

TDD : XXXXPoI 2490~2690MHz/3300~3800MHz BCH 16.5 dBi 2~12° Beamforming

FDD :XXXXXXPoI 698~960MHz×2/1710~2690MHz×2/1710~2690MHz×2 65°/65°/65° 15.1/15.8/16dBi 2°~12°/2°~12°/2°~12° Integrated and replaceable RCU (Remote Control Unit) Antenna

Electrical Specifications-Beamforming 8T8R

General Parameters	Frequency range(MHz)		P1-2490~3800	
			2490~2690	3300~3800
General Parameters	Polarization		±45°	
	Electrical downtilt(°)		2~12	
	Electrical downtilt tolerance(°)		±1	
	Coupling factor between calibration port and each antenna port(dB)		-26±2	
Calibration and Electrical Parameters	Max.amplitude tolerance from calibration port to input ports(dB)		<0.9	
	Max.phase tolerance from calibration port to input ports(°)		≤9	
	Ports VSWR		≤1.5	
	Co-polarization isolation between ports(dB)		≥20	
	Cross-polarization isolation between ports(dB)		≥22	
Radiation Parameters	Single Column Beam	Horizontal 3dB beam width(°)	90±15	65±15
		Gain(dBi)	14.3±0.5	15.5±0.6
		Vertical 3dB beam width(°)	7.9±0.5	5.8±0.5
		Cross polar ratio(0°)(dB)	≥15	
		Front to back ratio(dB)	≥22	
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	
	Broadcast Beam	Gain(dBi)	15.5±0.7	16.5±0.8
		SPR(±60°)(%)	≥90	
		Vertical 3dB beam width(°)	7.9±0.5	5.8±0.5
		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±0.8	21±0.8
		0° direct beam horizontal 3dB beam width(°)	≤28	
		0° direct beam sidelobe suppression(dB)	≥10	
		0° direct beam cross polar ratio(axial)(dB)	≥18	
		0° direct beam front to back ratio(dB)	≥25	

Electrical Specifications

Frequency range (MHz)	R1/R2 -698~960				Y1/Y3 -1710~2690			
	698~803	790~862	824~894	880~960	1710~1990	1920~2200	2200~2490	2490~2690
Polarization	$\pm 45^\circ$				$\pm 45^\circ$			
Gain at mid tilt (dBi)	14.0	14.6	14.9	15.1	15.0	15.4	16.0	15.7
Gain over all tilts (dBi)	13.9 $\pm$ 0.6	14.5 $\pm$ 0.5	14.8 $\pm$ 0.5	15.0 $\pm$ 0.5	14.9 $\pm$ 0.5	15.2 $\pm$ 0.5	15.7 $\pm$ 0.5	15.4 $\pm$ 0.5
Horizontal 3dB beamwidth ($^\circ$)	68 $\pm$ 5	66 $\pm$ 5	65 $\pm$ 5	64 $\pm$ 5	68 $\pm$ 6	67 $\pm$ 6	61 $\pm$ 6	58 $\pm$ 6
Vertical 3dB beamwidth ($^\circ$)	11 $\pm$ 0.9	9.9 $\pm$ 0.6	9.6 $\pm$ 0.5	9.1 $\pm$ 0.5	9.2 $\pm$ 0.6	8.3 $\pm$ 0.5	7.3 $\pm$ 0.5	6.6 $\pm$ 0.5
Front to back ratio (dB) Total power, $\pm 30^\circ$	>21	>22	>22	>23	>25	>25	>25	>23
Cross polar ratio (dB) (at Boresight)	>18	>18	>18	>18	>18	>18	>18	>18
Electrical downtilt ($^\circ$)	2~12				2~12			
Sidelobe suppression (dB) (First sidelobe above main beam)	>15	>15	>15	>15	>15	>15	>15	>15
VSWR	<1.5				<1.5			
Isolation: intra-system (dB)	≥ 25				≥ 25			
Isolation: inter-system (dB)	≥ 25				≥ 25			
Intermodulation IM3 (2 $\times$ 43dBm carrier)	≤ -153 dBc				≤ -150 dBc			
Impedance (Ω)	50				50			
Max. power per input (W) @50 $^\circ$ C	400				200			
Lightning protection	Dc Ground				Dc Ground			

