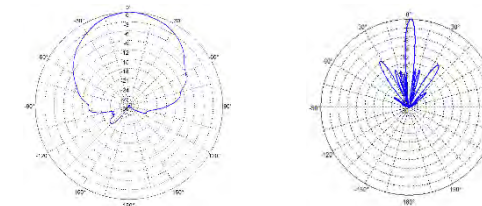
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

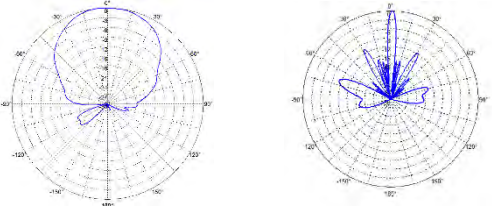
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

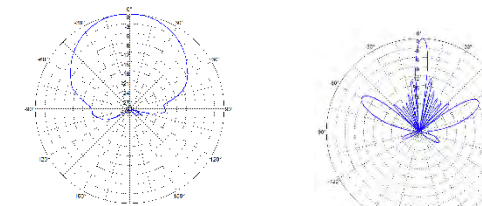
Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2400 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2LX2HX-BW45

8-ports 617-894 /617-894 /1695-2400 /1695-2400 MHz 45°, 15.5 / 15.5 / 18/ 18dBi, 2°-12°/2°-12°/ 2°-12°/ 2°-12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2 x 617-894			2x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41
Vertical 3dB Beamwidth(°)	13.5	12	10.5	5.5	5	4.3
Gain (dBi)	14.4	14.9	15.5	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

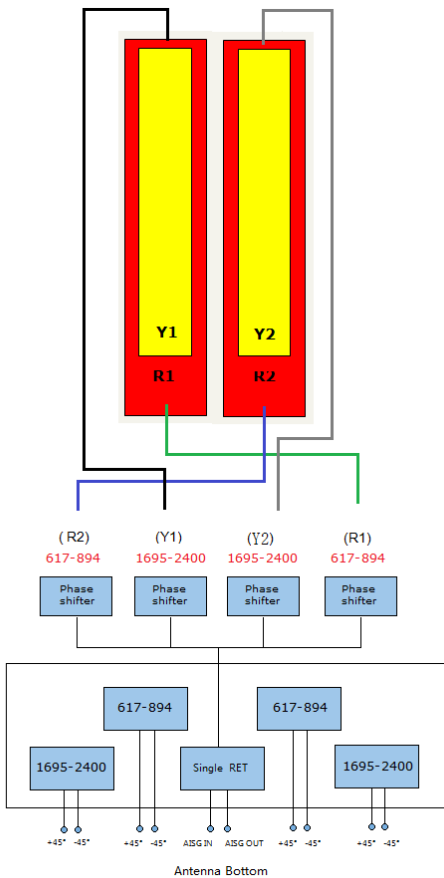
Radome Material	Fiber Glass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2160 x 620 x 325 / 85.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	39 / 85.8
Weight w/ Downtilt Bracket(kg)/(lbs)	46 / 101.2
Weight w/ Fixed Bracket(kg)/(lbs)	44 / 96.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	54 / 118.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	52 / 114.4
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

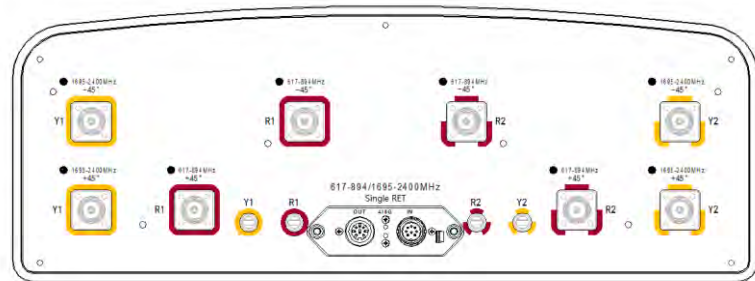
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



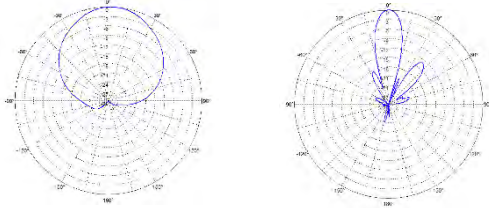
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (4) Single RET





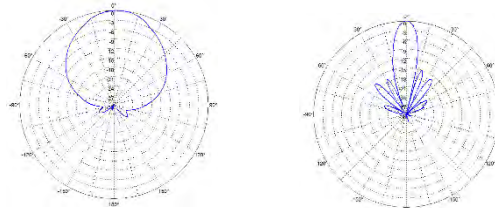
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

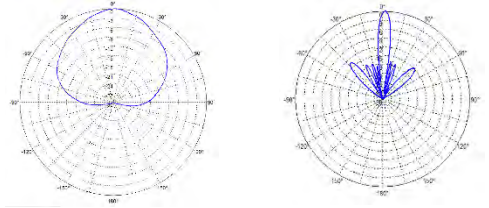
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

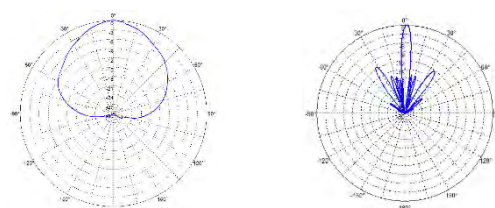
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

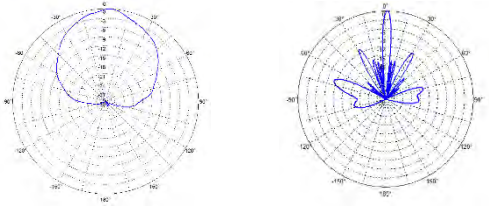
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2LX2HX-BW65

8-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 MHz 65°, 15 / 15/ 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	70	63	60	66	63	58
Vertical 3dB Beamwidth(°)	13.5	12	10.5	5.5	5	4.3
Gain (dBi)	13.9	14.4	14.9	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

Mechanical Specifications

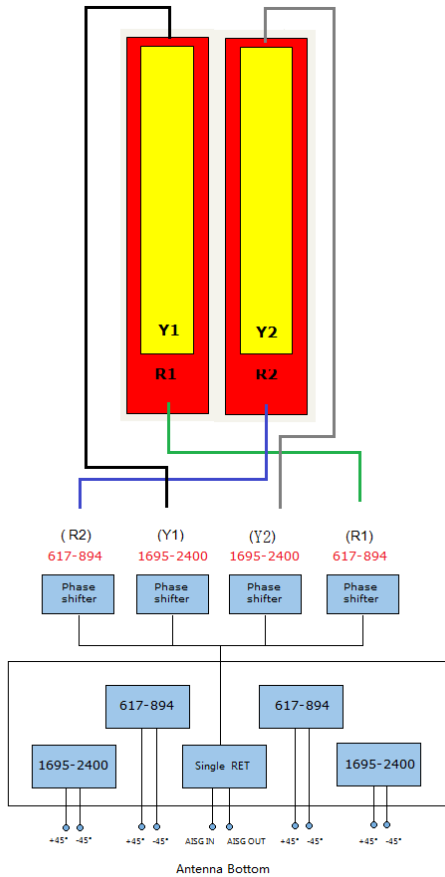
Radome Material	FiberGlass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6x 7.1
Packing Size(mm)/(inches)	2160 x 620 x 325 / 85.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	38 / 83.6
Weight w/ Downtilt Bracket(kg)/(lbs)	45 / 99
Weight,w/ Fixed Bracket (kg)/(lbs)	43 / 94.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	53.5 / 117.7
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	51.5 / 113.3
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

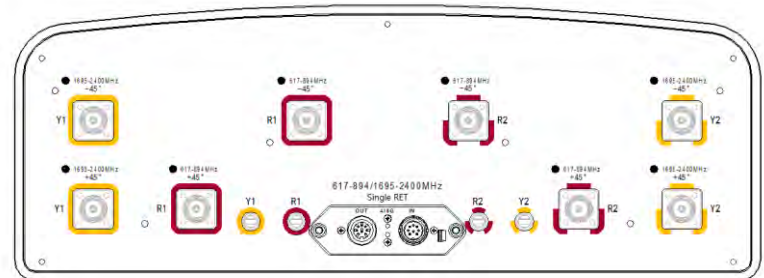
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



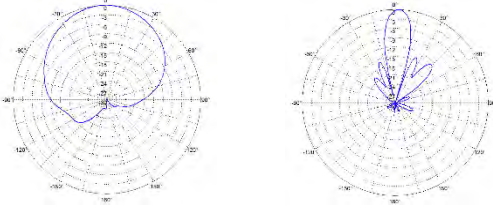
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (4) Single RET





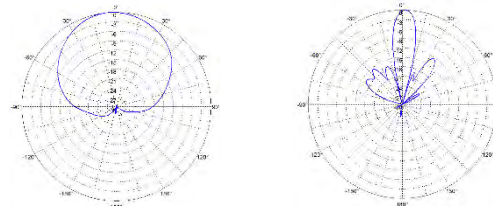
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

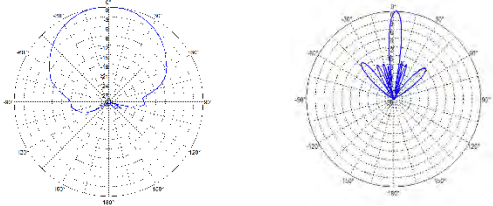
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

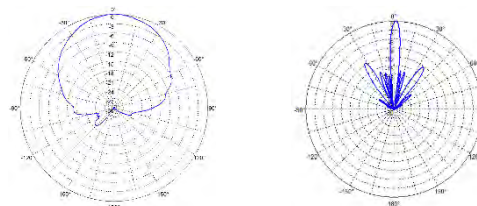
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

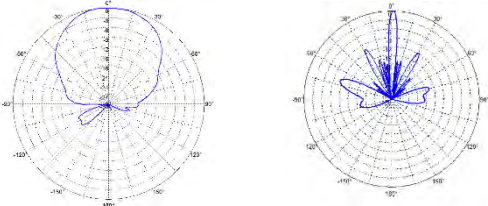
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



OCT6-2LX2HX-BW90

8-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 MHz 90°, 14 / 14/ 17 / 17 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			2x1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		88	83	78	88	83	78
Vertical 3dB Beamwidth(°)		13.5	12	10.5	5.5	5	4.3
Gain (dBi)		12.9	13.4	13.9	16.6	17.0	17.1
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥23	≥23	≥23	≥23	≥23
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥8	≥8	≥8	≥8	≥8	≥8
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					

Mechanical Specifications

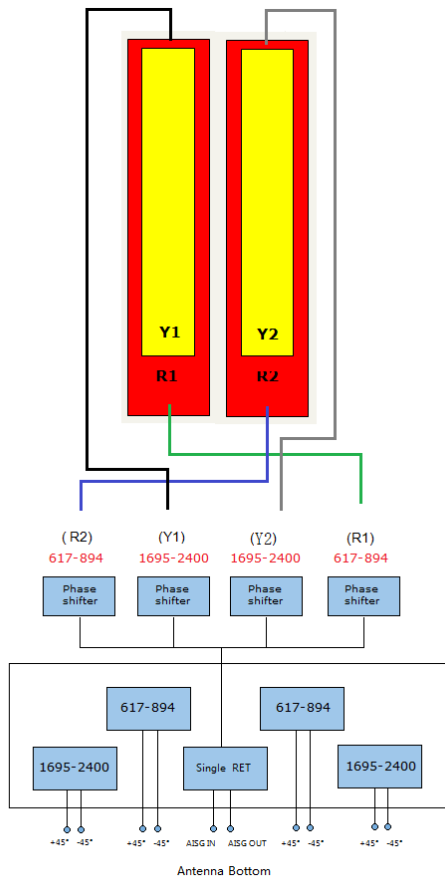
Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2160 x 620 x 325 / 85.0 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	30.5 / 67.1
Weight w/ Downtilt Bracket(kg)/(lbs)	37.5 / 82.5
Weight w/ Fixed Bracket(kg)/(lbs)	35.5 / 78.1
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	45 / 99
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	43 / 94.6
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

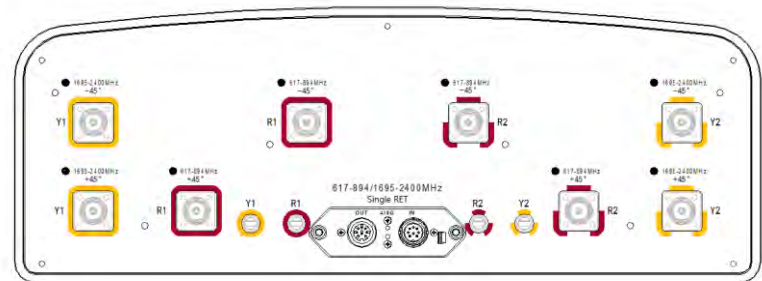
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



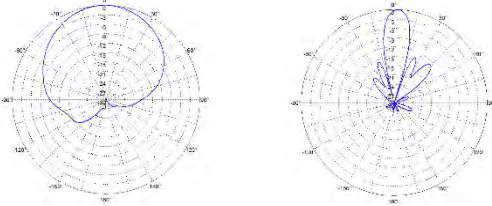
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (4) Single RET





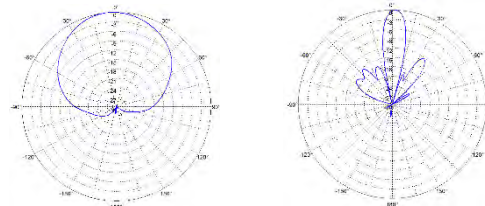
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

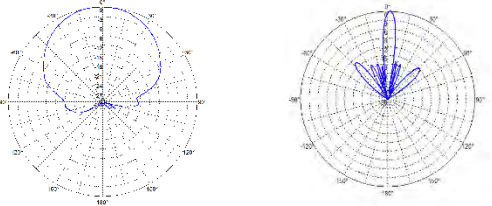
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

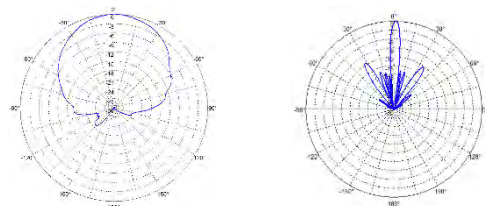
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

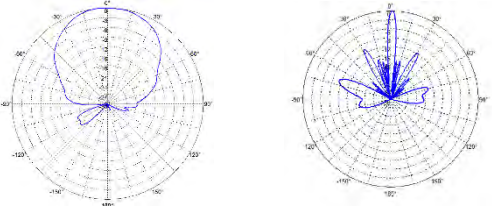
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



OCT8-2A2G-RB45-S

8-ports 617-894 /617-894 /1695-2400/1695-2400 MHz 45°, 16.5 / 16.5 / 18 / 18dBi, 2°-12°/2°-12°/2°-12°/ 2°-12° Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41
Vertical 3dB Beamwidth(°)	10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)	15.6	16.1	16.6	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

Mechanical Specifications

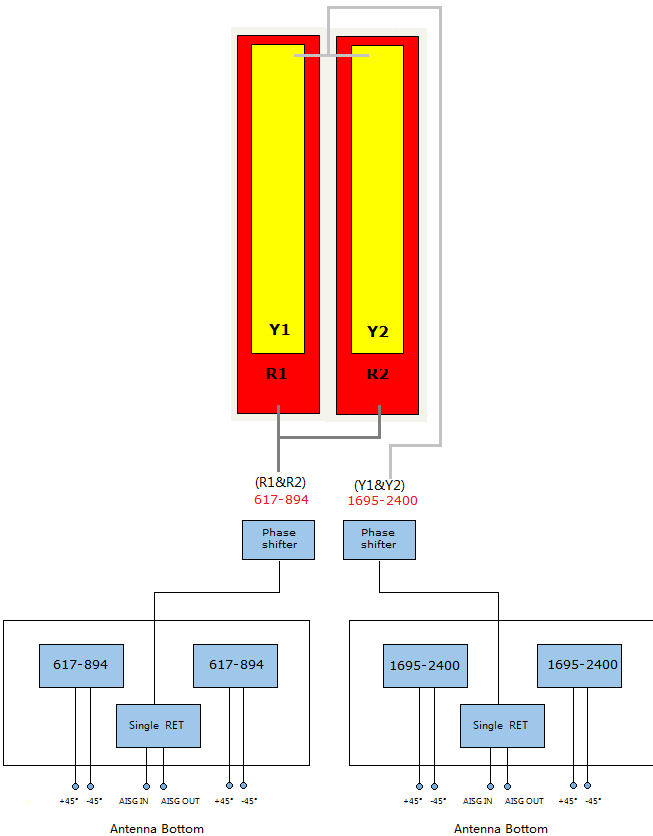
Radome Material	Fiber Glass
Connector Type and Location	4.3-10x8 Female ,Bottom RCU RF in: 2 ports in 4.3-10 Female iRCU in:2 x 8 pin male iRCU out:2 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2880 x 560 x 300 / 113.4 x 22.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	47.5 / 104.5
Weight w/ Downtilt Bracket(kg)/(lbs)	54.5 /119.9
Weight w/ Fixed Bracket(kg)/(lbs)	52.5 / 115.5
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	65.5 /144.1
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	63.5 / 139.7
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027



Integrated RET Properties

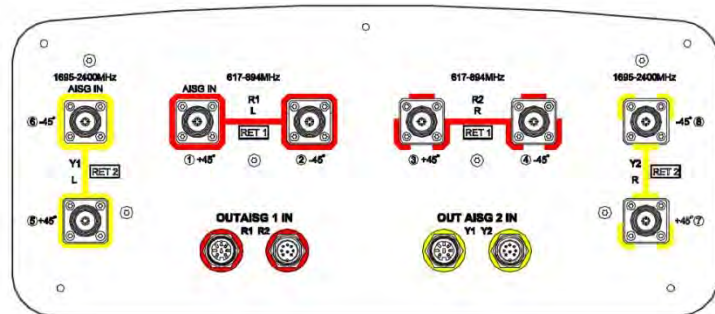
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 Ports in 4.3-10 Female 4 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



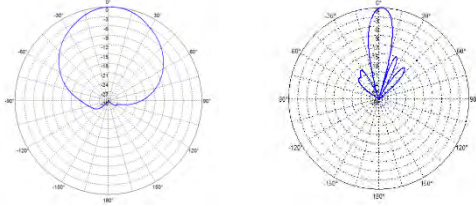
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1/Y2	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing (2) Single RET





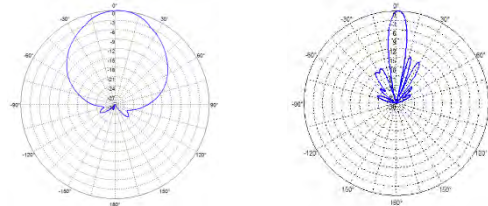
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

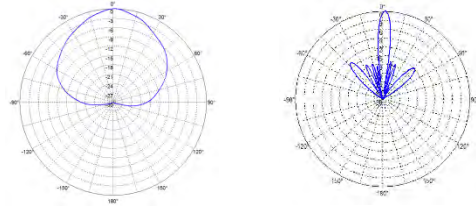
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

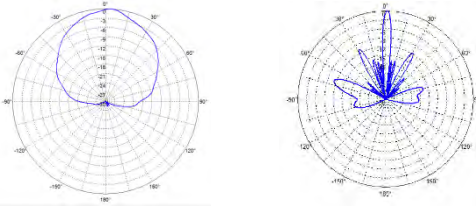
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



OCT8-2A2G-RB65-S

8-ports 617-894 / 617-894 /1695-2400 /1695-2400 MHz 65°, 16 / 16 / 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2° -12 °Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	70	63	60	66	63	58
Vertical 3dB Beamwidth(°)	10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)	15.0	15.5	16.0	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom RCU RF in: 2 ports in 4.3-10 Female iRCU in:2 x 8 pin male iRCU out:2 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2880 x 560 x 300 / 113.4 x 22.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	45 / 99
Weight w/ Downtilt Bracket(kg)/(lbs)	52/ 114.4
Weight w/ Fixed Bracket(kg)/(lbs)	50 / 110
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	63/ 138.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	61 / 134.2
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027



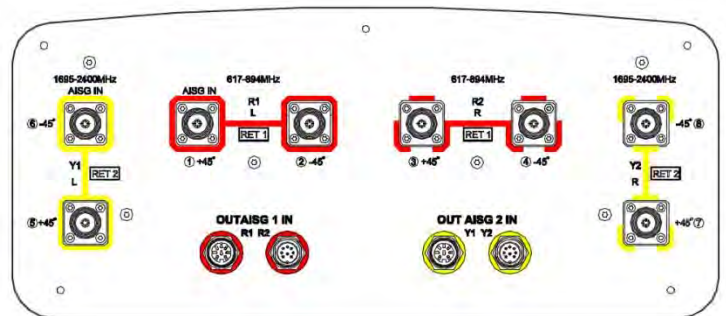
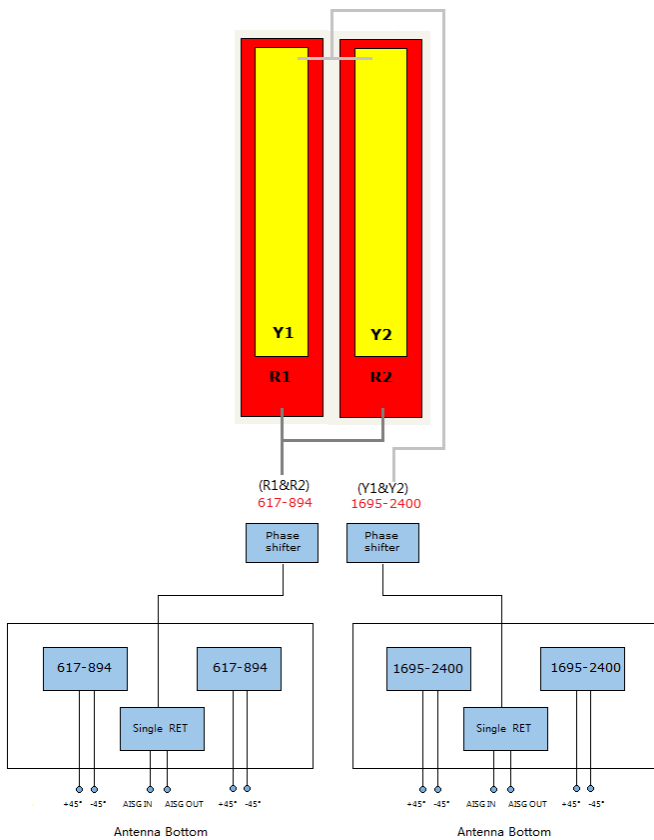
Integrated RET Properties

RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 Ports in 4.3-10 Female 2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

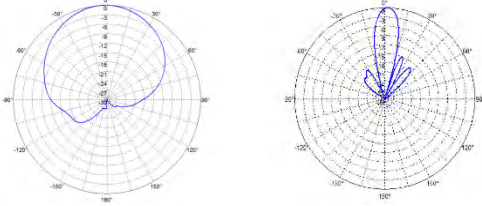
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2400MHz	Y1/Y2	NDPMXXXXXXXX-1724Y1

Note: (1) Physical RET Unit containing (2) Single RET





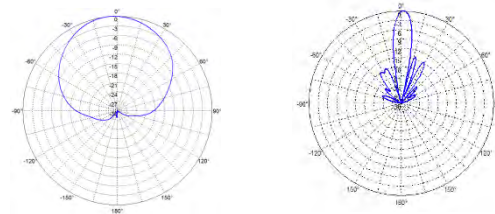
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

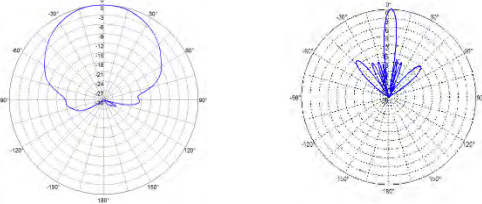
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

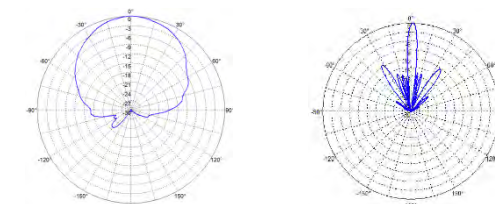
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

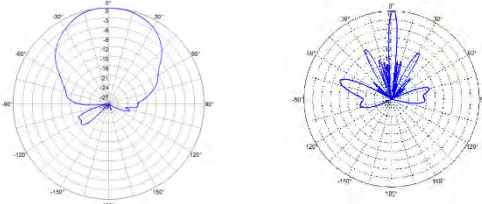
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



OCT8-2A2J-RC65A

8-ports 617-894 / 617-894 /1695-2690 /1695-2690 MHz 65°, 15.5 / 15.5 / 18.5/ 18.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894		2x1695-2690				
		617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	60	66	65	62	58	60
Vertical 3dB Beamwidth(°)		10.3	8.7	5.7	5.5	5.1	4.5	4.1
Gain (dBi)		14.8	15.4	17.5	18	18.5	18.5	18.6
Electrical Downtilt		2°-12°		2°-12°				
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25
Isolation ports		≥25dB						
Isolation Frequency		≥28dB						
VSWR		< 1.5						
Intermodulation IM3 dBc (2x43dBm carrier)		< -150	< -153	< -153				
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W		200 W				
Lightning Protection		DC Ground						



Electrical Specifications,BASTA

Frequency Range(MHz)		2x617-894		2x1695-2690				
		617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization		±45°						
Beamwidth, Horizontal Tolerance (°)		±5	±6.5	±3.2	±3.9	±6.1	±5.8	±6.3
Beamwidth, Vertical Tolerance (°)		±0.6	±1.2	±0.3	±0.4	±0.4	±0.3	±0.3
Gain by all Beam Tilts,average, (dBi)		14.5	14.9	17.3	17.7	18.2	18.2	18.2
Gain by all Beam Tilts,Tolerance, (dB)		±0.5	±0.6	±0.3	±0.4	±0.6	±0.4	±0.5
Gain by all Beam Tilt,average (dBi)		2 14.4	2 14.8	2 17.4	2 17.7	2 18	2 18.1	2 18.1
		7 14.7	7 15.1	7 17.5	7 17.8	7 18.3	7 18.5	7 18.5
		12 14.6	12 14.9	12 17.2	12 17.6	12 18.2	12 18.1	12 18.0
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7



Mechanical Specifications

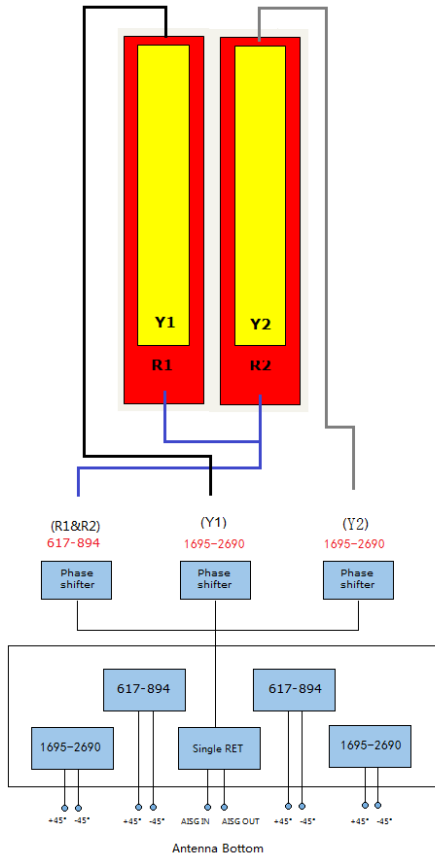
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 420 x 180 / 95.9 x 16.5 x 7.1
Packing Size(mm)/(inches)	2750 x 540 x 325 / 108.3 x 21.3 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	45 / 99
Weight w/ Downtilt Bracket(kg)/(lbs)	51 / 112.2
Weight w/ Fixed Bracket(kg)/(lbs)	49 / 107.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	61 / 134.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	59 / 129.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1191/280/864

Integrated RET Properties

RET Type	3x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

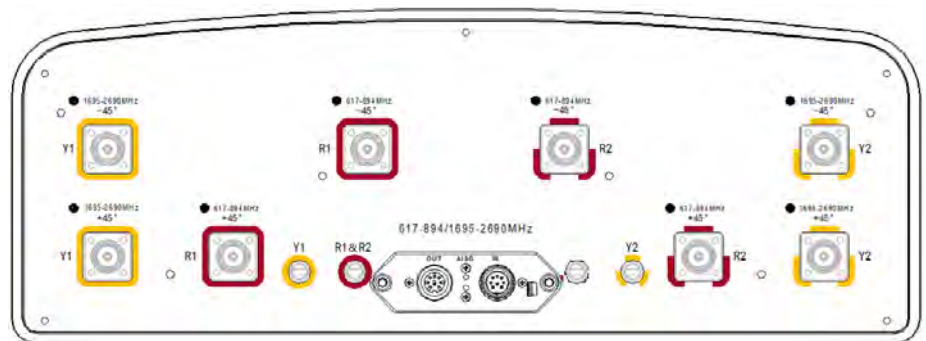


COMPREHENSIVE TILT CONFIGURATION



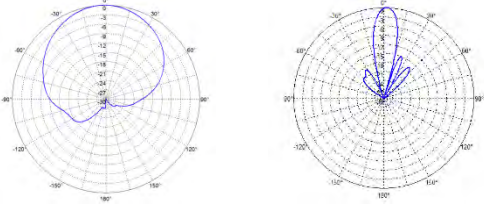
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (3) Single RET





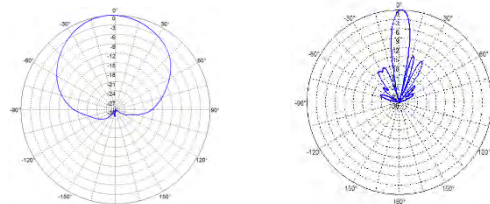
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

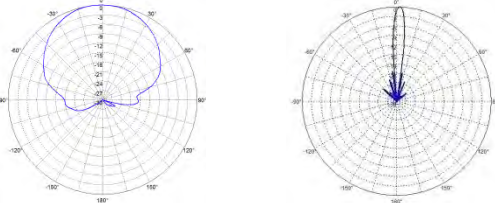
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

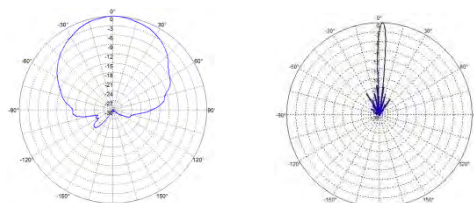
Radiation Pattern (1695 - 2200 MHz)



Horizontal Pattern

Vertical Pattern

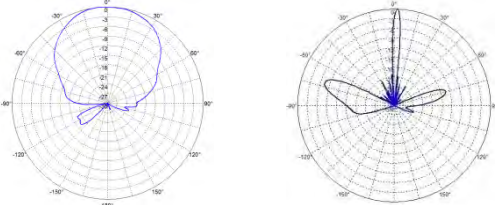
Radiation Patterns (2300 - 2500 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2500 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT8-2A2K-RB65HG

8-ports 617-894 / 617-894 / 1695-2200 / 1695-2200 MHz 65°, 18 / 18/ 20.5 / 20.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200			
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200	
Polarization	±45°						
Horizontal 3dB Beamwidth(°) ¹	68±5	64±5	62±5	66±4	65±4	63±4	
Vertical 3dB Beamwidth(°) ¹	10.4±0.5	9.1±0.5	8.0±0.5	4.7±0.3	4.4±0.3	4.1±0.5	
Gain over all tilts ,max,(dBi)	16.6	17.3	17.7	19.8	20.3	20.5	
Average gain over all tilts,dBi	16.0±0.6	16.7±0.6	17.1±0.6	19.4±0.4	19.9±0.4	20.1±0.4	
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB) ¹	First Boresight to 20°	≥17	≥17	≥17	≥19	≥19	≥19
	20°	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Co-polar power (dB)	@180°	≥28	≥29	≥29	≥32	≥32	≥32
	@180±30°	≥27	≥27	≥27	≥30	≥30	≥30
Cross polar ratio	Main direction(dB)	≥20	≥20	≥20	≥22	≥22	≥22
	±60° (dB)	≥9	≥9	≥9	≥8	≥8	≥8
Minimum cross-polar isolation, port-to-port, dB ¹	≥25dB						
Isolation Frequency	≥30dB						
VSWR	< 1.5						
Intermodulation IM3	< -153 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						

¹Typical value over frequency and tilt



Mechanical Specifications

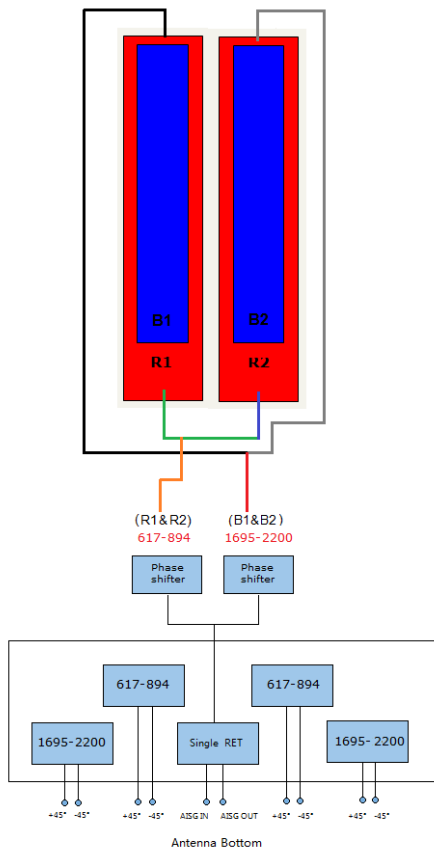
Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 635 x 180 / 95.9 x 25.0x 7.1
Packing Size(mm)/(inches)	2880 x760 x 300 / 113.4 x 30.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	37.5 / 82.5
Weight w/ Downtilt Bracket(kg)/(lbs)	44.5 / 97.9
Weight,w/ Fixed Bracket (kg)/(lbs)	42.5 / 93.5
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	55.5 / 122.1
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	53.5 /117.7
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1802/402/1303



Integrated RET Properties

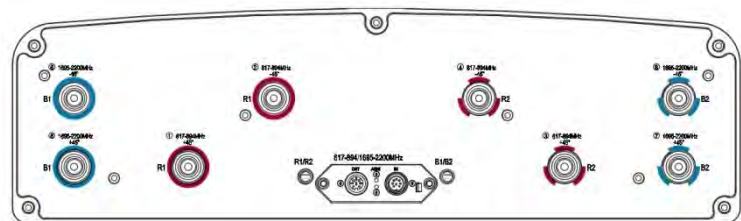
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 3.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<10W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



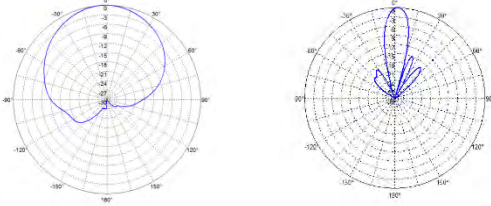
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2200MHz	B1/B2	NDPMXXXXXXXX-1722B1

Note: (1) Physical RET Unit containing (2) Single RET





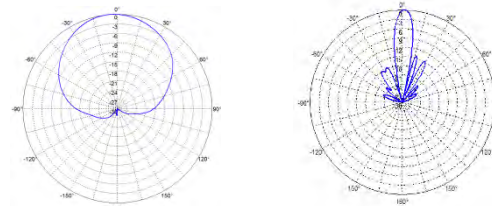
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

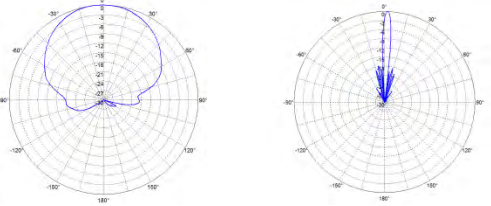
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

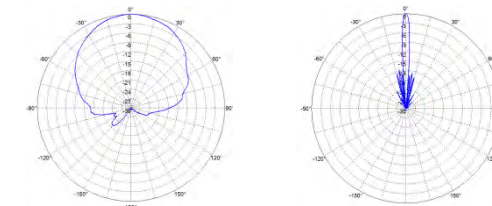
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



OCT8-2A2K-RB65HGC

8-ports 617-894 / 617-894 / 1695-2200 / 1695-2200 MHz 65°, 18 / 18/ 20.5 / 20.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200		
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200
Polarization	±45°					
Horizontal 3dB Beamwidth(°) ¹	68±5	64±5	62±5	66±4	65±4	63±4
Vertical 3dB Beamwidth(°) ¹	10.4±0.5	9.1±0.5	8.0±0.5	4.7±0.3	4.4±0.3	4.1±0.5
Gain over all tilts ,max,(dBi)	16.6	17.3	17.7	20.0	20.5	20.7
Average gain over all tilts,dBi	16.0±0.6	16.7±0.6	17.1±0.6	19.6±0.4	20.1±0.4	20.3±0.4
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB) ¹	First	≥17	≥17	≥17	≥19	≥19
	Boresight to 20° ¹	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Co-polar power (dB)	@180°	≥28	≥29	≥29	≥32	≥32
	@180±30°	≥27	≥27	≥27	≥30	≥30
Cross polar ratio	Main direction(dB)	≥20	≥20	≥20	≥22	≥22
	±60° (dB)	≥9	≥9	≥9	≥8	≥8
Minimum cross-polar isolation, port-to-port, dB ¹	≥25dB					
Isolation Frequency	≥30dB					
VSWR	< 1.5					
Intermodulation IM3	< -153 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

¹Typical value over frequency and tilt



Mechanical Specifications

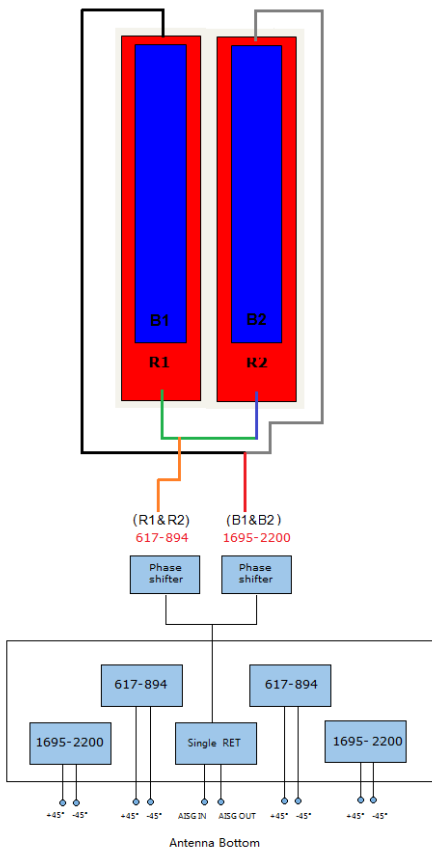
Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 635 x 180 / 95.9 x 25.0x 7.1
Packing Size(mm)/(inches)	2880 x760 x 300 / 113.4 x 30.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	37.5 / 82.5
Weight w/ Downtilt Bracket(kg)/(lbs)	44.5 / 97.9
Weight,w/ Fixed Bracket (kg)/(lbs)	42.5 / 93.5
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	55.5 / 122.1
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	53.5 /117.7
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1802/402/1303



Integrated RET Properties

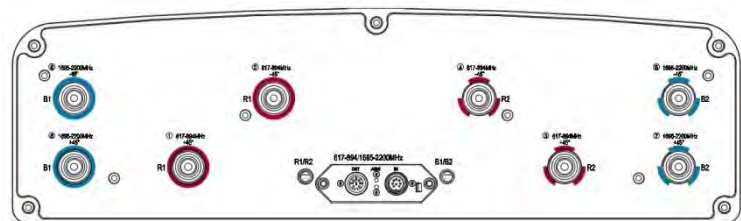
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 3.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<10W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



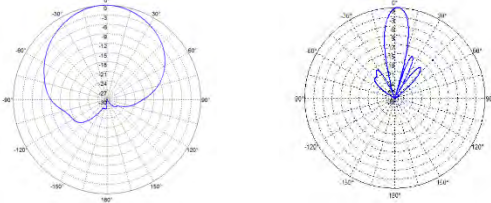
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2200MHz	B1/B2	NDPMXXXXXXXX-1722B1

Note: (1) Physical RET Unit containing (2) Single RET





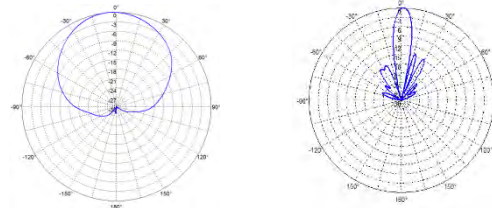
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

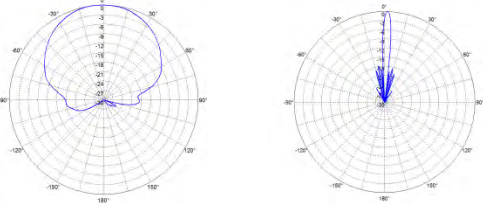
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

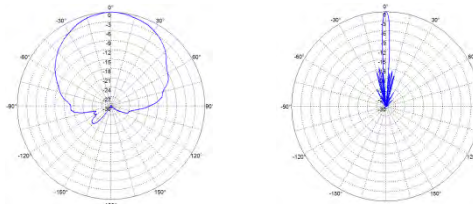
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



OCT8-2A2K-RB90HG

8-ports 617-894 / 617-894 /1695-2200 /1695-2200 MHz 90°, 16 / 16/ 19 / 19 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2200		
	617-698	698-824	824-894	1695-1880	1850-1990	1920-2200
Polarization	±45°					
Horizontal 3dB Beamwidth(°) ¹	88±8	83±8	78±8	88±7	85±7	83±7
Vertical 3dB Beamwidth(°) ¹	10.4±0.5	9.1±0.5	8.0±0.5	4.7±0.3	4.4±0.3	4.1±0.5
Gain over all tilts ,max.(dBi)	14.8	15.5	15.9	18.5	18.8	19.0
Average gain over all tilts,dBi	14.2±0.6	14.9±0.6	15.3±0.6	18.1±0.4	18.4±0.4	18.6±0.4
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB) ¹	First	≥16	≥16	≥16	≥17	≥17
	Boresight to 20° ¹	≥15	≥15	≥15	≥15	≥15
Front-to-Back Ratio Co-polar power (dB)	@180°	≥26	≥27	≥27	≥28	≥28
	@180±30°	≥25	≥25	≥25	≥26	≥26
Cross polar ratio	Main direction(dB)	≥18	≥18	≥18	≥18	≥18
	±60° (dB)	≥10	≥10	≥10	≥10	≥10
Minimum cross-polar isolation, port-to-port, dB ¹	≥25dB					
Isolation Frequency	≥30dB					
VSWR	< 1.5					
Intermodulation IM3	< -153 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					

¹Typical value over frequency and tilt



Mechanical Specifications

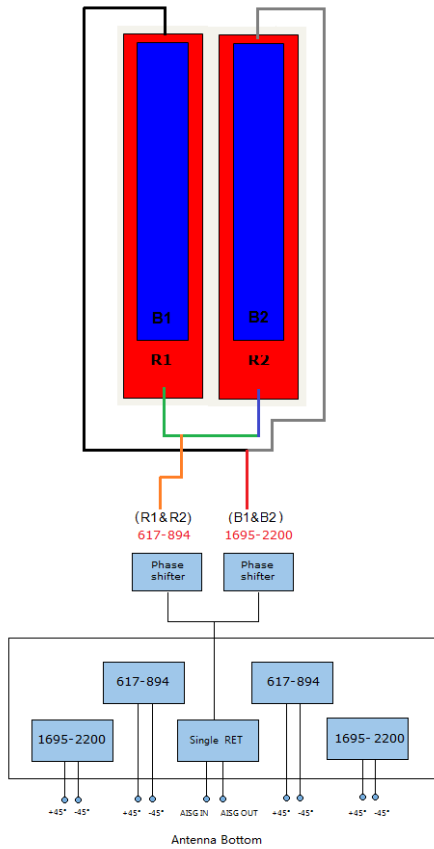
Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 635 x 180 / 95.9 x 25.0x 7.1
Packing Size(mm)/(inches)	2880 x760 x 300 / 113.4 x 30.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	37.5 / 82.5
Weight w/ Downtilt Bracket(kg)/(lbs)	44.5 / 97.9
Weight,w/ Fixed Bracket (kg)/(lbs)	42.5 / 93.5
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	55.5 / 122.1
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	53.5 /117.7
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1802/402/1303



Integrated RET Properties

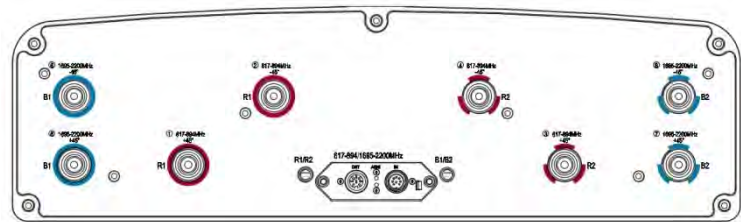
RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 3.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<10W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3); Power supply(pin6); DC return(pin7) Acc.to AISG
Adjustment time(full range)		40 sec(typically, depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs, 200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



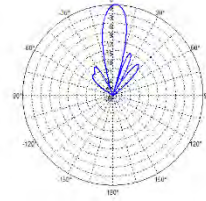
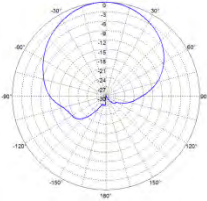
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2200MHz	B1/B2	NDPMXXXXXXXX-1722B1

Note: (1) Physical RET Unit containing (2) Single RET





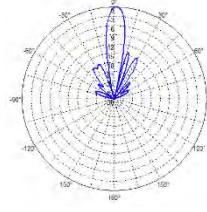
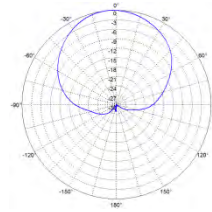
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

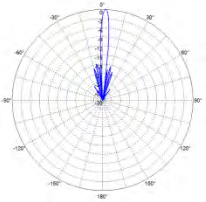
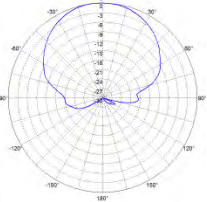
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

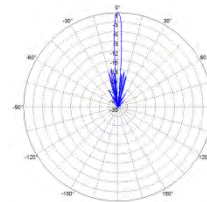
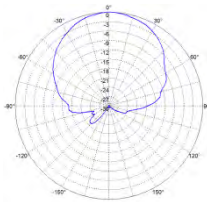
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern



OCT8-2LX2HX-BR45

8-ports 617-894 /617-894 /1695-2690 /1695-2690 MHz 45°, 16.5 / 16.5 / 18/ 18dBi, 2°-12°/2°-12°/ 2°-12°/ 2°-12°
Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2 x 617-894			2x1695-2690			
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41	38
Vertical 3dB Beamwidth(°)	10.4	9.1	8.0	7.5	6.5	6	5.5
Gain (dBi)	15.6	16.0	16.6	17.0	17.5	18.0	18.3
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16	≥16
Isolation ports	≥25 dB						
Isolation Frequency	≥30 dB						
VSWR	< 1.5						
Intermodulation IM3	< -150 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						



Mechanical Specifications

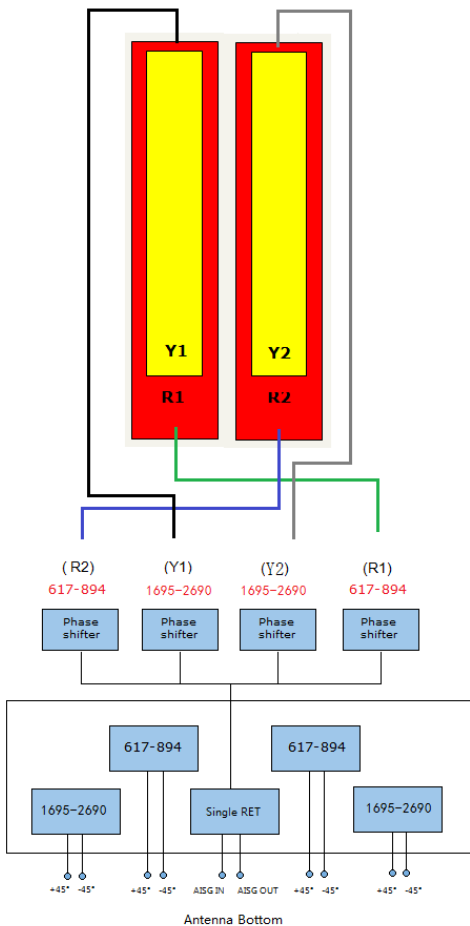
Radome Material	Fiber Glass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 620 x 325 / 108.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	47.5 / 104.5
Weight,with Mounting kit(kg)/(lbs)	53.5 / 117.7
Packing Weight(kg)/(lbs)	63.5 / 139.7
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027



Integrated RET Properties

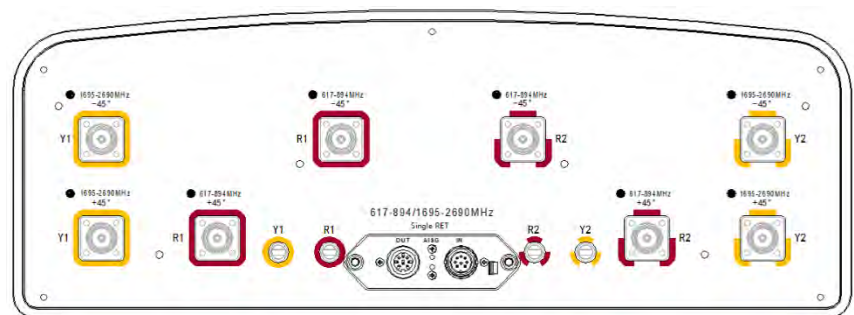
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



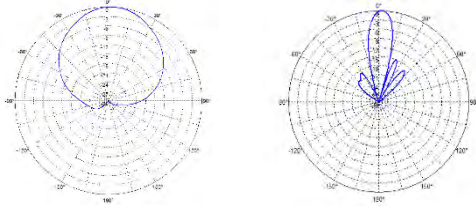
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET





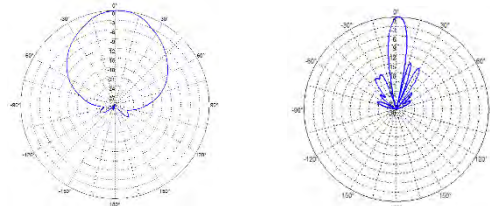
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

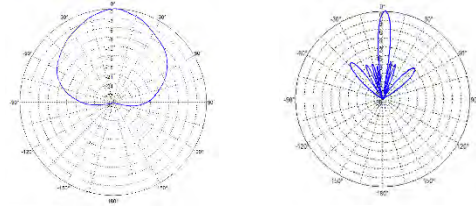
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

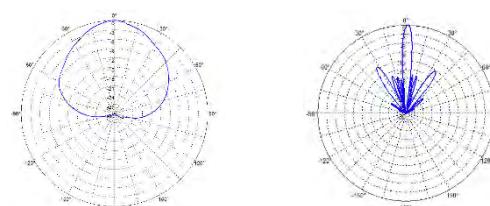
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

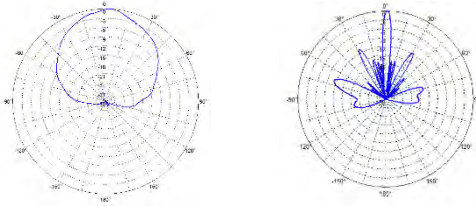
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

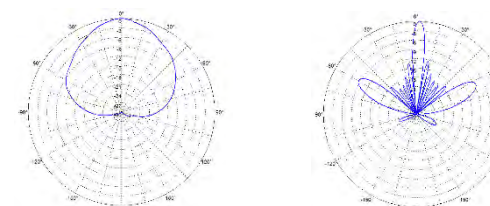
Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2490 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT8-2LX2HX-BR65

8-ports 617-894 / 617-894 /1695-2690 /1695-2690 MHz 65°, 16 / 16 / 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 ° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2690			
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	70	63	60	66	63	58	60
Vertical 3dB Beamwidth(°)	10.4	9.1	8.0	7.5	6.5	6	5.5
Gain (dBi)	15.0	15.5	16.0	16.5	17.0	17.5	17.8
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB						
Isolation Frequency	≥30 dB						
VSWR	< 1.5						
Intermodulation IM3	< -150 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						



Mechanical Specifications

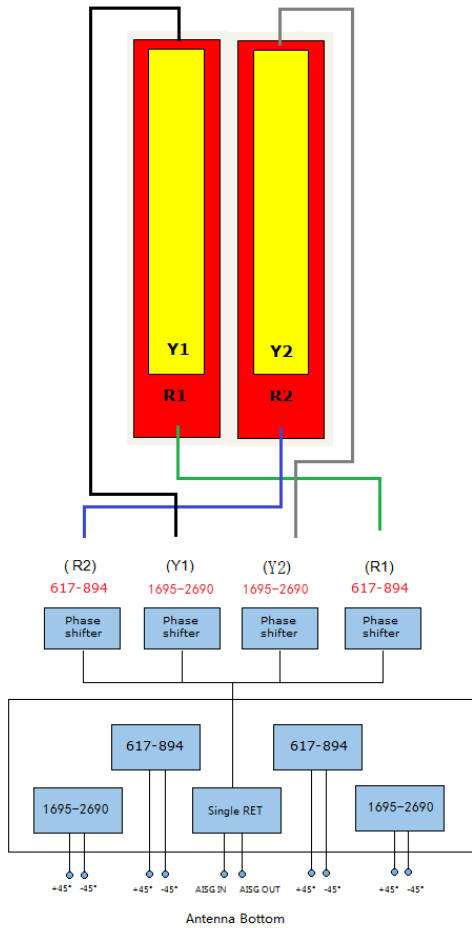
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 620 x 325 / 108.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	48.5 / 106.7
Weight w/ Downtilt Bracket(kg)/(lbs)	55.5 / 122.1
Weight w/ Fixed Bracket(kg)/(lbs)	53.5 / 117.7
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	65.5 / 144.1
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	63.5 / 139.7
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027



Integrated RET Properties

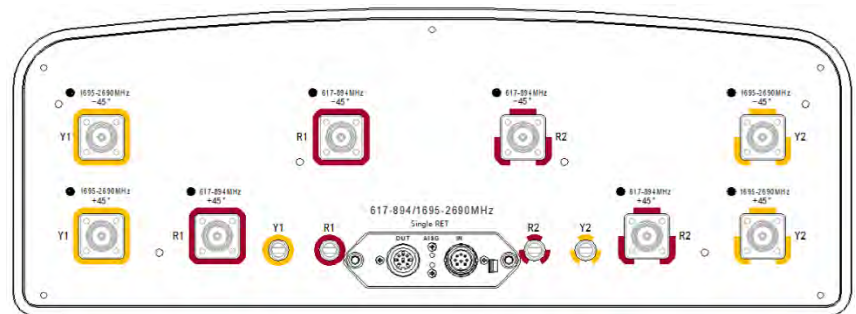
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



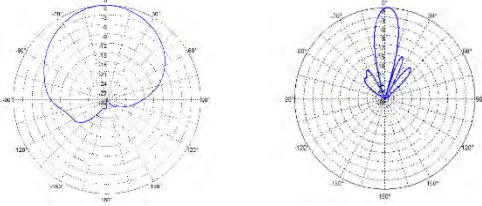
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET





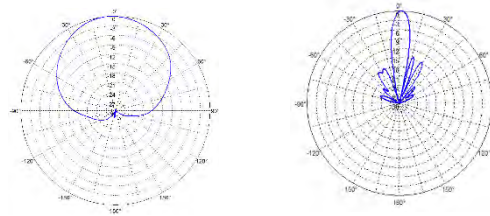
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

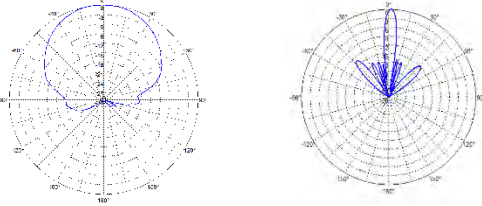
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

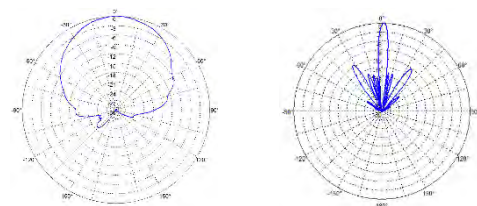
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

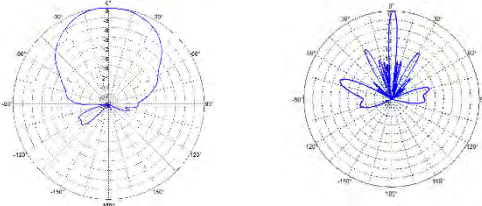
Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2490 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



OCT8-2LX2HX-BR90

8-ports 617-894 / 824-894 / 1695-2690/1695-2690 MHz 65°/ 90°/ 65°/ 65°, 16 / 14.5 / 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		617-894			824-894
		617-698	698-824	824-894	824-894
Polarization		±45°			
Horizontal 3dB Beamwidth(°)		70	63	60	82
Vertical 3dB Beamwidth(°)		10.4	9.1	8.0	8.0
Gain (dBi)		15.0	15.5	16.0	14.5
Electrical Downtilt		2°-12°			2°-12°
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥23
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥16
	±60° (dB)	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB			
Isolation Frequency		≥30 dB			
VSWR		< 1.5			
Intermodulation IM3		< -150 dBc(2x43dBm carrier)			
Impedance		50 Ω			
Max. Power per Input (at 50°C ambient temperature)		500 W			500 W
Lightning Protection		DC Ground			

Frequency Range(MHz)		2x1695-2690			
		1695-1920	1920-2180	2300-2400	2400-2690
Polarization		±45°			
Horizontal 3dB Beamwidth(°)		66	63	58	60
Vertical 3dB Beamwidth(°)		7.5	6.5	6	5.5
Gain (dBi)		16.5	17.0	17.5	17.8
Electrical Downtilt		2°-12°			
Upper Sidelobe Suppression (dB)	First	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB			
Isolation Frequency		≥30 dB			
VSWR		< 1.5			
Intermodulation IM3		< -150 dBc(2x43dBm carrier)			
Impedance		50 Ω			
Max. Power per Input (at 50°C ambient temperature)		300 W			
Lightning Protection		DC Ground			



Mechanical Specifications

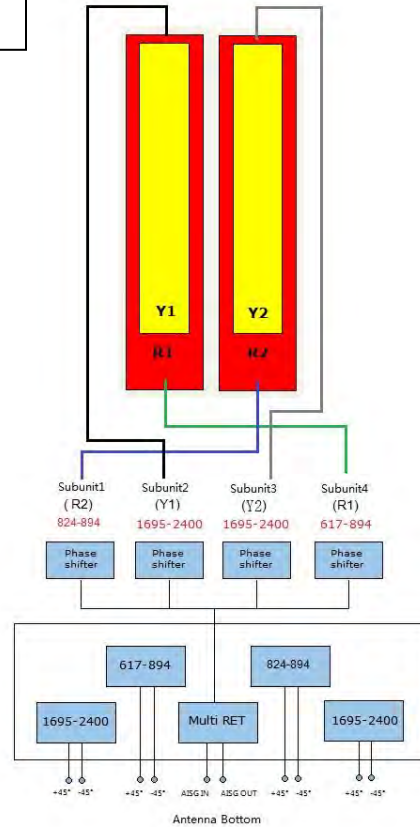
Redome Material	FiberGlass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6x 7.1
Packing Size(mm)/(inches)	2750 x 620 x 325 / 108.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	47 / 103.4
Weight,with Mounting kit(kg)/(lbs)	53 / 116.6
Packing Weight(kg)/(lbs)	63 / 138.6
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027

Integrated RET Properties

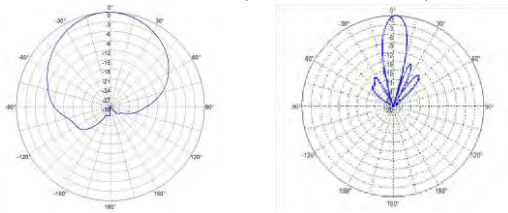
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	



COMPREHENSIVE TILT CONFIGURATION

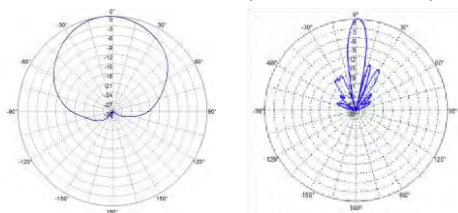


Radiation Pattern (617 - 824 MHz)



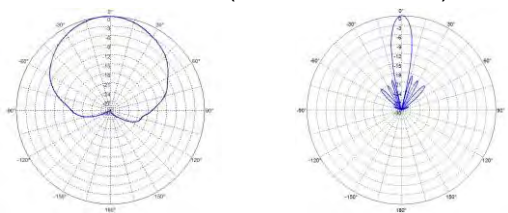
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



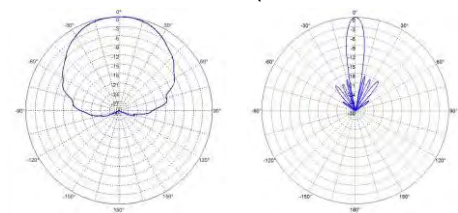
Horizontal Pattern Vertical Pattern

Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern Vertical Pattern

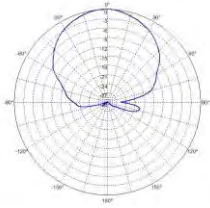
Radiation Patterns (1920 - 2180 MHz)



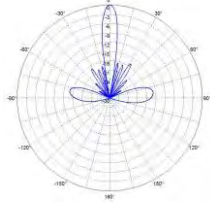
Horizontal Pattern Vertical Pattern



Radiation Pattern (2300 - 2400 MHz)

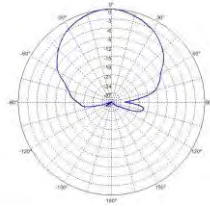


Horizontal Pattern

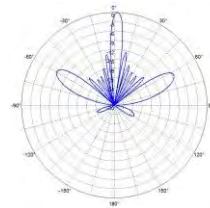


Vertical Pattern

Radiation Pattern (2400 - 2690 MHz)

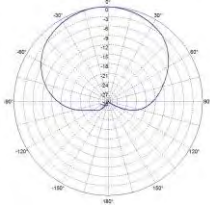


Horizontal Pattern

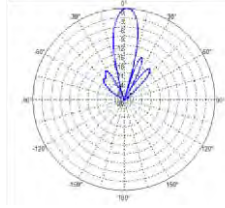


Vertical Pattern

Radiation Pattern (824 - 894 MHz)



Horizontal Pattern



Vertical Pattern



OCT8-2LX2HX-BW45

8-ports 617-894 /617-894 /1695-2400/1695-2400 MHz 45°, 16.5 / 16.5 / 18 / 18dBi, 2°-12°/2°-12°/2°-12°/ 2°-12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41
Vertical 3dB Beamwidth(°)	10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)	15.6	16.1	16.6	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥16	≥16	≥16	≥16	≥16
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

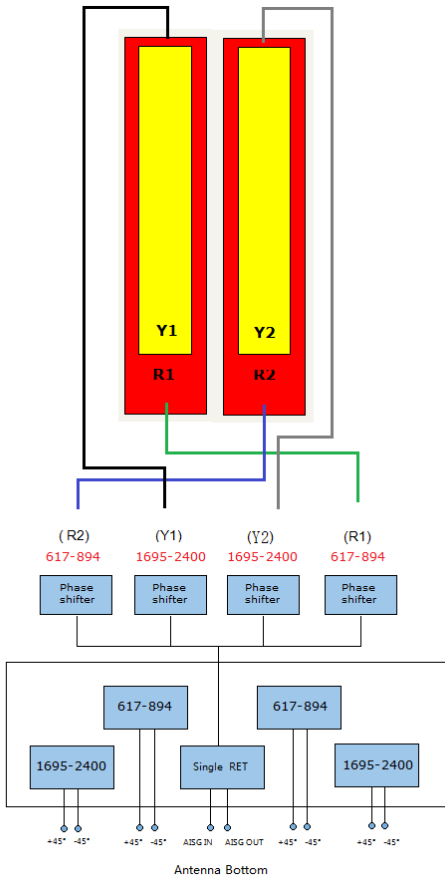
Radome Material	Fiber Glass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 620 x 325 / 108.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	47.5 / 104.5
Weight w/ Downtilt Bracket(kg)/(lbs)	54.5 /119.9
Weight w/ Fixed Bracket(kg)/(lbs)	52.5 / 115.5
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	64.5 /141.9
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	62.5 / 137.5
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027



Integrated RET Properties

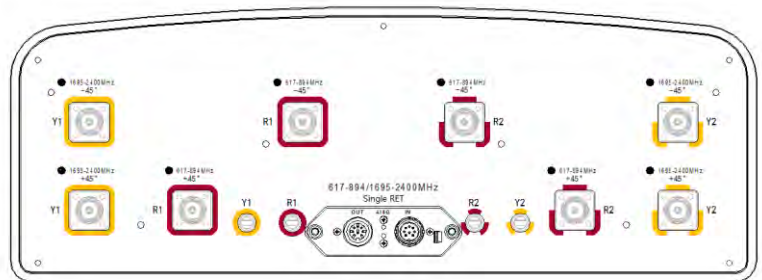
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



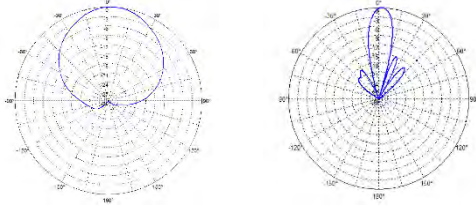
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (4) Single RET





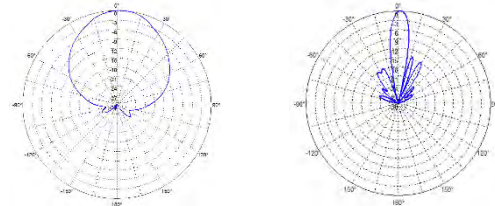
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

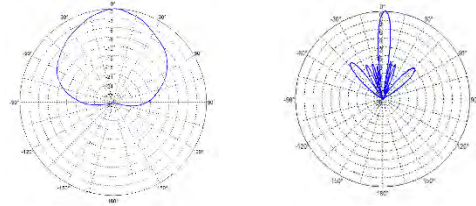
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

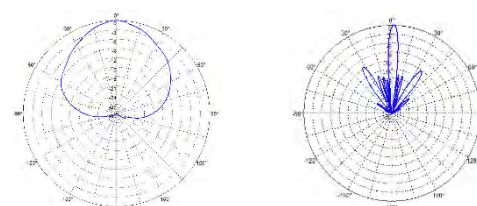
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

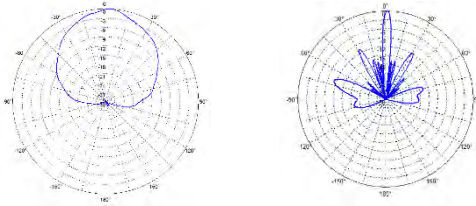
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



OCT8-2LX2HX-BW65

8-ports 617-894 / 617-894 /1695-2400 /1695-2400 MHz 65°, 16 / 16 / 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2° -12 °Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	70	63	60	66	63	58
Vertical 3dB Beamwidth(°)	10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)	15.0	15.5	16.0	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

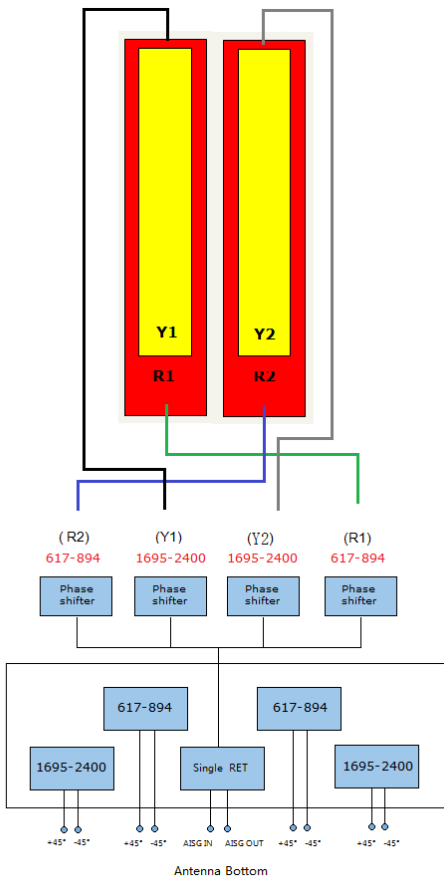
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 620 x 325 / 108.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	47 / 103.4
Weight w/ Downtilt Bracket(kg)/(lbs)	54/ 118.8
Weight w/ Fixed Bracket(kg)/(lbs)	52 / 114.4
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	64/ 140.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	62 / 136.4
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027



Integrated RET Properties

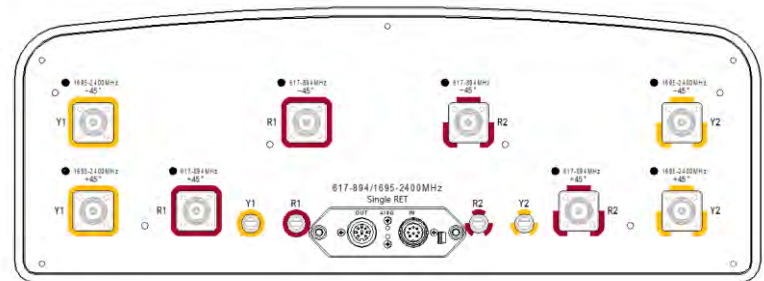
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



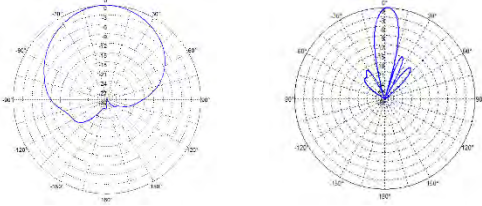
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (4) Single RET





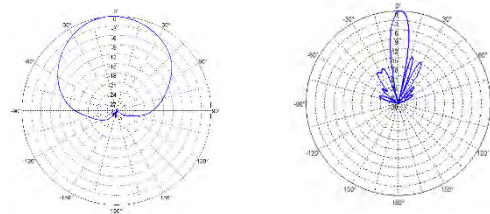
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

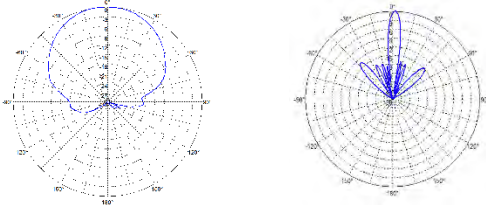
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

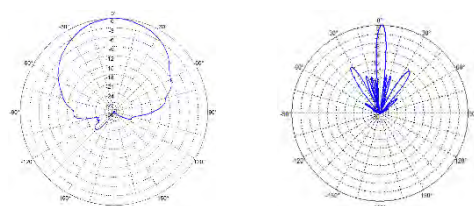
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

