

TDD : XXXXPol 3300~3800MHz 65° 17 dBi2~12°Beamforming

FDD : XXXXPol 698~960MHz×2/1710~2690MHz×2 65°/65° 14.5/18dBi 2°~12°/2°~12° Integrated and replaceable RCU (Remote Control Unit) Antenna

Electrical Specifications-TDD				
General Parameters	Frequency range(MHz)		3300~3600	3600~3800
	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(°)		≤8	
	Ports VSWR		≤1.5	
	Co-polarization isolation between ports(dB)		≥20@2~4°;≥25@5~12°	
	Cross-polarization isolation between ports(dB)		≥ 22	
	Inter array spacing(mm)		43(0.51λ@3550MHz)	
Radiation Parameters	Single Column Beam	Horizontal 3dB beam width(°)	90±15	86±15
		Gain(dBi)	14.3±0.5	15±0.6
		Vertical 3dB beam width(°)	≥6	≥5.5
		Cross polar ratio(0°)(dB)	≥15	
		Cross polar ratio(±60°)(dB)	≥8	
		Front to back ratio(dB)	≥23	
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	
	Broadcast Beam	Gain(dBi)	16.5±0.5	16.5±0.6
		SPR(±60°)(%)	≥90	
		Vertical 3dB beam width(°)	≥6	≥5.5
		Front to back ratio(dB)	≥25	
	Service Beam	0° direct beam gain(dBi)	20±0.5	20±0.6
		0° direct beam horizontal 3dB beam width(°)	≤30	≤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	
		±30° direct beam gain(dBi)	18.3±0.5	19±0.6

Electrical Specifications				
Frequency range (MHz)	R1/R2 -698~960			
	698~803	790~862	824~894	880~960
Polarization	$\pm 45^\circ$			
Gain at mid tilt (dBi)	13.4	13.6	13.8	14.2
Gain over all tilts (dBi)	13.3 ± 0.6	13.5 ± 0.5	13.7 ± 0.5	14.1 ± 0.6
Horizontal 3dB beamwidth ($^\circ$)	67 ± 5	68 ± 5	69 ± 6	69 ± 5
Vertical 3dB beamwidth ($^\circ$)	15.8 ± 1.2	14.4 ± 0.9	13.8 ± 0.8	13.0 ± 1.0
Front to back ratio (dB)	> 20	> 22	> 23	> 24
Total power, $\pm 30^\circ$				
Cross polar ratio (dB) (at Boresight)	> 19	> 18	> 19	> 20
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)	R1//R2 ≥ 25 R1,R2//other ≥ 28			
Intermodulation IM3 (2 $\times$ 43dBm carrier)	≤ -150 dBc			
Impedance (Ω)	50			
Max. power per input (W) @50 $^\circ$ C	400			
Lightning protection	Dc Ground			

Electrical Specifications				
Frequency Range (MHz)	Y1/Y2 -1710~2690			
	1710~1990	1920~2200	2200~2490	2490~2690
Polarization	$\pm 45^\circ$			
Gain at mid tilt (dBi)	16.7	17.2	17.7	17.5
Gain over all tilts (dBi)	16.6 ± 0.6	17.1 ± 0.5	17.5 ± 0.5	17.3 ± 0.5
Horizontal 3dB beamwidth ($^\circ$)	67 ± 6	64 ± 5	61 ± 4	59 ± 5
Vertical 3dB beamwidth ($^\circ$)	6.8 ± 0.4	6.0 ± 0.5	5.2 ± 0.4	4.7 ± 0.3
Front to back ratio (dB)	> 25	> 26	> 25	> 25
Total power, $\pm 30^\circ$				
Cross polar ratio (dB) (at Boresight)	> 17	> 22	> 20	> 21
Electrical downtilt ($^\circ$)	2~12			
Sidelobe suppression (dB) (First sidelobe above main beam)	> 17	> 17	> 16	> 15
VSWR	< 1.5			
Isolation: intra-system (dB)	> 25			
Isolation: inter-system (dB)	> 28			
Intermodulation IM3 (2 $\times$ 43dBm carrier)	≤ -150 dBc			
Impedance (Ω)	50			
Max. power per input (W) @50 $^\circ$ C	200			
Lightning protection	Dc Ground			

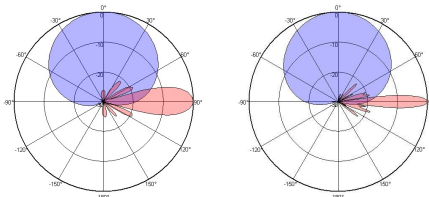
Mechanical Specifications

Connector	17×4.3-10-Female
Connector position	Bottom
Height × width × depth (mm)	1499×499×178
Packing size (mm)	1880×620×330
Antenna weight (kg)	33.5
Installation kit weight (kg)	5.4
Packing weight (kg)	45.5
Wind load (N,at 150km/h) Frontal/Lateral/Maximum	815/167/826
Max. wind velocity (km/h)	216
Radome material	Fiberglass
Radome color	Gray
Mechanical tilt (°)	0~15
Operating temperature (°C)	-50~65
Mounting hardware (mm)	Φ50~Φ115

