Amphenol ANTENNA SOLUTIONS

10-Port Antenna

690-960 | 1695-2690 | 1695-2690 | 1695-2690 | 1695-2690 MHz

65° | 1997 mm

6898408G

6898408NG

5-Band, 10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1997 mm

- Penta band antenna, dual polarisation, 10 connectors
- Independent, continuously adjustable tilt on each band 0-10° / 0-10° / 0-10° / 0-10° / 0-10°
- 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	690-960 MHz	1695-2690 MHz	1695-2690 MHz	1695-2690 MHz	1695-2690 MHz
Polarisation	Xpol	Xpol	Xpol	Xpol	Xpol
Horizontal Beamwidth	65°	65°	65°	65°	65°
Electrical Downtilt Range	0-10°	0-10°	0-10°	0-10°	0-10°
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	(2x) 4.3-10 or 7/16-DIN Female	(2x) 4.3-10 or 7/16-DIN Female

ORDERING OPTIONS Select from the different options listed below

SELECT ELECTRICAL DOWNTILT CONTROL & AISG PROTOCOL	SELECT ACTUATOR	SELECT CONNECTOR TYPE	ANTENNA MODEL NUMBER
Manual Electrical Tilt (MET)	---	4.3-10 Female	6898408
		7/16-DIN Female	6898408N
Remote Electrical Tilt (RET) AISG v2.0 / 3GPP	Multi-Device Control Unit (MDCU)	4.3-10 Female	6898408G
		7/16-DIN Female	6898408NG

ELECTRICAL CHARACTERISTICS		R1		
Frequency Bands		690-960 MHz		
		690-806 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°
Fixed Electrical Downtilt		0-10°		
Inter Band Isolation		> 28 dB		
Cross-Polar Isolation		> 28 dB		
Port-to-Port Isolation		> 28 dB		
Upper Sidelobe Suppression	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 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		

3GPP A GLOBAL INITIATIVE

AISG Antenna Interface Standards Group

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.

6898408G

6898408NG

5-Band, 10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1997 mm

ELECTRICAL CHARACTERISTICS		Y1				
Frequency Bands		1695-2690 MHz				
		1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Gain	At Mid Tilt (dBi)	16.0	16.4	16.3	15.6	15.9
	Over All Tilts (dBi)	15.9 ± 0.7	16.3 ± 0.5	16.2 ± 0.6	15.6 ± 0.5	15.7 ± 0.6
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)		9.2° ± 0.5°	8.7° ± 0.4°	8.2° ± 0.7°	7.3° ± 0.4°	6.6° ± 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	First Upper Lobe	> 16 dB	> 16 dB	> 16 dB	> 16 dB	> 16 dB
	Peak to 20°	> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 14 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 Order, (2x43 dBm Carrier)		< -153 dBc				

ELECTRICAL CHARACTERISTICS		Y2				
Frequency Bands		1695-2690 MHz				
		1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Gain	At Mid Tilt (dBi)	15.2	15.7	15.7	15.3	16.2
	Over All Tilts (dBi)	15.1 ± 0.6	15.7 ± 0.4	15.3 ± 0.7	16.1 ± 0.7	16.1 ± 0.7
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)		10.8° ± 0.8°	10.1° ± 0.6°	9.7° ± 0.8°	8.4° ± 0.4°	7.7° ± 0.7°
Electrical Downtilt Range		0-10°				
Cross Polar Isolation		> 28 dB				
Interband Isolation		> 28 dB				
Port-to-Port Isolation		> 28 dB				
Upper Sidelobe Suppression	First Upper Lobe	> 16 dB	> 16 dB	> 16 dB	> 16 dB	> 16 dB
	Peak to 20°	> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 14 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 Order, (2x43 dBm Carrier)		< -153 dBc				

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5-Band, 10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1997 mm

ELECTRICAL CHARACTERISTICS		Y3				
Frequency Bands		1695-2690 MHz				
		1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Gain	At Mid Tilt (dBi)	16.1	16.4	16.3	15.9	15.9
	Over All Tilts (dBi)	16.0 ± 0.7	16.4 ± 0.5	16.3 ± 0.6	15.9 ± 0.5	15.9 ± 0.6
Input Impedance		50Ω				
VSWR		< 1.5				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		66° ± 4.8°	63° ± 4.6°	63° ± 4.5°	62° ± 4.2°	60° ± 4.6°
Vertical Beamwidth (-3 dB)		9.2° ± 0.5°	8.7° ± 0.4°	8.2° ± 0.7°	7.3° ± 0.4°	6.6° ± 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	First Upper Lobe	> 16 dB	> 16 dB	> 16 dB	> 16 dB	> 16 dB
	Peak to 20°	> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 14 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 Order, (2x43 dBm Carrier)		< -153 dBc				

