

6896508NG

7-Band, 21-Port, 65°, XPOL, TDD Hybrid Panel Antenna, Variable Tilt, 1397 mm

- Hepta band antenna, Dual polarisation, 21 connectors
- Independent, continuously adjustable tilt on each band 2-16° / 2-16° / 2-12° / 2-12° / 2-12° / 2-12° / 2-12°
- RET version, 3GPP/AISG2.0 with seven integrated RCU

ACCESS PORT DESCRIPTION (CONNECTORS)

The antenna has 21 colour-coded connectors located at the bottom face.

Frequency Designation	R1	R2	Y1	Y2	Y3	Y4	P1
Frequency Range	698-960 MHz	698-960 MHz	1710-2690 MHz	1710-2690 MHz	1710-2690 MHz	1710-2690 MHz	3300-3800 MHz
Polarisation	Xpol	Xpol	Xpol	Xpol	Xpol	Xpol	Xpol
Horizontal Beamwidth	65°	65°	65°	65°	65°	65°	65°
Electrical Downtilt Range	2-16°	2-16°	2-12°	2-12°	2-12°	2-12°	2-12°
Connector Type	(2x) 4.3-10 Female	(2x) 4.3-10 Female	(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

		R1, R2		
Frequency Bands		698-960 MHz		
		698-806 MHz	790-894 MHz	880-960 MHz
Gain	at Mid Tilt	13.5 dBi	13.9 dBi	14.4 dBi
	Over All Tilts	13.4 ± 0.6 dBi	13.7 ± 0.6 dBi	14.2 ± 0.6 dBi
Input Impedance		50Ω		
VSWR		< 1.5		
Return loss		> 14 dB		
Polarisation		±45°		
Horizontal Beamwidth (-3 dB)		72° ± 4.8°	69° ± 3.9°	67° ± 4.1°
Vertical Beamwidth (-3 dB)		16.5° ± 1.5°	15.4° ± 1.1°	14.3° ± 0.8°
Electrical Downtilt Range		2-16°		
Cross-Polar Isolation		> 25 dB		
Interband Isolation		> 25 (R1//R2); > 35 (R1,R2//Y1,Y2,Y3,Y4,P1)		
First Upper Sidelobe Suppression		> 15 dB	> 15 dB	> 15 dB
Front-to-Back Ratio (@ 180° ± 30°)		> 22 dB	> 23 dB	> 25 dB
Maximum Average Power Per Port (at 50° C ambient temperature)		300 W		
Intermodulation 3rd Order, 2 x 43 dBm carrier		< -153 dBc		
Grounding		DC Ground		

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



Several patents pending regarding this product. Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

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ELECTRICAL CHARACTERISTICS		Y1, Y3				
Frequency Bands		1710-2690 MHz				
		1710-1880 MHz	1850-1990 MHz	1920-2170 MHz	2300-2400 MHz	2490-2690 MHz
Gain	at Mid Tilt	14.0 dBi	14.2 dBi	14.5 dBi	14.7 dBi	14.5 dBi
	Over All Tilts	13.8 ± 0.6 dBi	14.0 ± 0.5 dBi	14.3 ± 0.5 dBi	14.5 ± 0.5 dBi	14.3 ± 0.6 dBi
Input Impedance		50Ω				
VSWR		< 1.5				
Return loss		> 14 dB				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		68° ± 4.9°	67° ± 4.7°	64° ± 5.1°	62° ± 5.5°	60° ± 5.2°
Vertical Beamwidth (-3 dB)		14.2° ± 1.0°	13.4° ± 0.8°	13° ± 0.8°	11.2° ± 0.9°	10.3° ± 0.9°
Electrical Downtilt Range		2-12°				
Cross-Polar Isolation		> 25 dB				
Interband Isolation		> 28 dB (Y1,Y3//Y2,Y4); > 35 dB (Y1,Y3//R1,R2)				
First Upper Sidelobe Suppression		> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 15 dB
Front-to-Back Ratio (@ 180° ± 30°)		> 23 dB	> 23 dB	> 24 dB	> 25 dB	> 25 dB
Maximum Average Power Per Port (at 50° C ambient temperature)		250 W				
Intermodulation 3rd Order, 2 x 43 dBm carrier		< -153 dBc				
Grounding		DC Ground				

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ELECTRICAL CHARACTERISTICS		Y2, Y4				
Frequency Bands		1710-2690 MHz				
		1710-1880 MHz	1850-1990 MHz	1920-2170 MHz	2300-2400 MHz	2490-2690 MHz
Gain	at Mid Tilt	14.0 dBi	14.2 dBi	14.5 dBi	14.8 dBi	14.7 dBi
	Over All Tilts	13.8 ± 0.6 dBi	14.0 ± 0.5 dBi	14.3 ± 0.5 dBi	14.6 ± 0.5 dBi	14.5 ± 0.6 dBi
Input Impedance		50Ω				
VSWR		< 1.5				
Return loss		> 14 dB				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		67° ± 4.9°	65° ± 4.7°	63° ± 5.1°	59° ± 5.5°	59° ± 5.2°
Vertical Beamwidth (-3 dB)		14.2° ± 1.0°	13.4° ± 0.8°	13° ± 0.8°	11.2° ± 0.9°	10.3° ± 0.9°
Electrical Downtilt Range		2-12°				
Cross-Polar Isolation		> 25 dB				
Interband Isolation		> 28 dB (Y2,Y4//Y1,Y3); > 35 dB (Y2,Y4//R1,R2)				
First Upper Sidelobe Suppression		> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 15 dB
Front-to-Back Ratio (@ 180° ± 30°)		> 23 dB	> 23 dB	> 24 dB	> 25 dB	> 25 dB
Maximum Average Power Per Port (at 50° C ambient temperature)		250 W				
Intermodulation 3rd Order, 2 x 43 dBm carrier		< -153 dBc				
Grounding		DC Ground				

