

6896408NG

5-Band, 10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1500 mm

- Dual band antenna, dual polarisation, 10 connectors
- Independent, continuously adjustable tilt on each band
- RET version, 3GPP/AISG2.0 with five integrated RCUs and five indicators

ACCESS PORT DESCRIPTION (CONNECTORS)

The antenna has 10 colour-coded connectors located at the bottom face.

Frequency Designation	R1	Y1	Y2	Y3	Y4
Frequency Range	698-960 MHz	1710-2690 MHz	1710-2690 MHz	1710-2690 MHz	1710-2690 MHz
Polarisation	Xpol	Xpol	Xpol	Xpol	Xpol
Horizontal Beamwidth	65°	65°	65°	65°	65°
Electrical Downtilt Range	4-14°	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

ELECTRICAL CHARACTERISTICS

		R1		
Frequency Bands		698-960 MHz		
		698-806 MHz	790-894 MHz	880-960 MHz
Gain	at Mid Tilt	13.0 dBi	13.3 dBi	13.5 dBi
	Over All Tilts	13.0 ± 1.0 dBi	13.3 ± 1.0 dBi	13.5 ± 1.0 dBi
Input Impedance		50Ω		
VSWR		< 1.5		
Polarisation		±45°		
Horizontal Beamwidth (-3 dB)		68° ± 3.0°	68° ± 3.0°	68° ± 3.0°
Vertical Beamwidth (-3 dB)		16° ± 3.0°	16° ± 3.0°	16° ± 3.0°
Fixed Electrical Downtilt		4-14°		
Inter Band Isolation		> 25 dB		
Cross-Polar Isolation		≥ 25 dB		
Port-to-Port Isolation		> 28 dB		
First Upper Sidelobe Suppression		> 15 dB	> 15 dB	> 15 dB
Front-to-Back Ratio (@ 180° ± 30°)		> 22 dB	> 22 dB	> 22 dB
Cross Polar Ratio	Main Direction (0°)	> 15 dB	> 15 dB	> 15 dB
	Sector Edges (±60°)	> 8 dB	> 8 dB	> 8 dB
Maximum Average Power Per Port (50° C Ambient Temperature)		250 W		
Intermodulation 3rd Order, 2 x 43 dBm Carrier		< -153 dBc		



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ELECTRICAL CHARACTERISTICS		Y1				
Frequency Bands		1710-2690 MHz				
		1710-1880	1850-1990	1920-2170	2300-2400	2500-2690
Gain	At Mid Tilt (dBi)	15.0	15.3	15.5	16.0	16.0
	Over All Tilts (dBi)	15.0 ± 1.0	15.3 ± 1.0	15.5 ± 1.0	16.0 ± 1.0	16.0 ± 1.0
Input Impedance		50Ω				
VSWR		< 1.5				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		65° ± 3°	65° ± 3°	60° ± 3°	60° ± 3°	60° ± 3°
Vertical Beamwidth (-3 dB)		12° ± 3°	12° ± 3°	12° ± 3°	12° ± 3°	12° ± 3°
Electrical Downtilt Range		2-12°				
Cross Polar Isolation		> 25 dB				
Interband Isolation		> 25 dB				
Port-to-Port Isolation		> 28 dB				
First Upper Sidelobe Suppression		> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 15 dB
Front-to-Back Ratio (@ 180° ± 30°)		> 22 dB	> 24 dB	> 24 dB	> 24 dB	> 24 dB
Cross Polar Discrimination	Main Direction	> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 15 dB
	Sector Edges	> 5.0 dB	> 5.0 dB	> 5.0 dB	> 5.0 dB	> 5.0 dB
Maximum Power (Per Port)		250 W (at 50°C ambient temperature)				
Intermodulation 3rd Order, (2x43 dBm Carrier)		< -153 dBc				

ELECTRICAL CHARACTERISTICS		Y2				
Frequency Bands		1710-2690 MHz				
		1710-1880	1850-1990	1920-2170	2300-2400	2500-2690
Gain	At Mid Tilt (dBi)	15.0	15.3	15.5	16.0	16.0
	Over All Tilts (dBi)	15.0 ± 1.0	15.3 ± 1.0	15.5 ± 1.0	16.0 ± 1.0	16.0 ± 1.0
Input Impedance		50Ω				
VSWR		< 1.5				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		65° ± 3°	65° ± 3°	60° ± 3°	60° ± 3°	60° ± 3°
Vertical Beamwidth (-3 dB)		12° ± 3°	12° ± 3°	12° ± 3°	12° ± 3°	12° ± 3°
Electrical Downtilt Range		2-12°				
Cross Polar Isolation		> 25 dB				
Interband Isolation		> 25 dB				
Port-to-Port Isolation		> 28 dB				
First Upper Sidelobe Suppression		> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 15 dB
Front-to-Back Ratio (@ 180° ± 30°)		> 22 dB	> 24 dB	> 24 dB	> 24 dB	> 24 dB
Cross Polar Discrimination	Main Direction	> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 15 dB
	Sector Edges	> 5.0 dB	> 5.0 dB	> 5.0 dB	> 5.0 dB	> 5.0 dB
Maximum Power (Per Port)		250 W (at 50°C ambient temperature)				
Intermodulation 3rd Order, (2x43 dBm Carrier)		< -153 dBc				

