

6890608PG

6-Band, 12-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 2757 mm

- Hex band antenna, dual polarisation, 12 connectors
- Independent, continuously adjustable tilt on each band 0-10° / 0-10° / 0-10° / 0-10° / 0-10° / 0-10°
- RET version, 3GPP/AISG2.0 with six integrated RCUs



ACCESS PORT DESCRIPTION (CONNECTORS)						
The antenna has 12 colour-coded connectors located at the bottom face.						
Frequency Designation	R1	Y1	Y2	Y3	Y4	Y5
Frequency Range	690-960 MHz	1710-2690 MHz	1710-2690 MHz	1710-2690 MHz	1710-2690 MHz	1710-2690 MHz
Polarisation	Xpol	Xpol	Xpol	Xpol	Xpol	Xpol
Horizontal Beamwidth	65°	65°	65°	65°	65°	65°
Electrical Downtilt Range	0-10°	0-10°	0-10°	0-10°	0-10°	0-10°
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

ELECTRICAL CHARACTERISTICS		R1			
Frequency Bands		690-960 MHz			
		690-806 MHz	790-862 MHz	824-894 MHz	880-960 MHz
Gain	at Mid Tilt	16.5 dBi	16.7 dBi	16.8 dBi	17.1 dBi
	Over All Tilts	16.3 ± 0.4 dBi	16.7 ± 0.5 dBi	16.8 ± 0.4 dBi	17.0 ± 0.6 dBi
Input Impedance		50Ω			
VSWR		< 1.5			
Polarisation		±45°			
Horizontal Beamwidth (-3 dB)		63° ± 3.1°	63° ± 2.1°	62° ± 2.1°	62° ± 3.6°
Vertical Beamwidth (-3 dB)		8.9° ± 0.7°	8.1° ± 0.5°	7.7° ± 0.5°	7.1° ± 0.5°
Electrical Downtilt Range		0-10°			
Cross-Polar Isolation		> 28 dB			
Interband Isolation		> 28 dB			
Port-to-Port Isolation		> 28 dB			
Upper Sidelobe Suppression	Typical	> 16 dB	> 17 dB	> 17 dB	> 19 dB
	Peak to 20°	> 16 dB	> 17 dB	> 16 dB	> 15 dB
Front-to-Back Ratio (@ 180° ± 30°)		> 25 dB	> 26 dB	> 26 dB	> 26 dB
Cross Polar Ratio	Main Direction (0°)	> 19 dB	> 19 dB	> 18 dB	> 18 dB
	Sector Edges (±60°)	> 8.5 dB	> 8.5 dB	> 9.5 dB	> 8.0 dB
Maximum Power (Per Port)		400 W (at 50° C ambient temperature)			
Intermodulation 3rd Order for 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	17.2 dBi	17.8 dBi	18.0 dBi	17.8 dBi	17.7 dBi
	Over All Tilts	17.1 ± 0.5 dBi	17.8 ± 0.6 dBi	18.0 ± 0.5 dBi	17.8 ± 0.4 dBi	17.7 ± 0.6 dBi
Input Impedance		50Ω				
VSWR		< 1.5				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		68° ± 4.2°	66° ± 2.3°	67° ± 4.6°	66° ± 5.3°	60° ± 5.4°
Vertical Beamwidth (-3 dB)		6.8° ± 0.6°	6.3° ± 0.3°	5.8° ± 0.5°	5.4° ± 0.3°	4.8° ± 0.3°
Electrical Downtilt Range		0-10°				
Cross Polar Isolation		> 28 dB				
Interband Isolation		> 28 dB				
Port-to-Port Isolation		> 28 dB				
Upper Sidelobe Suppression	Typical	> 16 dB	> 16 dB	> 16 dB	> 16 dB	> 16 dB
	Peak to 20°	> 16 dB	> 16 dB	> 15 dB	> 15 dB	> 14 dB
Front-to-Back Ratio (@ 180° ± 30°)		> 25 dB	> 25 dB	> 26 dB	> 26 dB	> 26 dB
Cross Polar Discrimination	Main Direction	> 15 dB	> 16 dB	> 16 dB	> 19 dB	> 19 dB
	Sector Edges	> 11 dB	> 11 dB	> 9.5 dB	> 9 dB	> 5 dB
Maximum Power (Per Port)		200 W (at 50°C ambient temperature)				
Intermodulation 3rd (2x43 dBm Carrier)		< -153 dBc				
Grounding		DC Ground				

