

## P4-BBRRMMUU20-N0

P4-BBRRMMUU20-N0N, P4-BBRRMMUU20-S0, P4-BBRRMMUU20-S0N

### Features

- Low profile for low visual impact and enhanced wind load for minimizing tower wind loading
- 4 ports / 2 cross pol systems in low band (694-960 MHz)
- 4 ports / 2 cross pol systems in high band (1427-2690 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
- Integrated and field replaceable SRET
- Optional with Site Sharing feature (Model name suffix -S0, -S0N)
- Optional with Direct Pipe No Tilt mounting hardware (Model name suffix -N0N, -S0N)
- Compliant with AISG v2.0 and 3GPP
- Optimized radome for low windload



PRODUCT OVERVIEW	Frequency Range (MHz)	(2x) 694-960		(2x) 1695-2200		(2x) 2490-2690		(2x) 1427-2690	
	Array	■ R1	■ R2	■ B1	■ B2	■ Y2	■ Y3	■ Y1	■ Y4
	Connector	1-2	3-4	5-6	7-8	11-12	13-14	9-10	15-16
		16 PORTS							
	Polarization	XPOL							
	Azimuth Beamwidth (avg)	65°		65°		65°		65°	
	Electrical Downtilt	2-12°		2-12°				2-12°	
	Dimensions	1998 x 499 x 215 mm (78.7 x 19.6 x 8.4 in)							

### ORDERING OPTIONS Select from the following ordering options

ANTENNA MODEL NUMBER	CONFIGURATION	MOUNTING HARDWARE	MOUNTING PIPE DIAMETER	SHIPPING WEIGHT	MOUNTING HARDWARE WEIGHT
P4-BBRRMMUU20-N0	ACU-I20-H12K Internal RET Included	APM50-H2 Beam Tilt Kit Included	50-125 mm (2.0-4.9 in)	47.7 kg (105.2 lbs)	5.5 kg (12.1 lbs)
P4-BBRRMMUU20-N0N	ACU-I20-H12K Internal RET Included	APM50-H2N Direct Pipe No Tilt Mounting Kit Included	50-125 mm (2.0-4.9 in)	46.2 kg (101.8 lbs)	4 kg (8.8 lbs)
P4-BBRRMMUU20-S0	ACU-X20 Internal RET for Site Sharing Included	APM50-H2 Beam Tilt Kit Included	50-125 mm (2.0-4.9 in)	47.7 kg (105.2 lbs)	5.5 kg (12.1 lbs)
P4-BBRRMMUU20-S0N	ACU-X20 Internal RET for Site Sharing Included	APM50-H2N Direct Pipe No Tilt Mounting Kit Included	50-125 mm (2.0-4.9 in)	46.2 kg (101.8 lbs)	4 kg (8.8 lbs)



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### ELECTRICAL SPECIFICATIONS

■ R1 ■ R2

Frequency Range		MHz	694-960		
		MHz	694-806	790-894	880-960
Polarization		---	±45°		
Gain	Over all Tilts	dBi	15.1 ± 0.8	15.4 ± 0.4	15.6 ± 0.5
	Max Gain	dBi	15.9	15.8	16.1
Azimuth Beamwidth (3 dB)		degrees	67.4° ± 9.6°	62.4° ± 4.2°	62.2° ± 4.5°
Elevation Beamwidth (3 dB)		degrees	10.8° ± 0.7°	10.1° ± 0.7°	9.4° ± 0.6°
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	18.9	19.9	20.3
First Upper Side Lobe Suppression		dB	12.7	14	12.3
Cross Polar Discrimination Over Sector		dB	10.2	7.8	6.8
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	23	24.1	24.4
Maximum Effective Power Per Port		Watts	250 W		
Cross Polar Isolation		dB	25		
Interband Isolation		dB	25		

Specifications follow BASTA guidelines.

