

6890608NG

6-Band, 12-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 2750 mm

- Hexa band antenna, Dual polarisation, 12 connectors
- Independent, continuously adjustable tilt on each band 2-12° / 2-12° / 2-12° / 2-12° / 2-12° / 2-12°
- 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	1695-2690 MHz	1695-2690 MHz	1695-2690 MHz	1695-2690 MHz	1695-2690 MHz
Polarisation	Xpol	Xpol	Xpol	Xpol	Xpol	Xpol
Horizontal Beamwidth	65°	65°	65°	65°	65°	65°
Electrical Downtilt Range	2-12°	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

ELECTRICAL CHARACTERISTICS

R1

Frequency Bands		690-960 MHz		
		690-806 MHz	790-894 MHz	880-960 MHz
Gain	at Mid Tilt	16.0 dBi	16.4 dBi	16.8 dBi
	Over All Tilts	15.8 ± 0.5 dBi	16.2 ± 0.5 dBi	16.6 ± 0.6 dBi
Input Impedance		50Ω		
VSWR		< 1.5		
Return Loss		> 14 dB		
Polarisation		±45°		
Horizontal Beamwidth (-3 dB)		67° ± 4.5°	65° ± 3.5°	63° ± 4.6°
Vertical Beamwidth (-3 dB)		8.8° ± 0.9°	7.8° ± 0.7°	7.2° ± 0.7°
Electrical Downtilt Range		2-12°		
Cross-Polar Isolation		> 28 dB		
Port-to-Port Isolation		> 28 dB		
Upper Sidelobe Suppresson	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°)	> 17 dB	> 17 dB	> 17 dB
	Sector Edges (±60°)	> 8.0 dB	> 8.5 dB	> 7.0 dB
Lightening Protection		DC Ground		
Maximum Power (Per Port)		300 W (at 50° C ambient temperature)		
Intermodulation 3rd (2x43 dBm Carrier)		< -150 dBc		

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ELECTRICAL CHARACTERISTICS		Y1 , Y4				
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	17.7 dBi	17.7 dBi
	Over All Tilts	16.6 ± 0.6 dBi	16.9 ± 0.5 dBi	17.2 ± 0.5 dBi	17.5 ± 0.5 dBi	17.5 ± 0.5 dBi
Input Impedance		50Ω				
VSWR		< 1.5				
Return Loss		> 14 dB				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		68° ± 6.5°	66° ± 6.5°	63° ± 6.5°	59° ± 5.5°	59° ± 6.0°
Vertical Beamwidth (-3 dB)		7.2° ± 0.4°	6.6° ± 0.5°	6.0° ± 0.5°	5.4° ± 0.5°	4.8° ± 0.6°
Electrical Downtilt Range		2-12°				
Cross-Polar Isolation		> 28 dB				
Port-to-Port Isolation		> 28 dB				
Upper Sidelobe Suppresson	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°)		> 24 dB	> 24 dB	> 25 dB	> 25 dB	> 25 dB
Cross Polar Ratio	Main Direction (0°)	> 16 dB	> 16 dB	> 16 dB	> 16 dB	> 16 dB
	Sector Edges (±60°)	> 8.0 dB	> 8.0 dB	> 8.0 dB	> 6.0 dB	> 4.5 dB
Lightening Protection		DC Ground				
Maximum Power (Per Port)		250 W (at 50° C ambient temperature)				
Intermodulation 3rd (2x43 dBm Carrier)		< -150 dBc				

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ELECTRICAL CHARACTERISTICS		Y3				
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 ± 0.5 dBi	17.2 ± 0.5 dBi
Input Impedance		50Ω				
VSWR		< 1.5				
Return Loss		> 14 dB				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		66° ± 6.5°	65° ± 6.5°	61° ± 6.5°	59° ± 5.5°	58° ± 6.0°
Vertical Beamwidth (-3 dB)		7.2° ± 0.4°	6.6° ± 0.5°	6.0° ± 0.5°	5.4° ± 0.5°	4.8° ± 0.6°
Electrical Downtilt Range		2-12°				
Cross-Polar Isolation		> 28 dB				
Port-to-Port Isolation		> 28 dB				
Upper Sidelobe Suppresson	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°)	> 16 dB	> 16 dB	> 16 dB	> 16 dB	> 16 dB
	Sector Edges (±60°)	> 8.0 dB	> 8.0 dB	> 6.0 dB	> 6.0 dB	> 4.0 dB
Lightening Protection		DC Ground				
Maximum Power (Per Port)		250 W (at 50° C ambient temperature)				
Intermodulation 3rd (2x43 dBm Carrier)		< -150 dBc				

