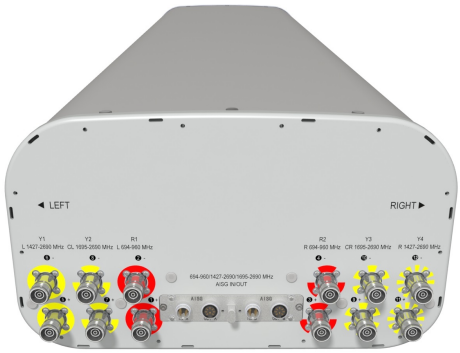
PRODUCT DATASHEET

P4-BBUULL15-J0, -J0N, -I0, -I0N

12-Ports, X-Pol, Panel Antenna, 1.5m, 2x 694-960/2x 1427-2690/2x 1695-2690MHz, 65deg, Integrated RET, Site Sharing Optional

FEATURES / BENEFITS

- 4 ports / 2 cross pol systems in low band (694-960 MHz)
- 4 ports / 2 cross pol systems in mid band (1695-2690MHz)
- 4 ports / 2 cross pol systems in very wide mid band (1427-2690 MHz)
- Integrated and field replaceable SRET
- Optional with Site Sharing feature (Model name Suffix -I0, -I0N)
- Optional with Direct Pipe no tilt mounting hardware (Model name Suffix -J0N, -I0N)
- Compliant with AISG V2.0 and 3GPP



Technical features

ELECTRICAL SPECIFICATIONS

Electrical Specification Header		LOW BAND ARRAY (694-960 MHz) [R1]		
Frequency Band	MHz	694-806	790-894	880-960
Gain Typical	dBi	14.1	14.6	14.9
Gain Over all Tilts	dBi	13.5 +/- 0.6	13.9 +/- 0.7	14.5 +/- 0.4
Azimuth Beamwidth 3dB	Deg	67.3 +/- 11.6	60.8 +/- 9.8	58.7 +/- 5.4
Elevation Beamwidth 3dB	Deg	15.3 +/- 0.9	13.9 +/- 1.1	12.7 +/- 0.5
Cross Polar Discrimination at Boresight	dB	15.7	16.6	18.9
Cross Polar Discrimination over Sector	dB	4.6	4.7	2.6
F/B at +/-30deg Total Power	dB	21.1	20.2	21
First Upper Side Lobe Suppression	dB	13.6	12.7	12.8
Electrical Downtilt	Deg	2 to 14		
Cross Polar Isolation	dB	25		
Interband Isolation	dB	25		
VSWR	-	1.5		
Passive Intermodulation (3rd Order, 2 x 43dBm)	dBc	-153		
Maximum Effective Power per Port	Watt	250		

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12-Ports, X-Pol, Panel Antenna, 1.5m, 2x 694-960/2x 1427-2690/2x 1695-2690MHz, 65deg, Integrated RET, Site Sharing Optional

ELECTRICAL SPECIFICATIONS

Electrical Specification Header		LOW BAND ARRAY (694-960 MHz) [R2]		
Frequency Band	MHz	694-806	790-894	880-960
Gain Typical	dBi	14.4	14.8	15
Gain Over all Tilts	dBi	13.9 +/- 0.5	14.1 +/- 0.7	14.7 +/- 0.3
Azimuth Beamwidth 3dB	Deg	66.5 +/- 8.0	62.2 +/- 7.6	59.0 +/- 3.6
Elevation Beamwidth 3dB	Deg	14.7 +/- 1.0	13.5 +/- 0.9	12.5 +/- 0.6
Cross Polar Discrimination at Boresight	dB	15.9	17.2	20.3
Cross Polar Discrimination over Sector	dB	4.1	5.5	3.6
F/B at +/-30deg Total Power	dB	21.3	20.5	20.7
First Upper Side Lobe Suppression	dB	13.3	13.5	14
Electrical Downtilt	Deg	2 to 14		
Cross Polar Isolation	dB	25		
Interband Isolation	dB	25		
VSWR	-	1.5		
Passive Intermodulation (3rd Order, 2 x 43dBm)	dBc	-153		
Maximum Effective Power per Port	Watt	250		

