

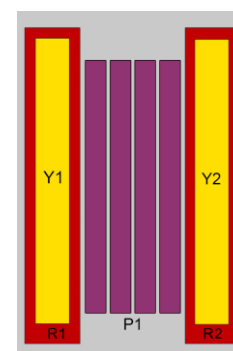
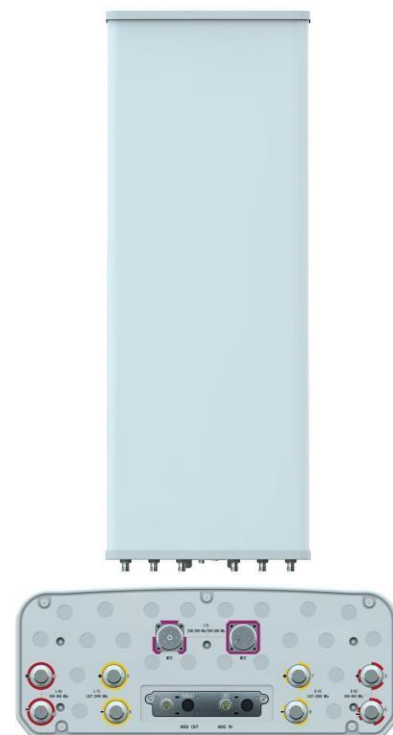
TDD : XXXXPol 2300~2690MHz/3300~3800MHz BCH 65°/65° 17/17dBi 2~12°/2~12° Beamforming
FDD : XXXXPol 698~960MHzx2/1427~2690MHzx2 65°/65° 15/18 dBi 2~12°/2~12° Integrated and replaceable RCU (Remote Control Unit) Antenna

Electrical Specifications-TDD				
General Parameters	Frequency range(MHz)		P1-2300~3800	
			2300~2690	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@2~4°;≥25@5~12°	
	Cross-polarization isolation between ports(dB)		≥ 22	
Radiation Parameters	Single Column Beam	Horizontal 3dB beam width(°)	90±15	65±15
		Gain(dBi)	14.3±0.9	15.3±1.0
		Vertical 3dB beam width(°)	7.2±0.6	4.9±0.5
		Cross polar ratio(0°)(dB)	≥15	
		Cross polar ratio(±60°)(dB)	≥8	
		Front to back ratio(dB)	≥21	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	≥13
	Broadcast Beam	Gain(dBi)	16.5±0.8	16.8±0.8
		SPR(±60°)(%)	≥90	
		Vertical 3dB beam width(°)	7.1±0.6	4.8±0.5
		Cross polar ratio(0°)(dB)	≥18	
		Front to back ratio(dB)	≥25	
	Service Beam	0° direct beam gain(dBi)	20.3±0.8	21.0±0.8
		0° direct beam horizontal 3dB beam width(°)	≤28	≤25
		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±0.8	19.0±0.8

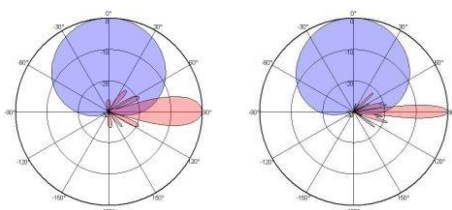
Electrical Specifications				
Frequency range (MHz)	R1/R2 -698~960			
	698~803	790~862	824~894	880~960
Polarization	±45°			
Gain at mid tilt (dBi)	14.5	14.7	14.9	15.2
Gain over all tilts (dBi)	13.9±0.6	14.6±0.6	14.8±0.6	15.1±0.6
Horizontal 3dB beamwidth (°)	69±5	67±5	66±5	65±5
Vertical 3dB beamwidth (°)	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//other≥26			
Intermodulation IM3 (2×43dBm carrier)	≤-150 dBc			
Impedance (Ω)	50			
Max. power per input (W) @50°C	400			
Lightning protection	Dc Ground			

Electrical Specifications					
Frequency Range (MHz)	Y1/Y2 -1427~2690				
	1427~1518	1710~1990	1920~2200	2200~2490	2490~2690
Polarization	±45°				
Gain at mid tilt (dBi)	16.3	16.9	17.4	17.8	17.6
Gain over all tilts (dBi)	16.1±0.4	16.8±0.4	17.2±0.6	17.7±0.8	17.4±0.5
Horizontal 3dB beamwidth (°)	68±5	66±6	64±5	61±5	60±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	>24	>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)	≥26				
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)	2465×620×330
Antenna weight (kg)	37
Installation kit weight (kg)	5.5
Packing weight (kg)	50
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)
Calibration port	Yes
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, Daisy chain out : Female Pin1: 12V; Pin3: RS485B; Pin5: RS485A; Pin6: 10-30V; Pin7: GND; Pin2 & Pin4 & Pin8: N/C
Technical requirements	The manufacturer of the supplied antennas is one of the Participants in the development of technical requirements for N-P-BASTA sectoral antennas (https://www.ngmn.org/about-us/our-partners.html). Full adherence to the recommendations from NGMN when testing antennas described in: "Recommendation on Standards for Passive Base Station Antennas v 12."

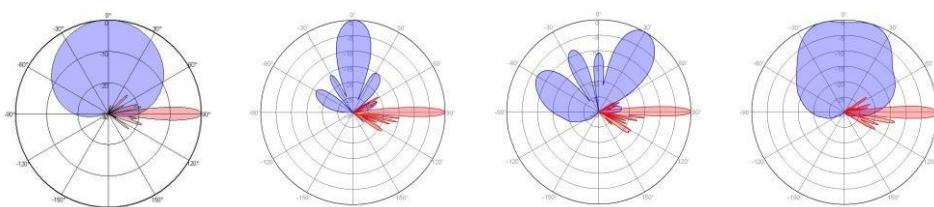


Ant Array	RET Unique ID
R1	TY00000.....R1
R2	TY00000.....R2
Y1	TY00000.....Y1
Y2	TY00000.....Y2
P1	TY00000.....P1



698~960MHz

1427~2690MHz



Single column beam

0° Service beam

30° Service beam

BCH beam