ELECTRICAL CHARACTERISTICS		Y2				
Frequency Bands		1710-2690 MHz				
		1710-1880	1850-1990	1920-2170	2300-2400	2500-2690
Gain	At Mid Tilt	17.1 dBi	17.9 dBi	18.1 dBi	17.8 dBi	17.7 dBi
	Over All Tilts	17.1 ± 0.6 dBi	17.9 ± 0.5 dBi	18.0 ± 0.5 dBi	17.8 ± 0.4 dBi	17.6 ± 0.5 dBi
Input Impedance		50Ω				
VSWR		< 1.5				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		68° ± 4.0°	65° ± 2.9°	66° ± 4.8°	66° ± 4.7°	63° ± 5.5°
Vertical Beamwidth (-3 dB)		6.8° ± 0.5°	6.3° ± 0.5°	5.8° ± 0.4°	5.3° ± 0.3°	4.9° ± 0.3°
Electrical Downtilt Range		0-10°				
Cross Polar Isolation		> 28 dB				
Interband Isolation		> 28 dB				
Port-to-Port Isolation		> 28 dB				
Upper Sidelobe Suppression	Typical	> 16 dB	> 16 dB	> 17 dB	> 18 dB	> 18 dB
	Peak to 20°	> 16 dB	> 16 dB	> 15 dB	> 15 dB	> 14 dB
Front-to-Back Ratio (@ 180° ± 30°)		≥ 25 dB	≥ 25 dB	> 25 dB	≥ 25 dB	≥ 26 dB
Cross Polar Discrimination	Main Direction	> 21 dB	> 21 dB	> 21 dB	> 18 dB	> 18 dB
	Sector Edges	> 13 dB	> 11 dB	> 9.5 dB	> 8.5 dB	> 5.5 dB
Maximum Power (Per Port)		200 W (at 50°C ambient temperature)				
Intermodulation 3rd (2x43 dBm Carrier)		< -153 dBc				
Grounding		DC Ground				

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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	17.1 dBi	17.9 dBi	18.1 dBi	17.8 dBi	17.7 dBi
	Over All Tilts	17.1 ± 0.6 dBi	17.9 ± 0.5 dBi	18.0 ± 0.5 dBi	17.8 ± 0.4 dBi	17.6 ± 0.5 dBi
Input Impedance		50Ω				
VSWR		< 1.5				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		68° ± 4.0°	65° ± 2.9°	66° ± 4.8°	66° ± 4.7°	63° ± 5.5°
Vertical Beamwidth (-3 dB)		6.8° ± 0.5°	6.3° ± 0.5°	5.8° ± 0.4°	5.3° ± 0.3°	4.9° ± 0.3°
Electrical Downtilt Range		0-10°				
Cross Polar Isolation		> 28 dB				
Interband Isolation		> 28 dB				
Port-to-Port Isolation		> 28 dB				
Upper Sidelobe Suppression	Typical	> 17 dB	> 18 dB	> 18 dB	> 19 dB	> 19 dB
	Peak to 20°	> 17 dB	> 16 dB	> 16 dB	> 16 dB	> 14 dB
Front-to-Back Ratio (@ 180° ± 30°)		> 25 dB	> 25 dB	> 25 dB	≥ 25 dB	≥ 26 dB
Cross Polar Discrimination	Main Direction	> 21 dB	> 21 dB	> 21 dB	> 18 dB	> 18 dB
	Sector Edges	> 13 dB	> 11 dB	> 9.5 dB	> 8.5 dB	> 5.5 dB
Maximum Power (Per Port)		200 W (at 50°C ambient temperature)				
Intermodulation 3rd (2x43 dBm Carrier)		< -153 dBc				
Grounding		DC Ground				

