

22-Port Antenna  
Frequency Range  
HBPW  
Gain  
Tilt

R1	R2	Y1, Y2	Y3, Y4, Y5	P1
698-960	698-960	1427-2690	1710-2690	3300-3800
65	65	65	65	75
16.5	16.5	18	17.5	16
2-12	2-12	2-12	2-12	2-12

Model Number		CP22-2L5M4T-65/75-17/18/16RT-1A		
Electrical specifications				
		R1, R2		
Frequency Range(MHz)		698-960		
		698-806	790-894	880-960
Gain(dBi)	at mid Tilt	16.0	16.3	16.6
	over all Tilts	15.8 ± 0.5	16.1 ± 0.5	16.4 ± 0.5
Horizontal Pattern:				
Azimuth Beamwidth(o)		66±6.5	61±4.5	57±6.5
Front to back Ratio Co-polar, ±30°(dB)		>25	>25	>25
Cross Polar Discrimination at Boresight(dB)		>17	>17	>17
Vertical Pattern:				
Vertical-3dB Beamwidth (o)		8.2±0.6	7.4±0.6	6.8±0.6
Electrical Downtilt (°)		2-12, continuously adjustable		
First Upper Side Lobe Suppression (dB)		>15	>15	>15
Cross-Polar Isolation (dB)		> 25		
Port to Port Isolation (dB)		> 25(R1//R2), > 28(R1//Y1, Y2, Y3, Y4, Y5, P1)		
Max. Average Input Power per Port (W)		250		

Preliminary values based on NGMN-P-BASTA V12.0

Model Number		CP22-2L5M4T-65/75-17/18/16RT-1A				
Y1, Y2						
Frequency Range(MHz)		1427-1518	1710-2690			
		1427-1518	1710-1920	1920-2170	2300-2400	2490-2690
Gain(dBi)	at mid Tilt	15.4	16.85	17.0	17.2	17.4
	over all Tilts	15.2 ±0.6	16.3±0.5	16.8 ±0.6	17.0±0.5	17.2±0.5
Horizontal Pattern:						
Azimuth Beamwidth(°)		68±8.5	69±8.5	61±6.5	60±5.5	56±6.5
Front to back Ratio Co-polar, ±30°(dB)		>25	>25	>25	>25	>25
Cross Polar Discrimination at Boresight(dB)		>17	>16	>16	>16	>17
Vertical Pattern:						
Elevation Beamwidth(°)		9.1±0.6	7.2±0.7	6.4±0.8	5.9±0.5	5.4±0.6
Electrical Downtilt(°)		2-12, continuously adjustable				
First Upper Side Lobe Suppression(Typ.) (dB)		>15	>15	>15	>15	>15
Cross-Polar Isolation (dB)		> 26	> 26			
Port to Port Isolation (dB)		> 28	> 28			
Max. Average Input Power per Port (W)		200				

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Y3, Y4, Y5						
Frequency Range(MHz)		1710-2690				
		1710-1880	1850-1990	1920-2170	2300-2400	2490-2690
Gain(dBi)	at mid Tilt	16.2	16.6	16.8	17.2	17.2
	over all Tilts	16.0±0.6	16.4±0.6	16.6±0.6	17.0±0.6	17.0±0.6
Horizontal Pattern:						
Azimuth Beamwidth(o)		68±7.5	65±7.5	62±7.0	58±7.5	58±7.5
Front to back Ratio Co-polar, ±30°(dB)		≥25	≥25	≥25	≥25	≥25
Cross Polar Discrimination at Boresight(dB)		>16	>16	>17	>17	>17
Vertical Pattern:						
Elevation Beamwidth(o)		6.8±0.6	6.4±0.6	6.0±0.6	5.2±0.5	4.8±0.6
Electrical Downtilt(o)		2-12, continuously adjustable				
First Upper Side Lobe Suppression (dB)		>15	>15	>15	>15	>15
Cross-Polar Isolation (dB)		> 26				
Port to Port Isolation (dB)		> 26				
Max. Average Input Power per Port (W)		200				

Preliminary values based on NGMN-P-BASTA V12.0

Region	United States	Europe, Middle East, and Africa	Canada, Caribbean, and Latin America	Asia-Pacific
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Product Specification Sheet		CP22-2L5M4T-65/75-17/18/16RT-1A	Issue 1.5	Dated: 2-26-2024

Electrical specifications, all systems:	
Polarization	+45° /-45°
Impedance (Ω)	50
VSWR	<1.5
Return Loss (dB)	> 14
PIM3 (2x43 dBm carrier) (dBc)	<-150(R1, R2, Y1, Y2, Y3, Y4, Y5)
Lightning Protection	DC Ground