### ELECTRICAL SPECIFICATIONS

■ Y1 ■ Y4

Frequency Range		MHz	1427-2690				
		MHz	1427-1518	1695-1880	1920-2170	2300-2400	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	15.9 ± 0.5	17.1 ± 0.9	18 ± 0.6	17.8 ± 0.4	17.4 ± 0.6
	Max Gain	dBi	16.4	18	18.6	18.2	18
Azimuth Beamwidth (3 dB)		degrees	72.3° ± 5.5°	61° ± 6.1°	63.3° ± 4.6°	62° ± 2.9°	55.6° ± 5.9°
Elevation Beamwidth (3 dB)		degrees	7.6° ± 0.5°	6.7° ± 0.4°	6° ± 0.4°	5.4° ± 0.3°	5° ± 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	18.7	22.3	24	21.8	20.4
First Upper Side Lobe Suppression		dB	15	16.9	16.9	17.8	16.8
Cross Polar Discrimination Over Sector		dB	6.9	7.9	1.1	3	0.6
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	18.8	21	17.5	18	18.4
Maximum Effective Power Per Port		Watts	200 W				
Cross Polar Isolation		dB	26				
Interband Isolation		dB	26				

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### ELECTRICAL SPECIFICATIONS Filtered Arrays

■ B1 / ■ Y2 and ■ B2 / ■ Y3

Frequency Range		MHz	1695-2200 / 2490-2690			
		MHz	1695-1880	1850-1990	1920-2200	2490-2690
Polarization		---	±45°			
Gain	Over all Tilts	dBi	17.2 ± 0.6	17.7 ± 0.3	17.5 ± 0.4	17.6 ± 0.6
	Max Gain	dBi	17.8	18	17.9	18.2
Azimuth Beamwidth (3 dB)		degrees	64° ± 6.4°	65.6° ± 4.1°	64.4° ± 5.5°	58.1° ± 8.5°
Elevation Beamwidth (3 dB)		degrees	5.9° ± 0.4°	5.4° ± 0.3°	5° ± 0.5°	4.3° ± 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	23.5	23.6	23.7	21.6
First Upper Side Lobe Suppression		dB	17.2	19	16.9	18.4
Cross Polar Discrimination Over Sector		dB	6.1	5.4	2.1	1.1
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	19.4	20.5	20.4	19.9
Maximum Effective Power Per Port		Watts	200 W			
Cross Polar Isolation		dB	26			
Interband Isolation		dB	26			

Specifications follow BASTA guidelines.

