

P4-BB4L15-N0

P4-BB4L15-N0N, P4-BB4L15-S0, P4-BB4L15-S0N

Features

- 4 ports / 2 cross pol systems in low band (690-960 MHz)
- 8 ports / 4 cross pol systems in high band (1695-2690 MHz)
- 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



PRODUCT OVERVIEW	Frequency Range (MHz)	(2x) 690-960		(4x) 1695-2690			
	Array	<div></div> R1	<div></div> R2	<div></div> Y1	<div></div> Y2	<div></div> Y3	<div></div> Y4
	Connector	1-2	3-4	5-6	7-8	9-10	11-12
		12 PORTS					
	Polarization	XPOL					
	Azimuth Beamwidth (avg)	65°		65°			
	Electrical Downtilt	2-12°		2-12°			
Dimensions	1498 x 499 x 257 mm (59.0 x 19.6 x 10.1 in)						

ORDERING OPTIONS

Select from the following ordering options

ANTENNA MODEL NUMBER	CONFIGURATION	MOUNTING HARDWARE	MOUNTING PIPE DIAMETER	SHIPPING WEIGHT	MOUNTING HARDWARE WEIGHT
P4-BB4L15-N0	ACU-I20-H12J Internal RET Included	APM50-H2 Beam Tilt Kit Included	50-125 mm (2.0-4.9 in)	35.8 kg (78.9 lbs)	5.5 kg (12.1 lbs)
P4-BB4L15-N0N	ACU-I20-H12J Internal RET Included	APM50-H2N Direct Pipe No Tilt Mounting Kit Included	50-125 mm (2.0-4.9 in)	34.3 kg (75.6 lbs)	4 kg (8.8 lbs)
P4-BB4L15-S0	ACU-X20H Internal RET for Site Sharing Included	APM50-H2 Beam Tilt Kit Included	50-125 mm (2.0-4.9 in)	35.8 kg (78.9 lbs)	5.5 kg (12.1 lbs)
P4-BB4L15-S0N	ACU-X20H Internal RET for Site Sharing Included	APM50-H2N Direct Pipe No Tilt Mounting Kit Included	50-125 mm (2.0-4.9 in)	34.3 kg (75.6 lbs)	4 kg (8.8 lbs)

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ELECTRICAL SPECIFICATIONS

■ R1

Frequency Range		MHz	690-960		
		MHz	690-806	790-894	880-960
Polarization		---	±45°		
Gain	Over all Tilts	dBi	14.3 ± 0.7	14.7 ± 0.3	14.7 ± 0.3
	Max Gain	dBi	15	15	15
Azimuth Beamwidth (3 dB)		degrees	64.2° ± 6.6°	59.8° ± 5.6°	57.7° ± 5°
Elevation Beamwidth (3 dB)		degrees	15.2° ± 0.8°	13.8° ± 1°	12.5° ± 1.2°
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	20.2	21	21.1
First Upper Side Lobe Suppression		dB	13.2	15.9	15
Cross Polar Discrimination Over Sector		dB	7.9	8.9	8.4
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	25.6	25.4	23.9
Maximum Effective Power Per Port		Watts	250 W		
Cross Polar Isolation		dB	25		
Interband Isolation		dB	25		

Specifications follow BASTA guidelines.

ELECTRICAL SPECIFICATIONS

■ R2

Frequency Range		MHz	690-960		
		MHz	690-806	790-894	880-960
Polarization		---	±45°		
Gain	Over all Tilts	dBi	14.3 ± 0.6	14.6 ± 0.3	14.7 ± 0.3
	Max Gain	dBi	14.9	14.9	15
Azimuth Beamwidth (3 dB)		degrees	64.4° ± 6.7°	60.9° ± 5.8°	58.9° ± 7.4°
Elevation Beamwidth (3 dB)		degrees	15.7° ± 1.1°	14.3° ± 0.9°	12.8° ± 1.2°
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	20.4	21.3	21.2
First Upper Side Lobe Suppression		dB	12.2	15.9	15.7
Cross Polar Discrimination Over Sector		dB	8.2	8.1	6.2
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	25.7	23.5	22.7
Maximum Effective Power Per Port		Watts	250 W		
Cross Polar Isolation		dB	25		
Interband Isolation		dB	25		

