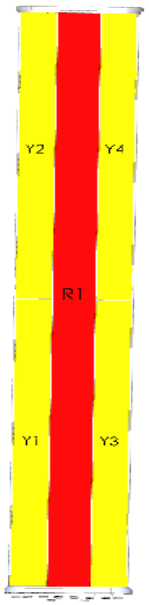
6898310Ev

10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 1995 mm

- Penta band antenna, Dual polarisation, 10 connectors
- Independent tilt on each band 0-10° / 0-10° / 0-10° / 0-10° / 0-10°
- MET and RET versions, 3GPP/AISG2.0, in multiple single RET (multiple device type1) or in Multi-RET (device type 17, with firmware above MD3.10).
- Our patented RET module to controlling all tilt angles (field replaceable)

PRODUCT OVERVIEW						
	Frequency Range (MHz)	698-960	1695-2690	1695-2690	1695-2690	1695-2690
	Array	R1	Y1	Y2	Y3	Y4
	Connector	1-2	3-4	5-6	7-8	9-10
	Polarization	XPOL	XPOL	XPOL	XPOL	XPOL
	Azimuth Beamwidth (avg)	65°	65°	65°	65°	65°
	Electrical Downtilt	0-10°	0-10°	0-10°	0-10°	0-10°
	Dimensions	1995 x ~350 x 159 mm				



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	6898310ENv
Remote Electrical Tilt (RET) AISG v2.0 / 3GPP	Multi-Device Control Unit (MDCU)	4.3-10 Female	6898310ENGv

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 SPECIFICATIONS Ultra Low Band — R1

Frequency Range		MHz	698-960			
		MHz	698-806	790-862	824-894	880-960
Polarization		---	± 45°			
Gain (Peak)		dBi	15.3	15.7	15.7	15.8
Gain (Average)		dBi	15.0 ± 0.3	15.4 ± 0.3	15.4 ± 0.3	15.5 ± 0.3
Azimuth Beamwidth		degrees	67.1 ± 2.5	66.1 ± 2.9	66.4 ± 2.4	65.5 ± 3.9
Elevation Beamwidth		degrees	11.0 ± 0.7	9.9 ± 0.4	9.8 ± 0.5	9.0 ± 0.4
Electrical Downtilt		degrees	0-10			
Impedance		Ohms	50			
VSWR		---	< 1.5			
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	≤ -150			
Front-to-Back Ratio Co-Pol, ±30°		dB	> 26.7	> 28.1	> 28.5	> 26.5
First Upper Sidelobe Suppression		dB	> 18.6	> 18.6	> 17.7	> 17.0
Squint		degrees	< 3	< 3	< 3	< 3
Cross Polar Ratio	Main Direction (0°)	dB	> 17.1	> 19.3	> 22.7	> 21.5
Maximum Effective Power Per Port		Watts	300			
Intra Band Isolation		dB	> 25			
Inter Band Isolation		dB	> 28			

Standard values based on NGMN-P-BASTA version 12.0 recommendation.

ELECTRICAL SPECIFICATIONS Ultra Wide Band — Y1

Frequency Range		MHz	1695-2690				
		MHz	1695-1880	1850-1990	1920-2180	2300-2500	2490-2690
Polarization		---	± 45°				
Gain (Peak)		dBi	15.5	15.8	16.0	16.5	16.7
Gain (Average)		dBi	15.2 ± 0.3	15.5 ± 0.3	15.7 ± 0.3	16.2 ± 0.3	16.4 ± 0.3
Azimuth Beamwidth		degrees	62.6 ± 3.7	59.4 ± 2.9	57.9 ± 2.1	59.3 ± 3.0	62.4 ± 6.7
Elevation Beamwidth		degrees	10.2 ± 0.6	9.7 ± 0.7	9.1 ± 1.0	7.6 ± 0.5	6.9 ± 0.4
Electrical Downtilt		degrees	0-10				
Impedance		Ohms	50				
VSWR		---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	≤ -150				
Front-to-Back Ratio Co-Pol, ±30°		dB	> 25.5	> 25.1	> 26.1	> 26.6	> 28.0
First Upper Sidelobe Suppression		dB	> 17.6	> 17.8	> 17.7	> 17.0	> 17.1
Squint		degrees	< 3	< 3	< 3	< 3	< 3
Cross Polar Ratio	Main Direction (0°)	dB	> 16.8	> 18.3	> 17.2	> 15.6	> 19.8
Maximum Effective Power Per Port		Watts	250				
Intra Band Isolation		dB	> 25				
Inter Band Isolation		dB	> 28				

Standard values based on NGMN-P-BASTA version 12.0 recommendation.

