

AIO-HM25007 Multi-Beam Wide Band Spherical Lens Antenna

Technical Specifications

22.3 dBi 7° to 11° beamwidth for 5 GHz 4x4:4 - 4 ports and 6 GHz 4x4:4 - 4 ports high gain directional. Sixteen (16) beam with 48° horizontal coverage and 40° vertical coverage. Detachable 3.1 meter (10.17 feet) RG402 cables with 64 N-Type Male connector ports. Cable straps ordered separately. This antenna is supported on the AP5022FX. **AIO-HM25007 is certified for US and Canada only.**

TECHNICAL SPECIFICATIONS

FREQUENCY/MAXIMUM GAIN

- 5.125 - 7.125 GHz/22.3 dBi
- Max. gain above 30° elevation angle: 1.5dBi (incl. cable loss)

DIMENSIONS

- 113 x 61.7 x 73.7cm
(44.5 x 24.3 x 29 inches)

POLARIZATION

- Dual slant polarization (+/- 45 deg.)

WEIGHT

- 30kg (66 lbs)

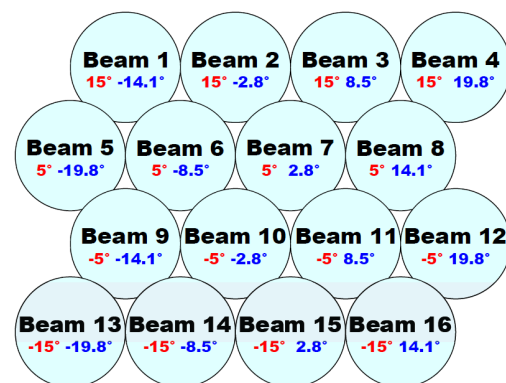
BEAMWIDTH

- Horizontal plane(8dB/3dB): 11°/7°
- Vertical plane(8dB/3dB): 11°/7°

HOUSING

- Radome: Fibre Glass

BEAM LAYOUT



Red for elevation (vertical) angle
Blue for azimuth angle

VSWR

- 2:1 max

INSTALLATION HARDWARE

- Azimuth/elevation mount kit for pole

IMPEDANCE

- 50 ohms

CONNECTOR

- 64 N-Type Male connector ports

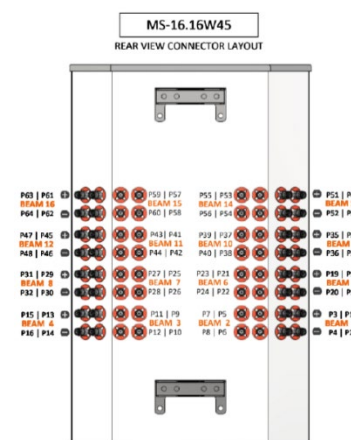
Manufacturer

- MatSing, 14 Chrysler, Irvine, CA. 92618

OPERATING TEMPERATURE

- -40° C to +70° C (-40° F to +158° F)
- IP67

CONNECTOR LAYOUT



ANTENNA GAIN

The following Gain values are valid for all 16 antenna beams.

Gain of antenna itself without external cables /diplexers:

- 1T1S – Gain = 24.5 dBi
- 2T1S – Gain = 24.5 dBi
- 2T2S – Gain = 24.5 dBi
- 4T1S – Gain = 25.8 dBi
- 4T4S – Gain = 24.5 dBi

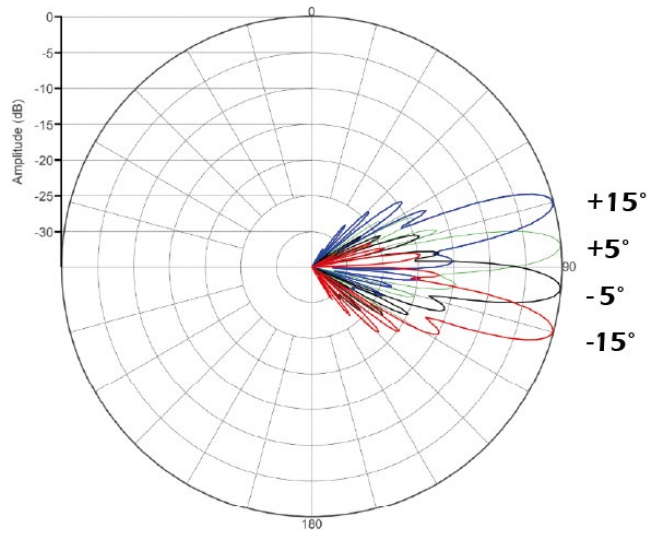
With 3.1m RG402 cables and N-male connector input, antenna max gain will be:

- 1T1S – Gain = 21 dBi
- 2T1S – Gain = 21 dBi
- 2T2S – Gain = 21 dBi
- 4T1S – Gain = 22.3 dBi
- 4T4S – Gain = 21 dBi

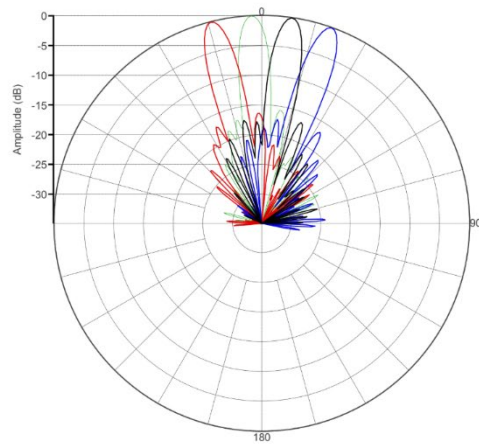
Note: The antenna will tilt a minimum of 20 degree downward with gain of -20dB lower than the main lobe.

