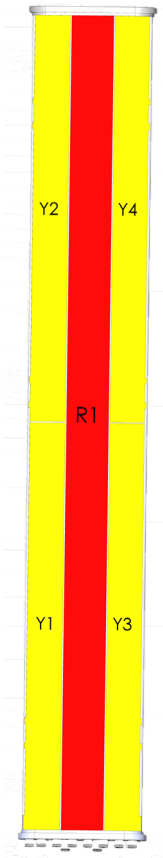
6800412E

6800412EG, 6800412ENG

5-Band, 10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 2688 mm

StreamLine

- Penta band antenna, Dual polarisation, 10 connectors
- Independent tilt on each band 2-12° / 2-12° / 2-12° / 2-12° / 2-12°
- MET and RET versions, 3GPP/AISG2.0
- Single RET module to control all tilt angles, fully inserted inside the antenna (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	2-12°	2-12°	2-12°	2-12°	2-12°
	Dimensions	2688 x 358 x 159 mm				

ORDERING OPTIONS Select from the different options listed below

SELECT ELECTRICAL DOWNTILT CONTROL & AISG PROTOCOL	SELECT CONNECTOR TYPE	ANTENNA MODEL NUMBER
Remote Electrical Tilt (RET) AISG v2.0 / 3GPP	7/16 Female	6800412EG
Remote Electrical Tilt (RET) AISG v2.0 / 3GPP	4.3-10 Female	6800412ENG

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.

6800412E

6800412EG, 6800412ENG

5-Band, 10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 2688 mm

ELECTRICAL SPECIFICATIONS Ultra Low Band

R1

Frequency Range		MHz	698-960			
		MHz	698-806	790-862	824-894	880-960
Polarization		---	±45°			
Gain	Over all Tilts	dBi	15.5 ± 0.5	15.9 ± 0.3	16.2 ± 0.6	16.7 ± 0.4
Azimuth Beamwidth		degrees	72.9° ± 2.0°	72.8° ± 2.5°	70.8° ± 5.8°	62.6° ± 3.2°
Elevation Beamwidth		degrees	8.7° ± 0.7°	7.6° ± 0.5°	7.4° ± 0.4°	7.1° ± 0.3°
Electrical Downtilt		degrees	2-12°			
Impedance		Ohms	50			
VSWR		---	< 1.5			
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153			
Front-to-Back Ratio, Total Power, ±30°		dB	> 24.5	> 24.1	> 24.8	> 24.5
Upper Sidelobe Suppression, Peak to 20°		dB	> 16.8	> 16.2	> 16.1	> 15.5
Cross Polar Ratio	Main Direction (0°)	dB	> 14.9	> 15.1	> 14.5	> 15.8
	Sector Edges (60°)	dB	> 12.2	> 11.2	> 6.1	> 5.7
Maximum Effective Power Per Port		Watts	250 W			
Cross Polar Isolation		dB	> 26			
Inter Band Isolation		dB	> 30			

Standard values based on NGMN-P-BASTA version 10.0 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	Over all Tilts	dBi	16.9 ± 0.8	16.7 ± 0.7	16.9 ± 0.6	18.0 ± 0.8	17.7 ± 0.7
Azimuth Beamwidth		degrees	62.4° ± 4.7°	60.4° ± 3.3°	58.8° ± 3.2°	60.4° ± 5.2°	67.0° ± 5.2°
Elevation Beamwidth		degrees	7.3° ± 0.3°	7.0° ± 0.5°	6.5° ± 0.6°	5.5° ± 0.3°	5.1° ± 0.3°
Electrical Downtilt		degrees	2-12°				
Impedance		Ohms	50				
VSWR		---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153				
Front-to-Back Ratio, Total Power, ±30°		dB	> 27.4	> 25.5	> 24.7	> 27.0	> 26.4
Upper Sidelobe Suppression, Peak to 20°		dB	> 15.8	> 15.7	> 16.0	> 16.4	> 17.6
Cross Polar Ratio	Main Direction (0°)	dB	> 16.8	> 17.2	> 16.4	> 17.0	> 18.2
	Sector Edges (60°)	dB	> 11.3	> 9.6	> 8.4	> 6.1	> 6.0
Maximum Effective Power Per Port		Watts	250 W				
Cross Polar Isolation		dB	> 26				
Inter Band Isolation		dB	> 30				

Standard values based on NGMN-P-BASTA version 10.0 recommendation.

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.