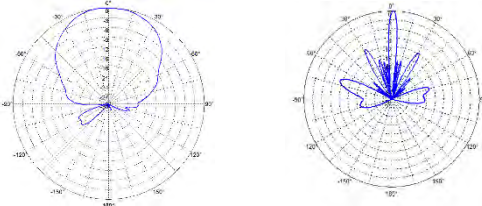
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



OCT8-2LX2HX-BW90

8-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 MHz 90°, 15 / 15 / 17 / 17 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	88	83	78	88	83	78
Vertical 3dB Beamwidth(°)	10.4	9.1	8.0	5.5	5	4.3
Gain (dBi)	14.1	14.6	15.0	16.6	17.0	17.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥23	≥23	≥23	≥23
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥8	≥8	≥8	≥8	≥8
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

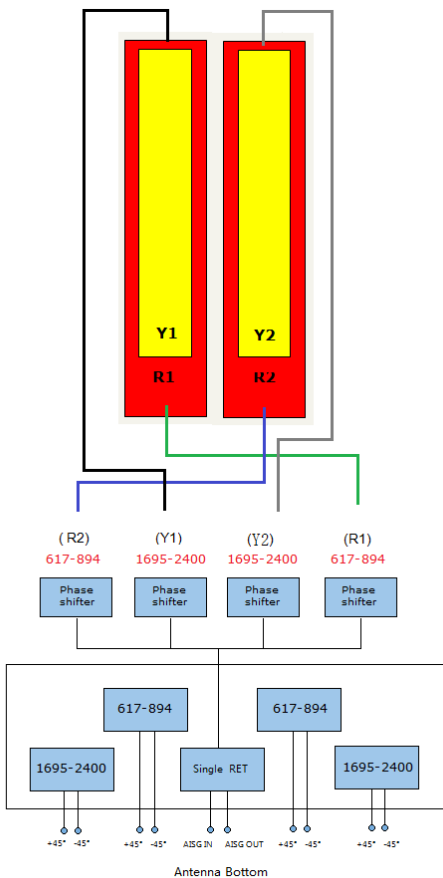
Radome Material	ASA
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 620 x 325 / 108.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	39 / 85.8
Weight w/ Downtilt Bracket(kg)/(lbs)	46 / 101.2
Weight w/ Fixed Bracket(kg)/(lbs)	44 / 96.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	56 / 123.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	54 / 118.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027



Integrated RET Properties

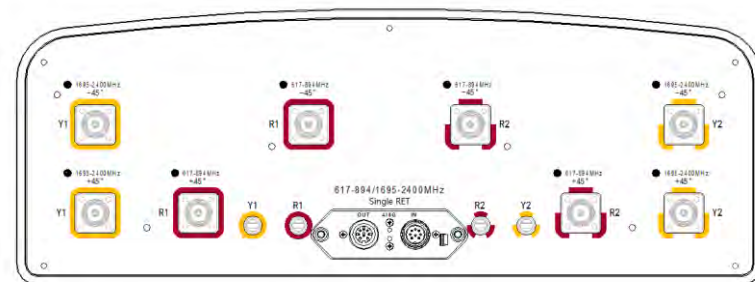
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



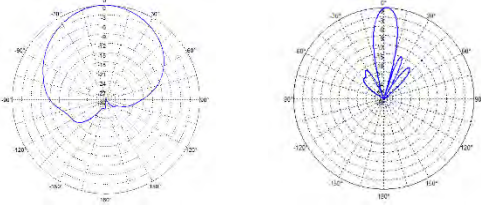
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (4) Single RET





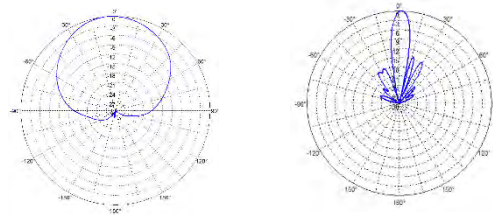
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

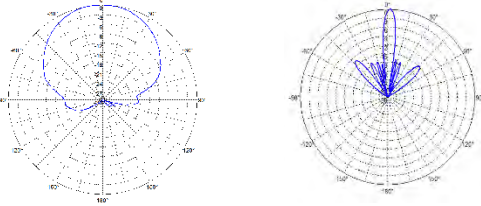
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

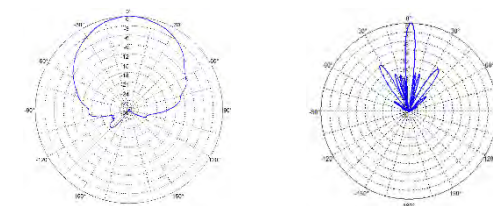
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

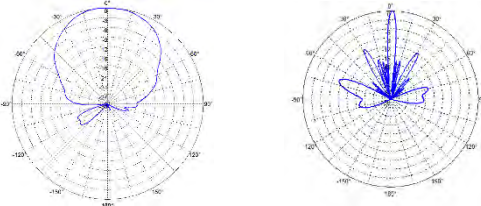
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



OCT9-2LX2HX-HG65

8-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 MHz 65°, 17 / 17 / 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	72	66	63	66	63	58
Vertical 3dB Beamwidth(°)	9	7.9	7.0	5.5	5	4.3
Gain (dBi)	16.1	16.6	16.8	17.6	18.0	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

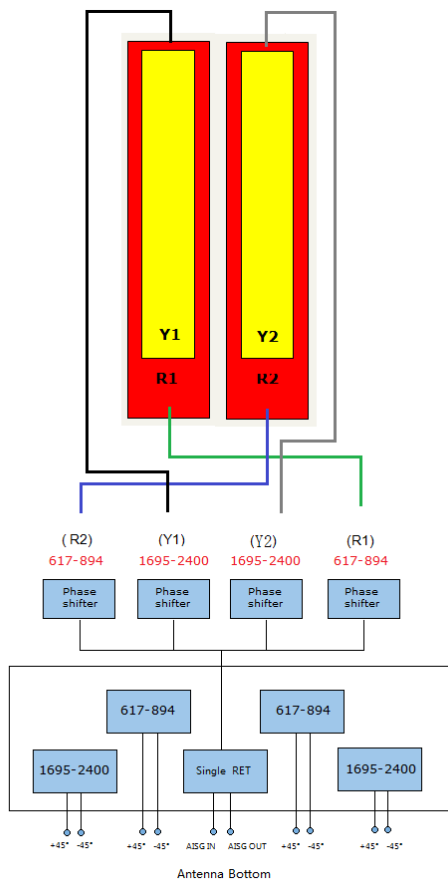
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2700 x 499 x 180 / 106.3 x 19.6 x 7.1
Packing Size(mm)/(inches)	3010 x 620 x 325 / 118.5 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	50 / 110
Weight w/ Downtilt Bracket(kg)/(lbs)	57 / 125.4
Weight w/ Fixed Bracket(kg)/(lbs)	55 / 121
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	67 /147.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	65 / 143
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1568/308/1130



Integrated RET Properties

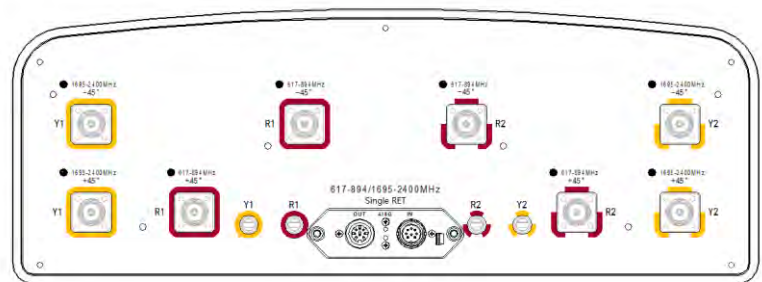
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



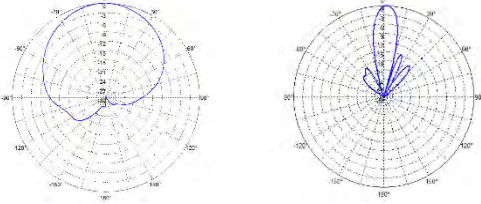
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (4) Single RET



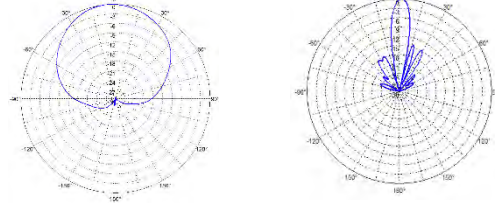


Radiation Pattern (617 - 824 MHz)



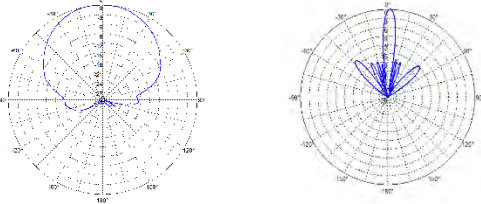
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



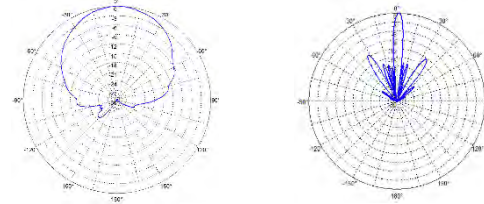
Horizontal Pattern Vertical Pattern

Radiation Pattern (1695 - 1920 MHz)



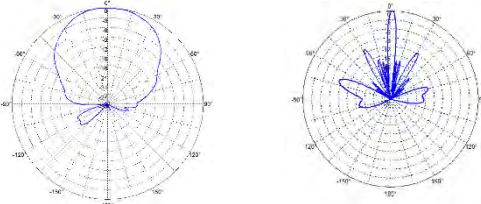
Horizontal Pattern Vertical Pattern

Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern Vertical Pattern

Radiation Pattern (2180 - 2400 MHz)



Horizontal Pattern Vertical Pattern

DENGYO DEC series

10-port base station antennas



DEC2-5HX-CB65

10-ports 1695-2690 / 1695-2690 / 3400-4200 / 3400-4200 / 5150-5925 MHz 65°, 13.5 /13.5 /11 /11 /5 dBi, 2°-12° /2°-12° / 0° / 0° / 0°Tilt Antenna With 2 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x1695-2690				2x3400-4200		5150-5925	
	1695-1920	1920-2180	2300-2400	2490-2690	3400-3500	3500-4200	5150-5925	
Polarization	±45°							
Horizontal 3dB Beamwidth(°)	70	68	63	60	69	65	61	
Vertical 3dB Beamwidth(°)	17.5	16	13.5	12.5	31	30	26	
Gain (dBi)	12.8	13.1	13.5	13.7	10.5	10.7	4.6	
Electrical Downtilt	2°-12°				0°		0°	
Upper Sidelobe Suppression(dB)	First	≥15	≥14	≥13	≥13	≥7	≥7	≥4
Front-to-Back Ratio Total Power, ± 30° (dB)		≥23	≥24	≥25	≥25	≥23	≥24	≥23
Cross polar ratio	Main direction (dB)	≥16	≥16	≥16	≥16	≥16	≥16	≥16
	± 60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB							
Isolation Frequency	≥30 dB							
VSWR	< 1.5							
Intermodulation IM3	< -150 dBc(2x43dBm carrier)				-			
Impedance	50 Ω							
Max. Power per Input (at 50°C ambient)	100 W				50 W		10W	
Lightning Protection	DC Ground							



Mechanical Specifications

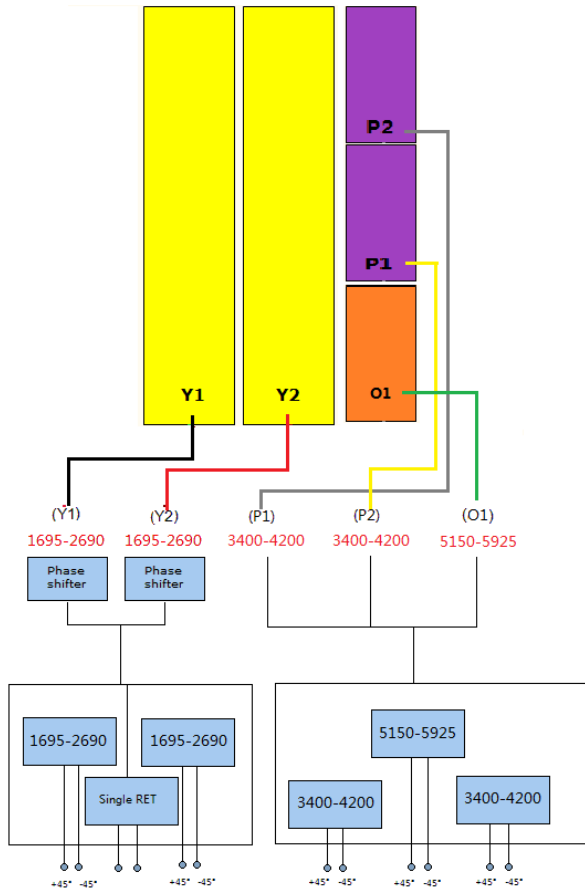
Radome Material	ASA
Connector Type and Location	4.3-10x10 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	600 x 355 x 165 / 23.6 x 14.0 x 5.5
Packing Size(mm)/(inches)	945 x 455 x 295 / 37.2 x 17.9 x 11.6
Weight ,w/o Mounting kit(kg)/(lbs)	13 / 28.6
Weight w/ Downtilt Bracket(kg)/(lbs)	19 / 41.8
Weight w/ Fixed Bracket(kg)/(lbs)	17 / 37.4
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	25 / 55
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	23 / 50.6
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	246/70/177



Integrated RET Properties

RET Type		2x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

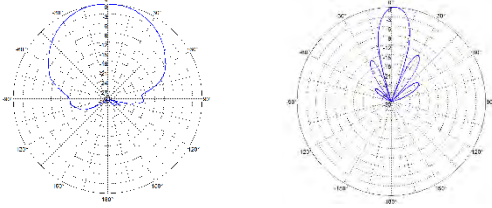
COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
3400-4200MHz	P1	-
3400-4200MHz	P2	-
5150-5925	O1	-



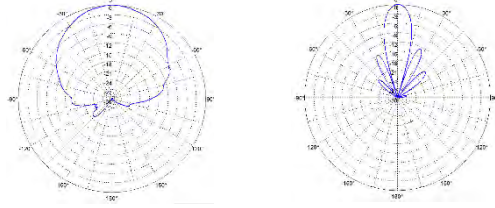
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

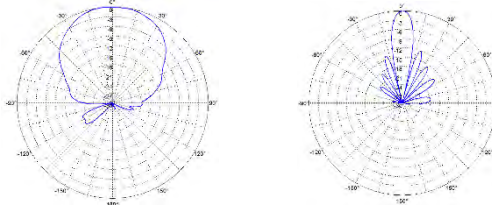
Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

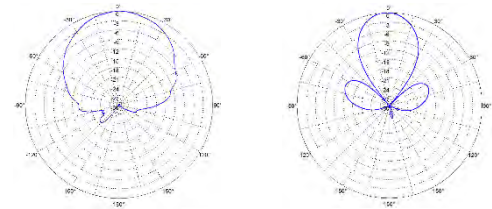
Radiation Pattern (2490 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

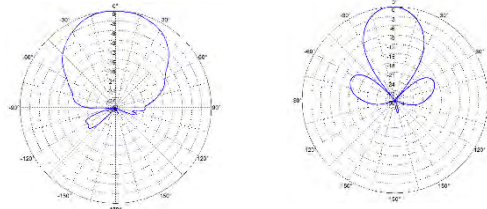
Radiation Pattern (3300 - 3500 MHz)



Horizontal Pattern

Vertical Pattern

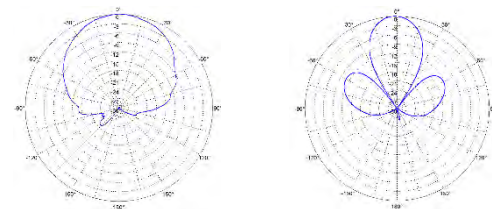
Radiation Pattern (3500 - 4200 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (5150 - 5925MHz)



Horizontal Pattern

Vertical Pattern



DEC3-1A2G2U-RC85

10-ports 617-894 / 1695-2400 / 1695-2400/ 3400-4200 / 3400-4200 MHz 85°, 13 /13 /13 /15 /15 dBi, 2°-12°/ 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		617-894			2x1695-2400			2x3400-4200	
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	3400-3800	3800-4200
Polarization		±45°							
Horizontal 3dB Beamwidth(°)		86	83	80	83	80	77	83	77
Vertical 3dB Beamwidth(°)		20.5	18	16	16.5	14.5	12.5	8.5	7.5
Gain (dBi)		11.4	12.1	12.6	12.3	12.8	13.3	13.5	14.5
Electrical Downtilt		2°-12°			2°-12°			2°-12°	
Upper Sidelobe Suppression(dB)	First	≥13	≥13	≥13	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥21	≥21	≥21	≥23	≥23	≥23	≥23	≥23
Cross polar ratio	Main direction (dB)	≥15	≥15	≥15	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB							
Isolation Frequency		≥30 dB							
VSWR		< 1.5							
Intermodulation IM3		< -150 dBc(2x43dBm carrier)							
Impedance		50 Ω							
Max. Power per Input (at 50°C ambient temperature)		500 W			200 W			200 W	
Lightning Protection		DC Ground							



Mechanical Specifications

Radome Material	Fiberglass
Connector Type and Location	4.3-10x10, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1090 x 320 x 180 / 42.9 x 12.6 x 7.1
Packing Size(mm)/(inches)	1400 x 425 x 300 / 55.1 x 16.7 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	20.5 / 45.1
Weight w/ Downtilt Bracket(kg)/(lbs)	26.5 / 58.3
Weight w/ Fixed Bracket(kg)/(lbs)	24.5 / 53.9
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	35.5 / 78.1
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	33.5 / 73.7
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	445/135/322

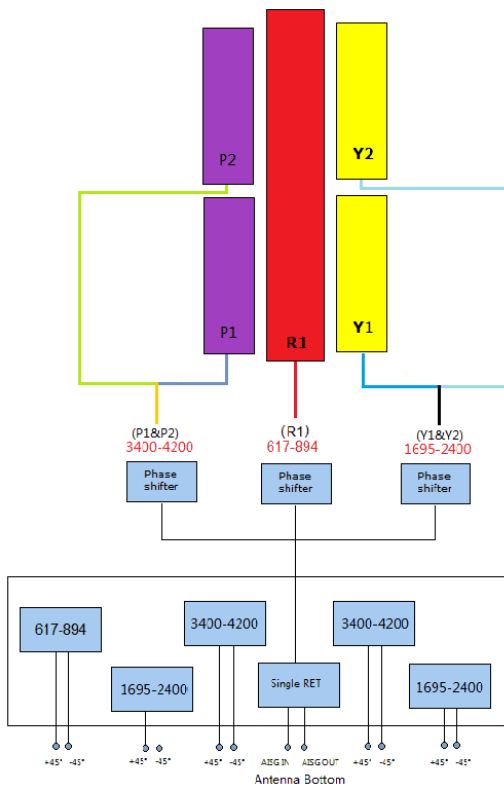


Integrated RET Properties

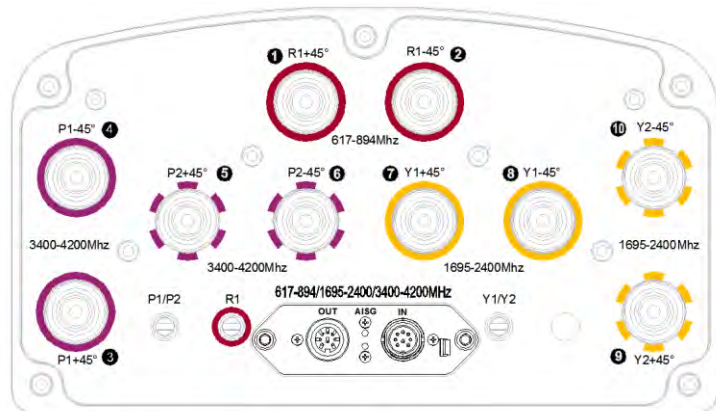
RET Type		3 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6090R1
1695-2400MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
3400-4200MHz	P1/P2	NDPMXXXXXXXX-3442P1

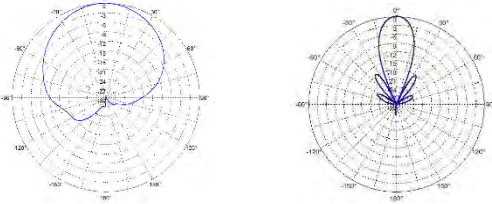


Note: (1) Physical RET Unit containing (3) Single RET





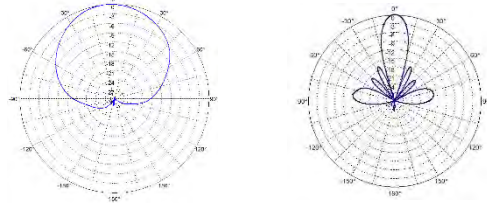
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

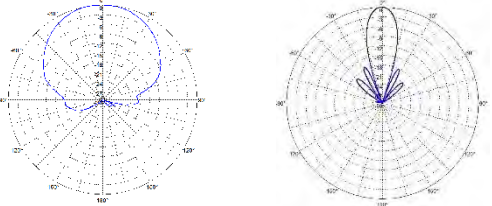
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

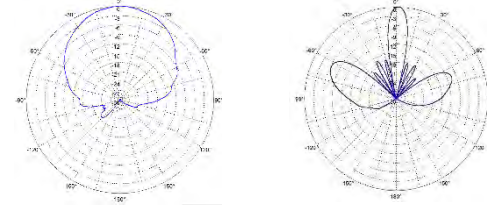
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

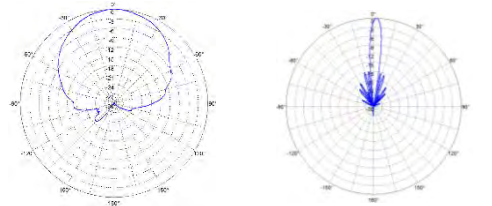
Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

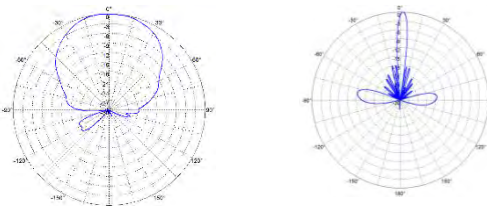
Radiation Pattern (3400 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



DEC3-1A2J2U-RC65

10-ports 617-894 / 1695-2690 / 1695-2690/ 3400-4200 / 3400-4200 MHz 65°, 13 /14 /14 /15 /15 dBi, 2°-12°/ 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	617-894			2x1695-2690				2x3400-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690	3400-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	74	71	66	68	65	58	60	65	60
Vertical 3dB Beamwidth(°)	22.5	19.5	17.5	16.5	14.5	12.5	11.5	8.5	7.5
Gain (dBi)	12.2	12.6	13.1	12.8	13.3	13.8	14.3	14.7	15.3
Electrical Downtilt	2°-12°			2°-12°				2°-12°	
Upper Sidelobe Suppression(dB)	First	≥13	≥13	≥13	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥23	≥23	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥15	≥15	≥15	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)								
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient)	500 W			200 W				200 W	
Lightning Protection	DC Ground								



Mechanical Specifications

Radome Material	Fiberglass
Connector Type and Location	4.3-10x10, Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1090 x 320 x 180 / 42.9 x 12.6 x 7.1
Packing Size(mm)/(inches)	1400 x 425 x 300 / 55.1 x 16.7 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	21 / 46.2
Weight w/ Downtilt Bracket(kg)/(lbs)	27 / 59.4
Weight w/ Fixed Bracket(kg)/(lbs)	25 / 55.0
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	36 / 79.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	34 / 74.8
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	445/135/322

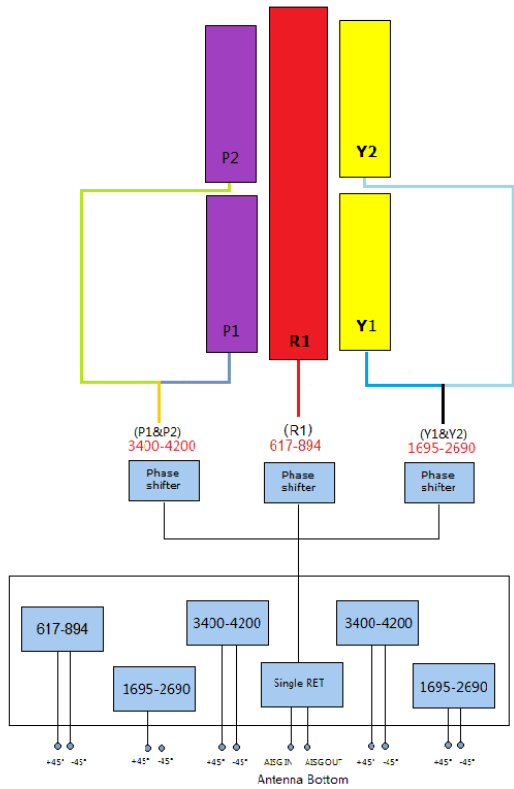


Integrated RET Properties

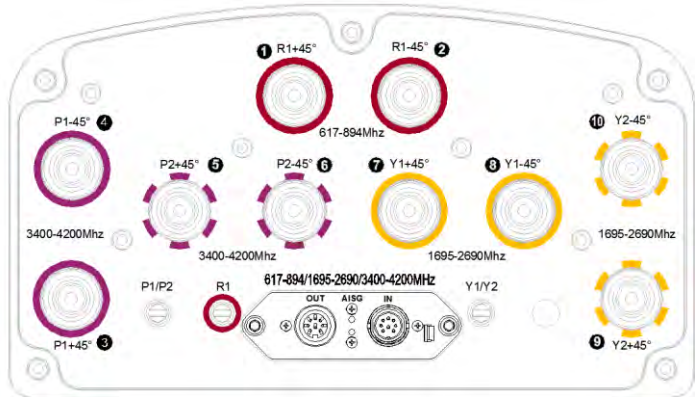
RET Type		3 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6090R1
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
3400-4200MHz	P1/P2	NDPMXXXXXXXX-3442P1

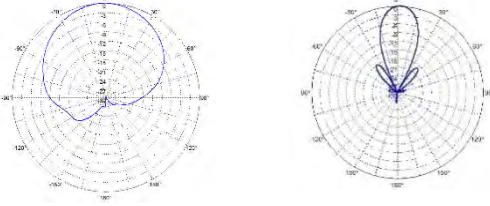


Note: (1) Physical RET Unit containing (3) Single RET





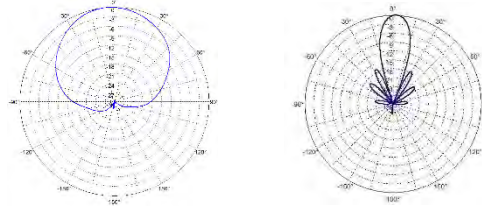
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

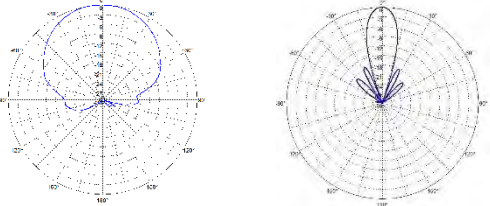
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

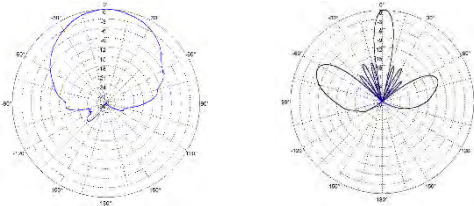
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

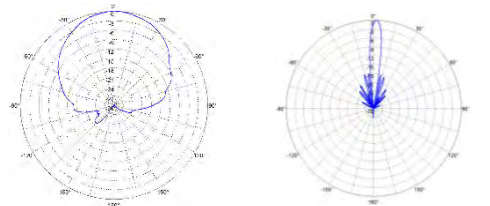
Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

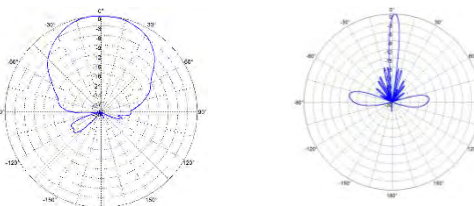
Radiation Pattern (3400 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



DEC4-1A2G2U-RC65

10-ports 617-894 / 1695-2400 / 1695-2400/ 3400-4200 / 3400-4200 MHz 65°, 14 /17 /17 /15 /15 dBi, 2°-12°/ 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	617-894			2x1695-2400			2x3400-4200	
	617-698	698-824	824-894	1695-1920	1920-2300	2300-2400	3400-3800	3800-4200
Polarization	±45°							
Horizontal 3dB Beamwidth(°)	74	71	66	68	65	58	65	59
Vertical 3dB Beamwidth(°)	19.5	17.5	15.3	7.5	6.5	6	8.5	7.5
Gain (dBi)	12.7	13.1	13.6	16.3	16.8	17.3	14.7	15.3
Electrical Downtilt	2°-12°			2°-12°			2°-12°	
Upper Sidelobe Suppression(dB)	First	≥13	≥13	≥13	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥23	≥23	≥23	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥15	≥15	≥15	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB							
Isolation Frequency	≥30 dB							
VSWR	< 1.5							
Intermodulation IM3	< -150 dBc(2x43dBm carrier)							
Impedance	50 Ω							
Max. Power per Input (at 50°C ambient temperature)	500 W			200 W			200 W	
Lightning Protection	DC Ground							



Mechanical Specifications

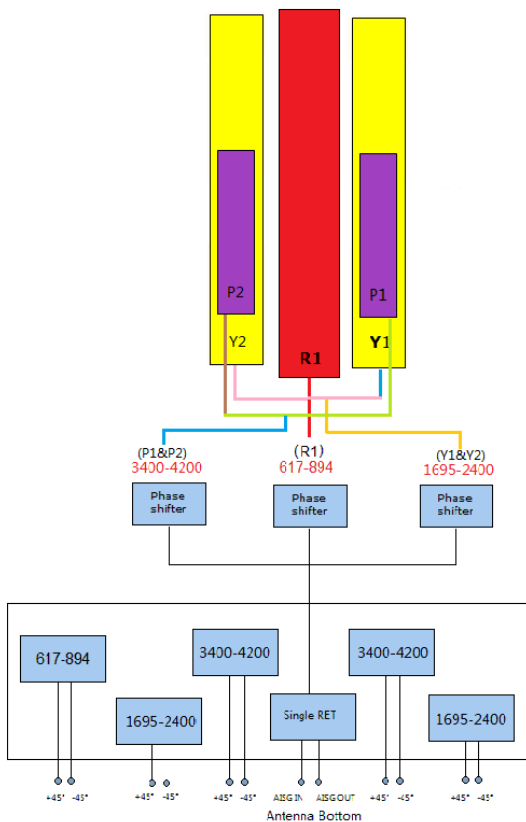
Radome Material	ASA
Connector Type and Location	4.3-10x10, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1220 x 320 x 165 / 48 x 12.6 x 6.5
Packing Size(mm)/(inches)	1480x 440 x 290 / 58.3 x 17.3 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	15 / 33
Packing Weight(kg)/(lbs)	20 / 44
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	445/135/322



Integrated RET Properties

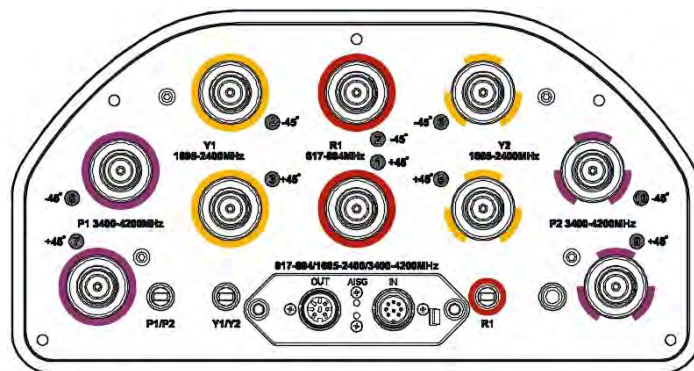
RET Type		3 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



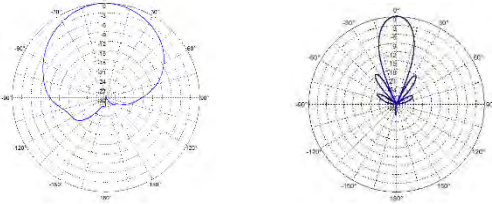
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6090R1
1695-2400MHz	Y1/Y2	NDPMXXXXXXXX-1724Y1
3400-4200MHz	P1/P2	NDPMXXXXXXXX-3442P1

Note: (1) Physical RET Unit containing (3) Single RET





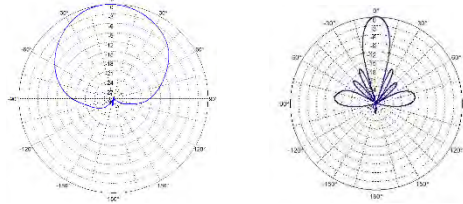
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

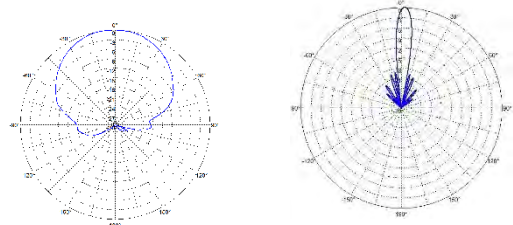
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

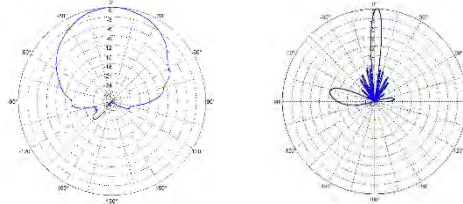
Radiation Pattern (1695 - 2300 MHz)



Horizontal Pattern

Vertical Pattern

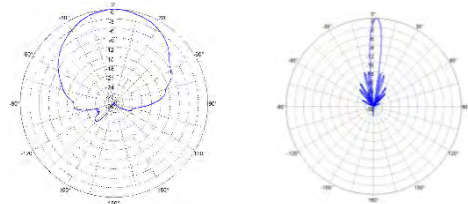
Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

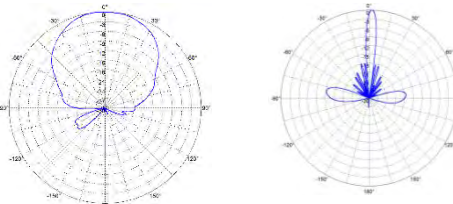
Radiation Pattern (3400 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



DEC4-1A2G2U-RC85

10-ports 617-894 / 1695-2400 / 1695-2400/ 3400-4200 / 3400-4200 MHz 85°, 13 /16 /16 /14 /14 dBi, 2°-12°/ 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		617-894			2x1695-2400			2x3400-4200	
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	3400-3800	3800-4200
Polarization		±45°							
Horizontal 3dB Beamwidth(°)		86	83	80	83	80	77	80	75
Vertical 3dB Beamwidth(°)		19.5	17.5	15.3	7.5	6.5	6	8.5	7.5
Gain (dBi)		12	12.4	12.9	15.3	15.8	16.3	13.7	14.3
Electrical Downtilt		2°-12°			2°-12°			2°-12°	
Upper Sidelobe Suppression(dB)	First	≥13	≥13	≥13	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥21	≥21	≥21	≥23	≥23	≥23	≥23	≥23
Cross polar ratio	Main direction (dB)	≥15	≥15	≥15	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB							
Isolation Frequency		≥30 dB							
VSWR		< 1.5							
Intermodulation IM3		< -150 dBc(2x43dBm carrier)							
Impedance		50 Ω							
Max. Power per Input (at 50°C ambient temperature)		500 W			200 W			200 W	
Lightning Protection		DC Ground							



Mechanical Specifications

Radome Material	ASA
Connector Type and Location	4.3-10x10, Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1220 x 320 x 165 / 48 x 12.6 x 6.5
Packing Size(mm)/(inches)	1530x 425 x 285 / 60.2 x 16.7 x 11.2
Weight , w/o Mounting kit(kg)/(lbs)	22 / 48.4
Weight w/ Downtilt Bracket(kg)/(lbs)	28 / 61.6
Weight w/ Fixed Bracket(kg)/(lbs)	26 / 57.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	37 / 81.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	35 / 77
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	445/135/322



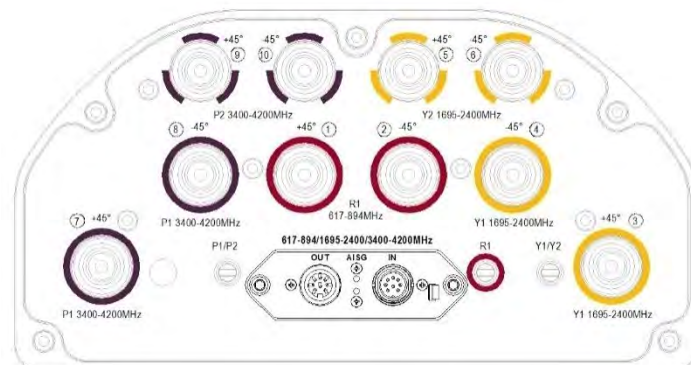
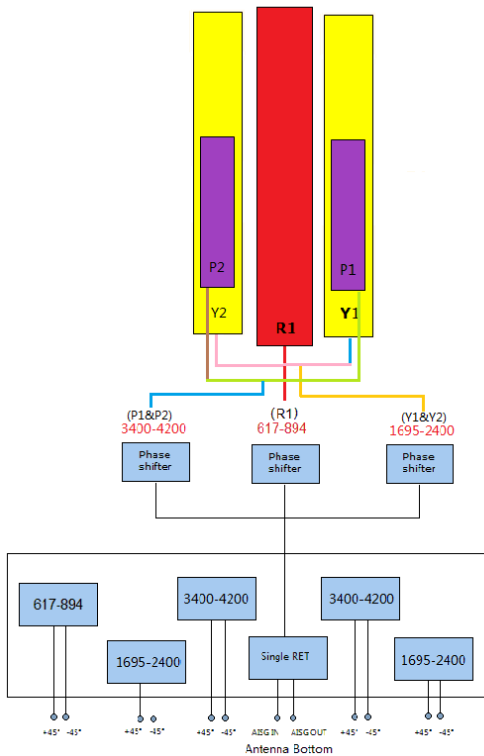
Integrated RET Properties

RET Type		3 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION

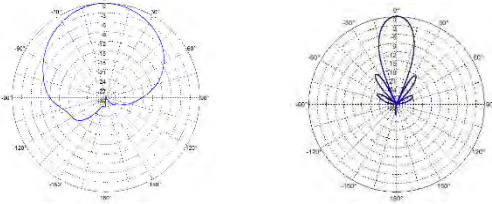
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6090R1
1695-2400MHz	Y1/Y2	NDPMXXXXXXXX-1724Y1
3400-4200MHz	P1/P2	NDPMXXXXXXXX-3442P1

Note: (1) Physical RET Unit containing (3) Single RET





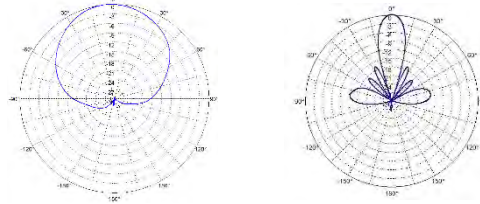
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

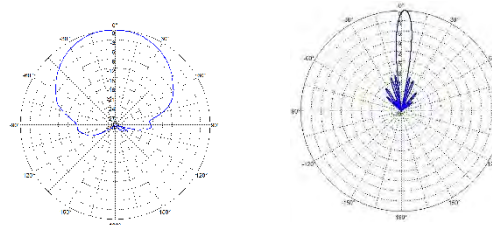
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

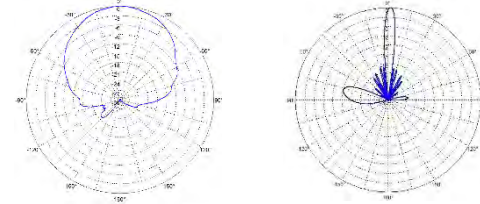
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

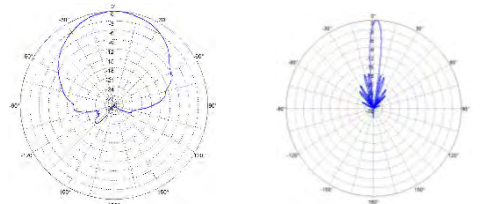
Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

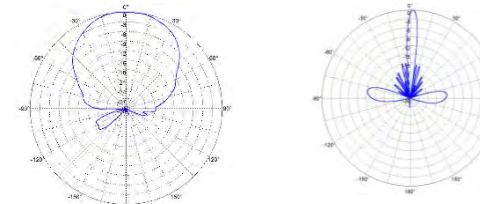
Radiation Pattern (3400 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



DEC4-1A2J2U-RC65

10-ports 617-894 / 1695-2690 / 1695-2690/ 3400-4200 / 3400-4200 MHz 65°, 14 /17 /17 /15 /15 dBi, 2°-12°/ 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	617-894			2x1695-2690				2x3400-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690	3400-3800	3800-4200
Polarization	Vertical								
Horizontal 3dB Beamwidth(°)	75	73	68	68	65	58	68	65	59
Vertical 3dB Beamwidth(°)	19.5	17.5	15.3	7.5	6.5	6	5.5	8.5	7.5
Gain (dBi)	12.7	13.1	13.6	16.3	16.8	17.3	17.5	14.7	15.3
Electrical Downtilt	2°-12°			2°-12°				2°-12°	
Upper Sidelobe Suppression(dB)	First	≥13	≥13	≥13	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥23	≥23	≥23	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥15	≥15	≥15	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)								
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient temperature)	500 W			200 W				200 W	
Lightning Protection	DC Ground								



Mechanical Specifications

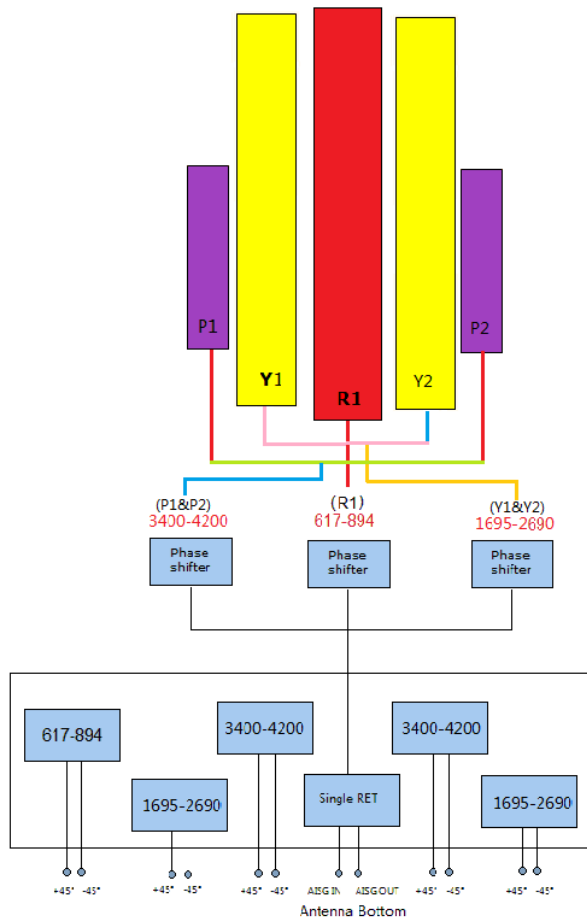
Radome Material	ASA
Connector Type and Location	4.3-10x10, Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1220 x 320 x 165 / 48 x 12.6 x 6.5
Packing Size(mm)/(inches)	1530x 425 x 285 / 60.2 x 16.7 x 11.2
Weight ,w/o Mounting kit(kg)/(lbs)	22 / 48.4
Weight w/ Downtilt Bracket(kg)/(lbs)	28 / 61.6
Weight w/ Fixed Bracket(kg)/(lbs)	26 / 57.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	37 / 81.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	35 / 77
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	445/135/322



Integrated RET Properties

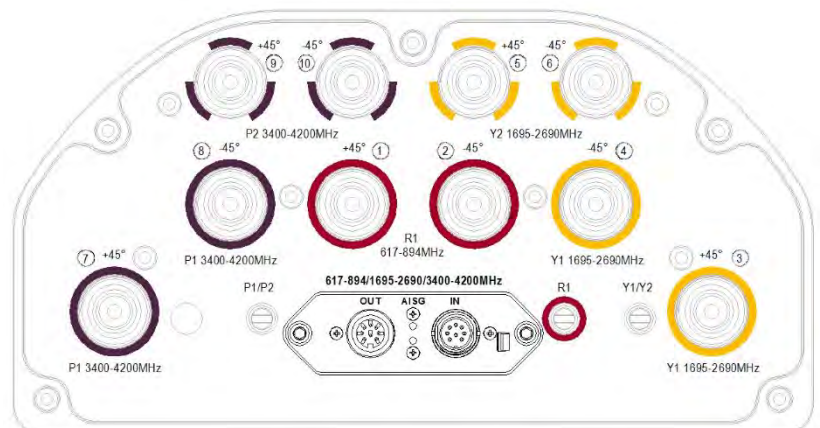
RET Type		3 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



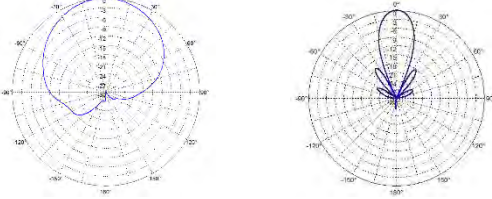
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6090R1
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
3400-4200MHz	P1/P2	NDPMXXXXXXXX-3442P1

Note: (1) Physical RET Unit containing (3) Single RET





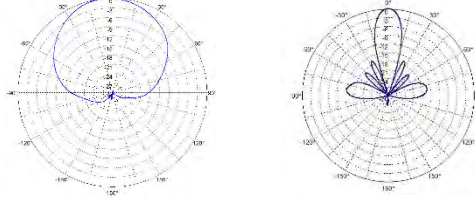
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

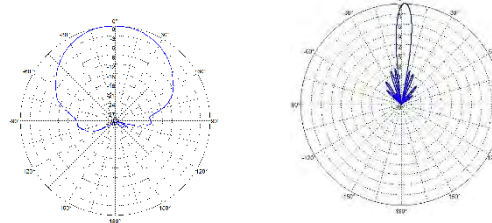
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

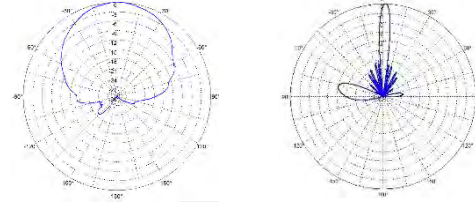
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

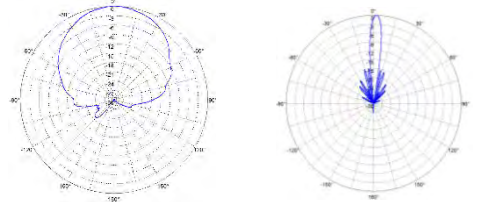
Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

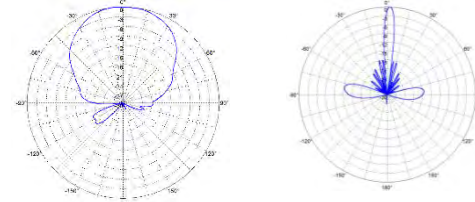
Radiation Pattern (3400 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



DEC4-2B2M2J-RC65

10-ports 1695-2200 / 1695-2200 /2490-2690 /2490-2690 /1695-2690 MHz 65°, 17.0 / 17.0 / 17.0 / 17.0/ 18.0 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12° / 2°-12°Tilt Antenna With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		1695-2200		2490-2690	1695-2690		
		1695-1880	1920-2200	2490-2690	1695-2200	1920-2180	2490-2690
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		66	62	60	66	62	60
Vertical 3dB Beamwidth(°)		7.5	6.5	5.5	7.5	6.5	5.5
Gain (dBi)		16.7	17.3	17.5	17.2	17.8	18.0
Electrical Downtilt							
Upper Sidelobe Suppression(dB)	First	≥18	≥18	≥18	≥17	≥17	≥17
Front-to-Back Ratio Total Power, ±30° (dB)		≥27	≥27	≥27	≥27	≥27	≥27
Cross polar ratio	Main direction(dB)	≥19	≥19	≥19	≥19	≥19	≥19
	±30° (dB)	≥10	≥10	≥10	≥10	≥10	≥10
Isolation ports		≥28 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					



Mechanical Specifications

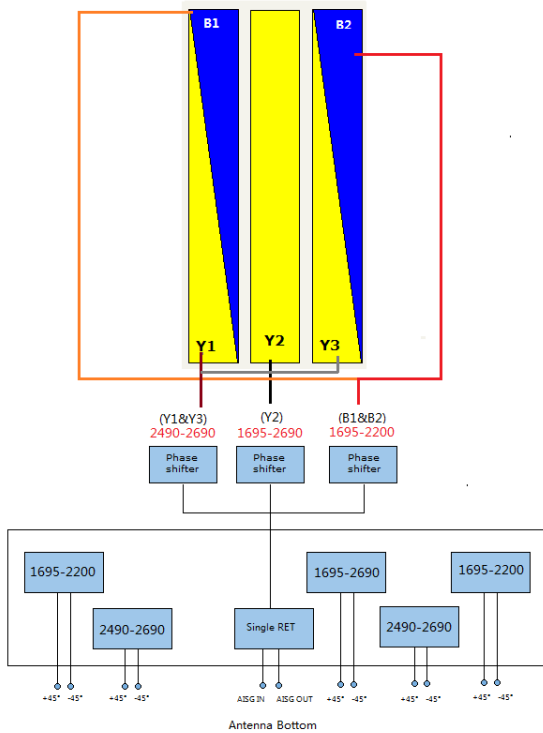
Radome Material	Fiberglass
Connector Type and Location	4.3-10x10 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1320 x 499 x 180 / 51.9 x 25.0 x 7.1
Packing Size(mm)/(inches)	1620 x 735 x 390 / 63.7x 29.0 x 15.3
Weight ,w/o Mounting kit(kg)/(lbs)	23 /50.6
Weight w/ Downtilt Bracket(kg)/(lbs)	30 / 66.0
Weight w/ Fixed Bracket(kg)/(lbs)	28 / 61.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	40 / 88.0
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	38 / 83.6
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	757 /170/ 550



Integrated RET Properties

RET Type		3x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

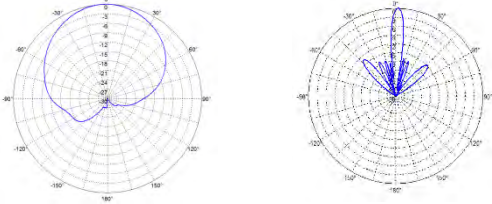


Frequency Range	Array	RET Unique ID
2490-2690MHz	Y1/Y3	NDPMXXXXXXXXX-2427Y1
1695-2690MHz	Y2	NDPMXXXXXXXXX-1727Y2
1695-2200	B1/B2	NDPMXXXXXXXXX-1721B1

Note: (1) Physical RET Unit containing (3) Single RET



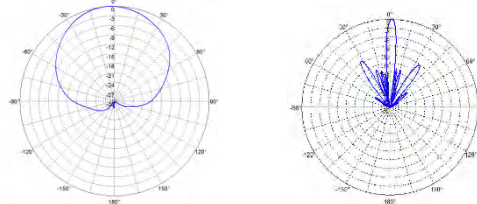
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

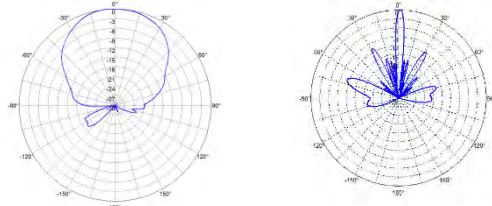
Radiation Patterns (1920 - 2200 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2490 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



DEC6-1A2G2U-RC65

10-ports 617-894 / 1695-2400 / 1695-2400/ 3400-4200 / 3400-4200 MHz 65°, 15 /17 /17 /16 /16 dBi, 2°-12°/ 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	617-894			2x1695-2400			2x3400-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	3400-3800	3800-4200
Polarization	±45°							
Horizontal 3dB Beamwidth(°)	74	71	66	68	65	58	65	59
Vertical 3dB Beamwidth(°)	13.5	12	10.5	7.5	6.5	6	7.5	6.5
Gain (dBi)	13.9	14.4	14.9	16.3	16.8	17.3	15.4	15.8
Electrical Downtilt	2°-12°			2°-12°			2°-12°	
Upper Sidelobe Suppression(dB)	First	≥13	≥13	≥13	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥23	≥23	≥23	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥15	≥15	≥15	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB							
Isolation Frequency	≥30 dB							
VSWR	< 1.5							
Intermodulation IM3	< -150 dBc(2x43dBm carrier)							
Impedance	50 Ω							
Max. Power per Input (at 50°C ambient temperature)	500 W			200 W			200 W	
Lightning Protection	DC Ground							



Mechanical Specifications

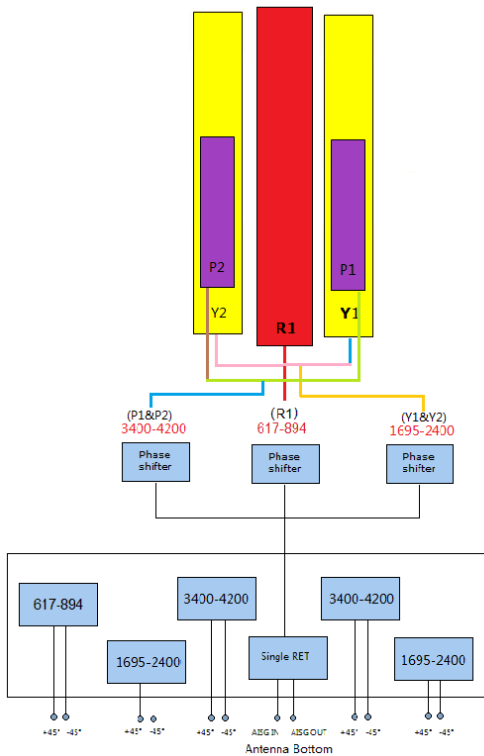
Radome Material	ASA
Connector Type and Location	4.3-10x10, Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 320 x 165 / 72.8 x 12.6 x 6.5
Packing Size(mm)/(inches)	2160x 440 x 290 / 85.0 x 17.3 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	23 / 50.6
Packing Weight(kg)/(lbs)	29 / 63.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	671/203/483



Integrated RET Properties

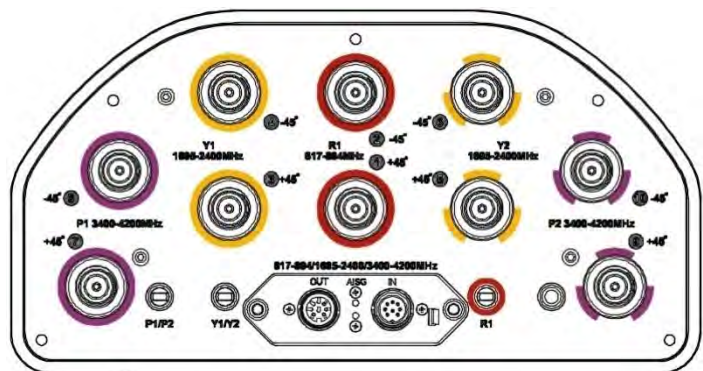
RET Type		3 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



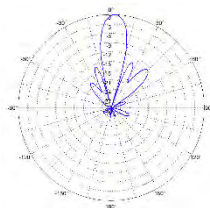
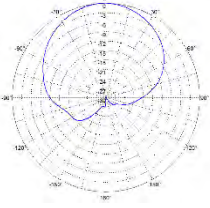
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6090R1
1695-2400MHz	Y1/Y2	NDPMXXXXXXXX-1724Y1
3400-4200MHz	P1/P2	NDPMXXXXXXXX-3442P1

Note: (1) Physical RET Unit containing (3) Single RET





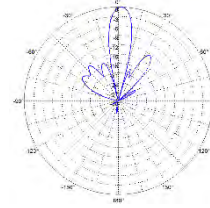
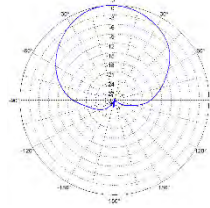
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

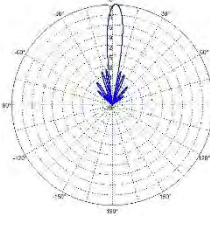
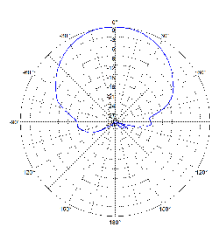
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

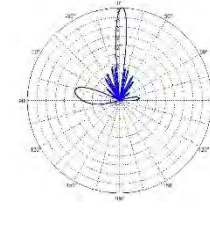
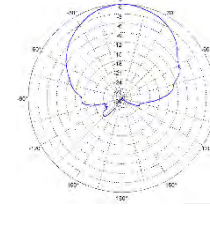
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

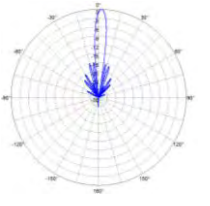
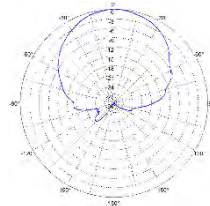
Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

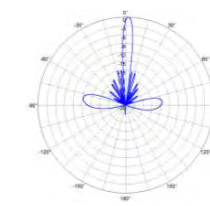
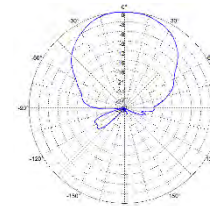
Radiation Pattern (3400 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



DEC6-1A2J2U-RC65-S

10-ports 617-894 / 1695-2690 / 1695-2690/ 3300-4200 / 3300-4200 MHz 65°, 15 /17.5 /17.5 /16 /16 dBi, 2°-12°/ 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs and 3 SBTs.

Electrical Specifications

Frequency Range(MHz)	617-894			2x1695-2690				2x3300-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690	3300-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	74	71	66	68	65	58	60	65	59
Vertical 3dB Beamwidth(°)	13.5	12	10.5	7.5	6.5	6	5.5	7.6	6.5
Gain (dBi)	13.9	14.4	14.9	16.3	16.8	17.3	17.6	15.4	15.8
Electrical Downtilt	2°-12°			2°-12°				2°-12°	
Upper Sidelobe Suppression(dB)	First	≥13	≥13	≥13	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥23	≥23	≥23	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥15	≥15	≥15	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30dB								
VSWR	< 1.5								
Intermodulation IM3	< -153 dBc(2x43dBm carrier)								
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient temperature)	500 W			200 W				200 W	
Lightning Protection	DC Ground								



Mechanical Specifications

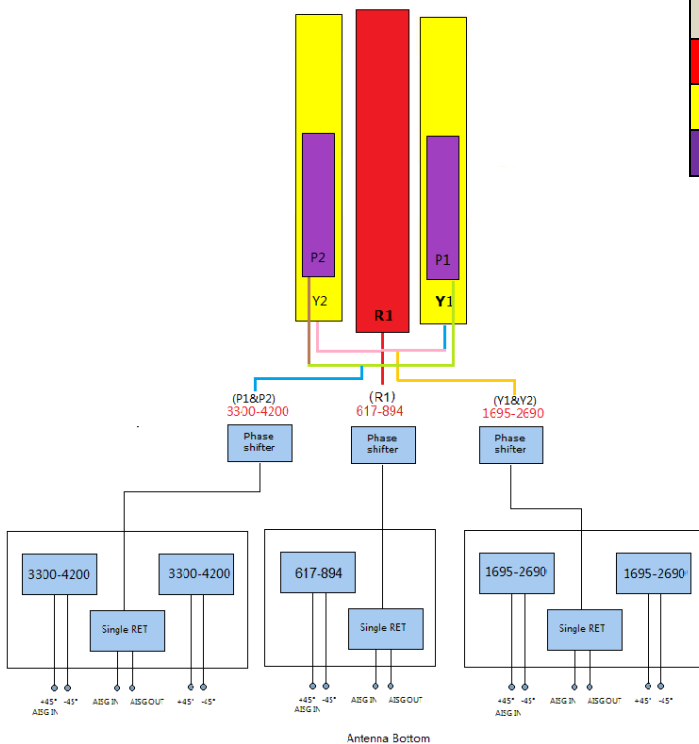
Radome Material	ASA
Connector Type and Location	4.3-10x10, Bottom RCU RF in: 3 ports in 4.3-10 Female iRCU in:3 x 8 pin male iRCU out:3 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1850 x 320 x 165 / 72.8x 12.6 x 6.5
Packing Size(mm)/(inches)	2110x 440 x 290 / 83.1 x 17.3 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	21 / 46.2
Weight w/ Downtilt Barcket(kg)/(lbs)	26 / 57.2
Weight w/ Fixed Barcket(kg)/(lbs)	24 / 52.8
Packing Weight (w/ Downtilt Barcket) (kg)/(lbs)	31 / 68.2
Packing Weight (w/ Fixed Barcket) (kg)/(lbs)	29 / 63.8
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	671/203/483



Integrated RET Properties

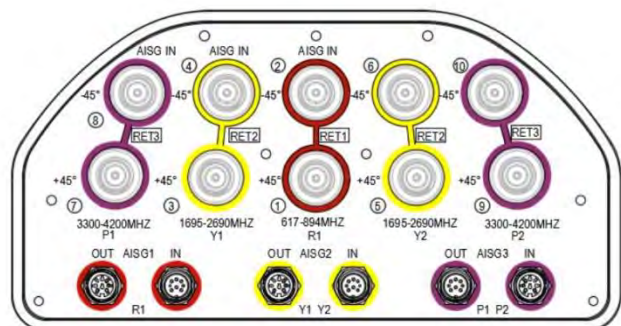
RET Type		3 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	3 Ports in 4.3-10 Female 6 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



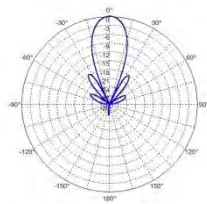
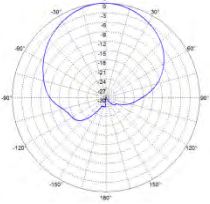
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6090R1
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1724Y1
3300-4200MHz	P1/P2	NDPMXXXXXXXX-3442P1

Note: (1) Physical RET Unit containing (3) Single RET





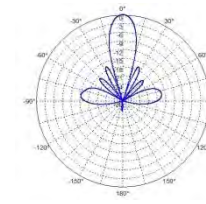
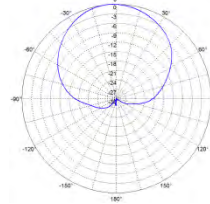
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

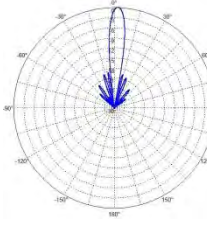
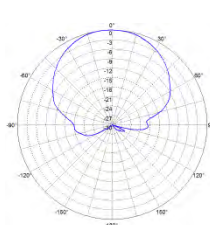
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

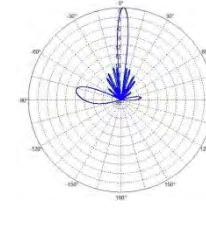
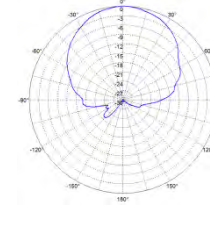
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

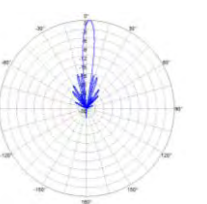
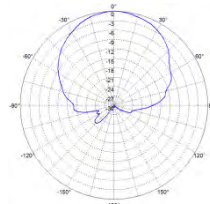
Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

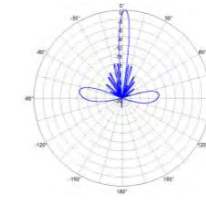
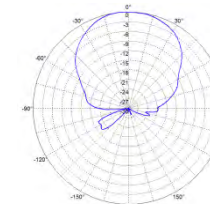
Radiation Pattern (3300 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



DEC6-3A2J-RE45

10-ports 617-894 / 617-894 /617-894 /1695-2690 /1695-2690 MHz 45°, 15.5 / 15.5 / 15.5 / 20.0 / 20.0 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 °/ 2°-12° Tilt Antenna With 5 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	3x617-894			2x1695-2690			
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41	38
Vertical 3dB Beamwidth(°)	13.5	12	10.5	5.7	5.2	4.5	4.1
Gain (dBi)	14.4	14.9	15.5	18.5	19.0	19.4	19.6
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥17	≥17	≥17	≥17	≥17	≥17
Front-to-Back Ratio Total Power, ± 30° (dB)		≥24	≥25	≥25	≥27	≥27	≥27
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
Isolation ports	≥23 dB			≥25 dB			
Isolation Frequency	≥30 dB						
VSWR	< 1.5						
Intermodulation IM3	< -150 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						



Mechanical Specifications

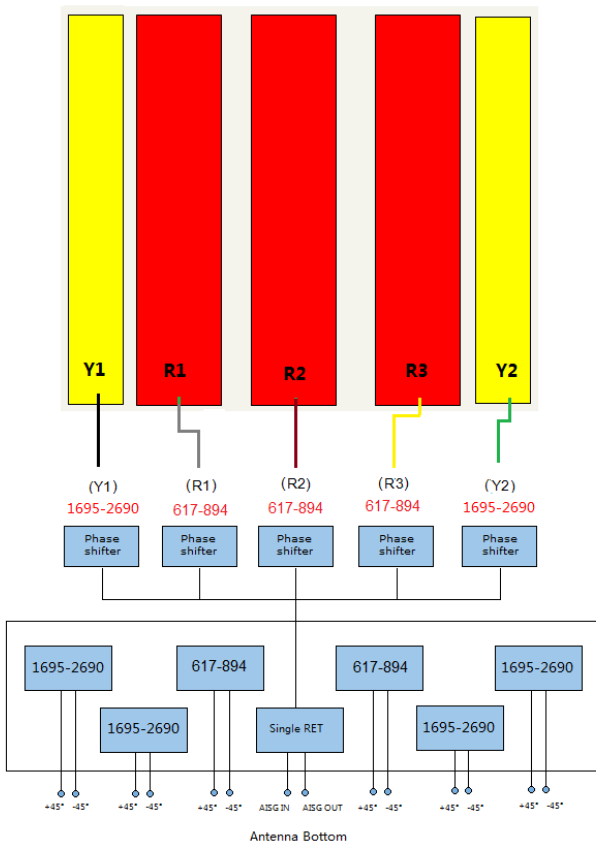
Radome Material	FiberGlass
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 635 x 180 / 72.8 x 25.0 x 7.1
Packing Size(mm)/(inches)	2250 x 695 x 305 / 88.5 x 27.4 x 12.0
Weight ,w/o Mounting kit(kg)/(lbs)	45 / 99
Weight w/ Downtilt Bracket(kg)/(lbs)	52 / 114.4
Weight w/ Fixed Bracket(kg)/(lbs)	50 / 110
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	64 / 140.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	61 / 134.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1354/230/974



Integrated RET Properties

RET Type		5x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

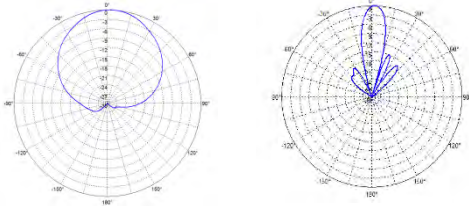


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
617-894MHz	R3	NDPMXXXXXXXX-6089R3
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (5) Single RET



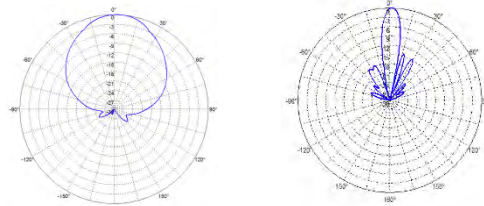
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

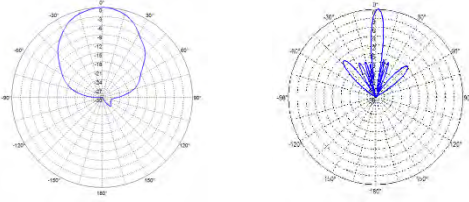
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

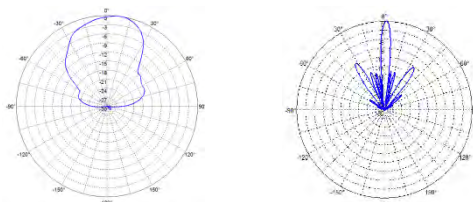
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

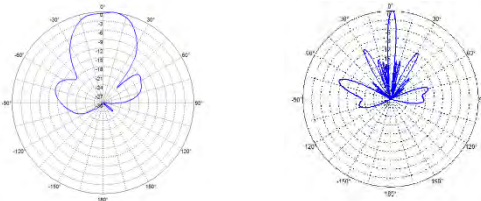
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



DEC8-1A2J2U-RC65-S

10-ports 617-894 / 1695-2690 / 1695-2690/ 3300-4200 / 3300-4200 MHz 65°, 16 /17.5 /17.5 /16 /16 dBi, 2°-12°/ 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs and 3 SBTs.

