

## APXVHHRRTM15AB\_43-C-I20

### Features

- Multiple individual beam control (Unit Beam)
- High-powered beam option (Broadcast Beam)
- Calibration port functionality for precise steering performance
- Integrated AISG compliant RET motor
- SRET field-replaceable / ACU HW version: 2.02
- Compliant with AISG v2.0 and 3GPP



PRODUCT OVERVIEW		FDD				TDD			
	Frequency Range (MHz)	(2x) 698-803		(2x) 1710-2170		(8T8R) 2515-2675			
	Array	<div></div> R1	<div></div> R2	<div></div> B1	<div></div> B2	<div></div> Y1			
	Connector	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16
		4 PORTS		4 PORTS		8 PORTS			
		4.3-10 Female		4.3-10 Female		N-Type Female			
	Polarization	XPOL		XPOL		XPOL			
	Azimuth Beamwidth (avg)	65°		65°		65° Unit Beam			
	Electrical Downtilt	0-14°		2-12°		2-12°			
	Dimensions	1595 x 499 x 199 mm (62.8 x 19.6 x 7.8 in)							

### ORDERING OPTIONS

Select from the following ordering options

ANTENNA MODEL NUMBER	CONFIGURATION	MOUNTING HARDWARE	MOUNTING PIPE DIAMETER	SHIPPING WEIGHT
APXVHHRRTM15AB_43-C-I20	ACU-I20-B5 Internal RET Included	APM50-B1 Beam Tilt Kit Included	50-110 mm (2.0-4.3 in)	41.2 kg (90.8 lbs)

## APXVHHRRTM15AB\_43-C-I20

### ELECTRICAL SPECIFICATIONS

■ R1

Frequency Range	MHz	698-803
Polarization	---	±45°
Gain	Over all Tilts	dBi
	Max Gain	dBi
Azimuth Beamwidth (3 dB)	degrees	78.2° ± 4.8°
Elevation Beamwidth (3 dB)	degrees	15.9° ± 1.6°
Electrical Downtilt	degrees	0-14°
Impedance	Ohms	50Ω
VSWR (Return Loss)	---	1.5:1 (-14 dB)
Passive Intermodulation	dBc	-150 (3rd Order for 2x20 W Carriers)
Front-to-Back Ratio, Total Power, ± 30°	dB	18.6
First Upper Side Lobe Suppression	dB	10.5
Cross-Pol Over Sector	dB	7
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)	dB	18.9
Maximum Effective Power Per Port	Watts	350 W
Cross Polar Isolation	dB	25
Interband Isolation	dB	25

Specifications follow BASTA guidelines.

### ELECTRICAL SPECIFICATIONS

■ R2

Frequency Range	MHz	698-803
Polarization	---	±45°
Gain	Over all Tilts	dBi
	Max Gain	dBi
Azimuth Beamwidth (3 dB)	degrees	77.7° ± 5.5°
Elevation Beamwidth (3 dB)	degrees	16° ± 1.8°
Electrical Downtilt	degrees	0-14°
Impedance	Ohms	50Ω
VSWR (Return Loss)	---	1.5:1 (-14 dB)
Passive Intermodulation	dBc	-150 (3rd Order for 2x20 W Carriers)
Front-to-Back Ratio, Total Power, ± 30°	dB	18.3
First Upper Side Lobe Suppression	dB	10.1
Cross-Pol Over Sector	dB	8.2
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)	dB	19.5
Maximum Effective Power Per Port	Watts	350 W
Cross Polar Isolation	dB	25
Interband Isolation	dB	25