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ELECTRICAL SPECIFICATIONS Ultra Wide Band

Y2

Frequency Range	MHz	1695-2690				
	MHz	1695-1880	1850-1990	1920-2180	2300-2500	2490-2690
Polarization	---	± 45°				
Gain (Peak)	dBi	15.7	15.8	16.3	16.6	16.8
Gain (Average)	dBi	15.4 ± 0.3	15.5 ± 0.3	16.0 ± 0.3	16.3 ± 0.3	16.5 ± 0.3
Azimuth Beamwidth	degrees	59.9 ± 5.0	59.0 ± 3.6	58.1 ± 2.8	58.5 ± 4.9	64.8 ± 9.3
Elevation Beamwidth	degrees	9.9 ± 0.5	9.4 ± 0.3	8.9 ± 0.6	7.5 ± 0.5	6.9 ± 0.3
Electrical Downtilt	degrees	0-10				
Impedance	Ohms	50				
VSWR	---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers	dBc	≤ -150				
Front-to-Back Ratio Co-Pol, ±30°	dB	> 27.3	> 27.5	> 28.2	> 31.2	> 27.6
First Upper Sidelobe Suppression	dB	> 17.2	> 17.4	> 17.2	> 17.0	> 17.9
Squint	degrees	< 3	< 3	< 3	< 3	< 3
Cross Polar Ratio Main Direction (0°)	dB	> 18.1	> 20.4	> 21.9	> 17.8	> 15.8
Maximum Effective Power Per Port	Watts	250				
Intra Band Isolation	dB	> 25				
Inter Band Isolation	dB	> 28				

Standard values based on NGMN-P-BASTA version 12.0 recommendation.

ELECTRICAL SPECIFICATIONS Ultra Wide Band

Y3

Frequency Range	MHz	1695-2690				
	MHz	1695-1880	1850-1990	1920-2180	2300-2500	2490-2690
Polarization	---	± 45°				
Gain (Peak)	dBi	15.6	15.7	16.1	16.6	16.9
Gain (Average)	dBi	15.3 ± 0.3	15.4 ± 0.3	15.8 ± 0.3	16.3 ± 0.3	16.6 ± 0.3
Azimuth Beamwidth	degrees	65.0 ± 3.3	61.7 ± 4.5	60.5 ± 4.2	61.0 ± 4.1	65.9 ± 5.7
Elevation Beamwidth	degrees	9.9 ± 0.5	9.4 ± 0.6	8.8 ± 0.5	7.4 ± 0.4	6.9 ± 0.3
Electrical Downtilt	degrees	0-10				
Impedance	Ohms	50				
VSWR	---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers	dBc	≤ -150				
Front-to-Back Ratio Co-Pol, ±30°	dB	> 24.6	> 24.7	> 24.9	> 29.2	> 26.1
First Upper Sidelobe Suppression	dB	> 17.8	> 17.9	> 17.7	> 17.5	> 17.2
Squint	degrees	< 3	< 3	< 3	< 3	< 3
Cross Polar Ratio Main Direction (0°)	dB	> 18.1	> 17.8	> 16.3	> 15.5	> 17.9
Maximum Effective Power Per Port	Watts	250				
Intra Band Isolation	dB	> 25				
Inter Band Isolation	dB	> 28				

Standard values based on NGMN-P-BASTA version 12.0 recommendation.

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ELECTRICAL SPECIFICATIONS Ultra Wide Band

Y4

Frequency Range	MHz	1695-2690				
	MHz	1695-1880	1850-1990	1920-2180	2300-2500	2490-2690
Polarization	---	± 45°				
Gain (Peak)	dBi	15.5	15.7	16.1	16.3	16.8
Gain (Average)	dBi	15.2 ± 0.3	15.4 ± 0.3	15.8 ± 0.3	16.0 ± 0.3	16.5 ± 0.3
Azimuth Beamwidth	degrees	63.1 ± 5.3	59.2 ± 3.4	58.4 ± 2.4	60.4 ± 4.0	69.4 ± 7.9
Elevation Beamwidth	degrees	10.0 ± 0.6	9.6 ± 0.4	9.1 ± 0.6	7.7 ± 0.5	6.8 ± 0.4
Electrical Downtilt	degrees	0-10				
Impedance	Ohms	50				
VSWR	---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers	dBc	≤ -150				
Front-to-Back Ratio Co-Pol, ±30°	dB	> 24.8	> 25.4	> 25.5	> 27.0	> 26.2
First Upper Sidelobe Suppression	dB	> 18.9	> 17.1	> 17.2	> 18.3	> 17.2
Squint	degrees	< 3	< 3	< 3	< 3	< 3
Cross Polar Ratio — Main Direction (0°)	dB	> 19.8	> 19.8	> 17.6	> 16.2	> 18.6
Maximum Effective Power Per Port	Watts	250				
Intra Band Isolation	dB	> 25				
Inter Band Isolation	dB	> 28				

Standard values based on NGMN-P-BASTA version 12.0 recommendation.

ELECTRICAL DOWNTILT CONTROL

For multiband antennas, electrical downtilt for each band can be controlled separately.