Electrical Specifications

Frequency Range(MHz)	617-894			2x1695-2690				2x3300-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690	3300-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	74	71	66	68	65	58	60	65	59
Vertical 3dB Beamwidth(°)	10.4	9.1	8.0	7.5	6.5	6	5.5	7.6	6.5
Gain (dBi)	15.0	15.5	16.0	16.3	16.8	17.3	17.6	15.4	15.8
Electrical Downtilt	2°-12°			2°-12°				2°-12°	
Upper Sidelobe Suppression(dB)	First	≥13	≥13	≥13	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥23	≥23	≥23	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥15	≥15	≥15	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30dB								
VSWR	< 1.5								
Intermodulation IM3	< -153 dBc(2x43dBm carrier)								
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient temperature)	500 W			200 W				200 W	
Lightning Protection	DC Ground								



Mechanical Specifications

Radome Material	ASA
Connector Type and Location	4.3-10x10, Bottom RCU RF in: 3 ports in 4.3-10 Female iRCU in:3 x 8 pin male iRCU out:3 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	2438 x 320 x 165 / 95.9x 12.6 x 6.5
Packing Size(mm)/(inches)	2880x 440 x 290 / 113.4 x 17.3 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	28 / 61.6
Weight w/ Downtilt Barcket(kg)/(lbs)	33 / 72.6
Weight w/ Fixed Barcket(kg)/(lbs)	31 / 68.2
Packing Weight (w/ Downtilt Barcket) (kg)/(lbs)	38 / 83.6
Packing Weight (w/ Fixed Barcket) (kg)/(lbs)	36 / 79.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	885/268/638



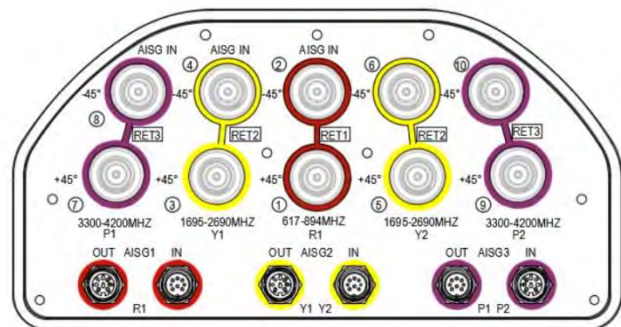
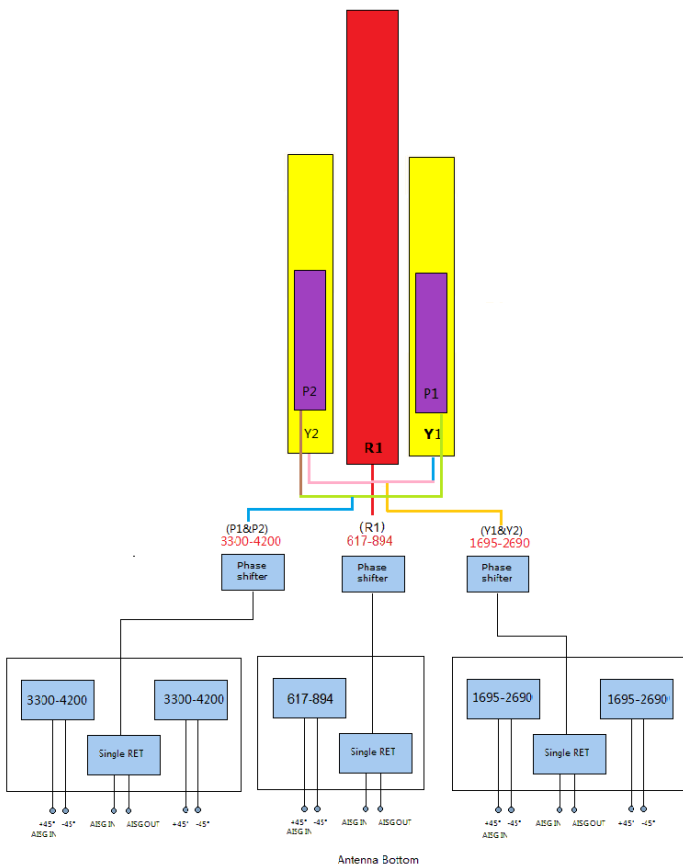
Integrated RET Properties

RET Type		3 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	3 Ports in 4.3-10 Female 6 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

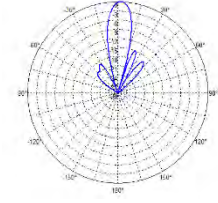
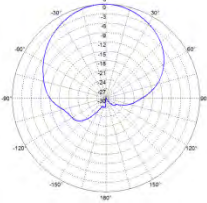
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6090R1
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1724Y1
3300-4200MHz	P1/P2	NDPMXXXXXXXX-3442P1

Note: (1) Physical RET Unit containing (3) Single RET





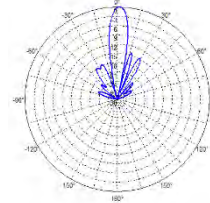
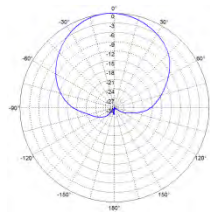
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

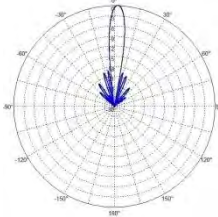
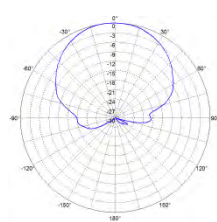
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

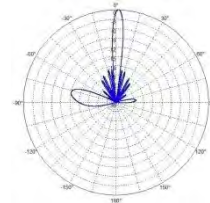
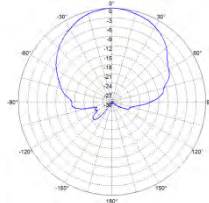
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

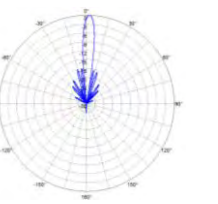
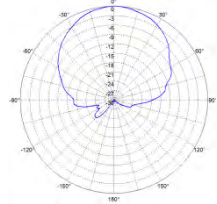
Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

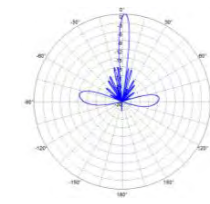
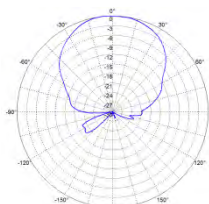
Radiation Pattern (3300 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern

DENGYO **DOD** series

12-port base station antennas



DOD3-2LX4HX-CB65

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690/ 3400-4200 / 3400-4200 MHz 65°, 11 / 11 /14 /14 /15 /15 dBi, 0° / 0°/ 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 4 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2690				2x3400-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690	3400-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	74	71	66	68	65	58	60	65	60
Vertical 3dB Beamwidth(°)	42.5	37.5	33.5	16.5	14.5	12.5	11.5	8.5	7.5
Gain (dBi)	10	10.4	10.9	12.8	13.3	13.8	14.3	14.7	15.3
Electrical Downtilt	0°			2°-12°				2°-12°	
Upper Sidelobe Suppression(dB)	First	/	/	/	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥15	≥15	≥15	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)								
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient)	500 W			200 W				200 W	
Lightning Protection	DC Ground								



Mechanical Specifications

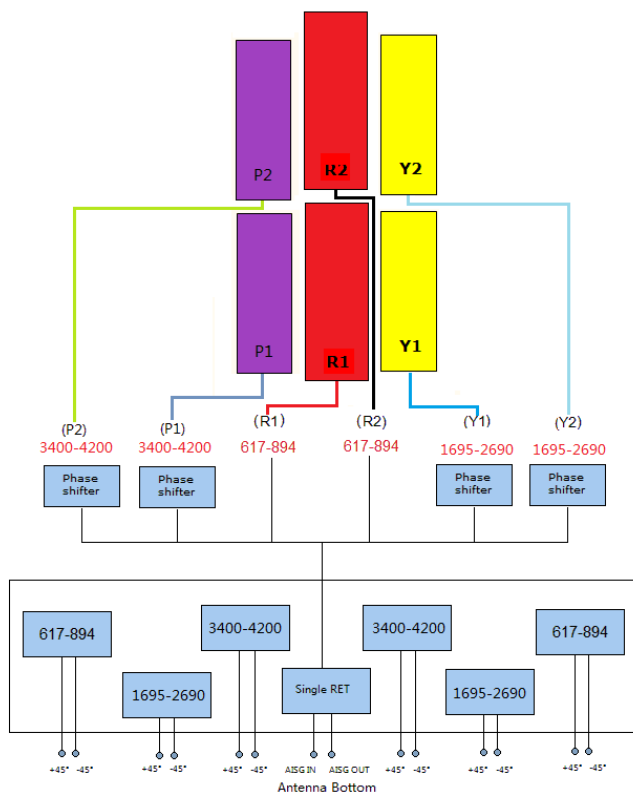
Radome Material	Fiberglass
Connector Type and Location	4.3-10x12, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1090 x 320 x 180 / 42.9 x 12.6 x 7.1
Packing Size(mm)/(inches)	1400 x 425 x 300 / 55.1 x 16.7 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	19.5 / 42.9
Weight w/ Downtilt Bracket(kg)/(lbs)	25.5 / 56.1
Weight w/ Fixed Bracket(kg)/(lbs)	23.5 / 51.7
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	34.5 / 75.9
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	32.5 / 71.5
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	445/135/322



Integrated RET Properties

RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

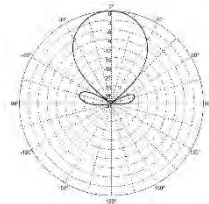
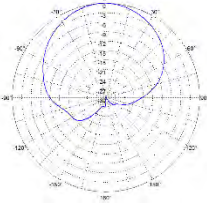


Frequency Range	Array	RET Unique ID
617-894MHz	R1	-
617-894MHz	R2	-
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
3400-4200MHz	P1	NDPMXXXXXXXX-3442P1
3400-4200MHz	P2	NDPMXXXXXXXX-3442P2

Note: (1) Physical RET Unit containing (4) Single RET



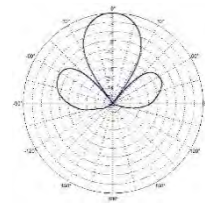
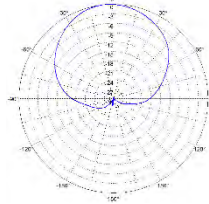
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

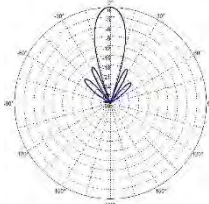
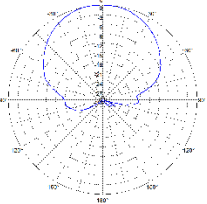
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

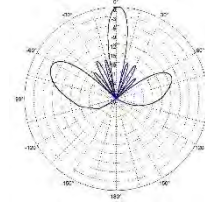
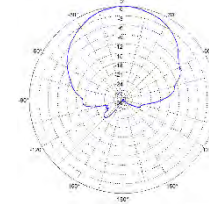
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

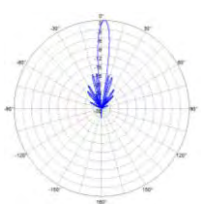
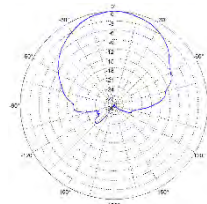
Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

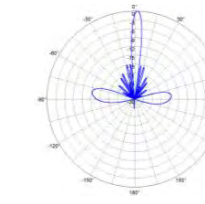
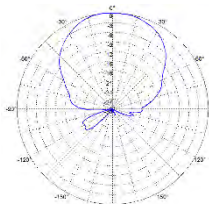
Radiation Pattern (3400 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



DOD4-2LX4HX-BR45

12-ports 617-894 / 617-894 /1695-2690 /1695-2690 /1695-2690 /1695-2690 MHz 45°, 14 / 14 / 18.5 / 18.5 / 18.5 / 18.5 dBi, 2°-14° / 2°-14° / 2°-12° / 2 - 12° / 2°-12° / 2 - 12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		50	46	42	48	45	41	38
Vertical 3dB Beamwidth(°)		20	18.5	16.5	7.9	6.9	6.4	5.8
Gain (dBi)		12.6	13.2	13.8	17	17.5	18	18.3
Electrical Downtilt		2°-14°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±30° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W			
Lightning Protection		DC Ground						



Mechanical Specifications

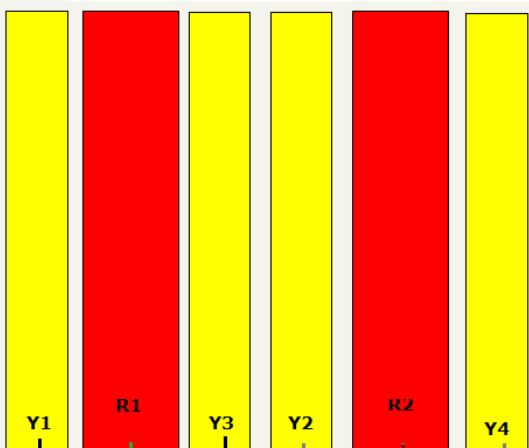
Redome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1250 x 533 x 160 / 49.2 x 21.0x 6.3
Packing Size(mm)/(inches)	1595 x 633 x 291 / 62.8 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	28 / 61.6
Weight w/ Downtilt Barcket(kg)/(lbs)	34 / 74.8
Weight w/ Fixed Barcket(kg)/(lbs)	32 / 70.4
Packing Weight (w/ Downtilt Barcket) (kg)/(lbs)	43 / 94.6
Packing Weight (w/ Fixed Barcket) (kg)/(lbs)	41 / 90.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	768/143/553



Integrated RET Properties

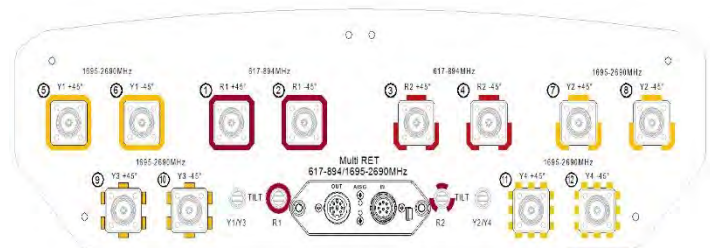
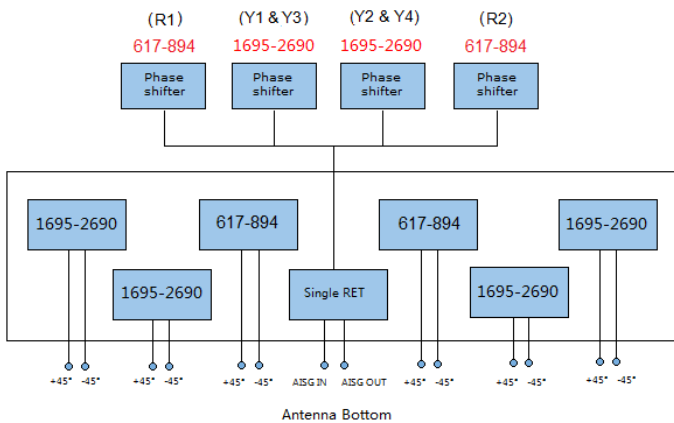
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



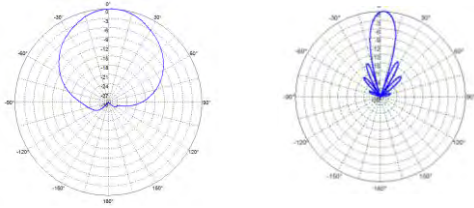
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1/Y3	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2/Y4	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET





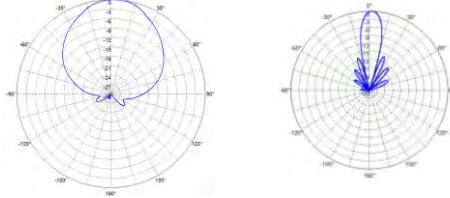
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

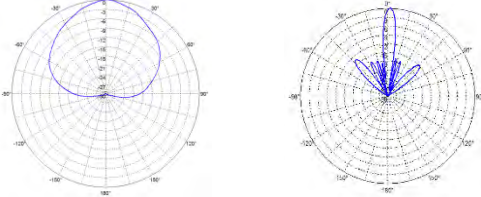
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

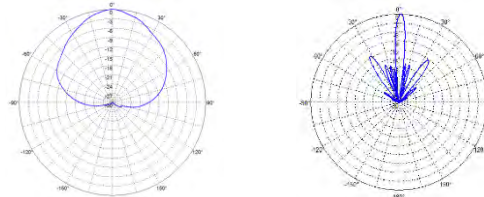
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

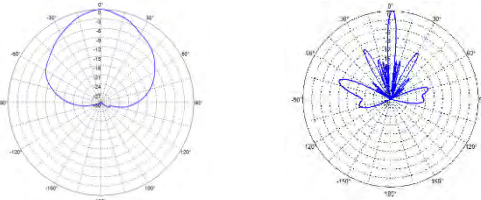
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



DOD4-2LX4HX-BR65

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 MHz 65°, 14 / 14 / 18 / 18 / 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 ° / 2°-12° / 2 - 12 °Tilt Antenna With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894		4x1695-2690				
		617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		70	63	66	65	62	58	60
Vertical 3dB Beamwidth(°)		18.5	15.5	7.2	6.8	6.3	5.5	5.1
Gain (dBi)		13	13.9	16.8	17.2	17.7	17.7	17.8
Electrical Downtilt		2°-12°		2°-12°				
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥24 dB						
Isolation Frequency		≥28 dB						
VSWR		< 1.5						
Intermodulation IM3(2x43dBm carrier)(dBc)		<-150	<-153	< -153				
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W		300 W				
Lightning Protection		DC Ground						



Electrical Specifications,BASTA

Frequency Range(MHz)		2x617-894		4x1695-2690				
		617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization		±45°						
Beamwidth, Horizontal Tolerance (°)		±4.4	±6.0	±3.6	±4.2	±6.3	±5.6	±6.1
Beamwidth, Vertical Tolerance (°)		±1.5	±1.7	±0.5	±0.5	±0.4	±0.4	±0.4
Gain by all Beam Tilts,average, (dBi)		12.9	13.5	16.7	17.1	17.6	17.6	17.7
Gain by all Beam Tilts,Tolerance, (dB)		±0.6	±0.8	±0.5	±0.5	±0.6	±0.5	±0.5
Gain by all Beam Tilt,average (dBi)		2 12.9	2 13.5	2 16.6	2 17.1	2 17.4	2 17.5	2 17.6
		7 13	7 13.6	7 16.8	7 17.2	7 17.6	7 17.7	7 17.8
		12 12.9	12 13.4	12 16.5	12 17.0	12 17.3	12 17.4	12 17.5
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7



Mechanical Specifications

Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 533 x 160 / 51.1 x 21.0x 6.3
Packing Size(mm)/(inches)	1600 x 633 x 291 / 63.0 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	26.5/58.3
Weight with Downtilt Bracket(kg)/(lbs)	33.5/73.7
Weight with Fixed Bracket(kg)/(lbs)	31.5/ 69.3
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	42 / 92.4
Packing Weight (with Fixed Bracket) (kg)/(lbs)	40 / 88
Max. Wind Velocity(mph)	150
Mounting hardware	φ 50 mm ~ φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	800/148/576

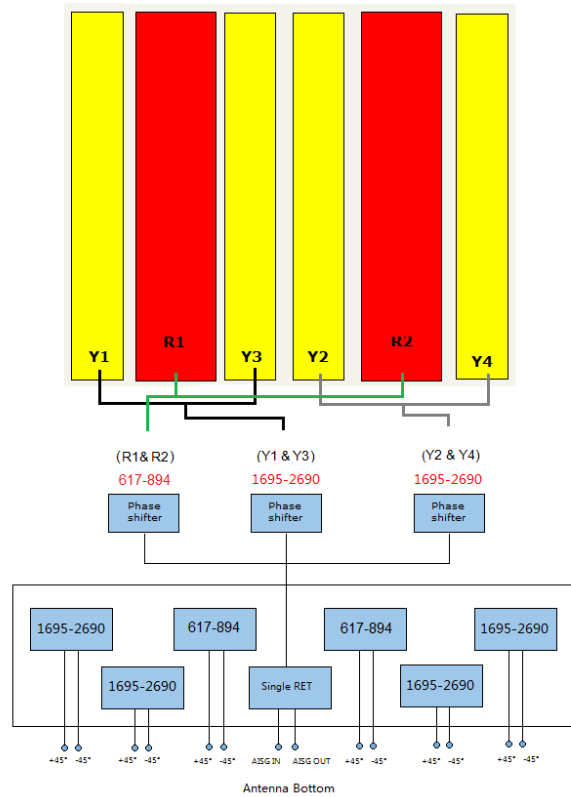
Integrated RET Properties

RET Type	3x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

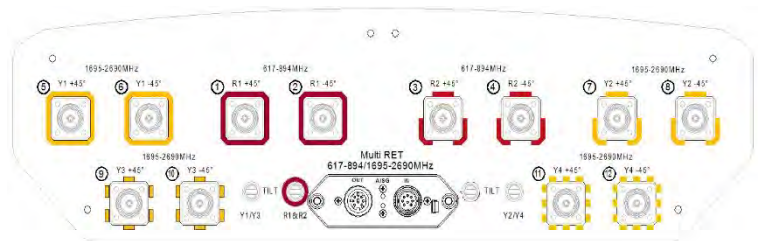


COMPREHENSIVE TILT CONFIGURATION

Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1/Y3	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2/Y4	NDPMXXXXXXXX-1727Y2

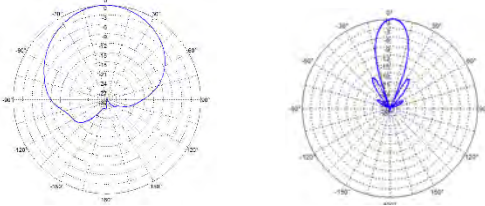


Note: (1) Physical RET Unit containing (3) Single RET





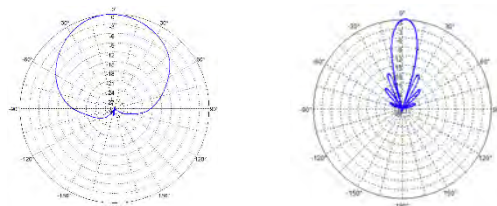
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

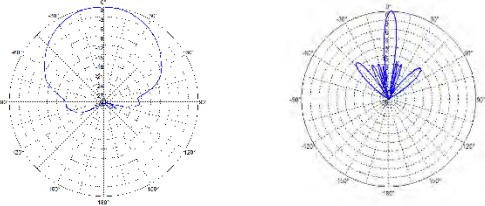
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

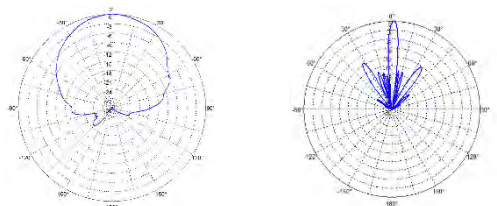
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

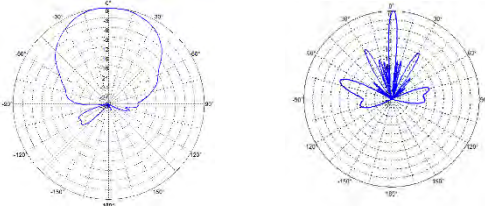
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



DOD4-2LX4HX-BW45

12-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 / 1695-2400 / 1695-2400 MHz 45°, 14 / 14 / 18.1 / 18.1 / 18.1 / 18.1 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12° / 2°-12° / 2 - 12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			4x1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		50	46	42	48	45	41
Vertical 3dB Beamwidth(°)		19	16.5	14.5	7.5	6.5	6
Gain (dBi)		13	13.5	14	17.1	17.6	18.1
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
Isolation ports		≥24 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					



Mechanical Specifications

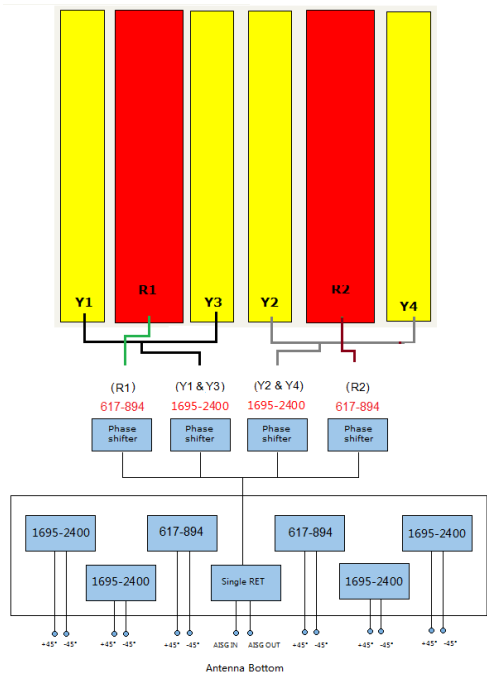
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 533 x 160 / 51.2 x 21.0x 6.3
Packing Size(mm)/(inches)	1645 x 633 x 291 / 64.7x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	28 / 61.6
Weight w/ Downtilt Bracket(kg)/(lbs)	35 / 77
Weight w/ Fixed Bracket(kg)/(lbs)	33 / 72.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	44 / 96.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	42 / 92.4
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	800/148/576



Integrated RET Properties

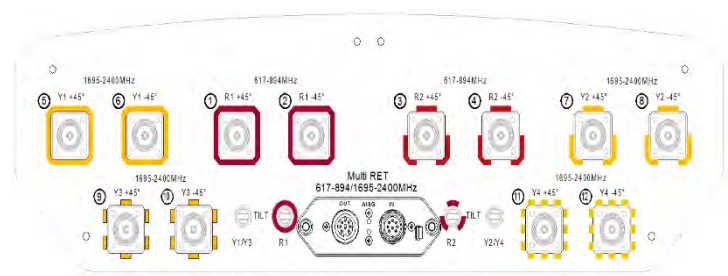
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



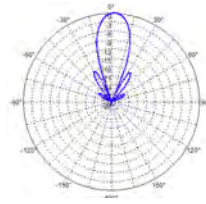
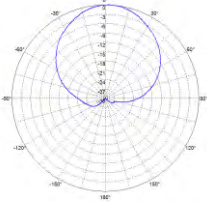
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1/Y3	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2/Y4	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (4) Single RET





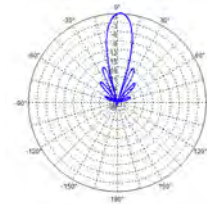
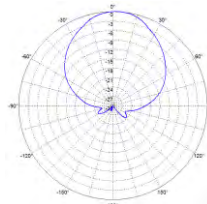
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

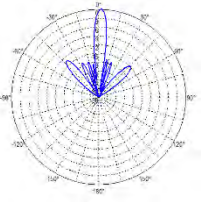
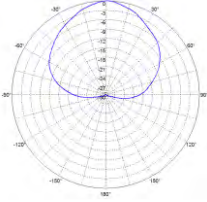
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

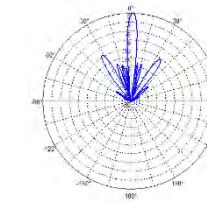
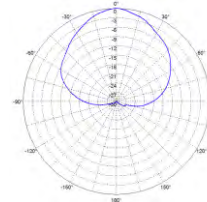
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

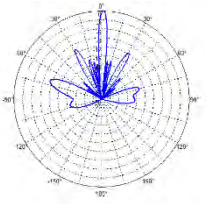
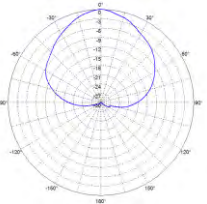
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



DOD4-2LX4HX-BW65

12-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 / 1695-2400 / 1695-2400 MHz 65°, 13.5 / 13.5 / 17.5 / 17.5 / 17.5 / 17.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 ° / 2°-12° / 2°-12 ° Tilt Antenna With 4 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894			4x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	70	65	60	66	63	58
Vertical 3dB Beamwidth(°)	19	16.5	14.5	7.5	6.5	6
Gain (dBi)	12.4	12.9	13.4	16.5	17.0	17.5
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥24 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 533 x 160 / 51.1 x 21.0x 6.3
Packing Size(mm)/(inches)	1645 x 633 x 291 / 64.7 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	27.5/60.5
Weight with Downtilt Bracket(kg)/(lbs)	34.5/75.9
Weight with Fixed Bracket(kg)/(lbs)	32.5/ 71.5
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	42 / 92.4
Packing Weight (with Fixed Bracket) (kg)/(lbs)	40 / 88
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	800/148/576

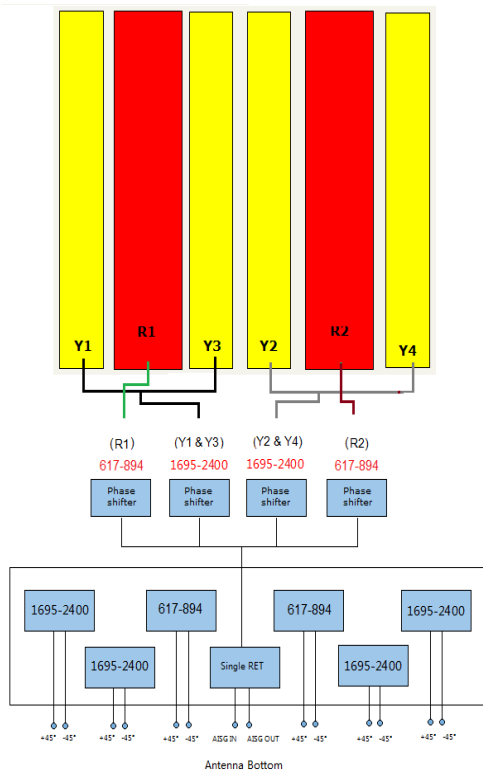


Integrated RET Properties

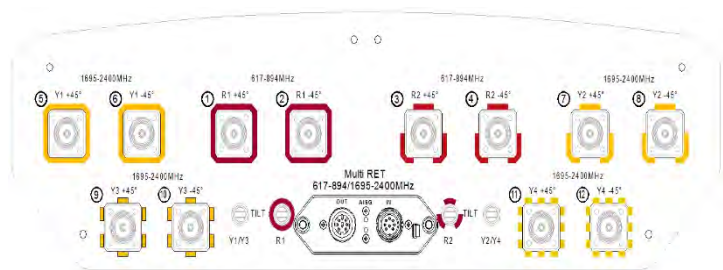
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION

Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1/Y3	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2/Y4	NDPMXXXXXXXX-1724Y2

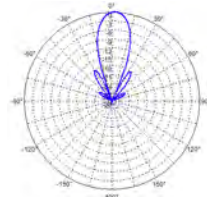
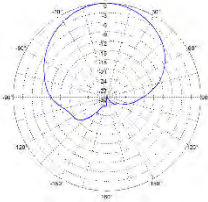


Note: (1) Physical RET Unit containing (4) Single RET





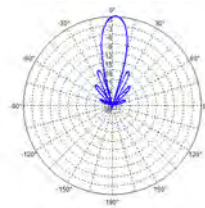
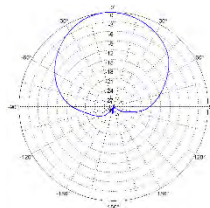
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

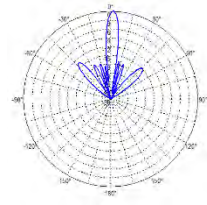
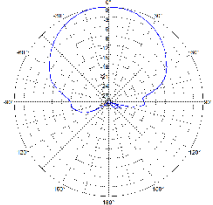
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

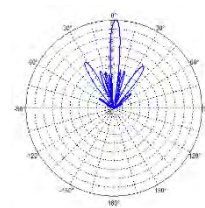
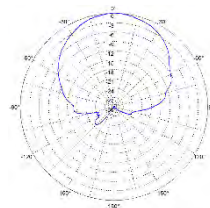
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

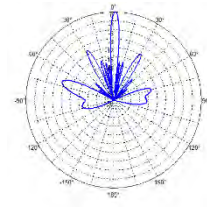
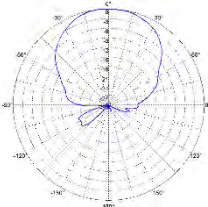
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



DOD4-2LX4HX-CB65

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690/ 3300-4200 / 3300-4200 MHz 65°, 13 /13 /18 /18 /18 /18 dBi, 2°-12° /2°-12° / 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2690				2x3300-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690	3300-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	70	65	60	66	63	58	60	68	64
Vertical 3dB Beamwidth(°)	20	17.5	15.5	7.5	6.5	6	5.5	6.8	6
Gain (dBi)	12.4	12.9	13.4	16.5	17	17.5	17.8	17	17.5
Electrical Downtilt	2°-12°			2°-12°				2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥24	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥24 dB								
Isolation Frequency	≥30 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)							/	
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient)	500 W			300 W				250 W	
Lightning Protection	DC Ground								



Mechanical Specifications

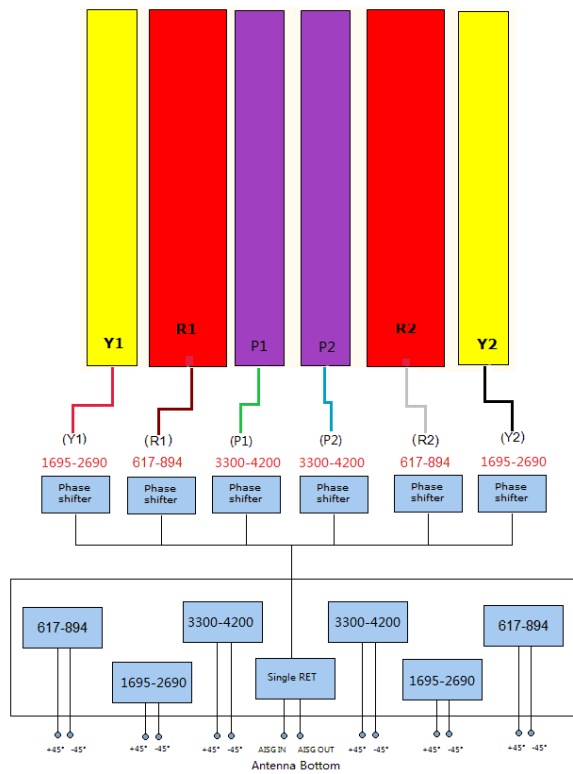
Radome Material	ASA
Connector Type and Location	4.3-10x12, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1300 x 533 x 160 / 51.2 x 21.0 x 6.3
Packing Size(mm)/(inches)	1600 x 633 x 291/ 63 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	30 / 66
Weight w/ Downtilt Bracket(kg)/(lbs)	37 / 81.4
Weight w/ Fixed Bracket(kg)/(lbs)	35 / 77
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	46 / 101.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	44 / 96.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	748/167/539



Integrated RET Properties

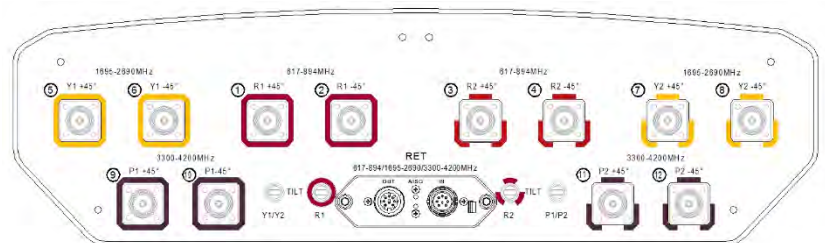
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



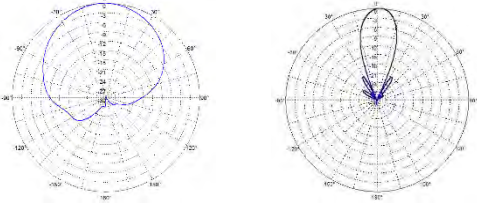
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y1
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P1

Note: (1) Physical RET Unit containing (4) Single RET





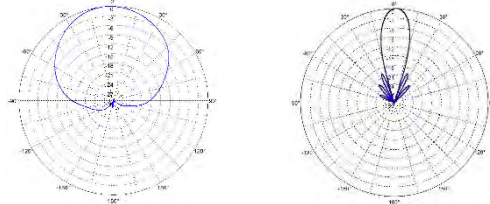
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

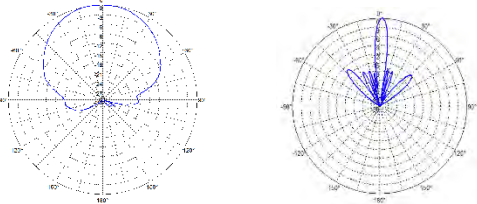
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

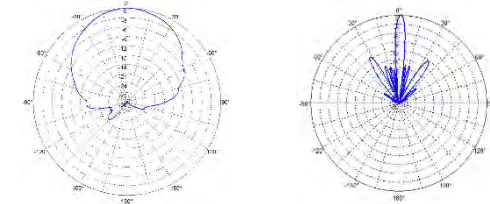
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

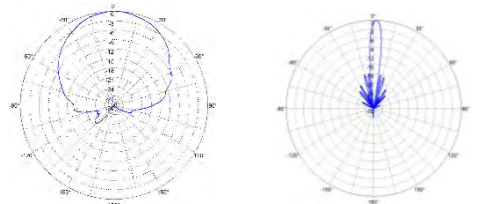
Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

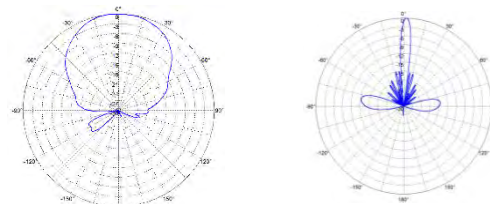
Radiation Pattern (3300 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



DOD6-2A2J2R-RF45

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690/ 3400-4200 / 3400-4200 MHz 45°, 15.5 / 15.5 / 19.0 / 19.0 / 18.5 / 18.5dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 6 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2690				2x3400-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690	3400-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41	38	48	45
Vertical 3dB Beamwidth(°)	14.5	12.5	11	7.5	6.5	6	5.5	6.8	6
Gain (dBi)	14.4	14.9	15.5	17.3	17.8	18.3	18.6	17.8	18.3
Electrical Downtilt	2°-12°			2°-12°				2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±30° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)								
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient)	500 W			300 W				250 W	
Lightning Protection	DC Ground								



Mechanical Specifications

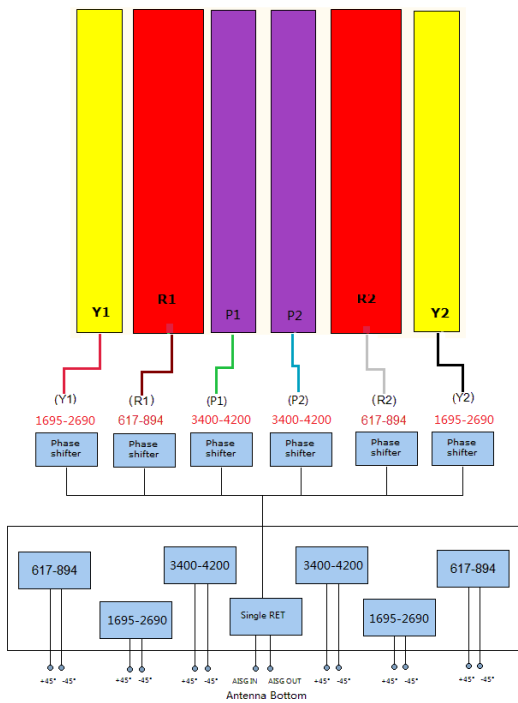
Radome Material	ASA
Connector Type and Location	4.3-10x12, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2160 x 600 x 310 / 85 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	35.5 / 78.1
Weight w/ Downtilt Bracket(kg)/(lbs)	41.5 / 91.3
Weight w/ Fixed Bracket(kg)/(lbs)	39.5 / 86.9
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	50.5 / 111.1
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	48.5 / 106.7
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1065/237/767



Integrated RET Properties

RET Type		6x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

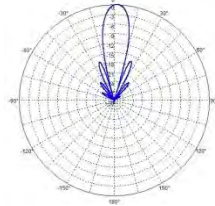
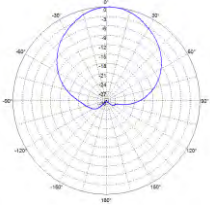


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y1
3400-4200MHz	P1	NDPMXXXXXXXX-3442P1
3400-4200MHz	P2	NDPMXXXXXXXX-3442P1

Note: (1) Physical RET Unit containing (6) Single RET



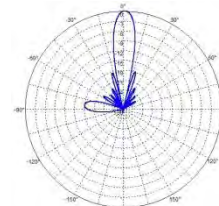
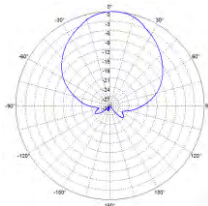
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

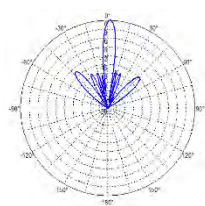
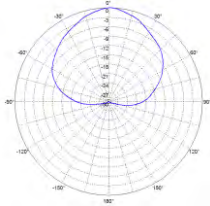
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

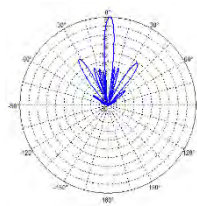
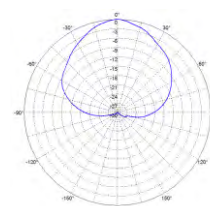
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

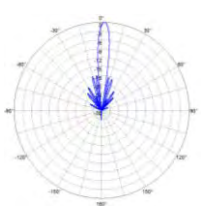
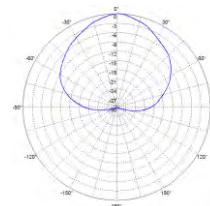
Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

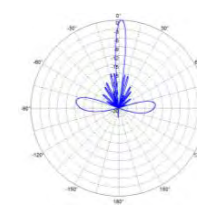
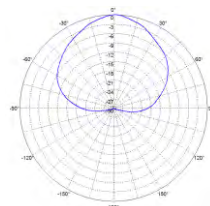
Radiation Pattern (3400 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



DOD6-2A2J2R-RF65

12-ports 617-894 / 617-894 /1695-2690 / 1695-2690/ 3300-4200 / 3300-4200 MHz 65°, 15 /15 /18 /18 /18 /18 dBi, 2°-12° /2°-12° / 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 6 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2690				2x3300-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690	3300-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	70	65	60	66	63	58	60	68	64
Vertical 3dB Beamwidth(°)	14.5	12.5	11	7.5	6.5	6	5.5	6.8	6
Gain (dBi)	13.9	14.4	14.9	16.5	17	17.5	17.8	17	17.5
Electrical Downtilt	2°-12°			2°-12°				2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)								
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient)	500 W			300 W				250 W	
Lightning Protection	DC Ground								



Mechanical Specifications

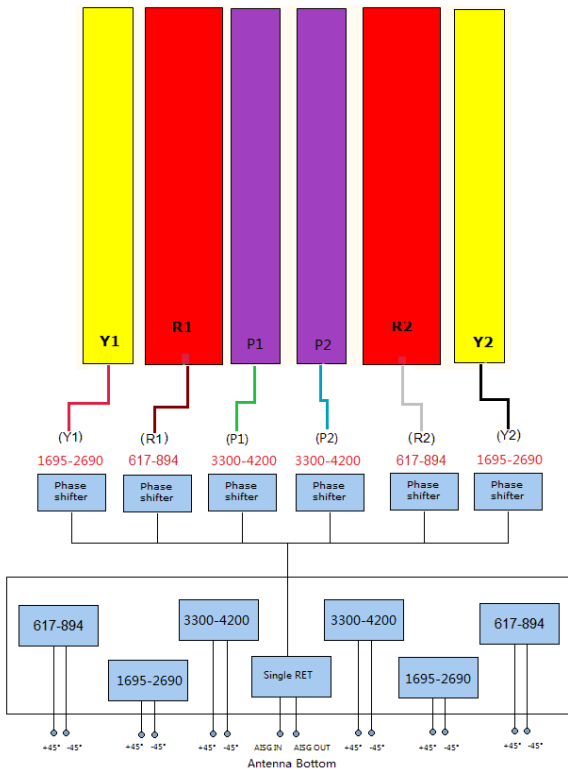
Radome Material	ASA
Connector Type and Location	4.3-10x12, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2160 x 600 x 310 / 85 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	33.5 / 73.7
Weight w/ Downtilt Bracket(kg)/(lbs)	39.5 / 86.9
Weight w/ Fixed Bracket(kg)/(lbs)	37.5 / 82.5
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	48.5 / 106.7
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	46.5 / 102.3
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1065/237/767



Integrated RET Properties

RET Type		6x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

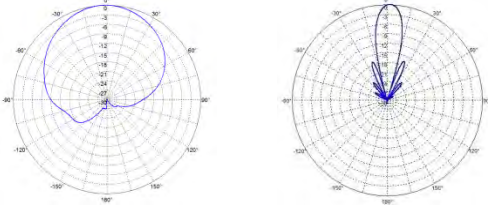


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P2

Note: (1) Physical RET Unit containing (6) Single RET



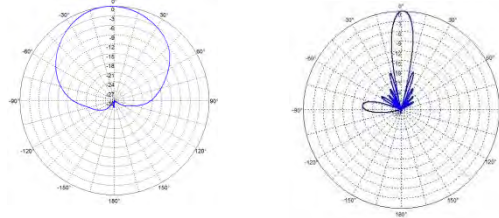
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

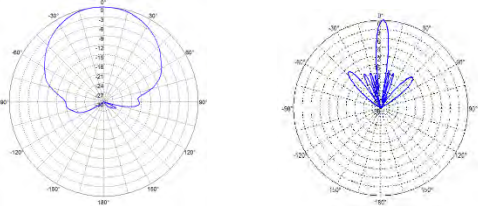
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

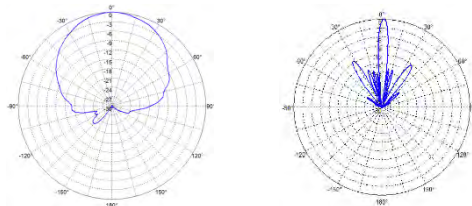
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

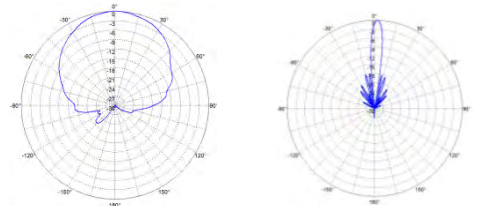
Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

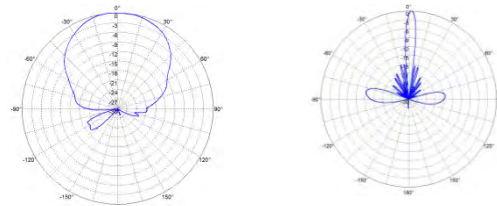
Radiation Pattern (3300 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



DOD6-2A4J-RD45

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 MHz 45°, 16.5 / 16.5 / 20.0 / 20.0 / 20.0 / 20.0 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 ° / 2°-12° / 2°-12 ° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		50	46	42	48	45	41	38
Vertical 3dB Beamwidth(°)		13.5	12	10.5	5.7	5.2	4.5	4.1
Gain (dBi)		15.4	15.9	16.5	19.0	19.5	19.9	20.1
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥17	≥17	≥17	≥17	≥17	≥17	≥17
Front-to-Back Ratio Total Power, ±30° (dB)		≥27	≥27	≥27	≥27	≥27	≥27	≥27
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±30° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -153 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W			
Lightning Protection		DC Ground						



Mechanical Specifications

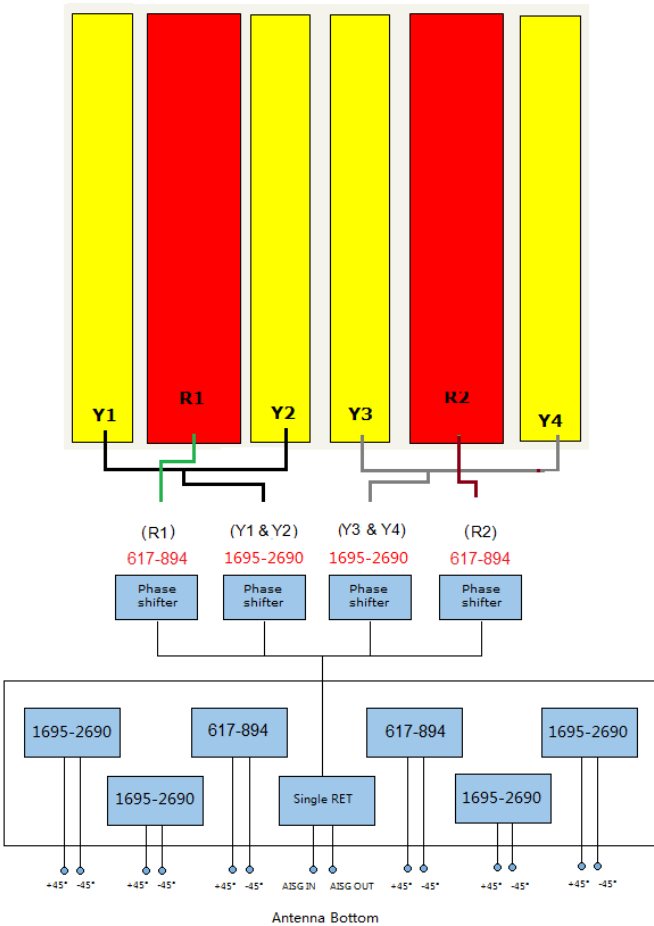
Radome Material	FiberGlass
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 635 x 180 / 72.8 x 25.0 x 7.1
Packing Size(mm)/(inches)	2250 x 695 x 305 / 88.5 x 27.4 x 12.0
Weight ,w/o Mounting kit(kg)/(lbs)	43 / 94.6
Weight w/ Downtilt Bracket(kg)/(lbs)	50 / 110
Weight w/ Fixed Bracket(kg)/(lbs)	48 / 105.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	64 / 140.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	61 / 134.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1354/230/974



Integrated RET Properties

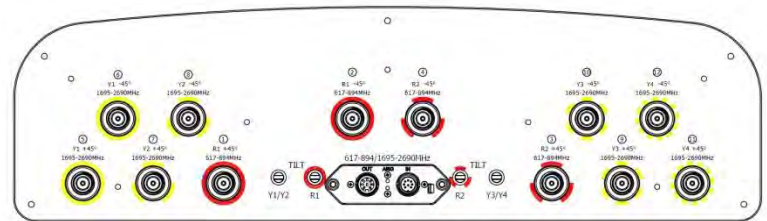
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs, 200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



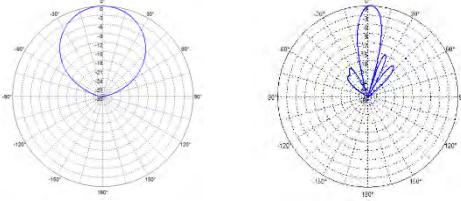
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y3

Note: (1) Physical RET Unit containing (4) Single RET





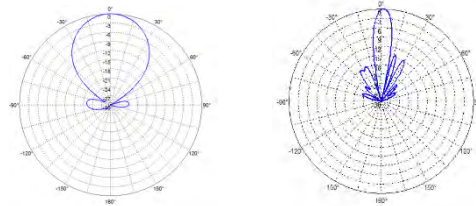
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

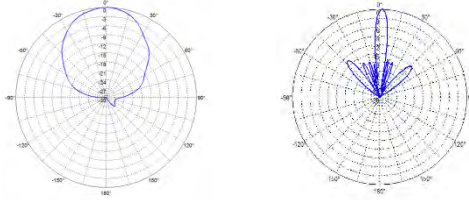
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

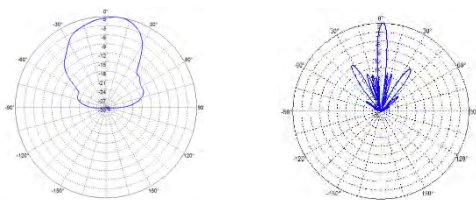
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

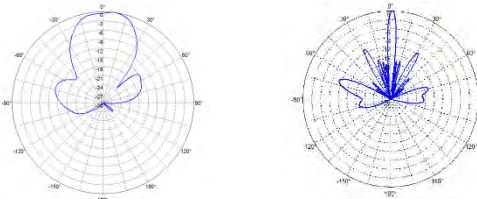
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



DOD6-2A4J-RF65

12-ports 617-894 / 617-894 /1695-2690 /1695-2690 /1695-2690 /1695-2690 MHz 65°, 15 / 15 / 17.5 / 17.5 / 17.5 / 17.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 ° / 2°-12° / 2 - 12 °Tilt Antenna With 6 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		70	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		13.5	12	10.5	7.5	6.5	6	5.5
Gain (dBi)		13.9	14.4	14.9	16.5	17.0	17.5	17.8
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W			
Lightning Protection		DC Ground						



Mechanical Specifications

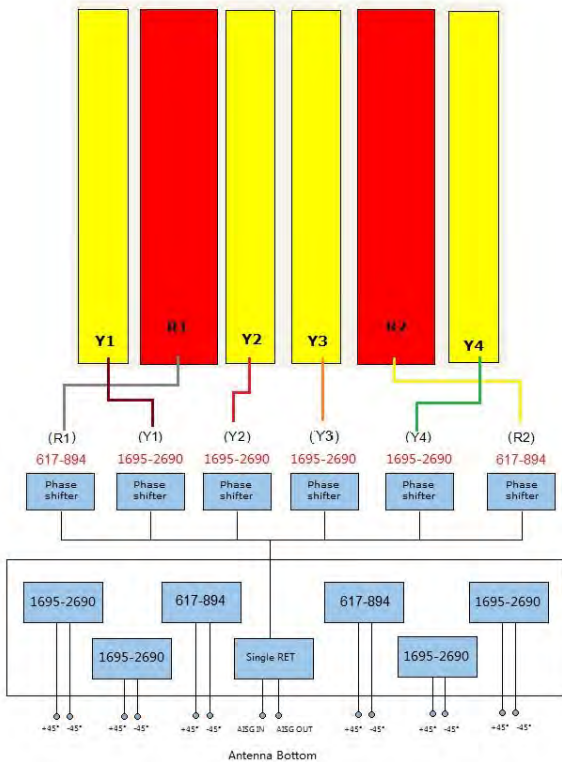
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 533 x 160 / 72.8 x 21.0x 6.3
Packing Size(mm)/(inches)	2195 x 633 x 291 / 86.4 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	34 / 74.8
Weight with Downtilt Bracket(kg)/(lbs)	41 / 90.2
Weight with Fixed Bracket(kg)/(lbs)	39 / 85.8
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	50 / 110
Packing Weight (with Fixed Bracket) (kg)/(lbs)	48 / 105.6
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1138/211/819



Integrated RET Properties

RET Type		6x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



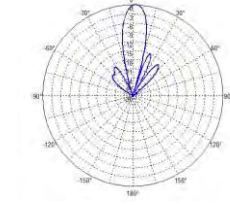
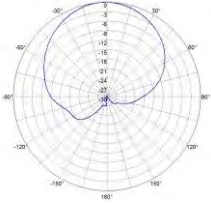
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
1695-2690MHz	Y3	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y4	NDPMXXXXXXXX-1727Y4

Note: (1) Physical RET Unit containing (6) Single RET





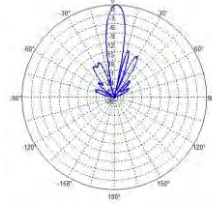
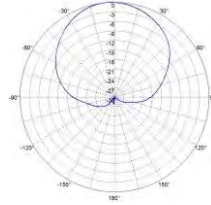
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

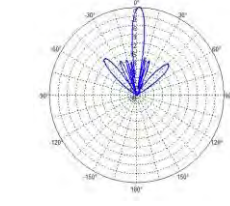
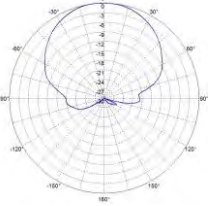
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

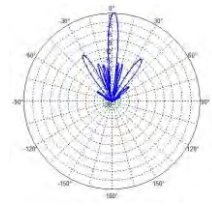
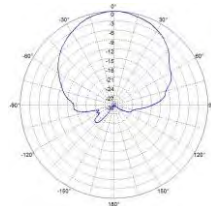
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

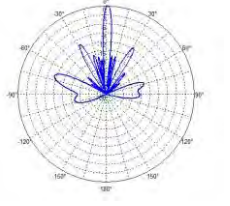
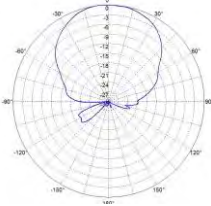
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



DOD6-2LX4HX-BR45

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 MHz 45°, 15.5 / 15.5 / 18.5 / 18.5 / 18.5 / 18.5 dBi, 2°-14° / 2°-14° / 2°-12° / 2 - 12 ° / 2°-12° / 2°-12 ° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		50	46	42	48	45	41	38
Vertical 3dB Beamwidth(°)		13.5	12	10.5	7.5	6.5	6	5.5
Gain (dBi)		14.4	14.9	15.5	17.3	17.8	18.3	18.6
Electrical Downtilt		2°-14°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±30° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W			
Lightning Protection		DC Ground						



Mechanical Specifications

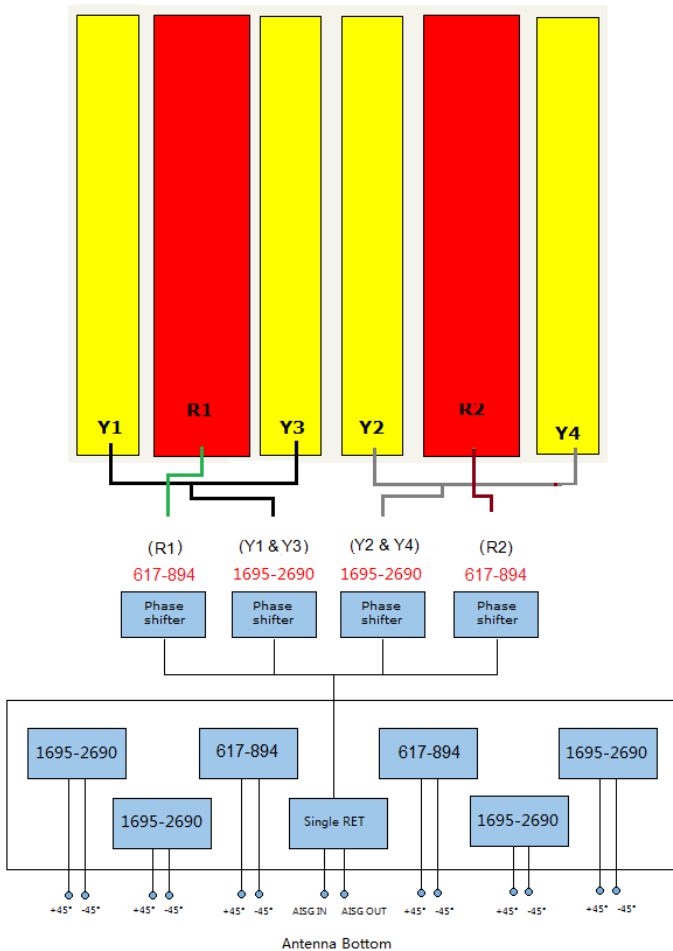
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 533 x 160 / 72.8 x 21.0x 6.3
Packing Size(mm)/(inches)	2195 x 633 x 291 / 86.4 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	36 / 79.2
Weight w/ Downtilt Bracket(kg)/(lbs)	43 / 94.6
Weight w/ Fixed Bracket(kg)/(lbs)	41 / 90.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	56 / 123.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	54 / 118.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1138/211/819



Integrated RET Properties

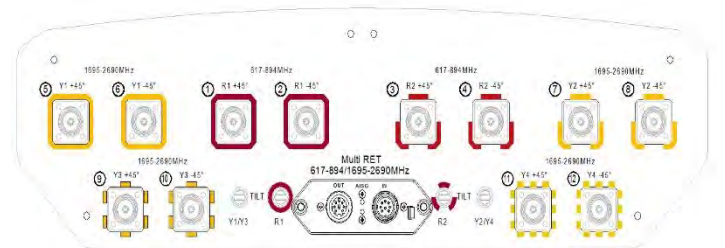
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



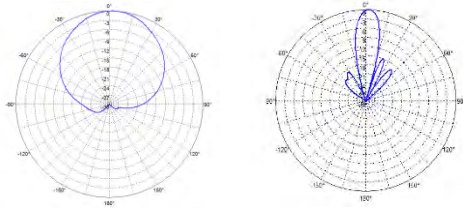
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1/Y3	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2/Y4	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET





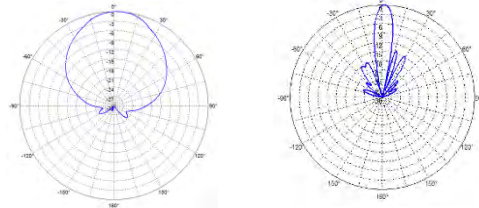
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

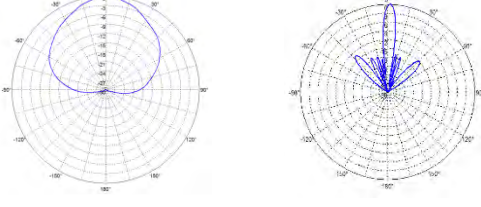
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

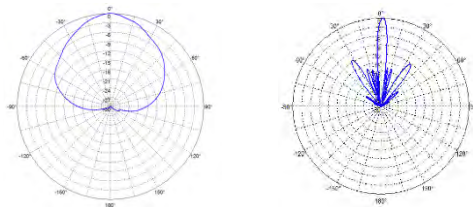
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

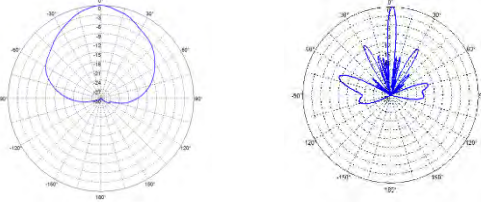
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



DOD6-2LX4HX-BR65

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 MHz 65°, 15 / 15 / 17.5 / 17.5 / 17.5 / 17.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 ° / 2°-12° / 2 - 12 ° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		70	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		13.5	12	10.5	7.5	6.5	6	5.5
Gain (dBi)		13.9	14.4	14.9	16.5	17.0	17.5	17.8
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W			
Lightning Protection		DC Ground						



Mechanical Specifications

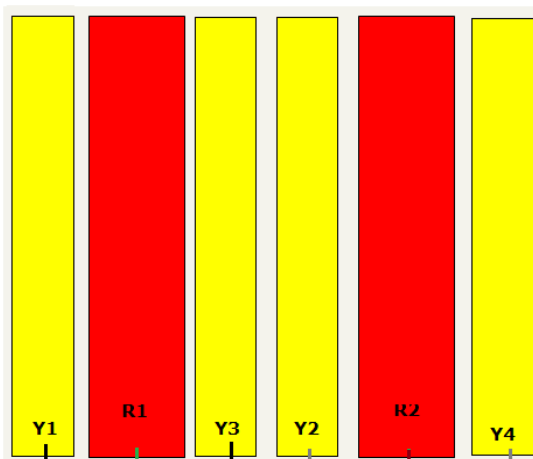
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 533 x 160 / 72.8 x 21.0x 6.3
Packing Size(mm)/(inches)	2195 x 633 x 291 / 86.4 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	33.5 / 73.7
Weight with Downtilt Bracket(kg)/(lbs)	40.5 / 89.1
Weight with Fixed Bracket(kg)/(lbs)	38.5 / 84.7
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	49.5 / 108.9
Packing Weight (with Fixed Bracket) (kg)/(lbs)	47.5 / 104.5
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1138/211/819



Integrated RET Properties

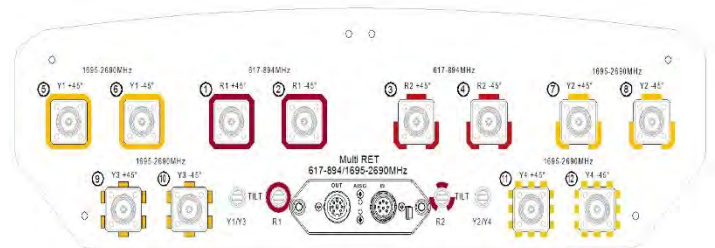
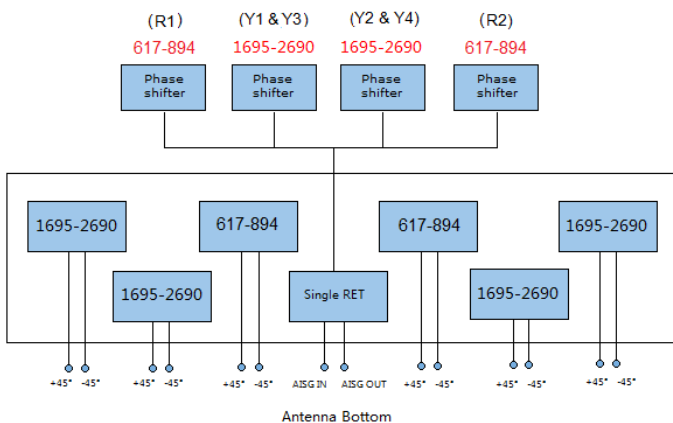
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



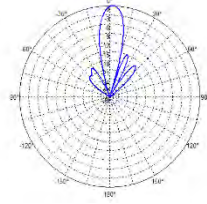
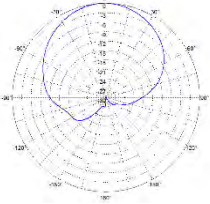
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1/Y3	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2/Y4	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET





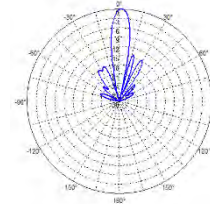
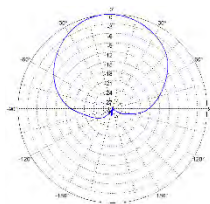
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

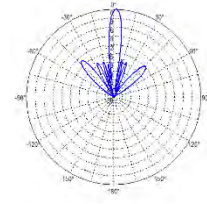
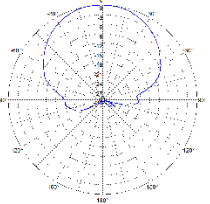
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

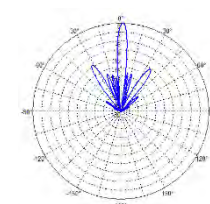
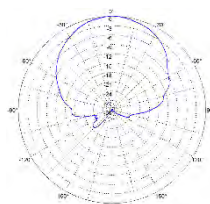
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

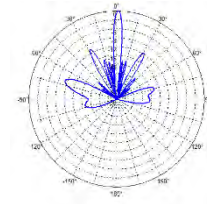
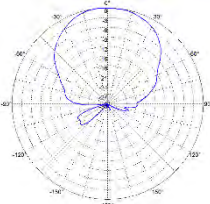
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



DOD6-2LX4HX-BW45

12-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 / 1695-2400 / 1695-2400 MHz 45°, 15.5 / 15.5 / 18 / 18 / 18 / 18dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12° / 2°-12° / 2 - 12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			4x1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		50	46	42	48	45	41
Vertical 3dB Beamwidth(°)		13.5	12	10.5	7.5	6.5	6
Gain (dBi)		14.4	14.9	15.5	17.1	17.6	18.1
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					



Mechanical Specifications

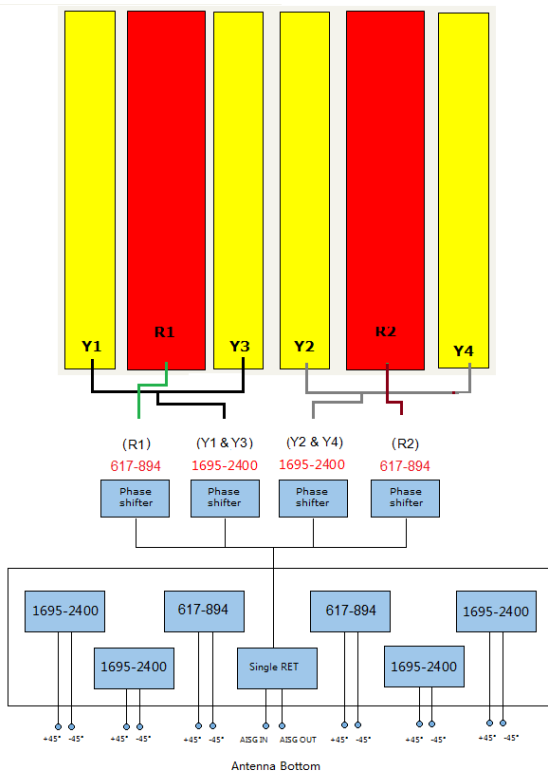
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 533 x 160 / 72.8 x 21.0x 6.3
Packing Size(mm)/(inches)	2195 x 633 x 291 / 86.4 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	33.5 / 73.7
Weight w/ Downtilt Bracket(kg)/(lbs)	40.5 / 89.1
Weight w/ Fixed Bracket(kg)/(lbs)	38.5 / 84.7
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	49.5 / 108.9
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	47.5 / 104.5
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1138/211/819



Integrated RET Properties

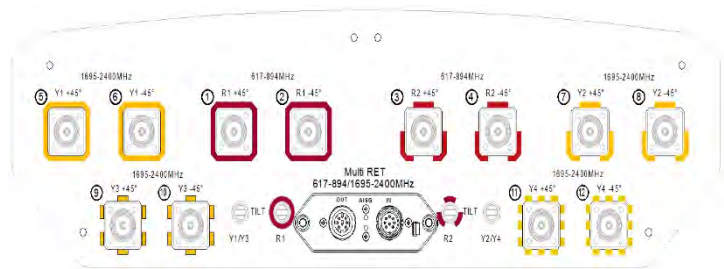
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



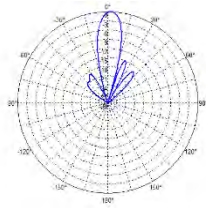
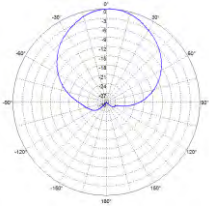
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1/Y3	NDPMXXXXXXXX-1727Y1
1695-2400MHz	Y2/Y4	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET





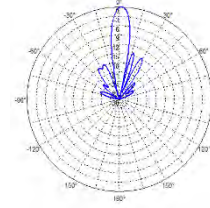
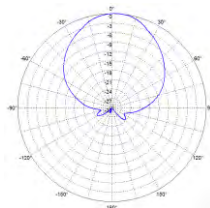
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

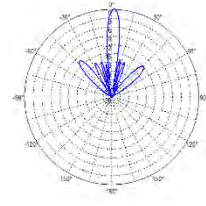
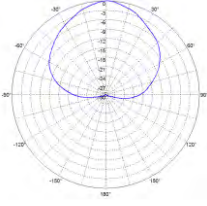
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

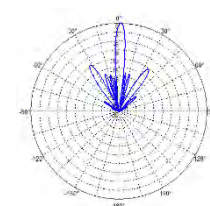
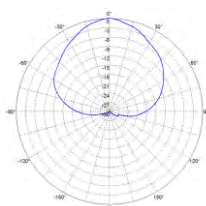
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

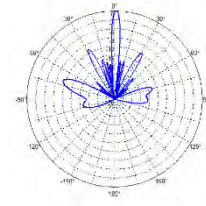
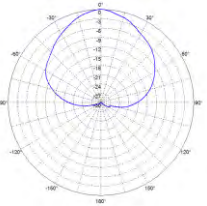
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



DOD6-2LX4HX-BW65

12-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 / 1695-2400 / 1695-2400 MHz 65°, 15 / 15 / 17.5 / 17.5 / 17.5 / 17.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			4x1695-2400		
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		70	65	60	66	63	58
Vertical 3dB Beamwidth(°)		13.5	12	10.5	7.5	6.5	6
Gain (dBi)		13.9	14.4	14.9	16.5	17.0	17.5
Electrical Downtilt		2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W		
Lightning Protection		DC Ground					



