



**P2-BBRRMM15-N0**

12-Ports, X-Pol, Panel Antenna, 1.5m, 2x 698-960/2x 1695-2200/2x 2490-2690MHz, 65deg, Integrated RET, Site Sharing Optional

**FEATURES / BENEFITS**

- 4 ports / 2 cross pol systems in low band (698-960MHz)
- 2 cross pol systems in high band (1695-2690MHz), diplexed, resulting in 4 ports 1695-2200MHz and 4 ports 2490-2690MHz
- Supporting 4x4 MIMO in low band and in high band
- Integrated & field replaceable SRET
- ACU HW Version: 2.02
- Compliant with AISG V2.0 and 3GPP



**Technical features**

**ELECTRICAL SPECIFICATIONS**

Electrical Specification Header		Low Band Array (698-960 MHz) [R1]		
Frequency Band	MHz	698-806	790-894	880-960
Gain Typical	dBi	14.4	15.1	15.3
Gain Over all Tilts	dBi	13.5 +/- 0.9	14.6 +/- 0.5	14.9 +/- 0.4
Azimuth Beamwidth 3dB	Deg	60.4 +/- 4.1	60.6 +/- 2.1	60.7 +/- 3.7
Elevation Beamwidth 3dB	Deg	16.2 +/- 1.3	14.9 +/- 0.7	13.9 +/- 0.7
Cross Polar Discrimination at Boresight	dB	15.4	17.3	17.7
Cross Polar Discrimination over Sector	dB	6.1	9.6	6.5
F/B at +/-30deg Total Power	dB	17.1	22.2	22.2
First Upper Side Lobe Suppression	dB	18.7	15.7	13.6
Electrical Downtilt	Deg	2 to 15		
Cross Polar Isolation	dB	27		
Interband Isolation	dB	27		
VSWR	-	1.5		
Passive Intermodulation (3rd Order, 2 x 43dBm)	dBc	-153		
Maximum Effective Power per Port	Watt	350		



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**ELECTRICAL SPECIFICATIONS**

Electrical Specification Header		Low Band Array (698-960 MHz) [R2]		
Frequency Band	MHz	698-806	790-894	880-960
Gain Typical	dBi	14.6	15.1	15.4
Gain Over all Tilts	dBi	13.6 +/- 1	14.6 +/- 0.5	15.1 +/- 0.3
Azimuth Beamwidth 3dB	Deg	61.3 +/- 5	61.4 +/- 2.6	60.7 +/- 2.8
Elevation Beamwidth 3dB	Deg	16.1 +/- 1.3	14.7 +/- 0.7	13.8 +/- 0.7
Cross Polar Discrimination at Boresight	dB	14.8	16.7	19.2
Cross Polar Discrimination over Sector	dB	6.8	10	8.7
F/B at +/-30deg Total Power	dB	17.4	21.7	21
First Upper Side Lobe Suppression	dB	17.4	16.3	15.2
Electrical Downtilt	Deg	2 to 15		
Cross Polar Isolation	dB	27		
Interband Isolation	dB	27		
VSWR	-	1.5		
Passive Intermodulation (3rd Order, 2 x 43dBm)	dBc	-153		
Maximum Effective Power per Port	Watt	350		

**ELECTRICAL SPECIFICATIONS**

Electrical Specification Header		High Band Array (1695-2200 MHz) [B1]		
Frequency Band	MHz	1695-1880	1850-1990	1920-2200
Gain Typical	dBi	17.6	17.9	18.3
Gain Over all Tilts	dBi	16.7 +/- 0.9	16.7 +/- 1.2	17 +/- 1.3
Azimuth Beamwidth 3dB	Deg	57.2 +/- 3.7	60.8 +/- 8.4	61.9 +/- 8
Elevation Beamwidth 3dB	Deg	6.2 +/- 0.4	5.9 +/- 0.3	5.5 +/- 0.5
Cross Polar Discrimination at Boresight	dB	16.1	16.5	14.3
Cross Polar Discrimination over Sector	dB	8.5	5.8	5.7
F/B at +/-30deg Total Power	dB	21.6	22.8	23
First Upper Side Lobe Suppression	dB	18.5	16.7	15.4
Electrical Downtilt	Deg	2 to 12		
Cross Polar Isolation	dB	27		
Interband Isolation	dB	27		
VSWR	-	1.5		
Passive Intermodulation (3rd Order, 2 x 43dBm)	dBc	-153		
Maximum Effective Power per Port	Watt	250		