ANTENNA PATTERNS

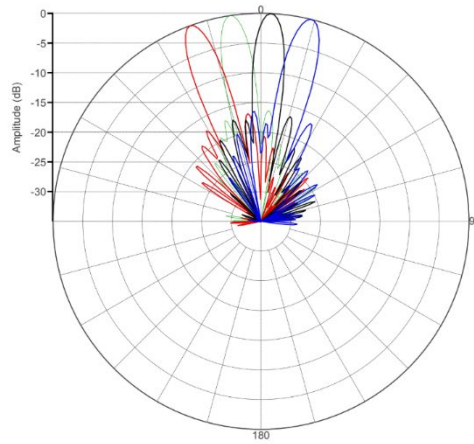
6 GHz VERTICAL PATTERNS



6 GHz HORIZONTAL PATTERNS



Beam Rows 1 and 3



Beam Rows 2 and 4

GAIN AND RADIATION PATTERN OF ANTENNA SYSTEM FOR 4T1S APPLICATION

Maximum Gain of MS-16.16W45 can happen when top and bottom lenses are feeding together in phase, i.e. in 4T1S situation.

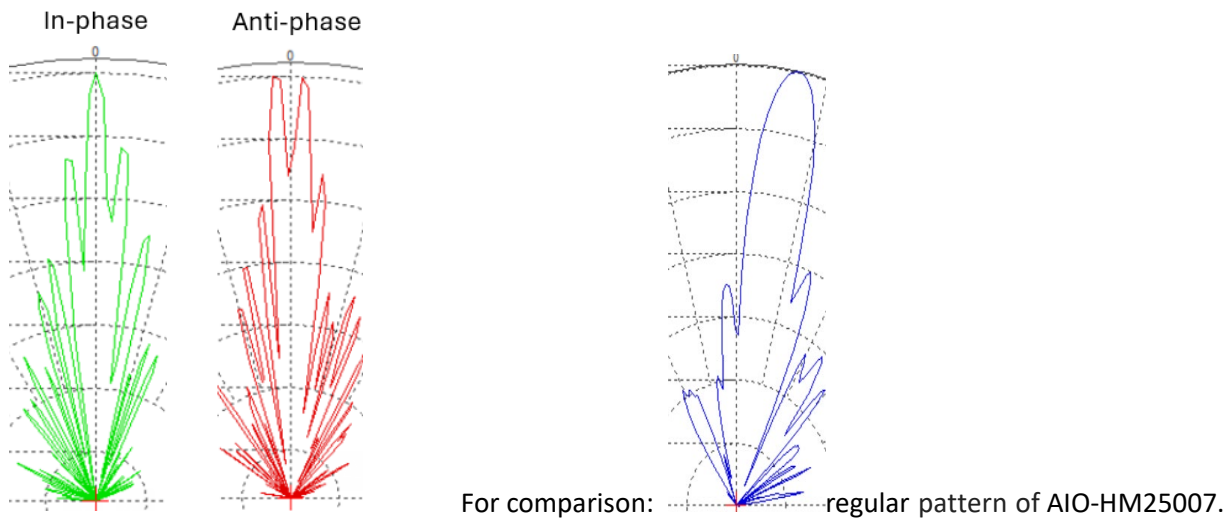
Antenna system Gain for this scenario is:

- $25.8 \text{ dBi (max gain of antenna)} - 3.5 \text{ dB (loss in cables)} = 22.3 \text{ dB} - \text{loss in diplexer, [dB]}$

For example, with 2dB loss in diplexer max Gain of the antenna system is 20.3 dBi.

Not only Gain, but also vertical antenna pattern shape is changing when top and bottom lenses are feeding together. 3dB beam width becomes narrower (2.5° vs. 7°), sidelobe increased (-5dB vs. -15dB). Pattern shape (when top and bottom lenses are feeding together) depends on cables phase difference. Cable phase difference cannot be guaranteed and required area could not be covered properly.

Comparison of vertical antenna patterns for application 4T1S (in phase and anti-phase cases) with regular pattern of antenna (for applications 1T1S, 2T1S, 2T2S, 4T4S) is shown below:



- Dr. Igor Timofeev, Director of R&D, Matsing Inc., 2/27/2026.

PURCHASE INFORMATION

Cable straps are ordered separately. The 3.1 meter (10.17 feet) RG402 cables are included.
AIO-HM25007 is certified for US and Canada only.

ORDERING INFORMATION

Part Number	Description
AIO-HM25007	22.3 dBi 7° to 11° beamwidth for 5 GHz 4x4:4 - 4 ports and 6 GHz 4x4:4 - 4 ports high gain directional

LEGAL

Copyright © 2026 Extreme Networks, Inc. All rights reserved.

Legal Notice

Extreme Networks, Inc. reserves the right to make changes in specifications and other information contained in this document and its website without prior notice. The reader should in all cases consult representatives of Extreme Networks to determine whether any such changes have been made. The hardware, firmware, software or any specifications described or referred to in this document are subject to change without notice.

Trademarks

Extreme Networks and the Extreme Networks logo are trademarks or registered trademarks of Extreme Networks, Inc. in the United States and/or other countries. All other names (including any product names) mentioned in this document are the property of their respective owners and may be trademarks or registered trademarks of their respective companies/owners. For additional information on Extreme Networks trademarks, see: <http://www.extremenetworks.com/company/legal/trademarks>.

Open Source Declarations

Some software files have been licensed under certain open source or third-party licenses. End-user license agreements and open source declarations can be found at: [https:// www.extremenetworks.com/support/policies/open-source-declaration/](https://www.extremenetworks.com/support/policies/open-source-declaration/).

Corporate Headquarters

Extreme Networks, 2121 RDU Center Drive, Morrisville, NC.