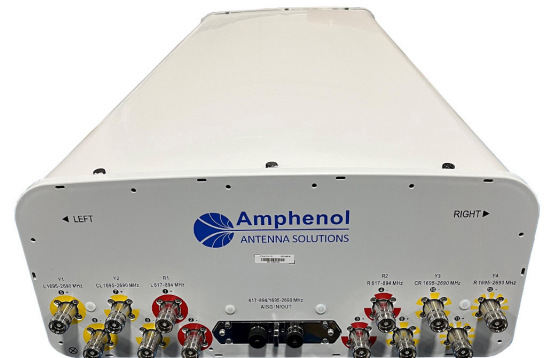








## APXVAA4L12N-U-I20

## APXVAA4L12N-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-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-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)

## APXVAA4L12N-U-I20

### APXVAA4L12N-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-U-I20

## APXVAA4L12N-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	

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.

## APXVAA4L12N-U-I20

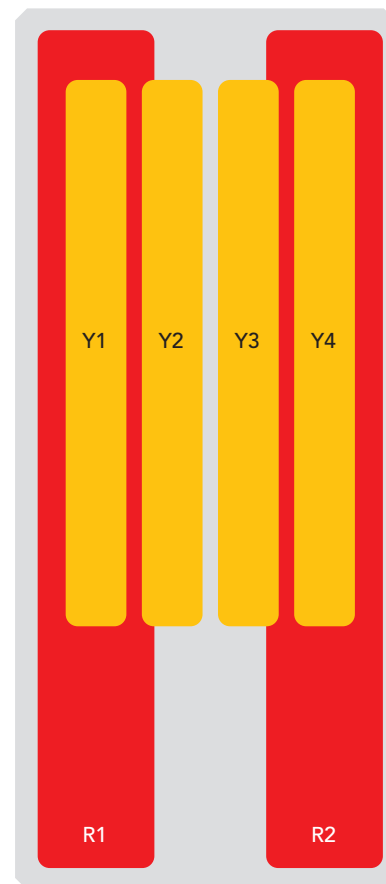
### APXVAA4L12N-A-I20

#### BOTTOM VIEW - LABELING



#### ARRAY LAYOUT

ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE	RET	AISG RET UID
<span style="color: red;">■</span> R1	617-894 MHz	1-2	(2x) 4.3-10 Female	R1	RFxxxxxxxxxx-2R1
<span style="color: red;">■</span> R2	617-894 MHz	3-4	(2x) 4.3-10 Female		
<span style="color: yellow;">■</span> Y1	1695-2690 MHz	5-6	(2x) 4.3-10 Female	Y1	RFxxxxxxxxxx-2Y1
<span style="color: yellow;">■</span> Y2	1695-2700 MHz	7-8	(2x) 4.3-10 Female		
<span style="color: yellow;">■</span> Y3	1695-2690 MHz	9-10	(2x) 4.3-10 Female	Y2	RFxxxxxxxxxx-2Y2
<span style="color: yellow;">■</span> Y4	1695-2690 MHz	11-12	(2x) 4.3-10 Female		



The illustration is not shown to scale.

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.

## APXVAA4L12N-U-I20

## APXVAA4L12N-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
<b>Shipping</b>	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

## APXVAA4L12N-U-I20

### APXVAA4L12N-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.

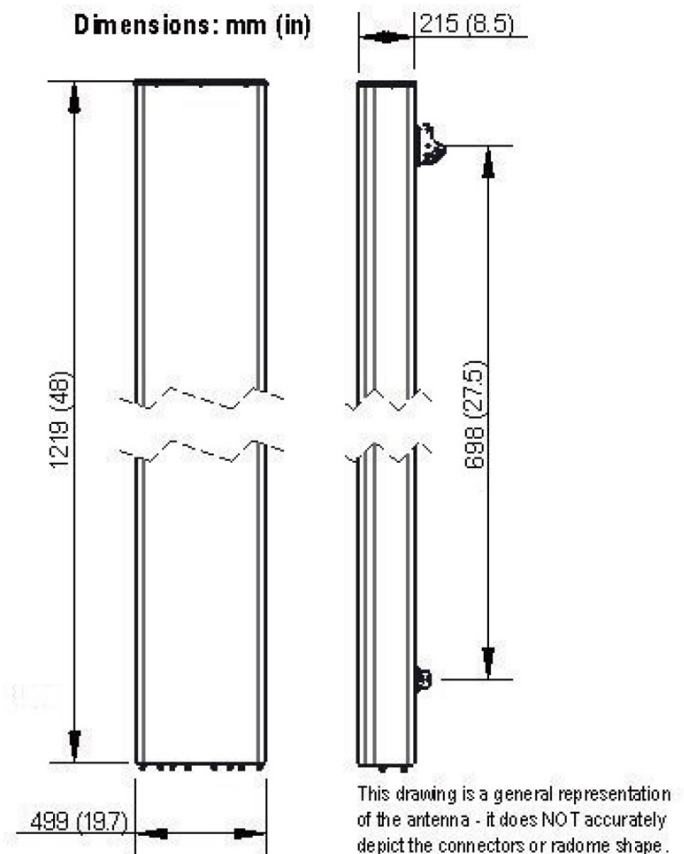


Always attach the antenna using all mounting points.

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](#)