

P1-BRRMM20-N0

P1-BRRMM20-S0

Features

- 2 ports / 1 cross pol system in low band (698-960 MHz)
- 2 cross pol systems in high band (1695-2690 MHz), diplexed, resulting in 4 ports 1695-2200 MHz and 4 ports 2490-2690 MHz
- Supporting 4x4 MIMO in high band
- Integrated and field replaceable SRET
- Optional with Site Sharing feature (Model name suffix -S0)
- Compliant with AISG v2.0 and 3GPP



PRODUCT OVERVIEW	Frequency Range (MHz)	(1x) 698-960	(2x) 1695-2200		(2x) 2490-2690	
	Array	<div><div></div> R1</div>	<div><div></div> B1</div>	<div><div></div> B2</div>	<div><div></div> Y1</div>	<div><div></div> Y2</div>
	Connector	1-2	3-4	5-6	7-8	9-10
		10 PORTS				
	Polarization	XPOL				
	Azimuth Beamwidth (avg)	65°	65°		65°	
	Electrical Downtilt	2-12°	2-12°		2-12°	
	Dimensions	1960 x 350 x 200 mm (77.2 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	MOUNTING HARDWARE WEIGHT
P1-BRRMM20-N0	ACU-I20-B5 Internal RET Included	APM50-B1 Beam Tilt Kit Included	50-110 mm (2.0-4.3 in)	40.8 kg (89.9 lbs)	4.5 kg (9.9 lbs)
P1-BRRMM20-S0	ACU-X20-B5 Internal Site Sharing RET Included	APM50-B1 Beam Tilt Kit Included	50-110 mm (2.0-4.3 in)	40.8 kg (89.9 lbs)	4.5 kg (9.9 lbs)

P1-BRRMM20-N0

P1-BRRMM20-S0

ELECTRICAL SPECIFICATIONS

R1

Frequency Range		MHz	698-960		
		MHz	698-806	790-894	880-960
Polarization		---	±45°		
Gain	Over all Tilts	dBi	15.3 ± 0.5	16.1 ± 0.5	16.5 ± 0.5
	Max Gain	dBi	15.8	16.6	17
Azimuth Beamwidth (3 dB)		degrees	69° ± 1.5°	67.8° ± 1°	67.5° ± 1.5°
Elevation Beamwidth (3 dB)		degrees	11.8° ± 1°	10.5° ± 0.5°	9.1° ± 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	-150		
Front-to-Back Ratio, Total Power, ± 30°		dB	23	24.4	24
First Upper Side Lobe Suppression		dB	19	16	15
Cross Polar Discrimination Over Sector		dB	12	11	12
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	30	28.8	27
Maximum Effective Power Per Port		Watts	350 W		
Cross Polar Isolation		dB	26		
Interband Isolation		dB	26		

Specifications follow BASTA guidelines.

ELECTRICAL SPECIFICATIONS

B1

Frequency Range		MHz	1695-2200		
		MHz	1695-1880	1850-1990	1920-2200
Polarization		---	±45°		
Gain	Over all Tilts	dBi	17.1 ± 0.5	17.1 ± 0.5	17.2 ± 0.5
	Max Gain	dBi	17.6	17.6	17.7
Azimuth Beamwidth (3 dB)		degrees	61.4° ± 4.5°	64.5° ± 3.5°	64.7° ± 6.7°
Elevation Beamwidth (3 dB)		degrees	6.3° ± 0.5°	6° ± 0°	5.5° ± 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	-150		
Front-to-Back Ratio, Total Power, ± 30°		dB	21	23	24
First Upper Side Lobe Suppression		dB	14	14	14
Cross Polar Discrimination Over Sector		dB	9	7	6
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	18	17	17
Maximum Effective Power Per Port		Watts	250 W		
Cross Polar Isolation		dB	26		
Interband Isolation		dB	26		

Specifications follow BASTA guidelines.

