

APXVB4LTY16AB_43-C-I20

Features

- 2 ports / 1 cross pol system in low band (698-960 MHz)
- 8 ports / 4 cross pol systems in high band (1710-2690 MHz)
- 8 ports / 4 cross pol systems in high band (3300-3800 MHz)
- Integrated and field replaceable SRET
- ACU HW version: 2.02
- Compliant with AISG v2.0 and 3GPP



PRODUCT OVERVIEW		FDD					TDD			
	Frequency Range (MHz)	(1x) 698-960	(4x) 1710-2690				(8T8R) 3300-3800			
	Array	<div></div> R1	<div></div> Y1	<div></div> Y2	<div></div> Y3	<div></div> Y4	<div></div> P1			
	Connector	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18
		2 PORTS	8 PORTS				8 PORTS			
		4.3-10 Female	4.3-10 Female				4.3-10 Female			
	Polarization	XPOL	XPOL				XPOL			
	Azimuth Beamwidth (avg)	65°	65°				90° Unit Beam			
	Electrical Downtilt	2-14°	2-12°				2-12°			
	Dimensions	1650 x 429 x 199 mm (65.0 x 16.9 x 7.8 in)								

ORDERING OPTIONS

Select from the following ordering options

ANTENNA MODEL NUMBER	CONFIGURATION	MOUNTING HARDWARE	MOUNTING PIPE DIAMETER	SHIPPING WEIGHT
APXVB4LTY16AB_43-C-I20	ACU-I20-B6 Internal RET Included	APM50-B1 Beam Tilt Kit Included	50-110 mm (2.0-4.3 in)	39.5 kg (87.1 lbs)



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APXVB4LTY16AB_43-C-I20

ELECTRICAL SPECIFICATIONS

■ R1

Frequency Range		MHz	698-960		
		MHz	698-806	790-894	880-960
Polarization		---	±45°		
Gain	Over all Tilts	dBi	13.6 ± 0.5	14.4 ± 0.5	14.8 ± 0.5
	Max Gain	dBi	14.1	14.9	15.3
Azimuth Beamwidth (3 dB)		degrees	66.8° ± 3.4°	68.4° ± 3°	66.4° ± 4.3°
Elevation Beamwidth (3 dB)		degrees	16° ± 1.5°	13.5° ± 0.8°	12.8° ± 1°
Electrical Downtilt		degrees	2-14°		
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	17.9	20.5	21
First Upper Side Lobe Suppression		dB	15.8	13	13
Cross-Pol Over Sector		dB	3.6	6.8	8
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	18.8	22	22
Maximum Effective Power Per Port		Watts	350 W		
Cross Polar Isolation		dB	25		
Interband Isolation		dB	25		

Specifications follow BASTA guidelines.

ELECTRICAL SPECIFICATIONS

■ Y1

Frequency Range		MHz	1710-2690				
		MHz	1710-1880	1850-1990	1920-2170	2300-2400	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	13.3 ± 0.5	13.5 ± 0.5	14 ± 1	14.6 ± 0.7	14.8 ± 1
	Max Gain	dBi	13.8	14	15	15.3	15.8
Azimuth Beamwidth (3 dB)		degrees	68.9° ± 6.8°	64.8° ± 6.7°	63.8° ± 6.7°	56.5° ± 4.6°	53.4° ± 6.2°
Elevation Beamwidth (3 dB)		degrees	12° ± 2°	11.1° ± 1°	10.1° ± 1°	9.4° ± 0.6°	8.7° ± 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	16.9	17.6	18	18.4	19
First Upper Side Lobe Suppression		dB	15	13	11	9.7	7
Cross-Pol Over Sector		dB	6.9	9	6	1	0.1
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	16.4	18	17	16	14
Maximum Effective Power Per Port		Watts	250 W				
Cross Polar Isolation		dB	25				
Interband Isolation		dB	25				

