Amphenol ANTENNA SOLUTIONS

6-Port Antenna

698-960 | 1695-2690 | 1695-2690 MHz

65° | 1997 mm

6878308G

3-Band, 6-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1997 mm

- Tri band antenna, dual polarisation, 6 connectors
- Independent, continuously adjustable tilt on each band 2-12° / 2-12° / 2-12°
- RET version, 3GPP/AISG2.0 with four integrated RCUs

ORDERING OPTIONS	MODEL NUMBER
Antenna with 4.3-10 Connectors	6878308NG
Antenna with 7/16-DIN Connectors	6878308G

ACCESS PORT DESCRIPTION (CONNECTORS)			
The antenna has 6 colour-coded connectors located at the bottom face.			
Frequency Designation	R1	Y1	Y3
Frequency Range	698-960 MHz	1695-2690 MHz	1695-2690 MHz
Polarisation	Xpol	Xpol	Xpol
Horizontal Beamwidth	65°	65°	65°
Electrical Downtilt Range	2-12°	2-12°	2-12°
Connector Type	(2x) 4.3-10 or 7/16-DIN Female	(2x) 4.3-10 or 7/16-DIN Female	(2x) 4.3-10 or 7/16-DIN Female

ELECTRICAL CHARACTERISTICS		R1		
Frequency Bands		698-960 MHz		
		698-806 MHz	790-894 MHz	880-960 MHz
Gain	at Mid Tilt	15.1 dBi	15.6 dBi	16.1 dBi
	Over All Tilts	15.1 ± 0.5 dBi	15.6 ± 0.5 dBi	16.1 ± 0.5 dBi
Input Impedance		50Ω		
VSWR		< 1.5		
Polarisation		±45°		
Horizontal Beamwidth (-3 dB)		68° ± 4.5°	65° ± 4.1°	64° ± 4.1°
Vertical Beamwidth (-3 dB)		10.8° ± 1.2°	9.6° ± 0.8°	8.8° ± 0.8°
Electrical Downtilt Range		2-12°		
Cross-Polar Isolation		> 28 dB		
Interband 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°)		> 23 dB	> 25 dB	> 25 dB
Cross Polar Ratio	Main Direction (0°)	> 19 dB	> 18 dB	> 17 dB
	Sector Edges (±60°)	> 8.0 dB	> 8.0 dB	> 8.0 dB
Maximum Power (Per Port)		250 W (at 50° C ambient temperature)		
Intermodulation 3rd Order for 2 x 43 dBm Carrier		< -153 dBc		
Grounding		DC Ground		

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				
Frequency Bands		1695-2690 MHz				
		1695-1880 MHz	1850-1990 MHz	1920-2170 MHz	2300-2400 MHz	2490-2690 MHz
Gain	At Mid Tilt	17.4 dBi	17.7 dBi	17.9 dBi	17.9 dBi	18.1 dBi
	Over All Tilts	17.3 ± 0.6 dBi	17.7 ± 0.6 dBi	17.9 ± 0.6 dBi	17.9 ± 0.5 dBi	17.9 ± 0.6 dBi
Input Impedance		50Ω				
VSWR		< 1.5				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		66° ± 4.8°	63° ± 4.6°	61° ± 4.5°	62° ± 4.2°	62° ± 4.6°
Vertical Beamwidth (-3 dB)		6.5° ± 0.5°	6.0° ± 0.5°	5.5° ± 0.5°	4.9° ± 0.5°	4.4° ± 0.5°
Electrical Downtilt Range		2-12°				
Cross Polar Isolation		> 28 dB				
Interband Isolation		> 28 dB				
Port-to-Port Isolation		> 28 dB				
Upper Sidelobe Suppression	First Upper Lobe	> 17 dB	> 17 dB	> 17 dB	> 17 dB	> 17 dB
	Peak to 20°	> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 15 dB
Front-to-Back Ratio (@ 180° ± 30°)		> 24 dB	> 24 dB	> 24 dB	> 24 dB	> 25 dB
Cross Polar Discrimination	Main Direction	> 22 dB	> 20 dB	> 19 dB	> 18 dB	> 17 dB
	Sector Edges	> 9 dB	> 9 dB	> 8 dB	> 8 dB	> 5 dB
Maximum Power (Per Port)		250 W (at 50°C ambient temperature)				
Intermodulation 3rd (2x43 dBm Carrier)		< -153 dBc				
Grounding		DC Ground				