Preliminary values based on NGMN-P-BASTA V12.0

TDD LTE Electrical Specifications

		P1		
		3300-3800		
		3300-3600	3600-3800	
General parameters	Frequency range (MHz)			
	Polarization	±45°		
	Electrical down-tilt (o)	2-12		
	Impedance (Ω)	50		
	Lightning Protection	DC Ground		
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)	≤1.0		
	Max. phase tolerance from calibration port to input ports (°)	≤9		
	Ports VSWR	<1.5		
	Avg. power capacity (W)	25		
	Intra-band isolation (dB)	≥20		
	Inter-band isolation (dB)	≥23		
Radiation parameters	Single column beam	Horizontal 3dB beam width (°)	75±15	70±15
		Gain (dBi)	15.1±1	15.5±1
		Vertical-3dB Beamwidth (o)	6.6±0.8	6.0±0.6
		Cross Polar Discrimination at Boresight (dB)	≥15	≥15
		Cross Polar Discrimination over Sector (dB)	≥8	≥8
		First upper side lobe suppression (dB)	≥15	≥15
		Front to back ratio (dB)	≥23	≥23
	65° Broadcast Beam	Horizontal 10dB beam width (°)	115	108
		Gain (dBi)	16.5	17.0
		Front to back ratio (dB)	≥25	≥25
		First upper side lobe suppression (dB)	≥15	≥15
	Service beam	0° direct beam gain (dBi)	20.1	20.5
		0° direction beam horizontal 3dB beam width (°)	26	24
		0° direction beam cross polar ratio at Beam-peak (dB)	≥16	≥17
		0° direction beam front to back ratio (dB)	≥27	≥28
		0° direction beam Horizontal Sidelobe (dB)	12	12
		±30° direction beam gain (dBi)	18.6	19.0
		±30° direction beam horizontal 3dB beam width (°)	28	25
	Soft split multi-beam	±30° direction beam front to back ratio (dB)	≥24	≥25
		Gain (dBi)	19.1	19.5
		Horizontal 3dB beam width (°)	31	29
	Front to back ratio (dB)	≥25	≥25	

Preliminary values based on NGMN-P-BASTA V12.0

5G NR Electrical Specifications				
			P1	
Frequency range (MHz)			3300-3800	
			3300-3600	3600-3800
Radiation parameters	Single column beam	Horizontal 3dB beam width (°)	75±15	70±15
		Gain (dBi)	15.1±1	15.5±1
		Vertical-3dB Beamwidth (o)	6.6±0.8	6.0±0.6
		Cross Polar Discriminationat Boresight (dB)	≥15	≥15
		Cross Polar Discriminationover Sector (dB)	≥8	≥8
		First upper side lobe suppression(dB)	≥15	≥15
	NR Broadcast Beam (±13°、±43° Four narrow beam)	Horizontal beam width (°)	65	65
		Gain (dBi)	20.0	20.5
		Front to back ratio(dB)	≥25	≥25
		First upper side lobe suppression(dB)	≥15	≥15
	NR Service beam	0° direct beam gain (dBi)	20.5	21
		0° direction beam horizontal 3dB beam width (°)	26	24
		0° direction beam cross polar ratio at Beam-peak (dB)	≥16	≥17
		0° direction beam front to back ratio (dB)	≥27	≥28
		0° direction beam Horizontal Sidelobe (dB)	12	12

Notes :

The 5G NR broadcast beam is the envelope of SSB(synchronization signal block ±13° Beam、 ±43°Beam) sweeping beams and the gain is the maximum gain of SSB sweeping beams.

Preliminary values based on NGMN-P-BASTAV12.0

### Mechanical Specifications

Connector Type	4.3/10(F) x14 + 1xMQ5 Male+1 MQ4 Male
Connector position	Bottom
Electrical Tilt Control	Integrated RET, Each Band Individually Adjustable
Mechanical Tilt Range	0-10
Radome Material	Fiberglass
Antenna Weight(kg)	42/51 (clamps incl.)
Bracket Diameter(mm)	50-125
Maximum Wind Speed(km/h)	200
Wind Load frontal [N] at 150 Km/h	545
Wind Load rear side[N] at 150 Km/h	675
Wind Load lateral [N] at 150 Km/h	645
Operating Temperature (°C)	-40 ~+60
Antenna Dimensions (H x W x D) (mm)	2697x497x197
Packing Size (H x W x D) (mm)	2897x592x317