Mechanical Specifications

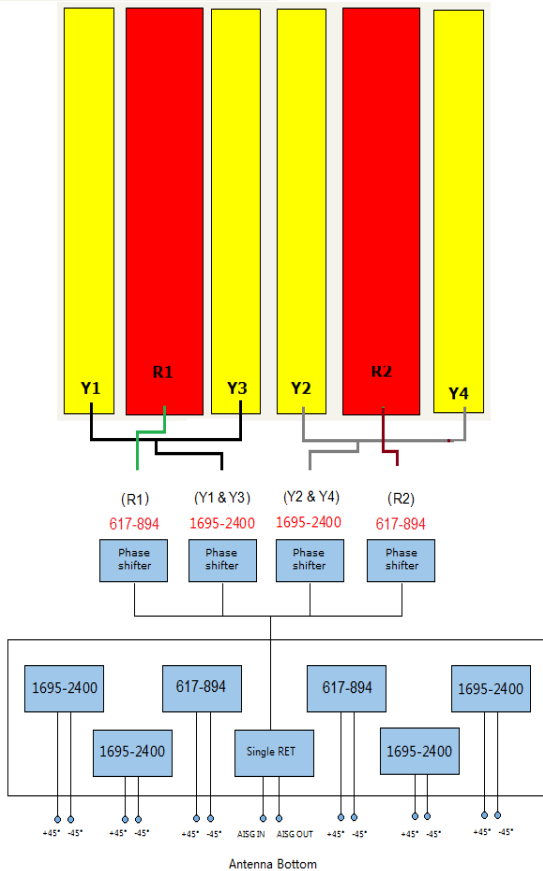
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 533 x 160 / 72.8 x 21.0x 6.3
Packing Size(mm)/(inches)	2195 x 633 x 291 / 86.4 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	33.5 / 73.7
Weight with Downtilt Bracket(kg)/(lbs)	40.5 / 89.1
Weight with Fixed Bracket(kg)/(lbs)	38.5 / 84.7
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	49.5 / 108.9
Packing Weight (with Fixed Bracket) (kg)/(lbs)	47.5 / 104.5
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1138/211/819



Integrated RET Properties

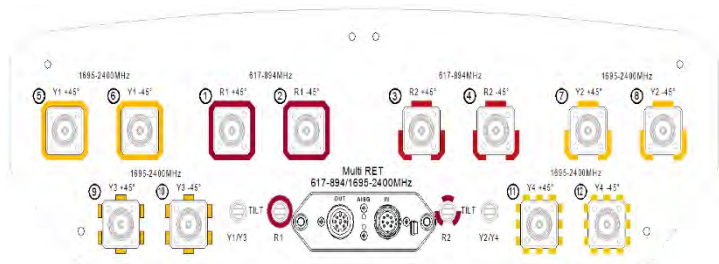
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs, 200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



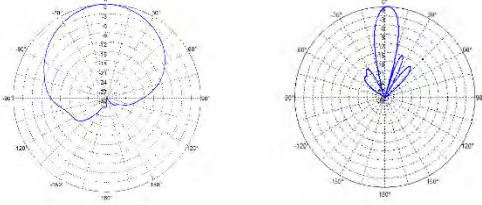
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1/Y3	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2/Y4	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (4) Single RET





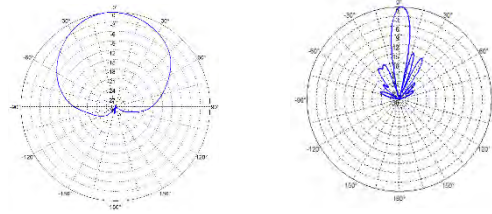
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

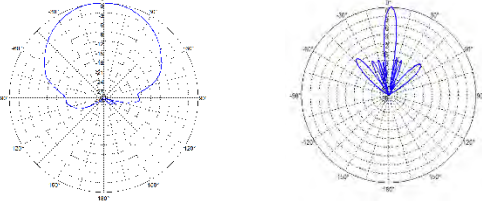
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

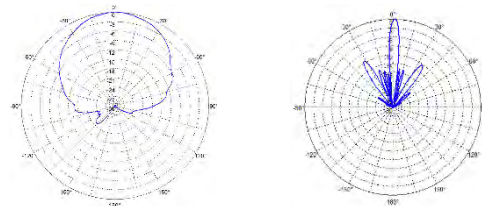
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

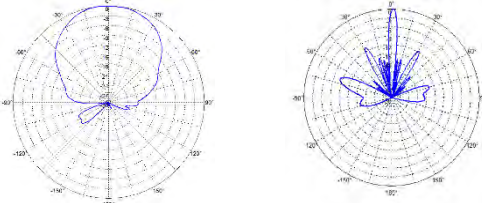
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



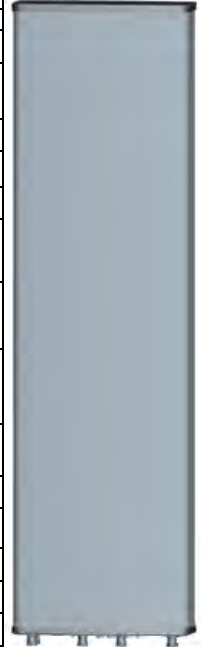
DOD6-2LX4HX-CB65

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690/3300-4200/3300-4200 MHz 65°, 15/15/18/18/17.5/17.5 dBi, 2°-12°/2°-12° / 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			2x1695-2690				2x3300-4200	
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690	3300-3600	3600-4200
Polarization		±45°								
Horizontal 3dB Beamwidth(°)		70	65	60	66	63	58	60	68	64
Vertical 3dB Beamwidth(°)		13.5	12	10.5	7.5	6.5	6	5.5	6.8	6
Gain (dBi)		13.9	14.4	14.9	16.5	17	17.5	17.8	17.0	17.5
Electrical Downtilt		2°-12°			2°-12°				2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥24	≥24	≥25	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB								
Isolation Frequency		≥30 dB								
VSWR		< 1.5								
Intermodulation IM3		< -150 dBc(2x43dBm carrier)							/	
Impedance		50 Ω								
Max. Power per Input (at 50°C ambient)		500 W			300 W				250 W	
Lightning Protection		DC Ground								



Mechanical Specifications

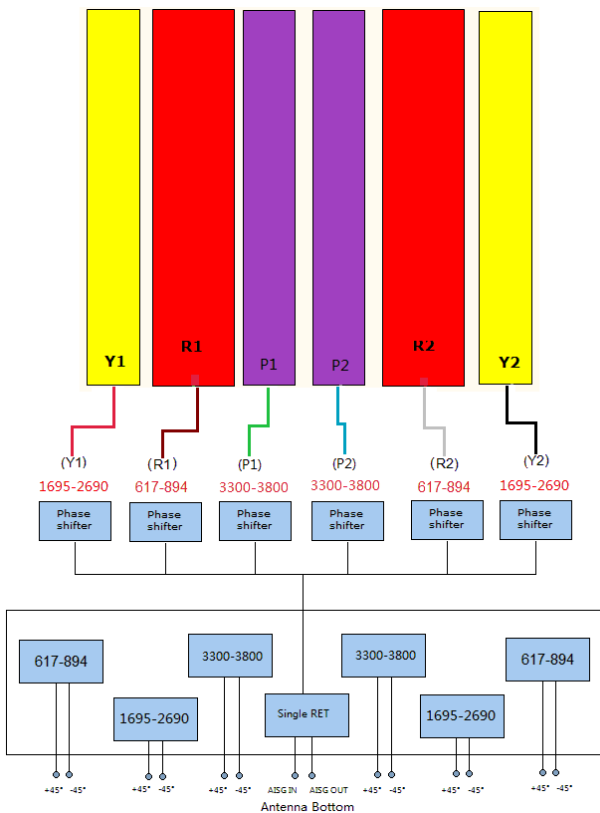
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 533 x 160 / 72.8 x 21.0 x 6.3
Packing Size(mm)/(inches)	2195 x 633 x 291 / 86.4 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	36 / 79.2
Weight w/ Downtilt Bracket(kg)/(lbs)	43 / 94.6
Weight w/ Fixed Bracket(kg)/(lbs)	41/ 90.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	52 / 114.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	50 / 110
Max. Wind Velocity(mph)	150
Mounting hardware	φ 50 mm ~ φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1138/211/819



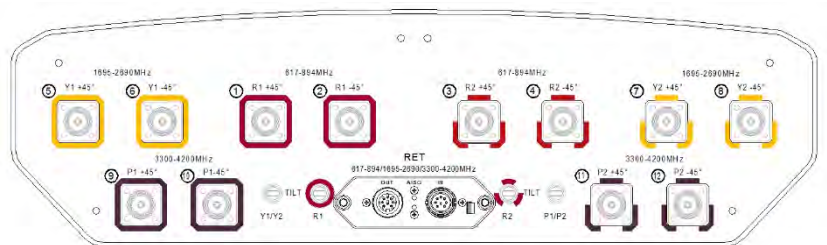
Integrated RET Properties

RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION

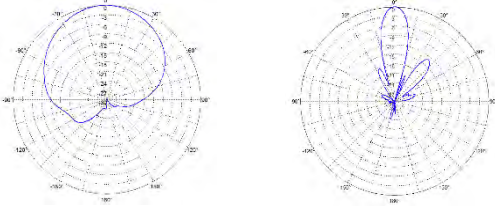


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y1
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P1





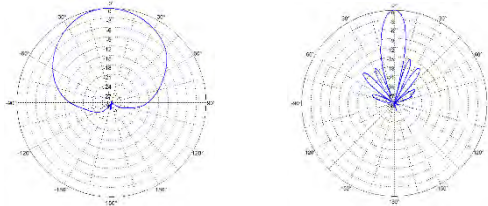
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

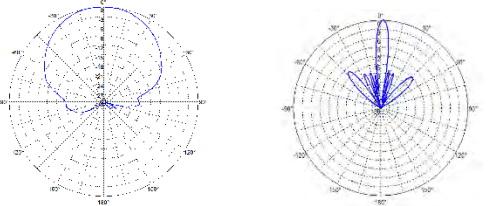
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

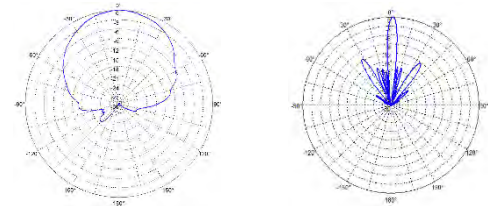
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

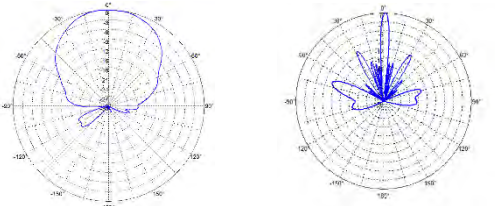
Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern

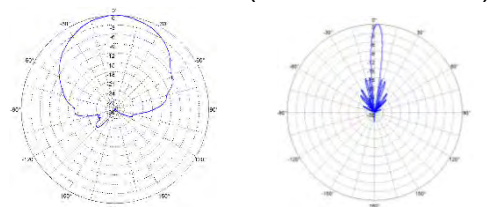
Radiation Pattern (2490 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

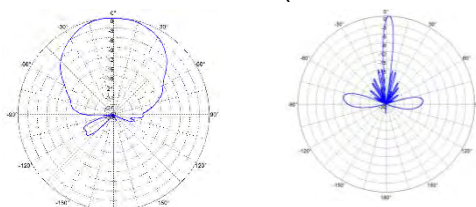
Radiation Pattern (3300 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



DOD7-2A4J-RD45

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 MHz 45°, 17.0 / 17.0 / 19.0 / 19.0 / 19.0 / 19.0 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 ° / 2°-12° / 2°-12 ° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			4x1695-2690			
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization	±45°						
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41	38
Vertical 3dB Beamwidth(°)	11.5	10.0	9.0	5.7	5.2	4.5	4.1
Gain (dBi)	16.0	16.5	17.0	19.0	19.5	19.9	20.1
Electrical Downtilt	2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥17	≥17	≥17	≥17	≥17	≥17
Front-to-Back Ratio Total Power, ±30° (dB)		≥27	≥27	≥27	≥27	≥27	≥27
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17
	±30° (dB)	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB						
Isolation Frequency	≥30 dB						
VSWR	< 1.5						
Intermodulation IM3	< -153 dBc(2x43dBm carrier)						
Impedance	50 Ω						
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W			
Lightning Protection	DC Ground						



Mechanical Specifications

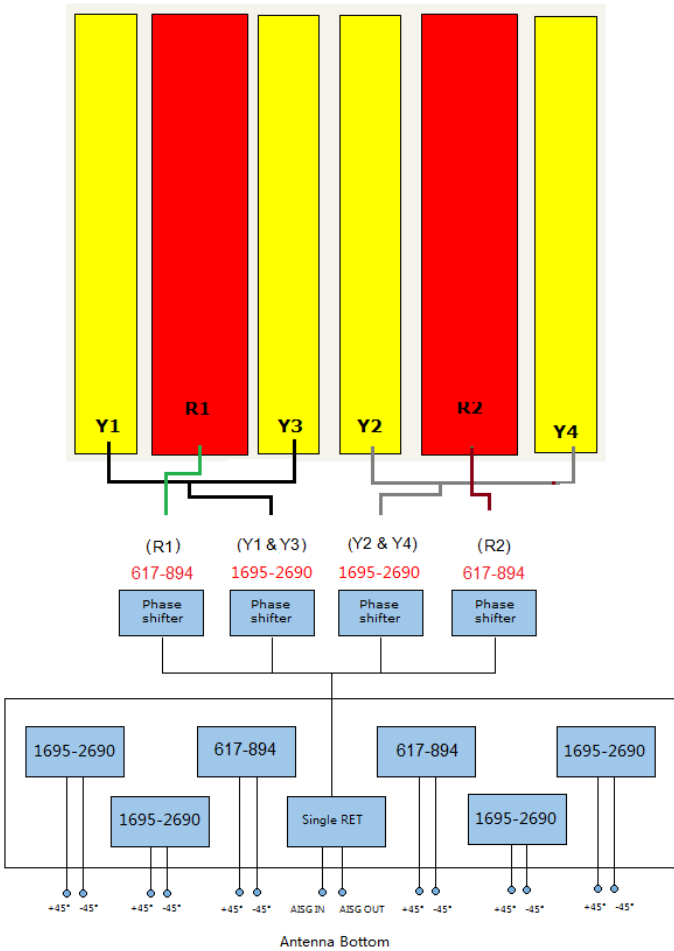
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2100 x 635 x 180 / 82.7 x 25.0 x 7.1
Packing Size(mm)/(inches)	2455 x 735 x 390 / 96.7 x 29.0 x 15.3
Weight ,w/o Mounting kit(kg)/(lbs)	39 / 85.8
Weight w/ Downtilt Bracket(kg)/(lbs)	45 / 99
Weight w/ Fixed Bracket(kg)/(lbs)	43 / 94.6
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	58 / 127.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	56 / 123.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1530/260/1100



Integrated RET Properties

RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

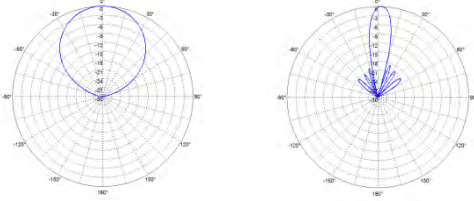


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1/Y3	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2/Y4	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET



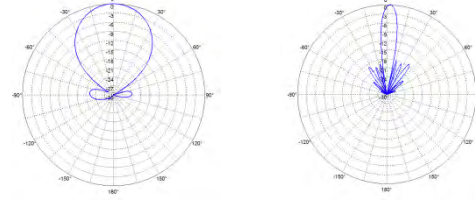
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

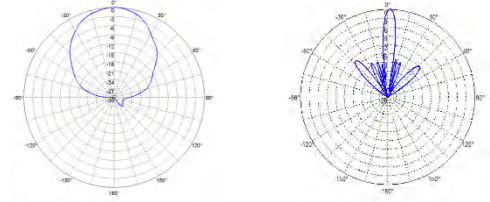
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

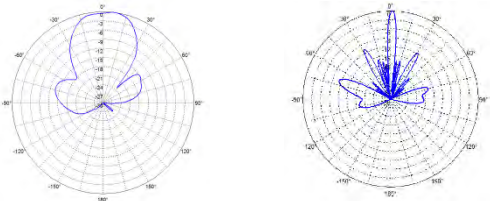
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



DOD8-2A2J2R-RF45

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690/ 3300-4200 / 3300-4200 MHz 45°, 17 /17 /19 /19 /18.5 /18.5 dBi, 2°-12° /2°-12° / 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 6 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2690				2x3300-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690	3300-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41	38	48	45
Vertical 3dB Beamwidth(°)	10.5	9	8	7.5	6.5	6	5.5	6.8	6
Gain (dBi)	15.5	16.2	16.7	17.3	17.8	18.3	18.6	17.8	18.3
Electrical Downtilt	2°-12°			2°-12°				2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±30° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)								
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient)	500 W			300 W				250 W	
Lightning Protection	DC Ground								



Mechanical Specifications

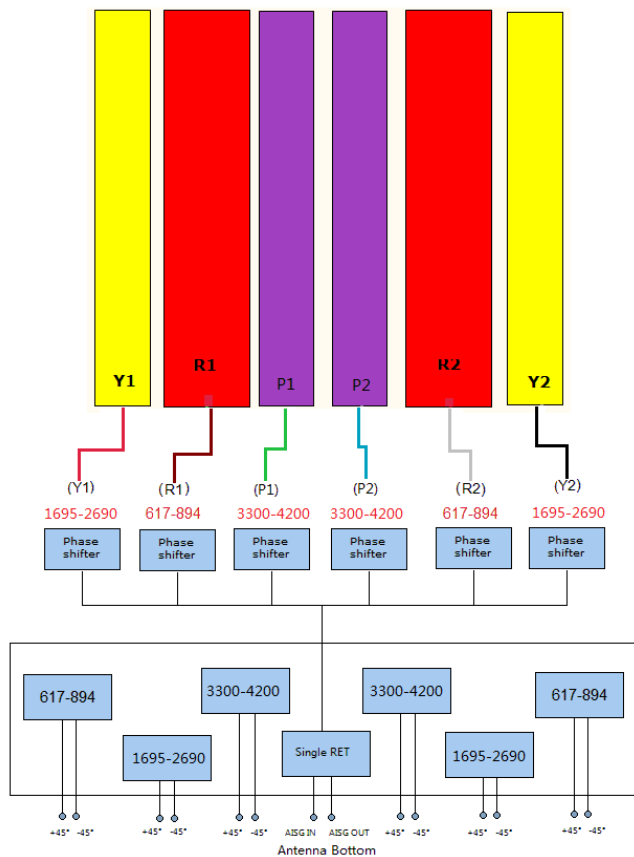
Radome Material	ASA
Connector Type and Location	4.3-10x12, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	2438 x 499 x 180 / 96.0 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 600 x 310 / 108.3 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	40.5 / 89.1
Weight w/ Downtilt Bracket(kg)/(lbs)	46.5 / 102.3
Weight w/ Fixed Bracket(kg)/(lbs)	44.5 / 97.9
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	55.5 /122.1
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	53.5 /117.7
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1403/313/1010



Integrated RET Properties

RET Type		6x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

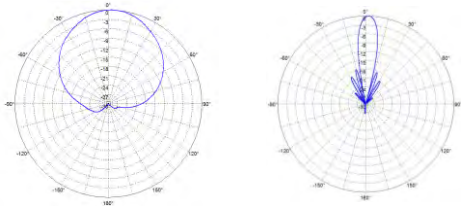


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y1
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P1

Note: (1) Physical RET Unit containing (6) Single RET



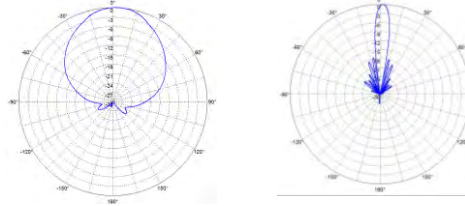
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

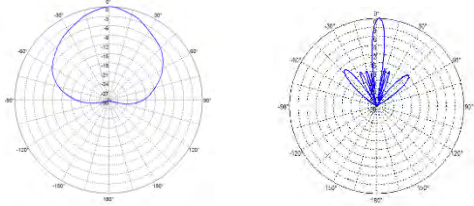
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

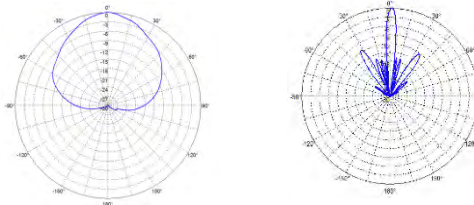
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

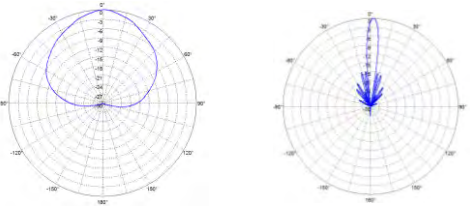
Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

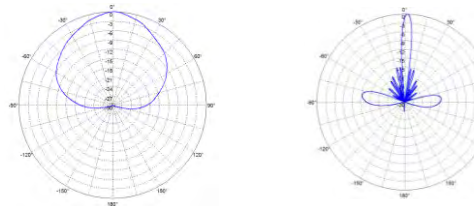
Radiation Pattern (3400 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



DOD8-2A2J2R-RF65

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690/ 3300-4200 / 3300-4200 MHz 65°, 16 /16 /18 /18 /18 /18 dBi, 2°-12° /2°-12° / 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 6 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2690				2x3300-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690	3300-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	70	65	60	66	63	58	60	68	64
Vertical 3dB Beamwidth(°)	10.5	9	8	7.5	6.5	6	5.5	6.8	6
Gain (dBi)	15.0	15.6	16.1	16.5	17	17.5	17.8	17	17.5
Electrical Downtilt	2°-12°			2°-12°				2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)							/	
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient)	500 W			300 W				250 W	
Lightning Protection	DC Ground								



Mechanical Specifications

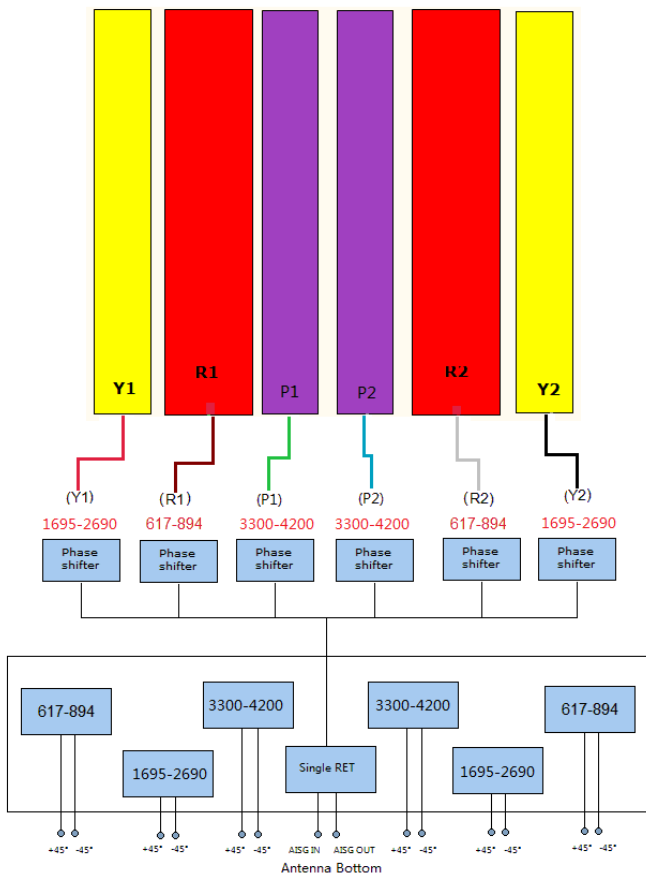
Radome Material	ASA
Connector Type and Location	4.3-10x12, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	2438 x 499 x 180 / 96.0 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 600 x 310 / 108.3 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	38.5 / 84.7
Weight w/ Downtilt Bracket(kg)/(lbs)	44.5 / 97.9
Weight w/ Fixed Bracket(kg)/(lbs)	42.5 / 93.5
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	53.5 / 117.7
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	51.5 / 113.3
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1403/313/1010



Integrated RET Properties

RET Type		6x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

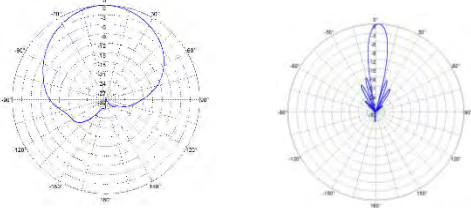


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y1
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P1

Note: (1) Physical RET Unit containing (6) Single RET

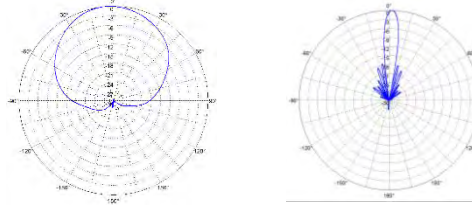


Radiation Pattern (617 - 824 MHz)



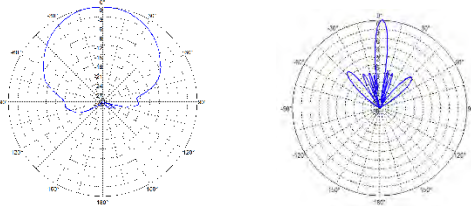
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



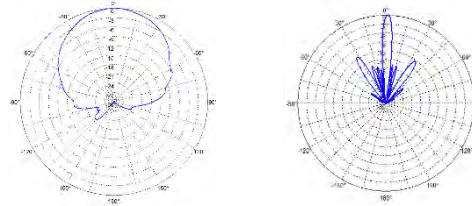
Horizontal Pattern Vertical Pattern

Radiation Pattern (1695 - 2180 MHz)



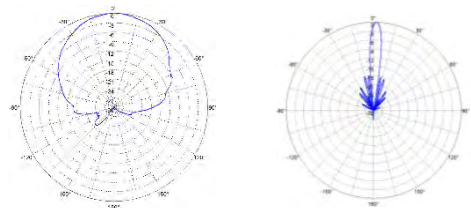
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2690 MHz)



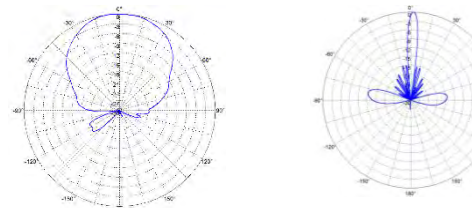
Horizontal Pattern Vertical Pattern

Radiation Pattern (3400 - 3800 MHz)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern Vertical Pattern



DOD8-2A4J-RD45

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 MHz 45°, 17.5 / 17.5 / 20.0 / 20.0 / 20.0 / 20.0 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 ° / 2°-12° / 2°-12 ° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		50	46	42	48	45	41	38
Vertical 3dB Beamwidth(°)		10.2	8.8	7.8	5.7	5.2	4.5	4.1
Gain (dBi)		16.4	16.9	17.4	19.0	19.5	19.9	20.1
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥17	≥17	≥17	≥17	≥17	≥17	≥17
Front-to-Back Ratio Total Power, ±30° (dB)		≥27	≥27	≥27	≥27	≥27	≥27	≥27
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±30° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -153 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W			
Lightning Protection		DC Ground						



Mechanical Specifications

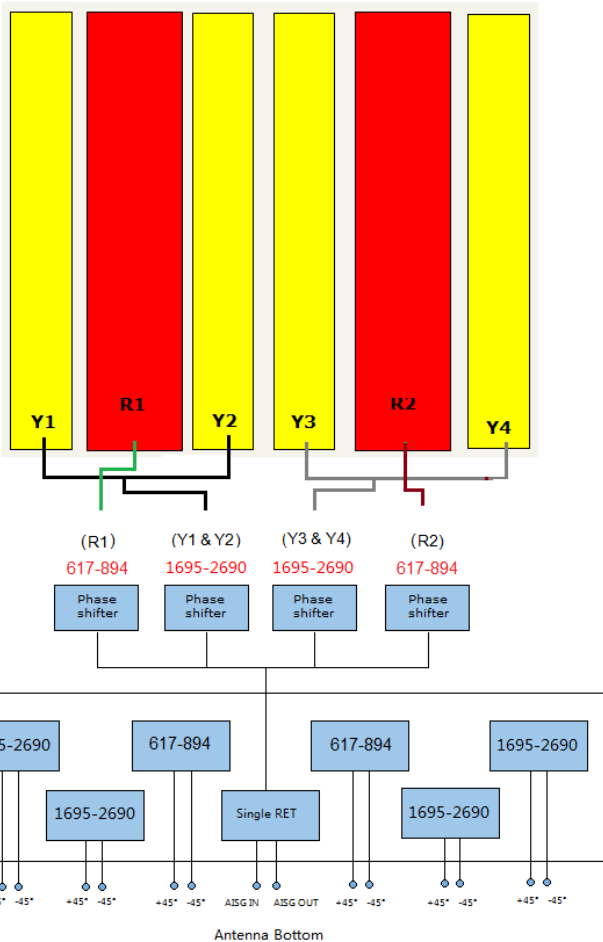
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 635 x 180 / 96.0 x 25.0 x 7.1
Packing Size(mm)/(inches)	2860 x 695 x 305 / 112.6 x 27.4 x 12.0
Weight ,w/o Mounting kit(kg)/(lbs)	42 / 92.4
Weight w/ Downtilt Bracket(kg)/(lbs)	48 / 105.6
Weight w/ Fixed Bracket(kg)/(lbs)	46 / 101.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	61 / 134.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	59 / 129.8
Max. Wind Velocity(mph)	150
Mounting hardware	φ 50 mm ~ φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1530/260/1100



Integrated RET Properties

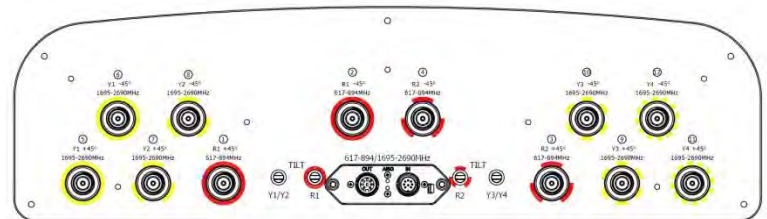
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



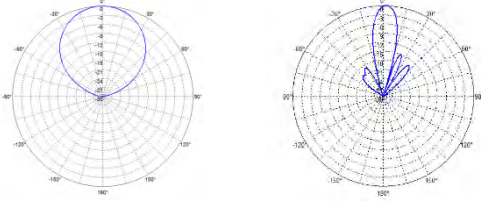
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y3

Note: (1) Physical RET Unit containing (4) Single RET





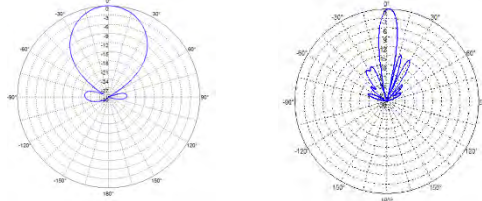
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

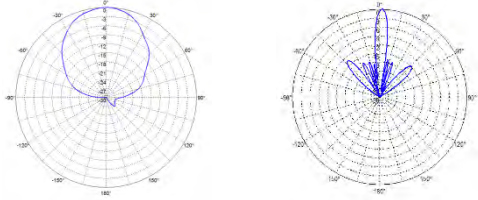
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

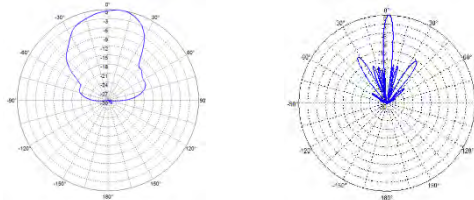
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

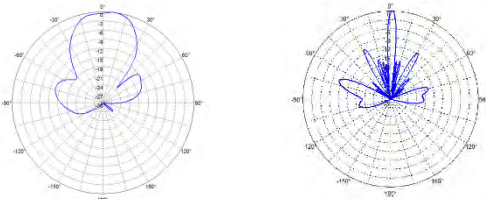
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



DOD8-2A4J-RF45

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 MHz 45°, 17.5 / 17.5 / 20.0 / 20.0 / 20.0 / 20.0 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 ° / 2°-12° / 2°-12 ° Tilt Antenna With 6 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		50	46	42	48	45	41	38
Vertical 3dB Beamwidth(°)		10.2	8.8	7.8	5.7	5.2	4.5	4.1
Gain (dBi)		16.4	16.9	17.4	19.0	19.5	19.9	20.1
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥17	≥17	≥17	≥17	≥17	≥17	≥17
Front-to-Back Ratio Total Power, ±30° (dB)		≥27	≥27	≥27	≥27	≥27	≥27	≥27
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±30° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -153 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W			
Lightning Protection		DC Ground						



Mechanical Specifications

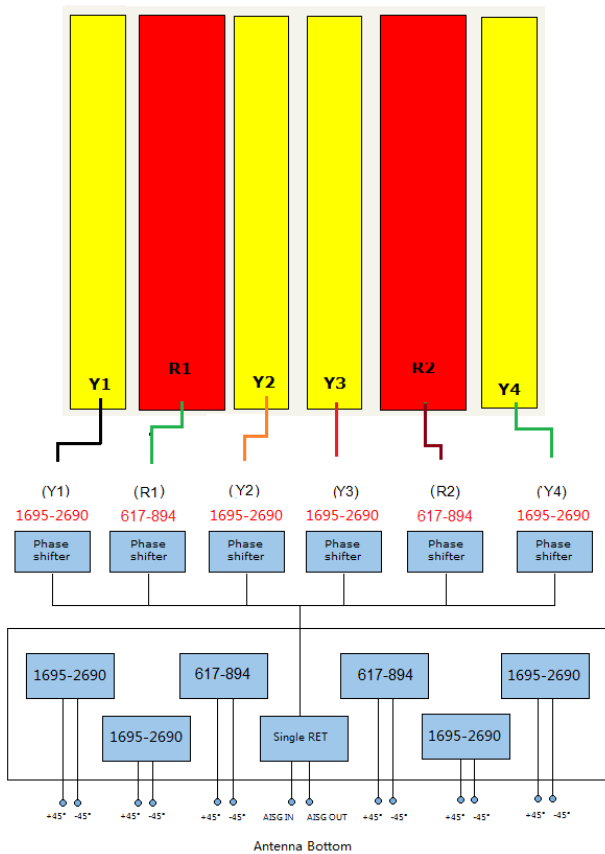
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 635 x 180 / 96.0 x 25.0 x 7.1
Packing Size(mm)/(inches)	2860 x 695 x 305 / 112.6 x 27.4 x 12.0
Weight ,w/o Mounting kit(kg)/(lbs)	42 / 92.4
Weight w/ Downtilt Bracket(kg)/(lbs)	48 / 105.6
Weight w/ Fixed Bracket(kg)/(lbs)	46 / 101.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	61 / 134.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	59 / 129.8
Max. Wind Velocity(mph)	150
Mounting hardware	φ 50 mm ~ φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1530/260/1100



Integrated RET Properties

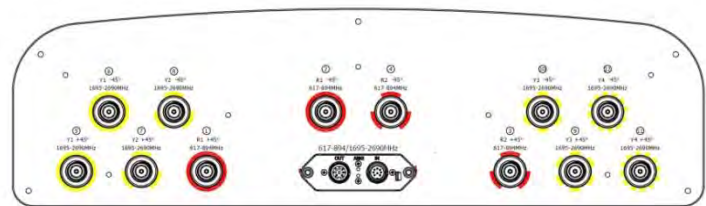
RET Type		6x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



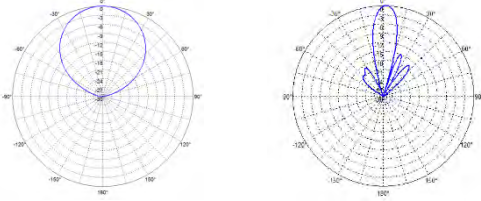
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
1695-2690MHz	Y3	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y4	NDPMXXXXXXXX-1727Y4

Note: (1) Physical RET Unit containing (6) Single RET





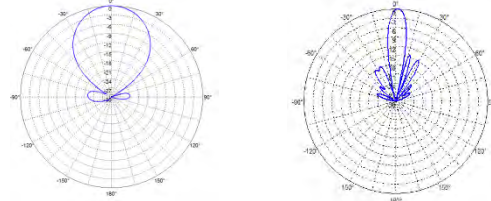
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

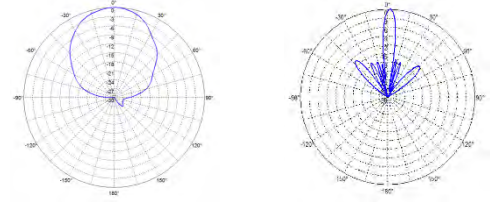
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

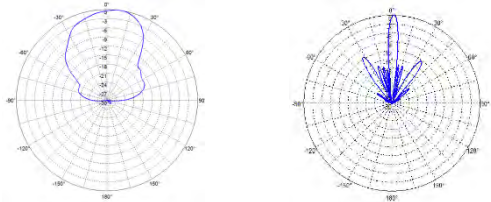
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

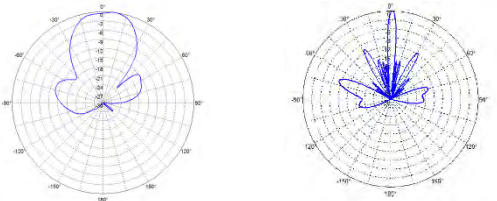
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



DOD8-2A4J-RF65

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 MHz 65°, 16 / 16 / 17.5 / 17.5 / 17.5 / 17.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 ° / 2°-12° / 2 - 12 ° Tilt Antenna With 6 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		70	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		10.4	9.1	8.0	7.5	6.5	6	5.5
Gain (dBi)		15.0	15.5	16.0	16.5	17.0	17.5	17.8
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -153 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W			
Lightning Protection		DC Ground						



Mechanical Specifications

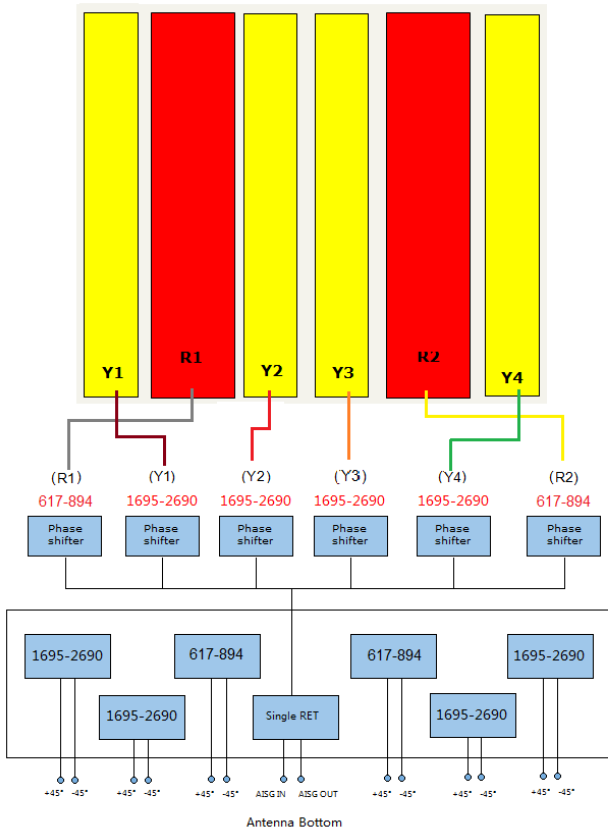
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 533 x 160 / 96.0 x 21.0x 6.3
Packing Size(mm)/(inches)	2750 x 655 x 305 / 108.3 x 25.8 x 12.0
Weight ,w/o Mounting kit(kg)/(lbs)	47 / 103.4
Weight w/ Downtilt Bracket(kg)/(lbs)	53 / 116.6
Weight w/ Fixed Bracket(kg)/(lbs)	51 / 112.2
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	63 / 138.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	61 / 134.2
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1502/278/1081



Integrated RET Properties

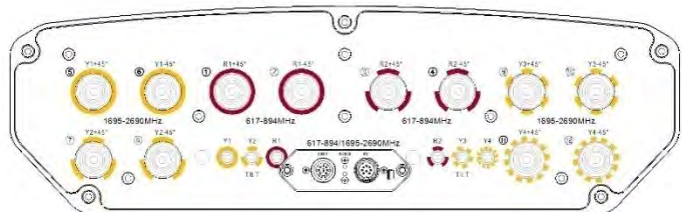
RET Type		6x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



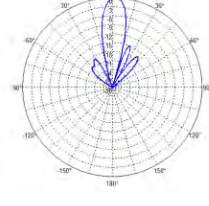
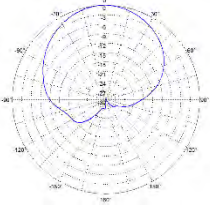
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
1695-2690MHz	Y3	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y4	NDPMXXXXXXXX-1727Y4

Note: (1) Physical RET Unit containing (6) Single RET





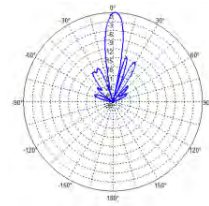
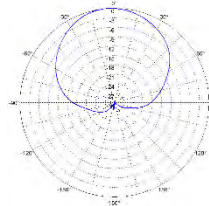
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

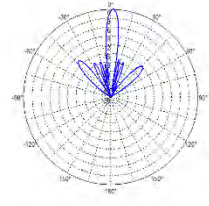
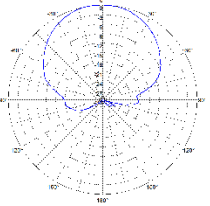
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

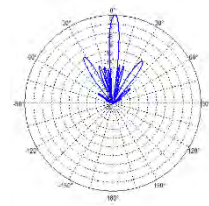
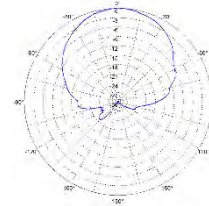
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

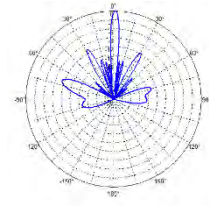
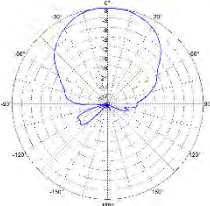
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



DOD8-2LX4HX-BR45

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 MHz 45°, 16.5 / 16.5 / 18.5 / 18.5 / 18.5 / 18.5 dBi, 2°-14° / 2°-14° / 2°-12° / 2 - 12 ° / 2°-12° / 2 - 12 °Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		50	46	42	48	45	41	38
Vertical 3dB Beamwidth(°)		8.5	7.5	6.5	7.5	6.5	6	5.5
Gain (dBi)		15.5	16	16.6	17.3	17.8	18.3	18.6
Electrical Downtilt		2°-14°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±30° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W			
Lightning Protection		DC Ground						



Mechanical Specifications

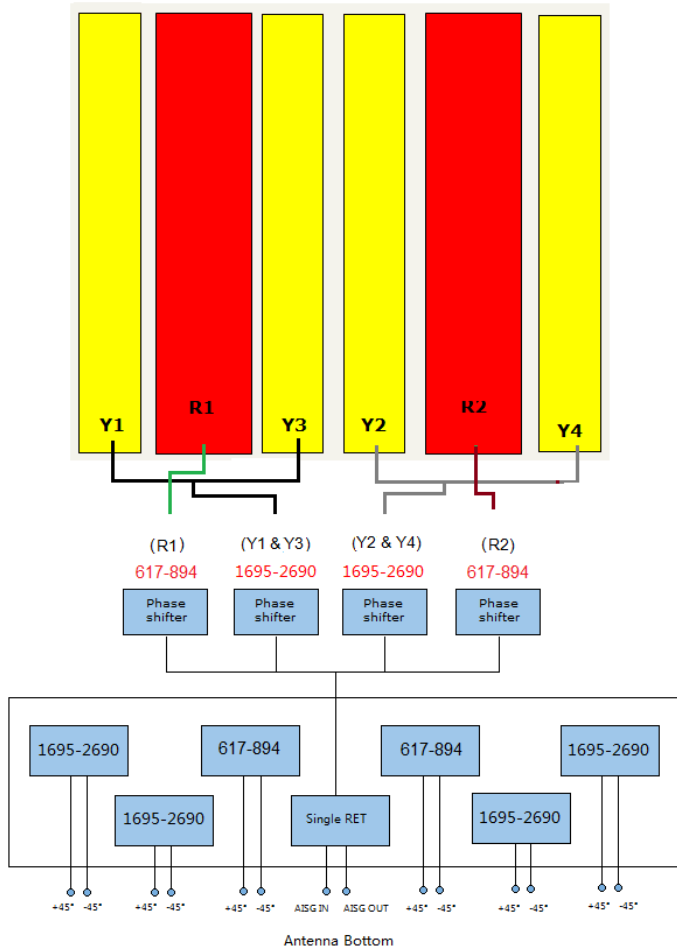
Redome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2400 x 533 x 160 / 49.2 x 21.0x 6.3
Packing Size(mm)/(inches)	2745 x 633 x 291 / 62.8 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	45 / 99
Weight w/ Downtilt Barcket(kg)/(lbs)	51 / 122.2
Weight w/ Fixed Barcket(kg)/(lbs)	49 / 107.8
Packing Weight (w/ Downtilt Barcket) (kg)/(lbs)	60 / 132
Packing Weight (w/ Fixed Barcket) (kg)/(lbs)	58 / 127.6
Max. Wind Velocity(mph)	150
Mounting hardware	φ 50 mm ~ φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1476/274/1062



Integrated RET Properties

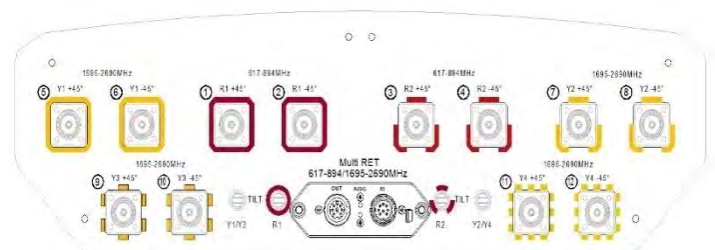
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



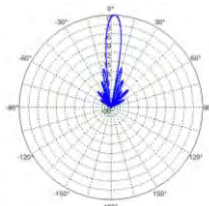
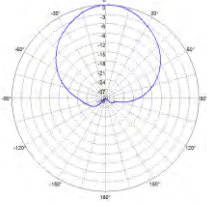
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1/Y3	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2/Y4	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET





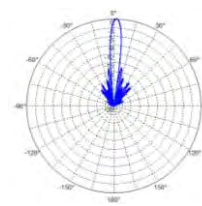
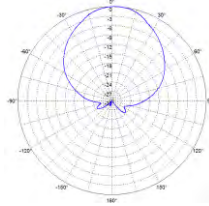
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

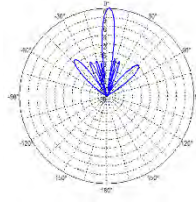
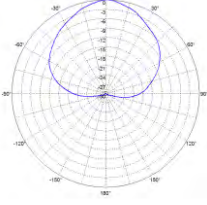
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

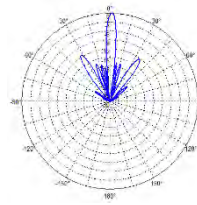
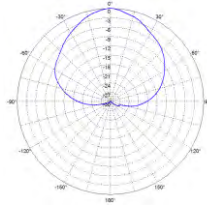
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

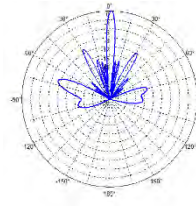
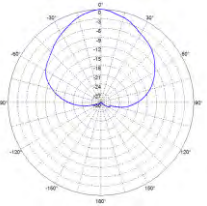
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



DOD8-2LX4HX-BR65

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 MHz 65°, 16.5 / 16.5 / 18.5 / 18.5 / 18.5 / 18.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 ° / 2°-12° / 2 - 12 ° Tilt Antenna With 3 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		2x617-894		4x1695-2690				
		617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		68	62	66	65	62	58	60
Vertical 3dB Beamwidth(°)		10.3	8.7	5.7	5.5	5.1	4.5	4.1
Gain (dBi)		16	16.3	17.5	18	18.5	18.5	18.6
Electrical Downtilt		2°-12°		2°-12°				
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25
Isolation ports		≥25dB						
Isolation Frequency		≥28dB						
VSWR		< 1.5						
Intermodulation IM3 dBc (2x43dBm carrier)		< -150	< -153	< -153				
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W		200 W				
Lightning Protection		DC Ground						



Electrical Specifications, BASTA

Frequency Range(MHz)		2x617-894		4x1695-2690				
		617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Polarization		±45°						
Beamwidth, Horizontal Tolerance (°)		±4	±5.5	±3.2	±3.9	±6.1	±5.8	±6.3
Beamwidth, Vertical Tolerance (°)		±0.6	±1.2	±0.3	±0.4	±0.4	±0.3	±0.3
Gain by all Beam Tilts, average, (dBi)		15.5	15.8	17.3	17.7	18.2	18.2	18.2
Gain by all Beam Tilts, Tolerance, (dB)		±0.5	±0.6	±0.3	±0.4	±0.6	±0.4	±0.5
Gain by all Beam Tilt, average (dBi)		2 15.4	2 15.7	2 17.4	2 17.7	2 18	2 18.1	2 18.1
		7 15.7	7 16	7 17.5	7 17.8	7 18.3	7 18.5	7 18.5
		12 15.6	12 15.6	12 17.2	12 17.6	12 18.2	12 18.1	12 18.0
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7



Mechanical Specifications

Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 533 x 160 / 96.0 x 21.0x 6.3
Packing Size(mm)/(inches)	2750 x 655 x 305 / 108.3 x 25.8 x 12.0
Weight ,w/o Mounting kit(kg)/(lbs)	40 / 88
Weight w/ Downtilt Bracket(kg)/(lbs)	47 / 103.4
Weight w/ Fixed Bracket(kg)/(lbs)	45 / 99
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	57 / 125.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	55 / 121
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1502/278/1081

Integrated RET Properties

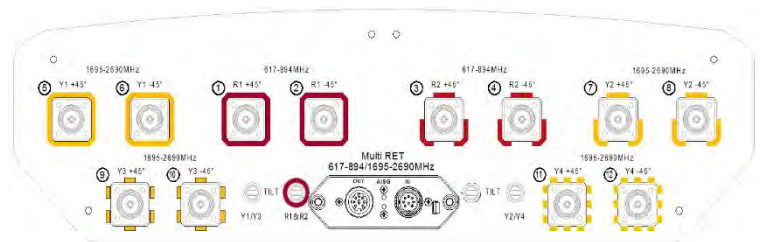
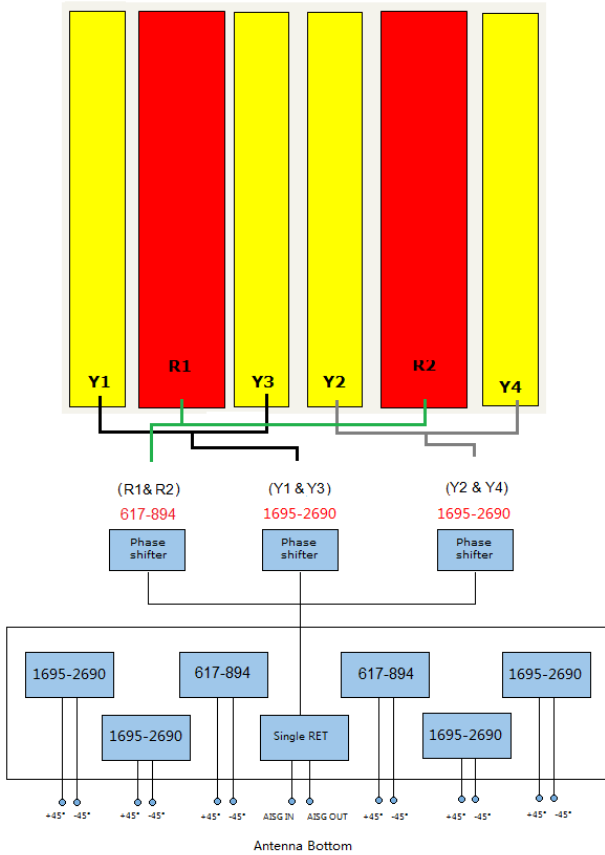
RET Type	3x Type 1 Single RET
Protocols	Compliant to AISG 2.0/3GPP
Input voltage range	+10~+30VDC(pin 6)
Power consumption	<2W(stand by);<13W(motor activated)
Connectors	AISG 2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna Two motor shaft(Embedded motor)
Hardware interface	AISG RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)
Adjustment Cycles	≥10000
Torque Max	≥160mN.m
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA



COMPREHENSIVE TILT CONFIGURATION

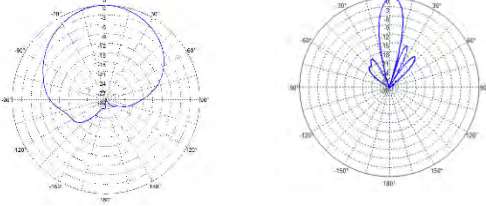
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1/Y3	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2/Y4	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (3) Single RET



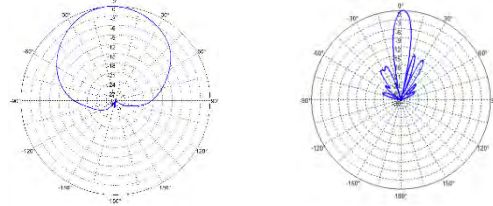


Radiation Pattern (617 - 824 MHz)



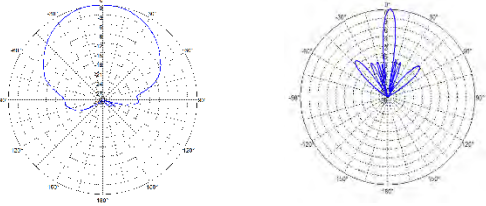
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



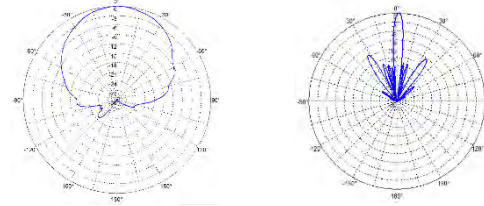
Horizontal Pattern Vertical Pattern

Radiation Pattern (1695 - 1920 MHz)



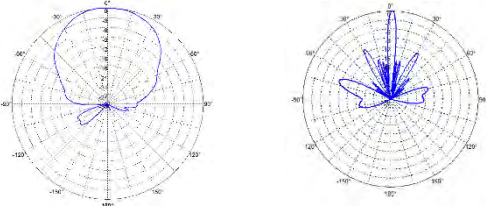
Horizontal Pattern Vertical Pattern

Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern Vertical Pattern



DOD8-2LX4HX-BW45

12-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 / 1695-2400 / 1695-2400 MHz 45°, 16.5 / 16.5 / 18 / 18 / 18 / 18 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			4x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41
Vertical 3dB Beamwidth(°)	10.5	9	8	7.5	6.5	6
Gain (dBi)	15.5	16	16.5	17.1	17.6	18.1
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

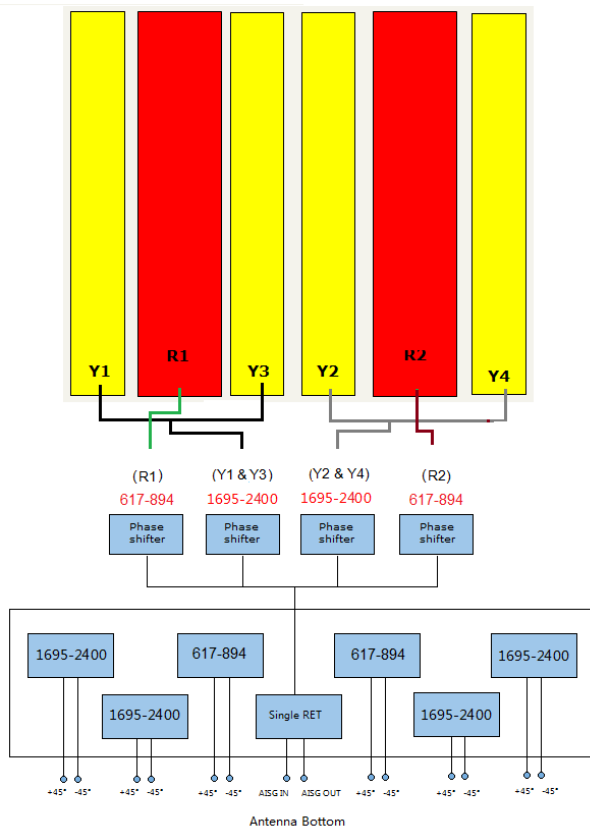
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 533 x 160 / 96.0 x 21.0 x 6.3
Packing Size(mm)/(inches)	2780 x 633 x 291 / 109.4 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	39.5 / 86.9
Weight w/ Downtilt Bracket(kg)/(lbs)	46.5 / 102.3
Weight w/ Fixed Bracket(kg)/(lbs)	44.5 / 97.9
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	57 / 125.4
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	55 / 121
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1500/278/1079



Integrated RET Properties

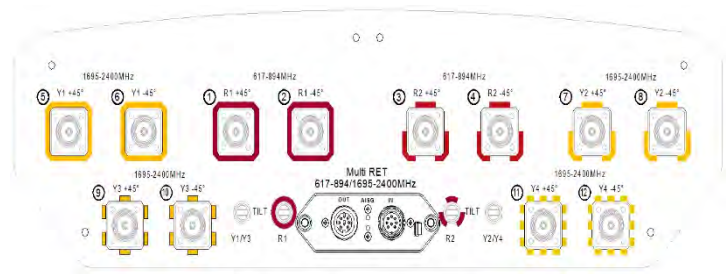
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



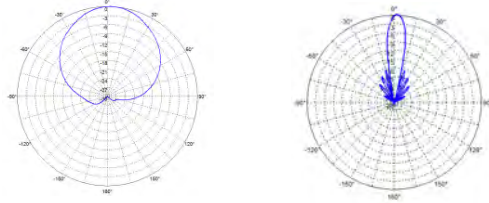
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1/Y3	NDPMXXXXXXXX-1727Y1
1695-2400MHz	Y2/Y4	NDPMXXXXXXXX-1727Y2

Note: (1) Physical RET Unit containing (4) Single RET





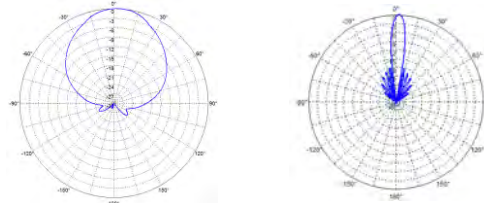
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

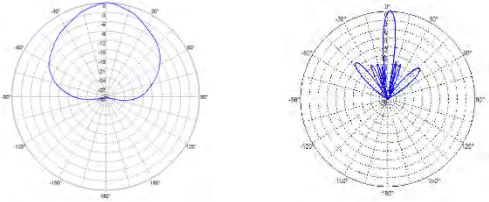
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

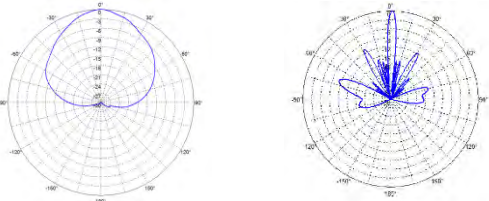
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



DOD8-2LX4HX-BW65

12-ports 617-894 / 617-894 /1695-2400 /1695-2400 /1695-2400 /1695-2400 MHz 65°, 16 / 16 / 17.5 / 17.5 / 17.5 / 17.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 ° / 2°-12° / 2° -12 °Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			4x1695-2400		
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	70	65	60	66	63	58
Vertical 3dB Beamwidth(°)	10.5	9	8	7.5	6.5	6
Gain (dBi)	15	15.5	16	16.5	17.0	17.5
Electrical Downtilt	2°-12°			2°-12°		
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB					
Isolation Frequency	≥30 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



Mechanical Specifications

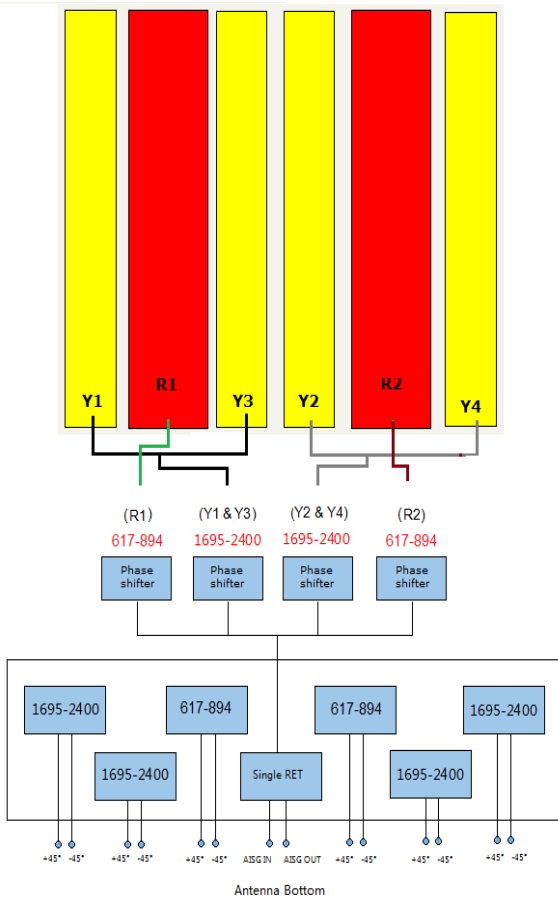
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 533 x 160 / 96.0 x 21.0x 6.3
Packing Size(mm)/(inches)	2780 x 633 x 291 / 109.4 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	39.5/ 86.9
Weight with Downtilt Bracket(kg)/(lbs)	46.5 / 102.3
Weight with Fixed Bracket(kg)/(lbs)	44.5 / 97.9
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	57 / 125.4
Packing Weight (with Fixed Bracket) (kg)/(lbs)	55 / 121
Max. Wind Velocity(mph)	150
Mounting hardware	φ 50 mm ~ φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1500/278/1079



Integrated RET Properties

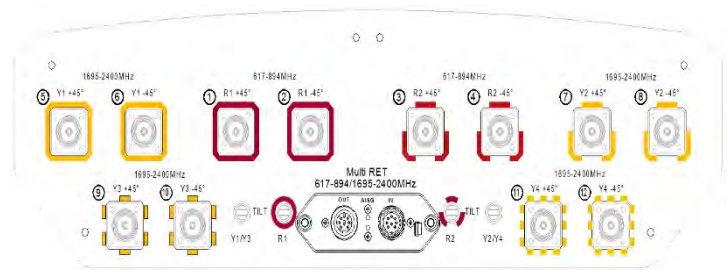
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



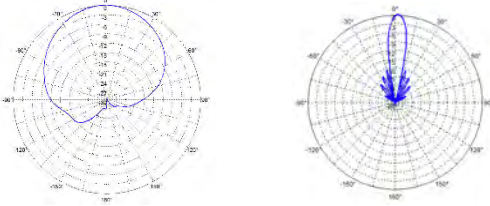
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1/Y3	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2/Y4	NDPMXXXXXXXX-1724Y2

Note: (1) Physical RET Unit containing (4) Single RET





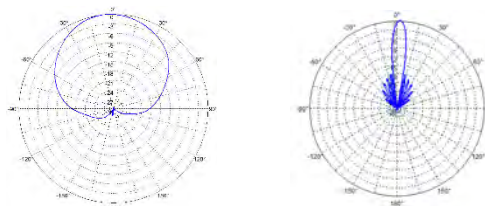
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

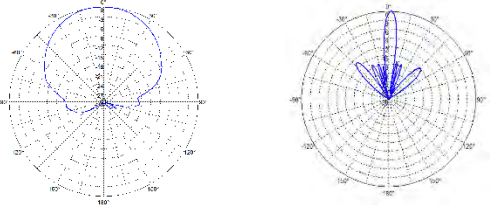
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

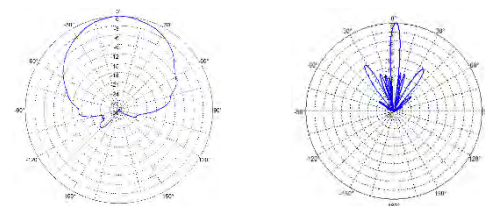
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

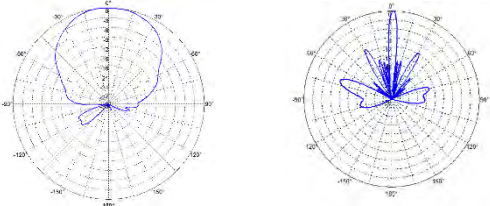
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2400 MHz)



Horizontal Pattern

Vertical Pattern



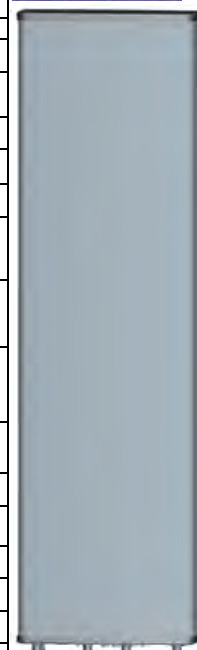
DOD8-2LX4HX-CB65

12-ports 617-894 / 617-894 / 1695-2690 / 1695-2690/3300-4200/3300-4200 MHz 65°, 16/16/18/18/17.5/17.5 dBi, 2°-12°/2°-12° / 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2690				2x3300-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690	3300-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	70	65	60	66	63	58	60	68	64
Vertical 3dB Beamwidth(°)	10.5	9	8	7.5	6.5	6	5.5	6.8	6
Gain (dBi)	15	15.5	16	16.5	17	17.5	17.8	17	17.5
Electrical Downtilt	2°-12°			2°-12°				2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)							/	
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient)	500 W			300 W				250 W	
Lightning Protection	DC Ground								



Mechanical Specifications

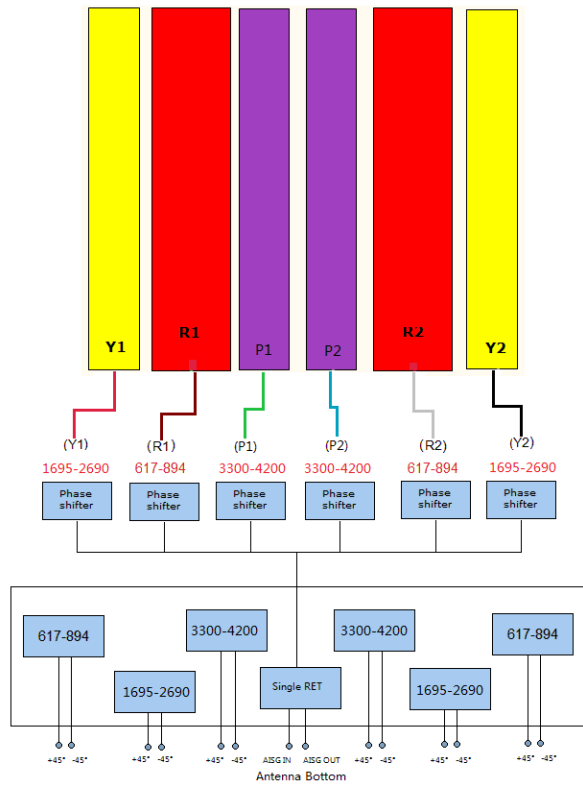
Radome Material	ASA
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 533 x 160 / 96.0 x 21.0 x 6.3
Packing Size(mm)/(inches)	2750 x 633 x 290 / 108.3 x 24.9 x 11.4
Weight ,w/o Mounting kit(kg)/(lbs)	40 / 88
Weight w/ Downtilt Bracket(kg)/(lbs)	47 / 103.4
Weight w/ Fixed Bracket(kg)/(lbs)	45/ 99
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	56 / 123.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	54 / 118.8
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1499/278/1079



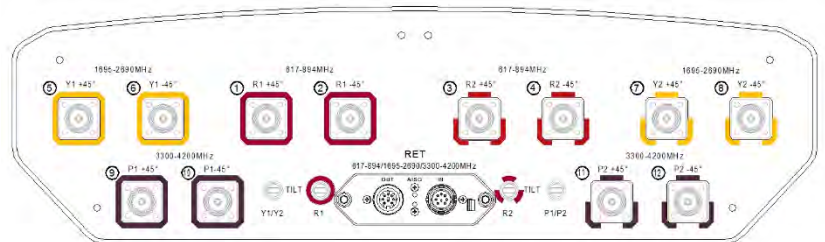
Integrated RET Properties

RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION

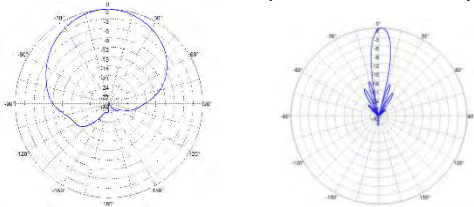


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y1
3300-4200MHz	P1	NDPMXXXXXXXX-3338P1
3300-4200MHz	P2	NDPMXXXXXXXX-3338P1



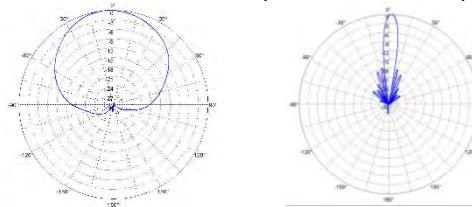


Radiation Pattern (617 - 824 MHz)



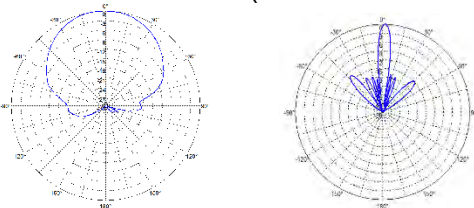
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



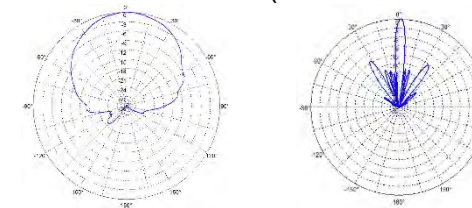
Horizontal Pattern Vertical Pattern

Radiation Pattern (1695 - 2180 MHz)



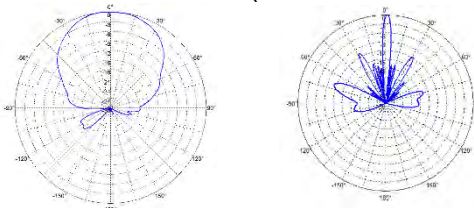
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



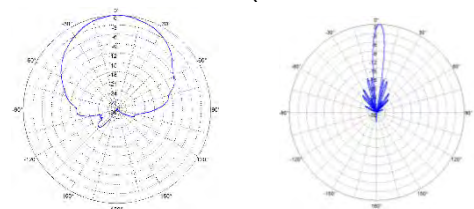
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490 - 2690 MHz)



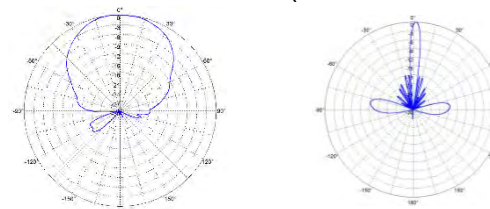
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300 - 3800 MHz)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern Vertical Pattern



