

## APXVARR15\_43-C-NA20

### Features

This antenna provides a 6-Port multi-band flexible platform for use in deployment scenarios encompassing 600MHz, 700MHz, AWS and PCS applications



- Field replaceable (integrated) AISG RET platform for reduced environmental exposure and long lasting quality
- Superior elevation pattern performance across the entire electrical downtilt range
- ACU model number: x3 ACU-A20-SR, ACU HW 05
- Includes 0.5m AISG jumper for optional daisy-chain of two high band RET motors for one single point of high band AISG tilt control

PRODUCT OVERVIEW	Frequency Range (MHz)	(1x) 617-746	(2x) 1695-2200		
	Array	■ R1	■ B1	■ B2	
	Connector	1-2	3-4	5-6	
		2 PORTS	2 PORTS	2 PORTS	
	Polarization	XPOL	XPOL	XPOL	
	Azimuth Beamwidth (avg)	65°	65°	65°	
	Electrical Downtilt	5-20°	2-12°	2-12°	
Dimensions	1524 x 500 x 216 mm (60.0 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
APXVARR15_43-C-NA20	Field Replacable RET, included (3)	APM40-2 Beam Tilt Kit	60-120 mm (2.4-4.7 in)	36.8 kg (81.1 lbs)



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### ELECTRICAL SPECIFICATIONS

■ R1

Frequency Range		MHz	(1x) 617-746	
		MHz	617-698	698-746
Polarization		---	±45°	
Gain	Over all Tilts	dBi	13.8 ± 0.4	14.3 ± 0.4
	Max Gain	dBi	14.2	14.7
Azimuth Beamwidth (3 dB)		degrees	65.4° ± 1.4°	63.7° ± 1.2°
Elevation Beamwidth (3 dB)		degrees	18.0° ± 1.3°	16.2° ± 0.9°
Electrical Downtilt		degrees	5-20°	
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	27.6	28.4
Upper Side Lobe Suppression	Peak to +20°	dB	22	22
	0° to +20°	dB	18.6	16.4
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	22.7	22.5
Cross Polar Discrimination (XPD) at ± 60°		dB	10.9	8.5
Maximum Effective Power Per Port		Watts	250 W	
Cross-Polar Isolation Between Ports		dB	25	

### ELECTRICAL SPECIFICATIONS Left Array

■ B1

Frequency Range		MHz	(1x) 1695-2200		
		MHz	1695-1880	1850-1990	1910-2200
Polarization		---	±45°		
Gain	Over all Tilts	dBi	17.2 ± 0.6	17.6 ± 0.5	18.1 ± 0.7
	Max Gain	dBi	17.8	18.1	18.8
Azimuth Beamwidth (3 dB)		degrees	61.4° ± 2.9°	62.9° ± 1.4°	61.8° ± 2.0°
Elevation Beamwidth (3 dB)		degrees	7.3° ± 0.6°	6.7° ± 0.3°	6.1° ± 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	28.6	27.7	27.8
Upper Side Lobe Suppression	Peak to +20°	dB	17.5	18.8	18.5
	0° to +20°	dB	17.0	16.2	13.8
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	27.8	26.4	18.5
Cross Polar Discrimination (XPD) at ± 60°		dB	8.1	12.5	8.5
Maximum Effective Power Per Port		Watts	250 W		
Cross-Polar Isolation Between Ports		dB	25		

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### ELECTRICAL SPECIFICATIONS Right Array

### ■ B2

Frequency Range	MHz	(1x) 1695-2200			
	MHz	1695-1880	1850-1990	1910-2200	
Polarization	---	±45°			
Gain	Over all Tilts	dBi	17.3 ± 0.5	17.6 ± 0.5	18.3 ± 0.8
	Max Gain	dBi	17.8	18.1	19.1
Azimuth Beamwidth (3 dB)	degrees	62° ± 3.2°	64.1° ± 1.7°	61.6° ± 3.2°	
Elevation Beamwidth (3 dB)	degrees	7.2° ± 0.5°	6.7° ± 0.3°	6.1° ± 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	29.3	27.7	27.6	
Upper Side Lobe Suppression	Peak to +20°	dB	17.0	17.6	17.7
	0° to +20°	dB	16.6	15.7	14.2
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)	dB	26.6	22.7	19.8	
Cross Polar Discrimination (XPD) at ± 60°	dB	8.7	12.6	9.9	
Maximum Effective Power Per Port	Watts	250 W			
Cross-Polar Isolation Between Ports	dB	25			