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## APXVHHRRTM15AB\_43-C-I20

### ELECTRICAL SPECIFICATIONS

#### ■ B1

Frequency Range		MHz	1710-2170		
		MHz	1710-1880	1850-1990	1920-2170
Polarization		---	±45°		
Gain	Over all Tilts	dBi	15.8 ± 0.6	16.5 ± 0.4	16.7 ± 0.5
	Max Gain	dBi	16.4	16.9	17.2
Azimuth Beamwidth (3 dB)		degrees	57.8° ± 4.5°	53.3° ± 2.4°	52.1° ± 3.7°
Elevation Beamwidth (3 dB)		degrees	8.1° ± 0.6°	7.5° ± 0.5°	7.1° ± 0.5°
Electrical Downtilt		degrees	2-12°		
Impedance		Ohms	50Ω		
VSWR (Return Loss)		---	1.5:1 (-14 dB)		
Passive Intermodulation		dBc	-150 (3rd Order for 2x20 W Carriers)		
Front-to-Back Ratio, Total Power, ± 30°		dB	25	26.3	26.2
First Upper Side Lobe Suppression		dB	18.1	19.8	19.2
Cross-Pol Over Sector		dB	7.6	8.2	7.5
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	20.9	23.1	23.1
Maximum Effective Power Per Port		Watts	250 W		
Cross Polar Isolation		dB	25		
Interband Isolation		dB	25		

Specifications follow BASTA guidelines.

### ELECTRICAL SPECIFICATIONS

#### ■ B2

Frequency Range		MHz	1710-2170		
		MHz	1710-1880	1850-1990	1920-2170
Polarization		---	±45°		
Gain	Over all Tilts	dBi	15.9 ± 0.6	16.5 ± 0.4	16.7 ± 0.4
	Max Gain	dBi	16.5	16.9	17.1
Azimuth Beamwidth (3 dB)		degrees	57° ± 5.5°	53.4° ± 1.8°	52.5° ± 3°
Elevation Beamwidth (3 dB)		degrees	7.9° ± 0.6°	7.4° ± 0.3°	7° ± 0.5°
Electrical Downtilt		degrees	2-12°		
Impedance		Ohms	50Ω		
VSWR (Return Loss)		---	1.5:1 (-14 dB)		
Passive Intermodulation		dBc	-150 (3rd Order for 2x20 W Carriers)		
Front-to-Back Ratio, Total Power, ± 30°		dB	25	26.5	26
First Upper Side Lobe Suppression		dB	14.5	14.9	15.1
Cross-Pol Over Sector		dB	7	7.6	6.3
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	20.8	23	22.5
Maximum Effective Power Per Port		Watts	250 W		
Cross Polar Isolation		dB	25		
Interband Isolation		dB	25		

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## APXVHHRRTM15AB\_43-C-I20

Y1

### ELECTRICAL SPECIFICATIONS

### Cal. Board and S Parameter

Frequency Range	MHz	2515-2675
Coupling between Cal. Port to Input Port	dB	-26 ± 2
Coupling Amplitude Accuracy	dB	≤ 0.9
Coupling Phase Accuracy	degrees	≤ 7°
VSWR	---	≤ 1.5
Maximum Power	Watts	80 W
ISO Co-Polar at 2-6° Tilt	dB	≥ 19
ISO Co-Polar at 7-12° Tilt	dB	≥ 25
ISO Cross-Polar at 2-6° Tilt	dB	≥ 24
ISO Cross-Polar at 7-12° Tilt	dB	≥ 25

Specifications follow BASTA guidelines.

Y1

### ELECTRICAL SPECIFICATIONS

### Radiation Parameter - Unit Beam

Frequency Range		MHz	2515-2675
Polarization		---	±45°
Gain	Over all Tilts	dBi	14.6 ± 0.7
	Max Gain	dBi	15.3
Azimuth Beamwidth (3 dB)		degrees	68.4° ± 13.5°
Elevation Beamwidth (3 dB)		degrees	9° ± 0.7°
Electrical Downtilt		degrees	2-12°
Impedance		Ohms	50Ω
VSWR (Return Loss)		---	1.5:1 (-14 dB)
Front-to-Back Ratio, Total Power, ± 30°		dB	24
First Upper Side Lobe Suppression		dB	11.7
Cross-Pol Over Sector		dB	9.4
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	17.4

Specifications follow BASTA guidelines.