P4-BBUULL15-J0, -J0N, -I0, -I0N

12-Ports, X-Pol, Panel Antenna, 1.5m, 2x 694-960/2x 1427-2690/2x 1695-2690MHz, 65deg, Integrated RET, Site Sharing Optional

ELECTRICAL SPECIFICATIONS

Electrical Specification Header		MID BAND ARRAY (1427-2690 MHz) [Y1]					
Frequency Band	MHz	1427-1518	1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Gain Typical	dBi	16	17.3	17.5	18.3	18.4	18.7
Gain Over all Tilts	dBi	15.1 +/- 0.9	16.4 +/- 0.9	17.1 +/- 0.4	17.5 +/- 0.8	17.9 +/- 0.5	18.1 +/- 0.6
Azimuth Beamwidth 3dB	Deg	74.3 +/- 8.2	67.6 +/- 6.8	67.6 +/- 3.9	63.5 +/- 6.8	57.8 +/- 4.0	56.3 +/- 6.0
Elevation Beamwidth 3dB	Deg	7.8 +/- 0.6	7.0 +/- 0.5	6.4 +/- 0.5	5.9 +/- 0.6	5.2 +/- 0.2	4.8 +/- 0.3
Cross Polar Discrimination at Boresight	dB	19.2	22.4	21.7	20.1	20	17.8
Cross Polar Discrimination over Sector	dB	10.2	5.3	5.5	5.4	1.4	0.5
F/B at +/-30deg Total Power	dB	19.3	21.2	21.1	19.6	20.7	20.5
First Upper Side Lobe Suppression	dB	17.1	16.2	16.5	16.4	19.8	18.4
Electrical Downtilt	Deg	2 to 12					
Cross Polar Isolation	dB	25					
Interband Isolation	dB	25					
VSWR	-	1.5					
Passive Intermodulation (3rd Order, 2 x 43dBm)	dBc	-153					
Maximum Effective Power per Port	Watt	250					

P4-BBUULL15-J0, -J0N, -I0, -I0N

12-Ports, X-Pol, Panel Antenna, 1.5m, 2x 694-960/2x 1427-2690/2x 1695-2690MHz, 65deg, Integrated RET, Site Sharing Optional

ELECTRICAL SPECIFICATIONS

Electrical Specification Header		MID BAND ARRAY (1695-2690 MHz) [Y2]				
Frequency Band	dBi	1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Gain Typical	dBi	16.4	17.1	18	17.9	18.1
Gain Over all Tilts	dBi	15.7 +/- 0.7	16.6 +/- 0.5	17.2 +/- 0.8	17.4 +/- 0.5	17.4 +/- 0.7
Azimuth Beamwidth 3dB	Deg	77.6 +/- 7.1	74.3 +/- 9.0	65.7 +/- 13.2	69.1 +/- 5.5	68.4 +/- 6.2
Elevation Beamwidth 3dB	Deg	7.0 +/- 0.6	6.4 +/- 0.5	5.9 +/- 0.6	5.1 +/- 0.3	4.8 +/- 0.3
Cross Polar Discrimination at Boresight	dB	18.5	18.5	20.5	20.7	20
Cross Polar Discrimination over Sector	dB	5.4	5.7	5.5	2.5	0.9
F/B at +/-30deg Total Power	dB	21.4	22.1	20.6	23.1	23.3
First Upper Side Lobe Suppression	dB	17.4	19	19.6	22.7	15.9
Electrical Downtilt	Deg	2 to 12				
Cross Polar Isolation	dB	25				
Interband Isolation	dB	25				
VSWR	-	1.5				
Passive Intermodulation (3rd Order, 2 x 43dBm)	dBc	-153				
Maximum Effective Power per Port	Watt	250				