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ELECTRICAL CHARACTERISTICS		P1
Frequency Bands		3300-3800 MHz
Input Impedance		50Ω
VSWR		< 1.5
Return loss		> 14 dB
Polarisation		±45°
Electrical Downtilt Range		2-12°
Single Column Width	Gain	13.5 dBi
	Horizontal Beamwidth (dB)	78°
	Vertical Beamwidth (3dB)	6.5°
	Cross-Polar Discrimination (0°)	≥ 16 dB
	First Upper Sidelobe Suppression	≥ 15 dB
	Front-to-Back Ratio	≥ 23 dB
65° Broadcast Beam	Gain (Typical)	15 dBi
	Horizontal Beamwidth (dB)	65°
	Vertical Beamwidth (3dB)	6.5°
	Cross-Polar Discrimination (0°)	≥ 16 dB
	First Upper Sidelobe Suppression	≥ 15 dB
	Front-to-Back Ratio	≥ 23 dB
0° Direct Service Beam	Gain	19 dBi
	Horizontal Beamwidth (dB)	22°
	Vertical Beamwidth (3dB)	6.5°
	Cross-Polar Ratio	≥ 16 dB
	Azimuth Sidelobe Suppression (Typical)	≥ 12 dB
	Front-to-Back Ratio	≥ 23 dB
Calibration and Electrical Parameter	Coupling Factor Between Calibration and Each Antenna Port	-26 ± 2 dB
	Maximum Amp / Phase Deviation	1 dB/ 8°
	Maximum Power Per Port	40 W
Isolation	Co-Polar Isolation Between Ports	20 dB
	Cross-Polar Isolation Between Ports	25 dB
Intermodulation 3rd Order, 2 x 43 dBm carrier		< -143 dBc
Grounding		DC Ground

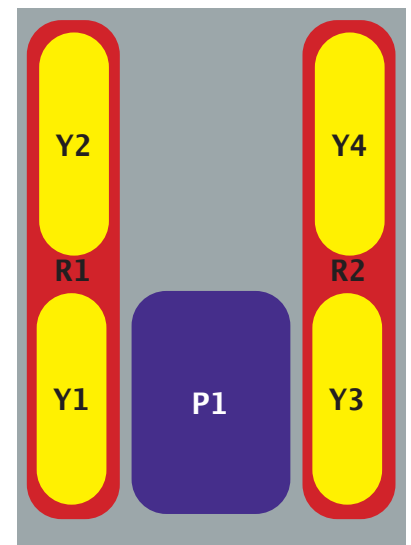
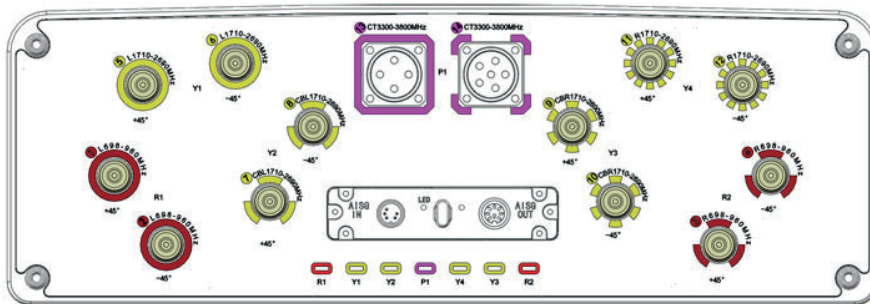
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INTEGRATED RET PROPERTIES	
Protocol	Compliant with 3GPP/AISGv2.0
Power Supply	10-30VDC
Adjustment Time (Full Range)	≤ 90 sec (typical, depending on antenna type)
Power Consumption	< 2 W (Idle); < 10 W (In Motion)
Accuracy	≤ 0.5°
Hardware Interface	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	698-960	1-2	4.3-10 Female
	R1	698-960	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	4.3-10 Female
	Y4	1710-2690	11-12	4.3-10 Female
P1	3300-3800	13-14	[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)	1397 x 497 x 197 mm (55.0 x 19.6 x 7.8 in)	
Weight (excluding mounting accessory)	28.5 kg (62.8 lbs)	
Weight with brackets	33 kg (72.8 lbs)	
Radome Material	Fiberglass	
Maximum Wind Speed	200 km/h (124.3 mph)	
Wind Load at 150 km/h	Frontal	640 N (143.9 lbf)
	Rear	715 N (160.7 lbf)
	Lateral	310 N (69.7 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-Ø125 mm (Ø2.0-Ø4.9 mm)	0-20°

Carton Box
1.597 x 0.592 x 0.317 m
(62.9 x 23.3 x 12.5 in)

