



TAOGLAS®



Datasheet

Barracuda

Part No:
OMB.5900.B10F21

Description:

Barracuda 5.9GHz DSRC 10dBi Omnidirectional Outdoor Antenna

Features:

- Omnidirectional Radiation
- Collinear Dipole Antenna
- 10dBi Peak Gain
- Robust design for all weather operation
- IP65 Waterproof
- Length:550 mm; Ø24mm
- Weight:245g
- Connector: N-type Female
- Wall/Pole Mount Bracket Included
- RoHS and REACH Compliant

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1. Introduction



The Barracuda OMB.5900 is an omnidirectional outdoor antenna designed to operate in the 5.9 GHz band, making it suitable for DSRC (Dedicated Short-Range Communication) or C-V2X applications. Primarily designed for vehicle safety applications, DSRC offers high-speed, low-latency wireless communication over short distances. The OMB.5900 antenna's collinear dipole design allows it to radiate uniformly in the azimuth with a high gain (10dBi peak gain), providing coverage over short distances as part of multiple nodes needed in a DSRC network.

The UV-resistant fiberglass housing makes the OMB.5900 more robust and safer than the traditional whip antennas, making it suitable for use in harsh outdoor environments. The enclosure is IP65 rated and designed to withstand high wind loading. The integrated aluminum mounting bracket is perfect for directly mounting the antenna onto a pole or a wall. The connector is an industry-standard N-type female and can be customized subject to MOQ. For wide band C-V2X applications, Taoglas offers a comprehensive portfolio of cellular antennas with different mounting options to best attend customers' needs.

For support on how to integrate and test this antenna within your application, or for sample requests, contact your regional Taoglas Customer Services Team.

2. Specifications

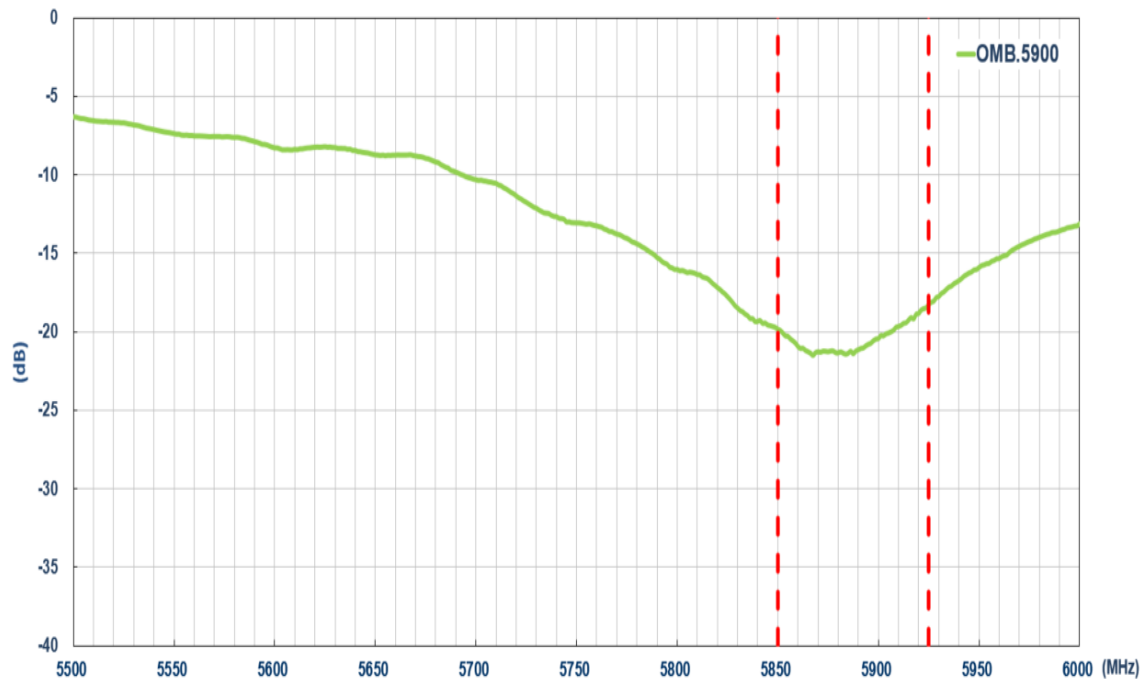
Antenna	
Frequency (MHz)	5850~5925MHz
Antenna Type	Collinear Dipole Array
Efficiency	63.97%
Peak Gain	10.2 dBi
Average Gain	-1.96 dBi
Polarization	Vertical
Impedance	50 ohms
Max Input Power	50 watts
Return Loss	<-15
Radiation	Omni-Directional
Vertical Beam-width	14 Deg
Horizontal Beam-width	360 Deg
Antenna Design	Dipole Array
Internal Material	Copper