P4-BBUULL15-J0, -J0N, -I0, -I0N

12-Ports, X-Pol, Panel Antenna, 1.5m, 2x 694-960/2x 1427-2690/2x 1695-2690MHz, 65deg, Integrated RET, Site Sharing Optional

ELECTRICAL SPECIFICATIONS

Electrical Specification Header		MID BAND ARRAY (1695-2690 MHz) [Y3]				
Frequency Band	dBi	1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Gain Typical	dBi	16.2	17.3	18	18	18.2
Gain Over all Tilts	dBi	16.1 +/- 1.0	16.7 +/- 0.6	17.2 +/- 0.8	17.6 +/- 0.4	17.6 +/- 0.6
Azimuth Beamwidth 3dB	Deg	73.1 +/- 15.0	71.1 +/- 14.2	67.9 +/- 14.2	69.4 +/- 5.7	68.9 +/- 8.1
Elevation Beamwidth 3dB	Deg	6.9 +/- 0.6	6.4 +/- 0.4	5.9 +/- 0.6	5.1 +/- 0.3	4.8 +/- 0.3
Cross Polar Discrimination at Boresight	dB	19.8	20.6	22	20.2	18.8
Cross Polar Discrimination over Sector	dB	3.7	4.9	5.8	1.4	0.8
F/B at +/-30deg Total Power	dB	20.2	22.1	20.9	23.1	22.2
First Upper Side Lobe Suppression	dB	18	18.3	16.6	21	21.3
Electrical Downtilt	Deg	2 to 12				
Cross Polar Isolation	dB	25				
Interband Isolation	dB	25				
VSWR	-	1.5				
Passive Intermodulation (3rd Order, 2 x 43dBm)	dBc	-153				
Maximum Effective Power per Port	Watt	250				

P4-BBUULL15-J0, -J0N, -I0, -I0N

12-Ports, X-Pol, Panel Antenna, 1.5m, 2x 694-960/2x 1427-2690/2x 1695-2690MHz, 65deg, Integrated RET, Site Sharing Optional

ELECTRICAL SPECIFICATIONS

Electrical Specification Header		MID BAND ARRAY (1427-2690 MHz) [Y4]					
Frequency Band	MHz	1427-1518	1695-1880	1850-1990	1920-2170	2300-2400	2490-2690
Gain Typical	dBi	15.4	17.2	17.5	18.2	17.4	18.5
Gain Over all Tilts	dBi	14.8 +/- 0.6	16.3 +/- 0.9	17.1 +/- 0.4	17.5 +/- 0.7	18.0 +/- 0.4	18.1 +/- 0.4
Azimuth Beamwidth 3dB	Deg	73.0 +/- 8.2	69.3 +/- 6.0	68.2 +/- 4.8	63.7 +/- 6.7	58.3 +/- 4.4	56.5 +/- 5.4
Elevation Beamwidth 3dB	Deg	7.7 +/- 0.5	6.8 +/- 0.4	6.4 +/- 0.3	5.9 +/- 0.6	5.2 +/- 0.3	4.8 +/- 0.3
Cross Polar Discrimination at Boresight	dB	17.1	19.1	20.5	21.2	19.7	20.1
Cross Polar Discrimination over Sector	dB	8.7	6.6	6.8	6.1	1	0.3
F/B at +/-30deg Total Power	dB	18.5	19.8	20.6	19.7	20.1	17.9
First Upper Side Lobe Suppression	dB	9	17.3	21.1	19.1	23.4	20.1
Electrical Downtilt	Deg	2 to 12					
Cross Polar Isolation	dB	25					
Interband Isolation	dB	25					
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)	1503 x 430 x 245 (59.2 x 16.9 x 9.6)
Weight (Antenna Only)	kg (lb)	26 (57.3)
Packing size- HxWxD	mm (in)	1725 x 540 x 368 (67.9 x 21.3 x 14.5)
Connector type		12x 4.3-10 Female Connectors + 2x AISG ports (1 male, 1 female), (Site Sharing) 4x AISG ports (2 male, 2 female)
Radome Material / Color		Fiberglass / Light Gray RAL7035

