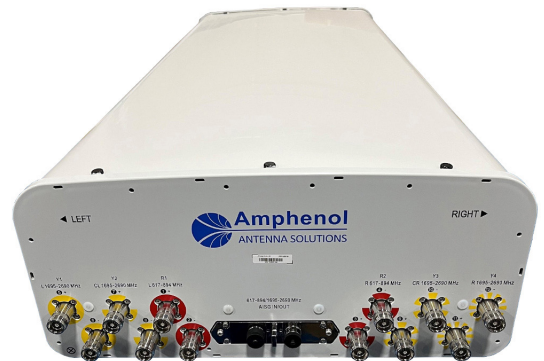


APXVAA4L12N_43-U-I20 APXVAA4L12N_43-A-I20

Features

- Narrow 499 mm radome for reduced windloading and easier zoning
- MIMO 4x4 in low-band and mid-band x2 (L/LC and RC/R)
- Integrated and field replaceable mRET
- ACU model number: ACU-X20-N3
- Ships in VSRET mode
- Compliant with AISG v2.0 and 3GPP
- Mechanical downtilt kit included
- Optional with Direct Pipe No Tilt mounting hardware (Model name suffix -A-I20)



PRODUCT OVERVIEW	Frequency Range (MHz)	(2x) 617-894		(4x) 1695-2690				
	Array	■ R1	■ R2	■ Y1	■ Y2	■ Y3	■ Y4	
	Connector	1-2	3-4	5-6	7-8	9-10	11-12	
		4 PORTS		8 PORTS				
	Polarization	XPOL			XPOL			
	Azimuth Beamwidth (avg)	65°			65°			
	Electrical Downtilt	4-18°			2-12°			
	Dimensions	1219 x 499 x 215 mm (48.0 x 19.7 x 8.5 in)						

ORDERING OPTIONS Select from the following ordering options

ANTENNA MODEL NUMBER	CONFIGURATION	MOUNTING HARDWARE	MOUNTING PIPE DIAMETER	SHIPPING WEIGHT	MOUNTING HARDWARE WEIGHT
APXVAA4L12N_43-U-I20	ACU-X20-N3 Field Replaceable RET Included	APM40-2 Beam Tilt Kit and APM40-E10 Interface (included)	60-120 mm (2.4-4.7 in)	31.9 kg (71 lbs)	4.4 kg (10 lbs)
APXVAA4L12N_43-A-I20	ACU-X20-N3 Field Replaceable RET Included	APM40-1 Direct Pipe No Tilt and APM40-E10 (included)	60-120 mm (2.4-4.7 in)	31.2 kg (69 lbs)	3.7 kg (8 lbs)



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APXVAA4L12N_43-U-I20

APXVAA4L12N_43-A-I20

ELECTRICAL SPECIFICATIONS

■ R1 ■ R2

Frequency Range		MHz	(2x) 617-894		
		MHz	617-698	698-806	806-894
Polarization		---	±45°		
Gain	Over all Tilts	dBi	12.9 ± 0.8	13.3 ± 0.8	13.7 ± 0.5
	Max Gain	dBi	13.7	14.1	14.2
Azimuth Beamwidth (3 dB)		degrees	68° ± 8°	68° ± 9°	62° ± 8°
Elevation Beamwidth (3 dB)		degrees	18° ± 2°	16° ± 2°	15° ± 1°
Electrical Downtilt		degrees	4-18°		
Impedance		Ohms	50Ω		
VSWR (Return Loss)		---	1.5:1 (-14 dB)		
Passive Intermodulation		dBc	-153 (3rd Order for 2x20 W Carriers)		
Front-to-Back Ratio, Total Power, ± 30°		dB	18	19	21
Front-to-Back at 180° Copolar		dB	27	26	29
Upper Side Lobe Suppression, Peak to +20°		dB	22	20	20
First Upper Side Lobe		dB	15	17	17
Cross-Pol Over Sector		dB	8	6	4
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	18	22	22
Maximum Effective Power Per Port		Watts	300 W		
Cross Polar Isolation		dB	25	25	25
Interband Isolation		dB	20	20	20

Specifications follow BASTA guidelines.