Electrical Specifications

Frequency Range (MHz)	Y2/Y4 -1710~2690			
	1710~1990	1920~2200	2200~2490	2490~2690
Polarization	$\pm 45^\circ$			
Gain at mid tilt (dBi)	14.9	15.3	15.8	15.6
Gain over all tilts (dBi)	14.7 $\pm$ 0.5	15.1 $\pm$ 0.6	15.5 $\pm$ 0.8	15.3 $\pm$ 0.5
Horizontal 3dB beamwidth ($^\circ$)	68 $\pm$ 6	67 $\pm$ 6	61 $\pm$ 6	59 $\pm$ 6
Vertical 3dB beamwidth ($^\circ$)	8.9 $\pm$ 1.0	8.0 $\pm$ 0.8	7.0 $\pm$ 0.7	6.3 $\pm$ 0.6
Front to back ratio (dB) Total power, $\pm 30^\circ$	>24	>25	>25	>25
Cross polar ratio (dB) (at Boresight)	>18	>18	>18	>18
Electrical downtilt ($^\circ$)	2~12			
Sidelobe suppression (dB) (First sidelobe above main beam)	>15	>15	>15	>15
VSWR	<1.5			
Isolation: intra-system (dB)	>25			
Isolation: inter-system (dB)	>28			
Intermodulation IM3 (2 $\times$ 43dBm carrier)	≤ -153 dBc			
Impedance (Ω)	50			
Max. power per input (W) @50 $^\circ$ C	200			
Lightning protection	Dc Ground			

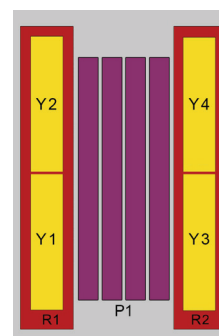
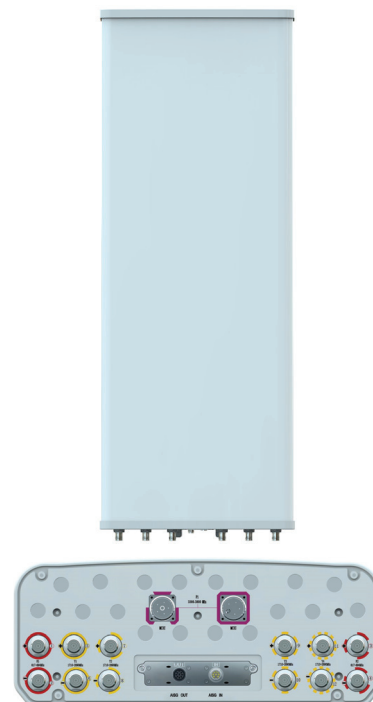
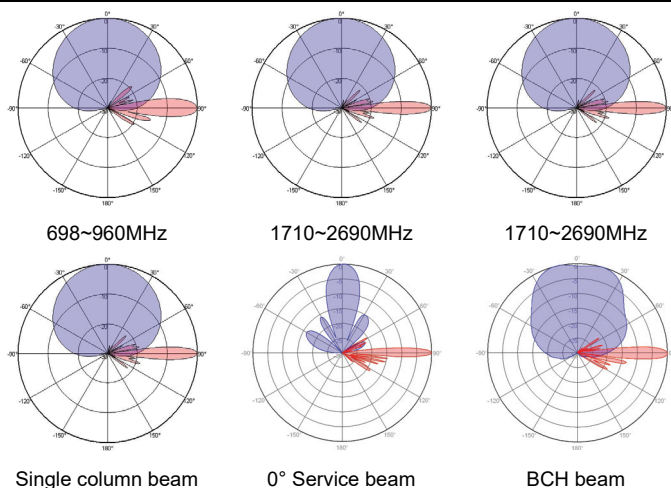
Mechanical Specifications

Connector	TDD:1×(MQ4+MQ5)Connector-Male FDD:12×4.3-10-Female
Connector position	Bottom
Height × width × depth (mm)	2080×499×198
Packing size (mm)	2465×620×350
Antenna weight (kg)	38
Installation kit weight (kg)	5.5
Packing weight (kg)	51
Wind load (N,at 150km/h) Frontal/Lateral/Maximum	1100/325/1240
Max. wind velocity (km/h)	216
Radome material	Fiberglass
Radome color	Gray
Mechanical tilt (°)	0~10
Operating temperature (°C)	-50~65
Mounting hardware (mm)	Φ50~Φ115

Integrated RET Properties

RET model	TRCU-TQ20P3V01
RET type	Integrated (Replaceable)
RET protocol	AISG 2.0/3GPP
Power supply(V)	10-30 DC
Power consumption(W)	≤0.6 (Idle,12V),≤6 (In motion,12V)
Adjustment time (Full Range)	<4Mins
Adjustment cycles	>50,000
Temperature range (°C)	-40~65
Lightning protection	3KA(8/20μs) @ Pin5 & Pin3; 5KA(8/20μs) @ Pin1 / Pin6 & Pin7
Connectors	2×8 Pin circle connector according to IEC 60130-9 and AISG. Daisy chain in:Male,Daisy chain out:Female Pin1:12V;Pin3:RS485B;Pin5:RS485A;Pin6:10-30V; Pin7:GND;Pin2&Pin4&Pin8:N/C

Antenna Pattern Sample For Reference



Ant Array	RET Unique ID
R1	TY00000.....R1
R2	TY00000.....R2
Y1	TY00000.....Y1
Y2	TY00000.....Y2
Y3	TY00000.....Y3
Y4	TY00000.....Y4
P1	TY00000.....P1