

Datasheet



Barracuda

Part No:
OMB.868.A10F21

Description:

Barracuda 868MHz 10dBi Omnidirectional Outdoor Antenna

Features:

- 868 MHz ISM Band/Helium Network Coverage
- Omnidirectional Radiation Pattern
- 10dBi Peak Gain
- Robust Design for Outdoor Environments
- IP67 Waterproof
- Connector: N Type Female
- Length: 2240 mm
- Weight: 1.16 Kg
- Wall & Pole Mount Options
- RoHS and REACH compliant

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1. Introduction



The Barracuda OMB.868.A10F21 is a fiberglass omni-directional outdoor antenna, operating in the 868 MHz ISM band. The antenna has a 10dBi high peak gain, providing a large coverage area for Low Power Radio (Sigfox, LPWA, LoRa) and mesh networks.

The Barracuda has been designed with the new Helium network in mind, the Barracuda series are perfect antennas for use in conjunction with Helium Gateways and Devices used for cryptocurrency mining. Using the new OMB.868.A10F21 with high 10dBi gain allows for a stronger connection allowing miners to support a larger network area thus earning more cryptocurrency.

Typical applications are in IoT, metering, industrial/environmental monitoring and remote asset monitoring.

The OMB.868 operates at 868MHz, one of the most widely used license free ISM bands, with a 10dBi peak gain. The omni-directional antenna uses an advanced collinear dipole design, meaning it radiates uniformly in the azimuth with a high gain, providing coverage over long distances, thus minimizing the amount of cells or nodes needed in a network.

The UV resistant fiberglass housing enables the OMB antenna to be utilized in all kinds of harsh environments, making it more robust and safer than traditional whip antennas. It has been designed to withstand high wind load. The integrated mounting bracket is perfect for directly mounting the antenna onto a pole or a wall.

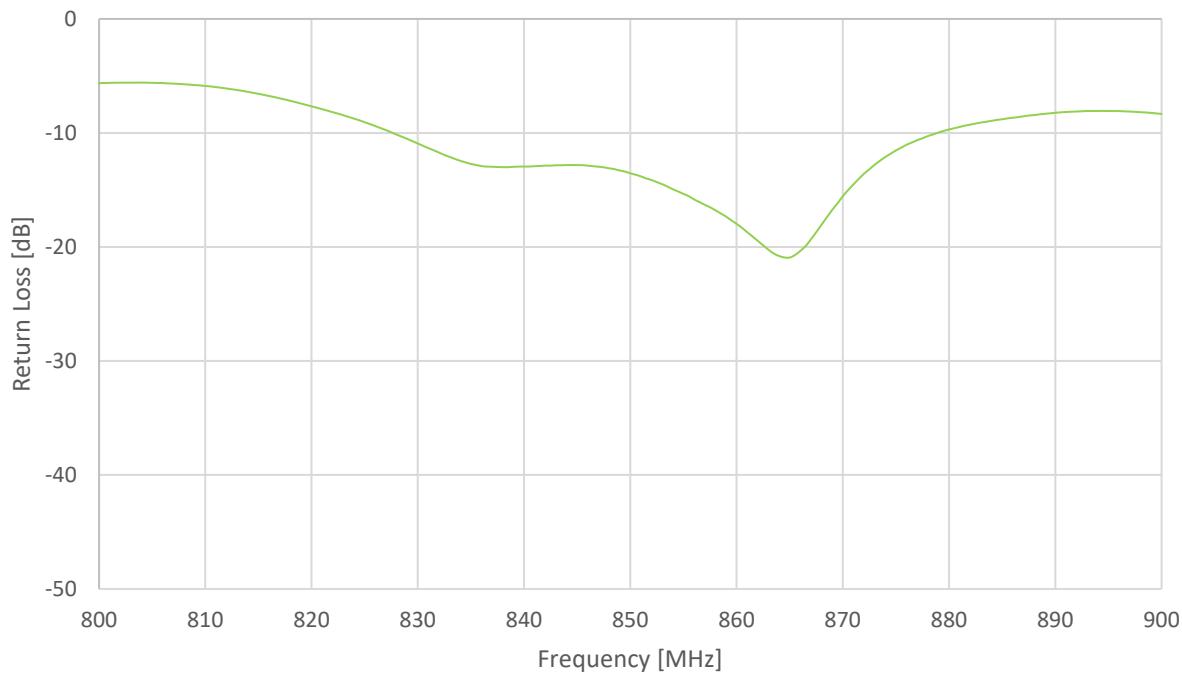
The connector is industry standard N-type female. The connector can be customized subject to MOQ. Other frequencies and gains are available such as 915MHz also for Helium mining, Wideband Cellular, 410MHz and more. For further information please contact your regional Taoglas customer support team.

