

P3-BBJJMMU20-I0

Features

This antenna provides a 14-port flexible platform for advanced use in low and high bands with the support of L-band (1.4 GHz).

- 4 ports / 2 cross pol systems in low band (694-960 MHz)
- 4 ports / 2 cross pol systems in high band (1427-2690 MHz)
- 4 ports / 2 cross pol systems in high band (2490-2690 MHz)
- 2 ports / 1 cross pol system in very wide high band (1427-2690 MHz)
- Integrated and field replaceable SRET
 - ACU HW version: 00001 / SRET (default) and MRET (configurable on site) support
- Dual primary support for antenna sharing
 - Both dynamic and static site sharing modes are offered as default factory settings (see ordering information for more details)
 - Site sharing mapping is reconfigurable remotely
- Compliant with AISG v2.0 and 3GPP
- Optimized radome for low windload
 - Maximum windload, drag force: 865 N
 - Maximum windload, resultant: 982 N

Image
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PRODUCT OVERVIEW	Frequency Range (MHz)	(2x) 694-960		(2x) 1427-2200		(2x) 2490-2690		(1x) 1427-2690
	Array	■ R1	■ R2	■ B1	■ B2	■ Y1	■ Y3	■ Y2
		14 PORTS						
	Polarization	XPOL						
	Azimuth Beamwidth (avg)	65°		65°		65°		65°
	Electrical Downtilt	2-12°		2-12°		2-12°		2-12°
	Dimensions	2166 x 475 x 242 mm (85.3 x 18.7 x 9.5 in)						

ORDERING OPTIONS Select from the following ordering options

ANTENNA MODEL NUMBER	CONFIGURATION	MOUNTING HARDWARE	MOUNTING PIPE DIAMETER	SHIPPING WEIGHT
P3-BBJJMMU20-I0 (Material Code: 50015542)	ACU-X20 Internal RET Included Dynamic Site Sharing Mode	APM40-5E Beam Tilt Kit Included	60-120 mm (2.4-4.7 in)	69.7 kg (153.7 lbs)
P3-BBJJMMU20-I0 (Material Code: 50016491)	ACU-X20 Internal RET Included Static Site Sharing Mode	APM40-5E Beam Tilt Kit Included	60-120 mm (2.4-4.7 in)	69.7 kg (153.7 lbs)



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P3-BBJJMMU20-I0

ELECTRICAL SPECIFICATIONS

■ R1

Frequency Range		MHz	694-960		
		MHz	694-806	790-894	880-960
Polarization		---	±45°		
Gain	Over all Tilts	dBi	14.4 ± 0.5	14.7 ± 0.5	14.8 ± 0.5
	Max Gain	dBi	14.9	15.2	15.3
Azimuth Beamwidth (3 dB)		degrees	67.1° ± 6°	65.1° ± 3.1°	61.2° ± 4.5°
Elevation Beamwidth (3 dB)		degrees	10.9° ± 0.8°	9.8° ± 0.6°	8.7° ± 0.5°
Electrical Downtilt		degrees	2-12°		
Impedance		Ohms	50Ω		
VSWR (Return Loss)		---	1.5:1 (-14 dB)		
Passive Intermodulation 3rd Order for 2x20 W Carriers		dBc	-153		
Front-to-Back Ratio, Total Power, ± 30°		dB	19	20.5	20
First Upper Side Lobe Suppression		dB	14.7	15.6	15.8
Cross Polar Discrimination Over Sector		dB	6	6	4
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	20	18	19
Maximum Effective Power Per Port		Watts	400 W		
Cross Polar Isolation		dB	25		
Interband Isolation		dB	30		

Specifications follow BASTA guidelines.