Manual Electrical Tilt (MET) Control	The MET is a separate kit provided on the bottom of the antenna. This kit has colored knobs with a respective array identification indicated within it. This knob can be rotated to set an electrical downtilt as per the requirement. The tilt information of the respective arrays can be observed with an indicator provided near the knob.
Remote Electrical Tilt (RET) Control	The remote control of the electrical tilt is managed by single RET unit inserted in the bottom of the antenna. *See details below and refer to the ordering options to see which actuators are available with this particular antenna.* A single actuator individually controls the tilt of each band (no need for daisy chain cables between the bands). This module does not add any additional length to the antenna.

ENVIRONMENTAL SPECIFICATIONS

Environmental Standard	---	ETS 300 019
Operating Temperature	° C (° F)	-40° to +60° (-40° to 140°)
Product Environmental Compliance	---	Product is RoHs Compliant

MOUNTING ACCESSORIES

ITEM	MODEL NUMBER	WEIGHT
Brackets for pole Ø48 to Ø115 mm (Ø1.9 to Ø4.5 in) and Kit to add mechanical tilt (0° to 10°)	IA00483	5.0 kg (11.0 lbs)

INSTALLATION Please read all installation notes before installing this product.

Always attach the antenna by all mounting points.

Do not install the antenna with the connectors facing upwards.

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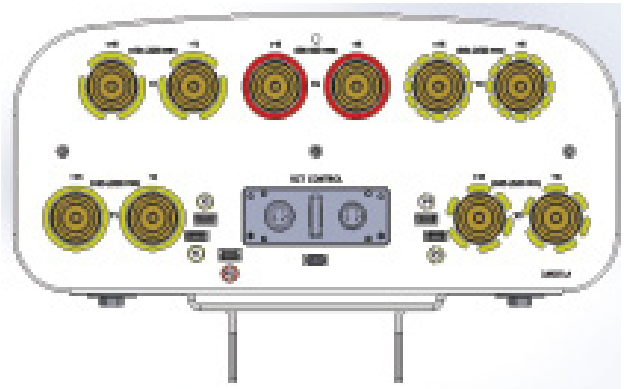
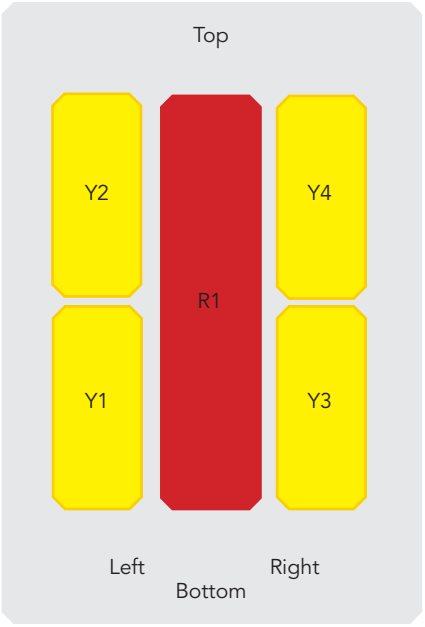
RET ACTUATOR

Amphenol's **RET-READY** antennas are delivered with the RET Actuator already installed and pre-commissioned with all antenna parameters. Every RET device is factory configured and calibrated so the antenna is ready to be used once delivered to the site which means that there is no need for further installation of RET devices.

Number of RET-READY Actuators		One per antenna
Input Voltage		+10 to +30 V
Power Consumption	Idle State	0.5 W
	Operating	4 W typical / 10 W maximum
Protocol		3GPP/AISG 2.0
Tilt Change Duration		Less than 15 seconds, typical (may vary dependent on antenna type and outdoor temperature)
Precision		±0.5°
Tilt Change Capability		50,000 minimum
RET Interface		1 pair of AISG Male and Female (type IEC60130-9)
Field Replaceable Unit		Yes





ARRAY LAYOUT	ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE
	R1	698-960	1-2	4.3-10 Female
	Y1	1695-2690	3-4	4.3-10 Female
	Y2	1695-2690	5-6	4.3-10 Female
	Y3	1695-2690	7-8	4.3-10 Female
	Y4	1695-2690	9-10	4.3-10 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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MECHANICAL SPECIFICATIONS

Length		mm (in)	1995 (78.5)
Width		mm (in)	~350 (13.7)
Depth		mm (in)	159 (6.2)
Net Weight - Antenna Only		kg (lbs)	24 (52.9)
Mechanical Distance Between Mounting Points		mm (in)	1700 (66.9)
Windload (EN 1991-1-4:2005 using Wind Tunnel Coefficients)	Calculation	km/h (mph)	150 (93.2)
	Frontal	N (lbf)	647 (145.4)
	Lateral	N (lbf)	315 (70.8)
Operational Wind Speed		km/h (mph)	160 (99.4)
Survival Wind Speed		km/h (mph)	200 (124)
Radome Color		---	Gray RAL7035
Reflector Material		---	Aluminium
Radiator Material		---	Aluminium and Low loss circuit board
Radome Material		---	Fiberglass
Lightning Protection		---	Direct Ground
Shipping Dimensions (Length x Width x Depth)		mm (in)	2100 x 450 x 312 (82.6 x 17.7 x 12.2)
Shipping Weight		kg (lbs)	34 (74.9)