2. Specifications

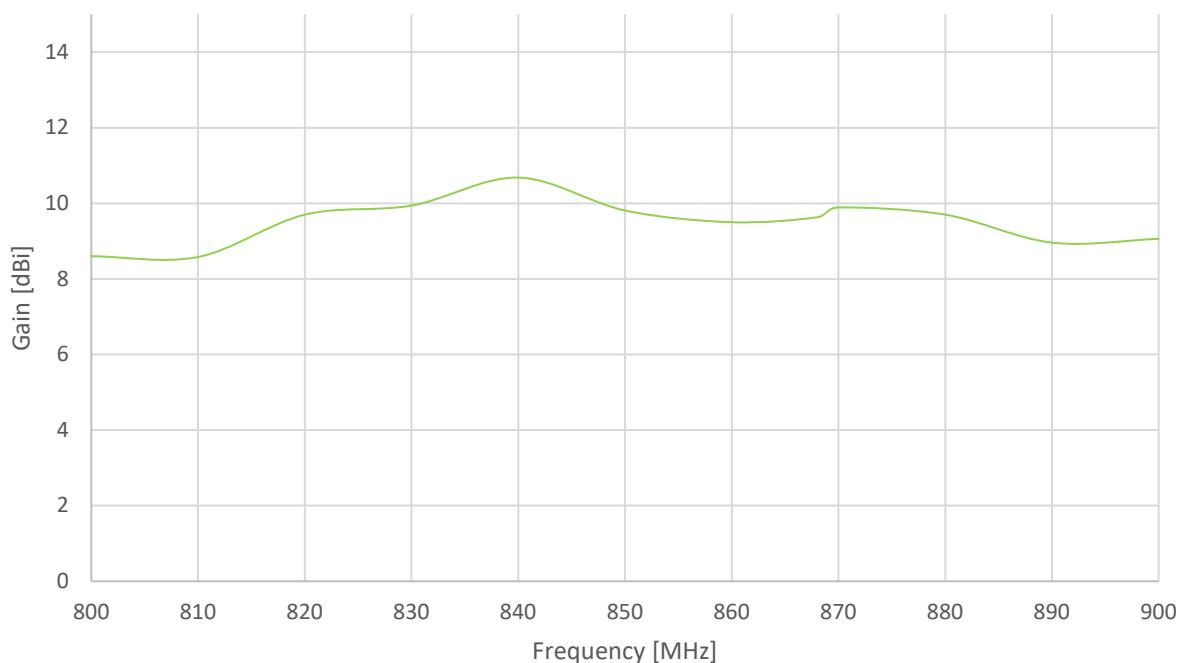
Electrical	
Standard	ISM 868
Band	860-870MHz
Antenna Type	Collinear Dipole Array
Peak Gain	10 dBi
Polarization	Vertical
Impedance	50 ohms
Max Input Power	50 watts
VSWR	1.5:1
Radiation	Omni-Directional
Internal Material	Copper
Connector	N Type Female
Mechanical	
Length	2240 mm
Bracket Dimension	70 x 73mm
Antenna Weight	1.16 Kg
Mounting Accessories Weight	70g
Application	Indoor/Outdoor
Radome Material	White Fiberglass
Mount Style	Pole Mount/Wall Mount
Mount Hardware Material	Stainless Steel
Wind Resistance	>150mph (>241km/h)
Waterproof	IP65
Environmental	
Storage Temperature	-40°C to +80°C
Operating Temperature	-40°C to +60°C
Operating Humidity	10%~90% non-condensing
Storage Humidity	5%~90% non-condensing