Mechanical	
Length	550mm
Mounting Frame	80*100mm
Antenna Weight	245g
Accessory Weight	Mounting Frame: 250g U Bolt: 70g/pcs
Waterproof	IP65
Application	Indoor/Outdoor
Material	White Fiberglass
Mounting Frame Material	A3 Steel Plate
Mount Style	Pole Mount/Wall Mount
Pole Diameter	Φ 40 ~ 50 mm

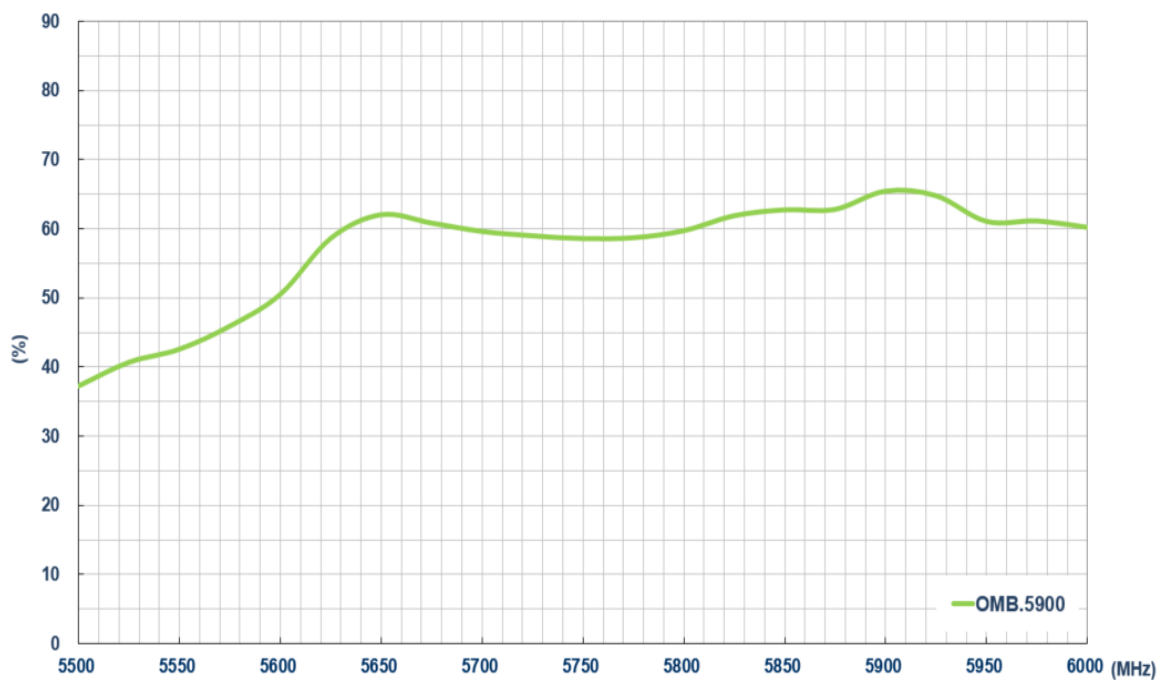
Environmental	
Storage and Operating Temperature	-40°C to +80°C
Operating Humidity	10%~80% Non-condensing
Storage Humidity	5%~80% Non-condensing