## APXVHHRRTM15AB\_43-C-I20

■ Y1

### ELECTRICAL SPECIFICATIONS

### Radiation Parameter - Broadcasting Beam

Frequency Range		MHz	2515-2675
Polarization		---	±45°
Gain	Over all Tilts	dBi	15.7 ± 0.9
	Max Gain	dBi	16.6
Azimuth Beamwidth (3 dB)		degrees	50° ± 4.5°
Elevation Beamwidth (3 dB)		degrees	9.5° ± 0.7°
Electrical Downtilt		degrees	2-12°
Impedance		Ohms	50Ω
VSWR (Return Loss)		---	1.5:1 (-14 dB)
Front-to-Back Ratio, Total Power, ± 30°		dB	23.8
First Upper Side Lobe Suppression		dB	16.2

Specifications follow BASTA guidelines.

■ Y1

### ELECTRICAL SPECIFICATIONS

### Radiation Parameter - Working Beam

Frequency Range		MHz	2515-2675
Polarization		---	±45°
Gain	Over all Tilts	dBi	20.2 ± 0.6
	Max Gain	dBi	20.8
Azimuth Beamwidth (3 dB)		degrees	20.8° ± 1.1°
Elevation Beamwidth (3 dB)		degrees	9.4° ± 0.6°
Electrical Downtilt		degrees	2-12°
Impedance		Ohms	50Ω
VSWR (Return Loss)		---	1.5:1 (-14 dB)
Front-to-Back Ratio, Total Power, ± 30°		dB	28.1
First Upper Side Lobe Suppression		dB	20

Specifications follow BASTA guidelines.

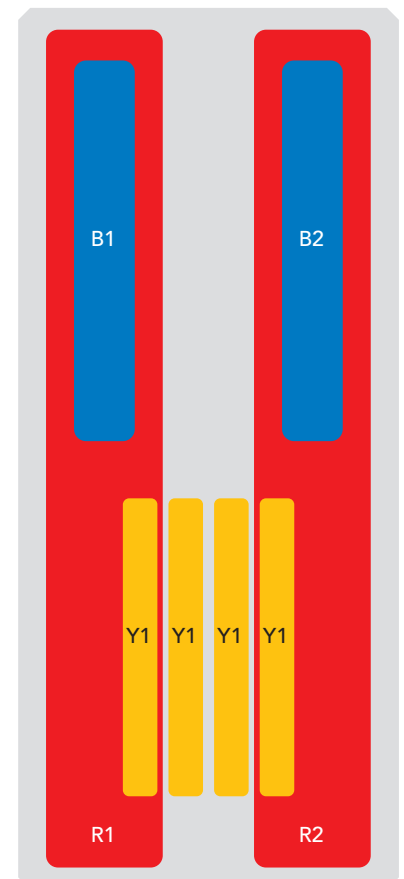
## APXVHHRRTM15AB\_43-C-I20

### BOTTOM VIEW - LABELING



### ARRAY LAYOUT

ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE	RET	AISG RET UID
<span style="color: red;">■</span> R1	698-803 MHz	1-2	(2x) 4.3-10 Female	R1	RFxxxxxxxxxx-R1
<span style="color: red;">■</span> R2	698-803 MHz	3-4	(2x) 4.3-10 Female	R2	RFxxxxxxxxxx-R2
<span style="color: blue;">■</span> B1	1710-2170 MHz	5-6	(2x) 4.3-10 Female	B1	RFxxxxxxxxxx-B1
<span style="color: blue;">■</span> B2	1710-2170 MHz	7-8	(2x) 4.3-10 Female	B2	RFxxxxxxxxxx-B2
<span style="color: yellow;">■</span> Y1	2515-2675 MHz	9-10	(2x) N-Type Female	Y1	RFxxxxxxxxxx-Y1
	2515-2675 MHz	11-12	(2x) N-Type Female		
	2515-2675 MHz	13-14	(2x) N-Type Female		
	2515-2675 MHz	15-16	(2x) N-Type Female		



The illustration is not shown to scale.

