

APXVBB3L20H2_43-C-I20

APXVBB3L20H2_43-C-I20S

Features

- 4 ports / 2 cross pol systems in low band (690-960 MHz)
- 6 ports / 3 cross pol systems in high band (1695-2690 MHz)
- Integrated and field replaceable SRET
- ACU HW version: HRLS200608H1.00
- Optional with Site Sharing feature (Model name suffix -I20S)
- Compliant with AISG v2.0 and 3GPP



PRODUCT OVERVIEW	Frequency Range (MHz)	(2x) 690-960		(3x) 1695-2690		
	Array	■ R1	■ R2	■ Y1	■ Y2	■ Y3
	Connector	1-2	3-4	5-6	7-8	9-10
		10 PORTS				
	Polarization	XPOL				
	Azimuth Beamwidth (avg)	65°		65°		
	Electrical Downtilt	2-12°		2-12°		
	Dimensions	1998 x 469 x 205 mm (78.7 x 18.5 x 8.1 in)				

ORDERING OPTIONS Select from the following ordering options

ANTENNA MODEL NUMBER	CONFIGURATION	MOUNTING HARDWARE	MOUNTING PIPE DIAMETER	SHIPPING WEIGHT
APXVBB3L20H2_43-C-I20 (Material Code: 50016734)	ACU-I20-H12J Internal RET Included	APM50-H2 Beam Tilt Kit Included	50-125 mm (2.0-4.9 in)	36.5 kg (80.5 lbs)
APXVBB3L20H2_43-C-I20S (Material Code: 50016736)	ACU-X20H Dynamic Site Sharing Mode	APM50-H2 Beam Tilt Kit Included	50-125 mm (2.0-4.9 in)	36.6 kg (80.7 lbs)



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65°

1998 mm

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ELECTRICAL SPECIFICATIONS

■ R1

Frequency Range		MHz	690-960		
		MHz	690-806	790-894	880-960
Polarization		---	±45°		
Gain	Over all Tilts	dBi	16.1 ± 0.8	16.3 ± 0.5	16.3 ± 0.6
	Max Gain	dBi	16.9	16.8	16.9
Azimuth Beamwidth (3 dB)		degrees	65.5° ± 3.6°	63.9° ± 3.7°	63.9° ± 5.4°
Elevation Beamwidth (3 dB)		degrees	10.9° ± 0.7°	10.1° ± 0.5°	9.9° ± 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	18.8	23.1	23.2
First Upper Side Lobe Suppression		dB	17.9	17.3	15.9
Cross Polar Discrimination Over Sector		dB	9.6	11.3	10.6
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	17.3	23.4	24.6
Maximum Effective Power Per Port		Watts	250 W		
Cross Polar Isolation		dB	26		
Interband Isolation		dB	26		

Specifications follow BASTA guidelines.

ELECTRICAL SPECIFICATIONS

■ R2

Frequency Range		MHz	690-960		
		MHz	690-806	790-894	880-960
Polarization		---	±45°		
Gain	Over all Tilts	dBi	16.2 ± 0.7	16.4 ± 0.4	16.5 ± 0.6
	Max Gain	dBi	16.9	16.8	17.1
Azimuth Beamwidth (3 dB)		degrees	66.4° ± 5.7°	64.2° ± 4.2°	63.7° ± 4.6°
Elevation Beamwidth (3 dB)		degrees	10.7° ± 0.7°	9.9° ± 0.5°	9.6° ± 0.4°
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	20.2	23.2	23.8
First Upper Side Lobe Suppression		dB	17.7	17.3	17.4
Cross Polar Discrimination Over Sector		dB	8.1	11.2	10.3
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	17.2	23.5	24
Maximum Effective Power Per Port		Watts	250 W		
Cross Polar Isolation		dB	26		
Interband Isolation		dB	26		