DOD9-1B4J1L-RF65

12-ports 694-960 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 / 1427-2690 MHz 65°, 17.0 / 18.0 / 18.0 / 18.0 / 18.0 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 6 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)		694-960		4x1695-2690			
		694-862	862-960	1695-1920	1920-2200	2300-2500	2500-2690
Polarization		±45°					
Horizontal 3dB Beamwidth(°)		66	62	68	65	60	63
Vertical 3dB Beamwidth(°)		8.6	7.5	7.3	6.5	5.5	5.2
Gain (dBi)		16.8	17.1	17.0	17.8	18.3	18.2
Electrical Downtilt		2°-12°		2°-12°			
Upper Sidelobe Suppression(dB)	First	≥18	≥18	≥18	≥18	≥18	≥18
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥27	≥27	≥27	≥27
Cross polar ratio	Main direction(dB)	≥18	≥18	≥18	≥18	≥18	≥18
	±60° (dB)	≥8	≥9	≥8	≥8	≥8	≥8
Isolation ports		≥25 dB					
Isolation Frequency		≥30 dB					
VSWR		< 1.5					
Intermodulation IM3		< -150 dBc(2x43dBm carrier)					
Impedance		50 Ω					
Max. Power per Input (at 50°C ambient temperature)		500 W		300 W			



Frequency Range(MHz)		1427-2690				
		1427-1518	1695-1920	1920-2180	2300-2400	2400-2690
Polarization		±45°				
Horizontal 3dB Beamwidth(°)		71	68	65	60	63
Vertical 3dB Beamwidth(°)		9.2	7.3	6.5	5.5	5.2
Gain (dBi)		16.0	17.0	17.8	18.3	18.2
Electrical Downtilt		2°-12°				
Upper Sidelobe Suppression(dB)	First	≥15	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥26	≥27	≥27	≥27
Cross polar ratio	Main direction(dB)	≥16	≥18	≥18	≥18	≥18
	±60° (dB)	≥8	≥8	≥8	≥8	≥6
Isolation ports		≥25 dB				
Isolation Frequency		≥30 dB				
VSWR		< 1.5				
Intermodulation IM3		< -150 dBc(2x43dBm carrier)				
Impedance		50 Ω				
Max. Power per Input (at 50°C ambient temperature)		300 W				
Lightning Protection		DC Ground				



Mechanical Specifications

Radome Material	FiberGlass
Connector Type and Location	4.3-10x12 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2690 x 400 x 180 / 105.9 x 15.7x 7.1
Packing Size(mm)/(inches)	2990 x 500 x 390 / 117.7 x 29.0x 15.3
Weight ,w/o Mounting kit(kg)/(lbs)	41 / 90.2
Weight w/ Downtilt Barcket(kg)/(lbs)	48 / 105.6
Weight w/ Fixed Barcket(kg)/(lbs)	46 / 101.2
Packing Weight (w/ Downtilt Barcket) (kg)/(lbs)	57 / 125.4
Packing Weight (w/ Fixed Barcket) (kg)/(lbs)	55 / 121.0
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1246/333/903

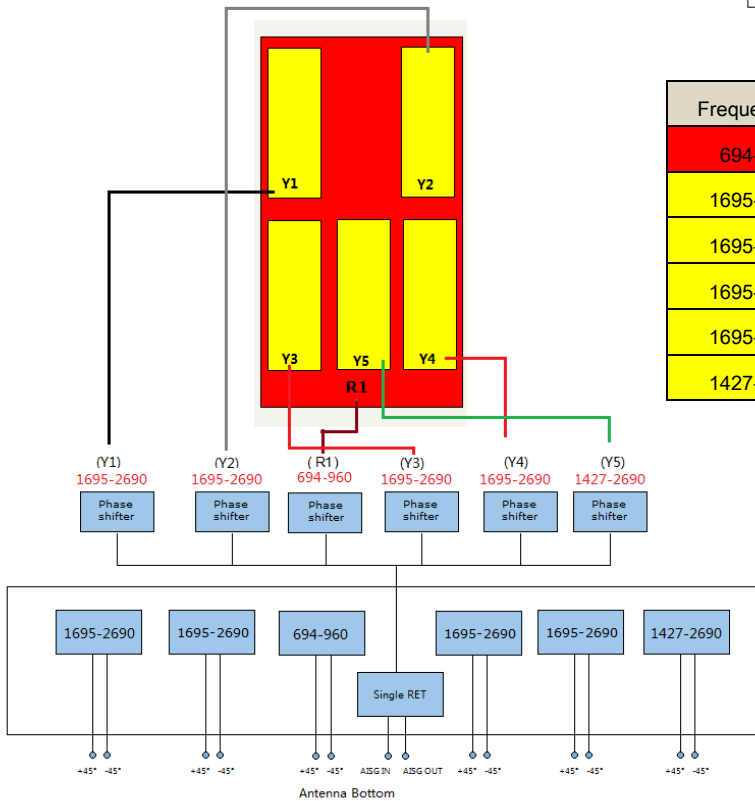
Integrated RET Properties

RET Type	6x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	



COMPREHENSIVE TILT CONFIGURATION

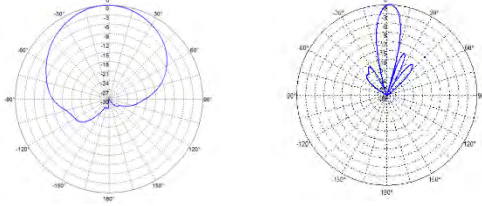
Note: (1) Physical RET Unit containing (6) Single RET



Frequency Range	Array	RET Unique ID
694-960MHz	R1	NDPMXXXXXXXX-7090R1
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
1695-2690MHz	Y3	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y4	NDPMXXXXXXXX-1727Y4
1427-2690MHz	Y5	NDPMXXXXXXXX-1427Y5



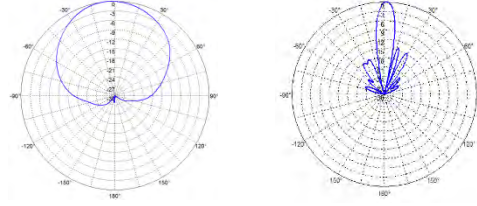
Radiation Pattern (694 - 862 MHz)



Horizontal Pattern

Vertical Pattern

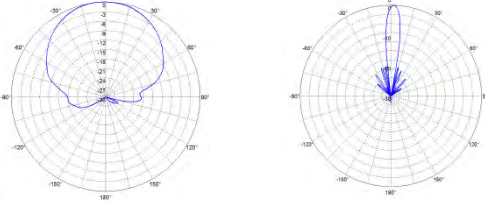
Radiation Patterns (862 - 960 MHz)



Horizontal Pattern

Vertical Pattern

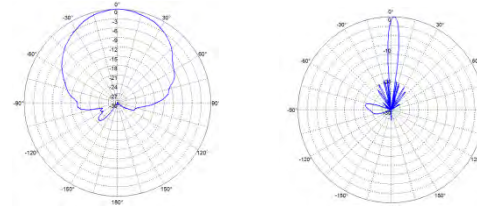
Radiation Pattern (1427 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

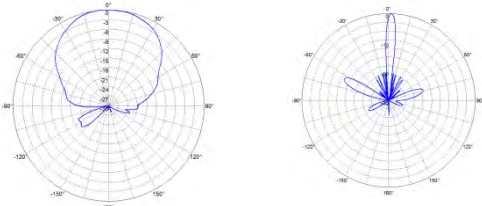
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

DENGYO HED/2OCT series

16-port base station antennas



2OCT6-2A2G2N2R-RH45

16-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 / 2400-2690/2400-2690/3300-4200 / 3300-4200 MHz 65°, 15.5 / 15.5 / 18.5 / 18.5 / 19 / 19 / 18.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 8 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400			2x2400-2690	2x3400-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690	3300-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41	38	48	45
Vertical 3dB Beamwidth(°)	14.5	12.5	11	7.5	6.5	6	5.5	6.8	6
Gain (dBi)	14.4	14.9	15.5	17.3	17.8	18.3	18.6	17.8	18.3
Electrical Downtilt	2°-12°			2°-12°			2°-12°	2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±30° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)								
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient)	500 W			300 W			300 W	250 W	
Lightning Protection	DC Ground								



Mechanical Specifications

Radome Material	ASA
Connector Type and Location	4.3-10x16, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1850 x 533 x 160 / 72.8 x 21.0 x 6.3
Packing Size(mm)/(inches)	2195 x 633 x 291 / 86.4 x 24.9 x 11.5
Weight ,w/o Mounting kit(kg)/(lbs)	39.5/ 86.9
Weight w/ Downtilt Bracket(kg)/(lbs)	45.5 / 100.1
Weight w/ Fixed Bracket(kg)/(lbs)	43.5 / 95.7
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	54.5 / 119.9
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	52.5 / 115.5
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1065/237/767

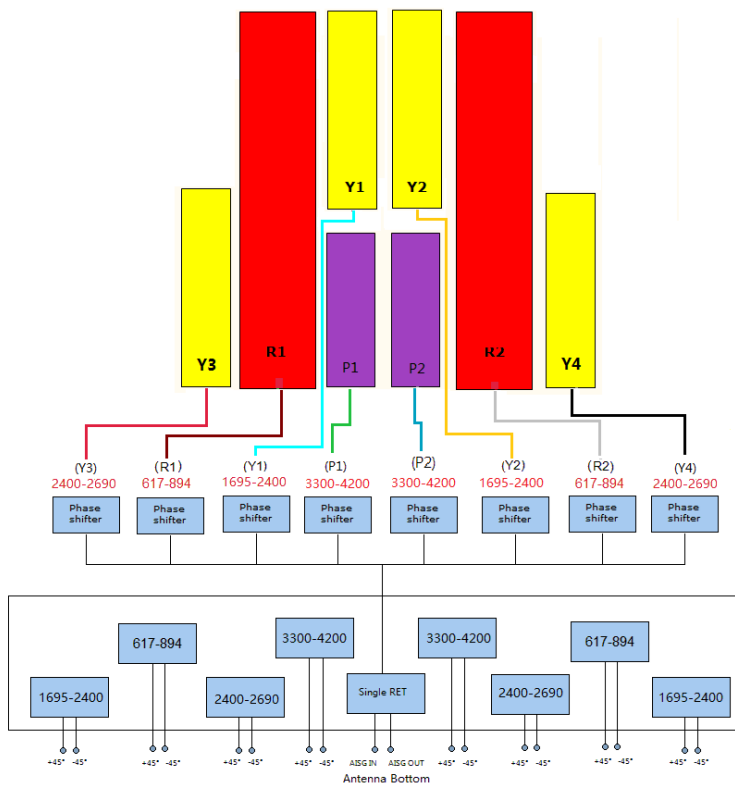


Integrated RET Properties

RET Type		8 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

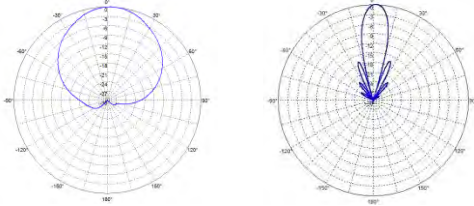
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2
2400-2690MHz	Y3	NDPMXXXXXXXX-2427Y3
2400-2690MHz	Y4	NDPMXXXXXXXX-2427Y4
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P1



Note: (1) Physical RET Unit containing (8) Single RET



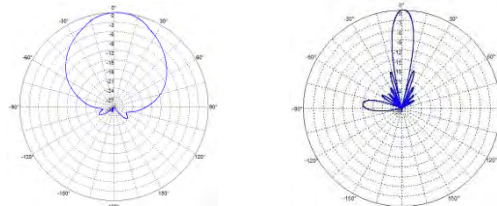
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

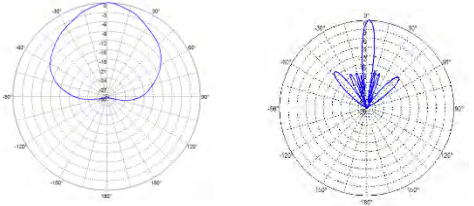
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

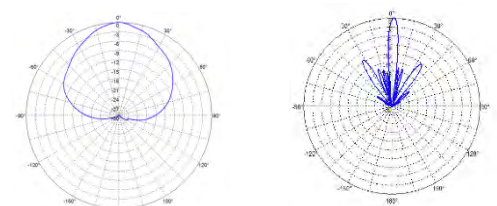
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

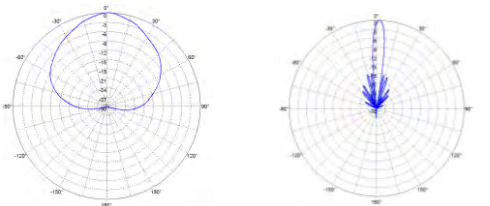
Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

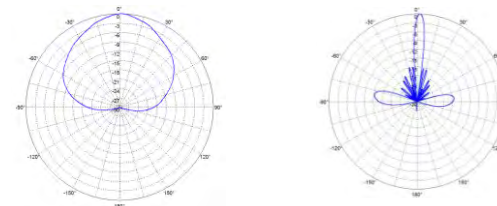
Radiation Pattern (3400 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



2OCT6-2A2G2N2R-RH65

16-ports 617-894 / 617-894 /1695-2400 / 1695-2400/ 2400-2690/2400-2690/3300-4200 / 3300-4200 MHz 65°, 15 /15 /18 /18 /18 /18 /18/18 dBi, 2°-12° /2°-12° / 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 8 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400			2x2400-2690	2x3400-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690	3300-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	70	65	60	66	63	58	60	68	64
Vertical 3dB Beamwidth(°)	14.5	12.5	11	7.5	6.5	6	5.5	6.8	6
Gain (dBi)	13.9	14.4	14.9	16.5	17	17.5	17.8	17	17.5
Electrical Downtilt	2°-12°			2°-12°			2°-12°	2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)								
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient)	500 W			300 W			300 W	250 W	
Lightning Protection	DC Ground								



Mechanical Specifications

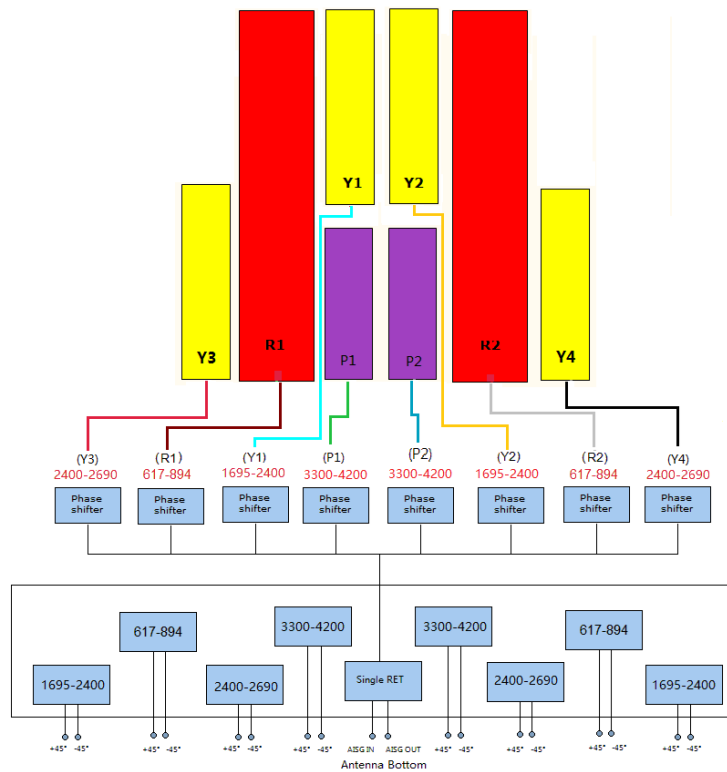
Radome Material	ASA
Connector Type and Location	4.3-10x16, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1850 x 533 x 160 / 72.8 x 21.0 x 6.3
Packing Size(mm)/(inches)	2195 x 633 x 291 / 86.4 x 24.9 x 11.5
Weight ,w/o Mounting kit(kg)/(lbs)	37.5 / 82.5
Weight w/ Downtilt Bracket(kg)/(lbs)	43.5 / 95.7
Weight w/ Fixed Bracket(kg)/(lbs)	41.5 / 91.3
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	52.5 / 115.5
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	50.5 / 111.1
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1065/237/767



Integrated RET Properties

RET Type		8 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION

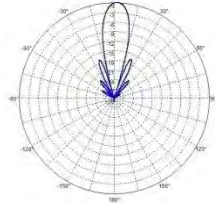
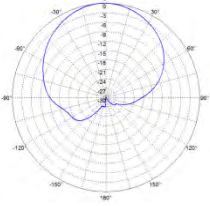


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2
2400-2690MHz	Y3	NDPMXXXXXXXX-2427Y3
2400-2690MHz	Y4	NDPMXXXXXXXX-2427Y4
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P1

Note: (1) Physical RET Unit containing (8) Single RET



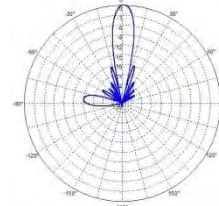
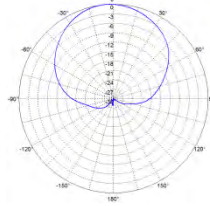
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

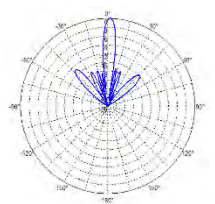
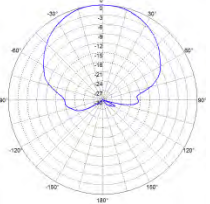
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

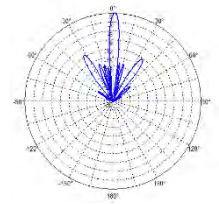
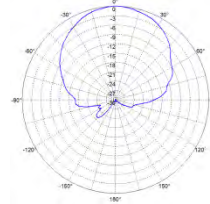
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

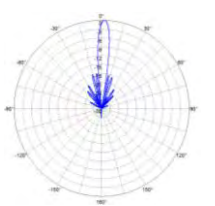
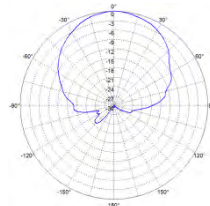
Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

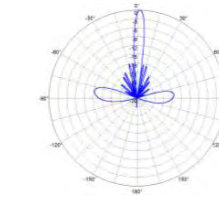
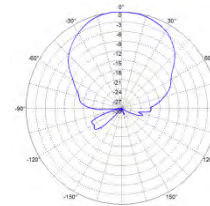
Radiation Pattern (3400 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



2OCT8-2A2G2N2R-RH45

16-ports 617-894 / 617-894 / 1695-2400 / 1695-2400 / 2400-2690/2400-2690/3300-4200 / 3300-4200 MHz 45°, 17 / 17 / 18.5 / 18.5 / 19.0 / 19.0 / 18.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 8 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400			2x2400-2690	2x3400-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690	3300-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	50	46	42	48	45	41	38	48	45
Vertical 3dB Beamwidth(°)	10.5	9	8	7.5	6.5	6	5.5	6.8	6
Gain (dBi)	15.5	16.2	16.7	17.3	17.8	18.3	18.6	17.8	18.3
Electrical Downtilt	2°-12°			2°-12°			2°-12°	2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±30° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)								
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient)	500 W			300 W			300 W	250 W	
Lightning Protection	DC Ground								



Mechanical Specifications

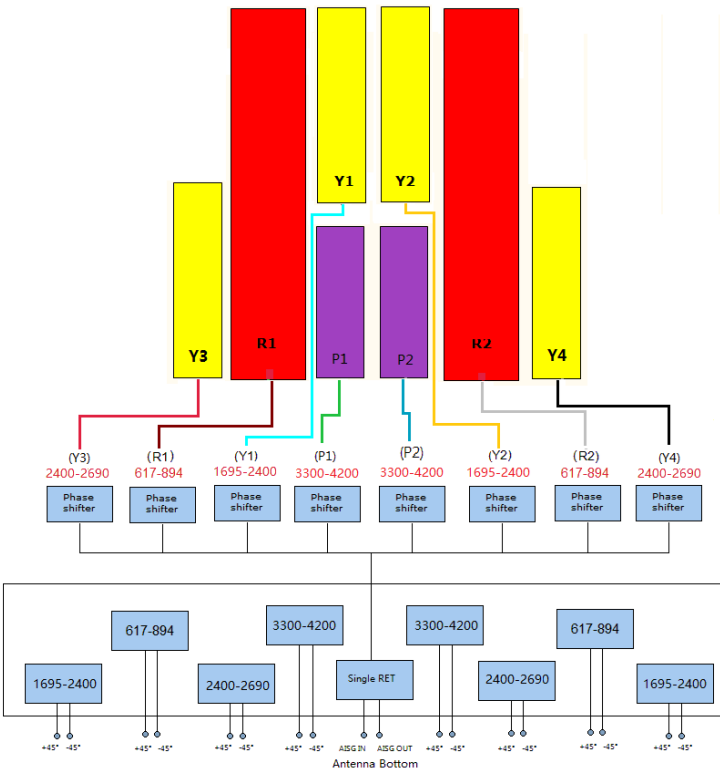
Radome Material	ASA
Connector Type and Location	4.3-10x16, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	2438 x 533 x 160 / 96 x 21.0 x 6.3
Packing Size(mm)/(inches)	2750 x 633 x 291 / 108.3 x 24.9 x 11.5
Weight ,w/o Mounting kit(kg)/(lbs)	44.5/ 97.9
Weight w/ Downtilt Bracket(kg)/(lbs)	50.5 / 111.1
Weight w/ Fixed Bracket(kg)/(lbs)	48.5 / 106.7
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	59.5 / 130.9
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	57.5 / 126.5
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1403/313/1010



Integrated RET Properties

RET Type		8 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

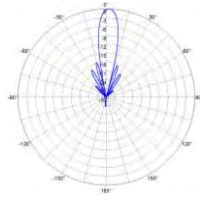
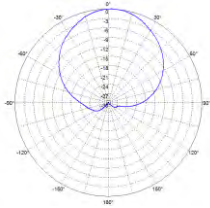


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2
2400-2690MHz	Y3	NDPMXXXXXXXX-2427Y3
2400-2690MHz	Y4	NDPMXXXXXXXX-2427Y4
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P1

Note: (1) Physical RET Unit containing (8) Single RET



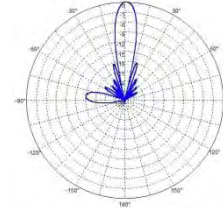
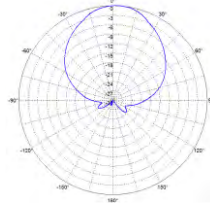
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

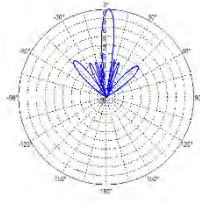
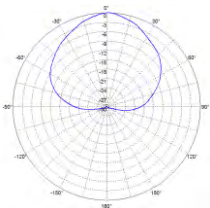
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

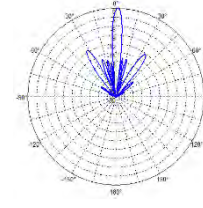
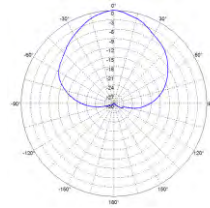
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

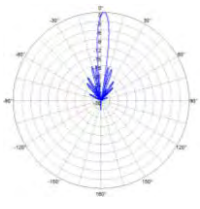
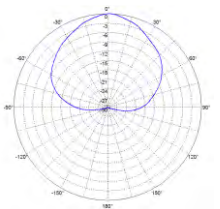
Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

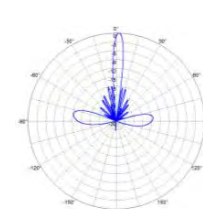
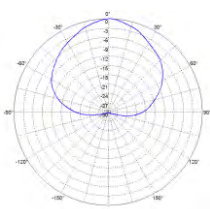
Radiation Pattern (3300 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



2OCT8-2A2G2N2R-RH65

16-ports 617-894 / 617-894 /1695-2400 / 1695-2400/ 2400-2690/2400-2690/3300-4200 / 3300-4200 MHz 65°, 16 /16 /18 /18 /18 /18 /18/18 dBi, 2°-12° /2°-12° / 2°-12° / 2°-12° / 2°-12° / 2 - 12 °Tilt Antenna With 8 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2400			2x2400-2690	2x3400-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690	3300-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	70	65	60	66	63	58	60	68	64
Vertical 3dB Beamwidth(°)	10.5	9	8	7.5	6.5	6	5.5	6.8	6
Gain (dBi)	15.0	15.7	16.2	16.5	17	17.5	17.8	17	17.5
Electrical Downtilt	2°-12°			2°-12°			2°-12°	2°-12°	
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction (dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports	≥25 dB								
Isolation Frequency	≥30 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)								
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient)	500 W			300 W			300 W	250 W	
Lightning Protection	DC Ground								



Mechanical Specifications

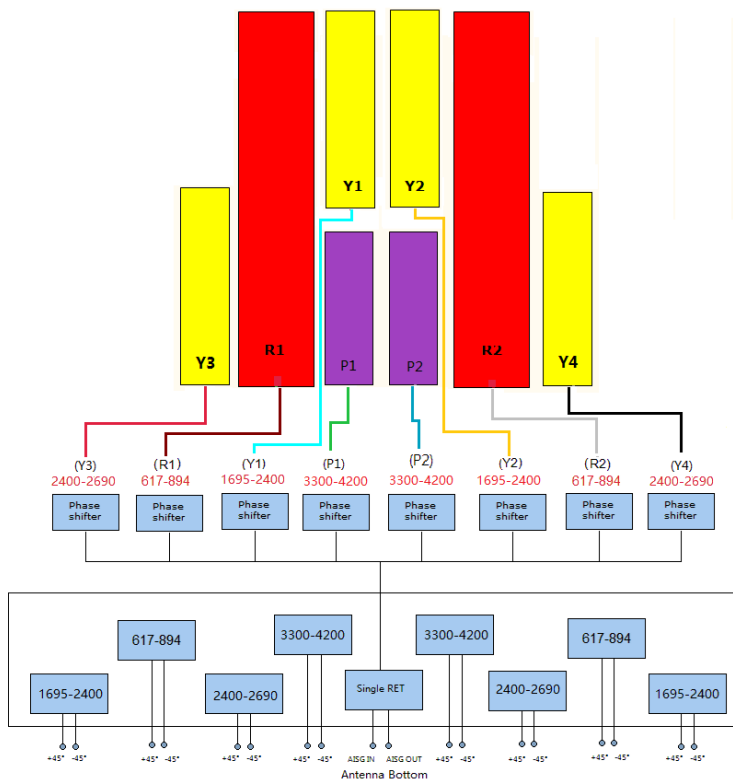
Radome Material	ASA
Connector Type and Location	4.3-10x16, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	2438 x 533 x 160 / 96 x 21.0 x 6.3
Packing Size(mm)/(inches)	2750 x 633 x 291 / 108.3 x 24.9 x 11.5
Weight ,w/o Mounting kit(kg)/(lbs)	42.5/ 93.5
Weight w/ Downtilt Bracket(kg)/(lbs)	48.5 / 106.7
Weight w/ Fixed Bracket(kg)/(lbs)	46.5 / 102.3
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	57.5 / 126.5
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	55.5 / 122.1
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1403/313/1010



Integrated RET Properties

RET Type		8 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

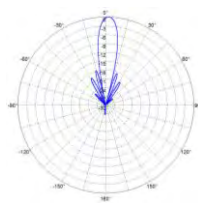
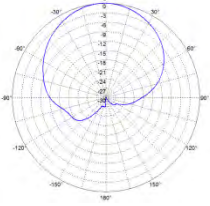


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2
2400-2690MHz	Y3	NDPMXXXXXXXX-2427Y3
2400-2690MHz	Y4	NDPMXXXXXXXX-2427Y4
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1
3300-4200MHz	P2	NDPMXXXXXXXX-3342P1

Note: (1) Physical RET Unit containing (8) Single RET



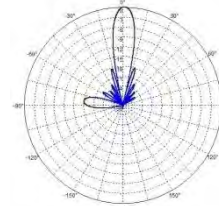
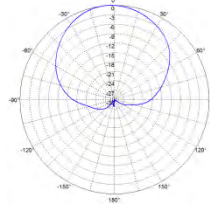
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

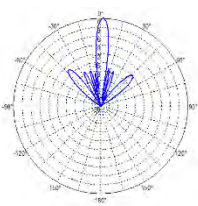
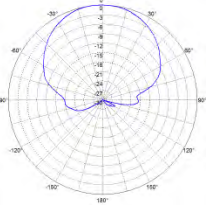
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

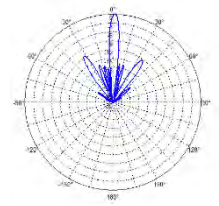
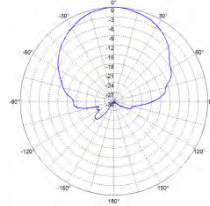
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

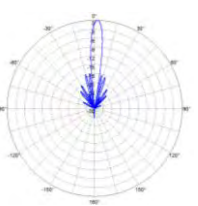
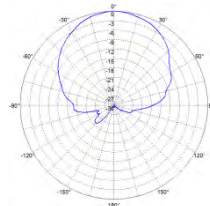
Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

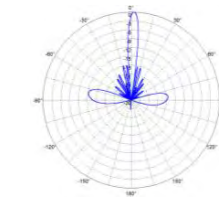
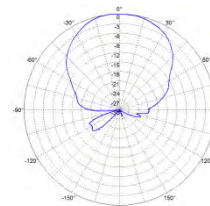
Radiation Pattern (3300 - 3800 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (3800 - 4200 MHz)



Horizontal Pattern

Vertical Pattern



2OCT8-2A6J-RD65

16-ports 617-894 / 617-894 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 MHz 65°, 16 / 16 / 17.5 / 17.5 / 17.5 / 17.5 / 17.5 / 17.5 dBi, 2°-12° / 2°-12° / 2°-12° / 2 - 12 ° / 2°-12° / 2 - 12 ° / 2°-12° / 2 - 12 °Tilt Antenna With 4 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		2x617-894			6x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2400-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		70	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		10.4	9.1	8.0	7.5	6.5	6	5.5
Gain (dBi)		15.0	15.5	16.0	16.5	17.0	17.5	17.8
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥23	≥24	≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -153 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			300 W			
Lightning Protection		DC Ground						



Mechanical Specifications

Radome Material	Fiberglass
Connector Type and Location	4.3-10x16 ,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 96.0 x 19.6x 7.1
Packing Size(mm)/(inches)	2750 x 600 x 320 / 108.3 x 23.6 x 12.6
Weight ,w/o Mounting kit(kg)/(lbs)	55 / 121
Weight w/ Downtilt Bracket(kg)/(lbs)	61 / 134.2
Weight w/ Fixed Bracket(kg)/(lbs)	59 / 129.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	71 / 156.2
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	69 / 151.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1396/278/1005

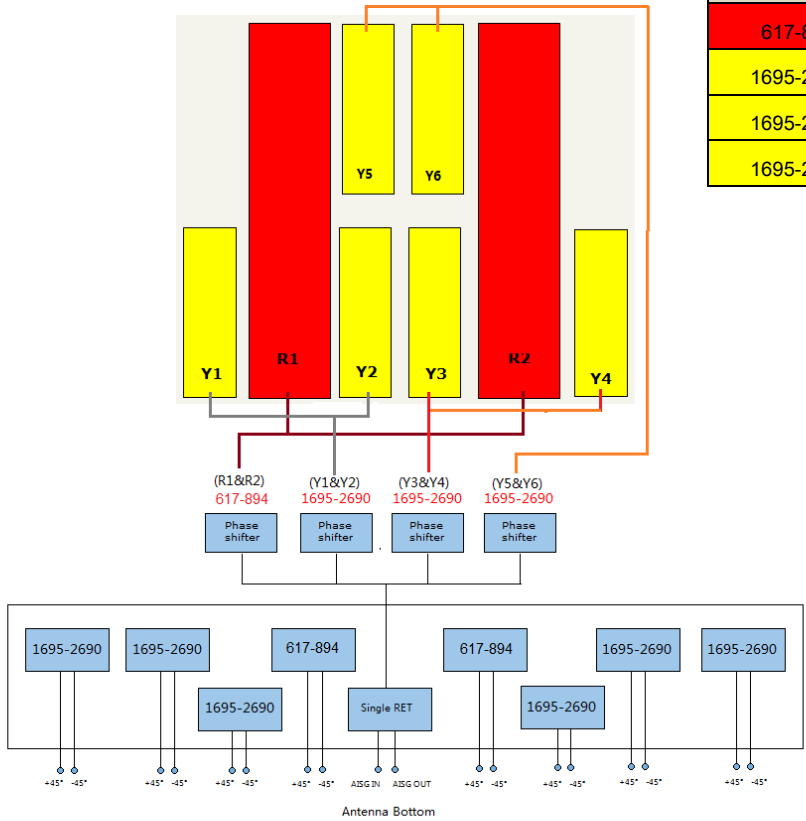


Integrated RET Properties

RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

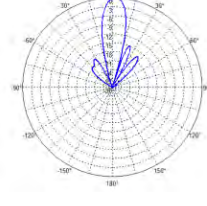
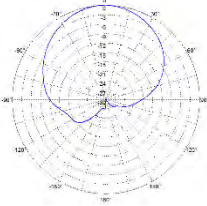
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y2
1695-2690MHz	Y5/Y6	NDPMXXXXXXXX-1727Y3



Note: (1) Physical RET Unit containing (4) Single RET



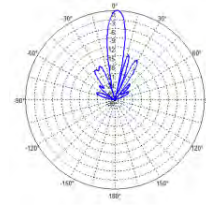
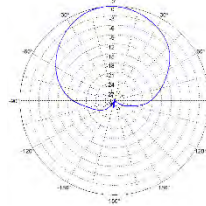
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

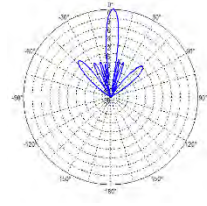
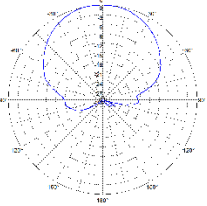
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

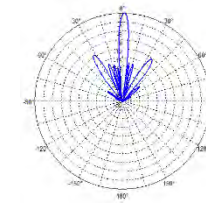
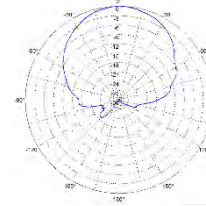
Radiation Pattern (1695 - 1920 MHz)



Horizontal Pattern

Vertical Pattern

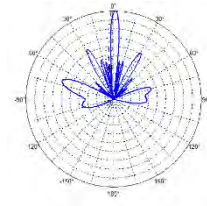
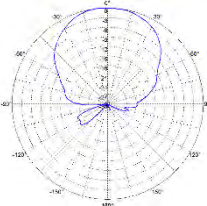
Radiation Patterns (1920 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Pattern (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



2OCT8-8J-RD65

16-ports 1695-2690 / 1695-2690/ 1695-2690/ 1695-2690/1695-2690 / 1695-2690/ 1695-2690/1695-2690 MHz 65°, 18 /18 /18 /18 /18 /18 /18 /18dB_i, 2°-12° / 2°- 12°/ 2°- 12°/ 2°- 12°/2°-12° / 2°- 12°/ 2°- 12°/2°- 12°Tilt Antenna With 4 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)		8x1695-2690			
		1695-1990	1920-2200	2300-2400	2490-2690
Polarization		±45°			
Horizontal 3dB Beamwidth(°)		69±5	68±5	65±5	62±5
Vertical 3dB Beamwidth(°)		7.4±0.5	6.9±0.6	6.3±0.4	5.7±0.5
Gain (dBi)		17.0±0.5	17.3±0.5	17.6±0.5	18.1±0.6
Electrical Downtilt		2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥18	≥18	≥18	≥18
	±60° (dB)	≥10	≥10	≥10	≥10
Isolation ports		≥25 dB			
Isolation Frequency		≥28 dB			
VSWR		< 1.5			
Intermodulation IM3		< -153 dBc(2x43dBm carrier)			
Impedance		50 Ω			
Max. Power per Input (at 50°C ambient temperature)		250 W			
Lightning Protection		DC Ground			



Mechanical Specifications

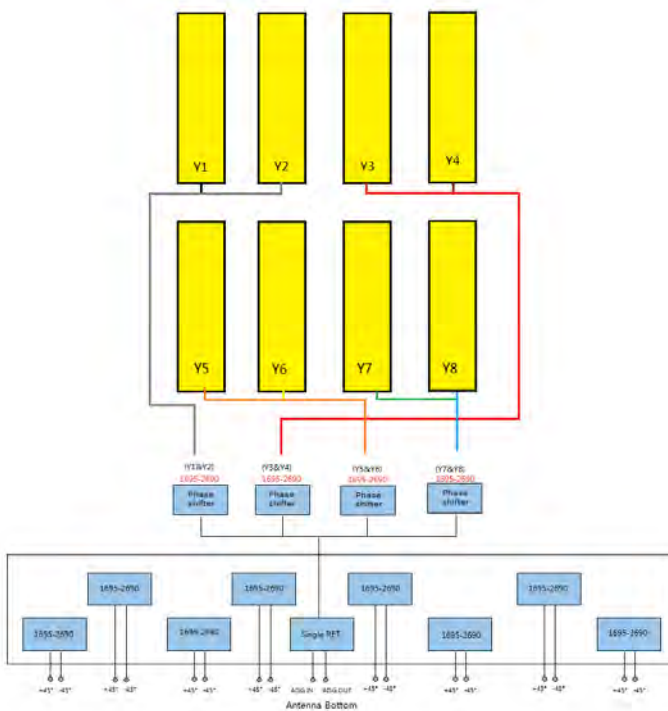
Radome Material	Fiberglass
Connector Type and Location	4.3-10x8, Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x180 / 96.0 x 19.6 x 7.1
Packing Size(mm)/(inches)	2650 x 580 x 280 / 104.3 x 22.8 x 11.0
Weight ,w/o Mounting kit(kg)/(lbs)	42 / 47.3
Weight w/ Downtilt Bracket(kg)/(lbs)	49 / 107.8
Weight w/ Fixed Bracket(kg)/(lbs)	45 / 99
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	59 / 129.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	55 / 121
Max. Wind Velocity(km/h)	241
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 150km/h (Frontal/ Rearside /lateral (N))	1416/280/1027



Integrated RET Properties

RET Type		4 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<10W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

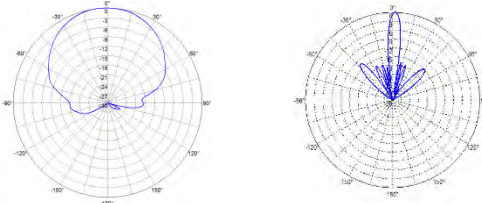
COMPREHESIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y2
1695-2690MHz	Y5/Y6	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y7/Y8	NDPMXXXXXXXX-1727Y4

Note: (1) Physical RET Unit containing (4) Single RET

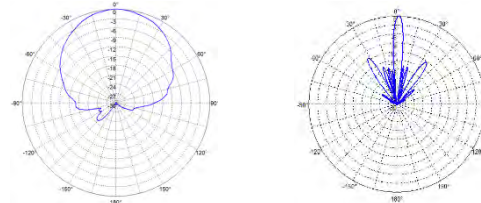
Radiation Pattern (1695 - 2200 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (2490 - 2690 MHz)



Horizontal Pattern

Vertical Pattern



HED6-4LX4HX-BW33

Dual-beam 4 x 698-894 / 4 x 1695-2400 MHz 33° 17 / 20 dBi, 4 x 2°-12° / 4 x 2°-12° Tilt Antenna With 4 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	4x698-894		
	698-824		824-894
Polarization	±45°		
Horizontal 3dB beamwidth(°)	35		33
Vertical 3dB Beamwidth(°)	12		10.5
Gain (dBi)	16.3		17.2
Electrical Downtilt(°)	2-12 , continuously adjustable		
First Upper Side Lobe Suppression-Vertical (dB)	≥15		
Beam Center Direction-Horizontal (°)	±30		±26
Front-to-Back Ratio (180°±30°)(dB)	≥25		
Ports Isolation (dB)	≥25		
Isolation between two Beam(dB)	≥17		
VSWR	≤1.5		
Impedance	50 Ω		
Intermodulation IM3	< -153 dBc(2x43dBm carrier)		
Max. Power per Input	500 W		
Lightning Protection	DC Ground		
Frequency Range(MHz)	4x1695-2400		
	1695-1920	1920-2180	2300-2400
Polarization	±45°		
Horizontal 3dB beamwidth(°)	35	33	27
Vertical 3dB Beamwidth(°)	7.5	6.5	6
Gain (dBi)	18.3	19.2	19.7
Electrical Downtilt(°)	2-12 , continuously adjustable		
First Upper Side Lobe Suppression-Vertical (dB)	≥15		
Beam Center Direction-Horizontal (°)	±31	±27	±25
Front-to-Back Ratio (180°±30°)(dB)	≥25		
Ports Isolation (dB)	≥25		
Isolation between two Beam(dB)	≥17		
VSWR	≤1.5		
Impedance	50 Ω		
Intermodulation IM3	< -153 dBc(2x43dBm carrier)		
Max. Power per Input	300 W		
Lightning Protection	DC Ground		





Mechanical Specifications

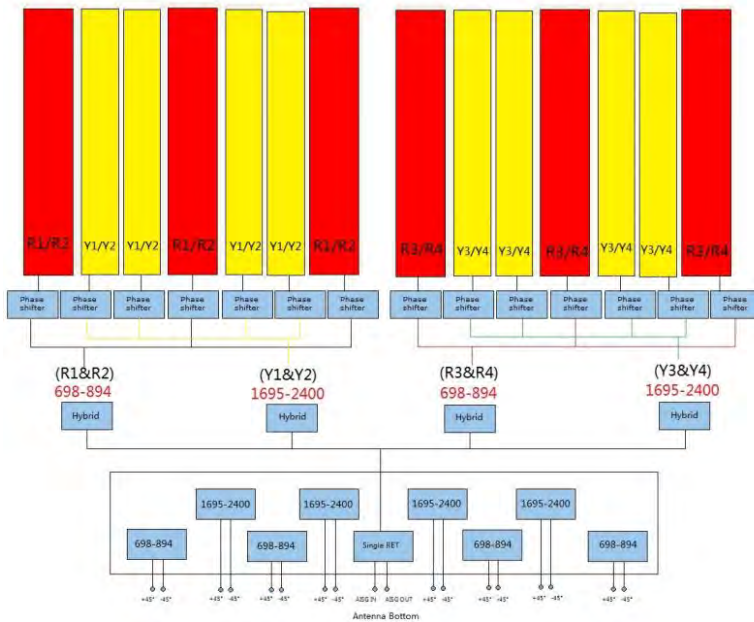
Radome Material	Fiberglass
Connector Type and Location	4.3-10x16, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1850 x 1480 x 180/ 72.8 x 58.3 x 7.1
Packing Size(mm)/(inches)	2190 x 1600 x 300 / 86.2 x 63.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	90 / 198
Weight w/ Downtilt Bracket(kg)/(lbs)	96 / 211.2
Weight w/ Fixed Bracket(kg)/(lbs)	94 / 206.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	105 / 231
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	103 / 226.6
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	3160/237/2274

Integrated RET Properties

RET Type	1 xType 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by); <13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3); Power supply(pin6); DC return(pin7) Acc.to AISG
Adjustment time(full range)	40 sec(typically, depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs, 200 Repetitions Min. @ 0.6KA	

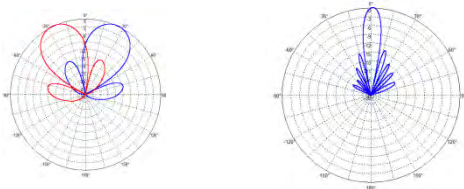


COMPREHENSIVE TILT CONFIGURATION



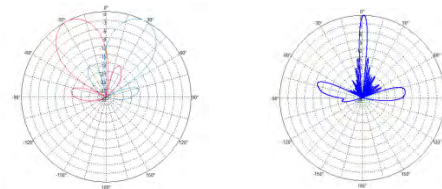
Frequency Range	Array	RET Unique ID
698-894MHz	R1	NDPMXXXXXXXX-7089R1
698-894MHz	R2	NDPMXXXXXXXX-7089R2
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2

Radiation Patterns (824 - 894 MHz)



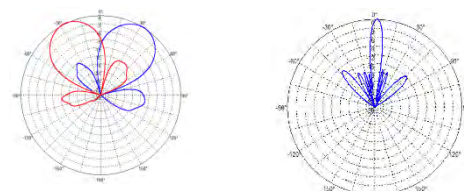
Horizontal Pattern Vertical Pattern

Radiation Pattern (1695 - 2400 MHz)



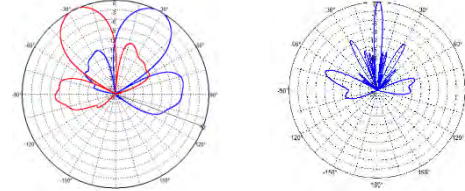
Horizontal Pattern Vertical Pattern

Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



Horizontal Pattern Vertical Pattern



HED6-4LX4HX-BW33-M

Dual-beam 4 x 617-894 / 4 x 1695-2690MHz 33° 15.5 / 19 dBi, 4 x 2°-12° / 4 x 2°-12°
Tilt Antenna With 8 Integrated RCUs



Electrical Specifications

Frequency Range(MHz)	4x617-894		
	617-698	698-824	824-894
Polarization	±45°		
Horizontal 3dB beamwidth(°)	38	34	28
Vertical 3dB Beamwidth(°)	13.5	12	10.5
Gain (dBi)	14.4	14.9	15.5
Electrical Downtilt(°)	2-12 , continuously adjustable		
First Upper Side Lobe Suppression-Vertical (dB)	≥15		
Beam Center Direction-Horizontal (°)	±33	±31	±30
Front-to-Back Ratio (180°±30°)(dB)	≥25	≥25	≥25
Ports Isolation (dB)	≥25		
Isolation between two Beam(dB)	≥25		
VSWR	≤1.5		
Impedance	50 Ω		
Intermodulation IM3	< -153 dBc(2x43dBm carrier)		
Max. Power per Input	500 W		
Lightning Protection	DC Ground		



Frequency Range(MHz)	4x1695-2690			
	1695-1920	1920-2180	2300-2400	2400-2690
Polarization	±45°			
Horizontal 3dB beamwidth(°)	36	34	31	28
Vertical 3dB Beamwidth(°)	7.5	6.5	6	5.5
Gain (dBi)	17.7	18.2	18.7	19.2
Electrical Downtilt(°)	2-12 , continuously adjustable			
First Upper Side Lobe Suppression-Vertical (dB)	≥15			
Beam Center Direction-Horizontal (°)	±33	±31	±30	± 29
Front-to-Back Ratio (180°±30°)(dB)	≥25			
Ports Isolation (dB)	≥25			
Isolation between two Beam(dB)	≥25			
VSWR	≤1.5			
Impedance	50 Ω			
Intermodulation IM3	< -153 dBc(2x43dBm carrier)			
Max. Power per Input	300 W			
Lightning Protection	DC Ground			



Mechanical Specifications

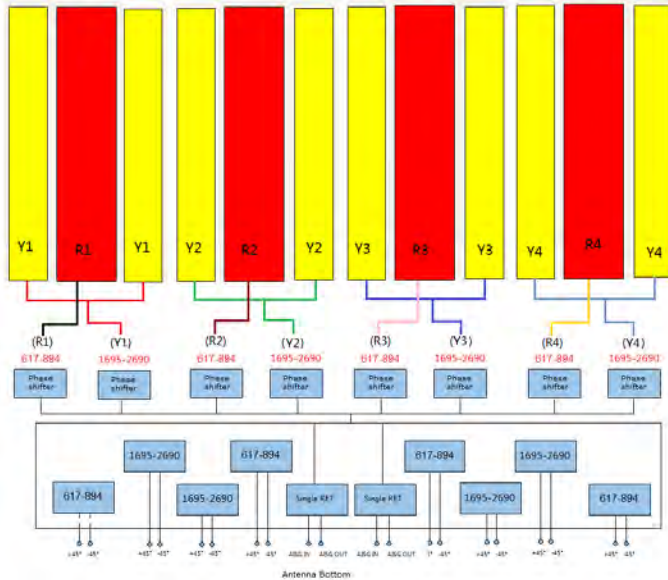
Radome Material	Fiberglass
Connector Type and Location	4.3-10x16, Bottom iRCU in: 2 x 8 pin male iRCU out: 2 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1850 x 960x 400/ 72.8 x 37.8 x 15.7
Packing Size(mm)/(inches)	2190 x 1080x 520 / 86.2 x 42.5 x 20.5
Weight ,w/o Mounting kit(kg)/(lbs)	75 / 165
Weight w/ Downtilt Bracket(kg)/(lbs)	81 / 178.2
Weight w/ Fixed Bracket(kg)/(lbs)	79 / 173.8
Packing Weight (w/ Downtilt Bracket) (kg)/(lbs)	90 / 198
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	88 / 193.6
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	2050/528/1475

Integrated RET Properties

RET Type	8 x Type 1 Single RET	
Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by); <13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3); Power supply(pin6); DC return(pin7) Acc.to AISG
Adjustment time(full range)	40 sec(typically, depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs, 200 Repetitions Min. @ 0.6KA	

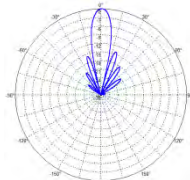
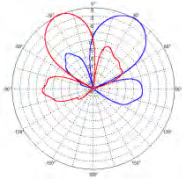


COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
617-894MHz	R3	NDPMXXXXXXXX-6089R3
617-894MHz	R4	NDPMXXXXXXXX-6089R4
1710-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1710-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y2
1710-2690MHz	Y5/Y6	NDPMXXXXXXXX-1727Y3
1710-2690MHz	Y7/Y8	NDPMXXXXXXXX-1727Y4

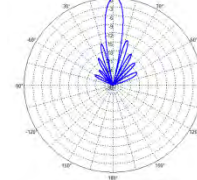
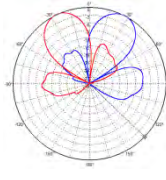
Radiation Pattern (617 - 824 MHz)



Horizontal Pattern

Vertical Pattern

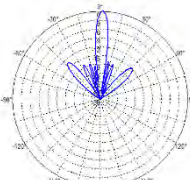
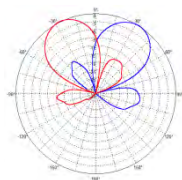
Radiation Patterns (824 - 894 MHz)



Horizontal Pattern

Vertical Pattern

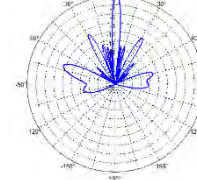
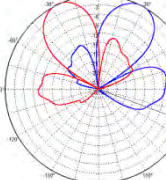
Radiation Pattern (1695 - 2180 MHz)



Horizontal Pattern

Vertical Pattern

Radiation Patterns (2300 - 2690 MHz)



Horizontal Pattern

Vertical Pattern

DENGYO **BMF** series

Beam-forming base station
antennas



BMF3-1R-RA80

9-Ports 4x3300-4200 MHz 80°, 4x16 dBi, 2°-12°Tilt Antenna With 1 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		3300~3600	3600~4200
	Polarization		±45	
	Electrical downtilt(°)		2~12	
	Electrical downtilt tolerance(°)		±1	
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2	
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1	
	Max.phase tolerance from calibration port to input ports(°)		≤10	
	Ports VSWR		<1.5	
	Avg. power per capacity (W)		40	
	Co-polarization isolation between ports(dB)		≥20	
	Cross-polarization isolation between ports(dB)		≥23	
Radiation parameters	Single column Beam	Gain(dBi)	15.4	15.7
		Horizontal 3dB beam width(°)	95	70
		Vertical 3dB beam width(°)	6.5	5.5
		Cross polar ratio(dB, 0°)	≥16	
		Front to back ratio(dB)	≥25	
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	
	65° Broadcast beam	Gain(dBi)	16.3	16.5
		Horizontal 3dB beam width(°)	65	
		Vertical 3dB beam width(°)	6.5	5
		Cross polar ratio(dB, 0°)	≥16	
		Front to back ratio(dB)	≥25	
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	
	Service beam	0°direct beam gain(dBi)	20	21
		0°direct beam horizontal 3dB beam width(°)	≤28	
		0°direct beam front to back ratio(dB)	≥28	
		0°direct beam cross polar ratio(axial)(dB)	≥18	





Mechanical Specifications

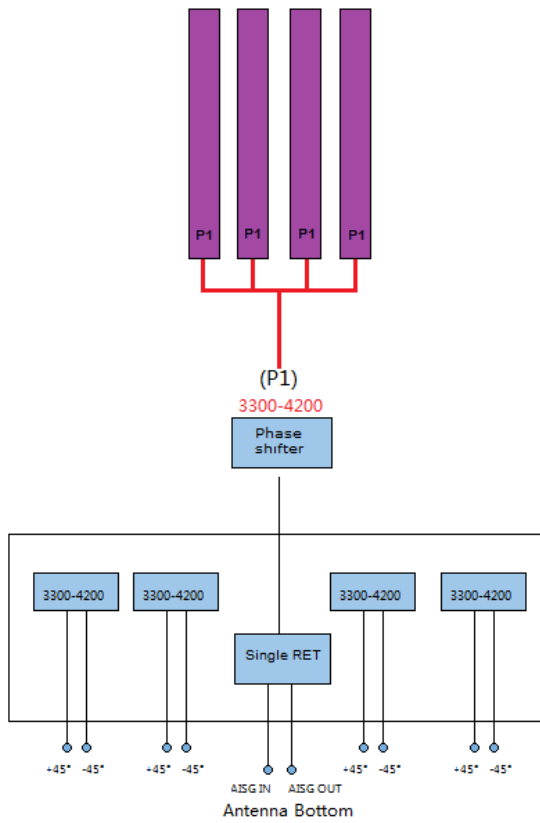
Radome Material	Fiberglass
Connector Type and Location	8x4.3-10 +1x4.3-10 iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	900 x 280 x 125 / 35.4 x 11.0 x 4.9
Packing Size(mm)/(inches)	1200 x 410 x 270 / 47.2 x 16.1 x 10.6
Weight ,w/o Mounting kit(kg)/(lbs)	15.5 / 34.1
Weight with Downtilt Bracket(kg)/(lbs)	22.5 / 49.5
Weight with Fixed Bracket(kg)/(lbs)	20.5 / 45.1
Packing Weight (with Downtilt Bracket)(kg)/(lbs)	28.5 / 62.7
Packing Weight (with Fixed Bracket)(kg)/(lbs)	26.5 / 58.3
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	307/74/219

Integrated RET Properties

RET Type	1 x Type 1 Single RET
Protocols	Compliant to AISG 2.0/3GPP
Input voltage range	+10~+30VDC(pin 6)
Power consumption	<2W(stand by);<13W(motor activated)
Connectors	AISG 2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna Two motor shaft(Embedded motor)
Hardware interface	AISG RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)
Adjustment Cycles	≥10000
Torque Max	≥160mN.m
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

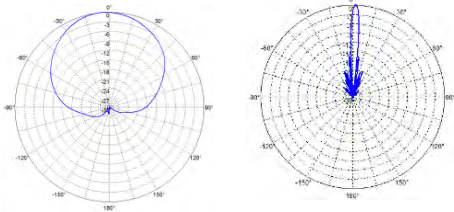


COMPREHENSIVE TILT CONFIGURATION



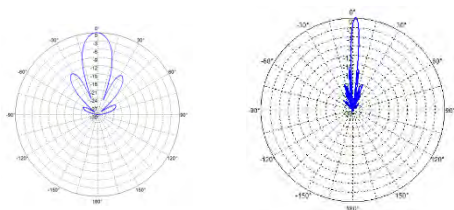
Frequency Range	Array	RET Unique ID
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1

Radiation Pattern (3300- 4200 MHz)



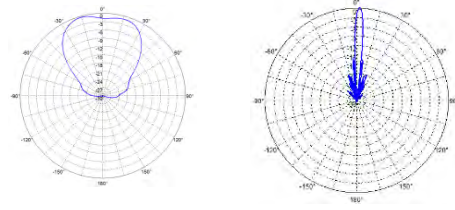
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300 - 4200 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300 - 4200 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF4-2LX3HX-CB65

2 x617-894 /2 x1695-2690 /3300-4200 MHz 65°, 2 x14 / 2 x14 /16 dBi, 2 x2°-12° / 2 x2°-12° / 2°-12°Tilt Antenna With 4 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		3300-4200
	Polarization		±45
	Electrical downtilt(°)		2-12
	Electrical downtilt tolerance(°)		±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1
	Max.phase tolerance from calibration port to input ports(°)		≤10
	Ports VSWR		<1.5
	Avg. power per capacity (W)		40
	Co-polarization isolation between ports(dB)		≥20
	Cross-polarization isolation between ports(dB)		≥23
Radiation parameters	Single column Beam	Gain(dBi)	15.2
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	7.0
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	65° Broadcast beam	Gain(dBi)	15.3
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	7.0
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	Service beam	0°direct beam gain(dBi)	20.5
		0°direct beam horizontal 3dB beam width(°)	19
		0°direct beam front to back ratio(dB)	≥28
0°direct beam cross polar ratio(axial)(dB)		≥17	





Frequency Range(MHz)		2x617-894			2x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		19.5	16.5	15	15	13.5	12	11
Gain (dBi)		12.3	13	13.5	13.5	13.8	14.1	14.2
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

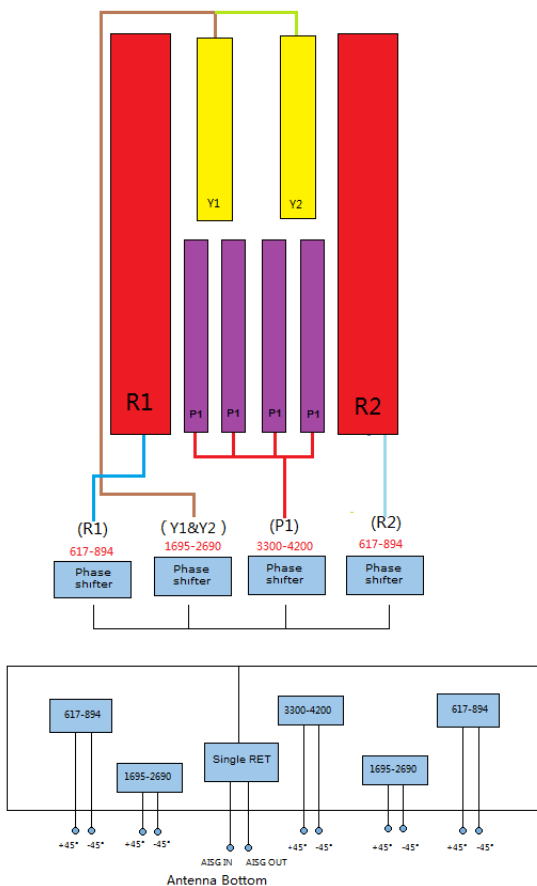
Radome Material	FiberGlass
Connector Type and Location	4.3-10x8, Bottom 1xMQ5 Male+1 xMQ4 Male iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1300 x 499 x 180 / 51.2 x 19.6 x 7.1
Packing Size(mm)/(inches)	1600 x 599 x 311 / 63 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	39 / 85.8
Weight with Downtilt Bracket(kg)/(lbs)	46 / 101.2
Weight with Fixed Bracket(kg)/(lbs)	44 / 96.8
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	57 / 125.4
Packing Weight (with Fixed Bracket) (kg)/(lbs)	55 / 121
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	790/127/590



Integrated RET Properties

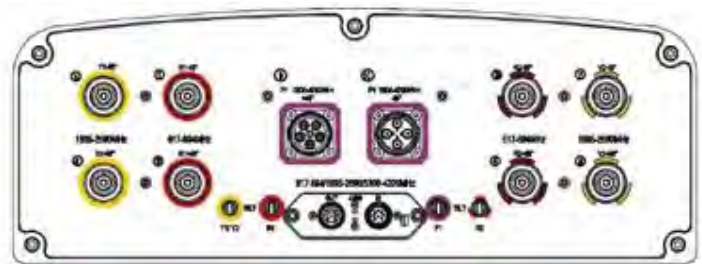
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



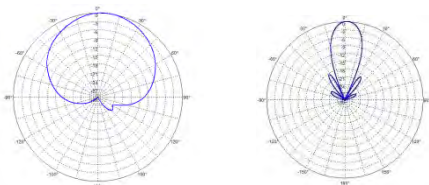
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1

Note: (2) Physical RET Unit containing (4) Single RET



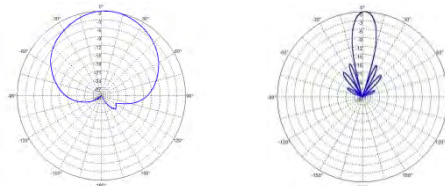


Radiation Pattern (617 - 824MHz)



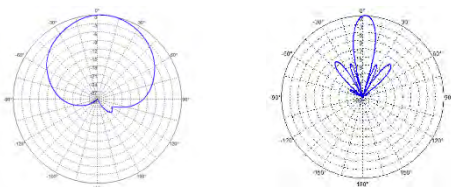
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



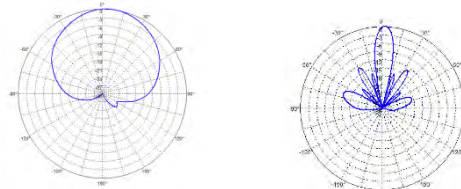
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



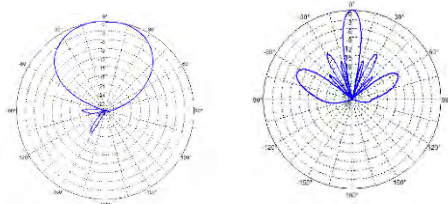
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



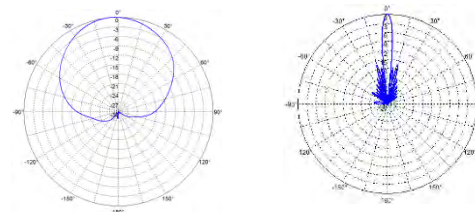
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



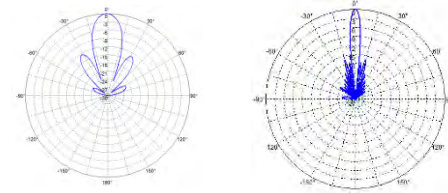
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)



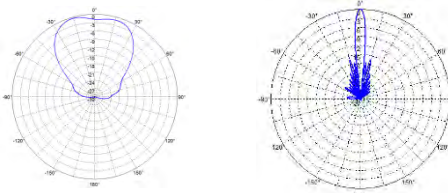
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF4-2LX5HX-CB65

2 x617-894 /4 x1695-2690 /3300-4200 MHz 65°, 2 x14 / 4 x14 /16 dBi, 2 x2°-12° / 4 x2°-12° / 2°-12°Tilt Antenna With 7 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		3300-4200
	Polarization		±45
	Electrical downtilt(°)		2-12
	Electrical downtilt tolerance(°)		±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1
	Max.phase tolerance from calibration port to input ports(°)		≤10
	Ports VSWR		<1.5
	Avg. power per capacity (W)		40
	Co-polarization isolation between ports(dB)		≥20
	Cross-polarization isolation between ports(dB)		≥23
Radiation parameters	Single column Beam	Gain(dBi)	15.2
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	7.0
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	65° Broadcast beam	Gain(dBi)	15.3
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	7.0
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	Service beam	0°direct beam gain(dBi)	20.5
		0°direct beam horizontal 3dB beam width(°)	19
		0°direct beam front to back ratio(dB)	≥28
0°direct beam cross polar ratio(axial)(dB)		≥17	





Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		19.5	16.5	15	15	13.5	12	11
Gain (dBi)		12.3	13	13.5	13.5	13.8	14.1	14.2
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

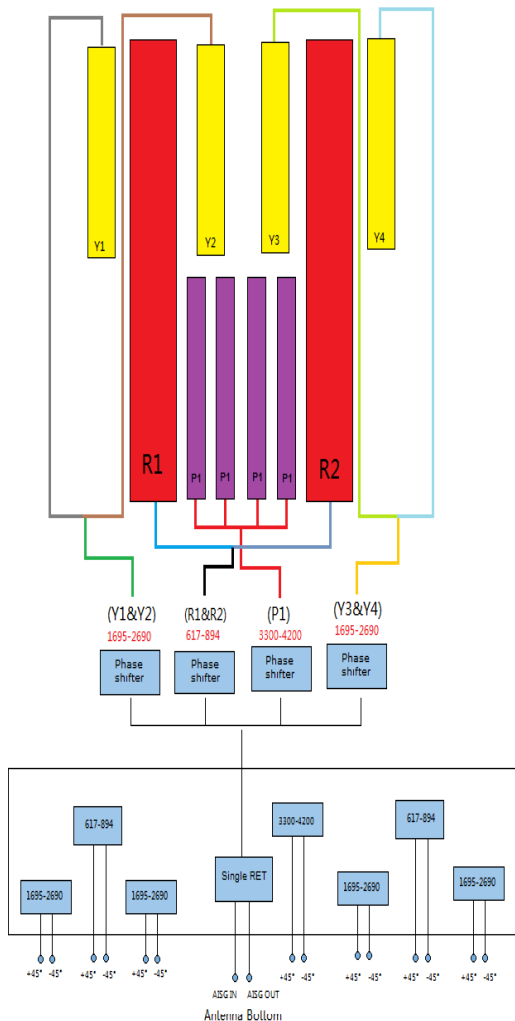
Radome Material	FiberGlass
Connector Type and Location	4.3-10x12, Bottom 1xMQ5 Male+1 xMQ4 Male iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1300 x 499 x 180 / 51.2 x 19.6 x 7.1
Packing Size(mm)/(inches)	1600 x 599 x 311 / 63 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	39 / 85.8
Weight with Downtilt Bracket(kg)/(lbs)	46 / 101.2
Weight with Fixed Bracket(kg)/(lbs)	44 / 96.8
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	57 / 125.4
Packing Weight (with Fixed Bracket) (kg)/(lbs)	55 / 121
Max. Wind Velocity(mph)	150
Mounting hardware	φ 50 mm ~ φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	790/127/590



Integrated RET Properties

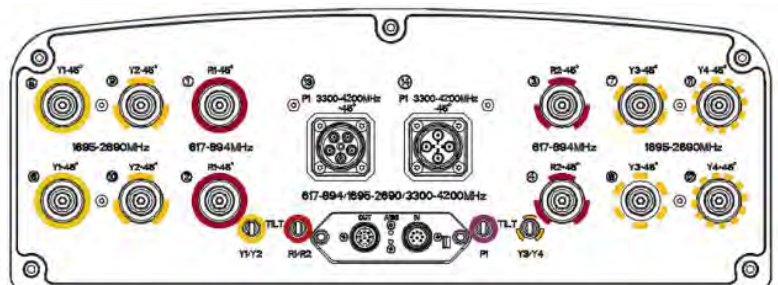
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



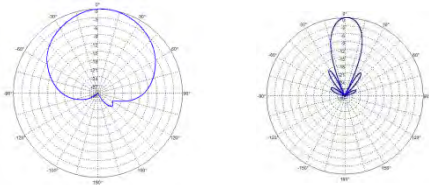
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y3
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1

Note: (1) Physical RET Unit containing (4) Single RET



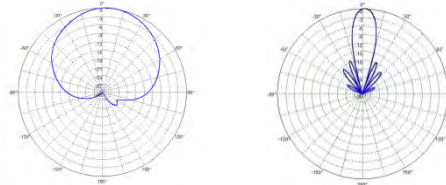


Radiation Pattern (617 - 824MHz)



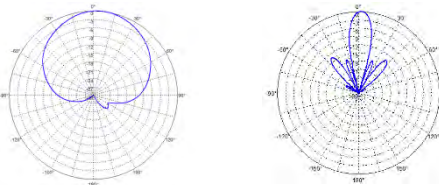
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



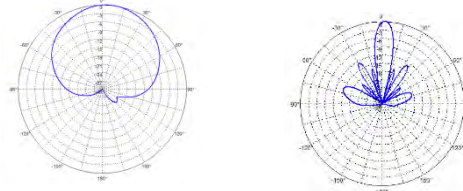
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



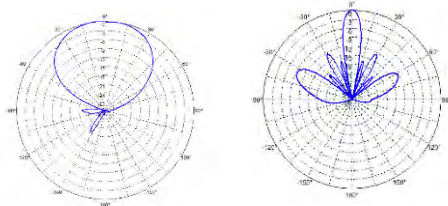
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



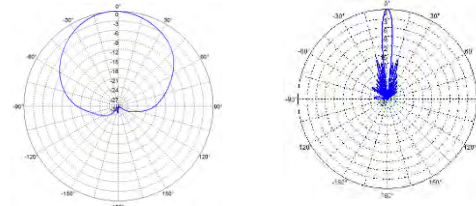
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



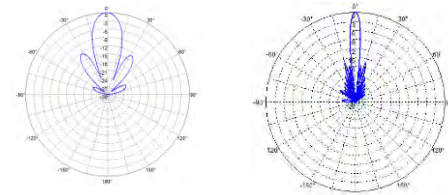
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)



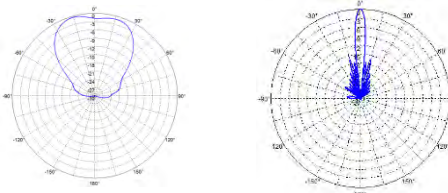
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF5-2B2J1L-RE65

2 x698-960 / 2 x1695-2690 /4x2490-3800 MHz 65°, 2 x14 / 2 x18 / 4x16 dBi, 2 x2°-12° / 2 x2°-12° / 2°-12°
Tilt Antenna With 5 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		2490~2690	3300~3800	
	Polarization		±45		
	Electrical downtilt(°)		2~12		
	Electrical downtilt tolerance(°)		±1		
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2		
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1		
	Max.phase tolerance from calibration port to input ports(°)		≤10		
	Ports VSWR		<1.5		
	Avg. power per capacity (W)		40		
	Co-polarization isolation between ports(dB)		≥20		
	Cross-polarization isolation between ports(dB)		≥23		
Radiation parameters	Single column Beam	Gain(dBi)	15	15.5	
		Horizontal 3dB beam width(°)	80	65	
		Vertical 3dB beam width(°)	6.5	5	
		Cross polar ratio(dB, 0°)		≥16	
		Front to back ratio(dB)		≥25	
		Vertical sidelobe suppression for first sidelobe above main beam(dB)		≥15	
		65° Broadcast beam	Gain(dBi)	16.3	16.5
	Horizontal 3dB beam width(°)		65		
	Vertical 3dB beam width(°)		6.5	5	
	Cross polar ratio(dB, 0°)		≥16		
	Front to back ratio(dB)		≥25		
	Vertical sidelobe suppression for first sidelobe above main beam(dB)		≥15		
	Service beam	0°direct beam gain(dBi)	20	21	
		0°direct beam horizontal 3dB beam width(°)		≤28	
		0°direct beam front to back ratio(dB)		≥28	
		0°direct beam cross polar ratio(axial)(dB)		≥18	





Frequency Range(MHz)		2x698-960			2x1695-2690			
		698-824	824-894	880-960	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	68	65	62	60
Vertical 3dB Beamwidth(°)		15	13.5	12.5	6.5	5.5	5	4.5
Gain (dBi)		13.2	13.7	14	16.8	17.2	17.7	17.5
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