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ELECTRICAL SPECIFICATIONS

Y1

Frequency Range		MHz	1695-2690				
		MHz	1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	17.1 ± 0.6	17.6 ± 0.3	17.5 ± 0.3	17 ± 0.4	17.9 ± 0.5
	Max Gain	dBi	17.7	17.9	17.8	17.4	18.4
Azimuth Beamwidth (3 dB)		degrees	66.3° ± 6.5°	62.7° ± 3.3°	62.1° ± 2.8°	67.7° ± 5.7°	58.4° ± 7.6°
Elevation Beamwidth (3 dB)		degrees	6.6° ± 0.4°	6.1° ± 0.3°	5.8° ± 0.4°	5.2° ± 0.3°	4.8° ± 0.4°
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	22	19.5	20.1	18.4	22.6
First Upper Side Lobe Suppression		dB	16.1	16.2	16.5	18.2	20.9
Cross Polar Discrimination Over Sector		dB	9.4	8.6	3	3.4	1.5
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	23.6	20.7	20.9	21.7	19.3
Maximum Effective Power Per Port		Watts	200 W				
Cross Polar Isolation		dB	26				
Interband Isolation		dB	26				

Specifications follow BASTA guidelines.

ELECTRICAL SPECIFICATIONS

Y2

Frequency Range		MHz	1695-2690				
		MHz	1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	17.1 ± 0.7	17.7 ± 0.3	17.4 ± 0.5	17 ± 0.5	18.1 ± 0.4
	Max Gain	dBi	17.8	18	17.9	17.5	18.5
Azimuth Beamwidth (3 dB)		degrees	66° ± 9.5°	60.2° ± 3.9°	59.3° ± 3.8°	65.1° ± 6.6°	57.1° ± 6.5°
Elevation Beamwidth (3 dB)		degrees	6.6° ± 0.3°	6.1° ± 0.3°	5.8° ± 0.4°	5.3° ± 0.3°	4.7° ± 0.4°
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	23.1	22.5	24	21.7	24.5
First Upper Side Lobe Suppression		dB	16.4	16.8	16.3	17.2	19
Cross Polar Discrimination Over Sector		dB	4.7	2.3	1.2	0.8	0.4
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	17	17.1	17.5	20.2	17
Maximum Effective Power Per Port		Watts	200 W				
Cross Polar Isolation		dB	26				
Interband Isolation		dB	26				

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ELECTRICAL SPECIFICATIONS

Y3

Frequency Range		MHz	1695-2690				
		MHz	1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	17.2 ± 0.8	17.8 ± 0.3	17.6 ± 0.5	17.5 ± 0.5	18.2 ± 0.4
	Max Gain	dBi	18	18.1	18.1	18	18.6
Azimuth Beamwidth (3 dB)		degrees	66.9° ± 7.6°	61.1° ± 3.1°	59.2° ± 4.5°	58.7° ± 4.2°	55.9° ± 6.3°
Elevation Beamwidth (3 dB)		degrees	6.6° ± 0.5°	6° ± 0.3°	5.8° ± 0.4°	5.3° ± 0.4°	4.7° ± 0.4°
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	22.4	23	21.1	23.5
First Upper Side Lobe Suppression		dB	17.5	16.3	15.7	17.5	20.1
Cross Polar Discrimination Over Sector		dB	4.9	3	1.4	0.9	0.6
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	18	19	19.3	25.5	21.1
Maximum Effective Power Per Port		Watts	200 W				
Cross Polar Isolation		dB	26				
Interband Isolation		dB	26				

Specifications follow BASTA guidelines.

ELECTRICAL SPECIFICATIONS

Y4

Frequency Range		MHz	1695-2690				
		MHz	1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Polarization		---	±45°				
Gain	Over all Tilts	dBi	17 ± 0.8	17.5 ± 0.5	17.4 ± 0.6	16.9 ± 0.7	17.7 ± 0.7
	Max Gain	dBi	17.8	18	18	17.6	18.4
Azimuth Beamwidth (3 dB)		degrees	65.2° ± 3.2°	64.3° ± 2.3°	62.7° ± 3.1°	66.7° ± 4.3°	58.2° ± 7.4°
Elevation Beamwidth (3 dB)		degrees	6.7° ± 0.4°	6.2° ± 0.2°	5.8° ± 0.4°	5.3° ± 0.2°	4.8° ± 0.4°
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	21.4	21.4	21.4	19.3	23.8
First Upper Side Lobe Suppression		dB	19	19.2	17.8	17.8	20.7
Cross Polar Discrimination Over Sector		dB	7.7	7.5	1.9	5.5	1.5
Cross Polar Discrimination (XPD) at Mechanical Boresight (0°)		dB	26.2	21.8	21.6	17.2	20.7
Maximum Effective Power Per Port		Watts	200 W				
Cross Polar Isolation		dB	26				
Interband Isolation		dB	26				