TESTING AND ENVIRONMENTAL

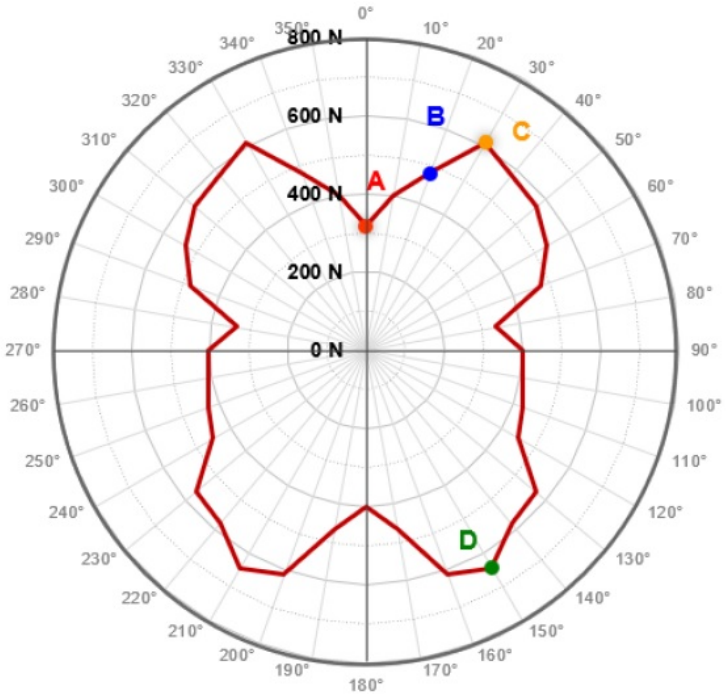
Temperature Range	°C (°F)	-40 to 60 (-40 to 140)
Lightning protection		DC Ground
Survival/Rated Wind Velocity	km/h	240 (150)

P4-BBUULL15-J0, -J0N, -I0, -I0N

12-Ports, X-Pol, Panel Antenna, 1.5m, 2x 694-960/2x 1427-2690/2x 1695-2690MHz, 65deg, Integrated RET, Site Sharing Optional

ORDERING INFORMATION

Order No.	Configuration	Mounting Hardware	Mounting pipe Diameter	Shipping Weight kg(lb)	Mounting Hardware Weight kg(lb)
P4-BBUULL15-J0	Internal RET (ACU-X20N)	APM40-2	60-120 mm	36.0 (79.4)	3.9 (8.6)
P4-BBUULL15-J0N	Internal RET (ACU-X20N)	APM40-1 (Direct Pipe no tilt)	60-120 mm	35.3 (77.8)	3.2 (7.0)
P4-BBUULL15-I0	Internal Site Sharing RET (ACU-X20)	APM40-2	60-120 mm	36.0 (79.4)	3.9 (8.6)
P4-BBUULL15-I0N	Internal Site Sharing RET (ACU-X20)	APM40-1 (Direct Pipe no tilt)	60-120 mm	35.3 (77.8)	3.2 (7.0)



Rated Wind Speed, Km/h	150
Wind Load Frontal, Resultant, N	317
Wind Load Side, Resultant, N	402
Wind Load Rear, Resultant, N	402
Maximum Wind Load, Resultant, N	643

P4-BBUULL15-J0, -J0N, -I0, -I0N

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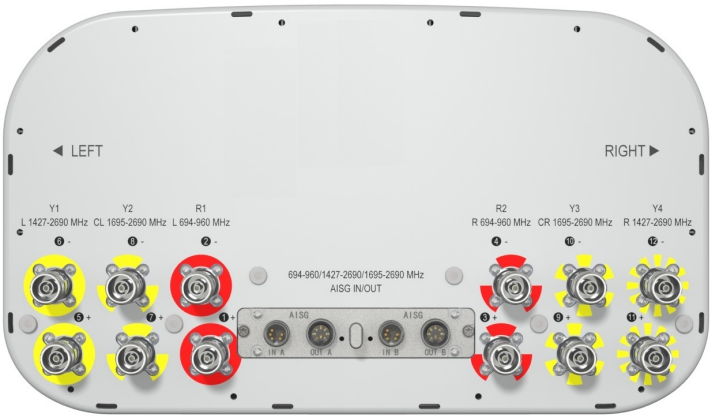