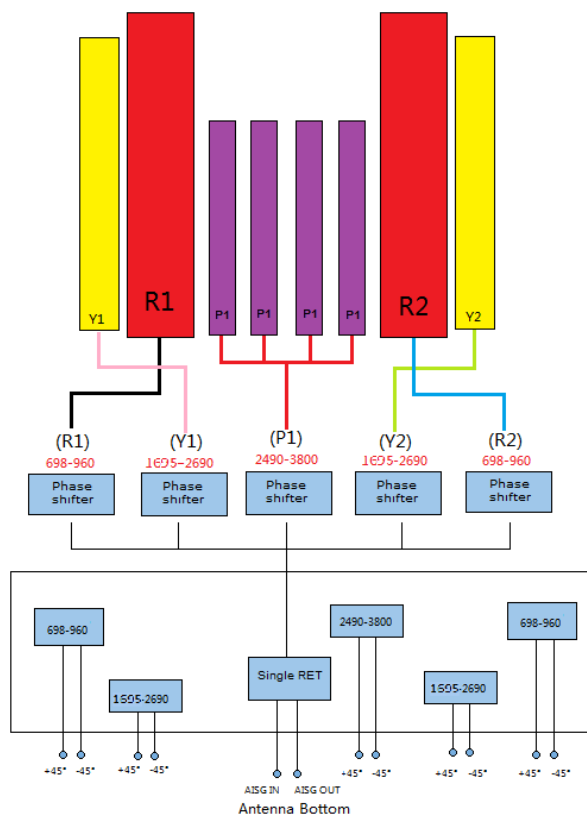
Radome Material	Fiberglass
Connector Type and Location	4.3-10 Female x8, Bottom 1xMQ5 Male+1 xMQ4 Male iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1500 x 499 x 180 / 59.1 x 19.6 x 7.1
Packing Size(mm)/(inches)	1940 x 560 x 300 / 76.4 x 22.0 x 11.8
Weight , w/o Mounting kit(kg)/(lbs)	33 / 72.6
Weight with Downtilt Bracket(kg)/(lbs)	40 / 88
Weight with Fixed Bracket(kg)/(lbs)	38 / 83.6
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	47 / 103.4
Packing Weight (with Fixed Bracket) (kg)/(lbs)	45 / 99
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	922/148/691



Integrated RET Properties

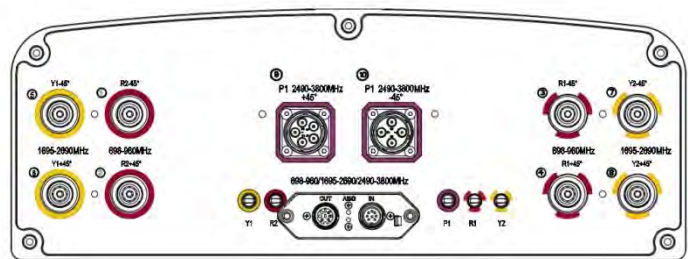
RET Type		5x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



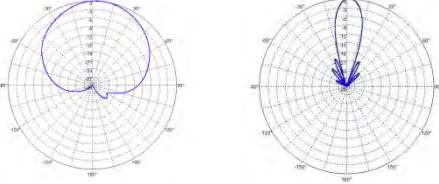
Frequency Range	Array	RET Unique ID
698-960MHz	R1	NDPMXXXXXXXX-7090R1
698-960MHz	R2	NDPMXXXXXXXX-7090R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
2490-3800MHz	P1	NDPMXXXXXXXX-2538P1

Note: (1) Physical RET Unit containing (5) Single RET



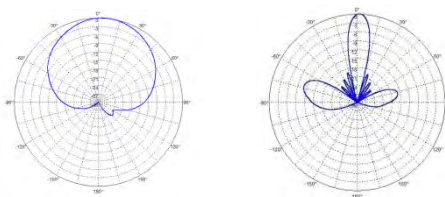


Radiation Pattern (698 - 894MHz)



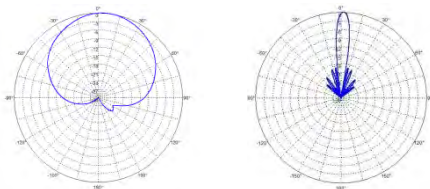
Horizontal Pattern Vertical Pattern

Radiation Patterns (880 - 960 MHz)



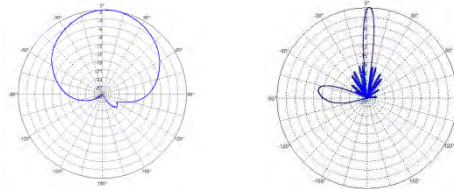
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



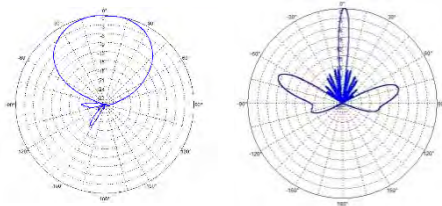
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300- 2400 MHz)



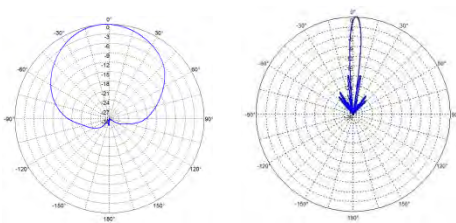
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



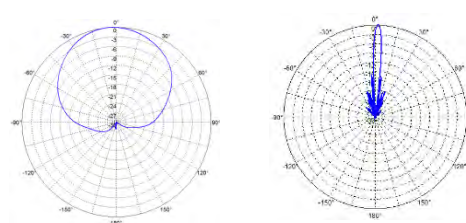
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



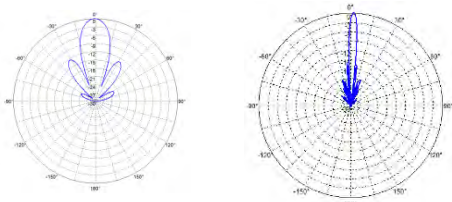
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)

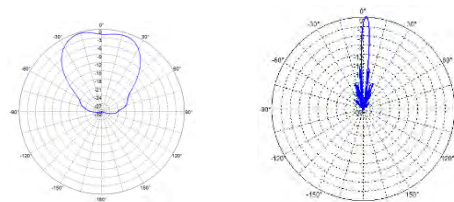


Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 3800 MHz)(Service Beam) Radiation Pattern (2490- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



Horizontal Pattern Vertical Pattern



BMF5-2LX5HX-CB65

2 x617-894 /4 x1695-2690 /3300-3800 MHz 65°, 2 x14 / 4 x15 /16 dBi, 2 x2°-12° / 4 x2°-12° / 2°-12°Tilt Antenna With 4 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		3300~3800
	Polarization		±45
	Electrical downtilt(°)		2~12
	Electrical downtilt tolerance(°)		±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1
	Max.phase tolerance from calibration port to input ports(°)		≤10
	Ports VSWR		<1.5
	Avg. power per capacity (W)		40
	Co-polarization isolation between ports(dB)		≥20
	Cross-polarization isolation between ports(dB)		≥23
Radiation parameters	Single column Beam	Gain(dBi)	15.7
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	6
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	65° Broadcast beam	Gain(dBi)	16.6
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	6
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	Service beam	0°direct beam gain(dBi)	21.1
		0°direct beam horizontal 3dB beam width(°)	19
		0°direct beam front to back ratio(dB)	≥28
		0°direct beam cross polar ratio(axial)(dB)	≥18





Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		16	14	12.5	14.5	13	11.5	10.5
Gain (dBi)		12.8	13.5	14.0	14.3	14.6	14.9	15.1
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

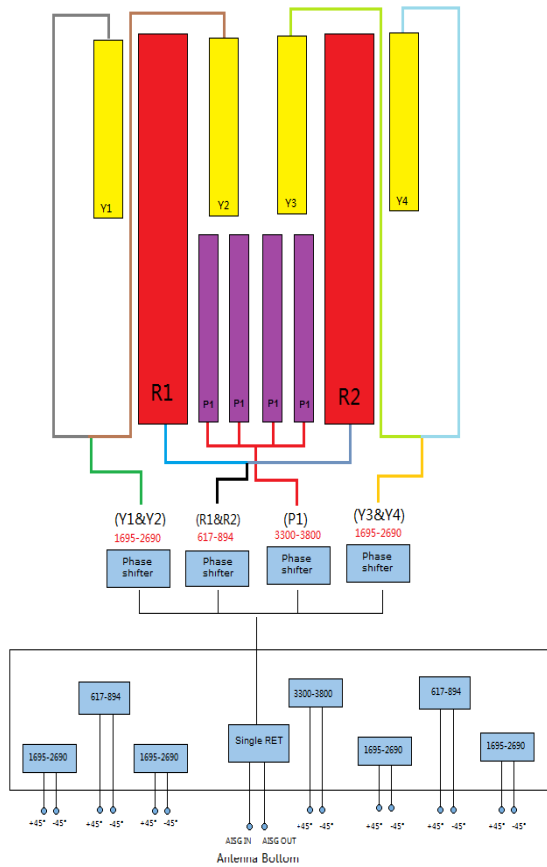
Radome Material	Fiberglass
Connector Type and Location	4.3-10x12, Bottom 1xMQ5 Male+1 xMQ4 Male iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1480 x 499 x 180 / 58.3 x 19.6 x 7.1
Packing Size(mm)/(inches)	1845 x 599 x 311 / 72.6 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	39 / 85.8
Weight with Downtilt Bracket(kg)/(lbs)	46 / 101.2
Weight with Fixed Bracket(kg)/(lbs)	44 / 96.8
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	57 / 125.4
Packing Weight (with Fixed Bracket) (kg)/(lbs)	55 / 121
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Mechanical tilt	0-15°
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	912/146/680



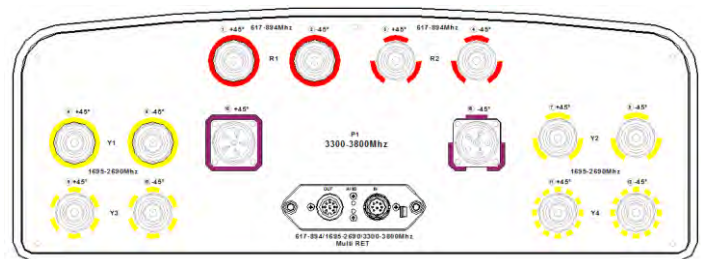
Integrated RET Properties

RET Type		4 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION

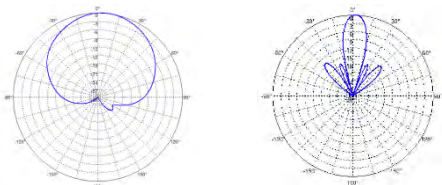


Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y3
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1



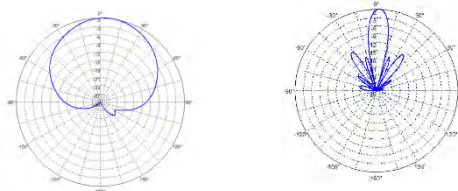


Radiation Pattern (617 - 824MHz)



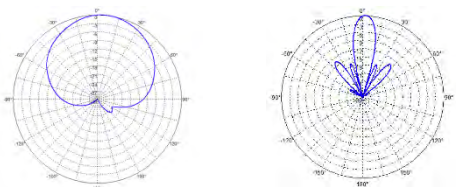
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



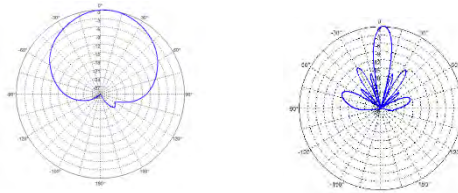
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



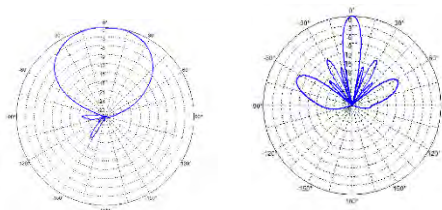
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



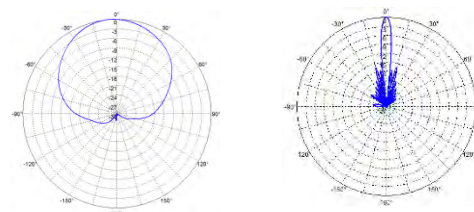
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



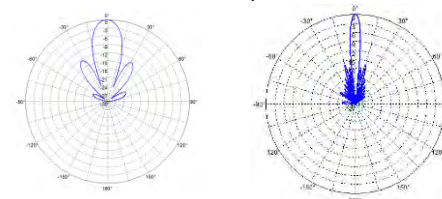
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)



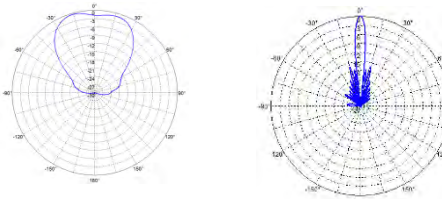
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF5-2LX6HX-CB65

2 x617-894 /4 x1695-2690 /2500-2690 /3300-3800 MHz 65°, 2 x14 / 4 x15 / 15 / 15 dBi, 2 x2°-12° / 4 x2°-12° / 2°-12° / 2°-12°Tilt Antenna With 8 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		2500-2690	3300~3800
	Polarization		±45	±45
	Electrical downtilt(°)		2~12	2~12
	Electrical downtilt tolerance(°)		±1	±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2	-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤0.9	≤0.9
	Max.phase tolerance from calibration port to input ports(°)		≤7	≤7
	Ports VSWR		<1.5	<1.5
	Avg. power per capacity (W)		40	40
	Co-polarization isolation between ports(dB)		≥20	≥20
	Cross-polarization isolation between ports(dB)		≥23	≥23
Radiation parameters	Single column Beam	Gain(dBi)	14.5	15.1
		Horizontal 3dB beam width(°)	85	65
		Vertical 3dB beam width(°)	7.8	6
		Cross polar ratio(dB, 0°)	≥16	≥16
		Front to back ratio(dB)	≥25	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	≥15
	65° Broadcast beam	Gain(dBi)	15.5	16.0
		Horizontal 3dB beam width(°)	65	65
		Vertical 3dB beam width(°)	7.8	6
		Cross polar ratio(dB, 0°)	≥16	≥16
		Front to back ratio(dB)	≥25	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	≥15
	Service beam	0°direct beam gain(dBi)	19.5	20.5
		0°direct beam horizontal 3dB beam width(°)	25	19
		0°direct beam front to back ratio(dB)	≥28	≥28
		0°direct beam cross polar ratio(axial)(dB)	≥18	≥18





Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		16	14	12.5	14.5	13	11.5	10.5
Gain (dBi)		12.8	13.5	14.0	14.3	14.6	14.9	15.1
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	± 60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

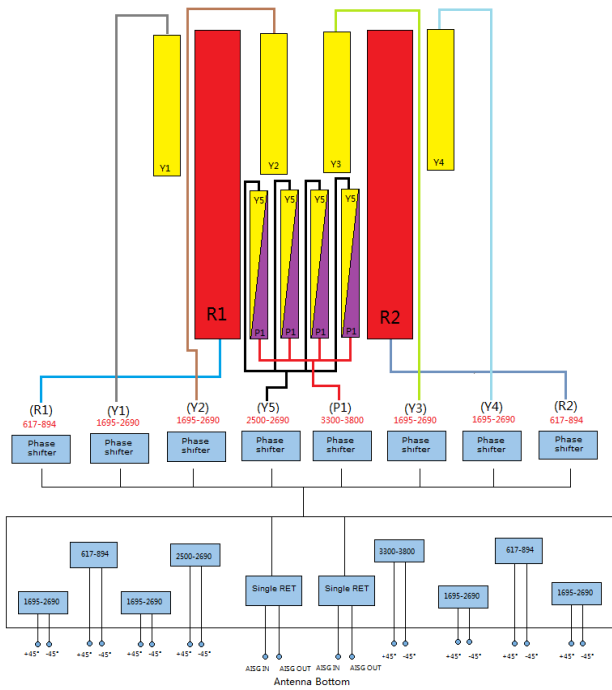
Radome Material	Fiberglass
Connector Type and Location	4.3-10x12, Bottom 2xMQ5 Male+2 xMQ4 Male iRCU in:2 x 8 pin male iRCU out:2 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1500 x 499 x 180 / 59.0 x 19.6 x 7.1
Packing Size(mm)/(inches)	1845 x 599 x 311 / 72.6 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	43 / 94.6
Weight with Downtilt Bracket(kg)/(lbs)	50 /110
Weight with Fixed Bracket(kg)/(lbs)	48 /105.6
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	61 /134.2
Packing Weight (with Fixed Bracket) (kg)/(lbs)	59 / 129.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	912/146/680



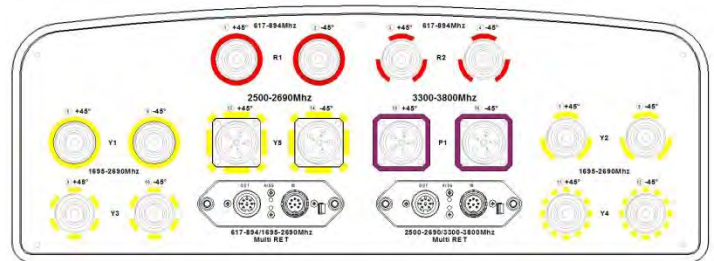
Integrated RET Properties

RET Type		8x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION

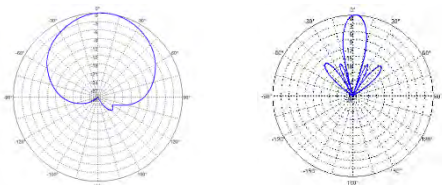


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
1695-2690MHz	Y3	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y4	NDPMXXXXXXXX-1727Y4
2500-2690MHz	Y5	NDPMXXXXXXXX-2527Y5
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1



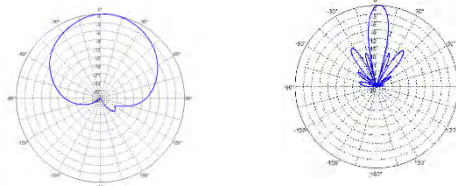


Radiation Pattern (617 - 824MHz)



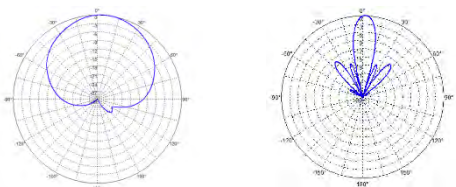
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



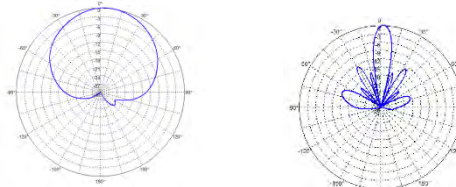
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



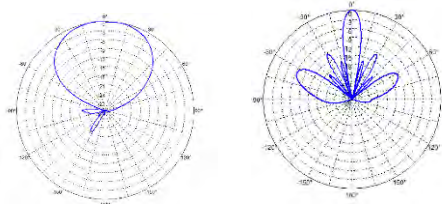
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



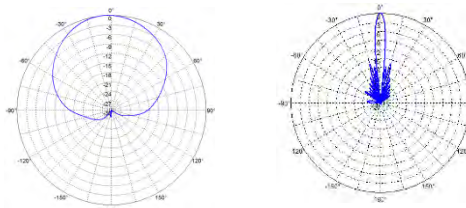
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



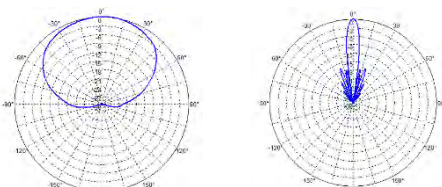
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)



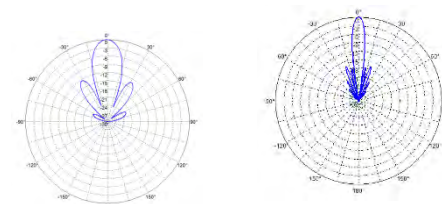
Horizontal Pattern Vertical Pattern

Radiation Pattern (2500- 2690 MHz)



Horizontal Pattern Vertical Pattern

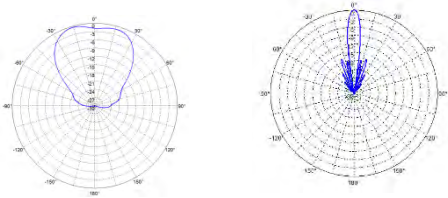
Radiation Pattern (2500- 2690 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

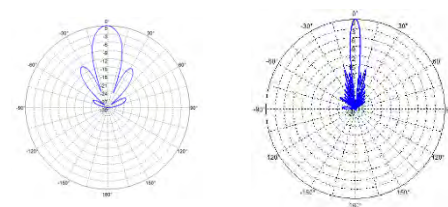


Radiation Pattern (2500- 2690 MHz)(Broadcast Beam)



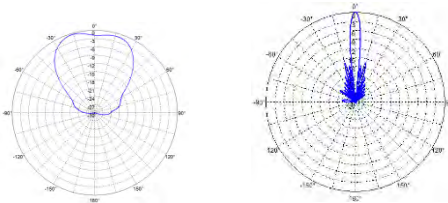
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF5-2LX7HX-CB65

2 x617-894 /6 x1695-2690 /3300-3800 MHz 65°, 2 x14 / 6 x15 /16 dBi, 2 x2°-12° / 6 x2°-12° / 2°-12°Tilt Antenna With 7 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		3300~3800
	Polarization		±45
	Electrical downtilt(°)		2~12
	Electrical downtilt tolerance(°)		±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤0.9
	Max.phase tolerance from calibration port to input ports(°)		≤7
	Ports VSWR		<1.5
	Avg. power per capacity (W)		40
	Co-polarization isolation between ports(dB)		≥20
	Cross-polarization isolation between ports(dB)		≥23
Radiation parameters	Single column Beam	Gain(dBi)	15.7
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	6
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	65° Broadcast beam	Gain(dBi)	16.6
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	6
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	Service beam	0°direct beam gain(dBi)	21.1
		0°direct beam horizontal 3dB beam width(°)	19
		0°direct beam front to back ratio(dB)	≥28
		0°direct beam cross polar ratio(axial)(dB)	≥18





Frequency Range(MHz)		2x617-894			6x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		16	14	12.5	14.5	13	11.5	10.5
Gain (dBi)		12.8	13.5	14.0	14.3	14.6	14.9	15.1
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

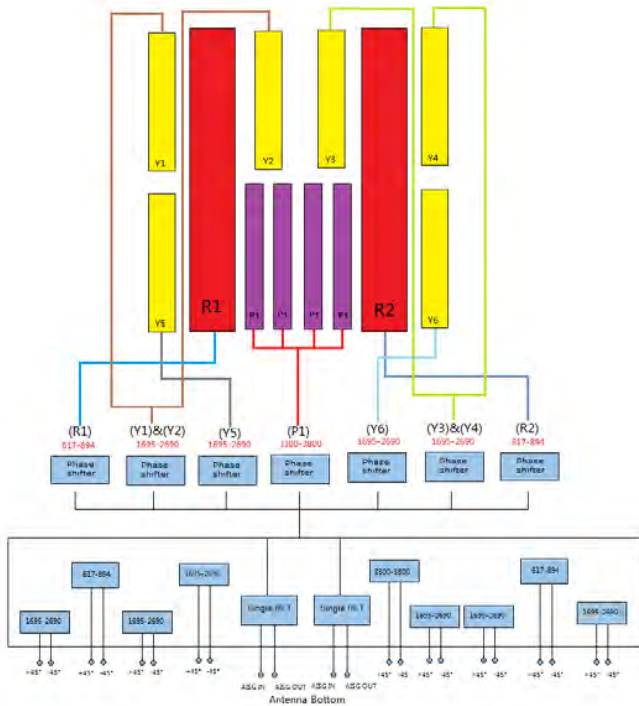
Radome Material	Fiberglass
Connector Type and Location	4.3-10x16, Bottom 1 x MQ5 Male + 1 x MQ4 Male iRCU in:2 x 8 pin male iRCU out:2 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1500 x 499 x 180 / 59.0 x 19.6 x 7.1
Packing Size(mm)/(inches)	1845 x 599 x 311 / 72.6 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	41 / 90.2
Weight with Downtilt Bracket(kg)/(lbs)	48 / 105.6
Weight with Fixed Bracket(kg)/(lbs)	46 / 101.2
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	59 / 129.8
Packing Weight (with Fixed Bracket) (kg)/(lbs)	57 / 125.4
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	912/146/680



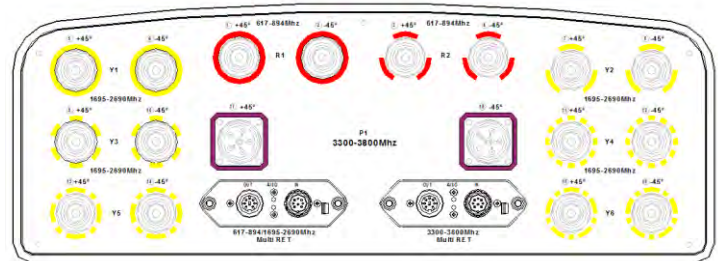
Integrated RET Properties

RET Type		7x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

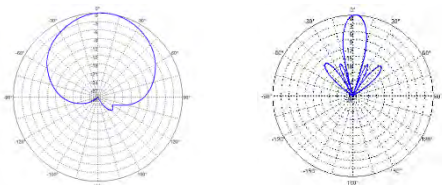


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y5	NDPMXXXXXXXX-1727Y5
1695-2690MHz	Y6	NDPMXXXXXXXX-1727Y6
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1



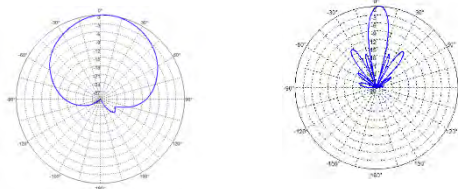


Radiation Pattern (617 - 824MHz)



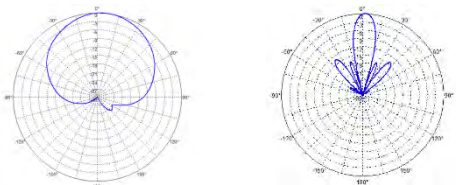
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



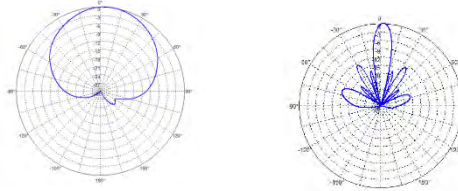
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



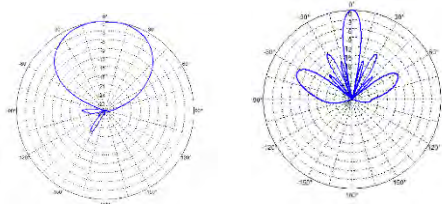
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



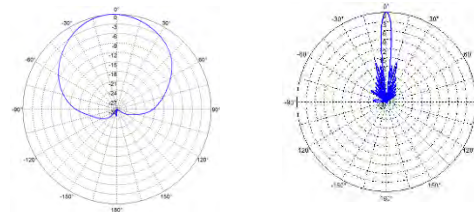
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)



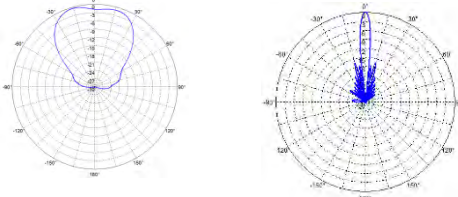
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF6-2A2J1N1Q-RF65

2x617-894 / 2x1695-2690 / 2490-2690/3300-3800 MHz 2x65°/2x65°/80°/65°, 2 x15 / 2 x18 / 14.5/15.0 dBi, 2 x2°-12° / 2 x2°-12° / 2°-12° / 2°-12° Tilt Antenna With 6 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		2490~2690	3300~3800	
	Polarization		±45		
	Electrical downtilt(°)		2~12		
	Electrical downtilt tolerance(°)		±1		
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2		
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1		
	Max.phase tolerance from calibration port to input ports(°)		≤10		
	Ports VSWR		<1.5		
	Avg. power per capacity (W)		40		
	Co-polarization isolation between ports(dB)		≥20		
	Cross-polarization isolation between ports(dB)		≥23		
Radiation parameters	Single column Beam	Gain(dBi)	14.5	15.0	
		Horizontal 3dB beam width(°)	80	65	
		Vertical 3dB beam width(°)	6.5	5	
		Cross polar ratio(dB, 0°)		≥16	
		Front to back ratio(dB)		≥25	
		Vertical sidelobe suppression for first sidelobe above main beam(dB)		≥15	
		65° Broadcast beam	Gain(dBi)	15.8	16.0
	Horizontal 3dB beam width(°)		65		
	Vertical 3dB beam width(°)		6.5	5	
	Cross polar ratio(dB, 0°)		≥16		
	Front to back ratio(dB)		≥25		
	Vertical sidelobe suppression for first sidelobe above main beam(dB)		≥15		
	Service beam	0°direct beam gain(dBi)	19.5	20.5	
		0°direct beam horizontal 3dB beam width(°)		≤28	
		0°direct beam front to back ratio(dB)		≥28	
		0°direct beam cross polar ratio(axial)(dB)		≥18	





Frequency Range(MHz)		2x617-894			2x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		13.5	12	10.5	7.5	6.5	6	5.5
Gain (dBi)		13.9	14.4	14.9	16.5	17.0	17.5	17.8
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

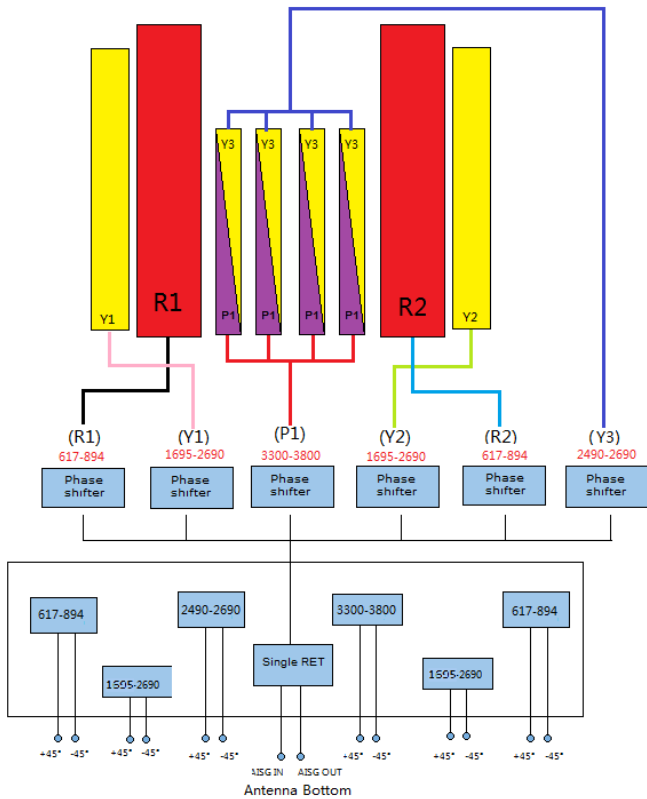
Radome Material	Fiberglass
Connector Type and Location	4.3-10 Female x8, Bottom 2xMQ5 Male+2xMQ4 Male iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2220 x 560 x 300 / 87.4 x 22.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	45 / 99
Weight with Downtilt Bracket(kg)/(lbs)	52 / 114.4
Weight with Fixed Bracket(kg)/(lbs)	50 / 110
Packing Weight(with Downtilt Bracket)(kg)/(lbs)	60 / 132
Packing Weight (with Fixed Bracket)(kg)/(lbs)	58 / 127.6
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Mechanical tilt	0-15°
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1067/239/772



Integrated RET Properties

RET Type		6 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

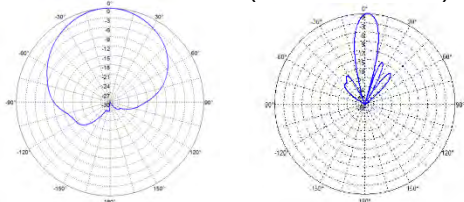
COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
2490-2690MHz	Y3	NDPMXXXXXXXX-1727Y3
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1

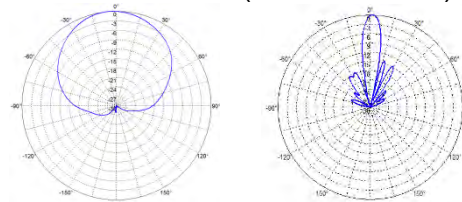


Radiation Pattern (617 - 824MHz)



Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



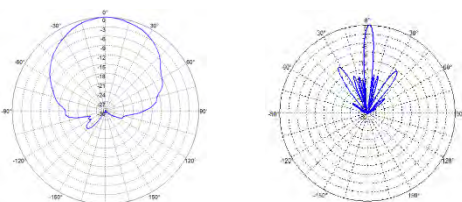
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



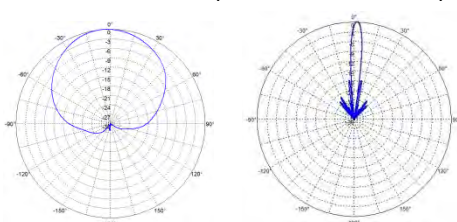
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2690 MHz)



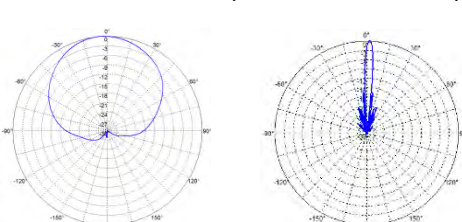
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



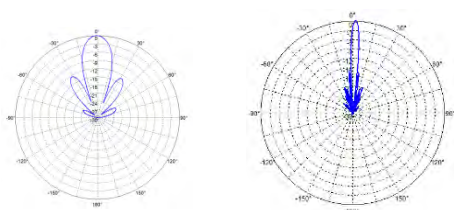
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)



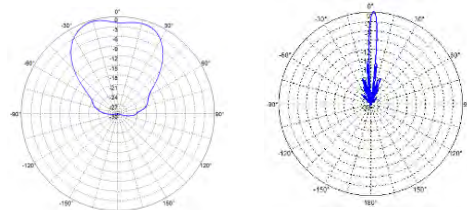
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 3800 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF6-2LX3HX-CB65

2 x617-894 /2 x1695-2690 /3300-4200 MHz 65°, 2 x15° / 2 x18° / 16 dBi, 2 x2°-12° / 2 x2°-12° / 2°-12°Tilt Antenna With 4 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		3300-4200
	Polarization		±45
	Electrical downtilt(°)		2-12
	Electrical downtilt tolerance(°)		±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1.0
	Max.phase tolerance from calibration port to input ports(°)		≤10
	Ports VSWR		<1.5
	Avg. power per capacity (W)		40
	Co-polarization isolation between ports(dB)		≥20
	Cross-polarization isolation between ports(dB)		≥23
Radiation parameters	Single column Beam	Gain(dBi)	15.5
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	6.5
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	65° Broadcast beam	Gain(dBi)	15.5
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	6.5
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	Service beam	0°direct beam gain(dBi)	21
		0°direct beam horizontal 3dB beam width(°)	19
		0°direct beam front to back ratio(dB)	≥28
		0°direct beam cross polar ratio(axial)(dB)	≥17





Frequency Range(MHz)		2x617-894			2x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		14.5	12.5	11	7.5	6.5	6	5.5
Gain (dBi)		13.7	14.4	15	16.5	17.0	17.3	17.8
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	± 60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

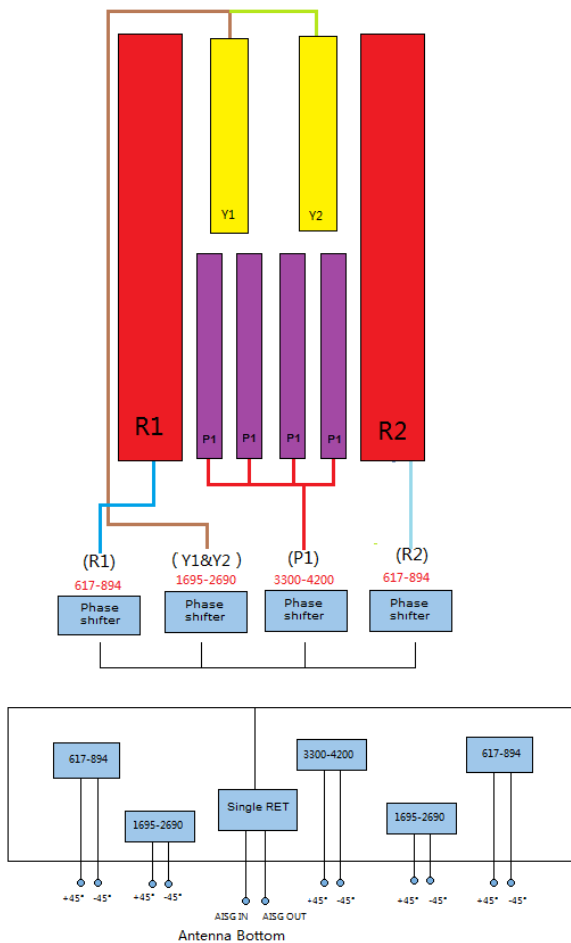
Radome Material	FiberGlass
Connector Type and Location	4.3-10 Female x8, Bottom 1xMQ5 Male+1 xMQ4 Male iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2195 x 599 x 311 / 86.4 x 23.6 x 12.2
Weight , w/o Mounting kit(kg)/(lbs)	45 / 99
Weight with Downtilt Bracket(kg)/(lbs)	52 / 114.4
Weight with Fixed Bracket(kg)/(lbs)	50 / 110
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	63 / 138.6
Packing Weight (with Fixed Bracket) (kg)/(lbs)	61 / 134.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1137/182/852



Integrated RET Properties

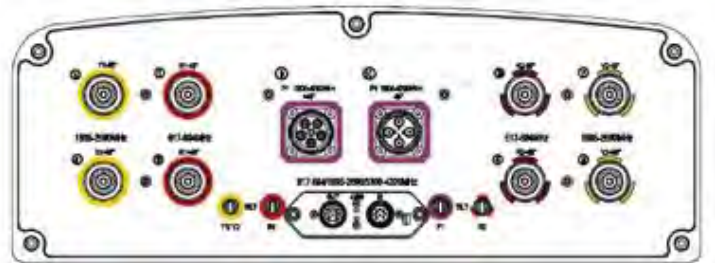
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



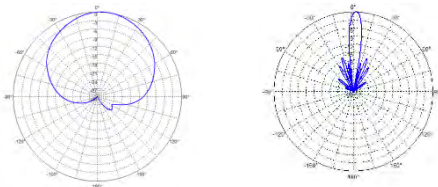
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1

Note: (2) Physical RET Unit containing (4) Single RET



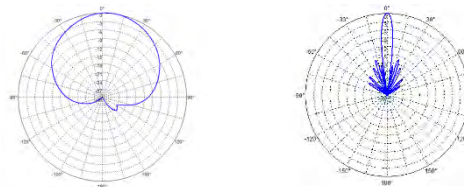


Radiation Pattern (617 - 824MHz)



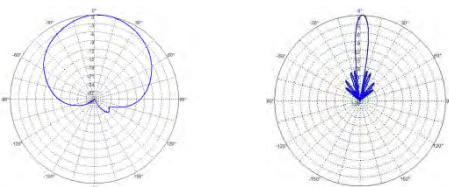
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



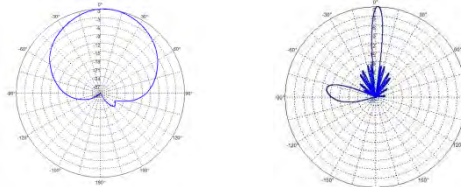
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



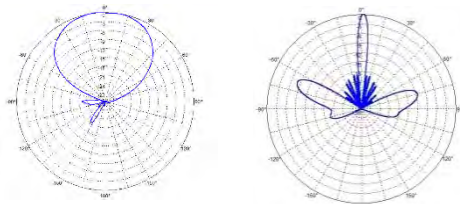
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



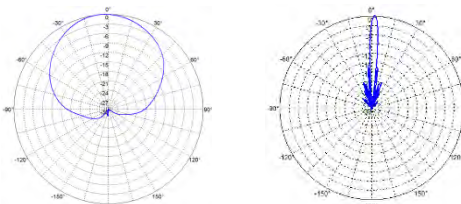
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



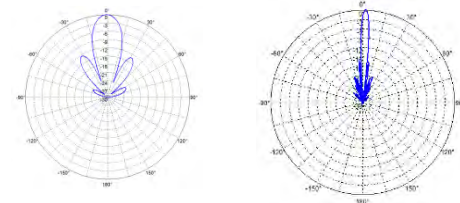
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)



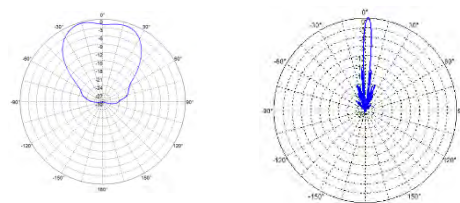
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF6-2LX5HX-CB65

2 x617-894 /4 x1695-2690 /3300-4200 MHz 65°, 2 x15 / 4 x18 / 16 dBi, 2 x2°-12° / 4 x2°-12° / 2°-12° Tilt Antenna With 4 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		3300-4200
	Polarization		±45
	Electrical downtilt(°)		2-12
	Electrical downtilt tolerance(°)		±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1.0
	Max.phase tolerance from calibration port to input ports(°)		≤10
	Ports VSWR		<1.5
	Avg. power per capacity (W)		40
	Co-polarization isolation between ports(dB)		≥20
	Cross-polarization isolation between ports(dB)		≥23
Radiation parameters	Single column Beam	Gain(dBi)	15.5
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	6.5
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	65° Broadcast beam	Gain(dBi)	15.5
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	6.5
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	Service beam	0°direct beam gain(dBi)	21
		0°direct beam horizontal 3dB beam width(°)	19
		0°direct beam front to back ratio(dB)	≥28
		0°direct beam cross polar ratio(axial)(dB)	≥17





Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		14.5	12.5	11	7.5	6.5	6	5.5
Gain (dBi)		13.7	14.4	15	16.5	17.0	17.3	17.8
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	± 60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

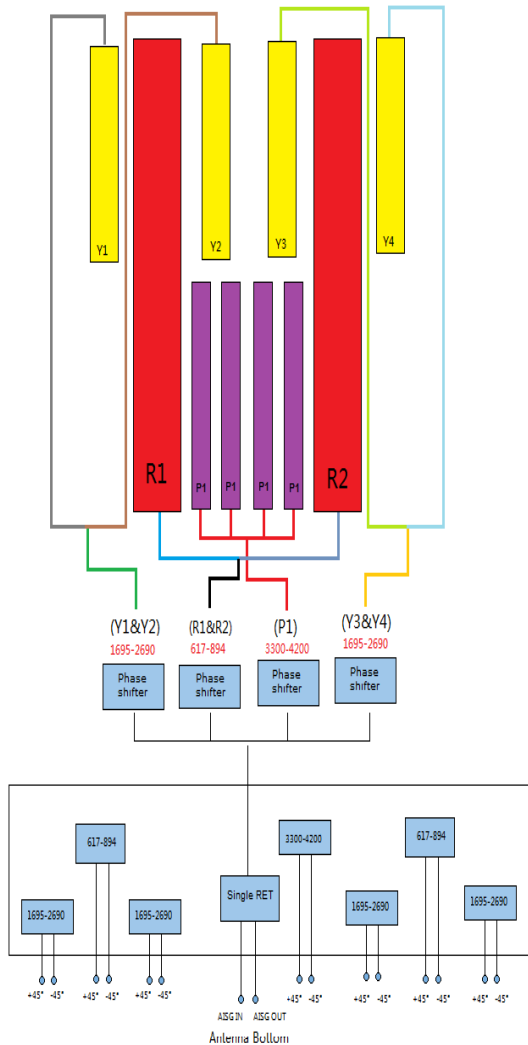
Radome Material	FiberGlass
Connector Type and Location	4.3-10 Female x12, Bottom 1xMQ5 Male+1 xMQ4 Male iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	1850 x 499 x 180 / 72.8 x 19.6 x 7.1
Packing Size(mm)/(inches)	2195 x 599 x 311 / 86.4 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	45 / 99
Weight with Downtilt Bracket(kg)/(lbs)	52 / 114.4
Weight with Fixed Bracket(kg)/(lbs)	50 / 110
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	63 / 138.6
Packing Weight (with Fixed Bracket) (kg)/(lbs)	61 / 134.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1137/182/852



Integrated RET Properties

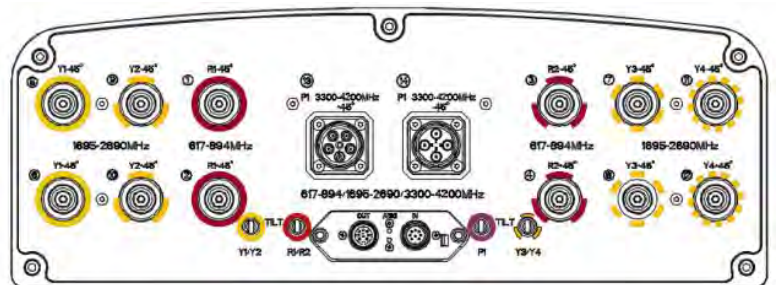
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		COMPREHENSIVE TILT CONFIGURATION 2V(stand by), 15V(motor activated)
Power consumption		
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



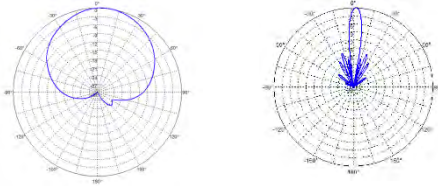
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y3
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1

Note: (1) Physical RET Unit containing (4) Single RET



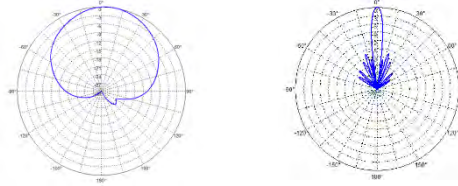


Radiation Pattern (617 - 824MHz)



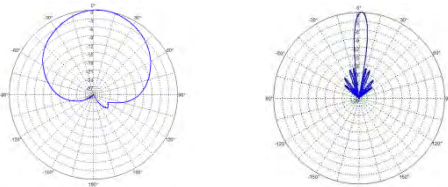
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



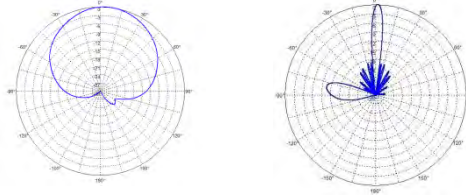
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



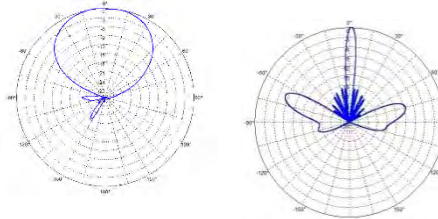
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



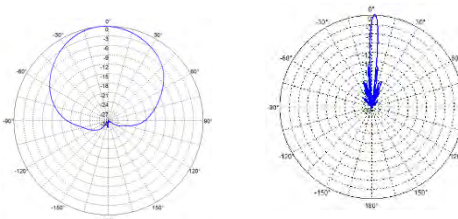
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



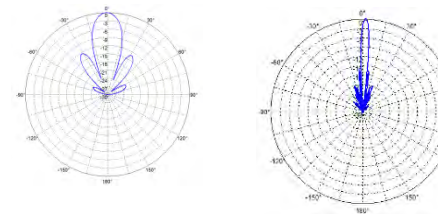
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)



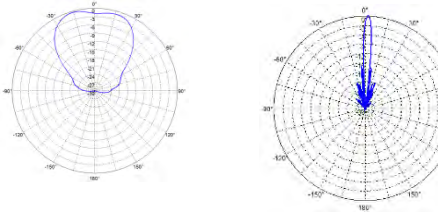
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF7-2A4J1M-RG65

2 x 617-894 / 4 x 1695-2690 / 2300-3800MHz 65°, 2 x 16 / 4 x 18 / 16 dBi, 2 x 4°-14° / 4 x 2°-12° / 2°-12°
Tilt Antenna With 7 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)	2300-3800		
		2300-2690	3300-3800	
	Polarization	±45	±45	
	Electrical downtilt(°)	2~12	2~12	
	Electrical downtilt tolerance(°)	±1	±1	
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)	-26±2	-26±2	
	Max.amplitude tolerance from calibration port to input ports(dB)	≤0.9	≤0.9	
	Max.phase tolerance from calibration port to input ports(°)	≤8	≤8	
	Ports VSWR	<1.5	<1.5	
	Avg. power per capacity (W)	40	40	
	Co-polarization isolation between ports(dB)	≥20	≥20	
	Cross-polarization isolation between ports(dB)	≥23	≥23	
Radiation parameters	Single column Beam	Gain(dBi)	15±0.5	15.7±0.5
		Horizontal 3dB beam width(°)	90±15	70±15
		Vertical 3dB beam width(°)	8	5.5
		Cross polar ratio(dB, 0°)	≥16	≥16
		Front to back ratio(dB)	≥25	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	≥15
	65° Broadcast beam	Gain(dBi)	16±0.5	17.1±0.5
		Horizontal 3dB beam width(°)	65±6	60±6
		Vertical 3dB beam width(°)	8±1	5.5±1
		Cross polar ratio(dB, 0°)	≥16	≥16
		Front to back ratio(dB)	≥25	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	≥15
	Service beam	0°direct beam gain(dBi)	20±0.5	21±0.5
		0°direct beam horizontal 3dB beam width(°)	26±3	18±3
		0°direct beam front to back ratio(dB)	≥28	≥28
0°direct beam cross polar ratio(axial)(dB)		≥18	≥18	





Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-798	814-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71±5	65±4	60±4	66±5	63±3	60±4	61±4
Vertical 3dB Beamwidth(°)		12.5±1.2	11±0.8	9.5±0.7	7.5±0.5	6.5±0.5	6±0.4	5.5±0.3
Gain (dBi)		14.1±0.5	14.7±0.5	15.2±0.5	16.8±0.5	17±0.5	17.4±0.5	17.8±0.5
Electrical Downtilt		4°-14°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥28 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

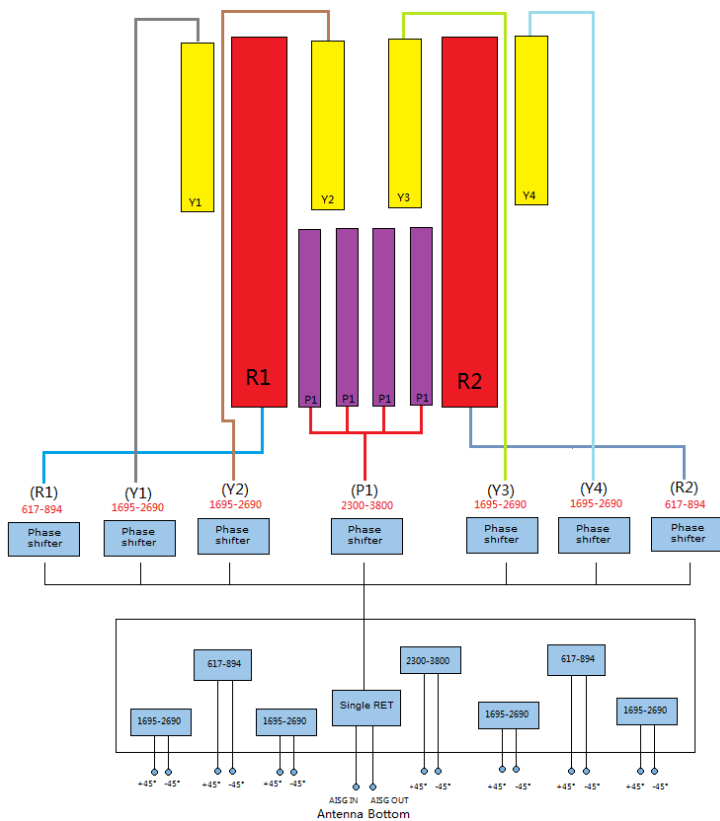
Radome Material	Fiberglass
Connector Type and Location	4.3-10 Female x12, Bottom 1xMQ5 Male+1xMQ4 Male iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2100 x 499 x 180 / 82.6 x 19.6 x 7.1
Packing Size(mm)/(inches)	2445 x 599 x 311 / 96.2 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	53 / 116.6
Weight with Downtilt Bracket(kg)/(lbs)	60 / 129.8
Weight with Fixed Bracket(kg)/(lbs)	58 / 127.6
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	71 / 156.2
Packing Weight (with Fixed Bracket) (kg)/(lbs)	69 / 151.8
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1291/207/967



Integrated RET Properties

RET Type		7x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

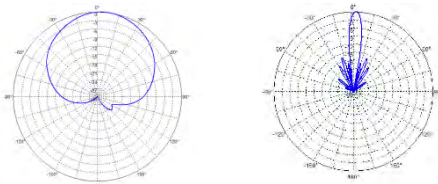
COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
1695-2690MHz	Y3	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y4	NDPMXXXXXXXX-1727Y4
2300-3800MHz	P1	NDPMXXXXXXXX-2338P1

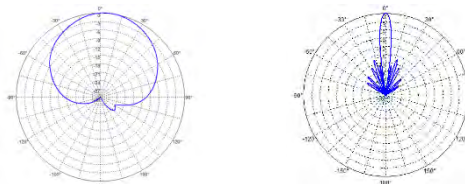


Radiation Pattern (617 - 824MHz)



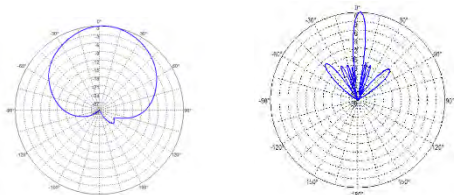
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



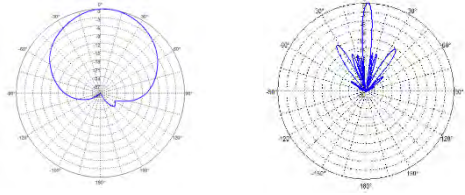
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



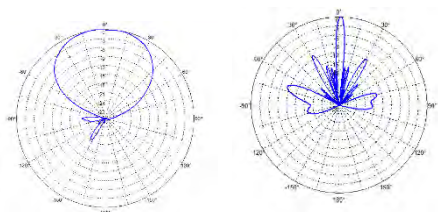
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



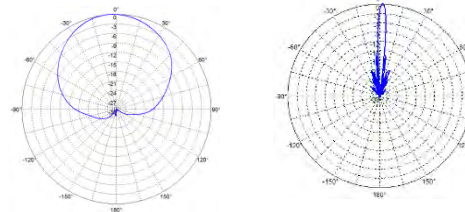
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



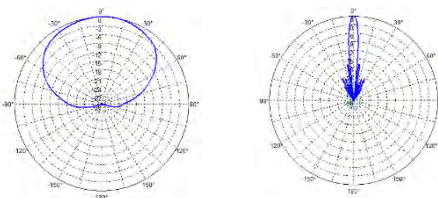
Horizontal Pattern Vertical Pattern

Radiation Pattern (2300- 2690 MHz)



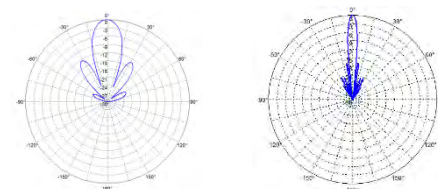
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)



Horizontal Pattern Vertical Pattern

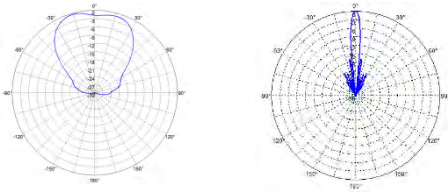
Radiation Pattern (2300- 2690 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

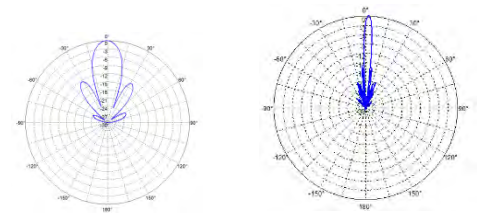


Radiation Pattern (2300- 2690 MHz)(Broadcast Beam)



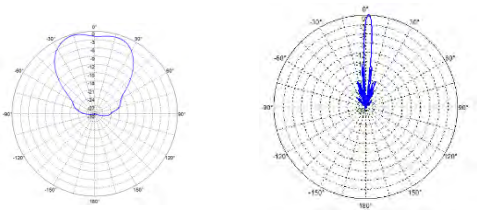
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF7-2A4J1Q-RG65

2x617-894 /4x1695-2690 /3300-3800 MHz 65°, 2 x16 / 4 x17 / 17 dBi, 2 x2°-12° / 4 x2°-12° / 2°-12°Tilt Antenna With 7 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range(MHz)		3300~3800
	Polarization		±45
	Electrical downtilt(°)		2~12
	Electrical downtilt tolerance(°)		±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1
	Max.phase tolerance from calibration port to input ports(°)		≤10
	Ports VSWR		<1.5
	Avg. power per capacity (W)		40
	Co-polarization isolation between ports(dB)		≥20
	Cross-polarization isolation between ports(dB)		≥23
Radiation parameters	Single column Beam	Gain(dBi)	17.2
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	4
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	65° Broadcast beam	Gain(dBi)	18.1
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	4
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	Service beam	0°direct beam gain(dBi)	22.6
		0°direct beam horizontal 3dB beam width(°)	19
		0°direct beam front to back ratio(dB)	≥28
0°direct beam cross polar ratio(axial)(dB)		≥18	





Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		12.5	11	9.5	9.2	8.2	7.2	6.5
Gain (dBi)		14.3	15	15.5	16.3	16.6	16.9	17.1
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

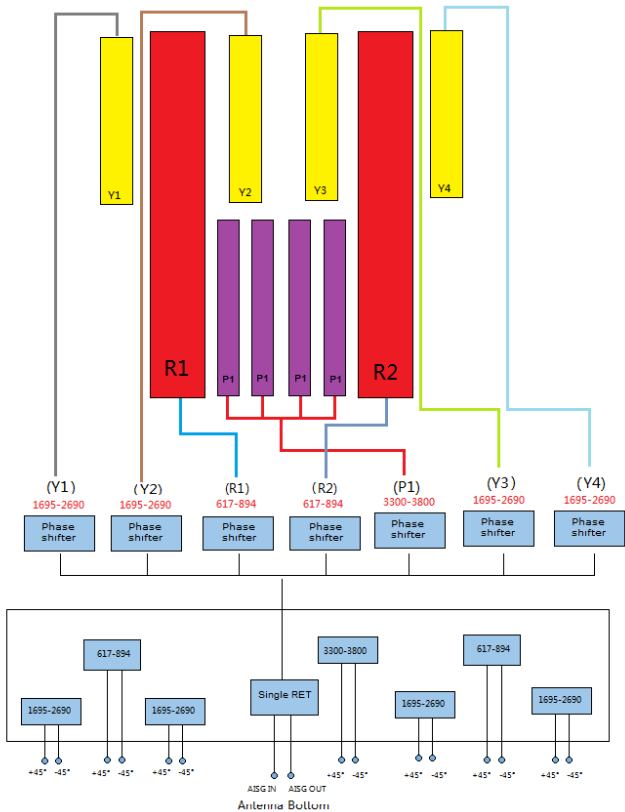
Radome Material	Fiberglass
Connector Type and Location	4.3-10 Female x12, Bottom 1xMQ5 Male+1xMQ4 Male iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	2080 x 499 x 180 / 81.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2395 x 620 x 325 / 94.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	46 / 101.2
Weight with Downtilt Bracket(kg)/(lbs)	53 / 116.6
Weight with Fixed Bracket(kg)/(lbs)	51 / 112.2
Packing Weight(with Downtilt Bracket)(kg)/(lbs)	61 / 134.2
Packing Weight (with Fixed Bracket)(kg)/(lbs)	59 / 129.8
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Mechanical tilt	0-15°
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1291/207/967



Integrated RET Properties

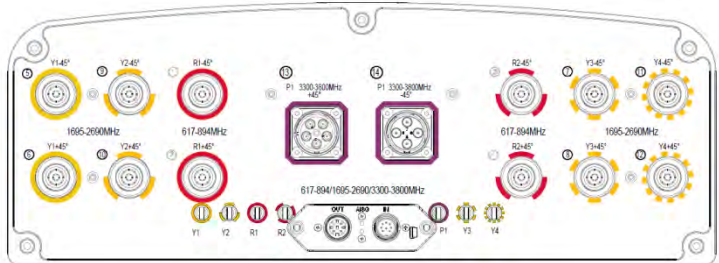
RET Type		7 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



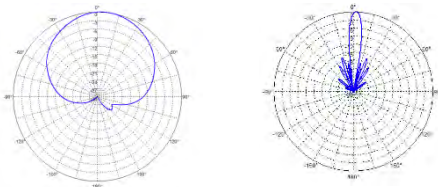
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y4
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1

Note: (1) Physical RET Unit containing (7) Single RET



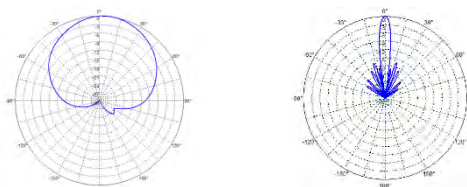


Radiation Pattern (617 - 824MHz)



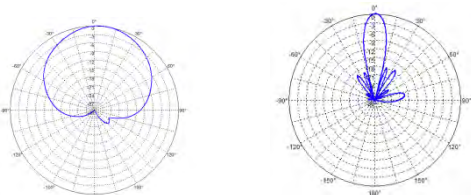
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



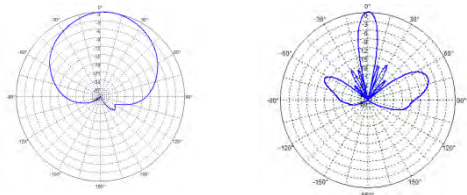
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



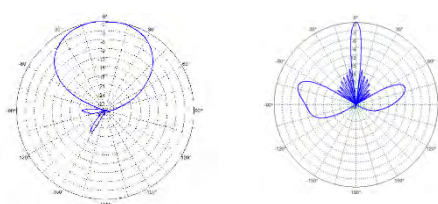
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



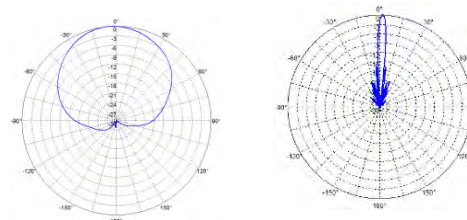
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



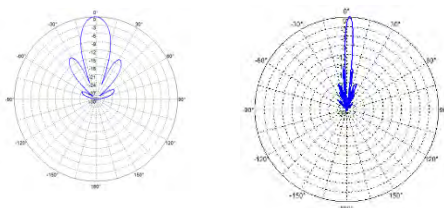
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)



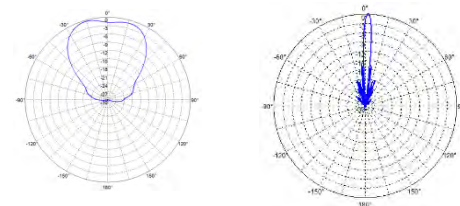
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



Beamforming Weights

Broadcast Beamwith 65°	Frequency Range(Mhz)	Port	P1	P2	P3	P4	P5	P6	P7	P8
	3300-3800	Amplitude	0.5	1	1	0.15	0.5	1	1	0.15
		Phase(°)	-180	0	-10	0	-180	0	-10	0
	3300-3800	Amplitude	1	1	1	1	1	1	1	1
		Phase(°)	0	0	0	0	0	0	0	0
Service beam	Frequency Range(Mhz)	Port	P1	P2	P3	P4	P5	P6	P7	P8
0°	3300-3800	Amplitude	1	1	1	1	1	1	1	1
		Phase(°)	0	0	0	0	0	0	0	0
30°	3300-3800	Amplitude	1	1	1	1	1	1	1	1
		Phase(°)	0	130	260	390	0	130	260	390



BMF7-2B2J1L-RE65

2 x698-960 / 2 x1695-2690 / 4x2490-3800 MHz 65°, 2 x16/ 2 x18 / 4x16 dBi, 2 x2°-12° / 2 x2°-12° / 2°-12°
Tilt Antenna With 5 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range(MHz)		2490~2690	3300~3800
	Polarization		±45	
	Electrical downtilt(°)		2~12	
	Electrical downtilt tolerance(°)		±1	
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2	
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1	
	Max.phase tolerance from calibration port to input ports(°)		≤10	
	Ports VSWR		<1.5	
	Avg. power per capacity (W)		40	
	Co-polarization isolation between ports(dB)		≥20	
	Cross-polarization isolation between ports(dB)		≥23	
Radiation parameters	Single column Beam	Gain(dBi)	15	15.5
		Horizontal 3dB beam width(°)	80	65
		Vertical 3dB beam width(°)	6.5	5
		Cross polar ratio(dB, 0°)	≥16	
		Front to back ratio(dB)	≥25	
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	
	65° Broadcast beam	Gain(dBi)	16.3	16.5
		Horizontal 3dB beam width(°)	65	
		Vertical 3dB beam width(°)	6.5	5
		Cross polar ratio(dB, 0°)	≥16	
		Front to back ratio(dB)	≥25	
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	
	Service beam	0° direct beam gain(dBi)	20	21
		0° direct beam horizontal 3dB beam width(°)	≤28	
		0° direct beam front to back ratio(dB)	≥28	
		0° direct beam cross polar ratio(axial)(dB)	≥18	





Frequency Range(MHz)		2x698-960			2x1695-2690			
		698-824	824-894	880-960	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	68	65	62	58
Vertical 3dB Beamwidth(°)		11	9.5	9	6.5	5.5	5	4.5
Gain (dBi)		14.7	15.1	15.5	16.8	17.2	17.5	17.3
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

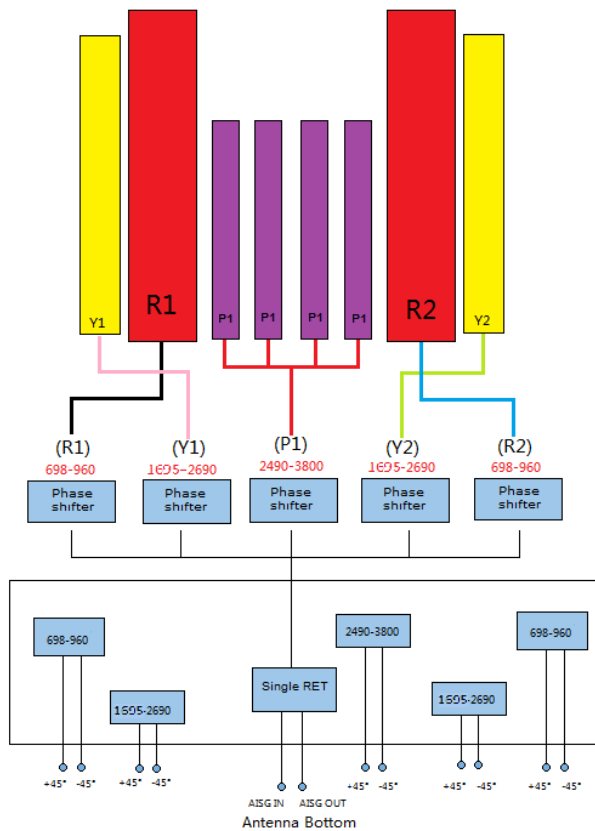
Radome Material	Fiberglass
Connector Type and Location	4.3-10 Female x8, Bottom 1xMQ5 Male+1 xMQ4 Male iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	2100 x 499 x 180 / 82.7 x 19.6 x 7.1
Packing Size(mm)/(inches)	2540 x 560 x 300 / 100.0 x 22.0 x 11.8
Weight , w/o Mounting kit(kg)/(lbs)	44 / 96.8
Weight with Downtilt Bracket(kg)/(lbs)	51 / 112.2
Weight with Fixed Bracket(kg)/(lbs)	49 / 107.8
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	58 / 127.6
Packing Weight (with Fixed Bracket) (kg)/(lbs)	56 / 123.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1291/207/967



Integrated RET Properties

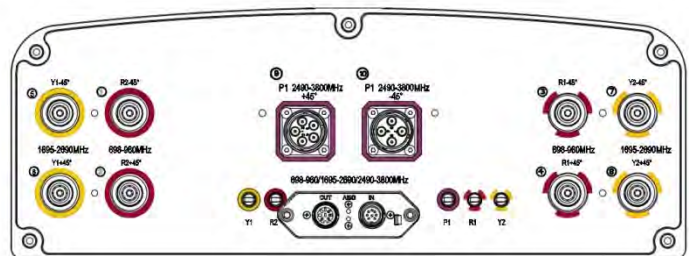
RET Type		5x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



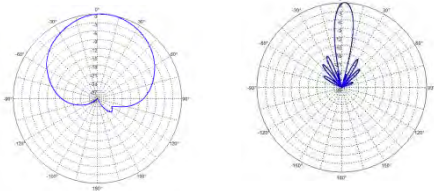
Frequency Range	Array	RET Unique ID
698-960MHz	R1	NDPMXXXXXXXX-7090R1
698-960MHz	R2	NDPMXXXXXXXX-7090R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
2490-3800MHz	P1	NDPMXXXXXXXX-2538P1

Note: (1) Physical RET Unit containing (5) Single RET



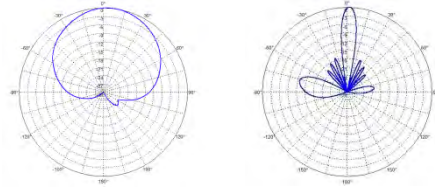


Radiation Pattern (698 - 894MHz)



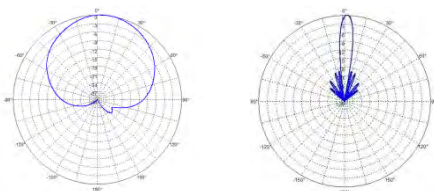
Horizontal Pattern Vertical Pattern

Radiation Patterns (880 - 960 MHz)



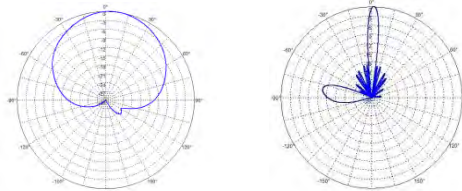
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



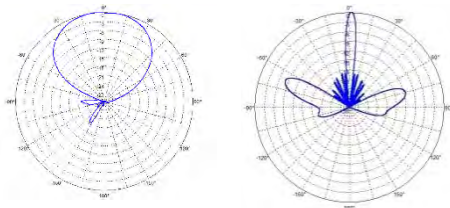
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300- 2400 MHz)



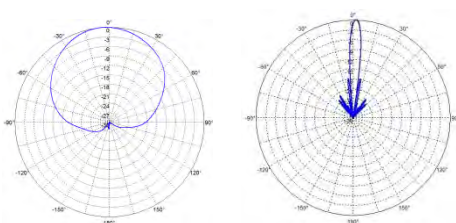
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