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**ELECTRICAL SPECIFICATIONS**

Electrical Specification Header		High Band Array (1695-2200 MHz) [B2]		
Frequency Band	MHz	1695-1880	1850-1990	1920-2200
Gain Typical	dBi	17.4	17.9	18.1
Gain Over all Tilts	dBi	16.6 +/- 0.8	16.7 +/- 1.2	16.9 +/- 1.2
Azimuth Beamwidth 3dB	Deg	58.2 +/- 5	59.2 +/- 5.4	61.4 +/- 9.2
Elevation Beamwidth 3dB	Deg	6.3 +/- 0.3	5.8 +/- 0.4	5.5 +/- 0.5
Cross Polar Discrimination at Boresight	dB	15.8	17	14.6
Cross Polar Discrimination over Sector	dB	9	5.4	5.2
F/B at +/-30deg Total Power	dB	23.1	23.1	22.4
First Upper Side Lobe Suppression	dB	19	16.5	15.8
Electrical Downtilt	Deg	2 to 12		
Cross Polar Isolation	dB	27		
Interband Isolation	dB	27		
VSWR	-	1.5		
Passive Intermodulation (3rd Order, 2 x 43dBm)	dBc	-153		
Maximum Effective Power per Port	Watt	250		

**ELECTRICAL SPECIFICATIONS**

Electrical Specification Header		High Band Array (2490-2690 MHz) [Y1]
Frequency Band	MHz	2490-2690
Gain Typical	dBi	18.4
Gain Over all Tilts	dBi	17.6 +/- 0.8
Azimuth Beamwidth 3dB	Deg	50.5 +/- 5.8
Elevation Beamwidth 3dB	Deg	4.6 +/- 0.3
Cross Polar Discrimination at Boresight	dB	23.2
Cross Polar Discrimination over Sector	dB	0.7
F/B at +/-30deg Total Power	dB	24.9
First Upper Side Lobe Suppression	dB	15
Electrical Downtilt	Deg	2 to 12
Cross Polar Isolation	dB	27
Interband Isolation	dB	27
VSWR	-	1.5
Passive Intermodulation (3rd Order, 2 x 43dBm)	dBc	-153
Maximum Effective Power per Port	Watt	250



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**ELECTRICAL SPECIFICATIONS**

Electrical Specification Header		High Band Array (2490-2690 MHz) [Y2]
Frequency Band	MHz	2490-2690
Gain Typical	dBi	18.3
Gain Over all Tilts	dBi	17.7 +/- 0.6
Azimuth Beamwidth 3dB	Deg	51.2 +/- 5.7
Elevation Beamwidth 3dB	Deg	4.5 +/- 0.3
Cross Polar Discrimination at Boresight	dB	20.2
Cross Polar Discrimination over Sector	dB	0.8
F/B at +/-30deg Total Power	dB	25.1
First Upper Side Lobe Suppression	dB	15.6
Electrical Downtilt	Deg	2 to 12
Cross Polar Isolation	dB	27
Interband Isolation	dB	27
VSWR	-	1.5
Passive Intermodulation (3rd Order, 2 x 43dBm)	dBc	-153
Maximum Effective Power per Port	Watt	250

**ELECTRICAL SPECIFICATIONS**

Impedance	Ohm	50
Polarization	Deg	±45°

**MECHANICAL SPECIFICATIONS**

Dimensions - H x W x D	mm (in)	1590 x 498 x 197 (62.6 x 19.6 x 7.8)
Weight (Antenna Only)	kg (lb)	29 (63.9)
Weight (Mounting Hardware only)	kg (lb)	4.5 (9.9)
Packing size- HxWxD	mm (in)	1940 x 590 x 270 (76.4 x 23.2 x 10.6)
Shipping Weight	kg (lb)	37.5 (82.7)
Connector type		12 x 4.3-10 female/bottom + 2 AISG connectors (1 male, 1 female)
Radome Material / Color		Fiber Glass / Light Grey RAL7035