6800412E

6800412EG, 6800412ENG

5-Band, 10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 2688 mm

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	Over all Tilts	dBi	16.2 ± 0.5	15.8 ± 0.3	15.9 ± 0.5	16.8 ± 0.4	16.9 ± 0.7
Azimuth Beamwidth		degrees	62.0° ± 4.2°	60.8° ± 3.1°	58.9° ± 4.0°	60.6° ± 5.8°	66.7° ± 5.6°
Elevation Beamwidth		degrees	7.4° ± 0.4°	7.2° ± 0.5°	6.7° ± 0.7°	5.6° ± 0.2°	5.4° ± 0.2°
Electrical Downtilt		degrees	2-12°				
Impedance		Ohms	50				
VSWR		---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153				
Front-to-Back Ratio, Total Power, ±30°		dB	> 26.4	> 25.0	> 25.0	> 26.3	> 26.4
Upper Sidelobe Suppression, Peak to 20°		dB	> 15.9	> 16.0	> 16.5	> 16.4	> 16.5
Cross Polar Ratio	Main Direction (0°)	dB	> 15.5	> 16.4	> 16.8	> 17.2	> 15.8
	Sector Edges (60°)	dB	> 10.5	> 8.5	> 7.4	> 6.6	> 5.5
Maximum Effective Power Per Port		Watts	250 W				
Cross Polar Isolation		dB	> 26				
Inter Band Isolation		dB	> 30				

Standard values based on NGMN-P-BASTA version 10.0 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	Over all Tilts	dBi	16.9 ± 0.5	16.7 ± 0.4	16.9 ± 0.6	17.8 ± 0.6	17.2 ± 0.6
Azimuth Beamwidth		degrees	63.2° ± 3.9°	60.7° ± 3.6°	59.8° ± 3.8°	63.5° ± 6.2°	70.8° ± 6.9°
Elevation Beamwidth		degrees	7.5° ± 0.3°	7.0° ± 0.5°	6.4° ± 0.8°	5.3° ± 0.2°	5.0° ± 0.3°
Electrical Downtilt		degrees	2-12°				
Impedance		Ohms	50				
VSWR		---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153				
Front-to-Back Ratio, Total Power, ±30°		dB	> 26.6	> 26.2	> 26.3	> 24.5	> 24.5
Upper Sidelobe Suppression, Peak to 20°		dB	> 15.8	> 15.2	> 15.7	> 16.2	> 16.5
Cross Polar Ratio	Main Direction (0°)	dB	> 15.5	> 15.7	> 16.4	> 16.1	> 17.5
	Sector Edges (60°)	dB	> 11.3	> 12.1	> 9.8	> 8.2	> 6.1
Maximum Effective Power Per Port		Watts	250 W				
Cross Polar Isolation		dB	> 26				
Inter Band Isolation		dB	> 30				

Standard values based on NGMN-P-BASTA version 10.0 recommendation.

6800412E

6800412EG, 6800412ENG

5-Band, 10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 2688 mm

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	Over all Tilts	dBi	16.2 ± 0.6	16.0 ± 0.4	16.2 ± 0.6	16.8 ± 0.7	16.7 ± 0.5
Azimuth Beamwidth		degrees	62.9° ± 3.3°	60.6° ± 2.7°	59.0° ± 3.6°	62.6° ± 6.0°	70.8° ± 6.6°
Elevation Beamwidth		degrees	7.5° ± 0.3°	7.1° ± 0.5°	6.5° ± 0.6°	5.5° ± 0.2°	5.2° ± 0.3°
Electrical Downtilt		degrees	2-12°				
Impedance		Ohms	50				
VSWR		---	< 1.5				
Passive Intermodulation 3rd Order for 2 x 20W Carriers		dBc	< -153				
Front-to-Back Ratio, Total Power, ±30°		dB	> 26.6	> 25.5	> 25.4	> 25.7	> 24.5
Upper Sidelobe Suppression, Peak to 20°		dB	> 15.9	> 16.0	> 15.5	> 16.1	> 16.2
Cross Polar Ratio	Main Direction (0°)	dB	> 14.8	> 14.5	> 14.3	> 18.7	> 18.6
	Sector Edges (60°)	dB	> 11.3	> 11.1	> 6.7	> 6.8	> 5.5
Maximum Effective Power Per Port		Watts	250 W				
Cross Polar Isolation		dB	> 26				
Inter Band Isolation		dB	> 30				

Standard values based on NGMN-P-BASTA version 10.0 recommendation.