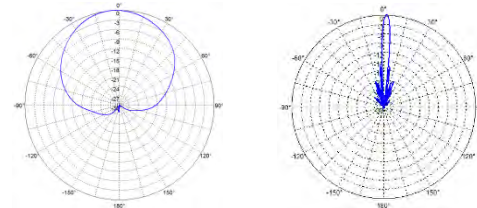
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



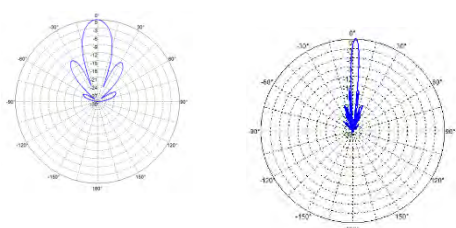
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)

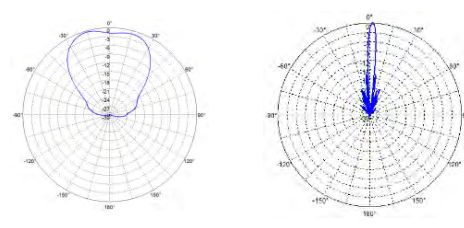


Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 3800 MHz)(Service Beam) Radiation Pattern (2490- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



Horizontal Pattern Vertical Pattern



BMF7-2LX5HX-CB65

2x617-894 /4x1695-2690 /3300-3800 MHz 65°, 2 x16 / 4 x17 / 17 dBi, 2 x2°-12° / 4 x2°-12° / 2°-12°Tilt
Antenna With 4 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range(MHz)		3300~3800
	Polarization		±45
	Electrical downtilt(°)		2~12
	Electrical downtilt tolerance(°)		±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1
	Max.phase tolerance from calibration port to input ports(°)		≤10
	Ports VSWR		<1.5
	Avg. power per capacity (W)		40
	Co-polarization isolation between ports(dB)		≥20
	Cross-polarization isolation between ports(dB)		≥23
Radiation parameters	Single column Beam	Gain(dBi)	17.2
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	4
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	65° Broadcast beam	Gain(dBi)	18.1
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	4
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	Service beam	0°direct beam gain(dBi)	22.6
		0°direct beam horizontal 3dB beam width(°)	19
		0°direct beam front to back ratio(dB)	≥28
0°direct beam cross polar ratio(axial)(dB)		≥18	





Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		12.5	11	9.5	9.2	8.2	7.2	6.5
Gain (dBi)		14.3	15	15.5	16.3	16.6	16.9	17.1
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

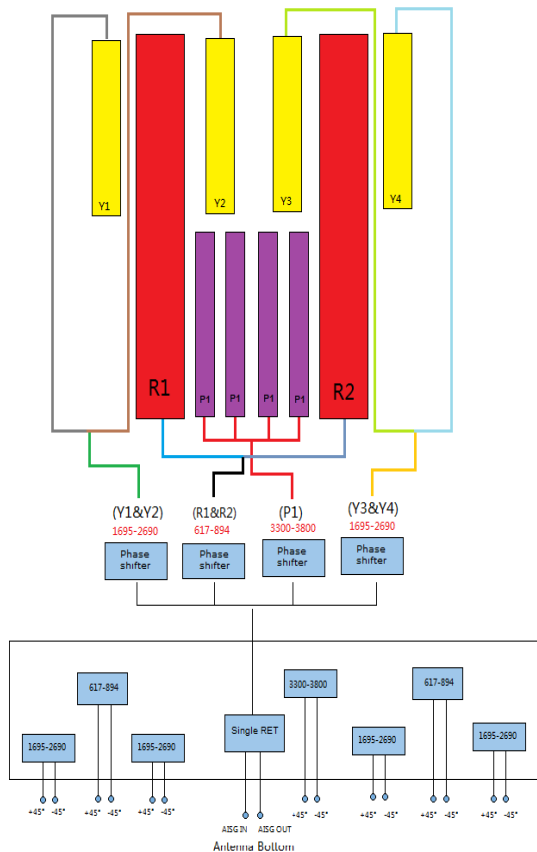
Radome Material	Fiberglass
Connector Type and Location	4.3-10 Female x12, Bottom 1xMQ5 Male+1xMQ4 Male iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	2080 x 499 x 180 / 81.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2395 x 620 x 325 / 94.3 x 24.4 x 12.8
Weight ,w/o Mounting kit(kg)/(lbs)	45 / 99
Weight with Downtilt Bracket(kg)/(lbs)	52 / 114.4
Weight with Fixed Bracket(kg)/(lbs)	50 / 110
Packing Weight(with Downtilt Bracket)(kg)/(lbs)	60 / 132
Packing Weight (with Fixed Bracket)(kg)/(lbs)	58 / 127.6
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Mechanical tilt	0-15°
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1291/207/967



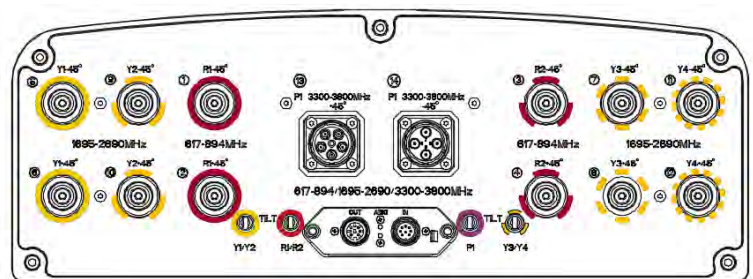
Integrated RET Properties

RET Type		4 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION

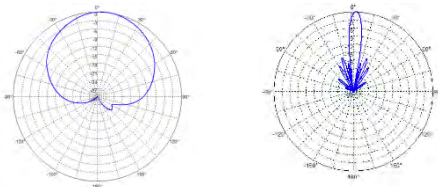


Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y3
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1



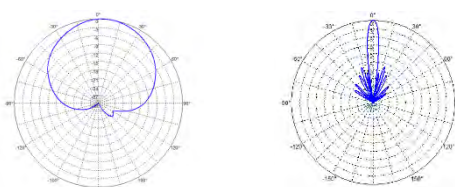


Radiation Pattern (617 - 824MHz)



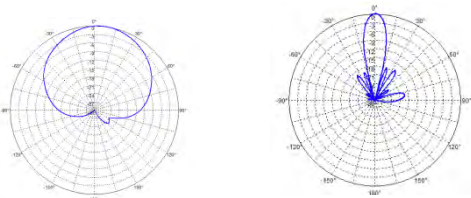
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



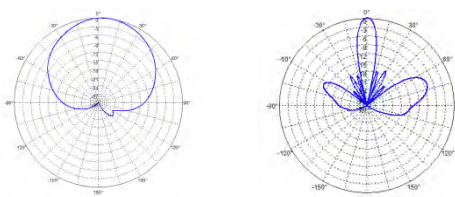
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



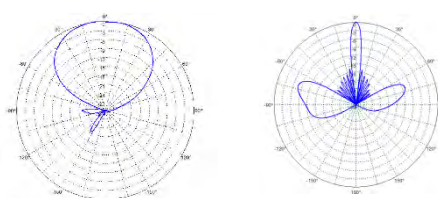
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



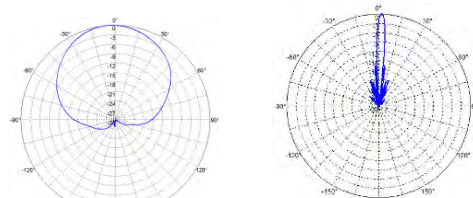
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



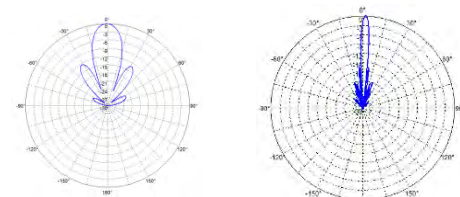
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)



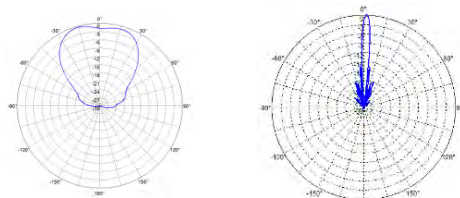
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



Beamforming Weights

Broadcast Beamwith 65°	Frequency Range (Mhz)	Port	P1	P2	P3	P4	P5	P6	P7	P8
	3300-3800	Amplitude	0.5	1	1	0.15	0.5	1	1	0.15
		Phase(°)	-180	0	-10	0	-180	0	-10	0
	3300-3800	Amplitude	1	1	1	1	1	1	1	1
		Phase(°)	0	0	0	0	0	0	0	0
Service beam	Frequency Range (Mhz)	Port	P1	P2	P3	P4	P5	P6	P7	P8
0°	3300-3800	Amplitude	1	1	1	1	1	1	1	1
		Phase(°)	0	0	0	0	0	0	0	0
30°	3300-3800	Amplitude	1	1	1	1	1	1	1	1
		Phase(°)	0	130	260	390	0	130	260	390



BMF7-2LX6HX-CB65

2 x617-894 /4 x1695-2690 /2500-2690 /3300-3800 MHz 65°, 2 x16 / 4 x17 / 16 / 17 dBi, 2 x2°-12° / 4 x2°-12° / 2°-12° / 2°-12°Tilt Antenna With 8 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		2500-2690	3300~3800
	Polarization		±45	±45
	Electrical downtilt(°)		2~12	2~12
	Electrical downtilt tolerance(°)		±1	±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2	-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤0.9	≤0.9
	Max.phase tolerance from calibration port to input ports(°)		≤7	≤7
	Ports VSWR		<1.5	<1.5
	Avg. power per capacity (W)		40	40
	Co-polarization isolation between ports(dB)		≥20	≥20
	Cross-polarization isolation between ports(dB)		≥23	≥23
Radiation parameters	Single column Beam	Gain(dBi)	16	16.6
		Horizontal 3dB beam width(°)	85	65
		Vertical 3dB beam width(°)	5.5	4
		Cross polar ratio(dB, 0°)	≥16	≥16
		Front to back ratio(dB)	≥25	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	≥15
	65° Broadcast beam	Gain(dBi)	17	17.6
		Horizontal 3dB beam width(°)	65	65
		Vertical 3dB beam width(°)	5.5	4
		Cross polar ratio(dB, 0°)	≥16	≥16
		Front to back ratio(dB)	≥25	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	≥15
	Service beam	0°direct beam gain(dBi)	21.0	22
		0°direct beam horizontal 3dB beam width(°)	25	19
		0°direct beam front to back ratio(dB)	≥28	≥28
		0°direct beam cross polar ratio(axial)(dB)	≥18	≥18





Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		12.5	11	9.5	9.2	8.2	7.2	6.5
Gain (dBi)		14.3	15	15.5	16.3	16.6	16.9	17.1
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	± 60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

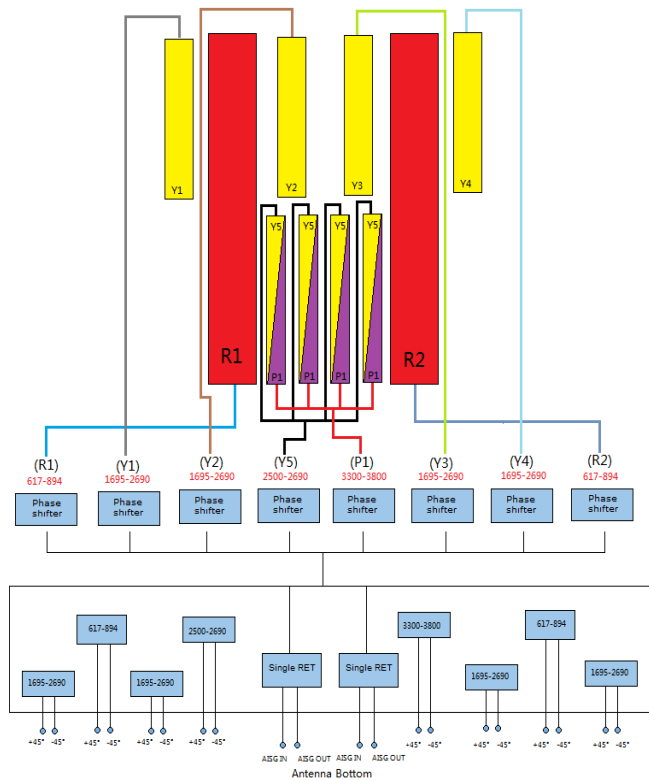
Radome Material	Fiberglass
Connector Type and Location	4.3-10 Female x12, Bottom 2xMQ5 Male+2 xMQ4 Male iRCU in:2 x 8 pin male iRCU out:2 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2100 x 499 x 180 / 82.6 x 19.6 x 7.1
Packing Size(mm)/(inches)	2445 x 599 x 311 / 96.2 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	53 / 116.6
Weight with Downtilt Bracket(kg)/(lbs)	60 / 129.8
Weight with Fixed Bracket(kg)/(lbs)	58 / 127.6
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	71 / 156.2
Packing Weight (with Fixed Bracket) (kg)/(lbs)	69 / 151.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1291/207/967



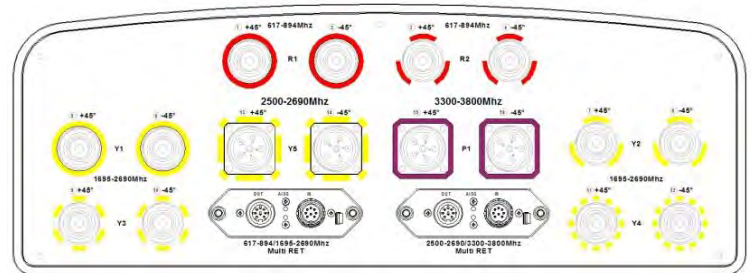
Integrated RET Properties

RET Type		8x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION

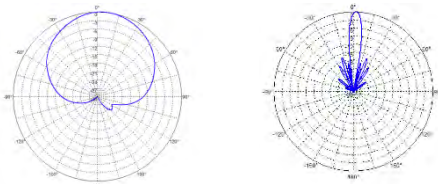


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
1695-2690MHz	Y3	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y4	NDPMXXXXXXXX-1727Y4
2500-2690MHz	Y5	NDPMXXXXXXXX-2527Y5
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1



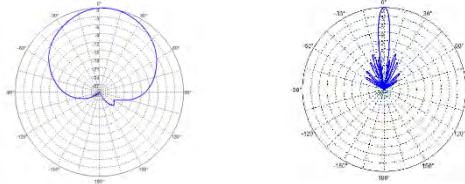


Radiation Pattern (617 - 824MHz)



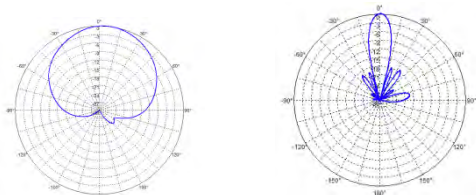
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



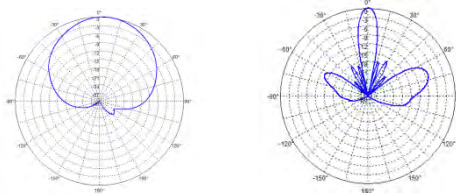
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



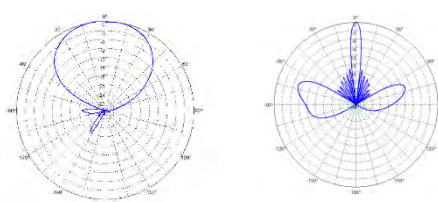
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



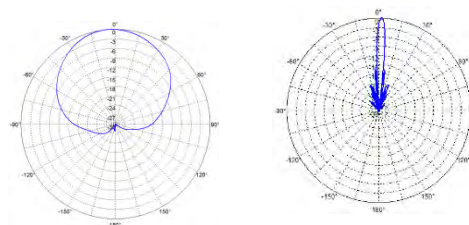
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



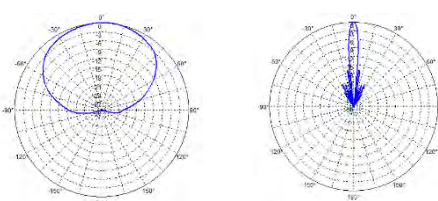
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)



Horizontal Pattern Vertical Pattern

Radiation Pattern (2500- 2690 MHz)



Horizontal Pattern Vertical Pattern

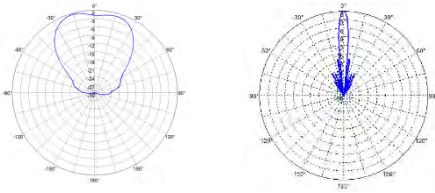
Radiation Pattern (2500- 2690 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

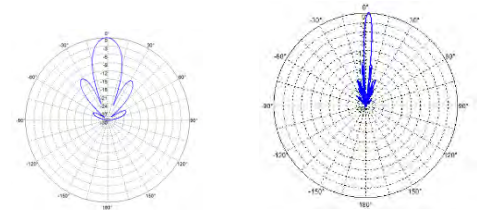


Radiation Pattern (2500- 2690 MHz)(Broadcast Beam)



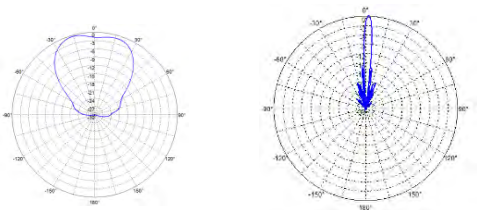
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF7-2LX7HX-CB65

2 x617-894 /6 x1695-2690 /3300-3800 MHz 65°, 2 x16 / 6 x17 / 17 dBi, 2 x2°-12° / 6 x2°-12° / 2°-12°Tilt
Antenna With 7 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		3300~3800
	Polarization		±45
	Electrical downtilt(°)		2~12
	Electrical downtilt tolerance(°)		±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤0.9
	Max.phase tolerance from calibration port to input ports(°)		≤7
	Ports VSWR		<1.5
	Avg. power per capacity (W)		40
	Co-polarization isolation between ports(dB)		≥20
	Cross-polarization isolation between ports(dB)		≥23
Radiation parameters	Single column Beam	Gain(dBi)	17.2
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	4
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	65° Broadcast beam	Gain(dBi)	18.1
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	4
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	Service beam	0°direct beam gain(dBi)	22.6
		0°direct beam horizontal 3dB beam width(°)	19
		0°direct beam front to back ratio(dB)	≥28
		0°direct beam cross polar ratio(axial)(dB)	≥18





Frequency Range(MHz)		2x617-894			6x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		12.5	11	9.5	9.2	8.2	7.2	6.5
Gain (dBi)		14.3	15	15.5	16.3	16.6	16.9	17.1
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	± 60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

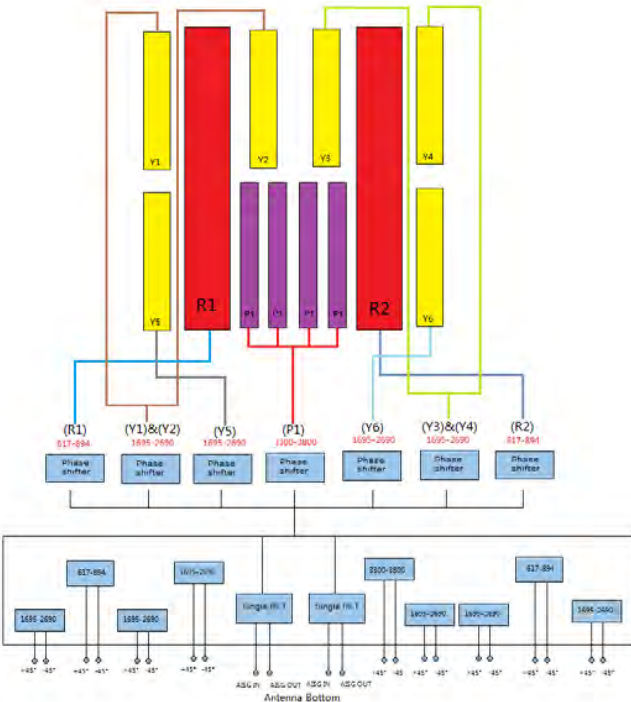
Radome Material	Fiberglass
Connector Type and Location	4.3-10 Female x16, Bottom 1xMQ5 Male+1 xMQ4 Male iRCU in:2 x 8 pin male iRCU out:2 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2100 x 499 x 180 / 82.6 x 19.6 x 7.1
Packing Size(mm)/(inches)	2445 x 599 x 311 / 96.2 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	50 / 110
Weight with Downtilt Bracket(kg)/(lbs)	57 / 125.4
Weight with Fixed Bracket(kg)/(lbs)	55 / 121
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	68 / 149.6
Packing Weight (with Fixed Bracket) (kg)/(lbs)	66 / 145.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1291/207/967



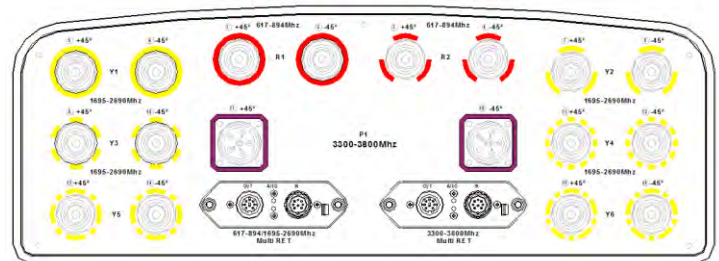
Integrated RET Properties

RET Type		7x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION

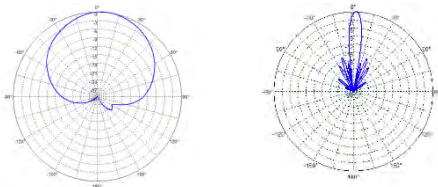


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y5	NDPMXXXXXXXX-1727Y5
1695-2690MHz	Y6	NDPMXXXXXXXX-1727Y6
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1



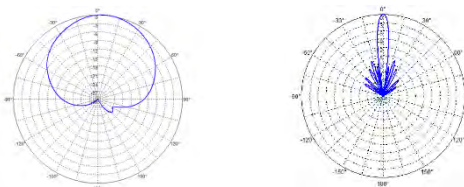


Radiation Pattern (617 - 824MHz)



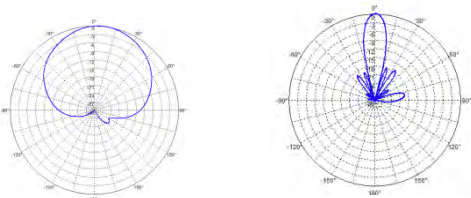
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



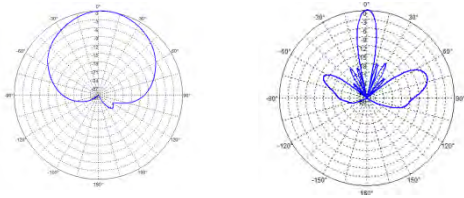
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



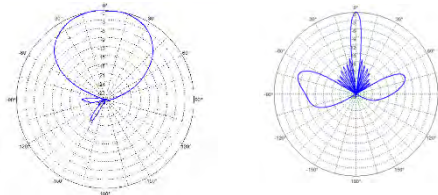
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



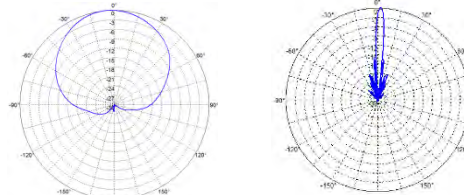
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



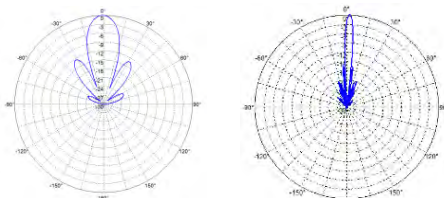
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)



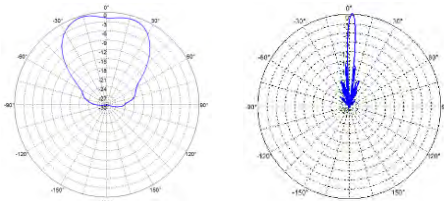
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF8-2A2J1N1Q-RF65

2x617-894 /2x1695-2690 /2490-2690/3300-3800 MHz 2x65°/2x65°/80°/65°, 2 x16 / 2 x18 / 14.5/15.0 dBi, 2 x2°-12° / 2 x2°-12° / 2°-12°/ 2°-12°Tilt Antenna With 6 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		2490~2690	3300~3800
	Polarization		±45	
	Electrical downtilt(°)		2~12	
	Electrical downtilt tolerance(°)		±1	
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2	
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1	
	Max.phase tolerance from calibration port to input ports(°)		≤10	
	Ports VSWR		<1.5	
	Avg. power per capacity (W)		40	
	Co-polarization isolation between ports(dB)		≥20	
	Cross-polarization isolation between ports(dB)		≥23	
Radiation parameters	Single column Beam	Gain(dBi)	14.5	15.0
		Horizontal 3dB beam width(°)	80	65
		Vertical 3dB beam width(°)	6.5	5
		Cross polar ratio(dB, 0°)	≥16	
		Front to back ratio(dB)	≥25	
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	
	65° Broadcast beam	Gain(dBi)	15.8	16.0
		Horizontal 3dB beam width(°)	65	
		Vertical 3dB beam width(°)	6.5	5
		Cross polar ratio(dB, 0°)	≥16	
		Front to back ratio(dB)	≥25	
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	
	Service beam	0°direct beam gain(dBi)	19.5	20.5
		0°direct beam horizontal 3dB beam width(°)	≤28	
		0°direct beam front to back ratio(dB)	≥28	
		0°direct beam cross polar ratio(axial)(dB)	≥18	





Frequency Range(MHz)		2x617-894			2x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		10.4	9.1	8.0	7.5	6.5	6	5.5
Gain (dBi)		15.0	15.5	16.0	16.5	17.0	17.5	17.8
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power,±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

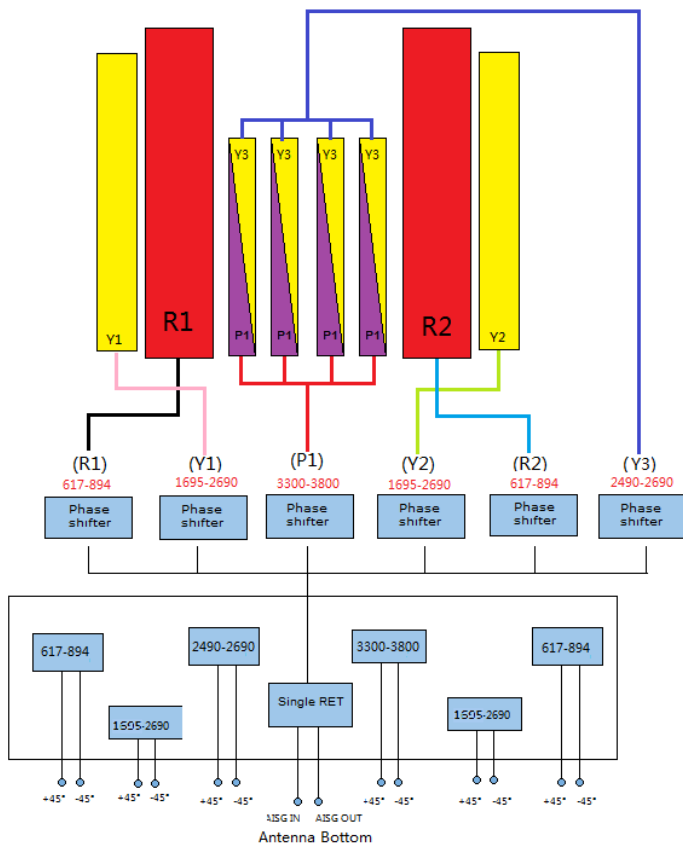
Radome Material	Fiberglass
Connector Type and Location	4.3-10 Female x8, Bottom 2xMQ5 Male+2xMQ4 Male iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 95.9 x 19.6 x 7.1
Packing Size(mm)/(inches)	2880 x 560 x 300 / 113.4 x 22.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	52 / 114.4
Weight with Downtilt Bracket(kg)/(lbs)	57 / 125.4
Weight with Fixed Bracket(kg)/(lbs)	59 / 129.8
Packing Weight(with Downtilt Bracket)(kg)/(lbs)	67 / 147.4
Packing Weight (with Fixed Bracket)(kg)/(lbs)	69 / 151.8
Max. Wind Velocity(mph)	150
Mounting hardware	φ 50 mm ~ φ 115 mm
Mechanical tilt	0-15°
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1416/280/1027



Integrated RET Properties

RET Type		6 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

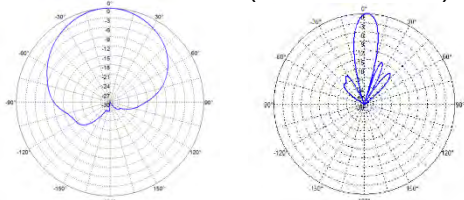
COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
2490-2690MHz	Y3	NDPMXXXXXXXX-1727Y3
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1

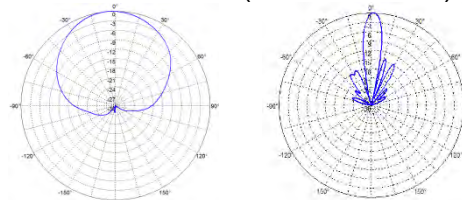


Radiation Pattern (617 - 824MHz)



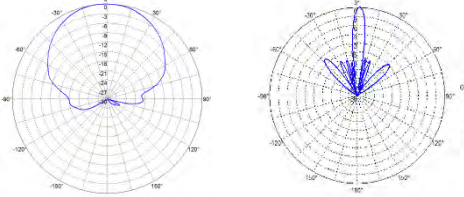
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



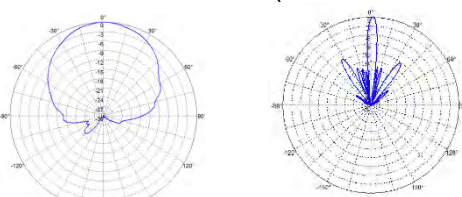
Horizontal Pattern Vertical Pattern

Radiation Patterns (1605 - 2170 MHz)



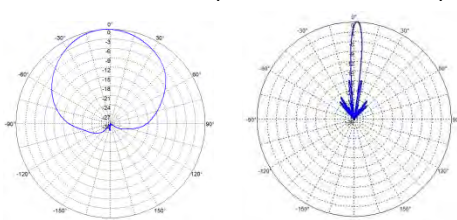
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2690 MHz)



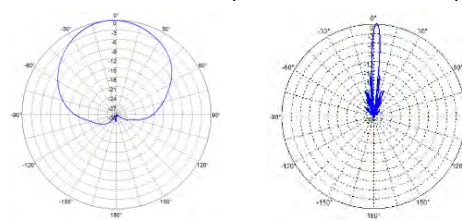
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



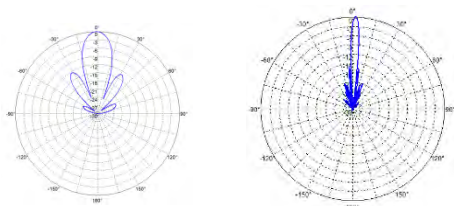
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)



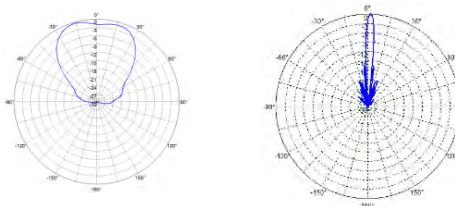
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 3800 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF8-2LX3HX-CB65

2 x 617-894 / 2 x 1695-2690 / 3300-4200 MHz 65°, 2 x 16 / 2 x 18 / 16 dBi, 2 x 2°-12° / 2 x 2°-12° / 2°-12° Tilt
Antenna With 4 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		3300-4200
	Polarization		±45
	Electrical downtilt(°)		2-12
	Electrical downtilt tolerance(°)		±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1
	Max.phase tolerance from calibration port to input ports(°)		≤10
	Ports VSWR		<1.5
	Avg. power per capacity (W)		40
	Co-polarization isolation between ports(dB)		≥20
	Cross-polarization isolation between ports(dB)		≥23
Radiation parameters	Single column Beam	Gain(dBi)	15.5
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	6.5
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	65° Broadcast beam	Gain(dBi)	15.5
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	6.5
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	Service beam	0° direct beam gain(dBi)	21
		0° direct beam horizontal 3dB beam width(°)	19
		0° direct beam front to back ratio(dB)	≥28
		0° direct beam cross polar ratio(axial)(dB)	≥17





Frequency Range(MHz)		2x617-894			2x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		10.5	9	8.5	7.5	6.5	6	5.5
Gain (dBi)		15	15.5	16	16.5	17	17.3	17.8
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	± 60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

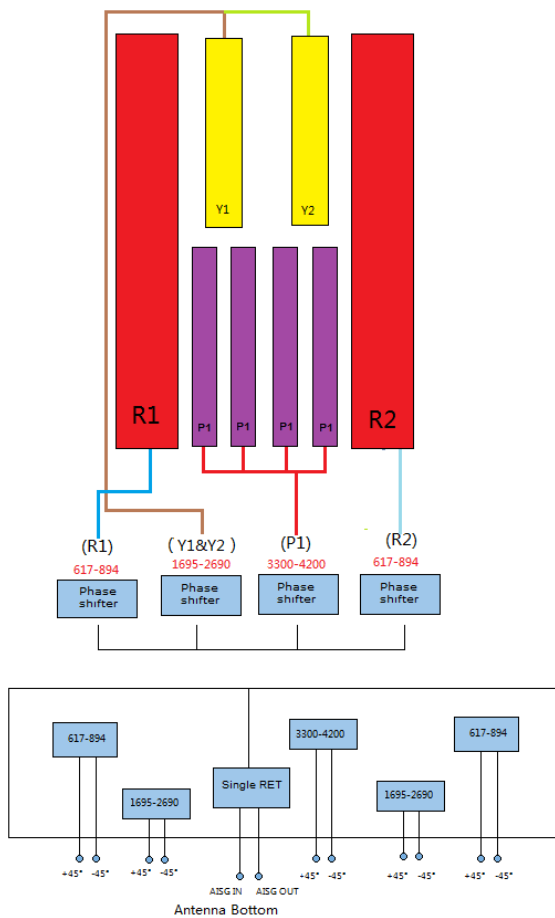
Radome Material	FiberGlass
Connector Type and Location	4.3-10x8, Bottom 1xMQ5 Male+1 xMQ4 Male iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	2438 x 499 x 180 / 96 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 599 x 311 / 108.3 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	53 / 116.6
Weight with Downtilt Bracket(kg)/(lbs)	60 / 132.0
Weight with Fixed Bracket(kg)/(lbs)	58 / 127.6
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	70 / 154
Packing Weight (with Fixed Bracket) (kg)/(lbs)	69 / 151.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1498/239/1117



Integrated RET Properties

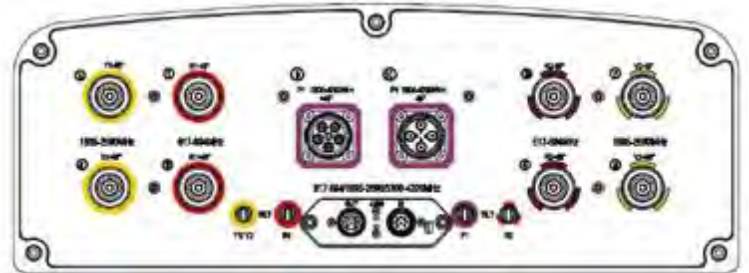
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



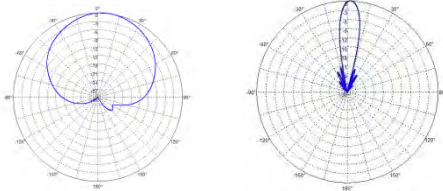
Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1

Note: (2) Physical RET Unit containing (4) Single RET



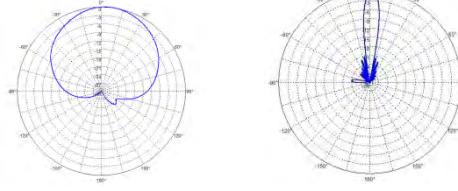


Radiation Pattern (617 - 824MHz)



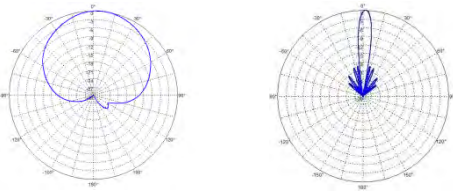
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



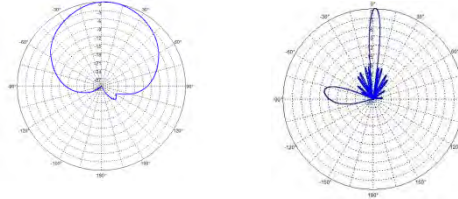
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



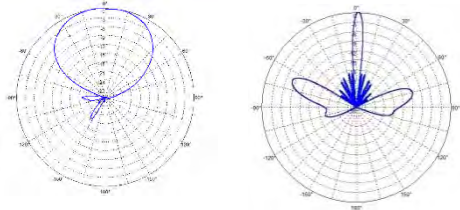
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



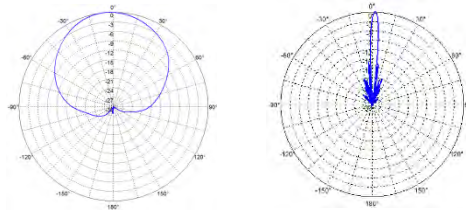
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



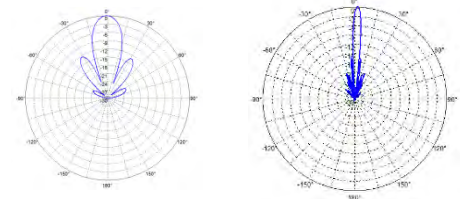
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)



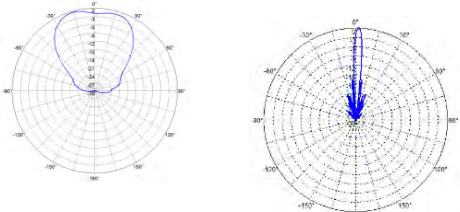
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF8-2LX5HX-CB65

2 x 617-894 / 4 x 1695-2690 / 3300-4200 MHz 65°, 2 x 16 / 4 x 18 / 16 dBi, 2 x 2°-12° / 4 x 2°-12° / 2°-12° Tilt
Antenna With 4 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		3300-4200
	Polarization		±45
	Electrical downtilt(°)		2-12
	Electrical downtilt tolerance(°)		±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1
	Max.phase tolerance from calibration port to input ports(°)		≤10
	Ports VSWR		<1.5
	Avg. power per capacity (W)		40
	Co-polarization isolation between ports(dB)		≥20
	Cross-polarization isolation between ports(dB)		≥23
Radiation parameters	Single column Beam	Gain(dBi)	15.5
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	6.5
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	65° Broadcast beam	Gain(dBi)	15.5
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	6.5
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	Service beam	0° direct beam gain(dBi)	21
		0° direct beam horizontal 3dB beam width(°)	19
		0° direct beam front to back ratio(dB)	≥28
0° direct beam cross polar ratio(axial)(dB)		≥17	





Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		10.5	9	8.5	7.5	6.5	6	5.5
Gain (dBi)		15	15.5	16	16.5	17	17.3	17.8
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	± 60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

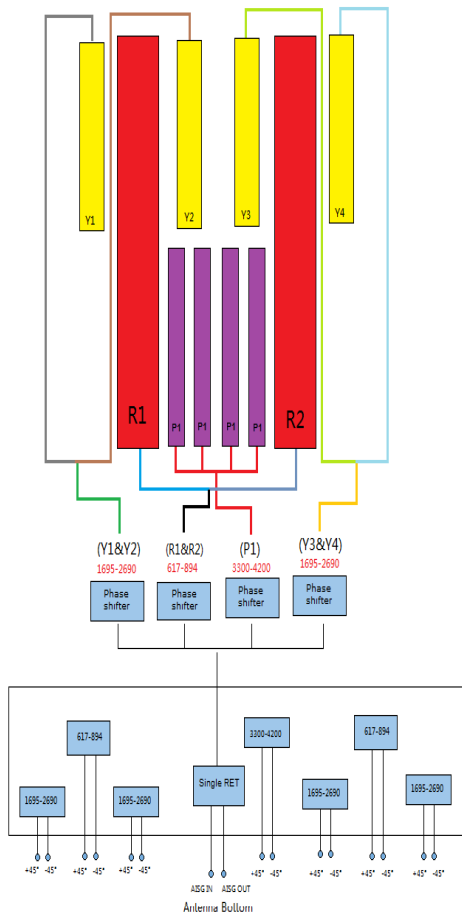
Radome Material	FiberGlass
Connector Type and Location	4.3-10x12, Bottom 1xMQ5 Male+1 xMQ4 Male iRCU in:2 x 8 pin male iRCU out:2 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2438 x 499 x 180 / 96 x 19.6 x 7.1
Packing Size(mm)/(inches)	2750 x 599 x 311 / 108.3 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	53 / 116.6
Weight with Downtilt Bracket(kg)/(lbs)	60 / 132.0
Weight with Fixed Bracket(kg)/(lbs)	58 / 127.6
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	70 / 154
Packing Weight (with Fixed Bracket) (kg)/(lbs)	69 / 151.8
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1498/239/1117



Integrated RET Properties

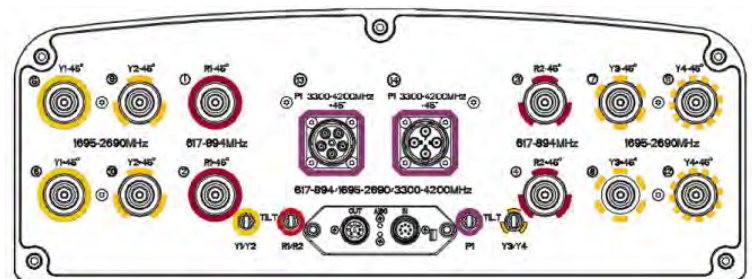
RET Type		4x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

COMPREHENSIVE TILT CONFIGURATION



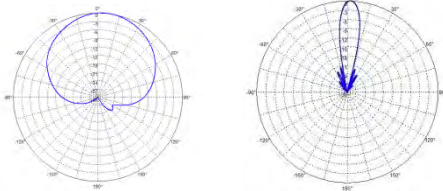
Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y3
3300-4200MHz	P1	NDPMXXXXXXXX-3342P1

Note: (2) Physical RET Unit containing (4) Single RET



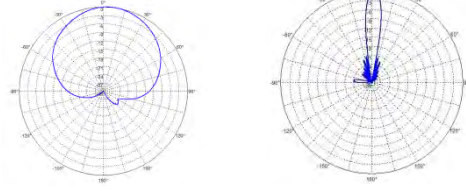


Radiation Pattern (617 - 824MHz)



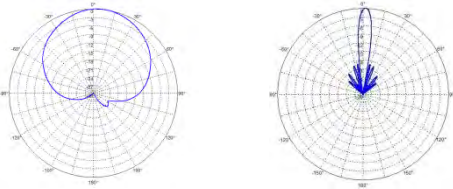
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



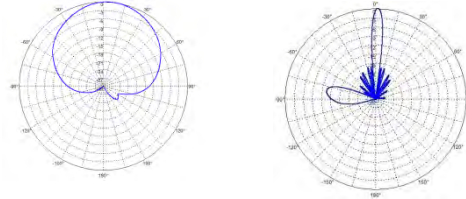
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



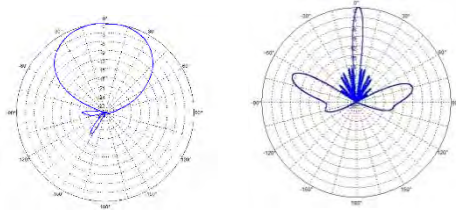
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



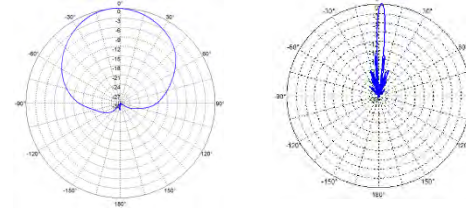
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



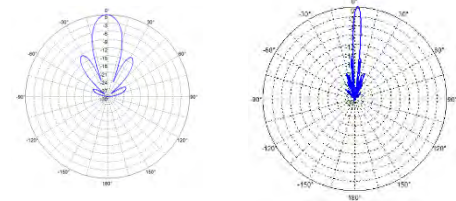
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)



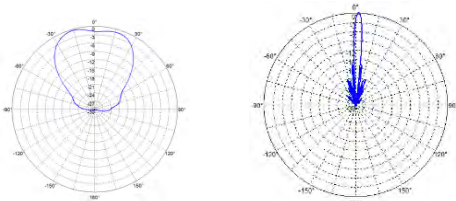
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 4200 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF9-2B2J1L-RE65

2 x698-960 / 2 x1695-2690 / 4x2490-3800 MHz 65°, 2 x17/ 2 x18 / 4x16 dBi, 2 x2°-12° / 2 x2°-12° / 2°-12°
Tilt Antenna With 5 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		2490~2690	3300~3800
	Polarization		±45	
	Electrical downtilt(°)		2~12	
	Electrical downtilt tolerance(°)		±1	
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2	
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1	
	Max.phase tolerance from calibration port to input ports(°)		≤10	
	Ports VSWR		<1.5	
	Avg. power per capacity (W)		40	
	Co-polarization isolation between ports(dB)		≥20	
	Cross-polarization isolation between ports(dB)		≥23	
Radiation parameters	Single column Beam	Gain(dBi)	15	15.5
		Horizontal 3dB beam width(°)	80	65
		Vertical 3dB beam width(°)	6.5	5
		Cross polar ratio(dB, 0°)	≥16	
		Front to back ratio(dB)	≥25	
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	
	65° Broadcast beam	Gain(dBi)	16.3	16.5
		Horizontal 3dB beam width(°)	65	
		Vertical 3dB beam width(°)	6.5	5
		Cross polar ratio(dB, 0°)	≥16	
		Front to back ratio(dB)	≥25	
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	
	Service beam	0°direct beam gain(dBi)	20	21
		0°direct beam horizontal 3dB beam width(°)	≤28	
		0°direct beam front to back ratio(dB)	≥28	
		0°direct beam cross polar ratio(axial)(dB)	≥18	





Frequency Range(MHz)		2x698-960			2x1695-2690			
		698-824	824-894	880-960	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	68	65	62	58
Vertical 3dB Beamwidth(°)		8	7.1	6.5	6.5	5.5	5	4.5
Gain (dBi)		15.5	16.1	16.5	16.8	17.2	17.5	17.3
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ±30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	±60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

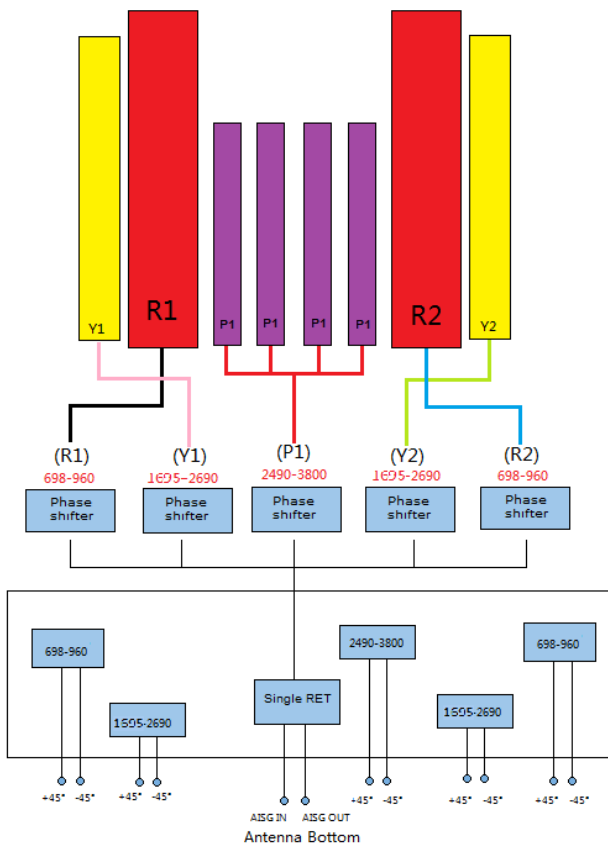
Radome Material	Fiberglass
Connector Type and Location	4.3-10 Female x8, Bottom 1xMQ5 Male+1 xMQ4 Male iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2690 x 499 x 180 / 106.3 x 19.6 x 7.1
Packing Size(mm)/(inches)	3130 x 560 x 300 / 123.2 x 22.0 x 11.8
Weight ,w/o Mounting kit(kg)/(lbs)	48 / 105.6
Weight with Downtilt Bracket(kg)/(lbs)	55 / 121
Weight with Fixed Bracket(kg)/(lbs)	53 / 116.6
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	64 / 140.8
Packing Weight (with Fixed Bracket) (kg)/(lbs)	62 / 136.4
Max. Wind Velocity(mph)	150
Mounting hardware	∅ 50 mm ~ ∅ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1660/266/1243



Integrated RET Properties

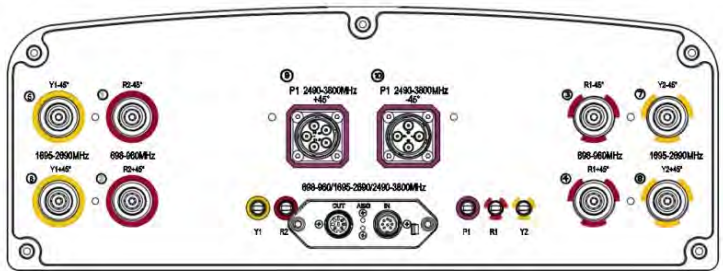
RET Type		5x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION



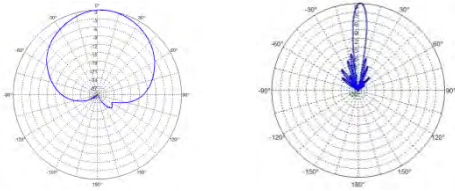
Frequency Range	Array	RET Unique ID
698-960MHz	R1	NDPMXXXXXXXX-7090R1
698-960MHz	R2	NDPMXXXXXXXX-7090R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
2490-3800MHz	P1	NDPMXXXXXXXX-2538P1

Note: (1) Physical RET Unit containing (5) Single RET



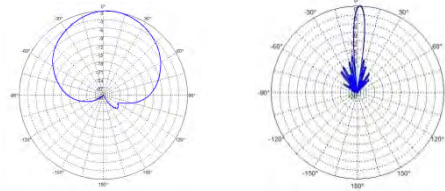


Radiation Pattern (698 - 894MHz)



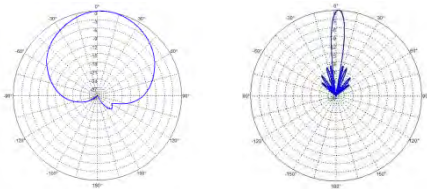
Horizontal Pattern Vertical Pattern

Radiation Patterns (880 - 960 MHz)



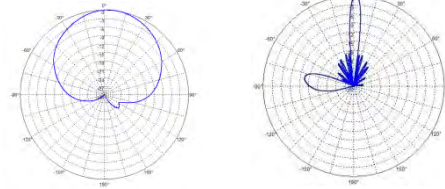
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



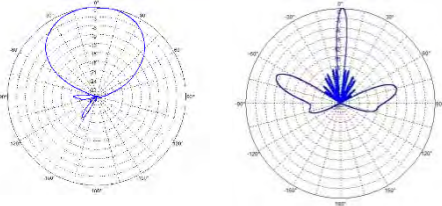
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300- 2400 MHz)



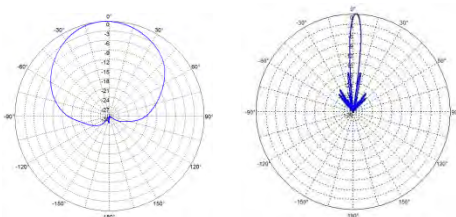
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



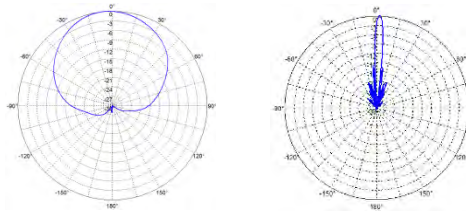
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



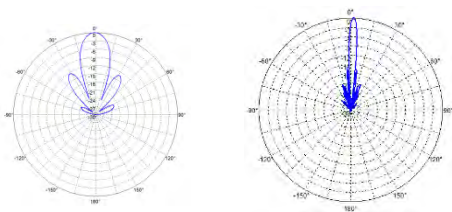
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)

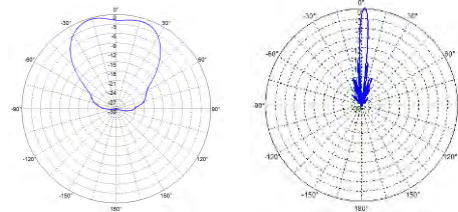


Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 3800 MHz)(Service Beam) Radiation Pattern (2490- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



Horizontal Pattern Vertical Pattern



BMF9-2LX5HX-CB65

2 x 617-894 / 4 x 1695-2690 / 3300-3800 MHz 65°, 2 x 17 / 4 x 17 / 17 dBi, 2 x 2°-12° / 4 x 2°-12° / 2°-12° Tilt
Antenna With 4 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		3300~3800
	Polarization		±45
	Electrical downtilt(°)		2~12
	Electrical downtilt tolerance(°)		±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1
	Max.phase tolerance from calibration port to input ports(°)		≤10
	Ports VSWR		<1.5
	Avg. power per capacity (W)		40
	Co-polarization isolation between ports(dB)		≥20
	Cross-polarization isolation between ports(dB)		≥23
Radiation parameters	Single column Beam	Gain(dBi)	17.2
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	4
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	65° Broadcast beam	Gain(dBi)	18.2
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	4
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	Service beam	0° direct beam gain(dBi)	22.6
		0° direct beam horizontal 3dB beam width(°)	19
		0° direct beam front to back ratio(dB)	≥28
		0° direct beam cross polar ratio(axial)(dB)	≥18





Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		9.0	8.0	7.0	9.2	8.2	7.2	6.5
Gain (dBi)		15.3	16	16.5	16.3	16.6	16.9	17.1
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	± 60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

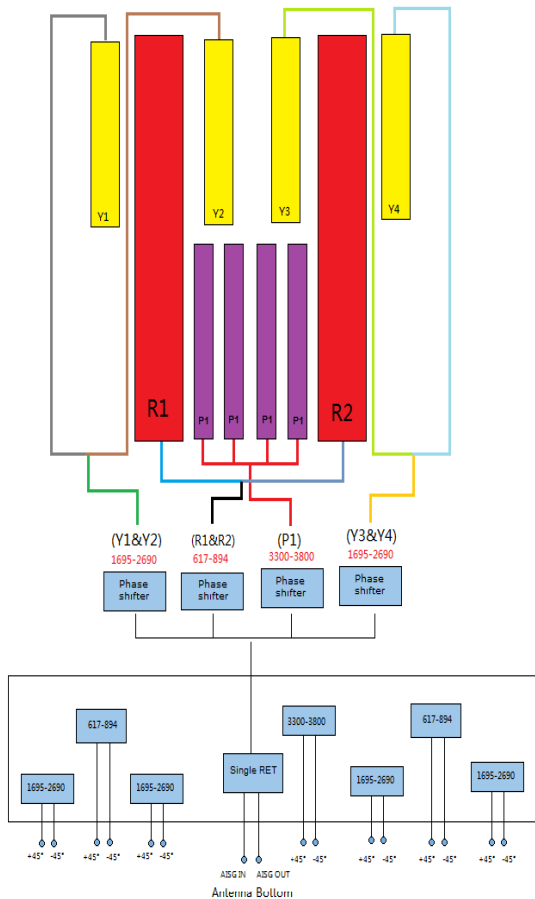
Radome Material	Fiberglass
Connector Type and Location	4.3-10x12, Bottom 1xMQ5 Male+1 xMQ4 Male iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	2680 x 499 x 180 / 105.5 x 19.6 x 7.1
Packing Size(mm)/(inches)	3045 x 599 x 311 / 119.9 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	56 / 123.2
Weight with Downtilt Bracket(kg)/(lbs)	63 / 138.6
Weight with Fixed Bracket(kg)/(lbs)	61 / 134.2
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	74 / 162.8
Packing Weight (with Fixed Bracket) (kg)/(lbs)	72 / 158.4
Max. Wind Velocity(mph)	150
Mounting hardware	Φ 50 mm ~ Φ 115 mm
Mechanical tilt	0-10°
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1659/265/1237



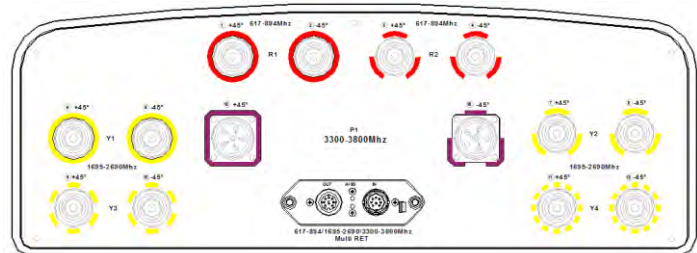
Integrated RET Properties

RET Type		4 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION

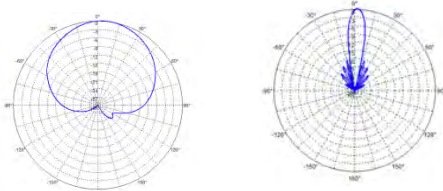


Frequency Range	Array	RET Unique ID
617-894MHz	R1/R2	NDPMXXXXXXXX-6089R1
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y3
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1



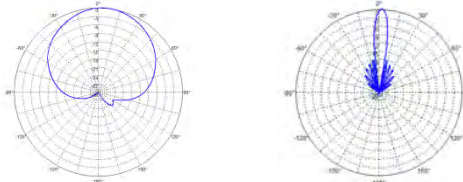


Radiation Pattern (617 - 824MHz)



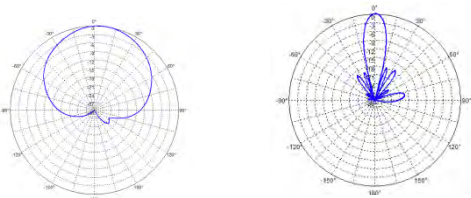
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



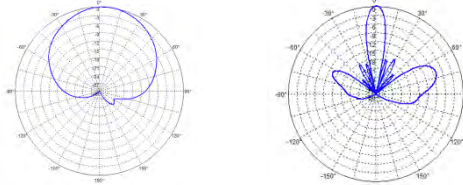
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



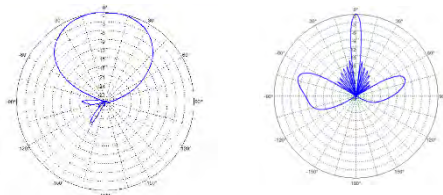
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



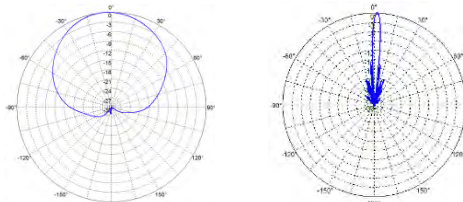
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



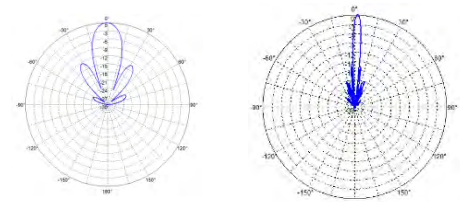
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)



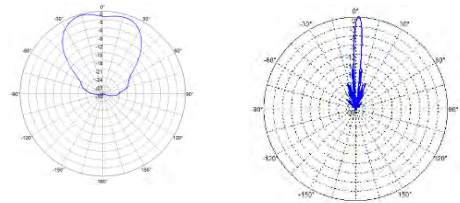
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF9-2LX6HX-CB65

2 x 617-894 / 4 x 1695-2690 / 2500-2690 / 3300-3800 MHz 65°, 2 x 17° / 4 x 17° / 16° / 17 dBi,
2 x 2°-12° / 4 x 2°-12° / 2°-12° / 2°-12° Tilt Antenna With 8 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		2500-2690	3300~3800
	Polarization		±45	±45
	Electrical downtilt(°)		2~12	2~12
	Electrical downtilt tolerance(°)		±1	±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2	-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤0.9	≤0.9
	Max.phase tolerance from calibration port to input ports(°)		≤7	≤7
	Ports VSWR		<1.5	<1.5
	Avg. power per capacity (W)		40	40
	Co-polarization isolation between ports(dB)		≥20	≥20
	Cross-polarization isolation between ports(dB)		≥23	≥23
Radiation parameters	Single column Beam	Gain(dBi)	16	16.6
		Horizontal 3dB beam width(°)	85	65
		Vertical 3dB beam width(°)	5.5	4
		Cross polar ratio(dB, 0°)	≥16	≥16
		Front to back ratio(dB)	≥25	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	≥15
	65° Broadcast beam	Gain(dBi)	17	17.6
		Horizontal 3dB beam width(°)	65	65
		Vertical 3dB beam width(°)	5.5	4
		Cross polar ratio(dB, 0°)	≥16	≥16
		Front to back ratio(dB)	≥25	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	≥15
	Service beam	0° direct beam gain(dBi)	21	22
		0° direct beam horizontal 3dB beam width(°)	25	19
		0° direct beam front to back ratio(dB)	≥28	≥28
		0° direct beam cross polar ratio(axial)(dB)	≥18	≥18





Frequency Range(MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		9.0	8.0	7.0	9.2	8.2	7.2	6.5
Gain (dBi)		15.3	16	16.5	16.3	16.6	16.9	17.1
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	± 60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

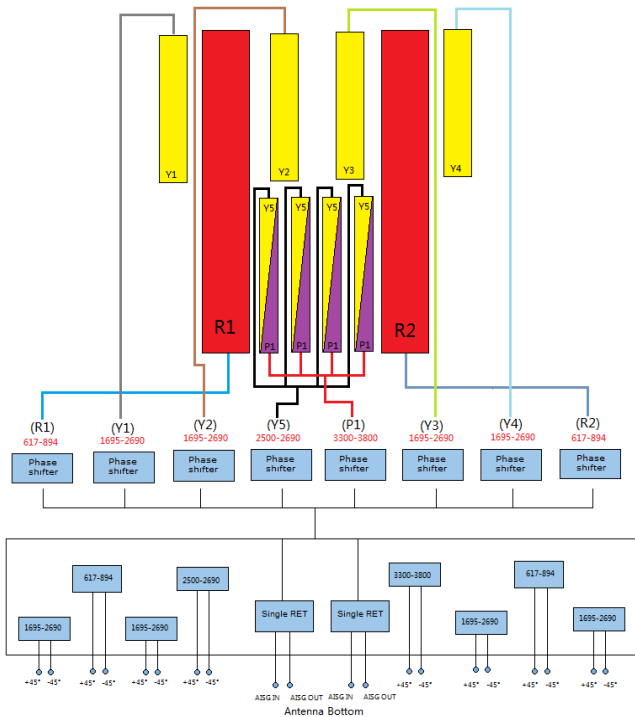
Radome Material	Fiberglass
Connector Type and Location	4.3-10x12, Bottom 2xMQ5 Male+2 xMQ4 Male iRCU in:2 x 8 pin male iRCU out:2 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2700 x 499 x 180 / 106.3 x 19.6 x 7.1
Packing Size(mm)/(inches)	3045 x 599 x 311 / 119.9 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	62 / 136.4
Weight with Downtilt Bracket(kg)/(lbs)	69 / 151.8
Weight with Fixed Bracket(kg)/(lbs)	67 / 147.4
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	80 / 176
Packing Weight (with Fixed Bracket) (kg)/(lbs)	78 / 171.6
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1659/265/1237



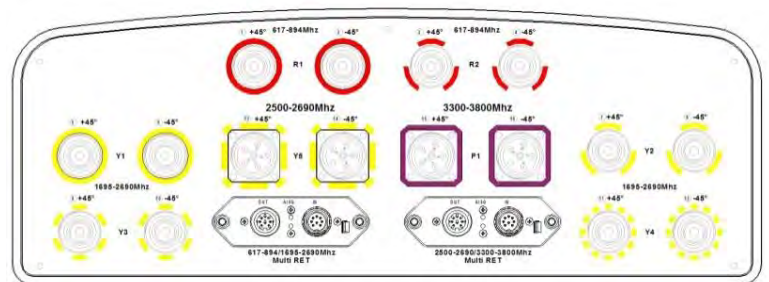
Integrated RET Properties

RET Type		8x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION

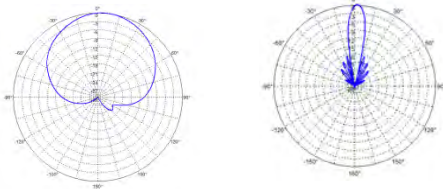


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
1695-2690MHz	Y3	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y4	NDPMXXXXXXXX-1727Y4
2500-2690MHz	Y5	NDPMXXXXXXXX-2527Y5
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1



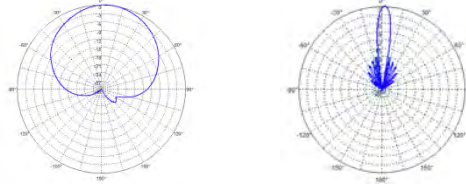


Radiation Pattern (617 - 824MHz)



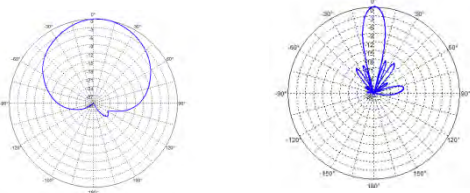
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



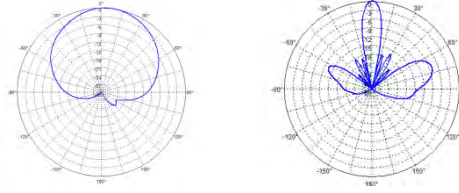
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



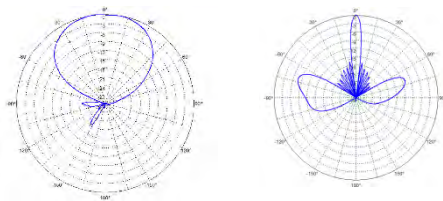
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



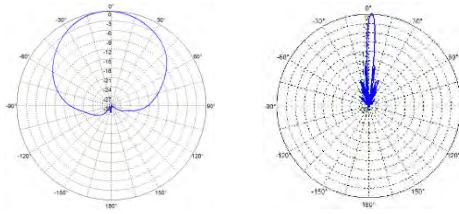
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



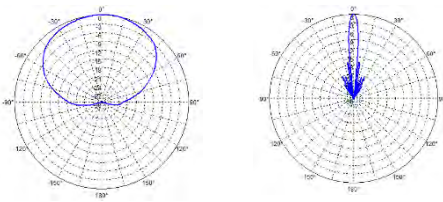
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)



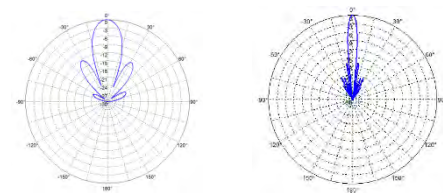
Horizontal Pattern Vertical Pattern

Radiation Pattern (2500- 2690 MHz)



Horizontal Pattern Vertical Pattern

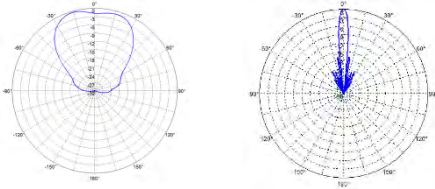
Radiation Pattern (2500- 2690 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

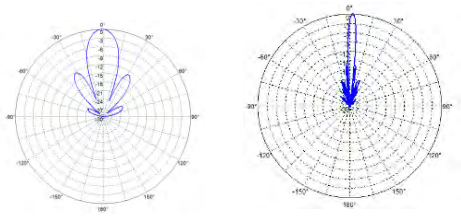


Radiation Pattern (2500- 2690 MHz)(Broadcast Beam)



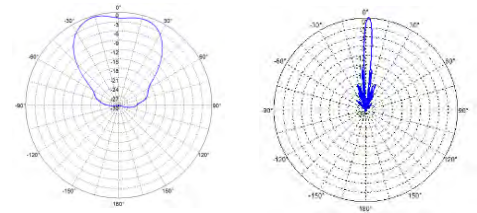
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern



BMF9-2LX7HX-CB65

2 x 617-894 / 6 x 1695-2690 / 3300-3800 MHz 65°, 2 x 17 / 6 x 17 / 17 dBi, 2 x 2°-12° / 6 x 2°-12° / 2°-12° Tilt Antenna With 7 Integrated RCUs.

