

6888388NG

5-Band, 17-Port, 65°, XPOL, TDD Hybrid Panel Antenna, Variable Tilt, 2197 mm

- 5-Band antenna, Dual polarisation, 17 connectors
- Independent, continuously adjustable tilt on each band 2-12° / 2-12° / 2-12° / 2-12° / 2-10°
- RET version, 3GPP/AISG2.0 with five integrated RCU

ACCESS PORT DESCRIPTION (CONNECTORS)

The antenna has 17 colour-coded connectors located at the bottom face.

Frequency Designation	R1	R2	Y1	Y2	Y3
Frequency Range	690-960 MHz	690-960 MHz	1695-2690 MHz	1695-2690 MHz	2300-2690 MHz
Polarisation	Xpol	Xpol	Xpol	Xpol	Xpol
Horizontal Beamwidth	65°	65°	65°	65°	65°
Electrical Downtilt Range	2-12°	2-12°	2-12°	2-12°	2-10°
Connector Type	(2x) 4.3-10 Female	(2x) 4.3-10 Female	(2x) 4.3-10 Female	(2x) 4.3-10 Female	(1x) MQ5 Male (4 RF + 1 Calibration) & (1x) MQ4 Male (4 RF)

ELECTRICAL CHARACTERISTICS

ELECTRICAL CHARACTERISTICS		R1, R2			
		690-960 MHz			
Frequency Bands		690-960 MHz			
		690-806 MHz	790-894 MHz	880-960 MHz	
Gain	at Mid Tilt	14.8 dBi	15.4 dBi	15.7 dBi	
	Over All Tilts	14.6 ± 0.5 dBi	15.2 ± 0.5 dBi	15.5 ± 0.4 dBi	
Input Impedance		50Ω			
VSWR		< 1.5			
Return loss		> 14 dB			
Polarisation		±45°			
Horizontal Beamwidth (-3 dB)		65° ± 4.4°	60° ± 3.6°	58° ± 4.6°	
Vertical Beamwidth (-3 dB)		11.9° ± 0.9°	10.6° ± 0.6°	9.4° ± 0.6°	
Electrical Downtilt Range		2-12°			
Cross-Polar Isolation		> 26 dB			
Port-to-Port Isolation		> 26 dB (R1//R2); > 28 dB (R1//Y1,Y2,Y3)			
Tilt Accuracy		< 1°	< 1°	< 1°	
Upper Sidelobe Suppression	First Upper Lobe	> 16 dB	> 16 dB	> 16 dB	
	Peak to 20°	> 15 dB	> 15 dB	> 15 dB	
Front-to-Back Ratio (@ 180° ± 30°)		> 24 dB	> 25 dB	> 25 dB	
Cross Polar Ratio	Main Direction (0°)	> 18 dB	> 18 dB	> 18 dB	
	Sector Edges (±60°)	> 8 dB	> 8 dB	> 8 dB	
Maximum Average Power Per Port (at 50° C ambient temperature)		250 W			
Intermodulation 3rd Order, 2 x 43 dBm carrier		< -150 dBc			
Grounding		DC Ground			

Standard values based on NGMN-P-BASTA version 10.0 recommendation.