Integrated RET Properties

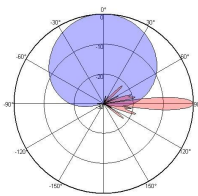
RET model	TRCU-TQ10P2V01
RET type	Integrated (Replaceable)
RET protocol	AISG 2.0 / 3GPP
Power supply(V)	10-30 DC
Power consumption(W)	≤0.6 (Idle, 12V), ≤6 (in Motion, 12V)
Adjustment time (Full Range)	<4Mins
Adjustment cycles	>50,000
Temperature range (°C)	-40~65
Lightning protection	3KA(8/20μs) @ Pin5& Pin3; 5KA(8/20μs) @ Pin1/ Pin6& Pin7
Connectors	2 x 8 Pin circle connector according To IEC 60130-9 And AISG. Daisy chain in:Male,Daisychain out :Female Pin1:12V;Pin3:RS485B;Pin5:RS485A;Pin6:10-30V;Pin7:GND; Pin2 & Pin4 & Pin8:N/C

Antenna Pattern Sample For Reference

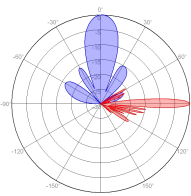


698~960MHz

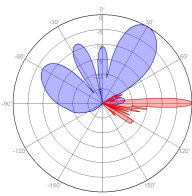
1710~2690MHz



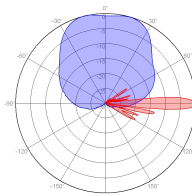
Single column beam



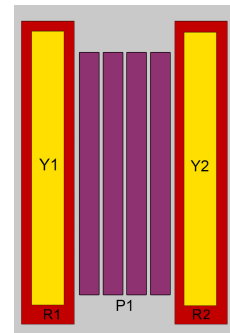
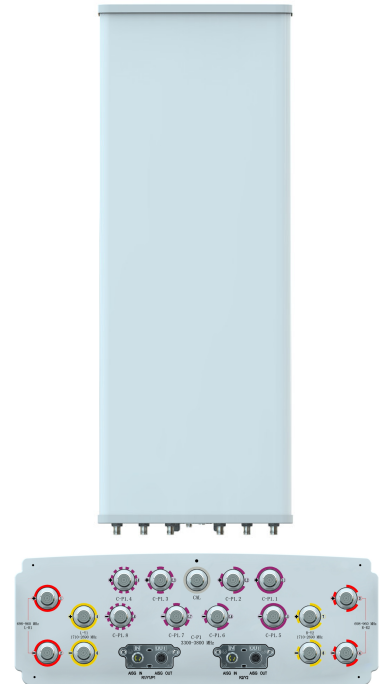
0° Service beam



30° Service beam



BCH beam



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

Beamforming Weights											
Broadcast beamwith 65°		Frequency Range(MHz)	port	port1	port2	port3	port4	port5	port6	port7	port8
P0	Fullpower broadcast tilt2-6	3300~3800	Amplitude	1	1	0	0	0	0	1	1
			Phase(°)	-37	0	0	0	0	0	26	-30
P1	Fullpower broadcast tilt2-6	3300~3800	Amplitude	0	0	1	1	1	1	0	0
			Phase(°)	0	0	26	-30	-37	0	0	0
P0	Fullpower broadcast tilt7-12	3300~3800	Amplitude	1	1	0	0	0	0	1	1
			Phase(°)	-64	0	0	0	0	0	10	-42
P1	Fullpower broadcast tilt7-12	3300~3800	Amplitude	0	0	1	1	1	1	0	0
			Phase(°)	0	0	10	-42	-64	0	0	0
Service Beam		Frequency Range(MHz)	port	port1	port2	port3	port4	port5	port6	port7	port8
+ 45°	0°for tilt2-12	3300~3800	Amplitude	1	1	1	1	0	0	0	0
			Phase(°)	0	0	0	0	0	0	0	0
- 45°	0°for tilt2-12	3300~3800	Amplitude	0	0	0	0	1	1	1	1
			Phase(°)	0	0	0	0	0	0	0	0
+ 45°	30°for tilt2-12	3300~3800	Amplitude	1	1	1	1	0	0	0	0
			Phase(°)	-106	0	106	-148	0	0	0	0
- 45°	30°for tilt2-12	3300~3800	Amplitude	0	0	0	0	1	1	1	1
			Phase(°)	0	0	0	0	-106	0	106	-148