ELECTRICAL CHARACTERISTICS		Y4				
Frequency Bands		1695-2690 MHz				
		1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Gain	At Mid Tilt (dBi)	15.4	15.9	15.9	15.9	16.2
	Over All Tilts (dBi)	15.4 ± 0.6	15.9 ± 0.4	15.9 ± 0.7	16.1 ± 0.7	16.1 ± 0.7
Input Impedance		50Ω				
VSWR		< 1.5				
Polarisation		±45°				
Horizontal Beamwidth (-3 dB)		67° ± 4.8°	63° ± 4.6°	61° ± 4.5°	62° ± 4.2°	60° ± 4.6°
Vertical Beamwidth (-3 dB)		10.8° ± 0.8°	10.1° ± 0.6°	9.7° ± 0.8°	8.4° ± 0.4°	7.7° ± 0.7°
Electrical Downtilt Range		0-10°				
Cross Polar Isolation		> 28 dB				
Interband Isolation		> 28 dB				
Port-to-Port Isolation		> 28 dB				
Upper Sidelobe Suppression	First Upper Lobe	> 16 dB	> 16 dB	> 16 dB	> 16 dB	> 16 dB
	Peak to 20°	> 15 dB	> 15 dB	> 15 dB	> 15 dB	> 14 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 Order, (2x43 dBm Carrier)		< -153 dBc				

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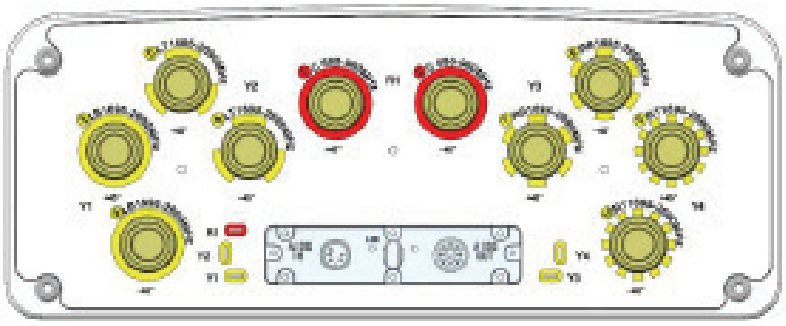
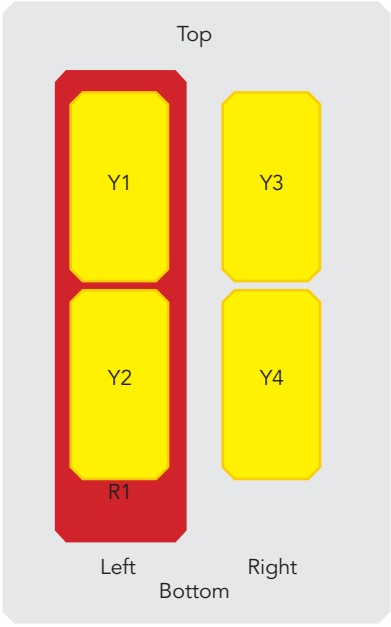
INTEGRATED RET PROPERTIES	
Power Supply	10-30VDC
Power Consumption	< 1W (Idle), < 10W (In Motion)
Hardware Interface	Pin3: RS485B; Pin5: RS485A; Pin6: 10-30V; Pin7: DC Return According to AISG/3GPP
Protocol Supported	Compliant with 3GPP/AISGv2.0
Adjustment Time (Full Range)	≤ 90 s (typical, depending 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





ARRAY LAYOUT	ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE
	R1	690-960	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
	Y3	1695-2690	7-8	4.3-10 Female or 7/16-DIN Female
	Y4	1695-2690	9-10	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.

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ENVIRONMENTAL CHARACTERISTICS		
Lightning Protection		DC Ground
Operating Temperature		-40° to +70° C (-40° to +158° F)
Operating Humidity		+95% Relative Humidity
MECHANICAL CHARACTERISTICS		
Dimensions (Height x Width x Depth)		1997 x 377 x 157 mm (78.6 x 14.8 x 6.2 in)
Weight (excluding mounting accessory)		27.8 kg (61.2 lbs)
Weight with brackets		34 kg (74.9 lbs)
Radome Material		Fiberglass
Maximum Wind Speed		200 km/h (124.3 mph)
Wind Load at 150 km/h	Front	1100 N (247.3 lbf)
	Lateral	1150 N (258.5 lbf)

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)	0-12°

PACKAGING

Carton Box
2.197 x 0.472 x 0.277 m
(86.5 x 18.6 x 10.9 in)