ELECTRICAL SPECIFICATIONS

■ R2

Frequency Range		MHz	694-960		
		MHz	694-806	790-894	880-960
Polarization		---	±45°		
Gain	Over all Tilts	dBi	14.3 ± 0.5	14.6 ± 0.5	14.7 ± 0.5
	Max Gain	dBi	14.8	15.1	15.2
Azimuth Beamwidth (3 dB)		degrees	68° ± 9.3°	65.3° ± 4.5°	61.4° ± 5.3°
Elevation Beamwidth (3 dB)		degrees	10.8° ± 0.8°	9.7° ± 0.5°	8.7° ± 0.5°
Electrical Downtilt		degrees	2-12°		
Impedance		Ohms	50Ω		
VSWR (Return Loss)		---	1.5:1 (-14 dB)		
Passive Intermodulation 3rd Order for 2x20 W Carriers		dBc	-153		
Front-to-Back Ratio, Total Power, ± 30°		dB	19	21	20
First Upper Side Lobe Suppression		dB	14.4	14.5	15.7
Cross Polar Discrimination Over Sector		dB	6	6.6	3
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	20	19	18
Maximum Effective Power Per Port		Watts	400 W		
Cross Polar Isolation		dB	25		
Interband Isolation		dB	30		

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P3-BBJJMMU20-IO

ELECTRICAL SPECIFICATIONS Side Columns

■ B1 / ■ Y1 (Filtered)

Frequency Range	MHz	1427-2200 / 2490-2690					
	MHz	1427-1518	1695-1880	1850-1990	1920-2200	2490-2690	
Polarization	---	±45°					
Gain	Over all Tilts	dBi	14.9 ± 0.5	16.2 ± 1	16.4 ± 0.5	16.8 ± 0.9	16.4 ± 0.5
	Max Gain	dBi	15.4	17.2	16.9	17.7	16.9
Azimuth Beamwidth (3 dB)	degrees	68.4° ± 6°	63.1° ± 5.2°	60.1° ± 4.2°	53.6° ± 4.9°	51.3° ± 3.7°	
Elevation Beamwidth (3 dB)	degrees	7.3° ± 0.2°	6.1° ± 0.4°	5.9° ± 0.3°	5.2° ± 0.4°	4.7° ± 0.3°	
Electrical Downtilt	degrees	2-12°					
Impedance	Ohms	50Ω					
VSWR (Return Loss)	---	1.5:1 (-14 dB)					
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBc	-153					
Front-to-Back Ratio, Total Power, ± 30°	dB	18	20	21	21	20	
First Upper Side Lobe Suppression	dB	14.1	18.4	17.2	14.2	20.1	
Cross Polar Discrimination Over Sector	dB	4	7	4	1	0.1	
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)	dB	20	17	16	17	15	
Maximum Effective Power Per Port	Watts	400 W					
Cross Polar Isolation	dB	25					
Interband Isolation	dB	30					

Specifications follow BASTA guidelines.

ELECTRICAL SPECIFICATIONS Side Columns

■ B2 / ■ Y3 (Filtered)

Frequency Range	MHz	1427-2200 / 2490-2690					
	MHz	1427-1518	1695-1880	1850-1990	1920-2200	2490-2690	
Polarization	---	±45°					
Gain	Over all Tilts	dBi	14.7 ± 0.5	16.1 ± 1	16.5 ± 0.5	17.3 ± 1	16.4 ± 0.5
	Max Gain	dBi	15.2	17.1	17	18.3	16.9
Azimuth Beamwidth (3 dB)	degrees	68.5° ± 5.2°	63.7° ± 5.1°	60.6° ± 3.1°	53.5° ± 5.7°	50.1° ± 3.8°	
Elevation Beamwidth (3 dB)	degrees	7.3° ± 0.3°	6.1° ± 0.4°	6° ± 0.3°	5.2° ± 0.4°	4.7° ± 0.3°	
Electrical Downtilt	degrees	2-12°					
Impedance	Ohms	50Ω					
VSWR (Return Loss)	---	1.5:1 (-14 dB)					
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBc	-153					
Front-to-Back Ratio, Total Power, ± 30°	dB	19	22	21	21	19	
First Upper Side Lobe Suppression	dB	12	20.4	20.3	16.1	18.1	
Cross Polar Discrimination Over Sector	dB	3	6	3	1	1	
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)	dB	18.3	18	17	17	14	
Maximum Effective Power Per Port	Watts	400 W					
Cross Polar Isolation	dB	25					
Interband Isolation	dB	30					