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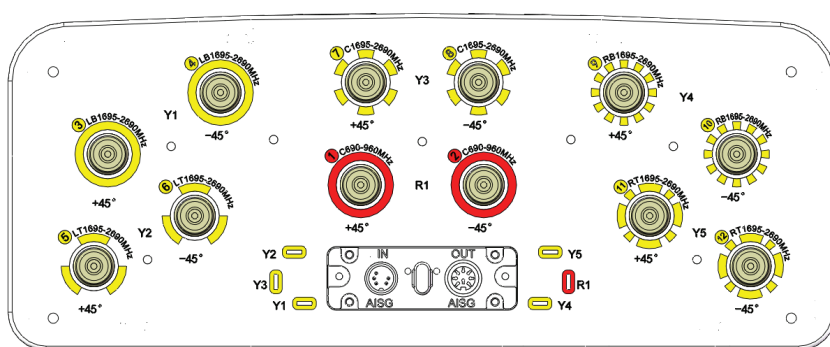
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ELECTRICAL CHARACTERISTICS		Y2 , Y5				
Frequency Bands		1695-2690 MHz				
		1695-1880 MHz	1850-1990 MHz	1920-2170 MHz	2300-2400 MHz	2490-2690 MHz
Gain	at Mid Tilt	16.4 dBi	16.7 dBi	17.0 dBi	17.3 dBi	17.3 dBi
	Over All Tilts	16.2 ± 0.6 dBi	16.5 ± 0.5 dBi	16.8 ± 0.5 dBi	17.1 ± 0.5 dBi	17.1 ± 0.5 dBi
Input Impedance		50Ω				
VSWR		< 1.5				
Return Loss		> 14 dB				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		68° ± 6.5°	66° ± 6.5°	63° ± 6.5°	59° ± 5.5°	59° ± 6.0°
Vertical Beamwidth (-3 dB)		7.2° ± 0.4°	6.6° ± 0.5°	6.0° ± 0.5°	5.4° ± 0.5°	4.8° ± 0.6°
Electrical Downtilt Range		2-12°				
Cross-Polar Isolation		> 28 dB				
Port-to-Port Isolation		> 28 dB				
Upper Sidelobe Suppresson	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°)		> 24 dB	> 24 dB	> 25 dB	> 25 dB	> 25 dB
Cross Polar Ratio	Main Direction (0°)	> 16 dB	> 16 dB	> 16 dB	> 16 dB	> 16 dB
	Sector Edges (±60°)	> 8.0 dB	> 8.0 dB	> 8.0 dB	> 6.0 dB	> 4.5 dB
Lightening Protection		DC Ground				
Maximum Power (Per Port)		250 W (at 50° C ambient temperature)				
Intermodulation 3rd (2x43 dBm Carrier)		< -150 dBc				

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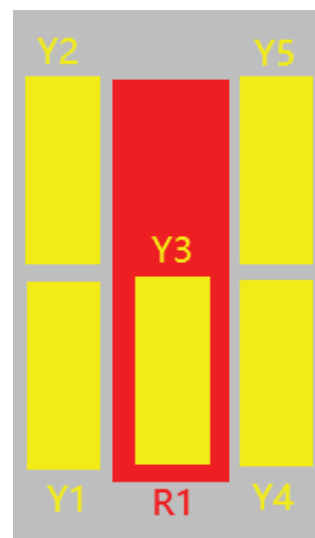
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INTEGRATED RET PROPERTIES	
Protocols	Compliant With AISGV2.0 And 3GPP
Supply Voltage, VDC	10-30DC
Adjustment Time(Full Range)	≤ 90 s (typical, depending on Antenna type)
Power Consumption	< 2W (standby); < 10W (motor activated)
Angular Accuracy for shaft turn	Angular Accuracy ≤ 0.5 deg
Hardware Interface	RS485 And Power
Safety Standard	Compliant to EN 60950/UL 60950/ RoHs (Restriction of Hazardous Substances), CE
Remote control	Can management from OMC, BTS/NodeB
Lifetime/Adjustment Cycles	> 20000
Torque Max.	≥ 160mN.m
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile, 8/20 μs 10 Repetitions Min. @ 8kA
Daisy chaining method	Ready for daisy-chaining
Housing Material	Aluminum
Housing Color	Silvery white
Mounting	Directly onto Antenna
Connectors	2 x 8 Pin Circle Connector According To IEC 60130-9 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.
Operating Temperature range	-40°C to +70°C



ARRAY LAYOUT	ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE
	R1	690-960	1-2	4.3-10 Female
	Y1	1695-2690	2-4	4.3-10 Female
	Y2	1695-2690	4-6	4.3-10 Female
	Y3	1695-2690	6-8	4.3-10 Female
	Y4	1695-2690	8-10	4.3-10 Female
	Y5	1695-2690	10-12	4.3-10 Female

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



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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MECHANICAL CHARACTERISTICS			PACKAGING
Dimensions (Height x Width x Depth)		2750 x 397 x 157 mm (108.2 x 15.6 x 6.1 in)	Carton Box 3.070 x 0.512 x 0.287 m (120.8 x 20.1 x 11.2 in)
Weight (excluding mounting accessory)		45 kg (99.2 lbs)	
Weight with mounting accessory		51 kg (112.4 lbs)	
Radome Material		Fiberglass	
Operating Temperature		-40°C to +60°C	
Maximum Wind Speed		200 km/h (124.2 mph)	
Wind Loads (at 150 km/h)	Frontal	1010 N (227.0 lbf)	
	Rear	1125 N (252.9 lbf)	
	Lateral	530 N (119.1 lbf)	
MOUNTING KIT OPTIONS		POLE DIAMETER	MECHANICAL TILT
All mounting bracket kits are ordered separately unless otherwise indicated.			
Mounting Bracket Kit (Included)		Ø50-Ø115 mm	0-10°