3. Antenna Characteristics

3.1 Return Loss



3.2 Peak Gain



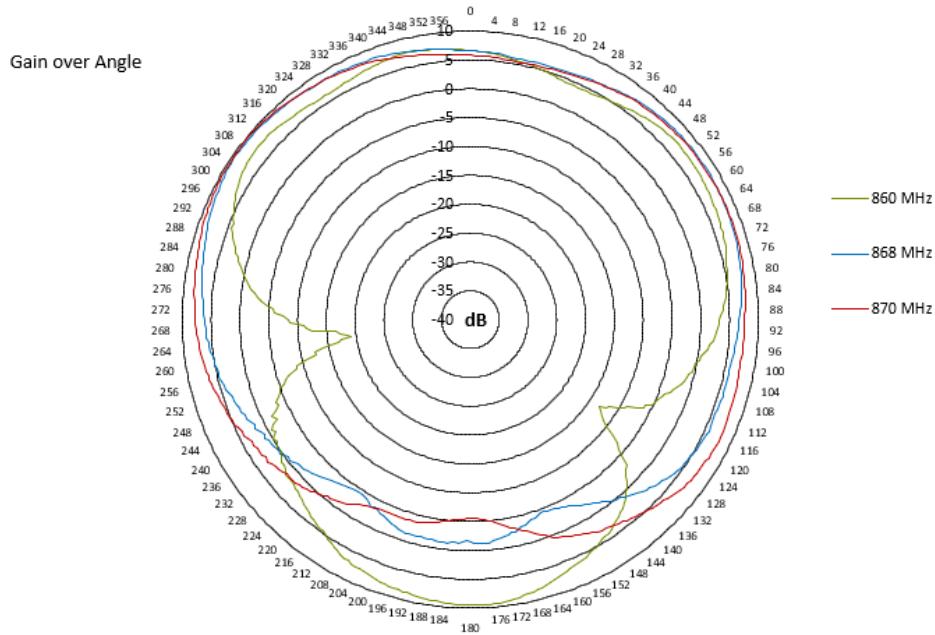
4. Radiation Patterns

4.1 Elevation Pattern - Test Setup



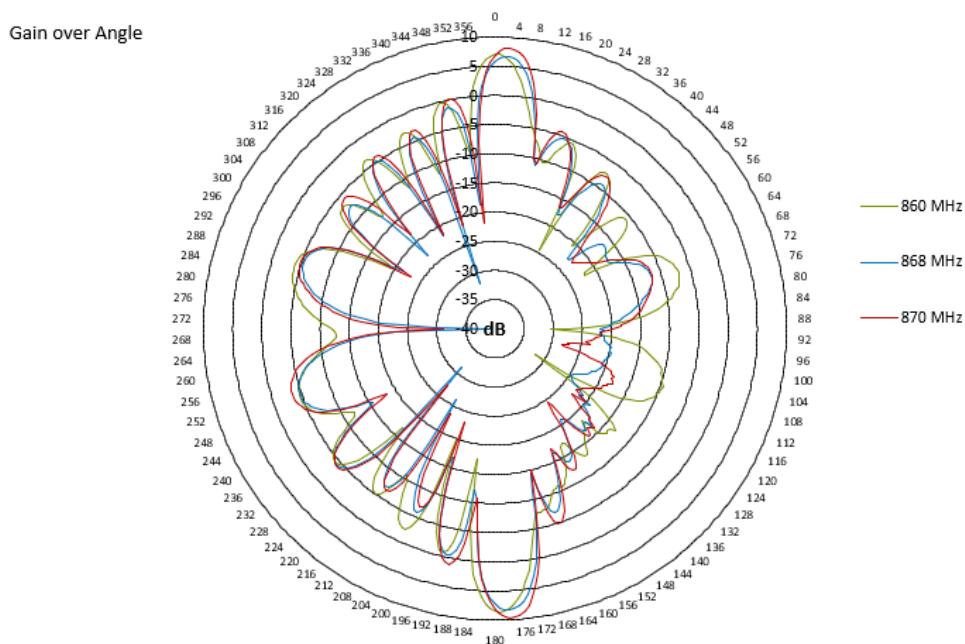
4.2 Vertical – E Plane (Normalized)

