



Beamforming Antennas

Multi Band, Multi Polarized,
Flat Panel & OMNI
Any Size, Any Frequency, Any Gain Ratio

MOBILE INDOOR
LTE MIMO OMNI WI-FI
WLAN
OUTDOOR

www.mars-antennas.com

MA-PBSA56-DP21

Preliminary

5-6 GHz Passive Antenna For Beam Steering, Azimuth Scan

Array antenna for Beam Steering Applications

- Dual polarized antenna four columns each.
- Distance 0.5λ between columns in the center frequency.



Specifications

Electrical

Frequency range	5 - 6 GHz
Polarization	Dual Pol
	V&H
Individual Column	
Gain, typ.	16 dBi
3 dB Beam-Width, Azimuth Plane	$90^\circ \pm 10^\circ$
Cross Polarization, typ.	-20 dB
Front to Back Ratio, min.	-30 dB
Array 4 Columns (Equal Amp & Phase Boresight)	
Gain, typ.	21 dBi
3 dB Beam-Width, Azimuth Plane, typ.	25°
Cross Polarization, typ.	-20 dB
Front to Back Ratio, min.	-30 dB
General	
3 dB Beam-Width, Elevation Plane, typ.	8°
Side Lobes, Elevation Plane, typ.	-12 dB
Input power, max	10W
Input Impedance	50 Ohm
Lightning Protection	DC Ground

Mechanical

Dimensions (HxWxD)	370 x 370 x 40 mm (14.5"x 14.5"x 1.6")
Weight	2 kg
Connector	8 x N-Type, Female
Back Plane	Aluminum protected through chemical passivation
Radome	UV Protected, Plastic
Mount	See Ordering Options

Environmental

Operating Temperature Range	- 40°C to + 65°C
Vibration	According to IEC 60721-3-4
Wind Load	200 km/h (survival)
Flammability	UL94
Water Proofing	IP-67
Humidity	ETS 300 019-1-4, EN 302 085 (annex A.1.1)
Salt Fog	According to IEC 68-2-11
Ice and Snow	25mm radial (survival)

Ordering Options

MA-PBSA56-DP21	Antenna Suited for MNT-22 (optional wall/pole adjustable mount)
MA-PBSA56-DP21	Antenna with MNT-22 mount

MARS Antennas & RF Systems proprietary information

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3 Hamanor st. Holon 5886103, P.O.Box 1852 Holon 5811801, Israel

Tel: +972-3-5599661 • Fax: +972-3-5599677 • e-mail: mars@marsant.co.il • web: www.mars-antennas.com

MA-WABSA55-DP15_g

Preliminary

5.0-6.0 GHz Beam Steering Active Antenna, Azimuth Scan

Dual polarized Beamforming antenna for beam steering applications :

- 100 Deg coverage by 20 Deg Beamwidth.
- 15 options for beam directions with 5 Deg step.
- Reduces co-channel interferences and pointing independent beams toward various clients.



Specifications

Electrical

Frequency range	5.0-6.0 GHz
Polarization	Dual Pol
Elevation 3dB beam width	8° - 10°
Azimuth 3dB Beam width	15° - 20°
Azimuth scan step	(3-7)°
Azimuth beam control range *	+/-45° *
Side lobes, typ.	-10 dB
Modes (External control)	Rx or Tx, Beamforming or Broadcast
Beamforming (V & H polarization):	
Gain of passive antenna part, typ.	21dBi
Gain with LNA's (Broadside), typ.	32dBi
Noise figure (Rx channel), typ.	5-6 dB
Output Operating RF Power (Output PA), typ.	19-23dBm
Gain with PA (Broadside), typ.	40dBi
Broadcast (V & H polarization):	
Gain of passive antenna part, typ.	15dBi
Azimuth 3dB Beam width	60°-70°
Azimuth 5dB Beam width	90°-100°
Gain with LNA's, typ.	33dBi
Output Operating RF Power (Output PA), typ.	19-23dBm
Gain with PA, typ.	34dBi
Max Input RF Power (damage)	18dBm
VSWR	2 : 1
Impedance	50 Ohm
Front to Back Ratio, min.	-30 dB
Cross Polarization, typ.	-20 dB
Port-Port Isolation, typ.	-25 dB
Beam and Modes selection time, typ.	1-2 us
External Power supply	+5V ; PoE (+48 B)
External control interface	GPIO (7 wires)
Lighting protection	DC grounded

* - For Azimuth beam control range +/- (30-45)° : Gain = Gain, typ. – (~3) dB; Side Lobes < -(1-3)dB.

Mechanical

Dimensions (HxWxD)	370x370x60mm (TBD)
Weight	TBD
Connectors RF	SMA Type Female
DC connectors	TBD
Radome	UV Protected Polycarbonate, white

Environmental

Operating Temperature	-20°C to +60°C
Dynamics	IEC 60721-3-4
Humidity	ETS 300 019-1-4, EN 302 085 (annex A.1.1)
Salt Fog	IEC 68-2-11
Water Proofing	IP-67

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MA-TBA56-DP18
Preliminary
5-6 GHz Passive Antenna For Beam Steering, Azimuth Scan

Array antenna for Beam Steering Applications

- Dual polarized antenna Two Beams each.


Specifications
Electrical

Frequency range	5 - 6 GHz
Gain, typ.	18 dBi
VSWR, max.	1.7 : 1
Polarization	Dual Pol
3 dB Beam-Width, Azimuth Plane, typ.	40°
3 dB Beam-Width, Elevation Plane, typ.	8°
Side Lobes, Elevation Plane, typ.	-12 dB
Number of Beams (each polarization)	4
Beams Directions	±20°
Cross Polarization, typ.	-20 dB
Front to Back Ratio, min.	-30 dB
Input power, max	10W
Input Impedance	50 Ohm
Lightning Protection	DC Ground

Mechanical

Dimensions (HxWxD)	400 x 300 x 50 mm (15.7" x 11.8" x 2")
Weight	2 kg
Connector	4 x N-Type , Female
Back Plane	Aluminum protected through chemical passivation
Radome	UV Protected, Plastic
Mount	MNT-22

Environmental

Operating Temperature Range	-40°C to +65°C
Vibration	According to IEC 60721-3-4
Wind Load	200 km/h (survival)
Flammability	UL94
Water Proofing	IP-65
Humidity	ETS 300 019-1-4, EN 302 085 (annex A.1.1)
Salt Fog	According to IEC 68-2-11
Ice and Snow	25mm radial (survival)

Ordering Options

MA-TBA56-DP18	Antenna Suited for MNT-22 (optional wall/pole adjustable mount)
MA-TBA56-DP18B	Antenna with MNT-22 mount

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