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ELECTRICAL CHARACTERISTICS		Y1 , Y2				
Frequency Bands		1695-2690 MHz				
		1695-1880 MHz	1850-1990 MHz	1920-2170 MHz	2300-2400 MHz	2490-2690 MHz
Gain	at Mid Tilt	16.8 dBi	17.1 dBi	17.4 dBi	17.6 dBi	17.4 dBi
	Over All Tilts	16.6 ± 0.6 dBi	16.9 ± 0.5 dBi	17.2 ± 0.5 dBi	17.4 ± 0.4 dBi	17.2 ± 0.5 dBi
Input Impedance		50Ω				
VSWR		< 1.5				
Return loss		> 14 dB				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		67° ± 6.5°	64° ± 6.5°	62° ± 6.5°	58° ± 5.5°	60° ± 6.0°
Vertical Beamwidth (-3 dB)		6.8° ± 0.8°	6.2° ± 0.7°	5.8° ± 0.9°	5.1° ± 0.5°	4.8° ± 0.7°
Electrical Downtilt Range		2-12°				
Cross-Polar Isolation		> 26 dB				
Interband Isolation		> 28 dB				
Tilt Accuracy		< 1°	< 1°	< 1°	< 1°	< 1°
Upper Sidelobe Suppression	First Upper Lobe	> 16 dB	> 16 dB	> 16 dB	> 16 dB	> 16 dB
	Peak to 20°	> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 15 dB
Front-to-Back Ratio (@ 180° ± 30°)		> 25 dB	> 25 dB	> 25 dB	> 26 dB	> 26 dB
Cross Polar Ratio	Main Direction (0°)	> 17 dB	> 17 dB	> 18 dB	> 19 dB	> 19 dB
	Sector Edges (±60°)	> 8 dB	> 7 dB	> 7 dB	> 6 dB	> 4 dB
Maximum Average Power Per Port (at 50° C ambient temperature)		200 W				
Intermodulation 3rd Order, 2 x 43 dBm carrier		< -150 dBc				
Grounding		DC Ground				

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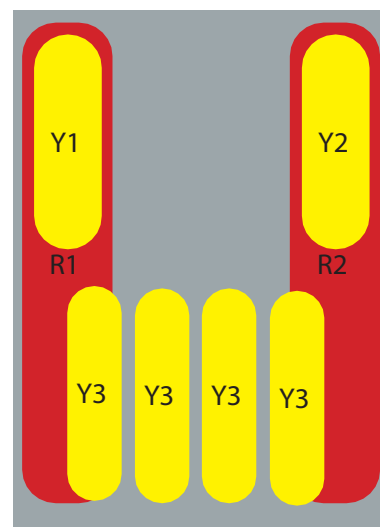
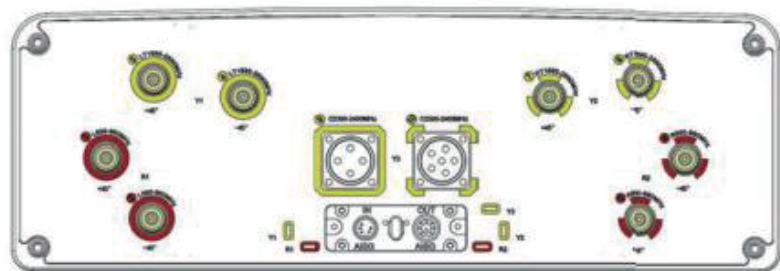
ELECTRICAL CHARACTERISTICS		Y3
Frequency Bands		2300-2690 MHz
VSWR		< 1.5
Polarisation		±45°
Electrical Downtilt Range		2-10°
Tilt Accuracy		±1°
Single Column Width	Gain	14.5 ± 1.0 dBi
	Horizontal Beamwidth (dB)	90° ± 15°
	Vertical Beamwidth (dB)	8.5° ± 0.9°
	Cross-Polar Ratio (0°)	≥ 15 dB
	First Upper Sidelobe Suppression	≤ -15 dB
	Front-to-Back Ratio	≥ 25 dB
65° Broadcast Beam	Gain	16 ± 1.0 dBi
	Horizontal Beamwidth (dB)	65°
	Vertical Beamwidth (dB)	8.5° ± 0.9°
	Cross-Polar Ratio (0°)	≥ 15 dB
	First Upper Sidelobe Suppression	≤ -15 dB
	Front-to-Back Ratio	≥ 25 dB
0° Direct Service Beam	Gain	19.0 ± 1 dBi
	Gain (±30°)	18.0 ± 1 dBi
	Horizontal Beamwidth (dB)	< 30°
	Cross-Polar Ratio (0°)	≥ 18 dB
	Azimuth Sidelobe Suppression	≤ -12 dB
	Front-to-Back Ratio	≥ 28 dB
Calibration and Electrical Parameter	Coupling Factor Between Calibration and Each Antenna Port	-26 ± 2 dB
	Maximum Altitude Between Calibration and Each Antenna Port	≤ 1 dB
	Maximum Phase Between Calibration and Each Antenna Port	≤ 9°
Isolation	Co-Polar Isolation Between Ports	20 dB
	Cross-Polar Isolation Between Ports	23 dB
Grounding		DC Ground