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ELECTRICAL SPECIFICATIONS

■ Y1

Frequency Range		MHz	1695-2690				
		MHz	1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	17.6 ± 0.7	18.1 ± 0.5	18.2 ± 0.6	17.7 ± 0.6	17.8 ± 0.6
	Max Gain	dBi	18.3	18.6	18.8	18.3	18.4
Azimuth Beamwidth (3 dB)		degrees	63.8° ± 4.9°	59.7° ± 5.6°	59.2° ± 4.5°	59.6° ± 6°	60.5° ± 6.3°
Elevation Beamwidth (3 dB)		degrees	6.5° ± 0.3°	6.1° ± 0.3°	5.8° ± 0.5°	5.3° ± 0.3°	4.9° ± 0.4°
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	25	26.4	26.5	26	26
First Upper Side Lobe Suppression		dB	16	17	16.8	16.8	17.2
Cross Polar Discrimination Over Sector		dB	6.3	9.1	6	2.3	1.7
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	21.1	21.3	20.9	19.2	23.8
Maximum Effective Power Per Port		Watts	200 W				
Cross Polar Isolation		dB	26				
Interband Isolation		dB	28				

Specifications follow BASTA guidelines.

ELECTRICAL SPECIFICATIONS

■ Y2

Frequency Range		MHz	1695-2690				
		MHz	1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	17.9 ± 0.6	18.2 ± 0.5	18.3 ± 0.5	17.9 ± 0.4	18.1 ± 0.6
	Max Gain	dBi	18.5	18.7	18.8	18.3	18.7
Azimuth Beamwidth (3 dB)		degrees	66.2° ± 5.5°	67.4° ± 4.9°	65.2° ± 6.8°	62.2° ± 5°	61.1° ± 4°
Elevation Beamwidth (3 dB)		degrees	6.7° ± 0.4°	6.1° ± 0.3°	5.8° ± 0.4°	5.3° ± 0.2°	4.9° ± 0.2°
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	23.5	26.6	26.6	28.3	27.2
First Upper Side Lobe Suppression		dB	17.6	17.4	17.3	20	19.6
Cross Polar Discrimination Over Sector		dB	11.9	13	11.7	9.3	6.4
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	21	20.6	21.9	20.6	23.1
Maximum Effective Power Per Port		Watts	200 W				
Cross Polar Isolation		dB	26				
Interband Isolation		dB	28				

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ELECTRICAL SPECIFICATIONS

■ Y3

Frequency Range		MHz	1695-2690				
		MHz	1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	17.9 ± 0.5	18.3 ± 0.4	18.3 ± 0.5	17.7 ± 0.6	17.7 ± 0.5
	Max Gain	dBi	18.4	18.7	18.8	18.3	18.2
Azimuth Beamwidth (3 dB)		degrees	62.7° ± 5.2°	60.9° ± 6°	59.4° ± 5.4°	58° ± 4.5°	61° ± 4.4°
Elevation Beamwidth (3 dB)		degrees	6.6° ± 0.4°	6.2° ± 0.3°	5.9° ± 0.4°	5.4° ± 0.3°	5° ± 0.3°
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	27	27.4	26.8	25.5	23.7
First Upper Side Lobe Suppression		dB	17	17.3	16.8	16.9	15.5
Cross Polar Discrimination Over Sector		dB	5.7	9	5.9	2.7	0.8
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	18.6	19.3	20.2	20.3	25.4
Maximum Effective Power Per Port		Watts	200 W				
Cross Polar Isolation		dB	26				
Interband Isolation		dB	28				

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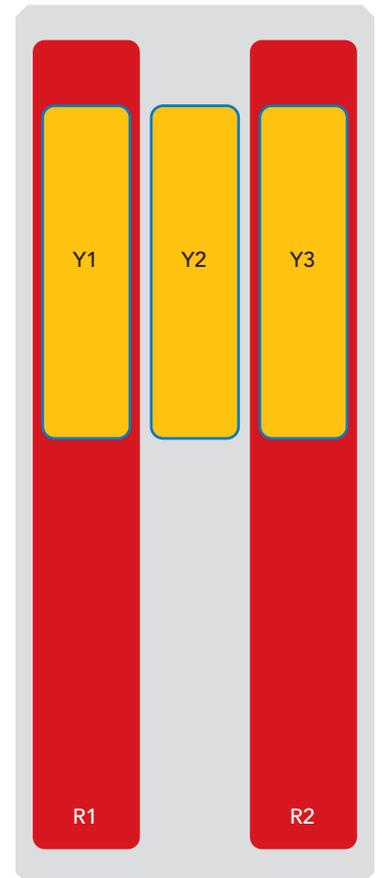
BOTTOM VIEW - LABELING



