

**TDD : XXXXPol 2490~2690MHz/3300~3800MHz BCH 65°/65°17/17dBi 2~12°/2~12° Beamforming**
**FDD : XXXXPol 698~960MHzx2/1427~2690MHzx2 65°/65° 15/18 dBi 2~12°/2~12° Integrated and replaceable RCU (Remote Control Unit) Antenna**

Electrical Specifications-TDD					
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)		<0.9		
	Max.phase tolerance from calibration port to input ports(°)		≤8		
	Ports VSWR		≤1.5		
	Co-polarization isolation between ports(dB)		≥20@2~5°;≥25@6~12°		
	Cross-polarization isolation between ports(dB)		≥ 22		
	Inter array spacing(mm)		55(0.47λ@2590MHz,0.65λ@3550MHz)		
Radiation Parameters	Single Column Beam	Horizontal 3dB beam width(°)		80±15	65±15
		Gain(dBi)		14.3±0.4	14.8±0.4
		Vertical 3dB beam width(°)		≥6.5	≥4.5
		Cross polar ratio(0°)(dB)		≥15	
		Cross polar ratio(±60°)(dB)		≥10	
		Front to back ratio(dB)		≥22	
		Vertical sidelobe suppression for first sidelobe above main beam(dB)		≥15	
	Broadcast Beam	Gain(dBi)		16.5±0.7	16.5±0.8
		SPR(±60°)(%)		≥90	
		Vertical 3dB beam width(°)		≥6.5	≥4.5
		Cross polar ratio(0°)(dB)		≥18	
		Front to back ratio(dB)		≥25	
	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	
		±30° direct beam gain(dBi)		18±0.8	19±0.8

<b>Electrical Specifications</b>				
Frequency range (MHz)	R1/R2 -698~960			
	698~803	790~862	824~894	880~960
Polarization	±45°			
Gain at mid tilt (dBi)	14	14.6	14.9	15.1
Gain over all tilts (dBi)	13.9±0.6	14.5±0.5	14.8±0.6	15±0.5
Horizontal 3dB beamwidth (°)	69±4	67±4	66±4	65±4
Vertical 3dB beamwidth (°)	11±1	10±0.7	9.7±0.5	9.3±0.5
Front to back ratio(dB) Total power, 180°	>21	>23	>25	>24
Cross polar ratio (dB) (at Boresight)	>18	>19	>17	>18
Electrical downtilt (°)	2~12			
Sidelobe suppression (dB) (First sidelobe above main beam)	>15	>15	>16	>16
VSWR	<1.5			
Isolation: intra-system (dB)	≥25			
Isolation: inter-system (dB)	R1//R2≥25 R1,R2//others≥28			
Intermodulation IM3 (2×43dBm carrier)	≤-150 dBc			
Impedance (Ω)	50			
Max. power per input (W) @50°C	400			
Lightning protection	Dc Ground			