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

P1-BRRMM20-N0

P1-BRRMM20-S0

ELECTRICAL SPECIFICATIONS

■ B2

Frequency Range		MHz	1695-2200		
		MHz	1695-1880	1850-1990	1920-2200
Polarization		---	±45°		
Gain	Over all Tilts	dBi	17.1 ± 0.5	17.1 ± 0.5	17.2 ± 0.5
	Max Gain	dBi	176	17.6	17.7
Azimuth Beamwidth (3 dB)		degrees	61.3° ± 4.5°	65.1° ± 3.8°	65.6° ± 6.4°
Elevation Beamwidth (3 dB)		degrees	6.4° ± 0.5°	6° ± 0.1°	5.6° ± 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	-150		
Front-to-Back Ratio, Total Power, ± 30°		dB	22	22	23
First Upper Side Lobe Suppression		dB	16	16	15
Cross Polar Discrimination Over Sector		dB	7	7	6
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	18	18	17
Maximum Effective Power Per Port		Watts	250 W		
Cross Polar Isolation		dB	26		
Interband Isolation		dB	26		

Specifications follow BASTA guidelines.

ELECTRICAL SPECIFICATIONS

■ Y1

Frequency Range		MHz	2490-2690		
Polarization		---	±45°		
Gain	Over all Tilts	dBi	17.4 ± 1		
	Max Gain	dBi	18.4		
Azimuth Beamwidth (3 dB)		degrees	59.9° ± 4°		
Elevation Beamwidth (3 dB)		degrees	4.7° ± 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	-150		
Front-to-Back Ratio, Total Power, ± 30°		dB	24		
First Upper Side Lobe Suppression		dB	18.9		
Cross Polar Discrimination Over Sector		dB	1		
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	18		
Maximum Effective Power Per Port		Watts	250 W		
Cross Polar Isolation		dB	26		
Interband Isolation		dB	26		

Specifications follow BASTA guidelines.

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

P1-BRRMM20-N0

P1-BRRMM20-S0

ELECTRICAL SPECIFICATIONS

■ Y2

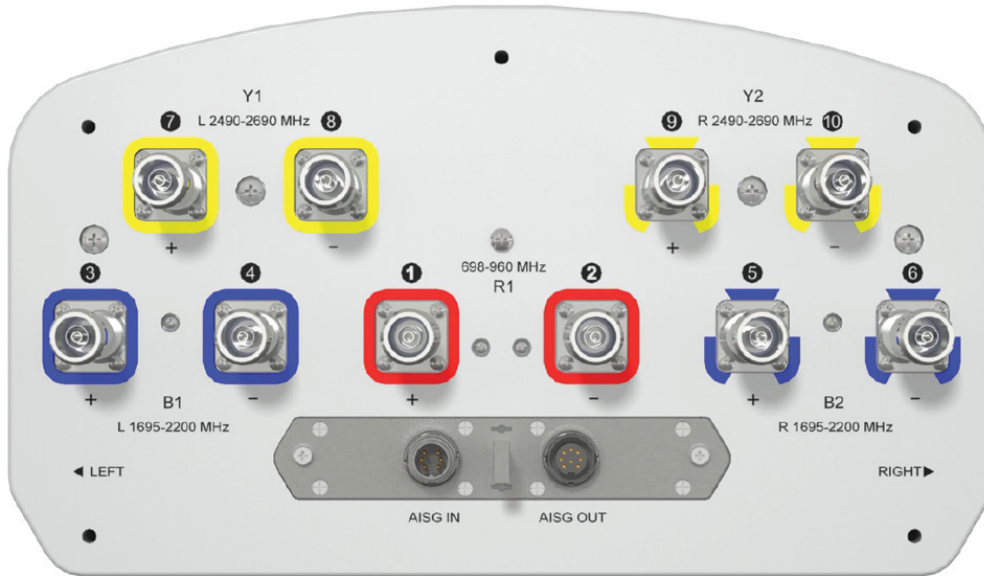
Frequency Range		MHz	2490-2690
Polarization		---	±45°
Gain	Over all Tilts	dBi	17.4 ± 1
	Max Gain	dBi	18.4
Azimuth Beamwidth (3 dB)		degrees	59.5° ± 4°
Elevation Beamwidth (3 dB)		degrees	4.8° ± 0.5°
Electrical Downtilt		degrees	2-12°
Impedance		Ohms	50Ω
VSWR (Return Loss)		---	1.5:1 (-14 dB)
Passive Intermodulation 3rd Order for 2x20 W Carriers		dBc	-150
Front-to-Back Ratio, Total Power, ± 30°		dB	25
First Upper Side Lobe Suppression		dB	18
Cross Polar Discrimination Over Sector		dB	2
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	19
Maximum Effective Power Per Port		Watts	250 W
Cross Polar Isolation		dB	26
Interband Isolation		dB	26

Specifications follow BASTA guidelines.

