

APXVB4LTY14AB_43MQ-C-I20

Features

- Hybrid FDD + TDD beamforming within a radome
- 2 ports / 1 cross pol system in low band (698-960 MHz)
- 8 ports / 4 cross pol systems in high band (1710-2690 MHz)
- TDD 8 ports + 1 calibration port in 3.5GHz (3300-3800 MHz)
- Integrated and field replaceable SRET
- 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></div> R1</div>	<div><div></div> Y1</div>	<div><div></div> Y2</div>	<div><div></div> Y3</div>	<div><div></div> Y4</div>	<div><div></div> P1</div>			
	Connector	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18
		2 PORTS	8 PORTS				2 CLUSTER CONNECTORS - 8 PORTS			
		4.3-10 Female	4.3-10 Female				MQ4/MQ5			
	Polarization	XPOL	XPOL				XPOL			
	Azimuth Beamwidth (avg)	65°	65°				90° Unit Beam			
	Electrical Downtilt	2-14°	2-12°				2-12°			
	Dimensions	1405 x 429 x 199 mm (55.3 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
APXVB4LTY14AB_43MQ-C-I20	ACU-I20-B6 Internal RET Included	APM50-B1 Beam Tilt Kit Included	50-110 mm (2.0-4.3 in)	37.2 kg (82 lbs)
APXVB4LTY14AB_43MQ-C-I20S (Material Code: 50016718)	ACU-X20-B6 Internal RET Included Dynamic Site Sharing Mode	APM50-B1 Beam Tilt Kit Included	50-110 mm (2.0-4.3 in)	37.2 kg (82 lbs)

APXVB4LTY14AB_43MQ-C-I20

ELECTRICAL SPECIFICATIONS

■ R1

Frequency Range		MHz	698-960		
		MHz	698-806	790-894	880-960
Polarization		---	±45°		
Gain	Over all Tilts	dBi	14.5 ± 0.3	14.6 ± 0.3	14.7 ± 0.4
	Max Gain	dBi	14.8	14.9	15.1
Azimuth Beamwidth (3 dB)		degrees	65.8° ± 3.8°	65° ± 5.3°	59.5° ± 3.5°
Elevation Beamwidth (3 dB)		degrees	17.1° ± 1.5°	15° ± 1.1°	13.7° ± 0.5°
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	21.8	23.6	22.1
First Upper Side Lobe Suppression		dB	11.6	11.7	11.6
Cross-Pol Over Sector		dB	9.3	9.9	9.8
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	24.5	24	20.4
Maximum Effective Power Per Port		Watts	350 W		
Cross Polar Isolation		dB	25	25	25
Interband Isolation		dB	25	25	25

Specifications follow BASTA guidelines.

ELECTRICAL SPECIFICATIONS

■ Y1 ■ Y2 ■ Y3 ■ Y4

Frequency Range		MHz	1710-2690				
		MHz	1710-1880	1850-1990	1920-2170	2300-2400	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	14.5 ± 0.6	14.7 ± 0.5	14.8 ± 0.6	14.4 ± 0.6	15.4 ± 0.6
	Max Gain	dBi	15.1	15.2	15.4	15	16
Azimuth Beamwidth (3 dB)		degrees	69.8° ± 5.3°	66.6° ± 3.5°	66.3° ± 4.3°	62° ± 4.4°	54.3° ± 4.6°
Elevation Beamwidth (3 dB)		degrees	13.7° ± 1°	12.6° ± 0.9°	12.1° ± 0.9°	10.9° ± 0.5°	9.9° ± 0.8°
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	21.8	22.3	22.7	22.6	21.7
First Upper Side Lobe Suppression		dB	16.1	15.5	15.8	15.4	13.4
Cross-Pol Over Sector		dB	10	9.4	9.1	6.8	2.9
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	21.7	21.1	20	19.4	22.4
Maximum Effective Power Per Port		Watts	250 W				
Cross Polar Isolation		dB	25	25	25	25	25
Interband Isolation		dB	25	25	25	25	25

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■ P1

ELECTRICAL SPECIFICATIONS

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	$\leq 7^\circ$	
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.