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ELECTRICAL SPECIFICATIONS

Y2

Frequency Range		MHz	1710-2690				
		MHz	1710-1880	1850-1990	1920-2170	2300-2400	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	12.7 ± 0.7	12.9 ± 1	13.8 ± 1.5	14.8 ± 1	15 ± 1
	Max Gain	dBi	13.4	13.9	15.3	15.8	16
Azimuth Beamwidth (3 dB)		degrees	66.3° ± 7.2°	66.5° ± 6.3°	66° ± 5.4°	54° ± 3.7°	50.5° ± 4.5°
Elevation Beamwidth (3 dB)		degrees	12.1° ± 1°	11.7° ± 1°	10.8° ± 1°	9.3° ± 0.5°	8.7° ± 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	18	16	16.8	17.9	18
First Upper Side Lobe Suppression		dB	11	13.8	12	13	12
Cross-Pol Over Sector		dB	7	8	9	1	1
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	19	19	14.3	13.8	12.4
Maximum Effective Power Per Port		Watts	250 W				
Cross Polar Isolation		dB	25				
Interband Isolation		dB	25				

Specifications follow BASTA guidelines.

ELECTRICAL SPECIFICATIONS

Y3

Frequency Range		MHz	1710-2690				
		MHz	1710-1880	1850-1990	1920-2170	2300-2400	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	13.8 ± 1	14.3 ± 0.6	14.9 ± 1	14.6 ± 0.5	14.8 ± 1.3
	Max Gain	dBi	14.8	14.9	15.9	15.1	16.1
Azimuth Beamwidth (3 dB)		degrees	68.5° ± 5.7°	66.7° ± 4°	62.3° ± 6.5°	60.6° ± 2.5°	54.8° ± 4.5°
Elevation Beamwidth (3 dB)		degrees	13.3° ± 1°	12.6° ± 0.5°	11.7° ± 1°	10.5° ± 0.5°	9.8° ± 1°
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	21	20	20	19.7	21
First Upper Side Lobe Suppression		dB	13.6	14.9	14	14.9	14
Cross-Pol Over Sector		dB	9	8.5	7	7	2.1
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	19.1	19.1	19	24.8	20.8
Maximum Effective Power Per Port		Watts	250 W				
Cross Polar Isolation		dB	25				
Interband Isolation		dB	25				

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ELECTRICAL SPECIFICATIONS

■ Y4

Frequency Range		MHz	1710-2690				
		MHz	1710-1880	1850-1990	1920-2170	2300-2400	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	13.9 ± 0.5	14.4 ± 0.5	15.1 ± 1	14.9 ± 0.9	14.9 ± 1
	Max Gain	dBi	14.4	14.9	16.1	15.8	15.9
Azimuth Beamwidth (3 dB)		degrees	73.1° ± 4.1°	69.3° ± 3.5°	65.6° ± 4°	58.6° ± 3.5°	56.4° ± 3.5°
Elevation Beamwidth (3 dB)		degrees	13.2° ± 1°	12.6° ± 0.5°	11.9° ± 1°	10.5° ± 0.5°	9.6° ± 0.7°
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	22.4	22.4	22	20	21
First Upper Side Lobe Suppression		dB	13	13.6	12.1	14.4	13
Cross-Pol Over Sector		dB	11	12	13	6.7	2
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	19.7	22.9	20	18.6	20.4
Maximum Effective Power Per Port		Watts	250 W				
Cross Polar Isolation		dB	25				
Interband Isolation		dB	25				

Specifications follow BASTA guidelines.

ELECTRICAL SPECIFICATIONS

■ P1
Cal. Board and S Parameter

Frequency Range		MHz	3300-3800	
		MHz	3300-3600	3600-3800
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	50 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.