3. Antenna Characteristics

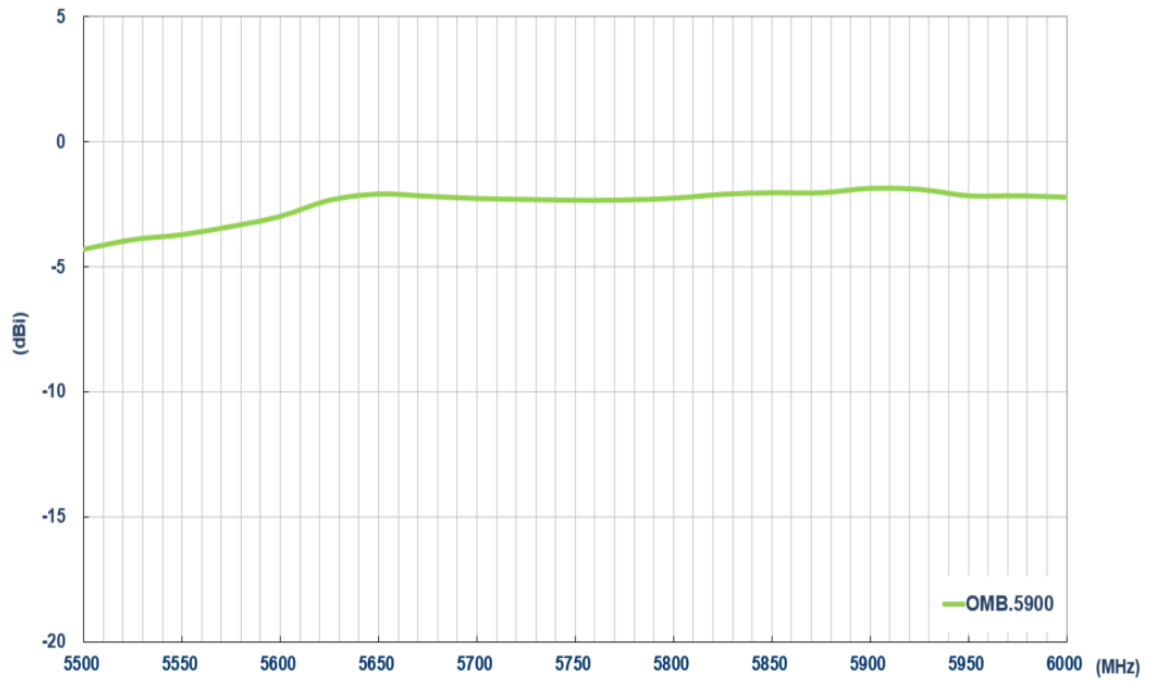
3.1 Return Loss



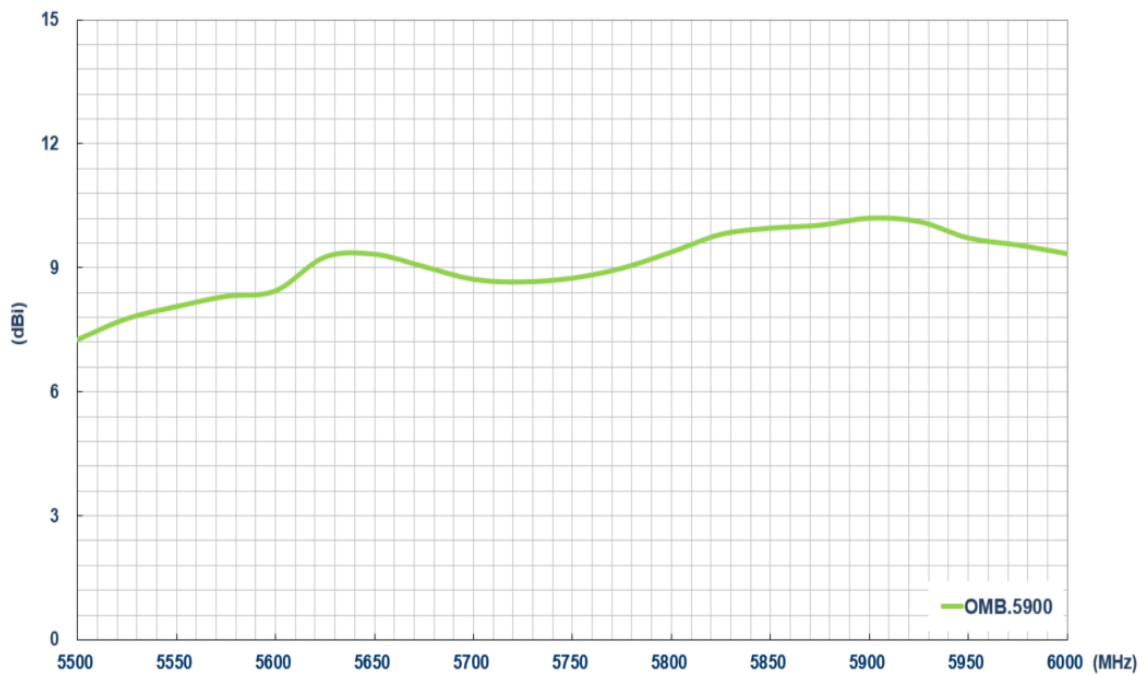
3.2 Efficiency



3.3 Average Gain

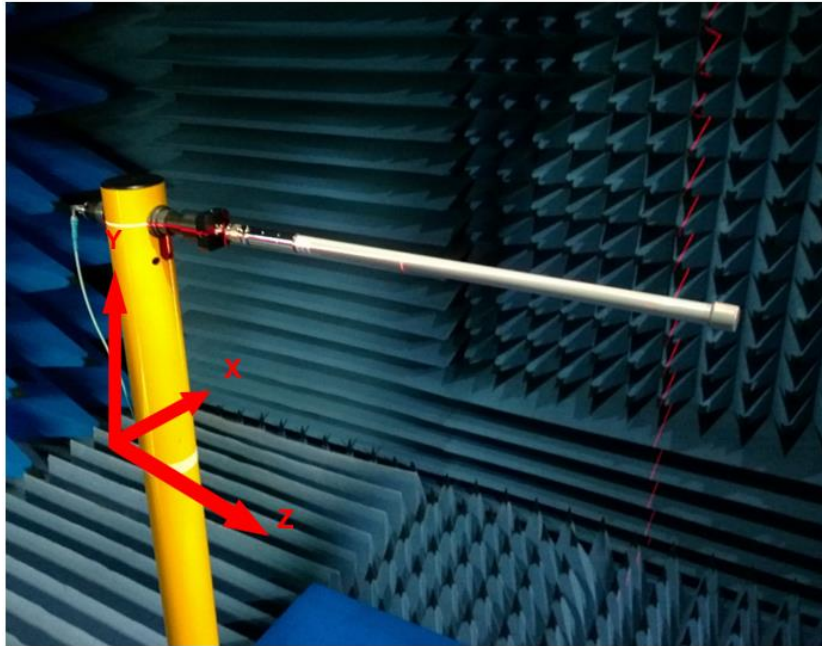


3.4 Peak Gain



4. Radiation Patterns

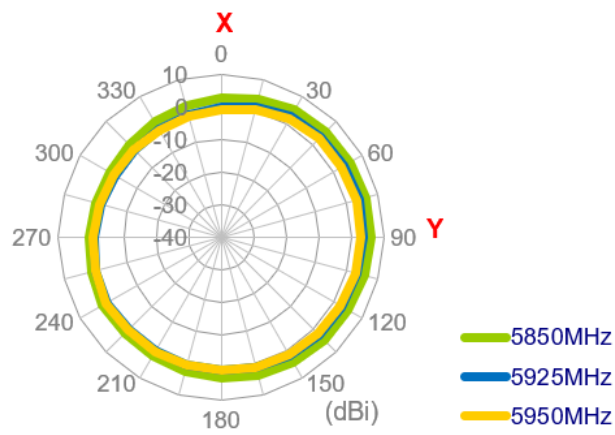
4.1 Test Setup



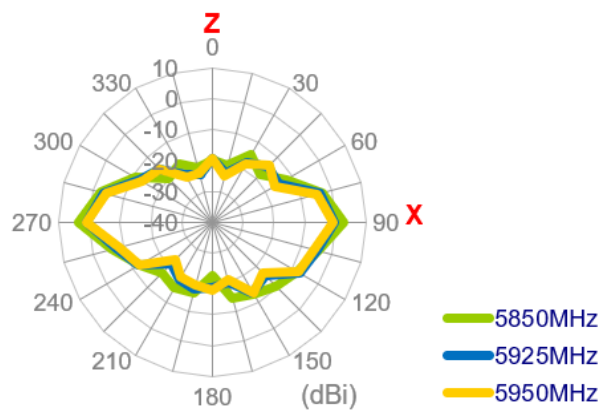
Free space

4.2 2D & 3D Radiation Patterns