■ P1

ELECTRICAL SPECIFICATIONS

Radiation Parameter - Unit Beam

Frequency Range		MHz	3300-3800	
		MHz	3300-3600	3600-3800
Polarization		---	±45°	
Gain	Over all Tilts	dBi	14.3 ± 0.7	14.2 ± 0.8
	Max Gain	dBi	15	15
Azimuth Beamwidth (3 dB)		degrees	78.3° ± 7.4°	67.1° ± 9.2°
Elevation Beamwidth (3 dB)		degrees	9.1° ± 1.1°	8.1° ± 0.8°
Electrical Downtilt		degrees	2-12°	
Impedance		Ohms	50Ω	
VSWR (Return Loss)		---	1.5:1 (-14 dB)	
Front-to-Back Ratio, Total Power, ± 30°		dB	18.2	17.6
First Upper Side Lobe Suppression		dB	15	15.8
Cross-Pol Over Sector		dB	9.1	8
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	17.3	16.6

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ELECTRICAL SPECIFICATIONS

Radiation Parameter - Broadcasting Beam

Frequency Range		MHz	3300-3800	
		MHz	3300-3600	3600-3800
Polarization		---	±45°	
Gain	Over all Tilts	dBi	14.8 ± 0.5	15.2 ± 1
	Max Gain	dBi	15.3	16.2
Azimuth Beamwidth (3 dB)		degrees	69.5° ± 6°	60.1° ± 6.5°
Elevation Beamwidth (3 dB)		degrees	8.4° ± 1°	7.8° ± 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	20.3
First Upper Side Lobe Suppression		dB	16.7	16

Specifications follow BASTA guidelines.

■ P1

ELECTRICAL SPECIFICATIONS

Radiation Parameter - Working Beam

Frequency Range		MHz	3300-3800	
		MHz	3300-3600	3600-3800
Polarization		---	±45°	
Gain	Over all Tilts	dBi	19.4 ± 1	19.2 ± 1
	Max Gain	dBi	20.4	20.2
Azimuth Beamwidth (3 dB)		degrees	21.6° ± 1.3°	19.9° ± 1°
Elevation Beamwidth (3 dB)		degrees	8.3° ± 0.5°	7.9° ± 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	25	25.9
First Upper Side Lobe Suppression		dB	18.7	16.6

Specifications follow BASTA guidelines.

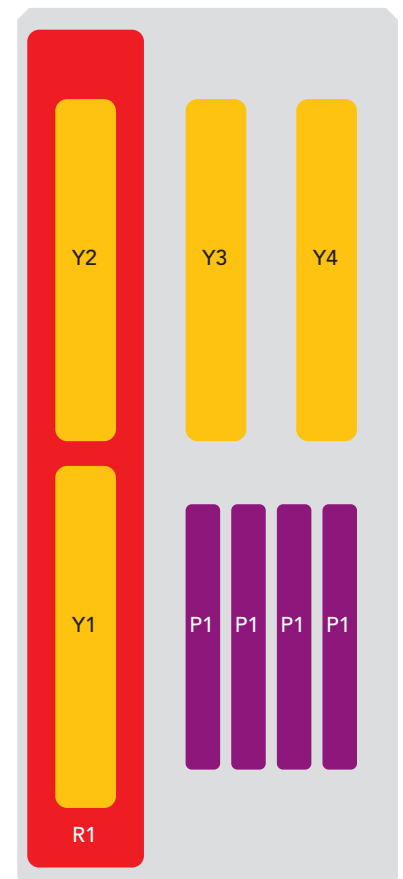
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BOTTOM VIEW - LABELING



ARRAY LAYOUT

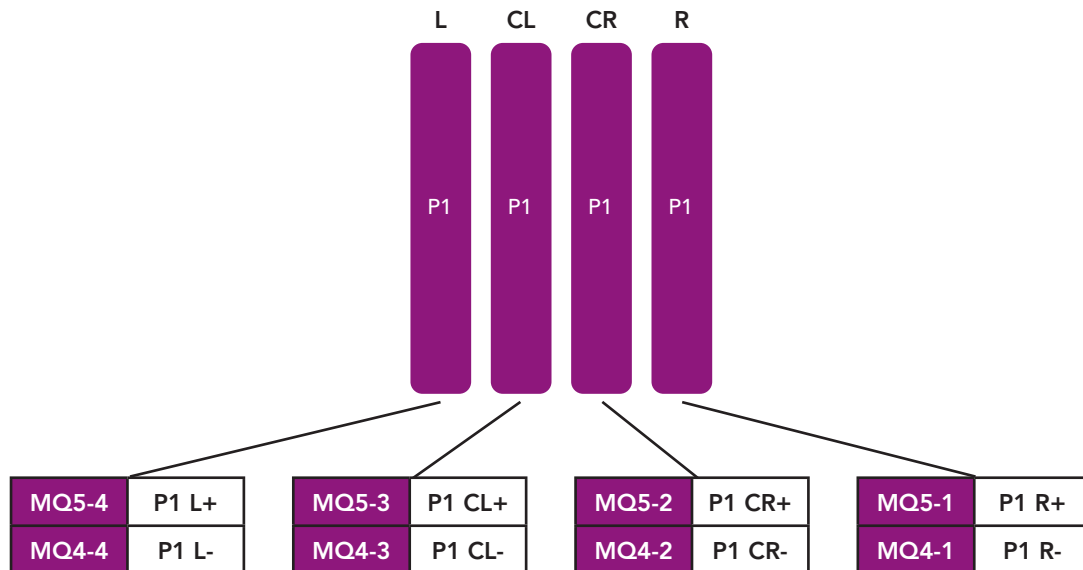
ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE	RET	AISG RET UID
■ R1	698-960 MHz	1-2	(2x) 4.3-10 Female	R1	RFxxxxxxxxxx-R1
■ Y1	1710-2690 MHz	3-4	(2x) 4.3-10 Female	Y1	RFxxxxxxxxxx-Y1
■ Y2	1710-2690 MHz	5-6	(2x) 4.3-10 Female	Y2	RFxxxxxxxxxx-Y2
■ Y3	1710-2690 MHz	7-8	(2x) 4.3-10 Female	Y3	RFxxxxxxxxxx-Y3
■ Y4	1710-2690 MHz	9-10	(2x) 4.3-10 Female	Y4	RFxxxxxxxxxx-Y4
■ P1	3300-3800 MHz	11-12	(2x) Cluster Connector MQ4/MQ5	P1	RFxxxxxxxxxx-P1