Port	Array	Frequency	RET	AISG RET UID
1	R1	694-960 MHz	R1	RFxxxxxxxxxxx-R1
2				
3	R2	694-960 MHz	R2	RFxxxxxxxxxxx-R2
4				
5	Y1	1427-2690 MHz	Y1	RFxxxxxxxxxxx-Y1
6				
7	Y2	1695-2690 MHz	Y2	RFxxxxxxxxxxx-Y2
8				
9	Y3	1695-2690 MHz	Y3	RFxxxxxxxxxxx-Y3
10				
11	Y4	1427-2690 MHz	Y4	RFxxxxxxxxxxx-Y4
12				

NOTE: RET motors will tilt one at a time, not simultaneously

P4-BBUULL15-J0, -J0N, -I0, -I0N

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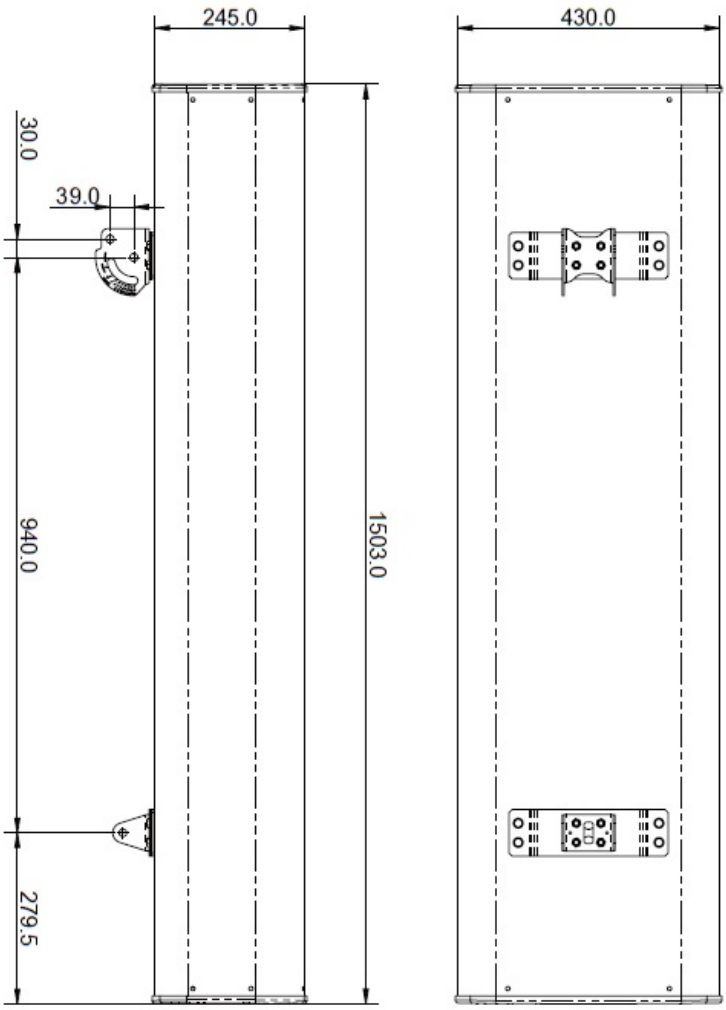

External Document Links

APM40_Series_Installation_Instructions

Notes

- All electrical parameters are compliant with NGMN P-BASTA 12 requirements.
- For additional mounting information please click "External Document Links".
- This datasheet is provisional and subject to changes.
- **Radiating patterns:** Request pattern files