APXVAA4L12N_43-U-I20

APXVAA4L12N_43-A-I20

ELECTRICAL SPECIFICATIONS

■ Y1 ■ Y2 ■ Y3 ■ Y4

Frequency Range		MHz	(4x) 1695-2690				
		MHz	1695-1880	1850-1990	1920-2200	2200-2500	2500-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	15.2 ± 0.6	15.8 ± 0.6	16.4 ± 0.9	17.1 ± 0.5	17.3 ± 0.5
	Max Gain	dBi	15.8	16.4	17.3	17.6	17.8
Azimuth Beamwidth (3 dB)		degrees	69° ± 7°	67° ± 7°	61° ± 11°	56° ± 6°	56° ± 5°
Elevation Beamwidth (3 dB)		degrees	9° ± 1°	8° ± 1°	7.5 ± 1°	6° ± 0.5°	6° ± 0.5°
Electrical Downtilt		degrees	2-12°				
Impedance		Ohms	50Ω				
VSWR (Return Loss)		---	1.5:1 (-14 dB)				
Passive Intermodulation		dBc	-153 (3rd Order for 2x20 W Carriers)				
Front-to-Back Ratio, Total Power, ± 30°		dB	21	23	24	22	23
Front-to-Back at 180° Copolar		dB	29	30	30	29	30
Upper Side Lobe Suppression, Peak to +20°		dB	15	17	17	16	16
First Upper Side Lobe		dB	17	19	19	19	18
Cross-Pol Over Sector		dB	6	5	2	2	1
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	15	16	17	17	16
Maximum Effective Power Per Port		Watts	250 W				
Cross Polar Isolation		dB	25	25	25	25	25
Interband Isolation		dB	20	20	20	20	20

Specifications follow BASTA guidelines.

RET ACTUATOR

Frequency		MHz	617-894	1695-2690
Model Number		---	ACU-X20-N3	
Number of RET Actuators		---	1	
RET ID		---	R1	Y1 and Y2
Input Voltage		Vdc	10-30V	
Power Consumption	Idle State, maximum	Watts	0.5W @ 10V, 1.5W @ 30V	
	Normal Conditions, maximum	Watts	4W @ 10V, 9W @ 30V	
Protocol		---	3GPP / AISG v2.0	
Tilt Change Duration		---	Less than 15 seconds, typical (may vary depending on antenna type and outdoor temperature)	
Precision		degrees	± 0.1°	
Tilt Change Capability		---	18,000 minimum	
RET Interface		---	One AISG Male and One AISG Female	
Field Replaceable Unit		---	Yes	
Location		---	Semi-internal	

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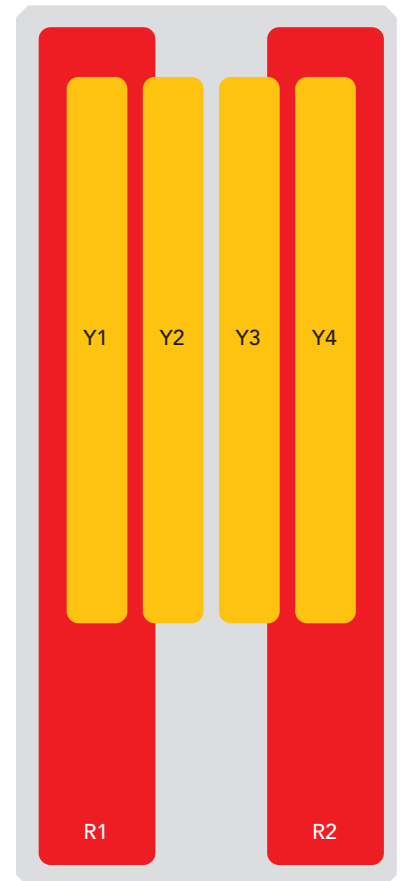
APXVAA4L12N_43-U-I20 APXVAA4L12N_43-A-I20

BOTTOM VIEW - LABELING



ARRAY LAYOUT

ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE	RET	AISG RET UID
■ R1	617-894 MHz	1-2	(2x) 4.3-10 Female	R1	RFxxxxxxxxxx-2R1
■ R2	617-894 MHz	3-4	(2x) 4.3-10 Female		
■ Y1	1695-2690 MHz	5-6	(2x) 4.3-10 Female	Y1	RFxxxxxxxxxx-2Y1
■ Y2	1695-2700 MHz	7-8	(2x) 4.3-10 Female		
■ Y3	1695-2690 MHz	9-10	(2x) 4.3-10 Female	Y2	RFxxxxxxxxxx-2Y2
■ Y4	1695-2690 MHz	11-12	(2x) 4.3-10 Female		



The illustration is not shown to scale.