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INTEGRATED RET PROPERTIES	
Protocol	Compliant with 3GPP/AISGv2.0
Power Supply	10-30VDC
Adjustment Time (Full Range)	≤ 90 sec (typical, depending on antenna type)
Power Consumption	< 2 W (Idle); < 10 W (In Motion)
Accuracy	≤ 0.5°
Hardware Interface	RS485 And Power
Safety Standard	Compliant to EN 60950/UL 60950 / RoHS, CE
Remote control	OMC, BTS / NodeB
Adjustment Cycles	> 20,000
Torque Max	≥ 160 mN.m
Protection Class	IP65
Housing Material / Color	Aluminum / Aluminium Silver
Mounting	Directly onto Antenna
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 8 kA
Connectors	2 x 8 Pins Connector According To IEC60130-9 AND AISG Daisy Chain In : Male, Daisy Chain Out : Female Pin3:RS485+; Pin5:RS485-; Pin6:10~30V; Pin7:GND Female connector: 8 PINS, Male connector: 5 PINS



ARRAY LAYOUT	ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE
	■ R1	690-960	1-2	4.3-10 Female
	■ R2	690-960	3-4	4.3-10 Female
	■ Y1	1710-2690	5-6	4.3-10 Female
	■ Y2	1710-2690	7-8	4.3-10 Female
	■ Y3	1710-2690	9-10	[MQ5 Male (4 RF + 1 Calibration) & MQ4 Male (4 RF)]

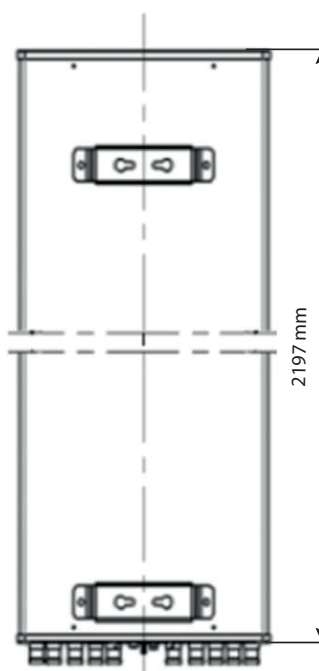
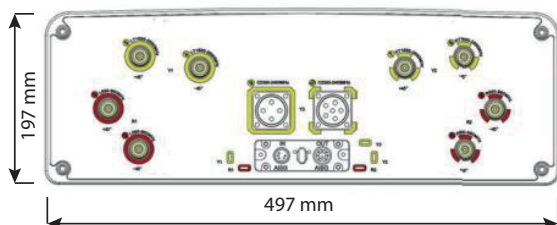
Diagram shown at right depicts the view from the front of the antenna. The illustration is not shown to scale.

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MECHANICAL CHARACTERISTICS		PACKAGING
Dimensions (Height x Width x Depth)	2197 x 497 x 197 mm (86.5 x 19.6 x 7.8 in)	Carton Box 2.397 x 0.592 x 0.317 m (94.4 x 23.3 x 12.5 in)
Weight (excluding mounting accessory)	38 kg (83.8 lbs)	
Weight with brackets	42.5 kg (93.7 lbs)	
Radome Material	Fiberglass	
Maximum Wind Speed	200 km/h (124.3 mph)	
Wind Load at 150 km/h	Frontal	
	Rear	1130 N (254.0 lbf)
	Lateral	495 N (111.3 lbf)
Operating Temperature	-40° to +60° C (-40° to 140° F)	
MOUNTING KIT OPTIONS	POLE DIAMETER	MECHANICAL TILT
All mounting bracket kits are ordered separately unless otherwise indicated.		
Mounting and Downtilt Bracket Kit (Included)	Ø50-Ø115 mm (Ø2.0-Ø4.5 mm)	0-12°



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