P1-BRRMM20-N0

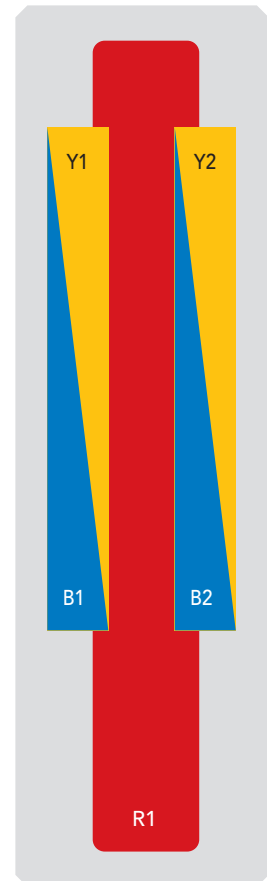
P1-BRRMM20-S0

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
■ B1	1695-2200 MHz	3-4	(2x) 4.3-10 Female	B1	RFxxxxxxxxxx-B1
■ B2	1695-2200 MHz	5-6	(2x) 4.3-10 Female	B2	RFxxxxxxxxxx-B2
■ Y1	2490-2690 MHz	7-8	(2x) 4.3-10 Female	Y1	RFxxxxxxxxxx-Y1
■ Y2	2490-2690 MHz	9-10	(2x) 4.3-10 Female	Y2	RFxxxxxxxxxx-Y2



The illustration is not shown to scale.

P1-BRRMM20-N0

P1-BRRMM20-S0

MECHANICAL SPECIFICATIONS

Length		mm (in)	1960 (77.2)
Width		mm (in)	350 (13.8)
Depth		mm (in)	200 (7.9)
Net Weight - Antenna Only		kg (lbs)	27.8 (61.3)
Wind Load Rated at 150 km/h (93 mph)	Front	N (lbf)	880 (198)
	Side	N (lbf)	456 (103)
	Rear	N (lbf)	498 (112)
Survival Wind Speed / Rated Wind Speed		km/h (mph)	200 (150)
Connector Type		--	(10x) 4.3-10 Female, (2x) AISG Connectors (1 Male, 1 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)	2240 x 445 x 295 (88.2 x 17.5 x 11.6)

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

P1-BRRMM20-N0

P1-BRRMM20-S0

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.

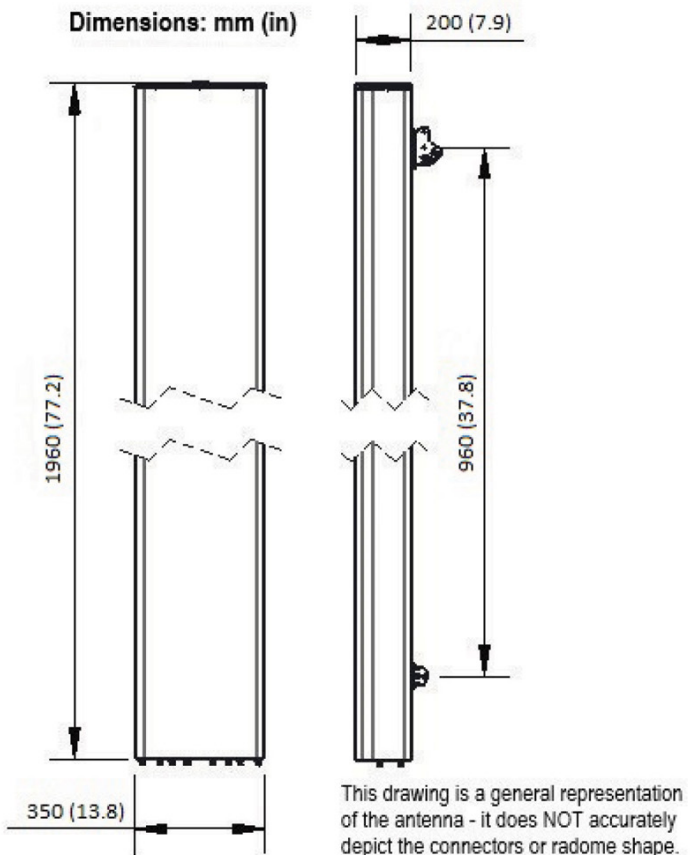


Always attach the antenna using all mounting points.

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](#)