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APXVAA4L12N_43-U-I20

APXVAA4L12N_43-A-I20

MECHANICAL SPECIFICATIONS

Length		mm (in)	1219 (48.0)
Width		mm (in)	499 (19.7)
Depth		mm (in)	215 (8.5)
Net Weight - Antenna Only		kg (lbs)	22 (49)
Wind Load Rated at 150 km/h (93 mph)	Frontal, Resultant	N (lbf)	407 (91)
	Lateral, Resultant	N (lbf)	382 (86)
	Rear, Resultant	N (lbf)	473 (106)
	Maximum, Resultant	N (lbf)	793 (178)
	Maximum, Drag Force	N (lbf)	701 (158)
Survival Wind Speed		km/h (mph)	240 (150)
Connector Type		--	(12x) 4.3-10 Female at Bottom
Radome Color		---	Light Grey RAL7035
Radome Material		---	ASA
Lightning Protection		---	Direct Ground
Shipping	Packing Size (Length x Width x Depth)	mm (in)	1430 x 560 x 265 (56.3 x 22.0 x 10.4)

ENVIRONMENTAL SPECIFICATIONS

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

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APXVAA4L12N_43-U-I20 APXVAA4L12N_43-A-I20

ACCESSORIES

Accessories may be ordered separately unless otherwise indicated.

ITEM	MODEL NUMBER	WEIGHT
Beam Tilt Mounting Bracket Kit and Interface Bracket for Pole Diameter 60-120 mm (2.4-4.7 in) <i>Refer to ordering options</i>	APM40-2 and APM40-E10	4.4 kg (10 lbs)
Direct Pipe No Tilt Bracket Kit and Interface Bracket for Pole Diameter 60-120 mm (2.4-4.7 in) <i>Refer to ordering options</i>	APM40-1 and APM40-E10	3.7 kg (8 lbs)

INSTALLATION

Please read all installation notes before installing product.

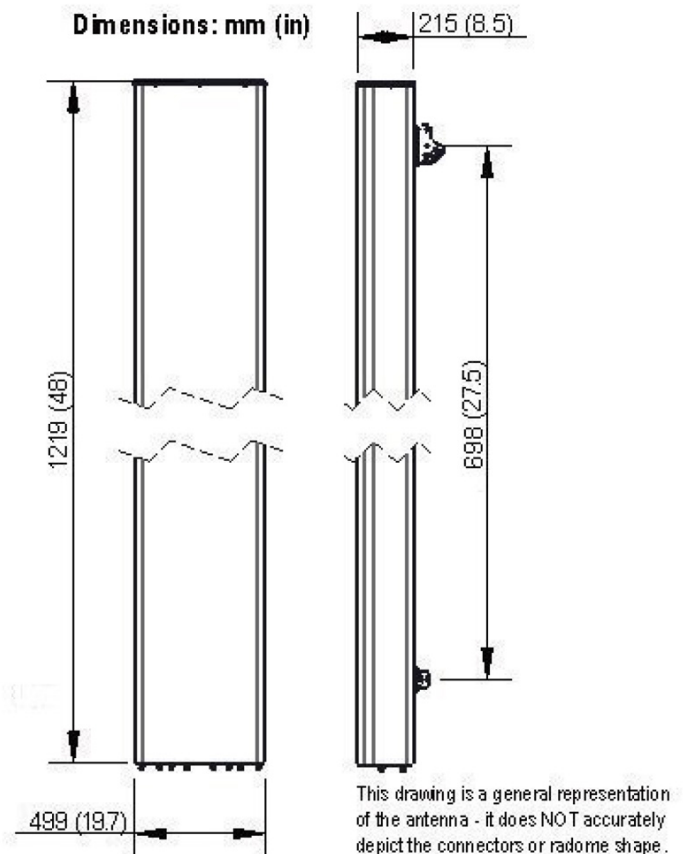


Always attach the antenna using all mounting points.

Do not install antenna with the connectors facing upwards.

EXTERNAL DOCUMENT LINKS

[APM40 Mounting Kit Series Installation Instructions](#)



NOTES

Specifications follow BASTA guidelines.

For additional mounting information, please check **External Document Links**.

For Radiating Patterns: [Request pattern files](#)