ARRAY LAYOUT

ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE	RET	AISG RET UID
■ R1	690-960 MHz	1-2	(2x) 4.3-10 Female	R1	RFxxxxxxxxxx-R1
■ R2	690-960 MHz	3-4	(2x) 4.3-10 Female	R2	RFxxxxxxxxxx-R2
■ Y1	1695-2690 MHz	5-6	(2x) 4.3-10 Female	Y1	RFxxxxxxxxxx-Y1
■ Y2	1695-2690 MHz	7-8	(2x) 4.3-10 Female	Y2	RFxxxxxxxxxx-Y2
■ Y3	1695-2690 MHz	9-10	(2x) 4.3-10 Female	Y3	RFxxxxxxxxxx-Y3

NOTE: RET motors will tilt one at a time, not simultaneously.



The illustration is not shown to scale.

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MECHANICAL SPECIFICATIONS

Length	mm (in)	1998 (78.7)
Width	mm (in)	469 (18.5)
Depth	mm (in)	205 (8.1)
Net Weight - Antenna Only	kg (lbs)	26.1 (57.5)
Net Weight - Mounting Hardware Only	kg (lbs)	5.5 (12.1)
Wind Load Rated at 150 km/h (93 mph)	Front, Resultant	N (lbf) 554 (125)
	Side, Resultant	N (lbf) 576 (129)
	Rear, Resultant	N (lbf) 578 (130)
	Maximum, Resultant	N (lbf) 922 (207)
	Maximum, Drag Force	N (lbf) 897 (202)
Survival Wind Speed	km/h (mph)	200 (124)
Connector Type	--	(10x) 4.3-10 Female, (4x) AISG Connectors (2 Male, 2 Female) at Bottom Site Sharing: (4x) AISG Connectors (2 Male, 2 Female) at Bottom
Radome Color	---	Light Grey RAL7035
Radome Material	---	Fiberglass
Lightning Protection	---	Direct Ground
Shipping	Packing Size (Length x Width x Depth)	mm (in) 2198 x 544 x 315 (86.5 x 21.4 x 12.4)
	Shipping Weight	kg (lbs) 36.5 (80.5)

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 50-125 mm (2.0-4.9 in) <i>Shipped with antenna</i>	APM50-H2	5.5 kg (12.1 lbs)

INSTALLATION

Please read all installation notes before installing product.

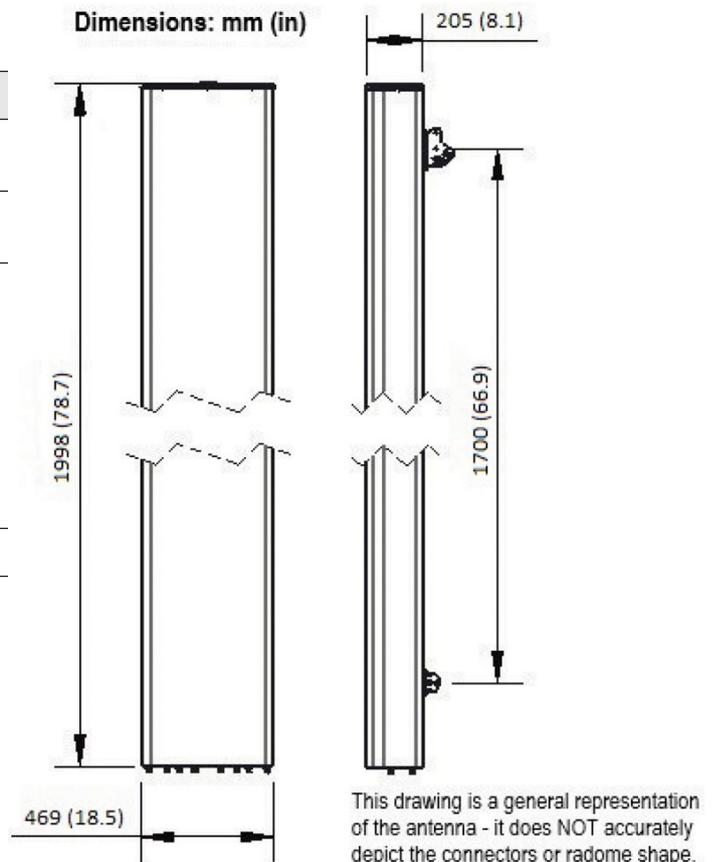


Always attach the antenna using all mounting points.

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](#)