APXVTM15AB_MQ-C-I20

Features

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

PRODUCT OVERVIEW		TDD 8T8R BEAMFORMING
	Frequency Range (MHz)	(1x) 2300-2690
	Array	Y1
	Connector	1-2
		(2x) Cluster Connector MQ4/MQ5
	Polarization	XPOL
	Azimuth Beamwidth (avg)	90° Unit Beam
	Electrical Downtilt	2-12°
	Dimensions	1590 x 350 x 200 mm (62.6 x 13.8 x 7.9 in)

ORDERING OPTIONS Select from the following ordering options

ANTENNA MODEL NUMBER	CONFIGURATION	MOUNTING HARDWARE	MOUNTING PIPE DIAMETER	SHIPPING WEIGHT
APXVTM15AB_MQ-C-I20	ACU-I20-B1 Integrated RET Included	APM50-B1 Beam Tilt Kit Included	50-110 mm (2.0-4.3 in)	29 kg (63.9 lbs)

APXVTM15AB_MQ-C-I20

ELECTRICAL SPECIFICATIONS		Y1 Cal. Board and S Parameter	
Frequency Range	MHz	2300-2690	
	MHz	2300-2490	2490-2690
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	

ELECTRICAL SPECIFICATIONS			Y1 Radiation Parameter - Unit Beam	
Frequency Range		MHz	2300-2690	
		MHz	2300-2490	2490-2690
Polarization		---	±45°	
Gain	Over all Tilts	dBi	16.8 ± 0.5	16.7 ± 0.5
	Max Gain	dBi	17.3	17.2
Azimuth Beamwidth (3 dB)		degrees	95° ± 6.1°	91.2° ± 9.6°
Elevation Beamwidth (3 dB)		degrees	5° ± 0.1°	4.1° ± 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	17	17
First Upper Side Lobe Suppression		dB	22	20
Cross-Pol Discrimination Over Sector		dB	9	9
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	16	15