### Integrated RET Specifications

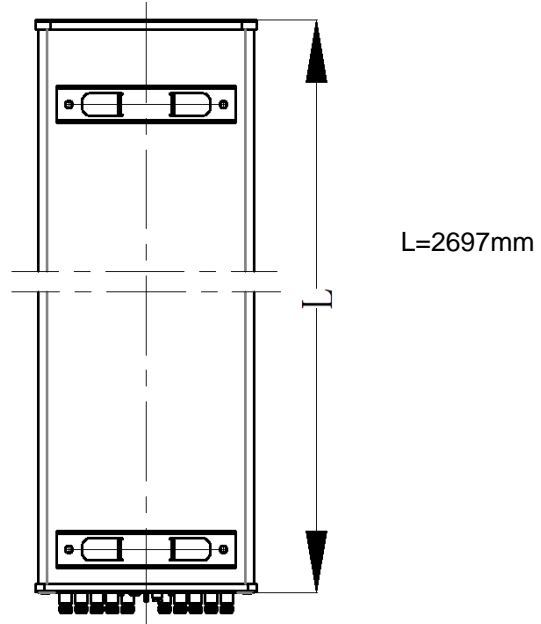
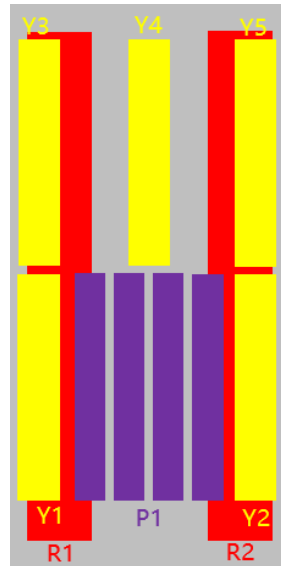
Protocols	Compliant With AISGV2.0 And 3GPP
Supply Voltage, VDC	10-30DC
Power Consumption	<2W (standby); < 10W (motor actived)
Safety Standard	Compliant to EN 60950/UL 60950/ RoHs (Restriction of Hazardous Substances), CE
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile, Line to Ground 8/20 us @ 6kA ≥±5 Repetitions Line to line , 8/20 us @ 3kA ≥±5 Repetitions
Connectors	2 x 8 Pins Connector According To IEC60130-9 AND AISG 1 x Daisy Chain In : Male 1 x Daisy Chain Out : Female Pin3:RS485B; Pin5:RS485A; Pin6:10~30V; Pin7: DC return

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Product Specification Sheet		CP22-2L5M4T-65/75-17/18/16RT-1A	Issue 1.5	Dated: 2-26-2024

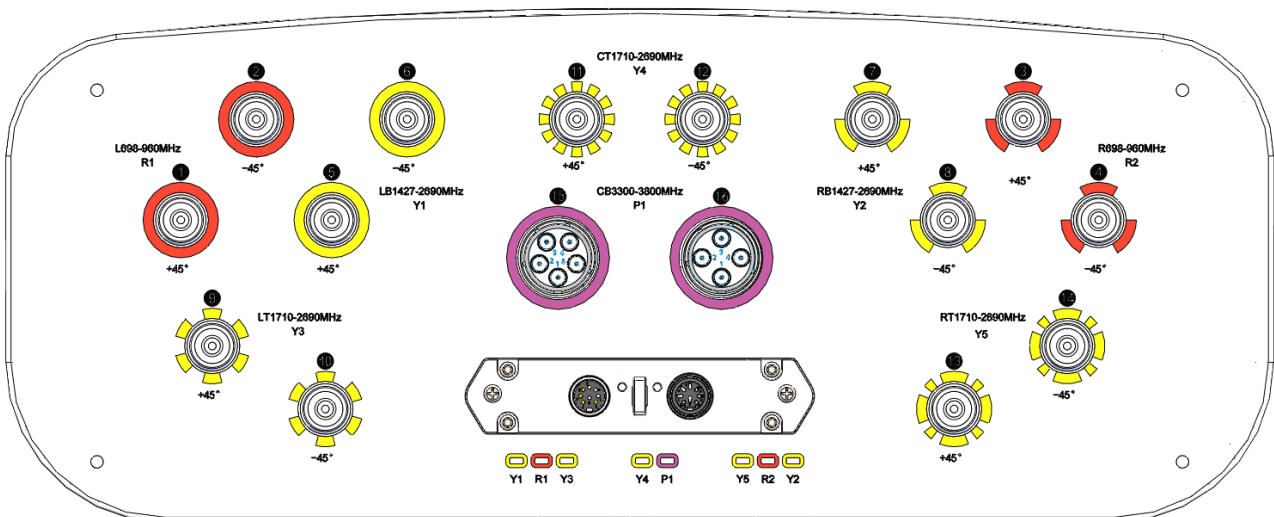
Female connector: 4 PINs ,Male connector: 4 PINs

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### Arrays of the antenna



### Ports of the antenna



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