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ELECTRICAL SPECIFICATIONS Central Column

■ Y2

Frequency Range		MHz	1427-2690					
		MHz	1427-1518	1695-1880	1850-1990	1920-2200	2300-2500	2490-2690
Polarization		---	±45°					
Gain	Over all Tilts	dBi	15.7 ± 0.6	16.8 ± 0.6	17.1 ± 0.3	17.4 ± 0.4	17.3 ± 0.5	18.4 ± 0.5
	Max Gain	dBi	16.3	17.4	17.4	17.8	17.8	18.9
Azimuth Beamwidth (3 dB)		degrees	68.2° ± 6.6°	64.8° ± 5.5°	63.7° ± 6°	64.4° ± 5°	57.5° ± 3.1°	51.9° ± 4°
Elevation Beamwidth (3 dB)		degrees	8° ± 0.8°	6.8° ± 0.4°	6.5° ± 0.3°	5.8° ± 0.4°	5.3° ± 0.3°	4.8° ± 0.2°
Electrical Downtilt		degrees	2-12°					
Impedance		Ohms	50Ω					
VSWR (Return Loss)		---	1.5:1 (-14 dB)					
Passive Intermodulation 3rd Order for 2x20 W Carriers		dBc	-153					
Front-to-Back Ratio, Total Power, ± 30°		dB	24	23	27	26	24	26
First Upper Side Lobe Suppression		dB	12.2	18	19	18.8	22.3	18.8
Cross Polar Discrimination Over Sector		dB	11	13.7	11	6	2	2
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	19	24	24	25	19.7	18
Maximum Effective Power Per Port		Watts	400 W					
Cross Polar Isolation		dB	25					
Interband Isolation		dB	30					

Specifications follow BASTA guidelines.

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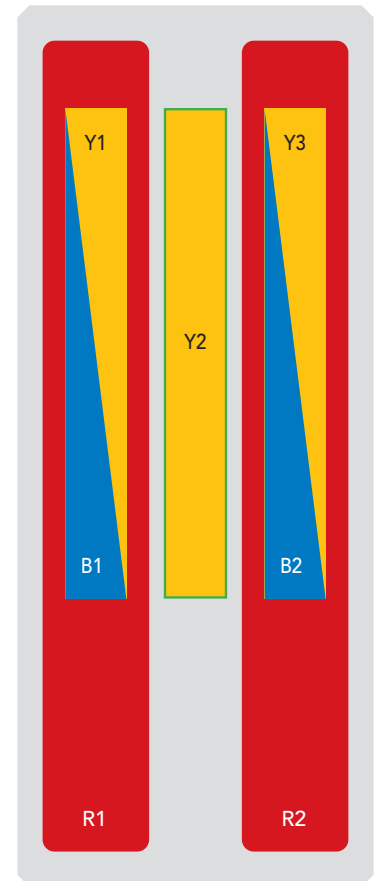
BOTTOM VIEW - LABELING