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ELECTRICAL CHARACTERISTICS		Y3				
Frequency Bands		1710-2690 MHz				
		1710-1880	1850-1990	1920-2170	2300-2400	2500-2690
Gain	At Mid Tilt (dBi)	15.0	15.3	15.5	16.0	16.0
	Over All Tilts (dBi)	15.0 ± 1.0	15.3 ± 1.0	15.5 ± 1.0	16.0 ± 1.0	16.0 ± 1.0
Input Impedance		50Ω				
VSWR		< 1.5				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		65° ± 3°	65° ± 3°	60° ± 3°	60° ± 3°	60° ± 3°
Vertical Beamwidth (-3 dB)		12° ± 3°	12° ± 3°	12° ± 3°	12° ± 3°	12° ± 3°
Electrical Downtilt Range		2-12°				
Cross Polar Isolation		> 25 dB				
Interband Isolation		> 25 dB				
Port-to-Port Isolation		> 28 dB				
First Upper Sidelobe Suppression		> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 15 dB
Front-to-Back Ratio (@ 180° ± 30°)		> 22 dB	> 24 dB	> 24 dB	> 24 dB	> 24 dB
Cross Polar Discrimination	Main Direction	> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 15 dB
	Sector Edges	> 5.0 dB	> 5.0 dB	> 5.0 dB	> 5.0 dB	> 5.0 dB
Maximum Power (Per Port)		250 W (at 50°C ambient temperature)				
Intermodulation 3rd Order, (2x43 dBm Carrier)		< -153 dBc				

ELECTRICAL CHARACTERISTICS		Y4				
Frequency Bands		1710-2690 MHz				
		1710-1880	1850-1990	1920-2170	2300-2400	2500-2690
Gain	At Mid Tilt (dBi)	15.0	15.3	15.5	16.0	16.0
	Over All Tilts (dBi)	15.0 ± 1.0	15.3 ± 1.0	15.5 ± 1.0	16.0 ± 1.0	16.0 ± 1.0
Input Impedance		50Ω				
VSWR		< 1.5				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		65° ± 3°	65° ± 3°	60° ± 3°	60° ± 3°	60° ± 3°
Vertical Beamwidth (-3 dB)		12° ± 3°	12° ± 3°	12° ± 3°	12° ± 3°	12° ± 3°
Electrical Downtilt Range		2-12°				
Cross Polar Isolation		> 25 dB				
Interband Isolation		> 25 dB				
Port-to-Port Isolation		> 28 dB				
First Upper Sidelobe Suppression		> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 15 dB
Front-to-Back Ratio (@ 180° ± 30°)		> 22 dB	> 24 dB	> 24 dB	> 24 dB	> 24 dB
Cross Polar Discrimination	Main Direction	> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 15 dB
	Sector Edges	> 5.0 dB	> 5.0 dB	> 5.0 dB	> 5.0 dB	> 5.0 dB
Maximum Power (Per Port)		250 W (at 50°C ambient temperature)				
Intermodulation 3rd Order, (2x43 dBm Carrier)		< -153 dBc				

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INTEGRATED RET PROPERTIES	
Power Supply	10-30VDC Compliant with 3GPP/AISGv2.0
Power Consumption	< 1W (Idle), < 10W (In Motion)
Hardware Interface	RS485 and Power
Logical Interface	HEX Coded Commands Based on HDLC Protocol
Protocol Supported	AISG v2.0
Adjustment Time (Full Range)	< 90 sec (typical depending on antenna type)
Adjustment Cycles	> 10000
Torque Max	≥ 160 mN.m
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 8 kA
Connectors	(2x) 8-Pin Circle Connector According to IEC 60130-9 and AISG Daisy Chain In: Male; Daisy Chain Out: Female Pin 3: RS485+; Pin 5: RS485-; Pin 6: 10~30V; Pin 7: GND

ENVIRONMENTAL CHARACTERISTICS	
Operating Temperature Range	-10° C to +60° C
Operating Humidity	95%
Lightning Protection	DC Ground

MECHANICAL CHARACTERISTICS		PACKAGING
Dimensions (Height x Width x Depth)	1500 x 350 x 165 mm	Carton Box 1.665 x 0.445 x 0.270 m
Antenna Weight (without mounting brackets)	14 kg	
Shroud Material	Fiberglass	
Survival Wind Speed	200 km/h	
MOUNTING KIT OPTIONS	MECHANICAL TILT RANGE	
All mounting bracket kits are ordered separately unless otherwise indicated.		
Brackets for pole Ø50 to Ø125 mm (included)	0°-12°	

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