The illustration is not shown to scale.

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Physical array and port mapping according to AISG naming convention:
Left - Center Left - Center Right - Right (seen from front of antenna)

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MECHANICAL SPECIFICATIONS

Length		mm (in)	1405 (55.3)
Width		mm (in)	429 (16.9)
Depth		mm (in)	199 (7.8)
Net Weight - Antenna Only		kg (lbs)	26.7 (58.9)
Net Weight - Mounting Hardware Only		kg (lbs)	4.5 (9.9)
Wind Load Rated at 150 km/h (93 mph)	Front	N (lbf)	399 (90)
	Side	N (lbf)	404 (91)
	Rear	N (lbf)	463 (104)
Survival Wind Speed / Rated Wind Speed		km/h (mph)	200 (150)
Connector Type		--	(10x) 4.3-10 Female, (2x) Cluster Connectors MQ4/MQ5, (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)	1675 x 525 x 295 (65.9 x 20.7 x 11.6)
	Shipping Weight	kg (lbs)	37.2 (82)

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 50-110 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.

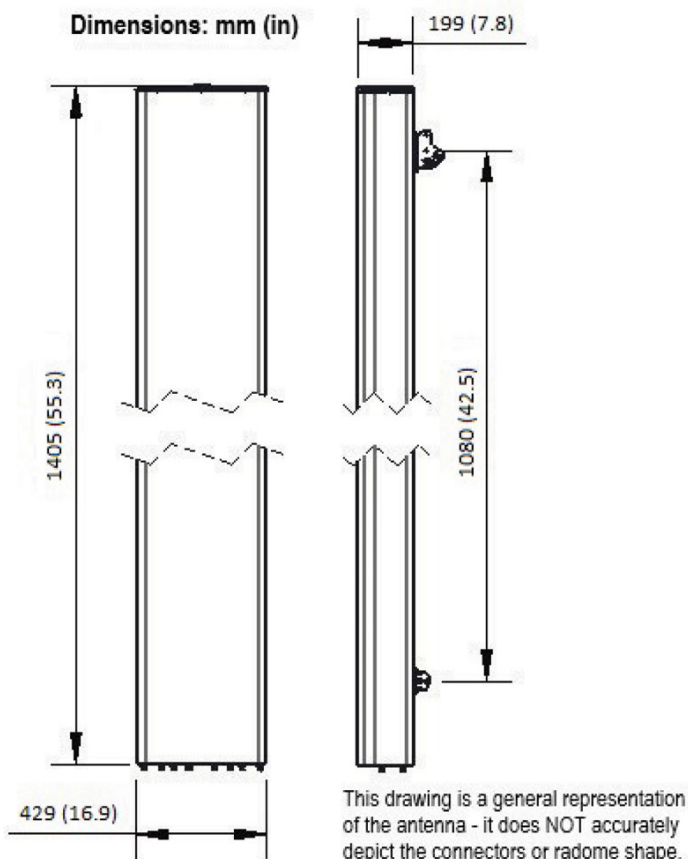


Always attach the antenna using all mounting points.

Do not install antenna with the connectors facing upwards.

EXTERNAL DOCUMENT LINKS

[APM50 Mounting Kit Series Installation Instructions](#)



NOTES

Specifications follow BASTA guidelines.

Horizontal dipole column spacing: 55mm

MQ4/MQ5 cluster connectivity follow NGMN.

For additional mounting information, please check **External Document Links**.

For Radiating Patterns: [Request pattern files](#)