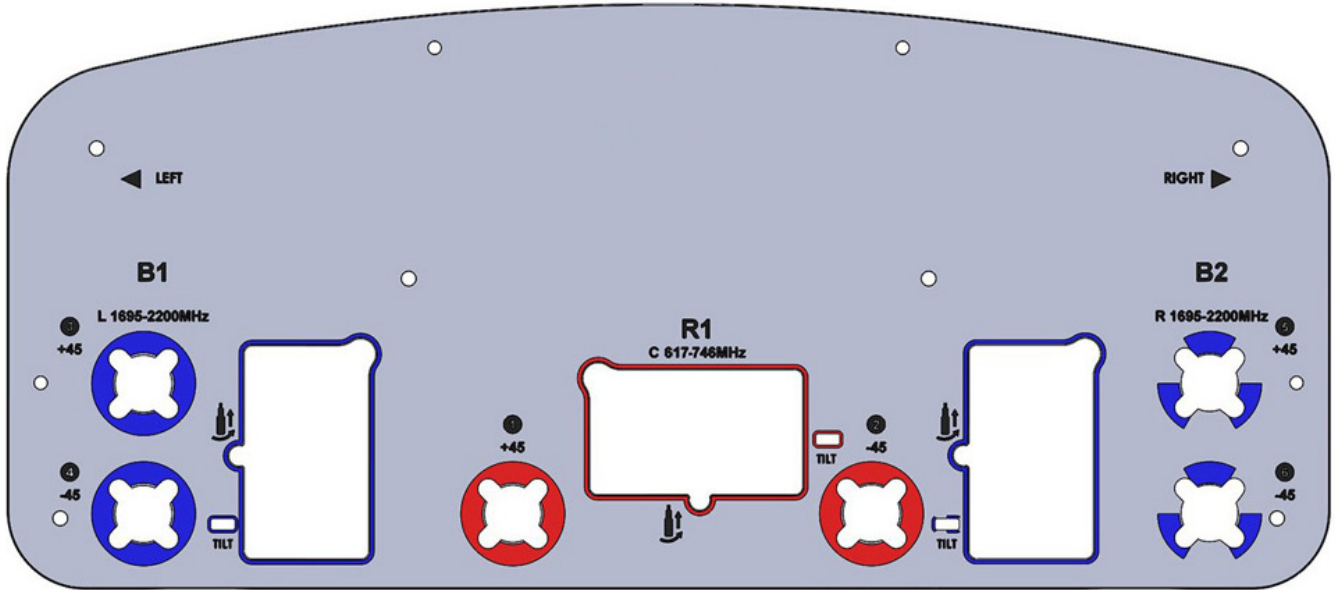
### RET ACTUATOR

Frequency	MHz	617-746	1695-2200
Model Number	---	ACU-A20-SR	ACU-A20-SR
Number of RET Actuators	---	1	2
RET ID	---	R1	B1 and B2
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 pair AISG Male and Female	Two pair AISG Male and Female
Field Replaceable Unit	---	Yes	
Location	---	Semi-internal	

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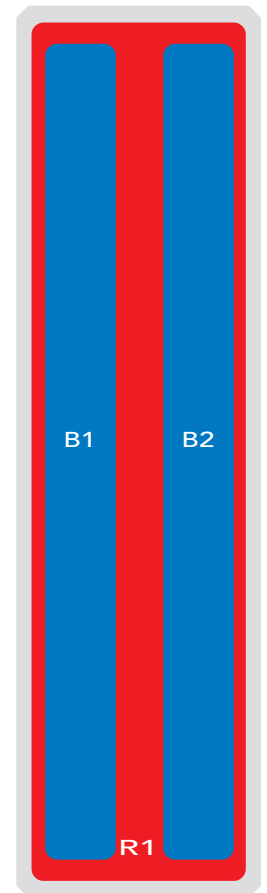
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## BOTTOM VIEW - LABELING



### ARRAY LAYOUT

ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE	RET	AISG RET UID
■ R1	617-746 MHz	1-2	(2x) 4.3-10 Female	R1	RFxxxxxxxxxx-2R1
■ B1	1695-2200 MHz	3-4	(2x) 4.3-10 Female	B1	RFxxxxxxxxxx-2B1
■ B2	1695-2200 MHz	5-6	(2x) 4.3-10 Female	B2	RFxxxxxxxxxx-2B2



The illustration is not shown to scale.

