TONGYU

Pre-release Issue

T200CL6R001

TDD : XXXXXXXXPol 2300~2690MHz×4/3300~3800MHz×4 BCH 65° 16/16.5dBi 2°~12°/2°~12 °Beamforming
FDD : XXXXXXPol 694~960MHz×2/1427~2690MHzx2 /1695~2690MHzx2 65°/65°/65° 16.5/17/17dBi 2°~12°/2° ~12°/2°~12°Integrated and replaceable RCU (Remote Control Unit) Antenna

Electrical specifications-TDD				
General parameters	Frequency range(MHz)		Y3-2300~2690	P1-3300~3800
			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
	Co-polarization isolation between ports(dB)		≥20@2~5°;≥25@6~12°	≥20@2~5°;≥25@6~12°
	Cross-polarization isolation between ports(dB)		≥ 22	≥ 22
Radiation parameters	Single column beam	Horizontal 3dB beam width(°)	90±15	60±15
		Gain(dBi)	14.5±0.6	15.0±0.6
		Vertical 3dB beam width(°)	6.5±0.6	6.2±0.6
		Cross polar ratio(0°)(dB)	≥15	≥15
		Cross polar ratio(±60°)(dB)	≥10	≥8
		Front to back ratio(dB)	≥22	≥25
		Vertical sidelobe suppression for first sidelobe above main beam(dB)	≥15	≥14
	Broadcast beam	Gain(dBi)	16±0.8	16.5±0.8
		SPR(±60°)(%)	≥90	≥90
		Vertical 3dB beam width(°)	6.5±0.6	6.2±0.6
		Front to back ratio(dB)	≥25	≥25
	Service beam	0° direct beam gain(dBi)	20.6±0.8	20.8±0.8
		0° direct beam horizontal 3dB beam width(°)	24±3	24±3
		0° direct beam sidelobe suppression(dB)	≥10	≥10
		0° direct beam cross polar ratio(axial)(dB)	≥18	≥18
		0° direct beam front to back ratio(dB)	≥25	≥25
		±30° direct beam gain(dBi)	18.6±0.8	19.0±0.8

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Electrical specifications

Frequency Range (MHz)	R1/R2 -694~960				Y1/Y4 -1695~2690			
	694~803	790~862	824~894	880~960	1695~1990	1920~2200	2200~2490	2490~2690
Polarization	±45°							
Gain at mid tilt (dBi)	15.4	15.8	16	16.3	16.4	16.6	17.3	17
Gain over all tilts (dBi)	15.2±0.5	15.6±0.5	15.8±0.6	16.1±0.5	16.2±0.6	16.4±0.6	17.1±0.6	16.8±0.7
Horizontal 3dB beamwidth (°)	69±4	67±4	66±4	65±4	66±7	62±6	58±6	61±5
Vertical 3dB beamwidth (°)	9.3±0.8	8.4±0.5	8±0.5	7.5±0.5	7.6±0.7	6.8±0.7	5.9±0.5	5.3±0.5
Front to back ratio(dB) Total power, 180°	＞21	＞23	＞25	＞24	＞24	＞26	＞26	＞24
Cross polar ratio (dB) (at Boresight)	＞18	＞19	＞17	＞18	＞16	＞17	＞17	＞16
Electrical downtilt (°)	2~12							
Sidelobe suppression (dB) (First sidelobe above main beam)	＞15	＞15	＞16	＞16	＞16	＞16	＞16	＞16
VSWR	<1.5							
Isolation: intra-system (dB)	≥25							
Isolation: inter-system (dB)	≥25							
Intermodulation IM3 (2×43dBm carrier)	≤-150 dBc							
Impedance (Ω)	50							
Max. power per input (W) @50°C	400				200			
Lightning protection	Dc Ground							

Electrical specifications

Frequency Range (MHz)	Y2/Y5 -1427~2690				
	1427~1518	1710~1990	1920~2200	2200~2490	2490~2690
Polarization	±45°				
Gain at mid tilt (dBi)	15.3	16.0	16.2	16.9	16.6
Gain over all tilts (dBi)	15.1±0.4	15.8±0.4	16.0±0.6	16.7±0.8	16.4±0.5
Horizontal 3dB beamwidth (°)	63±5	64±6	65±5	62±5	59±6
Vertical 3dB beamwidth (°)	9.5±0.5	7.6±0.6	6.8±0.5	5.9±0.4	5.3±0.4
Front to back ratio (dB) Total power, ±30°	＞22	＞23	＞24	＞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)	≥25				
Intermodulation IM3 (2×43dBm carrier)	≤-150 dBc				
Impedance (Ω)	50				
Max. power per input (W) @50°C	200				
Lightning protection	Dc Ground				

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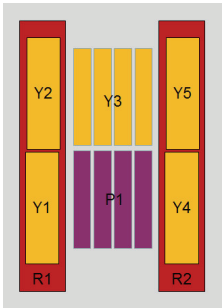
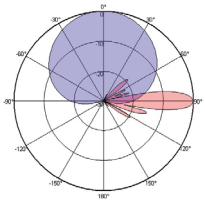
Mechanical specifications	
Connector	TDD:2×(MQ4+MQ5)Connector-Male FDD:12×4.3-10-Female
Connector position	Bottom
Height × width × depth (mm)	2680×499×198
Packing size (mm)	3220×620×330
Antenna weight (kg)	67.4
Installation kit weight (kg)	5.4
Packing weight (kg)	80
Wind load (N,at 150km/h) Frontal/Lateral/Rearside	1485/435/1670
Max. wind velocity (km/h)	216
Radome material	Fiberglass
Radome color	Gray
Mechanical tilt (°)	0~8
Operating temperature (℃)	-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 (℃)	-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

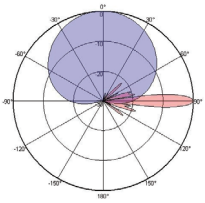


Ant Array	RET Unique ID
R1	TY00000……R1
R2	TY00000……R2
Y1	TY00000……Y1
Y2	TY00000……Y2
Y3	TY00000……Y3
Y4	TY00000……Y4
Y5	TY00000……Y5
P1	TY00000……P1

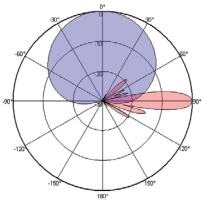
Antenna pattern sample for reference



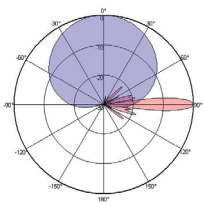
694~960MHz



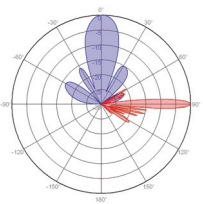
1427~2690MHz



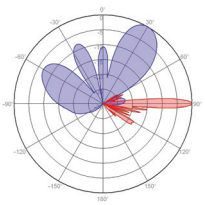
1695~2690MHz



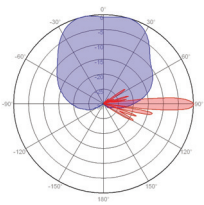
Single column beam



0° Service beam



30° Service beam



BCH beam

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