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■ P1

ELECTRICAL SPECIFICATIONS

Radiation Parameter - Unit Beam

Frequency Range		MHz	3300-3800	
		MHz	3300-3600	3600-3800
Polarization		---	±45°	
Gain	Over all Tilts	dBi	14.7 ± 0.5	14.8 ± 0.5
	Max Gain	dBi	15.2	15.3
Azimuth Beamwidth (3 dB)		degrees	78.4° ± 7.4°	70.8° ± 4.6°
Elevation Beamwidth (3 dB)		degrees	7° ± 1°	6.6° ± 0.5°
Electrical Downtilt		degrees	2-12°	
Impedance		Ohms	50Ω	
VSWR (Return Loss)		---	1.5:1 (-14 dB)	
Front-to-Back Ratio, Total Power, ± 30°		dB	19	21
First Upper Side Lobe Suppression		dB	16	16.8
Cross-Pol Over Sector		dB	12	13
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	20.9	19.9

Specifications follow BASTA guidelines.

■ P1

ELECTRICAL SPECIFICATIONS

Radiation Parameter - Broadcasting Beam

Frequency Range		MHz	3300-3800	
		MHz	3300-3600	3600-3800
Polarization		---	±45°	
Gain	Over all Tilts	dBi	15.4 ± 1	15.4 ± 1
	Max Gain	dBi	16.4	16.4
Azimuth Beamwidth (3 dB)		degrees	61.5° ± 7.7°	59° ± 7.8°
Elevation Beamwidth (3 dB)		degrees	7° ± 1°	6.7° ± 0.5°
Electrical Downtilt		degrees	2-12°	
Impedance		Ohms	50Ω	
VSWR (Return Loss)		---	1.5:1 (-14 dB)	
Front-to-Back Ratio, Total Power, ± 30°		dB	21.9	20.8
First Upper Side Lobe Suppression		dB	16	15.4

Specifications follow BASTA guidelines.

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■ P1

ELECTRICAL SPECIFICATIONS

Radiation Parameter - Working Beam

Frequency Range		MHz	3300-3800	
		MHz	3300-3600	3600-3800
Polarization		---	±45°	
Gain	Over all Tilts	dBi	20.5 ± 0.5	20.2 ± 0.5
	Max Gain	dBi	21	20.7
Azimuth Beamwidth (3 dB)		degrees	21.6° ± 0.7°	20.4° ± 0.6°
Elevation Beamwidth (3 dB)		degrees	7° ± 1°	6.6° ± 0.5°
Electrical Downtilt		degrees	2-12°	
Impedance		Ohms	50Ω	
VSWR (Return Loss)		---	1.5:1 (-14 dB)	
Front-to-Back Ratio, Total Power, ± 30°		dB	27	27
First Upper Side Lobe Suppression		dB	17	17

Specifications follow BASTA guidelines.

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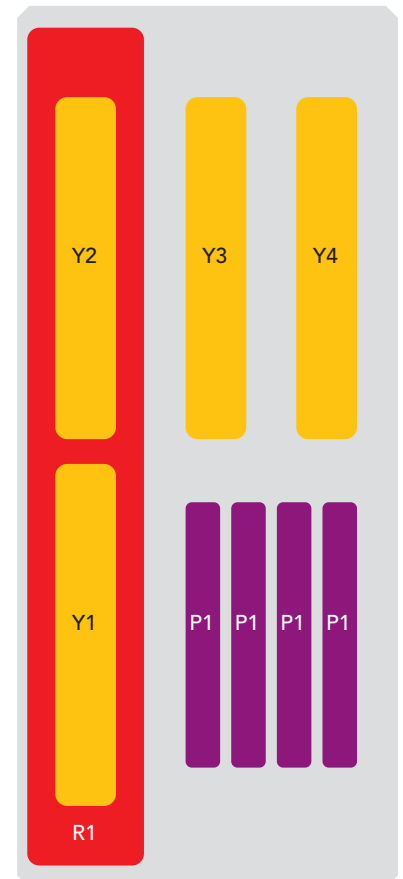
BOTTOM VIEW - LABELING