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### MECHANICAL SPECIFICATIONS

Length	mm (in)	1524 (60.0)
Width	mm (in)	500 (19.7)
Depth	mm (in)	216 (8.5)
Mechanical Distance Between Mounting Points	mm (in)	1300 (51.2)
Net Weight - Antenna Only	kg (lbs)	27.8 (61.1)
Net Weight - Mounting Hardware Only	kg (lbs)	3.3 (7.3)
Wind Load Rated at 150 km/h (93 mph)	Front	N (lbf) 483 (109)
	Side	N (lbf) 248 (56)
	Rear	N (lbf) 574 (129)
Survival Wind Speed	km/h (mph)	240 (150)
Connector Type	---	(6x) 4.3-10 Long Neck Female at Bottom (6x) AISG RET Connectors (3 Male, 3 Female)
Adjustment Mechanism	---	Integrated RET Solution AISG Compliant (Field Replaceable)
Radome Color	---	Light Grey RAL7035
Radome Material	---	ASA
Mounting Hardware Material	---	Diecast Aluminium and Galvanized Steel
Lightning Protection	---	Direct Ground
<b>Shipping</b>	Packing Size (Length x Width x Depth)	mm (in) 1640 x 560 x 410 (64.6 x 22.0 x 16.2)
	Shipping Weight	kg (lbs) 36.8 (81.1)

### 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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### ACCESSORIES

Accessories may be ordered separately unless otherwise indicated.

ITEM	MODEL NUMBER	WEIGHT
Beam Tilt Mounting Bracket Kit for Pole Diameter 60-120 mm (2.4-4.7 in) <i>Shipped with antenna</i>	APM40-2	3.3 kg (7.3 lbs)

### INSTALLATION

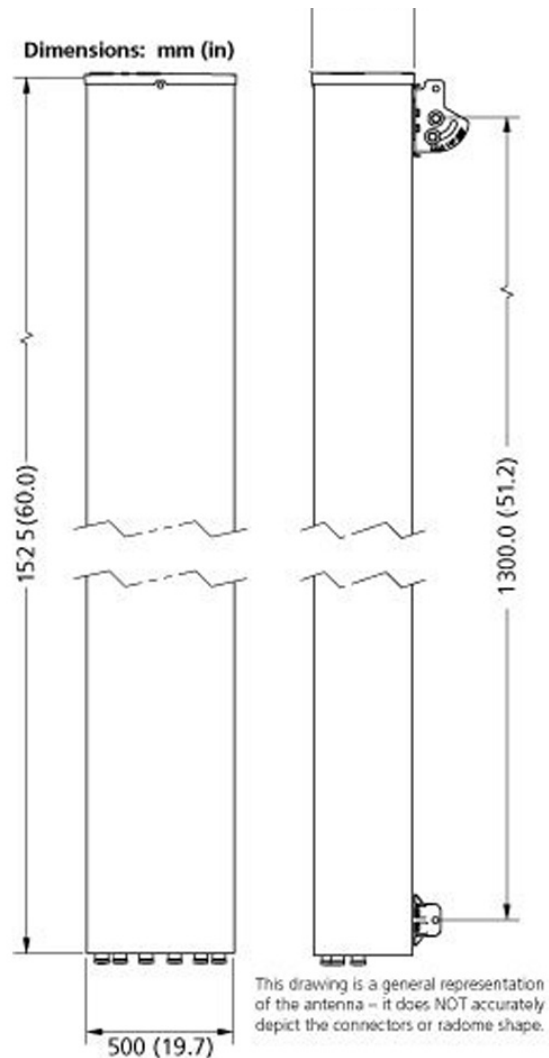
Please read all installation notes before installing product.



- 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](#)