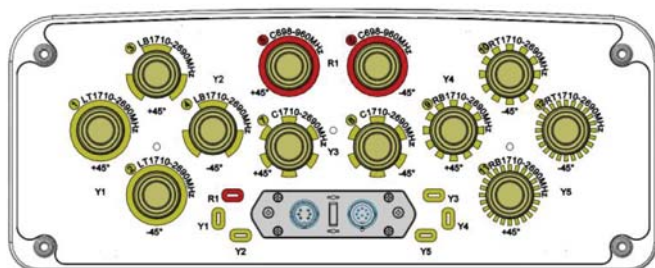
ELECTRICAL CHARACTERISTICS		Y4				
Frequency Bands		1710-2690 MHz				
		1710-1880	1850-1990	1920-2170	2300-2400	2500-2690
Gain	At Mid Tilt	16.5 dBi	17.2 dBi	17.2 dBi	17.3 dBi	16.9 dBi
	Over All Tilts	16.5 ± 0.6 dBi	17.1 ± 0.5 dBi	17.2 ± 0.5 dBi	17.3 ± 0.5 dBi	16.8 ± 0.5 dBi
Input Impedance		50Ω				
VSWR		< 1.5				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		67° ± 4.5°	65° ± 2.3°	67° ± 5.2°	66° ± 5.3°	62° ± 4.9°
Vertical Beamwidth (-3 dB)		6.9° ± 0.6°	6.2° ± 0.5°	5.8° ± 0.5°	5.3° ± 0.3°	4.8° ± 0.3°
Electrical Downtilt Range		0-10°				
Cross Polar Isolation		> 28 dB				
Interband Isolation		> 28 dB				
Port-to-Port Isolation		> 28 dB				
Upper Sidelobe Suppression	Typical	> 17 dB	> 18 dB	> 18 dB	> 19 dB	> 19 dB
	Peak to 20°	> 17 dB	> 16 dB	> 16 dB	> 16 dB	> 14 dB
Front-to-Back Ratio (@ 180° ± 30°)		≥ 25 dB	≥ 26 dB	> 27 dB	≥ 27 dB	≥ 27 dB
Cross Polar Discrimination	Main Direction	> 22 dB	> 22 dB	> 21 dB	> 19 dB	> 19 dB
	Sector Edges	> 10 dB	> 11 dB	> 10 dB	> 8 dB	> 5 dB
Maximum Power (Per Port)		200 W (at 50°C ambient temperature)				
Intermodulation 3rd (2x43 dBm Carrier)		< -153 dBc				
Grounding		DC Ground				

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ELECTRICAL CHARACTERISTICS		Y5				
Frequency Bands		1710-2690 MHz				
		1710-1880	1850-1990	1920-2170	2300-2400	2500-2690
Gain	At Mid Tilt	16.5 dBi	17.2 dBi	17.2 dBi	17.3 dBi	16.9 dBi
	Over All Tilts	16.5 ± 0.6 dBi	17.1 ± 0.5 dBi	17.2 ± 0.5 dBi	17.3 ± 0.5 dBi	16.8 ± 0.5 dBi
Input Impedance		50Ω				
VSWR		< 1.5				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		67° ± 4.5°	65° ± 2.3°	67° ± 5.2°	66° ± 5.3°	62° ± 4.9°
Vertical Beamwidth (-3 dB)		6.9° ± 0.6°	6.2° ± 0.5°	5.8° ± 0.5°	5.3° ± 0.3°	4.8° ± 0.3°
Electrical Downtilt Range		0-10°				
Cross Polar Isolation		> 28 dB				
Interband Isolation		> 28 dB				
Port-to-Port Isolation		> 28 dB				
Upper Sidelobe Suppression	Typical	> 17 dB	> 18 dB	> 18 dB	> 19 dB	> 19 dB
	Peak to 20°	> 17 dB	> 16 dB	> 16 dB	> 16 dB	> 14 dB
Front-to-Back Ratio (@ 180° ± 30°)		≥ 25 dB	≥ 26 dB	> 27 dB	≥ 27 dB	≥ 27 dB
Cross Polar Discrimination	Main Direction	> 22 dB	> 22 dB	> 21 dB	> 19 dB	> 19 dB
	Sector Edges	> 10 dB	> 11 dB	> 10 dB	> 8 dB	> 5 dB
Maximum Power (Per Port)		200 W (at 50°C ambient temperature)				
Intermodulation 3rd (2x43 dBm Carrier)		< -153 dBc				
Grounding		DC Ground				



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INTEGRATED RET PROPERTIES		PACKAGING	
Power Supply	10-30VDC Compliant with 3GPP/AISGv2.0	Carton Box 3.107 x 0.482 x 0.257 m	
Power Consumption	≤ 2W (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)	< 4Min		
Adjustment Cycles	> 10,000		
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		
MECHANICAL CHARACTERISTICS			
Dimensions (Height x Width x Depth)	2757 x 397 x 157 mm		
Weight (excluding mounting accessory)	41 kg		
Radome Material, Colour	Fiberglass, Light Grey		
Connector Type	(12x) 4.3-10 Female		
Maximum Wind Speed	200 km/h		
MOUNTING KIT OPTIONS		POLE DIAMETER	WEIGHT
All mounting bracket kits are ordered separately unless otherwise indicated.			
Mounting Bracket Kit (Included)		Ø50-Ø125 mm	6 kg