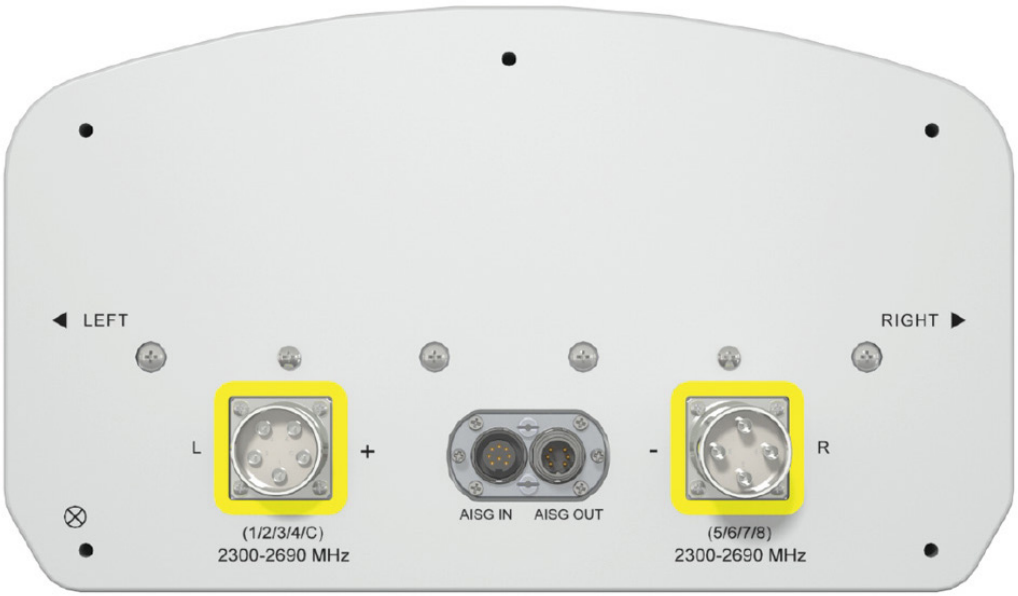
APXVTM15AB_MQ-C-I20

ELECTRICAL SPECIFICATIONS			Y1 Radiation Parameter - Broadcasting Beam	
Frequency Range		MHz	2300-2690	
		MHz	2300-2490	2490-2690
Polarization		---	±45°	
Gain	Over all Tilts	dBi	17.9 ± 0.6	17.7 ± 1.4
	Max Gain	dBi	18.5	19.1
Azimuth Beamwidth (3 dB)		degrees	67.8° ± 3°	59.6° ± 5.2°
Elevation Beamwidth (3 dB)		degrees	4.8° ± 0.2°	4.3° ± 0.4°
Electrical Downtilt		degrees	2-12°	
Impedance		Ohms	50Ω	
VSWR (Return Loss)		---	1.5:1 (-14 dB)	
Front-to-Back Ratio, Total Power, ± 30°		dB	22	21.6
First Upper Side Lobe Suppression		dB	18.8	13.3
Cross-Pol Discrimination Over Sector		dB	7.6	8
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	28.5	14

ELECTRICAL SPECIFICATIONS			Y1 Radiation Parameter - Working Beam	
Frequency Range		MHz	2300-2690	
		MHz	2300-2490	2490-2690
Polarization		---	±45°	
Gain	Over all Tilts	dBi	20.1 ± 0.7	21.7 ± 0.8
	Max Gain	dBi	20.8	22.5
Azimuth Beamwidth (3 dB)		degrees	23.1° ± 0.7°	20.9° ± 0.7°
Elevation Beamwidth (3 dB)		degrees	4.8° ± 0.1°	4.4° ± 0.3°
Electrical Downtilt		degrees	2-12°	
Impedance		Ohms	50Ω	
VSWR (Return Loss)		---	1.5:1 (-14 dB)	
Front-to-Back Ratio, Total Power, ± 30°		dB	26.6	26.5
First Upper Side Lobe Suppression		dB	23.4	17.3
Cross-Pol Discrimination Over Sector		dB	1.8	1.9
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	21.3	17.5