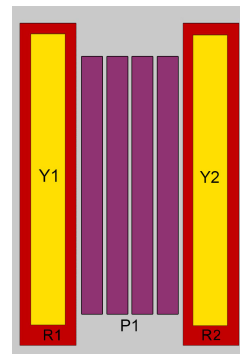
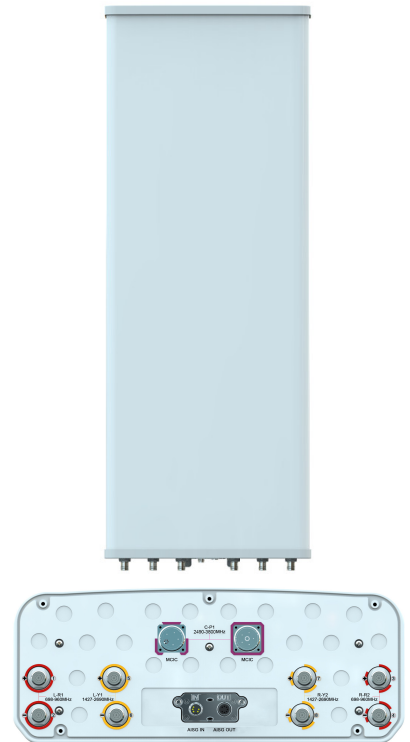
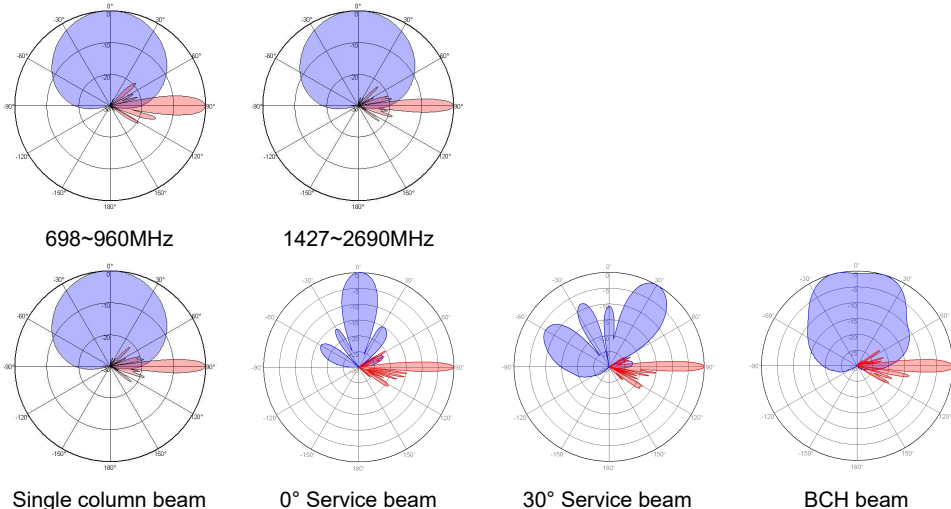
<b>Electrical Specifications</b>					
Frequency Range (MHz)	Y1/Y2 -1427~2690				
	1427~1518	1710~1990	1920~2200	2200~2490	2490~2690
Polarization	±45°				
Gain at mid tilt (dBi)	16	16.7	17.2	17.7	17.5
Gain over all tilts (dBi)	15.9±0.4	16.6±0.4	17±0.6	17.5±0.8	17.2±0.5
Horizontal 3dB beamwidth (°)	63±5	65±6	63±5	60±5	59±6
Vertical 3dB beamwidth (°)	8.3±0.5	6.6±0.6	5.9±0.5	5.4±0.4	4.8±0.4
Front to back ratio (dB) Total power, ±30°	>26	>26	>25	>25	>24
Cross polar ratio (dB) (at Boresight)	>20	>20	>20	>19	>18
Electrical downtilt (°)	2~12				
Sidelobe suppression (dB) (First sidelobe above main beam)	>16	>15	>14	>16	>15
VSWR	<1.5				
Isolation: intra-system (dB)	≥25				
Isolation: inter-system (dB)	≥28				
Intermodulation IM3 (2×43dBm carrier)	≤-150 dBc				
Impedance (Ω)	50				
Max. power per input (W) @50°C	200				
Lightning protection	Dc Ground				

**Mechanical Specifications**

Connector	TDD:1×(MQ4+MQ5) Connector-Male FDD:8×4.3-10-Female
Connector position	Bottom
Height × width × depth (mm)	2080×499×198
Packing size (mm)	2370×565×250
Antenna weight (kg)	40
Installation kit weight (kg)	5.5
Packing weight (kg)	53.9
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-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**


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 tilt2-12	2490~2690	Amplitude	1	1	1	1	0	0	0	0
			Phase(°)	-80	0	0	-80	0	0	0	0
P1	Fullpower broadcast tilt2-12	2490~2690	Amplitude	0	0	0	0	1	1	1	1
			Phase(°)	0	0	0	0	-80	0	0	-80
P0	Fullpower broadcast tilt2-12	3300~3800	Amplitude	1	1	0	0	0	0	1	1
			Phase(°)	-20	0	0	0	0	0	0	0
P1	Fullpower broadcast tilt2-12	3300~3800	Amplitude	0	0	1	1	1	1	0	0
			Phase(°)	0	0	0	-180	-20	0	0	0
Service Beam		Frequency Range(MHz)	port	port1	port2	port3	port4	port5	port6	port7	port8
+ 45°	0°for tilt2-12	2490~3800	Amplitude	1	1	1	1	0	0	0	0
			Phase(°)	0	0	0	0	0	0	0	0
- 45°	0°for tilt2-12	2490~3800	Amplitude	0	0	0	0	1	1	1	1
			Phase(°)	0	0	0	0	0	0	0	0
+ 45°	30°for tilt2-12	2490~2690	Amplitude	1	1	1	1	0	0	0	0
			Phase(°)	0	100	200	300	0	0	0	0
- 45°	30°for tilt2-12	2490~2690	Amplitude	0	0	0	0	1	1	1	1
			Phase(°)	0	0	0	0	0	100	200	300
+ 45°	30°for tilt2-12	3300~3800	Amplitude	1	1	1	1	0	0	0	0
			Phase(°)	0	130	260	390	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	0	130	260	390