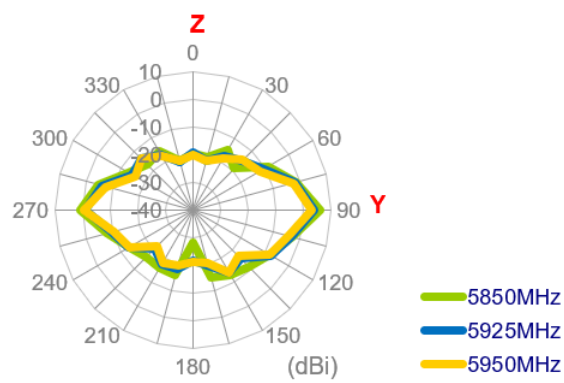
XY Plane



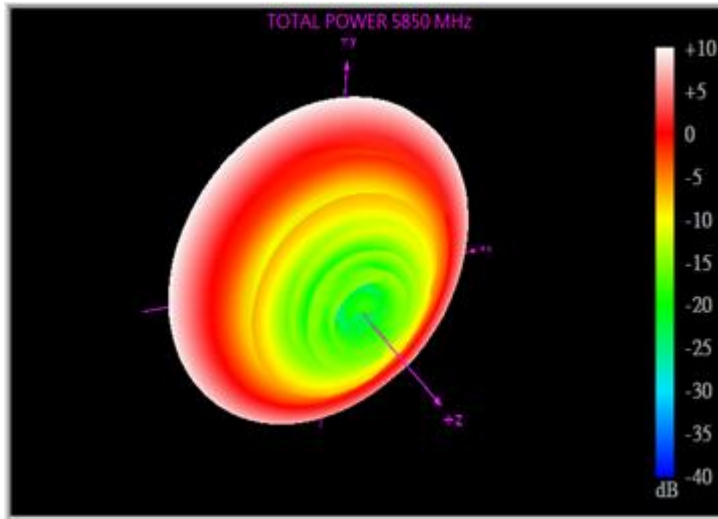
XZ Plane



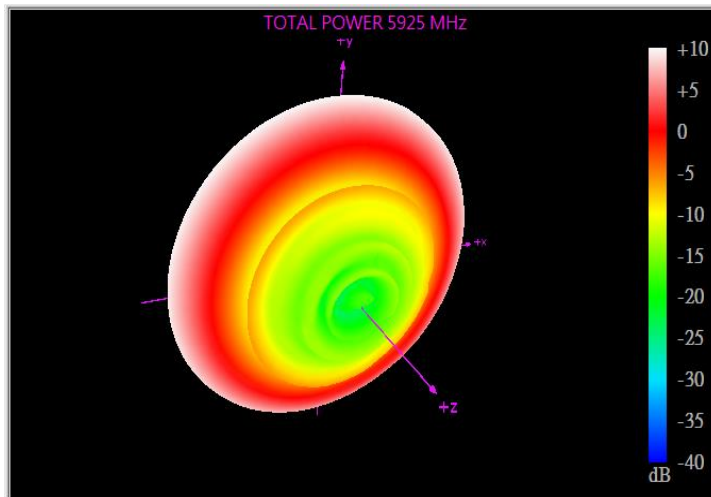
YZ Plane



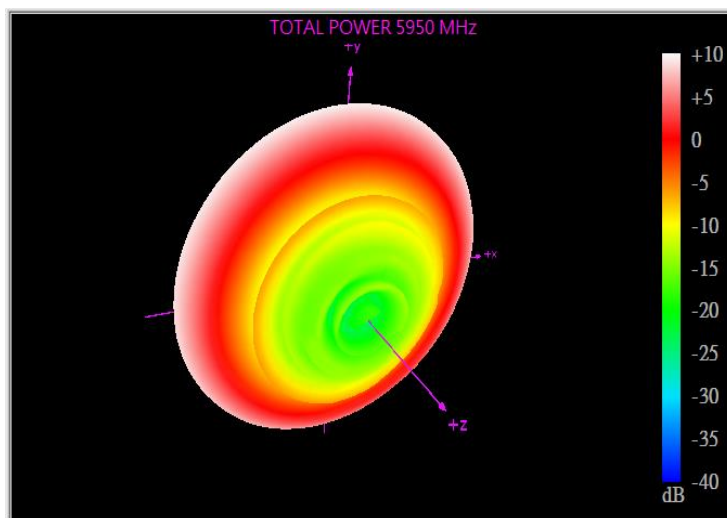
5850 MHz



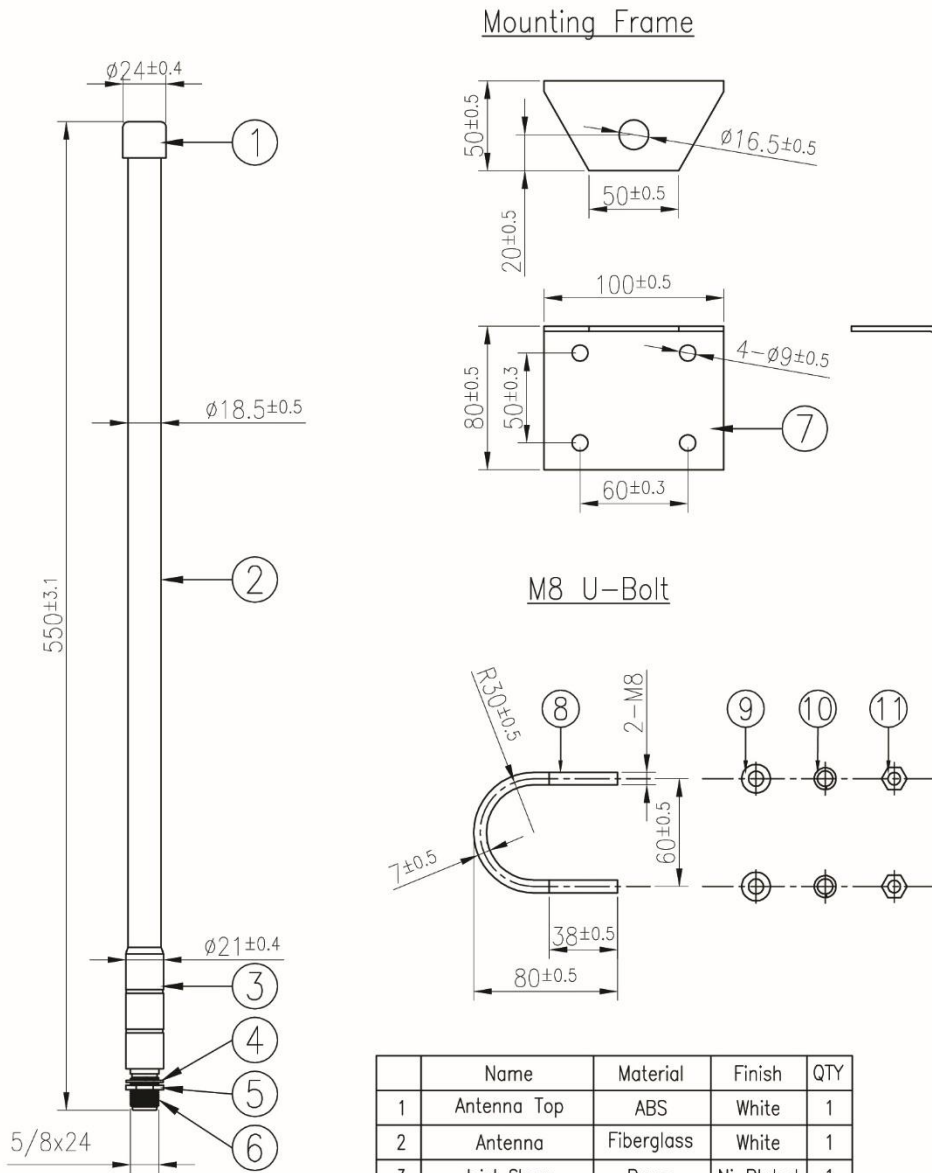
5925 MHz



5950 MHz



5. Mechanical Drawing (Units: mm)

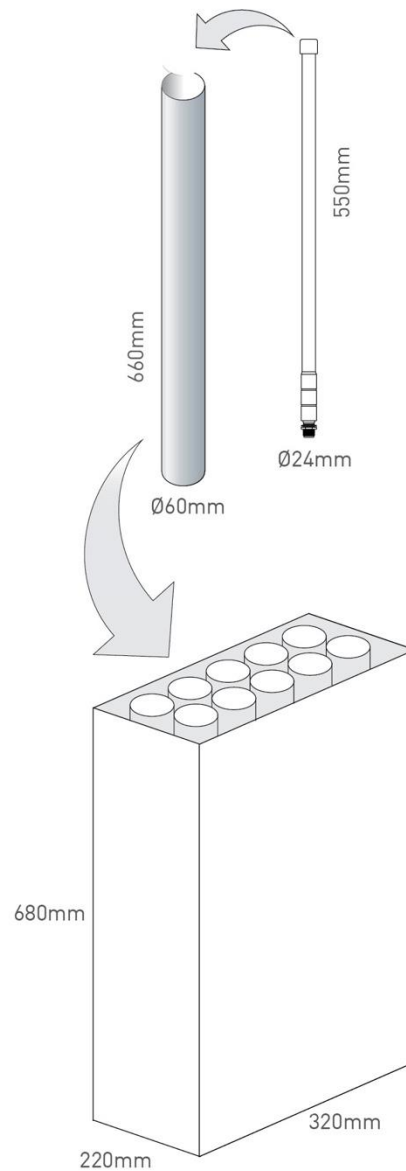


	Name	Material	Finish	QTY
1	Antenna Top	ABS	White	1
2	Antenna	Fiberglass	White	1