ARRAY LAYOUT

ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE	RET	AISG RET UID
■ R1	698-960 MHz	1-2	(2x) 4.3-10 Female	R1	RFxxxxxxxxxx-R1
■ Y1	1710-2690 MHz	3-4	(2x) 4.3-10 Female	Y1	RFxxxxxxxxxx-Y1
■ Y2	1710-2690 MHz	5-6	(2x) 4.3-10 Female	Y2	RFxxxxxxxxxx-Y2
■ Y3	1710-2690 MHz	7-8	(2x) 4.3-10 Female	Y3	RFxxxxxxxxxx-Y3
■ Y4	1710-2690 MHz	9-10	(2x) 4.3-10 Female	Y4	RFxxxxxxxxxx-Y4
■ P1	3300-3800 MHz	11-12	(2x) 4.3-10 Female	P1	RFxxxxxxxxxx-P1
	3300-3800 MHz	13-14	(2x) 4.3-10 Female		
	3300-3800 MHz	15-16	(2x) 4.3-10 Female		
	3300-3800 MHz	17-18	(2x) 4.3-10 Female		

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)	1650 (65.0)
Width		mm (in)	429 (16.9)
Depth		mm (in)	199 (7.8)
Net Weight - Antenna Only		kg (lbs)	28 (61.7)
Net Weight - Mounting Hardware Only		kg (lbs)	4.5 (9.9)
Wind Load Rated at 150 km/h (93 mph)	Front, Resultant	N (lbf)	476 (107)
	Side, Resultant	N (lbf)	440 (99)
	Rear, Resultant	N (lbf)	565 (127)
	Maximum, Resultant	N (lbf)	955 (215)
	Maximum, Drag Force	N (lbf)	841 (189)
Survival Wind Speed / Rated Wind Speed		km/h (mph)	200 (150)
Connector Type		--	(19x) 4.3-10 Female, (2x) AISG Connectors (1 Male, 1 Female) at Bottom
Radome Color		---	Light Grey RAL7035
Radome Material		---	Fiberglass
Lightning Protection		---	DC Ground
Shipping	Packing Size (Length x Width x Depth)	mm (in)	1920 x 525 x 295 (75.6 x 20.7 x 11.6)
	Shipping Weight	kg (lbs)	39.5 (87.1)

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

APXVB4LTY16AB_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.

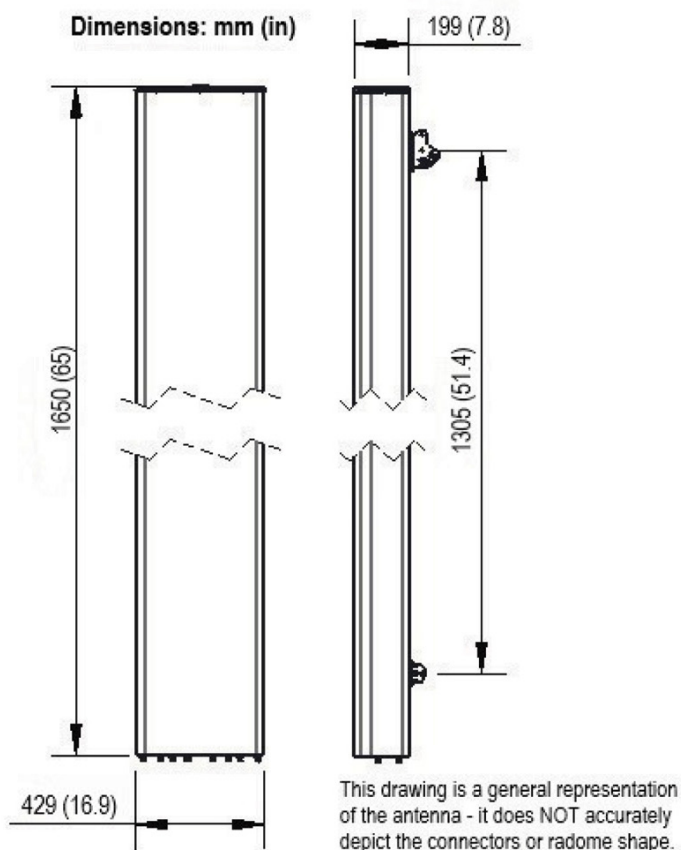


Always attach the antenna using all mounting points.

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](#)