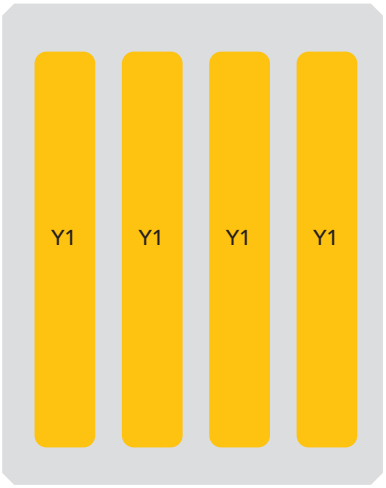
APXVTM15AB_MQ-C-I20

BOTTOM VIEW - LABELING

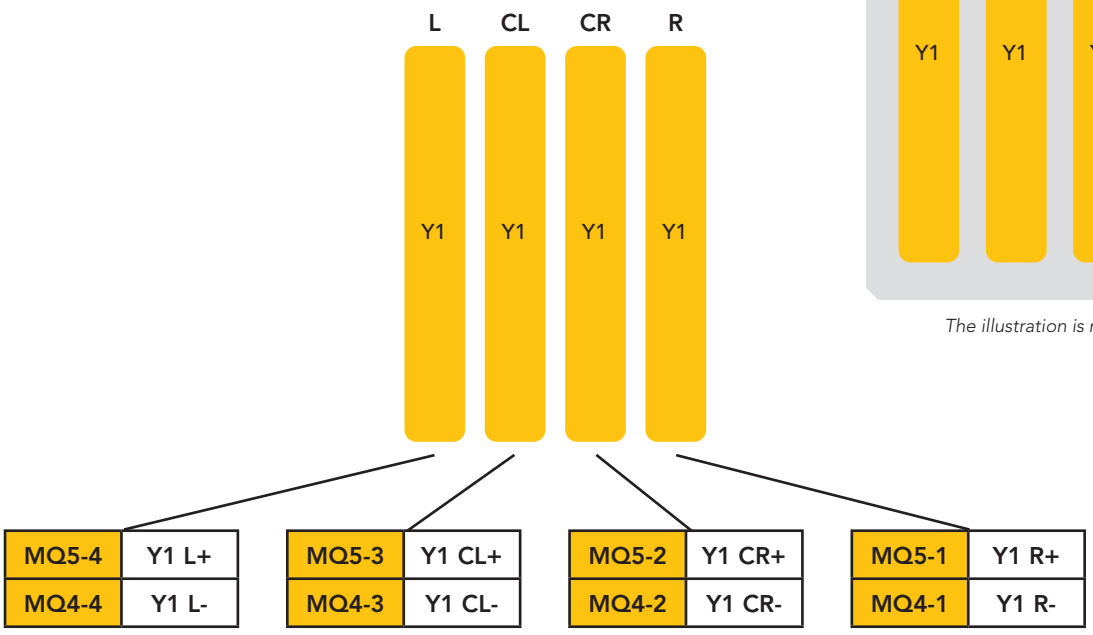


ARRAY LAYOUT

ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE	RET	AISG RET UID
Y1	2300-2690 MHz	1-2	(2x) Cluster Connector MQ4/MQ5	Y1	RFxxxxxxxxxxx-Y1



The illustration is not shown to scale.



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

APXVTM15AB_MQ-C-I20

MECHANICAL SPECIFICATIONS

Length		mm (in)	1590 (62.6)
Width		mm (in)	350 (13.8)
Depth		mm (in)	200 (7.9)
Net Weight - Antenna Only		kg (lbs)	19 (41.9)
Net Weight - Mounting Hardware Only		kg (lbs)	4.5 (9.9)
Wind Load Rated at 150 km/h (93 mph)	Front	N (lbf)	333 (75)
	Side	N (lbf)	318 (71)
	Rear	N (lbf)	386 (87)
Survival Wind Speed / Rated Wind Speed		km/h (mph)	200 (150)
Connector Type		--	(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)	1845 x 445 x 295 (72.6 x 17.5 x 11.6)
	Shipping Weight	kg (lbs)	29 (63.9)

ENVIRONMENTAL SPECIFICATIONS

Environmental Standard	---	ETSI 300-019-2-4 Class 4.1E
Operating Temperature	degrees	-40° to +60° C (-40° to +140° F)
Product Environmental Compliance	---	Product is RoHS Compliant

APXVTM15AB_MQ-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) *Shipped with antenna*	APM50-B1	4.5 kg (9.9 lbs)

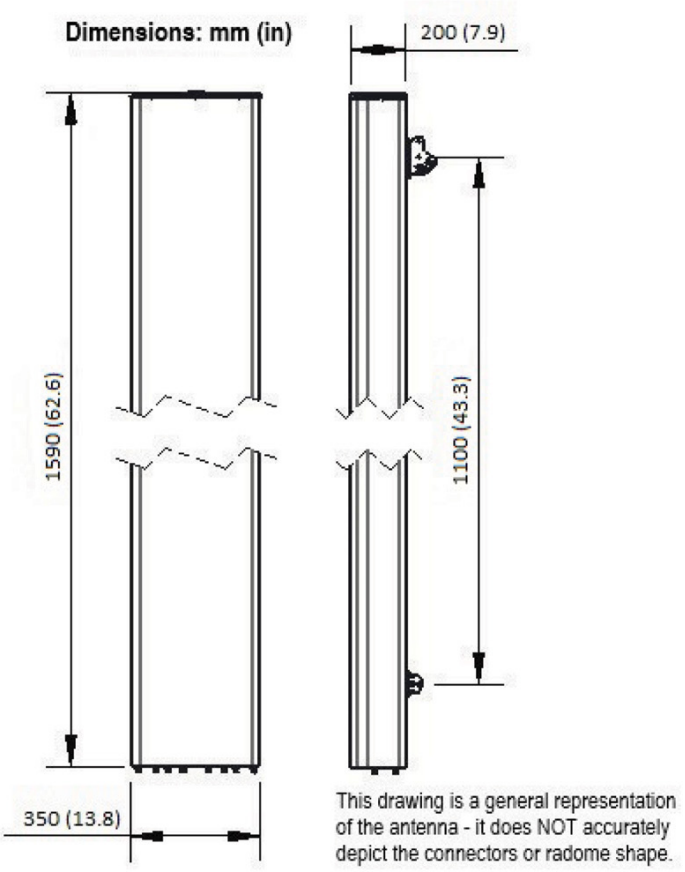
INSTALLATION

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: 70mm.
- MQ4/MQ5 cluster connectivity follows NGMN.
- For additional mounting information, please check **External Document Links**.
- For Radiating Patterns: Request pattern files