ELECTRICAL CHARACTERISTICS		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	17.2 dBi	17.5 dBi	17.8 dBi	18.1 dBi	18.1 dBi
	Over All Tilts	17.2 ± 0.6 dBi	17.4 ± 0.5 dBi	17.7 ± 0.5 dBi	18.0 ± 0.3 dBi	18.0 ± 0.5 dBi
Input Impedance		50Ω				
VSWR		< 1.5				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		67° ± 4.4°	65° ± 4.5°	64° ± 4.6°	62° ± 4.5°	60° ± 4.4°
Vertical Beamwidth (-3 dB)		6.8° ± 0.5°	6.3° ± 0.5°	5.9° ± 0.5°	5.3° ± 0.3°	4.9° ± 0.3°
Electrical Downtilt Range		2-12°				
Cross Polar Isolation		> 28 dB				
Interband Isolation		> 28 dB				
Port-to-Port Isolation		> 28 dB				
Upper Sidelobe Suppression	First Upper Lobe	> 17 dB	> 17 dB	> 18 dB	> 18 dB	> 18 dB
	Peak to 20°	> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 15 dB
Front-to-Back Ratio (@ 180° ± 30°)		≥ 24 dB	≥ 25 dB	> 25 dB	≥ 26 dB	≥ 27 dB
Cross Polar Discrimination	Main Direction	> 22 dB	> 20 dB	> 20 dB	> 18 dB	> 18 dB
	Sector Edges	> 10 dB	> 9.4 dB	> 9 dB	> 8.1 dB	> 5.4 dB
Maximum Power (Per Port)		250 W (at 50°C ambient temperature)				
Intermodulation 3rd (2x43 dBm Carrier)		< -153 dBc				
Grounding		DC Ground				

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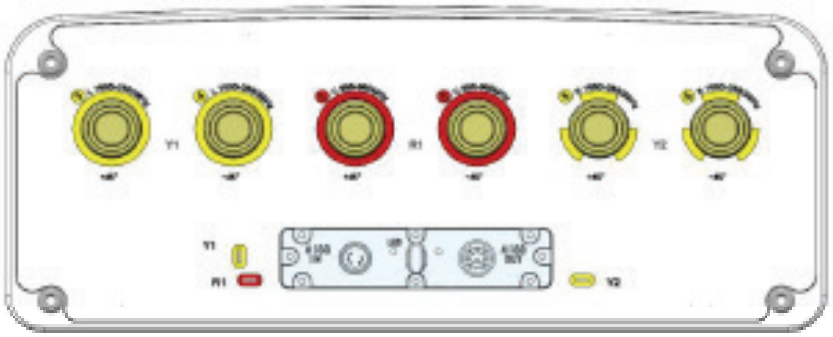

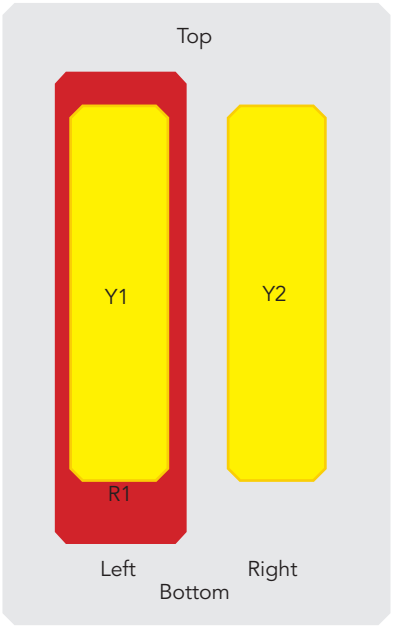

ARRAY LAYOUT	ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE
	R1	698-960	1-2	4.3-10 Female or 7/16-DIN Female
	Y1	1695-2690	3-4	4.3-10 Female or 7/16-DIN Female
	Y2	1695-2690	5-6	4.3-10 Female or 7/16-DIN Female

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

INTEGRATED RET PROPERTIES	
Power Supply	10-30VDC
Power Consumption	< 1W (Idle), < 10W (In Motion)
Hardware Interface	Pin3: RS485B; Pin5: RS485A; Pin6: 10-30V; Pin7: DC Return According to AISG/3GPP
Protocol Supported	Compliant with 3GPP/AISGv2.0
Adjustment Time (Full Range)	≤ 90 s (typical, depending on Antenna type)
Adjustment Cycles	> 10,000
Torque Max	≥ 160 mN.m
Safety Standard	Compliant to EN 60950/UL 60950/RoHS, CE
Protection Class	IP65
Lightning Protection Rating	IEC 61000-4-5 Current Pulse Profile, 8/20 µs 10 Repetitions Min. @ 8 kA IEC61312-1 B Protection against lightning electromagnetic impulse 10/350 µs, 200 @ 0.6 kA
Connectors	(2x) 8-Pin Circle Connector According to IEC 60130-9 and AISG.C-485 Daisy Chain In: Male; Daisy Chain Out: Female

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MECHANICAL CHARACTERISTICS		
Dimensions (Height x Width x Depth)		1997 x 377 x 157 mm (78.6 x 14.8 x 6.1 in)
Weight (excluding mounting accessory)		26 kg (57.3 lbs)
Radome Material, Colour		Fiberglass
Connector Type		(6x) 4.3-10 Female or 7/16-DIN Female
Maximum Wind Speed		200 km/h
Wind Loads (at 150 km/h)	Frontal	695 N (156.2 lbf)
	Rear	780 N (175.3 lbf)
	Lateral	360 N (80.9 lbf)

MOUNTING KIT OPTIONS	POLE DIAMETER	MECHANICAL TILT
All mounting bracket kits are ordered separately unless otherwise indicated.		
Mounting Bracket Kit (Included)	Ø50-Ø125 mm	0-12°

PACKAGING
Carton Box 2.197 x 0.472 x 0.277 m (86.4 x 18.5 x 10.9 in)