Electrical Specifications

General parameters	Frequency range (MHz)		3300~3800
	Polarization		±45
	Electrical downtilt(°)		2~12
	Electrical downtilt tolerance(°)		±1
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤0.9
	Max.phase tolerance from calibration port to input ports(°)		≤7
	Ports VSWR		<1.5
	Avg. power per capacity (W)		40
	Co-polarization isolation between ports(dB)		≥20
	Cross-polarization isolation between ports(dB)		≥23
Radiation parameters	Single column Beam	Gain(dBi)	17.2
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	4
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	65° Broadcast beam	Gain(dBi)	18.2
		Horizontal 3dB beam width(°)	65
		Vertical 3dB beam width(°)	4
		Cross polar ratio(dB, 0°)	≥16
		Front to back ratio(dB)	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15
	Service beam	0° direct beam gain(dBi)	22.6
		0° direct beam horizontal 3dB beam width(°)	19
		0° direct beam front to back ratio(dB)	≥28
		0° direct beam cross polar ratio(axial)(dB)	≥18





Frequency Range(MHz)		2x617-894			6x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal 3dB Beamwidth(°)		71	65	60	66	63	58	60
Vertical 3dB Beamwidth(°)		9.0	8.0	7.0	9.2	8.2	7.2	6.5
Gain (dBi)		15.3	16	16.5	16.3	16.6	16.9	17.1
Electrical Downtilt		2°-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥16	≥16	≥16	≥16	≥16	≥16	≥16
Front-to-Back Ratio Total Power, ± 30° (dB)		≥22	≥23	≥24	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥17	≥17	≥17	≥17	≥17	≥17	≥17
	± 60° (dB)	≥7	≥7	≥7	≥7	≥7	≥7	≥7
Isolation ports		≥25 dB						
Isolation Frequency		≥30 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			250 W			
Lightning Protection		DC Ground						

Mechanical Specifications

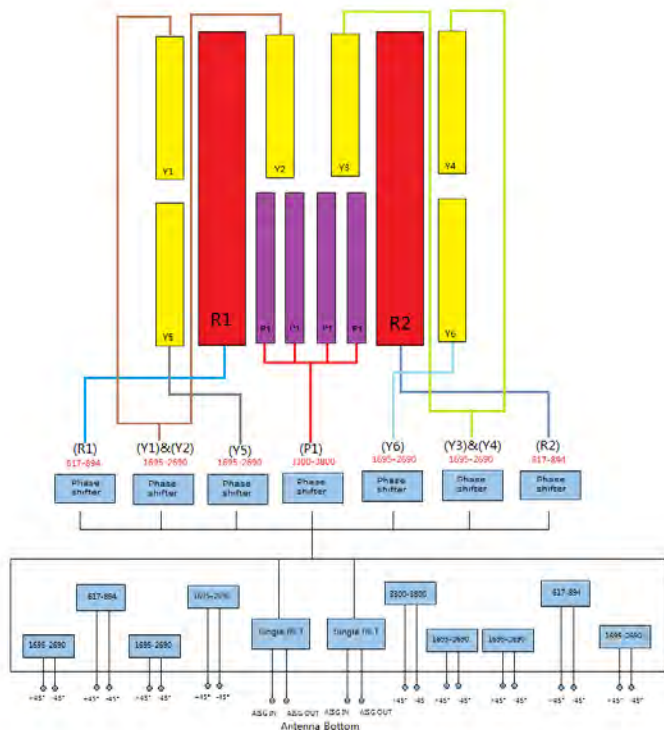
Radome Material	Fiberglass
Connector Type and Location	4.3-10x16, Bottom 1xMQ5 Male+1 xMQ4 Male iRCU in:2 x 8 pin male iRCU out:2 x 8 pin female
Dimensions,HxWxD(mm)/(inches)	2700 x 499 x 180 / 106.3 x 19.6 x 7.1
Packing Size(mm)/(inches)	3045 x 599 x 311 / 119.9 x 23.6 x 12.2
Weight ,w/o Mounting kit(kg)/(lbs)	60 / 132
Weight with Downtilt Bracket(kg)/(lbs)	67 /147.4
Weight with Fixed Bracket(kg)/(lbs)	65 /143
Packing Weight (with Downtilt Bracket) (kg)/(lbs)	78 /171.6
Packing Weight (with Fixed Bracket) (kg)/(lbs)	76 / 167.2
Max. Wind Velocity(mph)	150
Mounting hardware	ϕ 50 mm ~ ϕ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	1659/265/1237



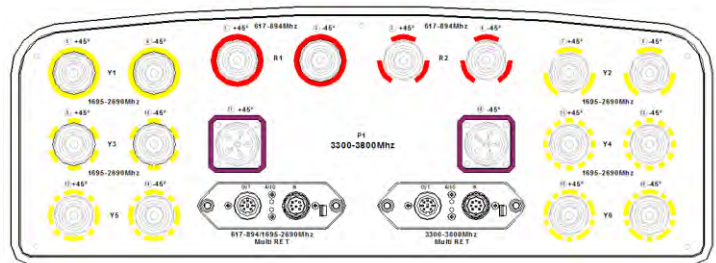
Integrated RET Properties

RET Type		7x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION

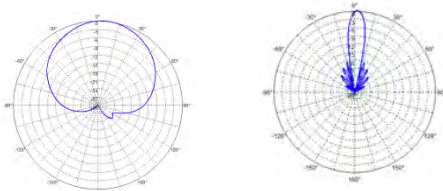


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6089R1
617-894MHz	R2	NDPMXXXXXXXX-6089R2
1695-2690MHz	Y1/Y2	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y3/Y4	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y5	NDPMXXXXXXXX-1727Y5
1695-2690MHz	Y6	NDPMXXXXXXXX-1727Y6
3300-3800MHz	P1	NDPMXXXXXXXX-3338P1



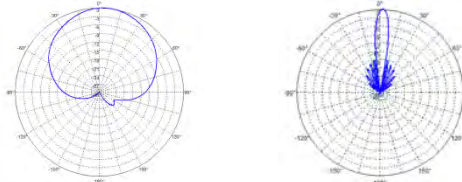


Radiation Pattern (617 - 824MHz)



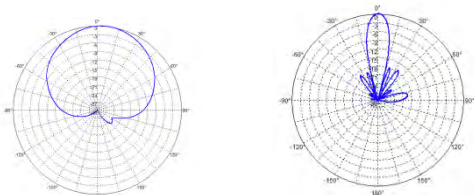
Horizontal Pattern Vertical Pattern

Radiation Patterns (824 - 894 MHz)



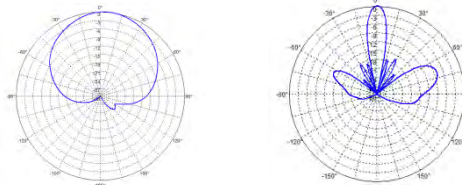
Horizontal Pattern Vertical Pattern

Radiation Patterns (1695 - 2170 MHz)



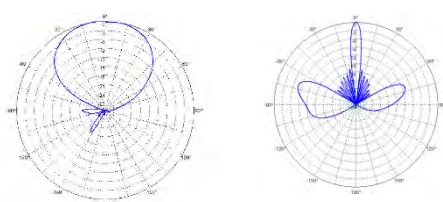
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2400 MHz)



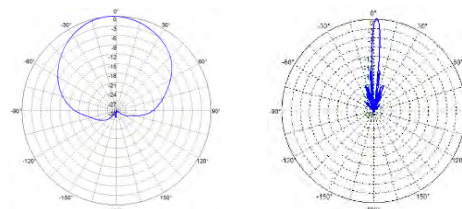
Horizontal Pattern Vertical Pattern

Radiation Pattern (2490- 2690 MHz)



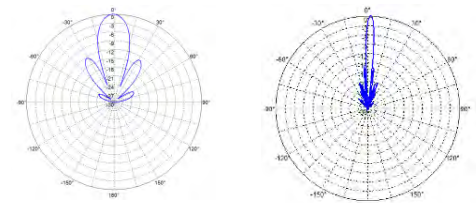
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)



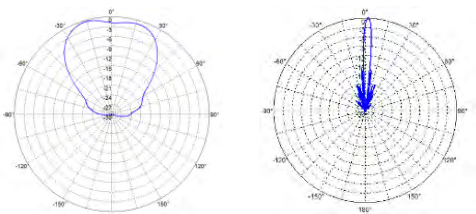
Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Service Beam)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3300- 3800 MHz)(Broadcast Beam)



Horizontal Pattern Vertical Pattern

DENGYO CAN series

Cannister-style base station
antennas



CAN2-1HX

Omni Antenna

2-ports 3300-3700 MHz 360° 12.5 dBi, 0°Tilt Antenna.

Electrical Specifications

Frequency Range(MHz)	3300-3700
Polarization	±45°
Horizontal Beamwidth(°)	360
Vertical Beamwidth(°)	8
Gain (dBi)	12.5
Electrical Downtilt(°)	0
VSWR	≤1.5
Isolation ports	≥20
Intermodulation IM3 (2×43dBm carrier)	< -150 dBc(2x43dBm carrier)
Impedance (Ω)	50
Max. Power per Input (at 50°C ambient temperature)	100
Lightning Protection	DC Ground



Mechanical Specifications

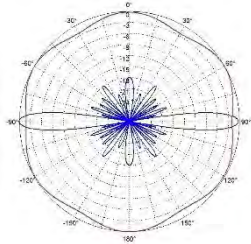
Radome Material	Fiberglass
Connector Type and Location	4.3-10x2, Bottom
Dimensions, HxWxD(mm)/(inches)	600 x Φ100 / 23.6×Φ3.9
Packing Size(mm)/(inches)	900 x 185 x 185 / 35.4 x 7.28 x 7.28
Weight, w/o Mounting kit(kg)/(lbs)	5/11
Weight, w/ Fixed Bracket (kg)/(lbs)	8/17.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	14/30.8
Max. Wind Velocity(mph)	150
IP Grade	IPX5
Radome color	Light Gray
Operating temperature (°C)	-40~70
Operational Humidity(%)	≤95%
Wind Load at 100mph(N)	66



COMPREHENSIVE TILT CONFIGURATION



[Radiation Pattern]



3300-3700MHz
(blue E-plane, red H-plane)



CAN2-2HX

Omni Antenna

4-ports 3300-3700 / 3300-3700 MHz 360° 13 / 13 dBi, 0°/ 0°Tilt Antenna.



Electrical Specifications

Frequency Range(MHz)	3300-3700x2
Polarization	±45°
Horizontal Beamwidth(°)	360
Vertical Beamwidth(°)	8
Gain (dBi)	12.7
Electrical Downtilt(°)	0
VSWR	≤1.5
Isolation ports	≥20
Isolation Frequency	≥20
Intermodulation IM3 (2×43dBm carrier)	< -150 dBc(2x43dBm carrier)
Impedance (Ω)	50
Max. Power per Input (at 50°C ambient temperature)	100
Lightning Protection	DC Ground

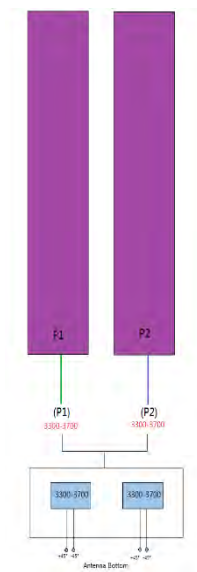


Mechanical Specifications

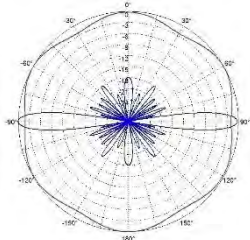
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4, Bottom
Dimensions, HxWxD(mm)/(inches)	600 x Φ220 / 23.6×Φ8.7
Packing Size(mm)/(inches)	900 x 305 x 305 / 35.4 x 12 x 12
Weight, w/o Mounting kit(kg)/(lbs)	18/39.6
Weight, w/ Fixed Bracket (kg)/(lbs)	24.5/53.9
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	32.5/71.5
Max. Wind Velocity(mph)	150
IP Grade	IPX5
Radome color	Light Gray
Operating temperature (°C)	-40~70
Operational Humidity(%)	≤95%
Wind Load at 100mph(N)	146



COMPREHENSIVE TILT CONFIGURATION



[Radiation Pattern]



3300-3700MHz
(blue E-plane, red H-plane)



CAN3-2HX

Omni Antenna

4-ports 3300-3700 / 3300-3700 MHz 360° 15 / 15 dBi, 0°/ 0°Tilt Antenna.



Electrical Specifications

Frequency Range(MHz)	3300-3700x2
Polarization	±45°
Horizontal Beamwidth(°)	360
Vertical Beamwidth(°)	5.5
Gain (dBi)	14.5
Electrical Downtilt(°)	0
VSWR	≤1.5
Isolation ports	≥20
Isolation Frequency	≥20
Intermodulation IM3 (2×43dBm carrier)	< -150 dBc(2x43dBm carrier)
Impedance (Ω)	50
Max. Power per Input (at 50°C ambient temperature)	100
Lightning Protection	DC Ground

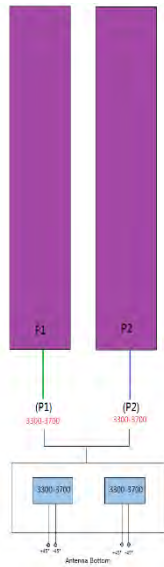


Mechanical Specifications

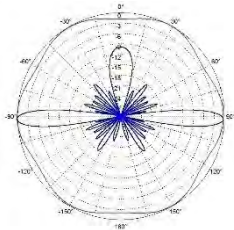
Radome Material	Fiberglass
Connector Type and Location	4.3-10x4, Bottom
Dimensions, HxWxD(mm)/(inches)	900 x Φ220 / 35.4× Φ8.7
Packing Size(mm)/(inches)	1200 x 305 x 305 / 47.2 x 12 x 12
Weight, w/o Mounting kit(kg)/(lbs)	23/50.6
Weight, w/ Fixed Bracket (kg)/(lbs)	29.5/64.9
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	37.5/82.5
Max. Wind Velocity(mph)	150
IP Grade	IPX5
Radome color	Light Gray
Operating temperature (°C)	-40~70
Operational Humidity(%)	≤95%
Wind Load at 100mph(N)	220



COMPREHENSIVE TILT CONFIGURATION



[Radiation Pattern]



3300-3700MHz
(blue E-plane, red H-plane)



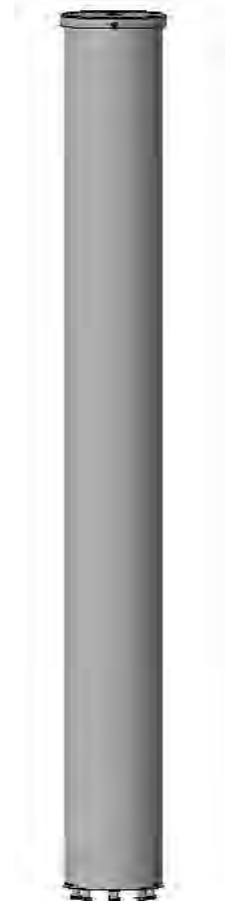
NW23450756517DVIS

6-ports 1710-2690 / 3400-5000 / 3400-5000 MHz 65°, 17 / 17 / 17 dBi 5°-15° / 5°-15° / 5°-15° Tilt Antenna With 2 Integrated RCUs.



Electrical Specifications

Frequency Range(MHz)	1710-2690				2x3400-5000	
	1710-1920	1920-2180	2300-2400	2400-2690	3400-4100	4500-5000
Polarization	±45°					
Horizontal 3dB Beamwidth(°)	75±10				65±10	
Vertical 3dB Beamwidth(°)	6.5	6	5.5	5.2	6.5	5.5
Gain (dBi)	17	17.2	17.5	18	17.3	17.8
Electrical Downtilt	5°-15°				5°-15°	
Upper Sidelobe Suppression(dB)	First	≥20	≥20	≥20	≥20	≥20
Front-to-Back Ratio Total Power, ±30° (dB)		≥25	≥25	≥25	≥25	≥25
Cross polar ratio	Main direction(dB)	≥20	≥20	≥20	≥20	≥20
	±30° (dB)	≥20	≥20	≥20	≥20	≥20
Isolation ports	≥30 dB				≥25 dB	
Isolation Frequency	≥25 dB					
VSWR	< 1.5					
Intermodulation IM3	< -150 dBc(2x43dBm carrier)					
Impedance	50 Ω					
Max. Power per Input (at 50°C ambient temperature)	500 W			300 W		
Lightning Protection	DC Ground					



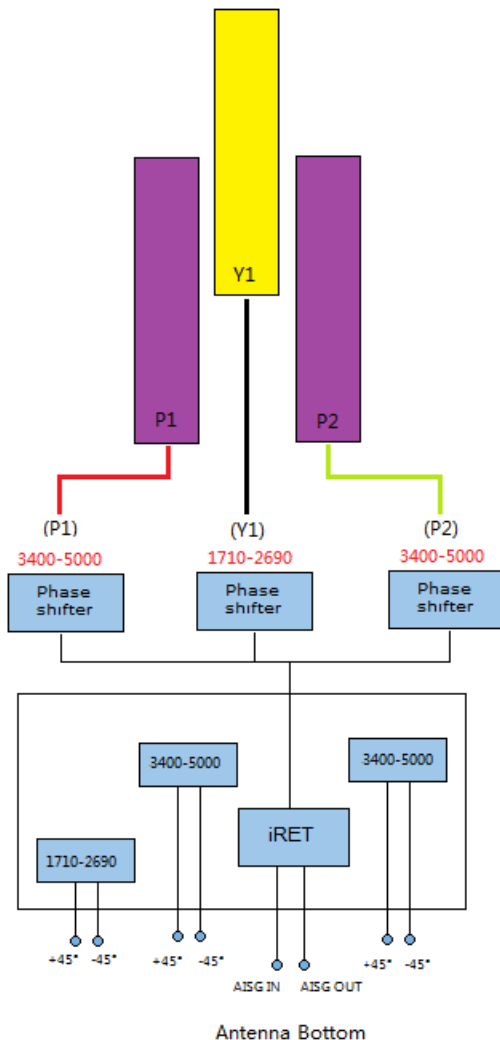
Mechanical Specifications

Radome Material	ASA+20%GF
Connector Type and Location	N-J x6, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Antenna Dimensions	2000 x φ150mm
Packing Size	2210 x 245 x 300mm
Weight ,w/o Mounting kit(kg)	12
Weight,with Mounting kit(kg)	2.1
Packing Weight(kg)	17.5
Mounting hardware	φ 50 mm ~ φ 80 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 90m/s (Frontal/lateral/Rearside(N))	1244



Protocols	Compliant to AISG 2.0/3GPP	
Input voltage range	+10~+30VDC(pin 6)	
Power consumption	<2W(stand by);<13W(motor activated)	
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)	40 sec(typically,depending on antenna)	
Adjustment Cycles	≥10000	
Torque Max	≥160mN.m	
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA	

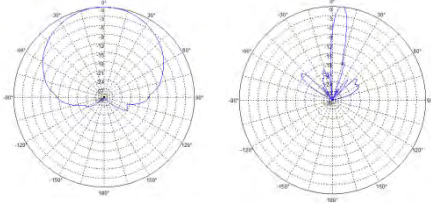
COMPREHENSIVE TILT CONFIGURATION



Frequency Range	Array	Connector
1710-2690	Y1	4. 3-10
3400-5000	P1	4. 3-10
3400-5000	P2	4. 3-10

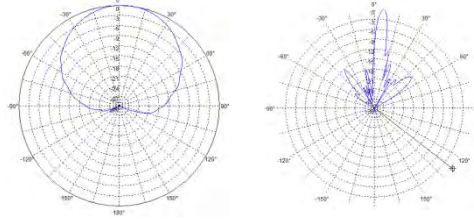


Radiation Pattern (1710 - 2170 MHz)



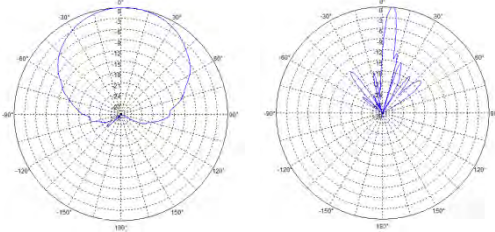
Horizontal Pattern Vertical Pattern

Radiation Patterns (2300 - 2490 MHz)



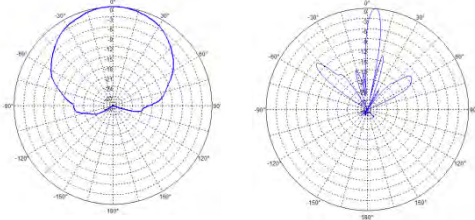
Horizontal Pattern Vertical Pattern

Radiation Patterns (2490 - 2690 MHz)



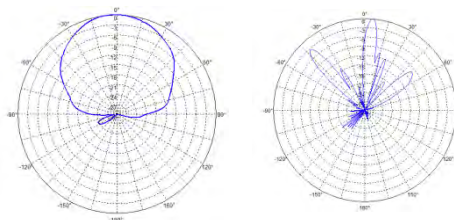
Horizontal Pattern Vertical Pattern

Radiation Pattern (3400 - 4100 MHz)



Horizontal Pattern Vertical Pattern

Radiation Patterns (4500 - 5000 MHz)



Horizontal Pattern Vertical Pattern



CAN2-1A1J2Q-0R360

Quasi-omni Canister Antenna

8-ports.617~894MHz/1695~2690MHz/3400~3800MHz×2,360°, 9/ 10 /8 dBi 0° / 0° / 0° Antenna.



Electrical Specifications

Frequency Range(MHz)	617-894	1695-2690			2x3400-3800
		1695-2180	2305-2360	2496-2690	
Polarization	±45°				
Horizontal Beamwidth(°)	360	360	360	360	360
Vertical Beamwidth(°)	34	31	27	25	20.5
Gain (dBi)	8.5	8.6	9.3	9.7	8.0
Electrical Downtilt(°)	0	0	0	0	0
VSWR	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5
Isolation: intra-system (dB)	≥20				
Isolation: inter-system (dB)	≥20				
Intermodulation IM3 (2×43dBm carrier)	≤-150dBc	≤-150dBc			/
Impedance (Ω)	50				
Max. Power per Input (at 50°C ambient temperature)	100	100			50
Lightning Protection	DC Ground				

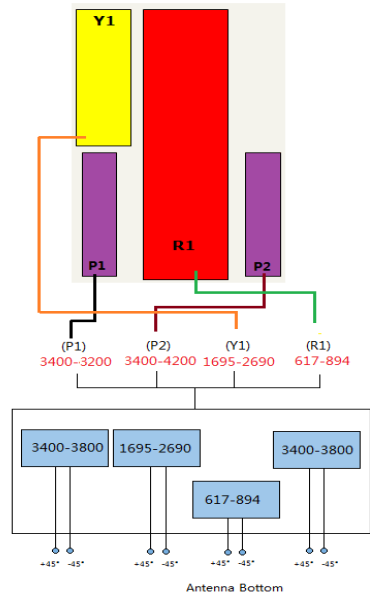


Mechanical Specifications

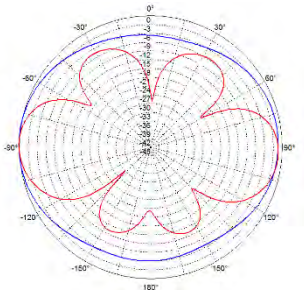
Radome Material	ASA
Connector Type and Location	8 x 4.3-10 Female (Bottom)
Dimensions,HxWxD(mm)/(inches)	610 x Φ265 /24.0 × Φ10.4
Packing Size(mm)/(inches)	900 x 345 x 345 /35.4 x13.6x13.6
Weight, w/o Mounting kit(kg)/(lbs)	12/26.4
Weight,w/ Fixed Bracket (kg)/(lbs)	18/39.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	24/52.8
Max. Wind Velocity(mph)	149
IP Grade	IPX5
Radome color	Gray
Operating temperature (°C)	-40~60
Operational Humidity(%)	≤95%
Wind Load at 100mph(N)	178



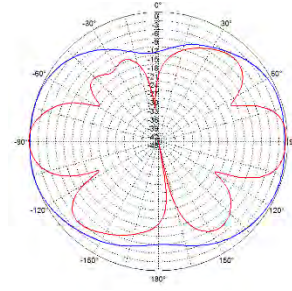
COMPREHENSIVE TILT CONFIGURATION



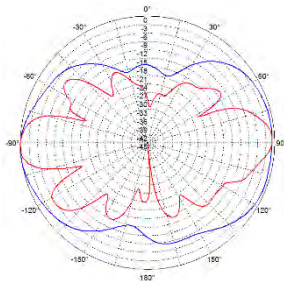
[Radiation Pattern]



617-894MHz
(blue H-plane, red E-plane)



1695-2690MHz
(blue H-plane, red E-plane)



3400-3800MHz
(blue H-plane, red E-plane)



CAN1-4J2R-0R360

12-ports 4x1695-2690 / 2x3300-4200 MHz ,360°, 4.0/5.0 dBi, 0°Tilt Antenna.

Electrical Specifications

Frequency Band, MHz	1695–2200	2305-2360	2496-2690	3300-3550	3550-3700	3700-4200
HBW, Ave., degrees	360					
VBW, Ave., degrees	64	59	57	46	45	36
Gain, Max., dBi	5.3	4.6	5.2	5.5	6.0	6.3
Gain, Avg., dBi	4.1	3.7	4.0	4.7	5.1	5.2
VSWR, Maximum	1.78					
Isolation, dB	20					
3rd Order IMD @2x37dBm	-153			/		
Maximum Input Power, W	20					
Impedance, Ohms	50					
Polarization	+45°					



Mechanical Specifications

Application	Outdoor
Number of Ports, all types	12 x NEX-10 Female: 8 for 1695-2700MHz, 4 for 3300-4200MHz
Radom Color	Light grey
Radom material	ASA
Dimensions, Length x Diameter, mm	220 * 280
Net weight,kg	3.3
Operating Temperature	-40 °C to +60 °C
Relative Humidity	Up to 100%
RoHS	Compliant



CAN2-1LX5HX

Quasi-omni Canister Antenna

X-Pol/XX-Pol/XX-Pol/X-Pol.698~894MHz/1695~2400MHz×2/3400~4200MHz×2/5150~5925MHz
 5/8/4.1/5dBi
 0° / 0° - 20° / 0° / 0° Antenna.



Electrical Specifications

Frequency Range(MHz)	698-894	1695-2400	3400-4200	5150-5925
Polarization	±45°			
Horizontal Beamwidth(°)	360	360	360	360
Vertical Beamwidth(°)	40	18	90	25
Gain (dBi)	5	9	4.1	7.5
Electrical Downtilt(°)	0	0-20	0	0
VSWR	≤1.5	≤1.5	≤1.5	≤1.5
Isolation: intra-system (dB)	≥20			
Isolation: inter-system (dB)	≥20			
Intermodulation IM3 (2×43dBm carrier)	≤-150dBc	≤-150dBc	/	/
Impedance (Ω)	50			
Max. Power per Input (at 50°C ambient temperature)	100	100	30	10
Lightning Protection	DC Ground			



Mechanical Specifications

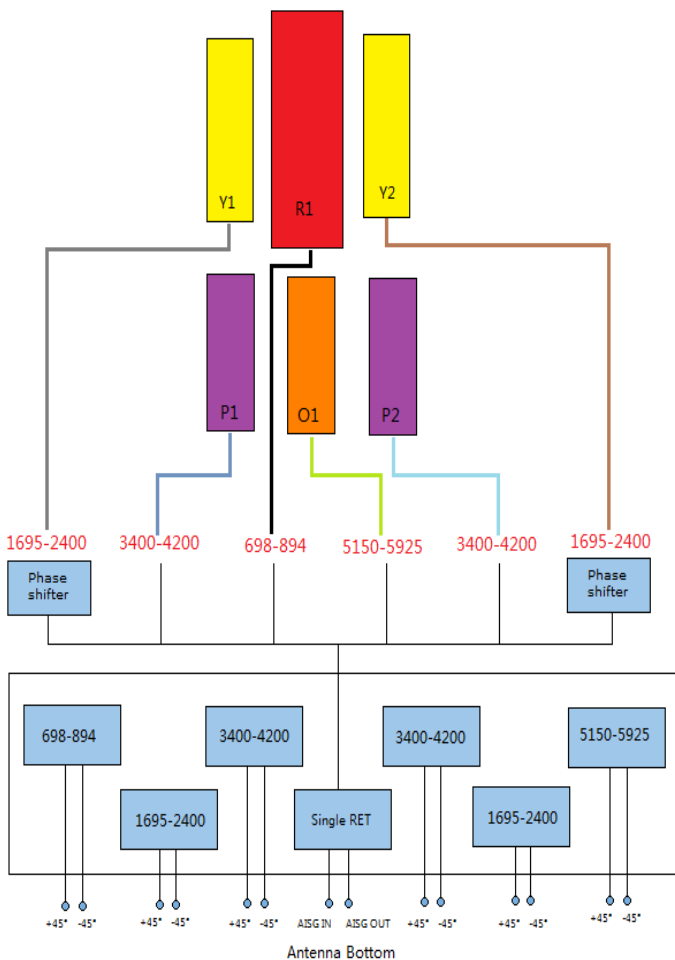
Radome Material	UPVC
Connector Type and Location	12 x 4.3-10 Female (Bottom)
Height×width×depth(mm)/(inches)	750×Φ380×/29.5×Φ14.9
Weight, w/o Mounting kit(kg)/(lbs)	25.0/55
Weight,w/ Fixed Barcket (kg)/(lbs)	31.5/69.3
Packing Weight (w/ Fixed Barcket) (kg)/(lbs)	35.5/78.1
Max. Wind Velocity(mph)	150
IP Grade	IPX5
Radome color	White
Operating temperature (°C)	-40~60
Operational Humidity(%)	≤95%
Wind Load at 100mph(N)	442



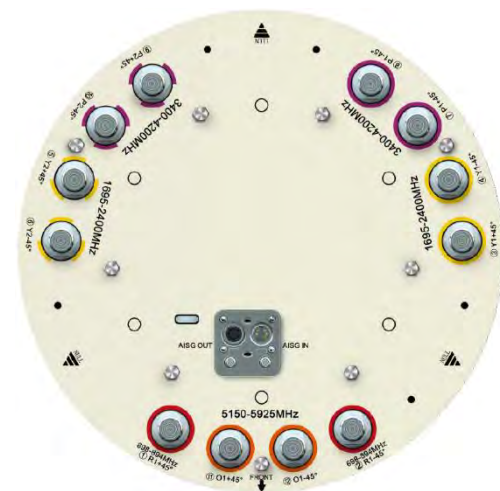
Integrated RET Properties

RET Type		2x Type 1 Single RET	
Protocols		AISG 2.0/3GPP release 10	
Input voltage range		10~30V DC (pin 1 or pin 6)	
Connectors	AISG	2 x8 pin connector acc. To IEC 60130-9	Acc.to AISG Daisy chain
	Antenna	in:male Daisy chain out: female	
Hardware interface	AISG	RS485A/B (pin 5/pin 3);Power supply(pin 1/pin 6);	
		DC return (pin 7) ACC .to AISG	
Adjustment time (full range)		45 sec (typically, depending on antenna)	
Adjustment Cycles		≥50000	
Torque Max		≥200 mN.m	
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile 8/20 us 10 Repetitions Min .@5kA	

COMPREHENSIVE TILT CONFIGURATION

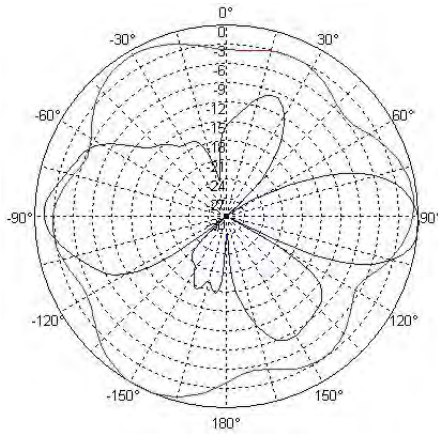


Frequency Range	Array	RET Unique ID
1695-2400MHz	Y1	NDPMXXXXXXXX-1724Y1
1695-2400MHz	Y2	NDPMXXXXXXXX-1724Y2
698-894	R1	-
3400-4200	P1	-
3400-4200	P2	-
5150-5925	O1	-

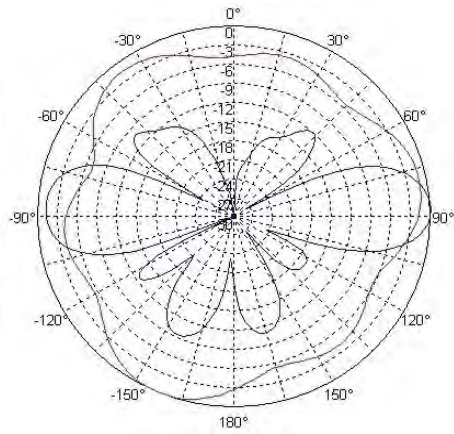




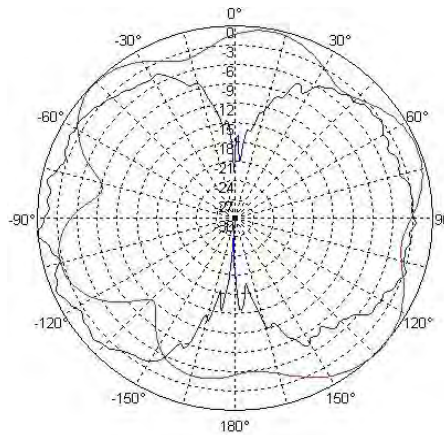
[Radiation Pattern]



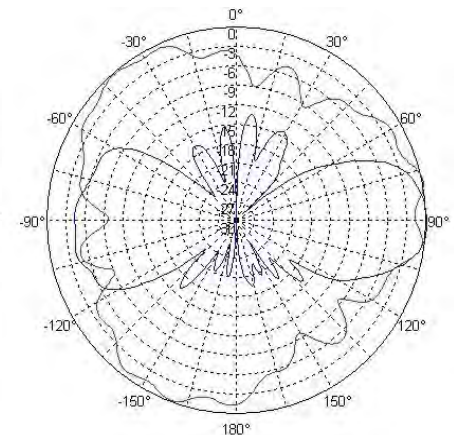
698-894MHz
(blue E-plane, red H-plane)



1695-2400MHz
(blue E-plane, red H-plane)



3400-4200MHz
(blue E-plane, red H-plane)



5150-5925MHz
(blue E-plane, red H-plane)



CAN6-2A4J-RF360

Omni Antenna

12-port 617-894 / 617-894 / 1695-2690 / 1695-2690 / 1695-2690 / 1695-2690 MHz 360°, 8 / 8 / 18 / 18 / 18 / 18 dBi, 2-12° / 2-12° / 2°-12° / 2°-12° / 2°-12° / 2-12 °Tilt Antenna With 6 Integrated RCUs.

Electrical Specifications

Frequency Range (MHz)		2x617-894			4x1695-2690			
		617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690
Polarization		±45°						
Horizontal Beamwidth (°)		360	360	360	360	360	360	360
Vertical Beamwidth (°)		24.5	22	20	5	4.5	3.8	3.5
Gain (dBi)		7.2	7.5	8	16.5	17	17.5	18
Electrical Downtilt		2-12°			2°-12°			
Upper Sidelobe Suppression(dB)	First	≥12	≥12	≥12	≥16	≥16	≥16	≥16
Isolation ports		≥20 dB						
Isolation Frequency		≥20 dB						
VSWR		< 1.5						
Intermodulation IM3		< -150 dBc(2x43dBm carrier)						
Impedance		50 Ω						
Max. Power per Input (at 50°C ambient temperature)		500 W			200 W			
Lightning Protection		DC Ground						



Mechanical Specifications

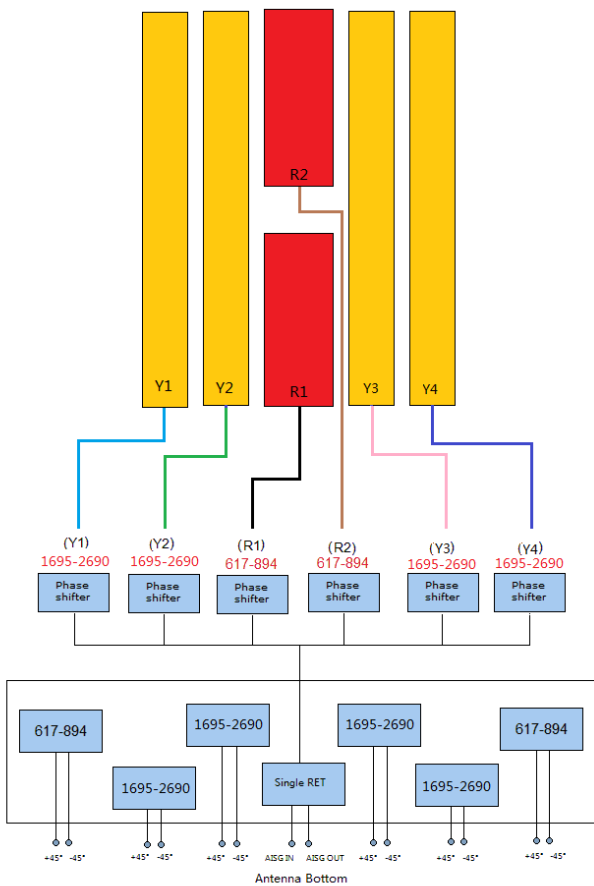
Radome Material	Fiberglass
Connector Type and Location	4.3-10x12, Bottom iRCU in: 1 x 8 pin male iRCU out: 1 x 8 pin female
Dimensions, HxWxD (mm) / (inches)	1800 x φ440 / 70.9 x φ17.3
Packing Size (mm) / (inches)	2100 x 545 x 545 / 82.7 x 21.4 x 21.4
Weight ,w/o Mounting kit (kg) / (lbs)	68.5 / 150.7
Weight w/ Fixed Bracket (kg) / (lbs)	79.5 / 174.9
Packing Weight (w/ Fixed Bracket) (w/o wooden case)(kg) / (lbs)	89.5 / 196.9
Max. Wind Velocity (mph)	150
Mast diameter supported (mm)	φ50 ~ φ115
Operational Temperature (°C)	-40 to +65
Operational Humidity (%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside) (N)	486



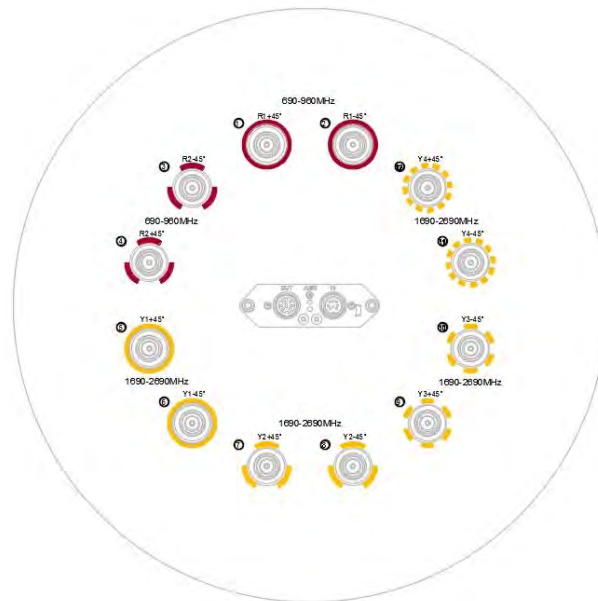
Integrated RET Properties

RET Type		6 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range (VDC)		+10 ~ +30 (pin 6)
Power consumption (Watt)		<2(stand by); <13(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in: male Daisy chain out: female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B (pin5/pin3); Power supply (pin6); DC return (pin7)Acc.to AISG
Adjustment time (full range) (sec)		40 (typically, depending on antenna)
Adjustment Cycles		≥10000
Motor Torque Max (mN.m)		≥160
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs, 200 Repetitions Min. @ 0.6kA

COMPREHENSIVE TILT CONFIGURATION

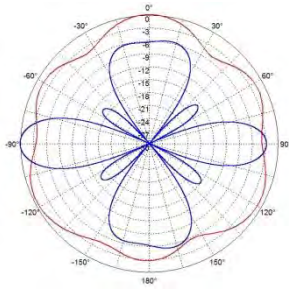


Frequency Range	Array	RET Unique ID
617-894MHz	R1	NDPMXXXXXXXX-6090R1
617-894MHz	R2	NDPMXXXXXXXX-6090R2
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
1695-2690MHz	Y3	NDPMXXXXXXXX-1727Y3
1695-2690MHz	Y4	NDPMXXXXXXXX-1727Y4

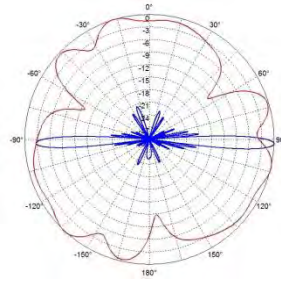




Radiation Pattern Examples



617-894MHz
(Blue E-plane, Red H-plane)



1695-2690MHz
(Blue E-plane, Red H-plane)



CAN6-2LX4HX

Omni Antenna

12-port 617-894 / 617-894 / 1695-2690 / 1695-2690 / 3400-4200 / 3400-4200 MHz 360°, 9 / 9 / 18 / 18 / 18 / 18 dBi, 0° / 0° / 2°-12° / 2°-12° / 2°-8° / 2-8 °Tilt Antenna With 4 Integrated RCUs.

Electrical Specifications

Frequency Range(MHz)	2x617-894			2x1695-2690				2x3400-4200	
	617-698	698-824	824-894	1695-1920	1920-2180	2300-2400	2490-2690	3400-3800	3800-4200
Polarization	±45°								
Horizontal 3dB Beamwidth(°)	360	360	360	360	360	360	360	360	360
Vertical 3dB Beamwidth(°)	24.5	22	20	5	4.5	3.8	3.5	2.5	2.2
Gain (dBi)	8.2	8.5	9	16.5	17	17.5	18	17.8	18.3
Electrical Downtilt	0°			2°-12°				2°-8°	
Upper Sidelobe Suppression(dB)	First	≥12	≥12	≥12	≥16	≥16	≥16	≥16	≥16
Isolation ports	≥20 dB								
Isolation Frequency	≥20 dB								
VSWR	< 1.5								
Intermodulation IM3	< -150 dBc(2x43dBm carrier)								
Impedance	50 Ω								
Max. Power per Input (at 50°C ambient)	500 W			200 W				150 W	
Lightning Protection	DC Ground								



Mechanical Specifications

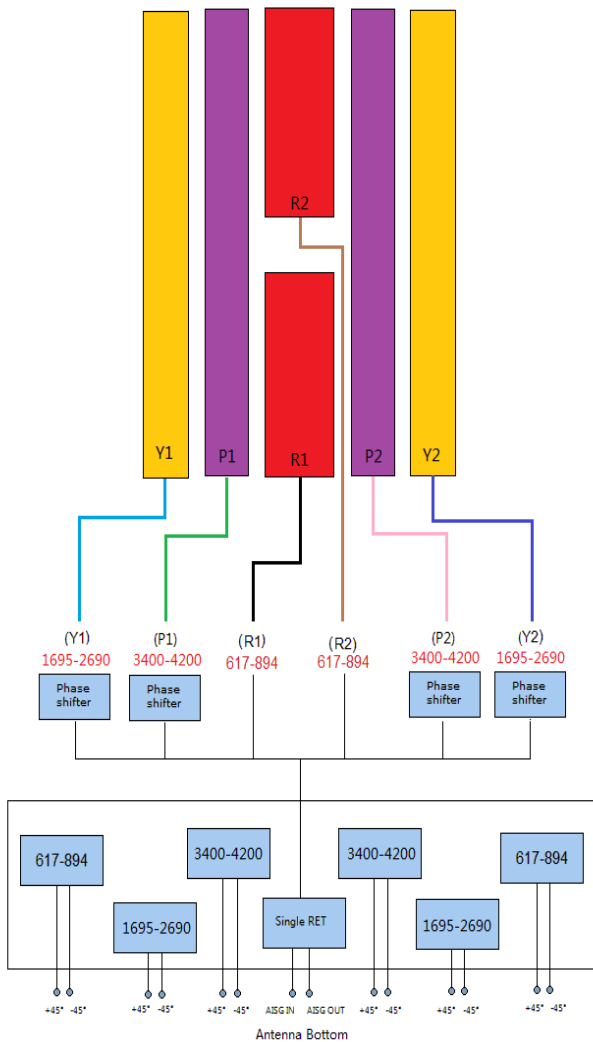
Radome Material	Fiberglass
Connector Type and Location	4.3-10x12, Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Dimensions, HxWxD(mm)/(inches)	1800 x φ418 / 70.9 x φ16.5
Packing Size(mm)/(inches)	2100 x 525 x 525 / 82.7 x 20.7 x 20.7
Weight ,w/o Mounting kit(kg)/(lbs)	49.5 / 108.9
Weight w/ Fixed Bracket(kg)/(lbs)	60.5 / 133.1(300mm/11.8inches)
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	70.5 / 155.1
Max. Wind Velocity(mph)	150
Mounting hardware	φ 50 mm ~ φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 100mph (Frontal/lateral/Rearside(N))	486



Integrated RET Properties

RET Type		4 x Type 1 Single RET
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA

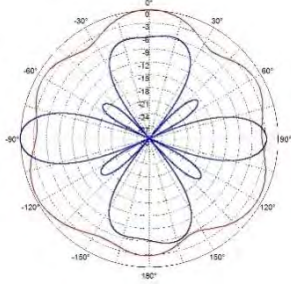
COMPREHENSIVE TILT CONFIGURATION



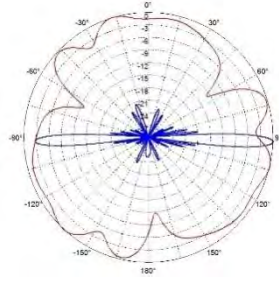
Frequency Range	Array	RET Unique ID
617-894MHz	R1	
617-894MHz	R2	
1695-2690MHz	Y1	NDPMXXXXXXXX-1727Y1
1695-2690MHz	Y2	NDPMXXXXXXXX-1727Y2
3400-4200MHz	P1	NDPMXXXXXXXX-3442P1
3400-4200MHz	P2	NDPMXXXXXXXX-3442P2



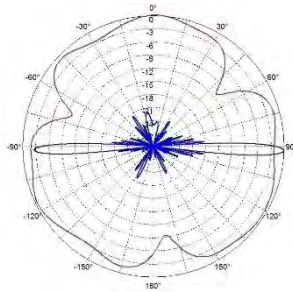
[Radiation Pattern]



617-894MHz
(Blue E-plane, Red H-plane)



1695-2690MHz
(Blue E-plane, Red H-plane)



3400-4200MHz
(Blue E-plane, Red H-plane)



CAN2-1LX7HX

Quasi-omni Canister Antenna

16-ports.617~894MHz/1695~2690MHz×4/3400~4200MHz×2/5150~5925MHz 6 / 10 / 6 / 6 dBi
0° / 0° / 0° / 0° Antenna.



Electrical Specifications

Frequency Range(MHz)	617-894	4x1695-2690			2x3400-3800	5150-5925
		1695-2180	2305-2360	2496-2690		
Polarization	±45°					
Horizontal Beamwidth(°)	360	360	360	360	360	360
Vertical Beamwidth(°)	40	17.5	14.5	13	34	22
Gain (dBi)	6	8.6	9.4	9.7	5.5	5.5
Electrical Downtilt(°)	0	0	0	0	0	0
VSWR	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5
Isolation: intra-system (dB)	≥20					
Isolation: inter-system (dB)	≥20					
Intermodulation IM3 (2×43dBm carrier)	≤-150dBc	≤-150dBc			/	/
Impedance (Ω)	50					
Max. Power per Input (at 50°C ambient temperature)	100	100			50	10
Lightning Protection	DC Ground					

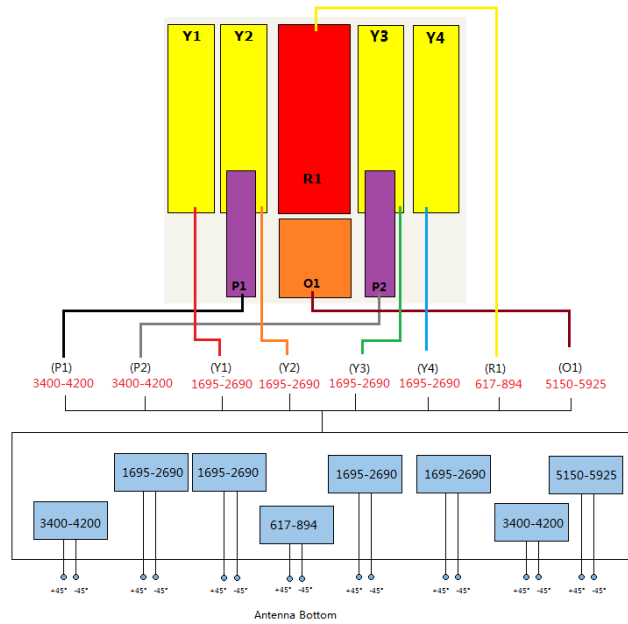


Mechanical Specifications

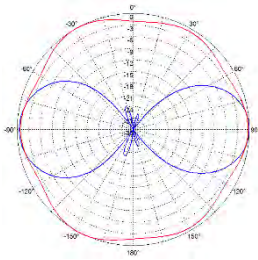
Radome Material	ASA
Connector Type and Location	16 x 4.3-10 Female (Bottom)
Dimensions,HxWxD(mm)/(inches)	600 x Φ405 /23.6 × Φ15.9
Packing Size(mm)/(inches)	900 x 485 x 485 /35.4 x19.1x19.1
Weight, w/o Mounting kit(kg)/(lbs)	13/28.6
Weight,w/ Fixed Bracket (kg)/(lbs)	19/41.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	25/55
Max. Wind Velocity(mph)	149
IP Grade	IPX5
Radome color	Gray
Operating temperature (°C)	-40~60
Operational Humidity(%)	≤95%
Wind Load at 100mph(N)	270



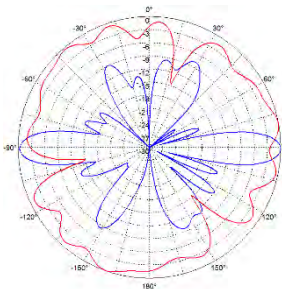
COMPREHENSIVE TILT CONFIGURATION



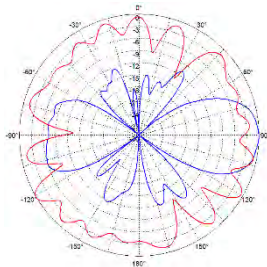
[Radiation Pattern]



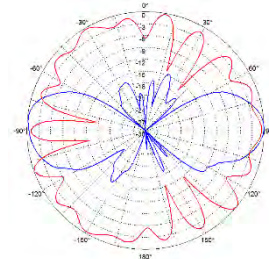
617-894MHz
(blue E-plane, red H-plane)



1695-2690MHz
(blue E-plane, red H-plane)



3400-4200MHz
(blue E-plane, red H-plane)



5150-5925MHz
(blue E-plane, red H-plane)



CAN2-2LX6HX

Quasi-omni Canister Antenna

16-ports.617~894MHz×2/1695~2690MHz×4/3400~4200MHz×2 4 / 10 / 6 dBi 0° / 0° / 0° / 0° Antenna.

Electrical Specifications

Frequency Range(MHz)	2x617-894	4x1695-2690			2x3400-4200
		1695-2180	2305-2360	2496-2690	
Polarization	±45°				
Horizontal Beamwidth(°)	360	360	360	360	360
Vertical Beamwidth(°)	83	16	14	12	34
Gain (max.)(dBi)	4.2	8.8	9.8	10.3	7.6
Gain(avg.)(dBi)	3.3	8.0	8.9	9.4	6.8
Electrical Downtilt(°)	0	0	0	0	0
VSWR	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5
Isolation: intra-system (dB)	≥20				
Isolation: inter-system (dB)	≥20				
Intermodulation IM3 (2×43dBm carrier)	≤-150dBc	≤-150dBc			/
Impedance (Ω)	50				
Max. Power per Input (at 50°C ambient temperature)	100	100			50
Lightning Protection	DC Ground				

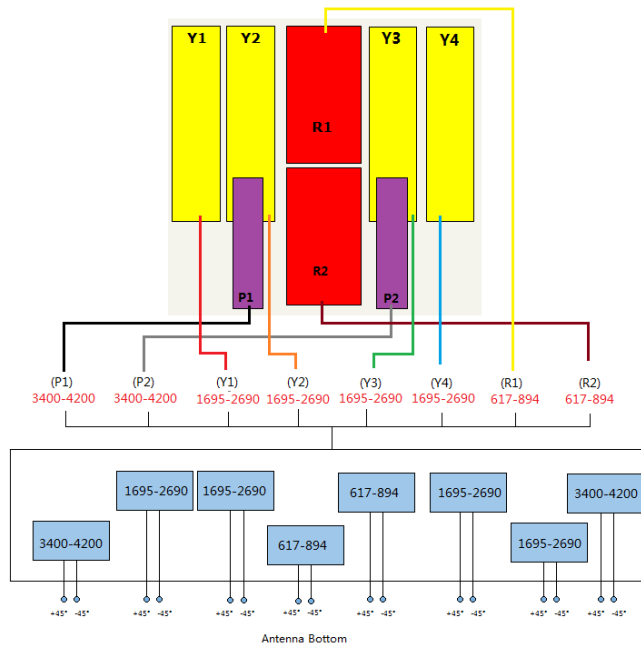


Mechanical Specifications

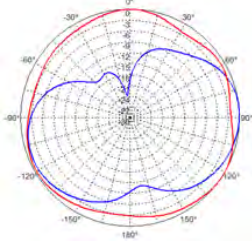
Radome Material	ASA
Connector Type and Location	16 x 4.3-10 Female (Bottom)
Dimensions,HxWxD(mm)/(inches)	600 x Φ440 /23.6 × Φ17.3
Packing Size(mm)/(inches)	900 x 525 x 525 /35.4 x20.7x20.7
Weight, w/o Mounting kit(kg)/(lbs)	18/39.6
Weight,w/ Fixed Bracket (kg)/(lbs)	24/52.8
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	30/66
Max. Wind Velocity(mph)	149
IP Grade	IPX5
Radome color	Gray
Operating temperature (°C)	-40~60
Operational Humidity(%)	≤95%
Wind Load at 100mph(N)	295



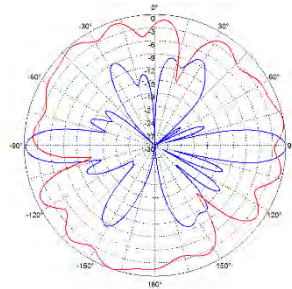
COMPREHENSIVE TILT CONFIGURATION



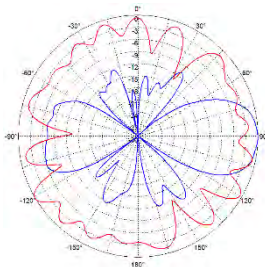
[Radiation Pattern]



617-894MHz
(blue E-plane, red H-plane)



1695-2690MHz
(blue E-plane, red H-plane)



3400-4200MHz
(blue E-plane, red H-plane)



CAN2-2LX7HX

Quasi-omni Canister Antenna

18-ports.617~894MHz×2/1695~2690MHz×4/3400~4200MHz×2/5150~5925MHz 4 / 10 / 7 / 5 dBi 0° / 0° / 0° / 0° Antenna.



Electrical Specifications

Frequency Range(MHz)	2x617-894	4x1695-2690			2x3400-4200	5150-5925
		1695-2180	2305-2360	2496-2690		
Polarization	±45°					
Horizontal Beamwidth(°)	360	360	360	360	360	360
Vertical Beamwidth(°)	83	16	14	12	34	22
Gain(dBi)	4.2	8.8	9.8	10.2	7.5	5.3
Electrical Downtilt(°)	0	0	0	0	0	0
VSWR	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5
Isolation: intra-system (dB)	≥20					
Isolation: inter-system (dB)	≥20					
Intermodulation IM3 (2×43dBm carrier)	≤-153dBc	≤-153dBc			/	/
Impedance (Ω)	50					
Max. Power per Input (at 50°C ambient temperature)	100	100			50	10
Lightning Protection	DC Ground					

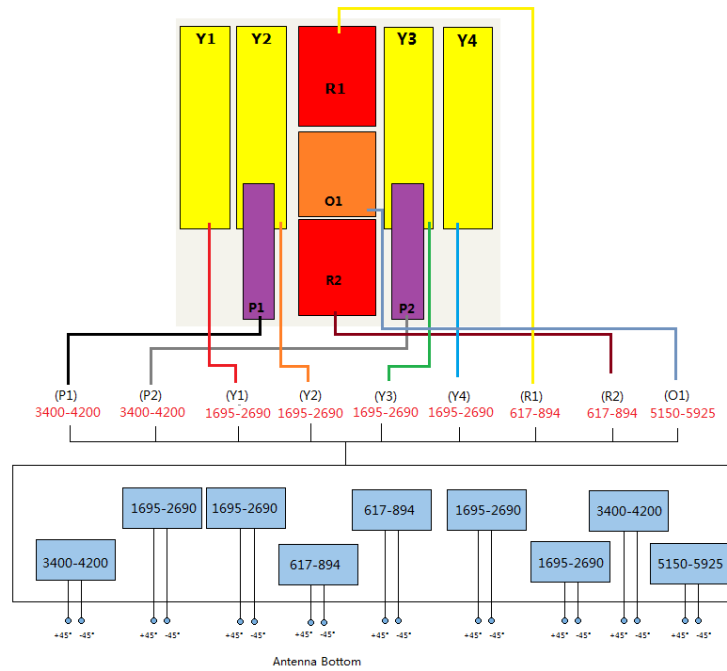


Mechanical Specifications

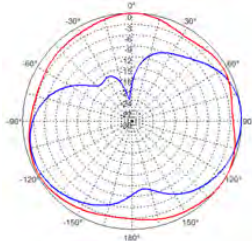
Radome Material	ASA
Connector Type and Location	18 x 4.3-10 Female (Bottom)
Dimensions,HxWxD(mm)/(inches)	600 x Φ405 /23.6 × Φ15.9
Packing Size(mm)/(inches)	900 x 485 x 485 /35.4 x19.1x19.1
Weight, w/o Mounting kit(kg)/(lbs)	13.5/29.7
Weight,w/ Fixed Bracket (kg)/(lbs)	19.5/42.9
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	25.5/56.1
Max. Wind Velocity(mph)	149
IP Grade	IPX5
Radome color	Gray
Operating temperature (°C)	-40~60
Operational Humidity(%)	≤95%
Wind Load at 100mph(N)	270



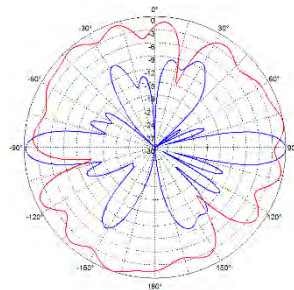
COMPREHENSIVE TILT CONFIGURATION



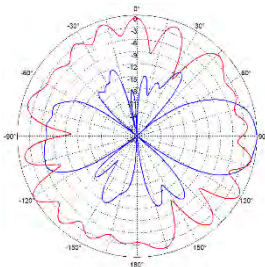
[Radiation Pattern]



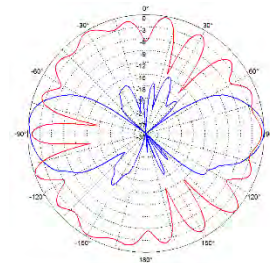
617-894MHz
(blue E-plane, red H-plane)



1695-2690MHz
(blue E-plane, red H-plane)



3400-4200MHz
(blue E-plane, red H-plane)



5150-5925MHz
(blue E-plane, red H-plane)



CAN2-2A4J2R2V-0R360

Quasi Omni Canister Antenna

20-ports 617~906MHz×2/1695~2700MHz×4/3300~4200MHz×2/5150~5925MHz×2 5 / 7/ 10 / 5 dBi 0° / 2° / 0° / 0° Antenna.

Electrical Specifications

Frequency Range(MHz)	2x617-906		4x1695-2700			
	617-806	806-906	1695-1880	1850-1990	1920-2200	2300-2700
Polarization	±45°					
Horizontal Beamwidth(°)	360	360	360	360	360	360
Vertical Beamwidth(°)	73±19.7	75±36	34±9	33±10	30±9	20±7
Gain(dBi)	4.5±0.6	4.8±0.8	6.0±0.7	6.3±0.9	6.5±1.2	7.5±1.1
Electrical Downtilt(°)	0	0	2	2	2	2
VSWR	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5
Isolation: intra-system (dB)	≥25					
Isolation: inter-system (dB)	≥28					
Intermodulation IM3 (2×43dBm carrier)	≤-153dBc					
Impedance (Ω)	50					
Max. Power per Input (at 50°C ambient temperature)	500		300			
Lightning Protection	DC Ground					



Frequency Range(MHz)	2x3300-4200			5150-5925
	3300-3550	3550-3700	3700-4200	5150-5925
Polarization	±45°			
Horizontal Beamwidth(°)	360	360	360	360
Vertical Beamwidth(°)	18±1.8	18.2±2.6	16.5±3.2	18.5±2.1
Gain(dBi)	8.5±0.9	8.3±1	9.5±1.0	5.5±1.3
Electrical Downtilt(°)	0	0	0	0
Upper Sidelobe Suppression(dB)	/	/	/	≥13
VSWR	≤1.5	≤1.5	≤1.5	≤1.5
Isolation: intra-system (dB)	≥25			
Isolation: inter-system (dB)	≥28			
Intermodulation IM3 (2×43dBm carrier)	≤-153dBc			/
Impedance (Ω)	50			
Max. Power per Input (at 50°C ambient temperature)	100			50
Lightning Protection	DC Ground			



INTEGRATED GPS UNIT

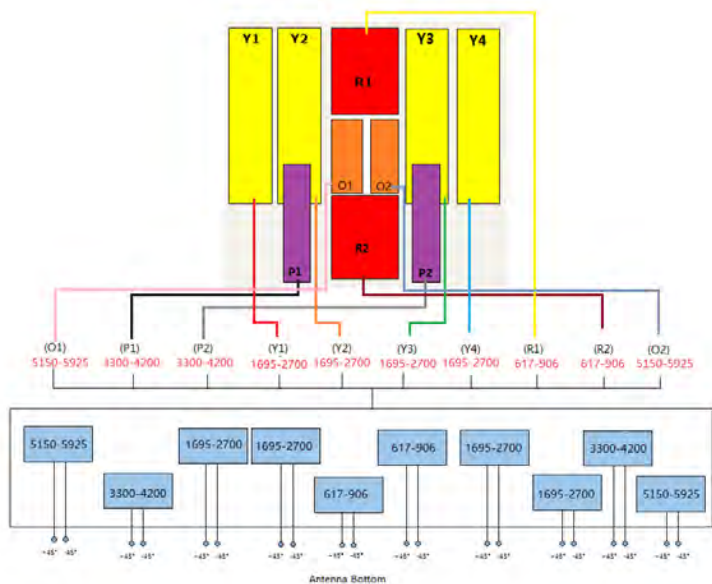
Frequency Range(MHz)	1575.42Mhz±10Mhz
Polarization	Right Hand Circular
Nominal Gain	3dBic at 90° ; -2dBic at 20°
Current Draw	22Ma@5V
Out-of-Band Rejection	>55dB at 1559 Mhz; >60dB at 1625 Mhz;
Amplifier Gain	28dB±3dB
Nominal Impedance	50 ohm
Noise Figure	3.9dB
DC Voltage	2.7-5.5 VDC
VSWR	<2
Connector	N-Type Female

Mechanical Specifications

Radome Material	ASA
Connector Type and Location	20 x 4.3-10 Female, 1xN-Type Female
Dimensions,HxWxD(mm)/(inches)	600 x Φ370 / 23.6 × Φ14.6
Packing Size(mm)/(inches)	900 x 455 x 455 / 35.4 x19.1x17.9
Weight, w/o Mounting kit(kg)/(lbs)	12/26.4
Weight,w/ Fixed Bracket (kg)/(lbs)	18/39.6
Packing Weight (w/ Fixed Bracket) (kg)/(lbs)	24/52.8
Max. Wind Velocity(mph)	150
IP Grade	IPX5
Radome color	Gray
Operating temperature (°C)	-40~60
Operational Humidity(%)	≤95%
Wind Load at 100mph(N)	250

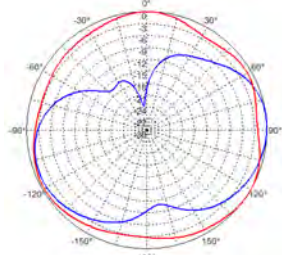


COMPREHENSIVE TILT CONFIGURATION

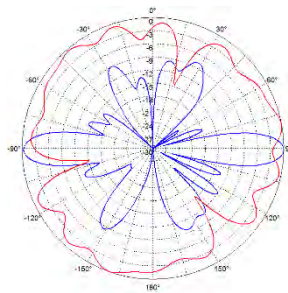


Frequency Range	Array	RET Unique ID
617-906MHz	R1	/
617-906MHz	R2	/
1695-2700MHz	Y1	/
1695-2700MHz	Y2	/
1695-2700MHz	Y3	/
1695-2700MHz	Y4	/
3300-4200 MHz	P1	/
3300-4200 MHz	P2	/
5150-5925 MHz	O1	/
5150-5925 MHz	O2	/

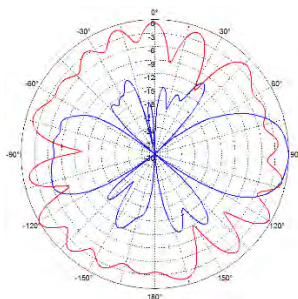
[Radiation Pattern]



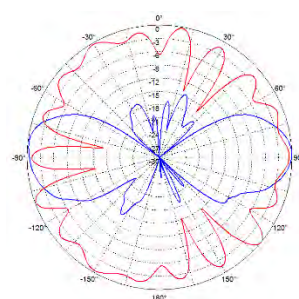
617-906MHz
(blue E-plane, red H-plane)



1695-2700MHz
(blue E-plane, red H-plane)



3300-4200MHz
(blue E-plane, red H-plane)



5150-5925MHz
(blue E-plane, red H-plane)



N263524977151516DVIS

2545-2645x4 / 3400-3600x4 / 3700-5000x2 MHz 77°, 15 / 15 / 16 dBi, 5°-15° / 5°-15° / 5°-15° Tilt
 Antenna With 3 Integrated RCUs and 3 Indicators.

Electrical Specifications



General parameters	Frequency range (MHz)		2545~2645	3400~3600
	Polarization		±45	±45
	Electrical downtilt(°)		5~15	5~15
Calibration and electrical parameters	Coupling factor between calibration port and each antenna port (dB)		-26±2	-26±2
	Max.amplitude tolerance from calibration port to input ports(dB)		≤1	≤1
	Max.phase tolerance from calibration port to input ports(°)		≤10	≤10
	Ports VSWR		<1.5	<1.5
	Max. power per input (W)		≥25	≥25
	Co-polarization isolation between ports(dB)		≥23	≥23
	Cross-polarization isolation between ports(dB)		≥25	≥25
	Intermodulation IM3(2x43dBm carrier)		< -133 dBc	< -133 dBc
Radiation parameters	Single column Beam	Horizontal 3dB beam width(°)	77±15	77±15
		Gain(dBi)	15.5	15.8
		Vertical 3dB beam width(°)	7	5.5
		Cross polar ratio(dB, 0°)	17	17
		Cross polar ratio(dB, ±60°)	8	8
		Front to back ratio(dB)	20	20
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	15	15
	65° Broadcast beam	Gain(dBi)	15.5	15.8
		Horizontal 3dB beam width(°)	65±5	65±5
		Vertical 3dB beam width(°)	7	5.5
		Front to back ratio(dB)	23	23
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	15	15
	Service beam	0°direct beam gain(dBi)	21.0	21.5
		0°direct beam horizontal 3dB beam width(°)	29	22
		±30°direct beam gain(dBi)	19.5	20.0
		±30°direct beam horizontal 3dB beam width(°)	35	28
		0°direct beam cross polar ratio(axial)(dB, 0°)	17	17
		0°direct beam front to back ratio(dB)	23	23



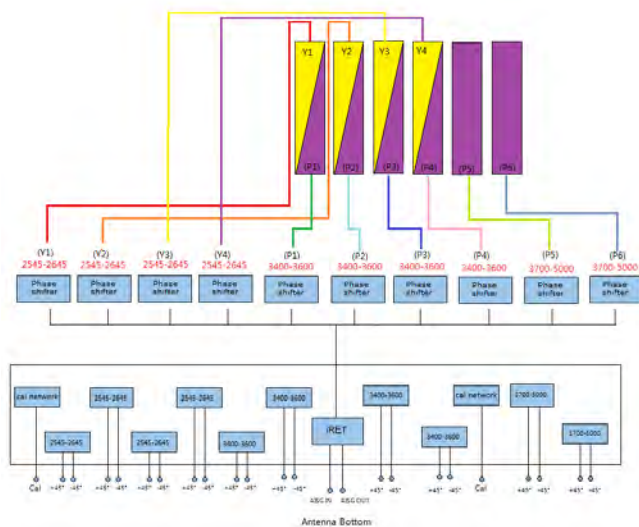
Frequency Range(MHz)		3700-5000	
		3700-4100	4500-5000
Polarization		±45°	
Horizontal 3dB Beamwidth(°)		80±15	65±15
Vertical 3dB Beamwidth(°)		6	5
Gain (dBi)		16.0	16.2
Electrical Downtilt		5°-15°	
Upper Sidelobe Suppression(dB)	First	≥15	≥15
Front-to-Back Ratio (180°±30°)(dB)		≥20	≥20
Cross polar ratio	Main direction(dB)	≥15	≥15
Cross polar Isolation(dB)		≥25	
Interband Isolation(dB)		≥25	
VSWR		< 1.5	
Intermodulation IM3		< -140 dBc(2x43dBm carrier)	
Impedance		50 Ω	
Max. Power per Input (at 50°C ambient temperature)		150 W	
Lightning Protection		DC Ground	

Mechanical Specifications

Radome Material	ASA+20%GF
Connector Type and Location	MQ5 x2 ,Bottom MQ4 x2,Bottom 4.3-10 x4,Bottom iRCU in:1 x 8 pin male iRCU out:1 x 8 pin female
Antenna Dimensions	1020 x φ265mm
Packing Size	1320 x 385 x 385mm
Weight ,w/o Mounting kit(kg)	18
Packing Weight(kg)	26
Mounting hardware	φ 50 mm ~ φ 115 mm
Operational Temperature(°C)	-40 to +65
Operational Humidity(%)	<95
Wind Load at 90m/s (Frontal/lateral/Rearside(N))	1120



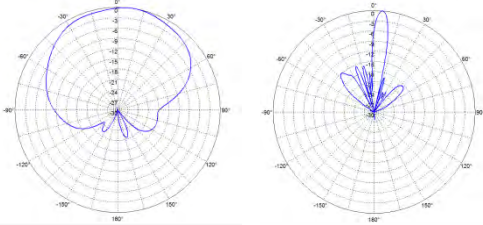
Protocols		Compliant to AISG 2.0/3GPP
Input voltage range		+10~+30VDC(pin 6)
Power consumption		<2W(stand by);<13W(motor activated)
Connectors	AISG	2 x 8 pin connector acc. To IEC 60130-9 Acc.to AISG Daisy chain in:male Daisy chain out:female
	Antenna	Two motor shaft(Embedded motor)
Hardware interface	AISG	RS485A/B(pin5/pin3);Power supply(pin6); DC return(pin7)Acc.to AISG
Adjustment time(full range)		40 sec(typically,depending on antenna)
Adjustment Cycles		≥10000
Torque Max		≥160mN.m
Lightning Protection Rating		IEC 61000-4-5 Current Pulse Profile,8/20 μs 10 Repetitions Min.@ 6kA IEC 61312-1 Annex B Current Pulse Profile, 10/350 μs,200 Repetitions Min. @ 0.6KA



Frequency Range	Array	Connector
2545-2645MHz	Y1	MQ4/MQ5
2545-2645MHz	Y2	MQ4/MQ5
2545-2645MHz	Y3	MQ4/MQ5
2545-2645MHz	Y4	MQ4/MQ5
3400-3600MHz	P1	MQ4/MQ5
3400-3600MHz	P2	MQ4/MQ5
3400-3600MHz	P3	MQ4/MQ5
3400-3600MHz	P4	MQ4/MQ5
3700-5000MHz	P5	4.3-10 Female
3700-5000MHz	P6	4.3-10 Female

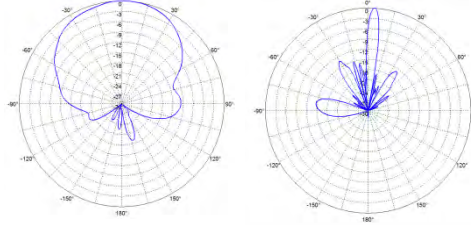


Radiation Pattern (2545 - 2645 MHz)



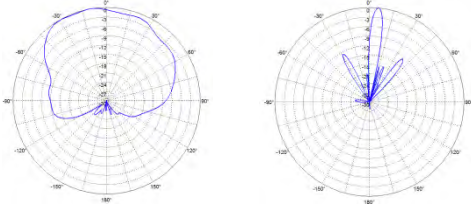
Horizontal Pattern Vertical Pattern

Radiation Patterns (3400 - 3600 MHz)



Horizontal Pattern Vertical Pattern

Radiation Pattern (3700 - 5000MHz)



Horizontal Pattern Vertical Pattern

A map of North America, including Canada, the United States, and Mexico, with various cities and geographical features labeled. The map is overlaid with contact information for DENGYO USA.

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