6800412E

6800412EG, 6800412ENG

5-Band, 10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 2688 mm

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.

RET ACTUATOR

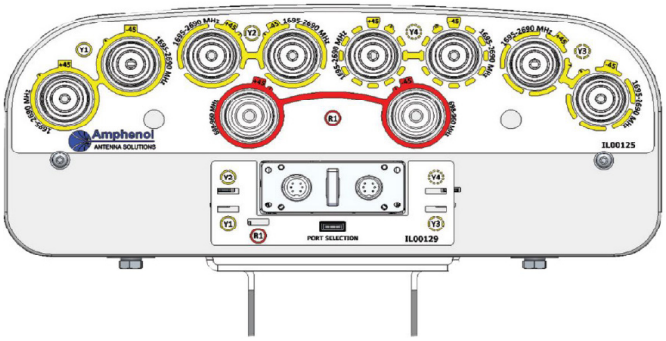
Amphenol's **RET-READY** antennas are delivered with the RET Actuator already installed and pre-commissioned with all antenna parameters. Every RET device is factory configured and calibrated so the antenna is ready to be used once delivered to the site which means that there is no need for further installation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

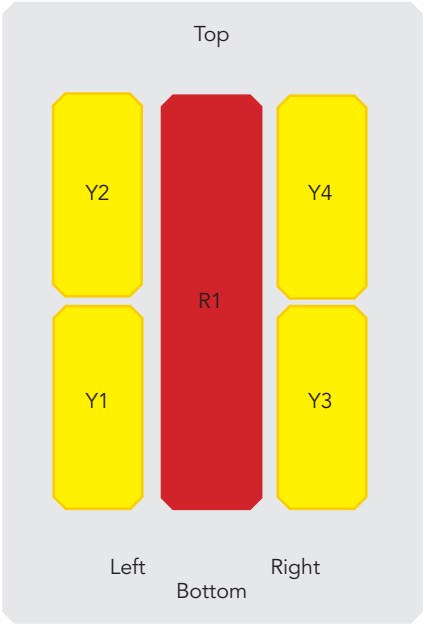
Number of RET-READY Actuators		One per antenna
Input Voltage		+10 to +30 V
Power Consumption	Idle State	0.5 W
	Operating	4 W typical / 10 W maximum
Protocol		3GPP/AISG 2.0
Tilt Change Duration		Less than 15 seconds, typical (may vary dependent on antenna type and outdoor temperature)
Precision		±0.5°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

6800412E

6800412EG, 6800412ENG

5-Band, 10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 2688 mm





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.

MECHANICAL SPECIFICATIONS

Length		mm (in)	2688 (105.8)
Width		mm (in)	358 (14.1)
Depth		mm (in)	159 (6.2)
Net Weight - Antenna Only		kg (lbs)	30 (66.1)
Mechanical Distance Between Mounting Points		mm (in)	1695 (66.7)
Windload (EN 1991-1-4:2005 using Wind Tunnel Coefficients)	Calculation	km/h (mph)	150 (93.2)
	Frontal	N (lbf)	TBD
	Lateral	N (lbf)	TBD
	Rearside	N (lbf)	TBD
Operational Wind Speed		km/h (mph)	160 (99.4)
Survival Wind Speed		km/h (mph)	200 (124)
Radome Color		---	Gray RAL7035
Radome Material		---	FRP
Lightning Protection		---	Direct Ground
Shipping	Shipping Dimensions (Length x Width x Depth)	mm (in)	2800 x 458 x 312 (110.2 x 19.6 x 12.2)
	Shipping Weight	kg (lbs)	38 (83.7)
	Shipping Volume	m^3 (ft^3)	0.435 (15.3)

6800412E

6800412EG, 6800412ENG

5-Band, 10-Port, 65°, XPOL, Panel Antenna, Variable Tilt, 2688 mm

ENVIRONMENTAL SPECIFICATIONS

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

ACCESSORIES All accessories are ordered separately unless otherwise indicated

ITEM	MODEL NUMBER	WEIGHT
Brackets for pole Ø48 to Ø115 mm (Ø1.9 to Ø4.5 in) ***delivered as standard***	IA00181	3.4 kg (7.5 lbs)
Kit to add mechanical tilt (0° to 10°) to above brackets ***optional***	0900397/00	3.0 kg (6.6 lbs)

Wall mounting brackets are available upon request

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.