**TESTING AND ENVIRONMENTAL**

Temperature Range	°C (°F)	-40 to 60 (-40 to 140 )
Lightning protection		Direct Ground
Survival/Rated Wind Velocity	km/h	200 (150 )
Wind Load @Rated Wind Front	N	526
Wind Load @Rated Wind Side	N	459
Wind Load @Rated Wind Rear	N	610

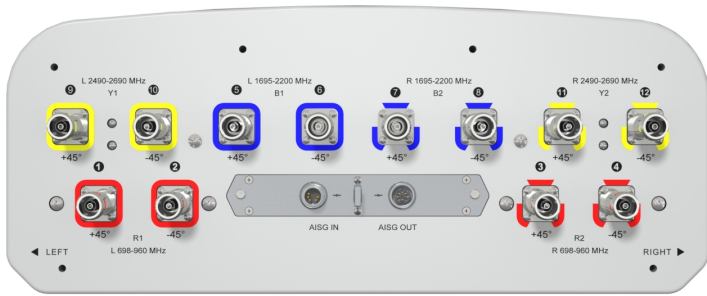


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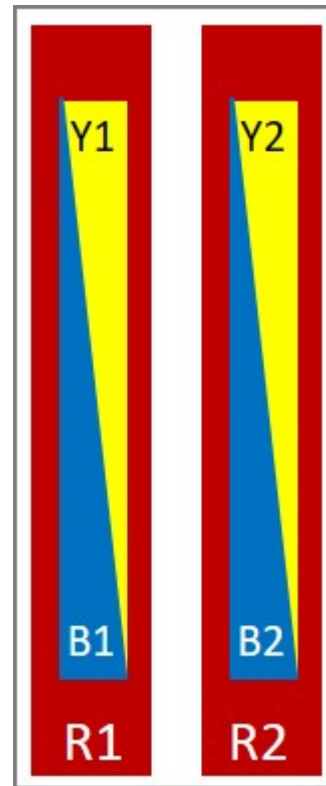
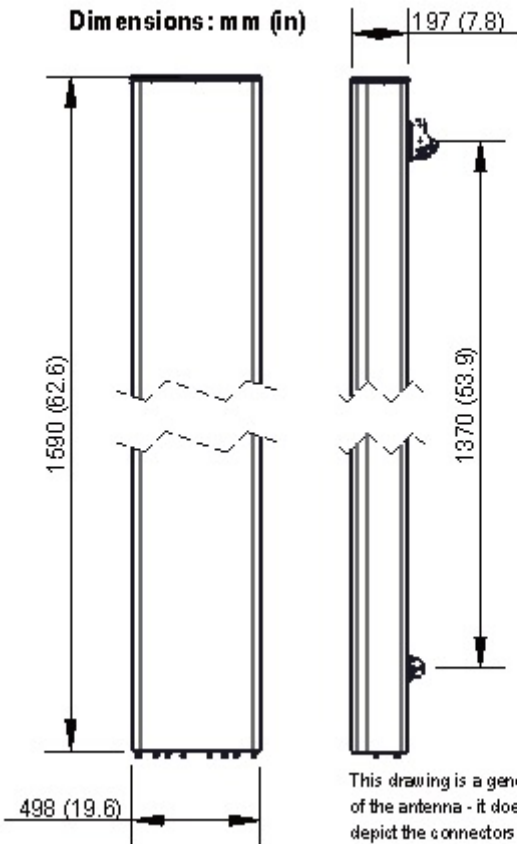
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**ORDERING INFORMATION**

Order No.	Configuration	Mounting Hardware	Mounting Pipe Diameter	Shipping Weight
<b>P2-BBRRMM15-N0</b>	Internal RET(ACU-I20-B6)	APM50-B1	50-110mm	37.5 kg
<b>P2-BBRRMM15-S0 (Material Code: 50016702)</b>	Internal RET(ACU-X20-B6) Dynamic Site Sharing mode	APM50-B1	50-110mm	37.5 kg
<b>P2-BBRRMM15-S0 (Material Code: 50016703)</b>	Internal RET(ACU-X20-B6) Static Site Sharing mode	APM50-B1	50-110mm	37.5 kg



**Dimensions: mm (in)**





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**External Document Links**

[APM50\\_Series\\_Installation\\_Instructions](#)

**Notes**

- All electrical parameters are compliant with BASTA NGMN 11.1 requirements.
- For additional mounting information please click "External Document Links".

• **Radiating patterns:** [Request pattern files](#)