3	Joint Sleeve	Brass	Ni Plated	1
4	Nut	Brass	Ni Plated	1
5	Washer	Brass	Ni Plated	1
6	N Type (F)	Brass	Ni Plated	1
7	Mounting Frame	A3 Steel Plate	Gray	1
8	M8 U Bolt	A3 Steel Bar	Sliver	2
9	M8 Washer	Steel	Sliver	4
10	M8 Spring Washer	Steel	Sliver	4
11	M8 Nut	Steel	Sliver	4

6. Packaging

1 OMB.5900.B10F21 per tube
 Tube Dimensions - Ø60mm*Height 660mm
 Total Weight - 760g

10 tubes per carton
 Carton Dimensions - 680*220*320mm
 Weight - 8.4Kg



7. Antenna 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 radiates 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.

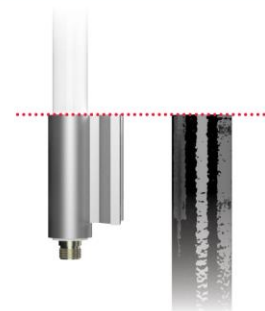
2 M6 U-Bolt 4 Washers 4 M6 Nuts 1 Barracuda Antenna



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 with the antennas 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

SPE-18-8-036 OMB.5900.B10F21

Revision: C (Current Version)	
Date:	2023-10-16
Changes:	Updated specifications
Changes Made by:	Cesar Sousa

Previous Revisions

Revision: B	
Date:	2019-10-25
Changes:	Updated specifications
Changes Made by:	Jack Conroy

Revision: A (Initial Release)	
Date:	2022-08-02
Changes:	Initial Release
Changes Made by:	Gary West



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