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### MECHANICAL SPECIFICATIONS

Length		mm (in)	1595 (62.8)
Width		mm (in)	499 (19.6)
Depth		mm (in)	199 (7.8)
Net Weight - Antenna Only		kg (lbs)	30.7 (67.7)
Net Weight - Mounting Hardware Only		kg (lbs)	4.5 (9.9)
Wind Load Rated at 150 km/h (93 mph)	Front	N (lbf)	1093 (246)
	Side	N (lbf)	301 (68)
	Rear	N (lbf)	1187 (267)
Survival Wind Speed / Rated Wind Speed		km/h (mph)	200 (150)
Connector Type		--	(8x) 4.3-10 Female, (8x) N-Type Female, (1x) Cal. Connector, (2x) AISG Connectors (1 Male, 1 Female) at Bottom
Radome Color		---	Light Grey RAL7035
Radome Material		---	Fiberglass
Lightning Protection		---	DC Ground
<b>Shipping</b>	Packing Size (Length x Width x Depth)	mm (in)	1840 x 595 x 295 (72.4 x 23.4 x 11.6)
	Shipping Weight	kg (lbs)	41.2 (90.8)

### 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

## APXVHHRRTM15AB\_43-C-I20

### ACCESSORIES Accessories may be ordered separately unless otherwise indicated.

ITEM	MODEL NUMBER	WEIGHT
Beam Tilt Mounting Bracket Kit for Pole Diameter 50-110 mm (2.0-4.3 in) <i>Shipped with antenna</i>	APM50-B1	4.5 kg (9.9 lbs)

### INSTALLATION Please read all installation notes before installing product.

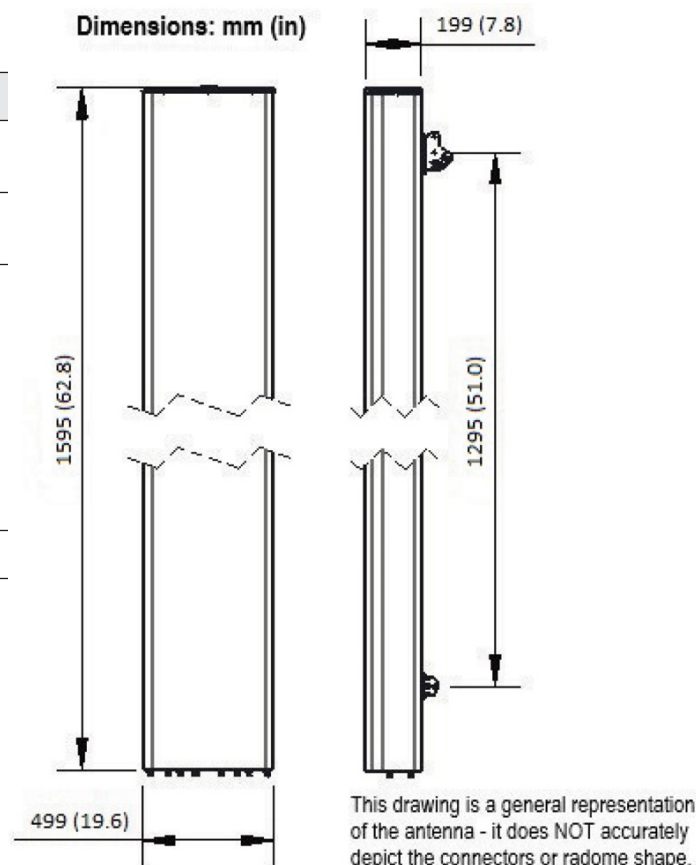


Always attach the antenna using all mounting points.

Do not install antenna with the connectors facing upwards.

### EXTERNAL DOCUMENT LINKS

[APM50 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](#)