## P4-BBRRMMUU20-N0

P4-BBRRMMUU20-N0N, P4-BBRRMMUU20-S0, P4-BBRRMMUU20-S0N

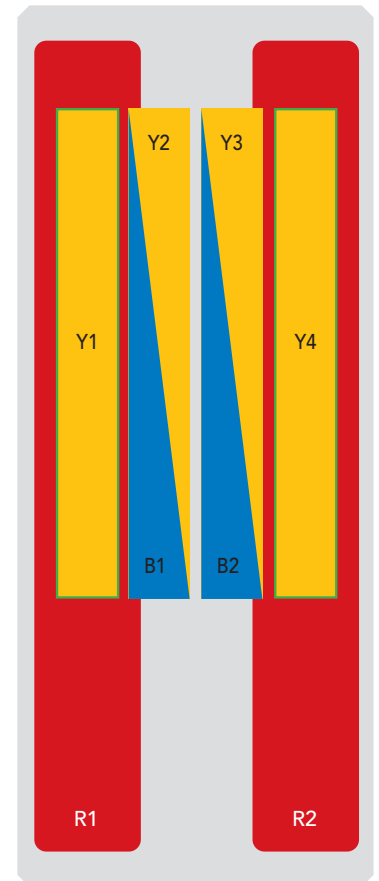
### BOTTOM VIEW - LABELING



### ARRAY LAYOUT

ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE	RET	AISG RET UID
<span style="color: red;">■</span> R1	694-960 MHz	1-2	(2x) 4.3-10 Female	R1	RFxxxxxxxxxx-R1
<span style="color: red;">■</span> R2	694-960 MHz	3-4	(2x) 4.3-10 Female	R2	RFxxxxxxxxxx-R2
<span style="color: blue;">■</span> B1	1695-2200 MHz	5-6	(2x) 4.3-10 Female	B1	RFxxxxxxxxxx-B1
<span style="color: blue;">■</span> B2	1695-2200 MHz	7-8	(2x) 4.3-10 Female	B2	RFxxxxxxxxxx-B2
<span style="color: yellow;">■</span> Y1	1427-2690 MHz	9-10	(2x) 4.3-10 Female	Y1	RFxxxxxxxxxx-Y1
<span style="color: yellow;">■</span> Y2	2490-2690 MHz	11-12	(2x) 4.3-10 Female	Y2	RFxxxxxxxxxx-Y2
<span style="color: yellow;">■</span> Y3	2490-2690 MHz	13-14	(2x) 4.3-10 Female	Y3	RFxxxxxxxxxx-Y3
<span style="color: yellow;">■</span> Y4	1427-2690 MHz	15-16	(2x) 4.3-10 Female	Y4	RFxxxxxxxxxx-Y4

**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)	1998 (78.7)
Width	mm (in)	499 (19.6)
Depth	mm (in)	215 (8.4)
Net Weight - Antenna Only	kg (lbs)	36.5 (80.4)
Wind Load Rated at 150 km/h (93 mph)	Frontal, Resultant	N (lbf) 535 (120)
	Side, Resultant	N (lbf) 460 (103)
	Rear, Resultant	N (lbf) 635 (143)
	Maximum, Resultant	N (lbf) 1050 (236)
	Maximum, Drag Force	N (lbf) 931 (209)
Survival Wind Speed	km/h (mph)	200 (124)
Connector Type	--	(16x) 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
<b>Shipping</b>	Packing Size (Length x Width x Depth)	mm (in) 2198 x 594 x 335 (86.5 x 23.4 x 13.2)

### 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 50-125 mm (2.0-4.9 in) <i>Refer to ordering options</i>	APM50-H2	5.5 kg (12.1 lbs)
Direct Pipe No Tilt Bracket Kit for Pole Diameter 50-125 mm (2.0-4.9 in) <i>Refer to ordering options</i>	APM50-H2N	4 kg (8.8 lbs)

### INSTALLATION

Please read all installation notes before installing product.

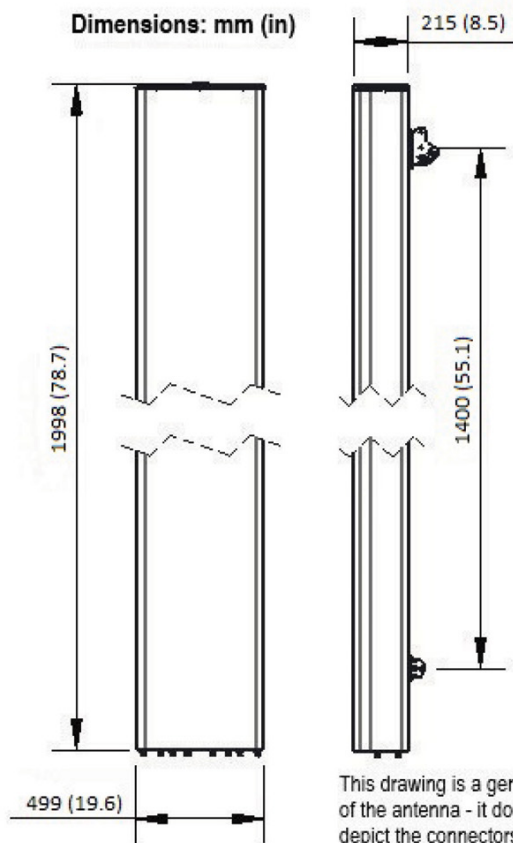


Always attach the antenna using all mounting points.

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](#)