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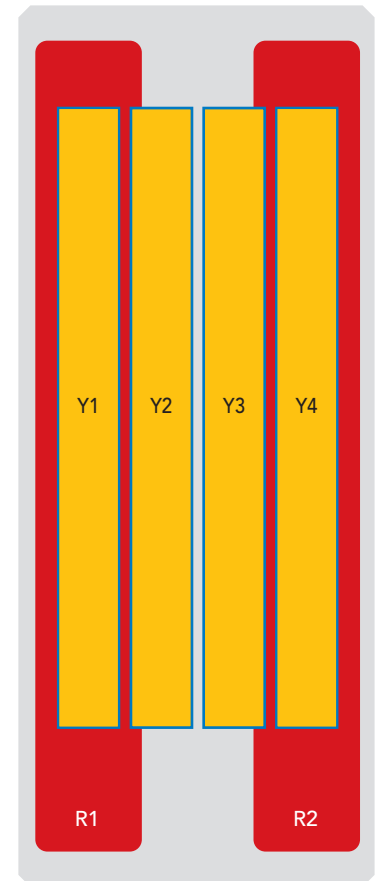
BOTTOM VIEW - LABELING



ARRAY LAYOUT

ARRAY	FREQUENCY	CONNECTOR	CONNECTOR TYPE	RET	AISG RET UID
■ R1	690-960 MHz	1-2	(2x) 4.3-10 Female	R1	RFxxxxxxxxxx-R1
■ R2	690-960 MHz	3-4	(2x) 4.3-10 Female	R2	RFxxxxxxxxxx-R2
■ Y1	1695-2690 MHz	5-6	(2x) 4.3-10 Female	Y1	RFxxxxxxxxxx-Y1
■ Y2	1695-2690 MHz	7-8	(2x) 4.3-10 Female	Y2	RFxxxxxxxxxx-Y2
■ Y3	1695-2690 MHz	9-10	(2x) 4.3-10 Female	Y3	RFxxxxxxxxxx-Y3
■ Y4	1695-2690 MHz	11-12	(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)	1498 (59.0)
Width		mm (in)	499 (19.6)
Depth		mm (in)	257 (10.1)
Net Weight - Antenna Only		kg (lbs)	25.8 (56.9)
Wind Load Rated at 150 km/h (93 mph)	Frontal, Resultant	N (lbf)	393 (88)
	Side, Resultant	N (lbf)	343 (77)
	Rear, Resultant	N (lbf)	413 (93)
	Maximum, Resultant	N (lbf)	751 (169)
	Maximum, Drag Force	N (lbf)	663 (149)
Survival Wind Speed / Rated Wind Speed		km/h (mph)	200 (150)
Connector Type		--	(12x) 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		---	ASA
Lightning Protection		---	Direct Ground
Shipping	Packing Size (Length x Width x Depth)	mm (in)	1698 x 594 x 377 (66.9 x 23.4 x 14.8)

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.

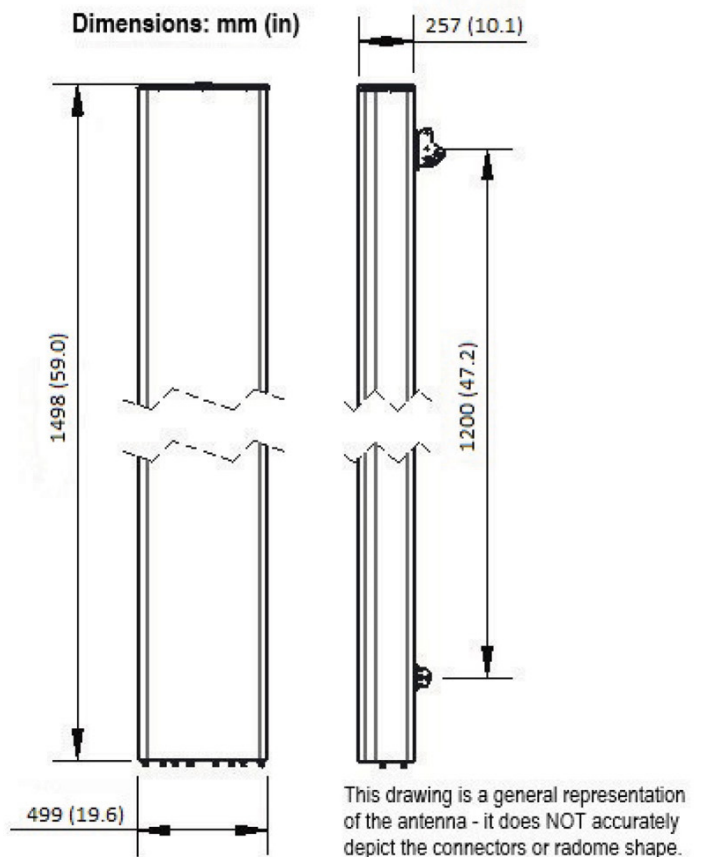


Always attach the antenna using all mounting points.

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](#)