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ARRAY LAYOUT

ARRAY	FREQUENCY	CONNECTOR TYPE	RET	AISG RET UID
■ R1	694-960 MHz	(2x) 4.3-10 Female	R1	RFxxxxxxxx-R1
■ R2	694-960 MHz	(2x) 4.3-10 Female	R2	RFxxxxxxxx-R2
■ B1	1427-2200 MHz	(2x) 4.3-10 Female	B1	RFxxxxxxxx-B1
■ B2	1427-2200 MHz	(2x) 4.3-10 Female	B2	RFxxxxxxxx-B2
■ Y1	2490-2690 MHz	(2x) 4.3-10 Female	Y1	RFxxxxxxxx-Y1
■ Y2	1427-2690 MHz	(2x) 4.3-10 Female	Y2	RFxxxxxxxx-Y2
■ Y3	2490-2690 MHz	(2x) 4.3-10 Female	Y3	RFxxxxxxxx-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)	2166 (85.3)
Width	mm (in)	475 (18.7)
Depth	mm (in)	242 (9.5)
Net Weight - Antenna Only	kg (lbs)	48 (105.8)
Net Weight - Mounting Hardware Only	kg (lbs)	10.5 (23.1)
Wind Load Rated at 150 km/h (93 mph)	Front	N (lbf) 510 (115)
	Side	N (lbf) 442 (99)
	Rear	N (lbf) 535 (120)
Survival Wind Speed / Rated Wind Speed	km/h (mph)	240 (150)
Connector Type	--	(14x) 4.3-10 Female, (4x) AISG Connectors (2 Male, 2 Female) at Bottom
Radome Color	---	Light Grey RAL7035
Radome Material	---	ASA
Lightning Protection	---	Direct Ground
Shipping	Packing Size (Length x Width x Depth)	mm (in) 2330 x 560 x 428 (91.7 x 22.0 x 16.9)

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 60-120 mm (2.4-4.7 in) <i>Shipped with Antenna</i>	APM40-5E	10.5 kg (23.1 lbs)

INSTALLATION

Please read all installation notes before installing product.



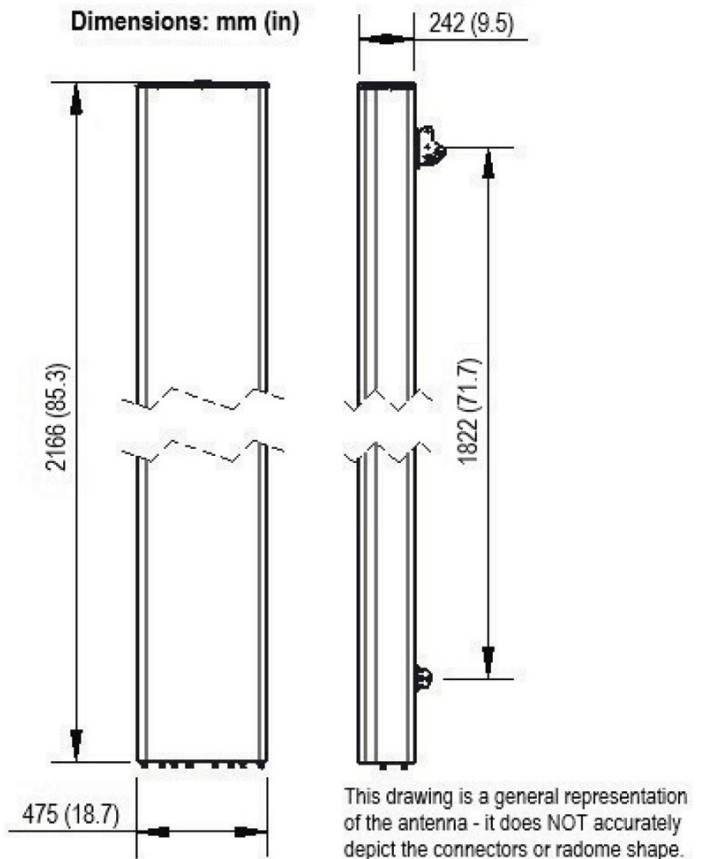
Always attach the antenna using all mounting points.

Do not install antenna with the connectors facing upwards.

EXTERNAL DOCUMENT LINKS

[APM40 Mounting Kit Series Installation Instructions](#)

[User Manual - Dual Primary for Site Sharing - Dynamic vs Static](#)



NOTES

Specifications follow BASTA guidelines.

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

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