Azimuth - OMB 868 MHz Outdoor Dipole

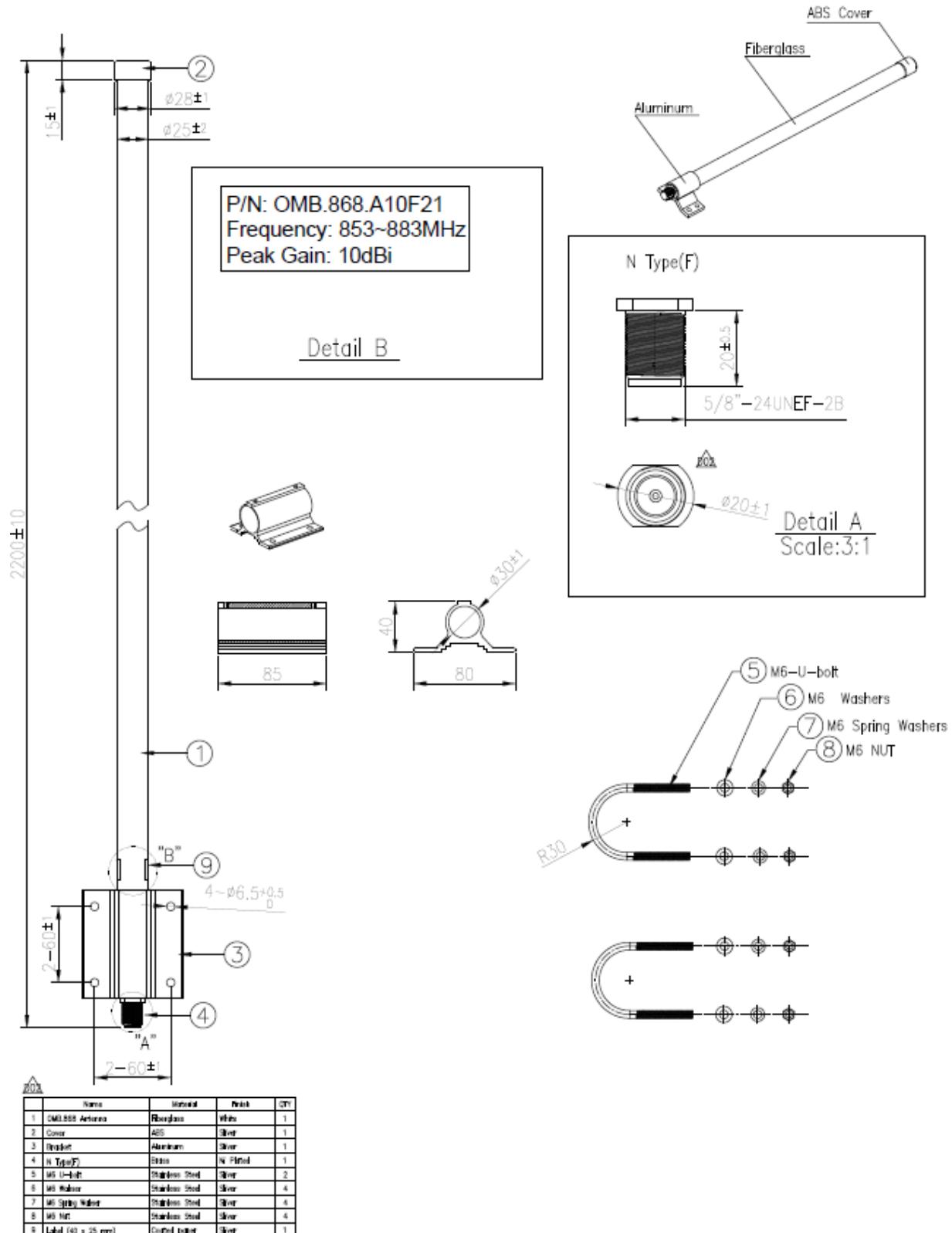


4.3 Horizontal – H Plane (Normalized)

Elevation - OMB 868 MHz Outdoor Dipole



5. Mechanical Drawing (Units: mm)



6. Packaging

Packaging Specifications

1 OMB.868.A10F21 per tube
Tube Dimensions – Ø80mm *Height 2320
Total Weight – 1900g



7. Installation Guide

Installation Instructions

Barracuda OMB Series

Omni-directional Outdoor Antenna



A) Introduction

The Barracuda OMB Antenna is an omnidirectional, fibreglass, outdoor antenna. The UV resistant fibreglass housing enables the OMB antenna to be utilized in all kinds of harsh environments, making it more robust and safer than traditional whip antennas. The omnidirectional antenna's collinear dipole design allows it to radiate uniformly in the azimuth with a high gain, providing coverage over long distances, thus minimizing the number of cells or nodes needed in a network. The antenna has an integrated aluminium bracket to be directly installed on a pole, designed to offer a secure, high wind resistant mount.



B) Mounting & Location

To ensure prime performance, the Barracuda OMB series should be mounted in a clean location that is clear from all obstruction so that there is no impact on radiation performance. Also, before installing there must be at least 15mm clearance of all metallic objects around the location. When mounting the bracket on the pole, make sure to keep the bracket level with the top of the pole. The bracket should be mounted on the pole using the following list that are all supplied by Taoglas.

2 M6 U-Bolt 4 Washers 4 M6 Nuts 1 Barracuda Antenna



C) Mount Alignment

When mounting the antenna it is important that the top of the aluminium bracket is aligned with the top of the pole. The top of the pole should not exceed the top of the mounting bracket as it will interfere with the antenna's performance.

See image for reference of correct mount alignment.



D) Installation of the Antenna

Put the two U-Bolts around the pole and through the holes in the aluminium bracket. Making sure that the bracket is correctly positioned level to the top of the pole, place one of the four washers provided, over each of the threaded ends of the U-bolts. Then screw on of the four M6s nuts provide on to each threaded end of the U-bolts and tighten in place.



E Securing the Mount

In order to make sure that the antenna is firmly secured in place on the top of the pole, ensure that the four M6 nuts have been fully tightened. The bracket should not move or shake at all once properly installed.



G Notices



Caution

To comply with FCC RF Exposure requirements in section 1.1310 of the FCC Rules, antennas used with this device must be installed to provide a separation distance of at least 20 cm from all persons to satisfy RF exposure compliance.



Warning

Do not Operate the transmitter when someone is within 20 cm of the antenna.
Do not operate the equipment in an explosive atmosphere.



European Waste Electronic Equipment Directive 2002/96/EC

Please ensure that your old Waste Electricals and Electronics are recycled do not throw them away into standard waste.



Directive 2014/53/EU Radio Equipment Directive (RED)

Harmonised Standards and References:

EN 301 489-1 (V2.2.1): ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements. Referencing CENELEC EN 55032 Class B.

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Changelog for the datasheet

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Author: Gary West

Previous Revisions



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