



TAOGLAS®



Datasheet

Barracuda

Part No:
OMB.915.B05F21

Description:

915MHz 5.9dBi Omni Antenna, with N Type Female Connector

Features:

Suitable to use in Robust Outdoor Environment

5.9dBi Peak Gain – optimized for Helium Mining

Connector: N Type Female

Dimensions: 1094.55mm x Ø26.6mm

Wall and Pole Mount

RoHS and REACH Compliant

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1. Introduction



The Barracuda OMB.915.B05F21 is a fiberglass omnidirectional outdoor antenna, operating in the 915MHz ISM band and is designed to offer long distance coverage. The antenna is designed for applications such as metering, industrial & environmental monitoring, remote asset monitoring and mesh network applications. The 915MHz band is one of the most widely used license free ISM bands. Typical applications are in SigFox, Helium, LoRa and LPWA networks.

With a 5.9dBi peak gain, the OMB.915.B05F21 omnidirectional antenna radiates uniformly in the azimuth. This collinear design characteristic provides the best performance, giving optimized coverage and therefore longer range in the horizontal plane over 360 degrees, thus minimizing the amount of nodes needed for a mesh 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 can be connected directly to the access point or telemetry unit or can be mounted on wall or device surface via the N-type connector and a pole-mount and wall-mount bracket is included. This antenna is an ideal product for developing your own Helium Network on the 915MHz spectrum.

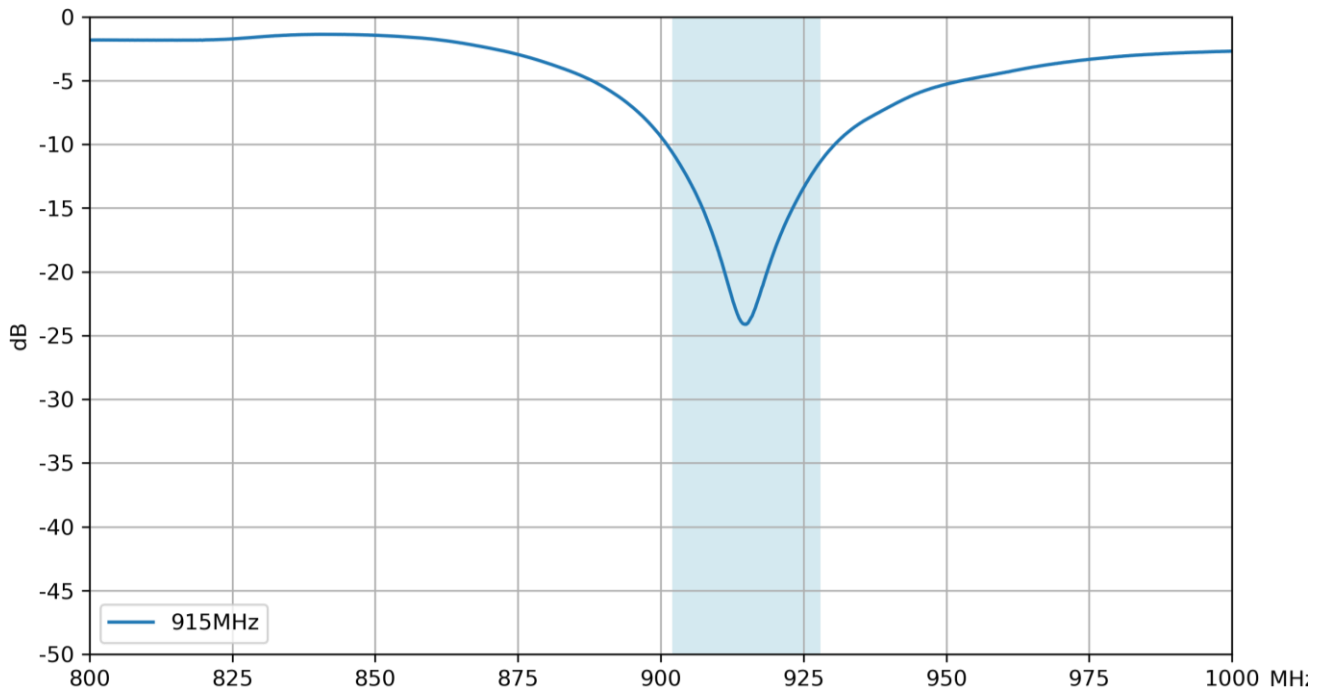
Custom antenna modifications are subject to possible NRE and minimum order quantity. For further information please contact your regional Taoglas customer support team.

2. Specifications

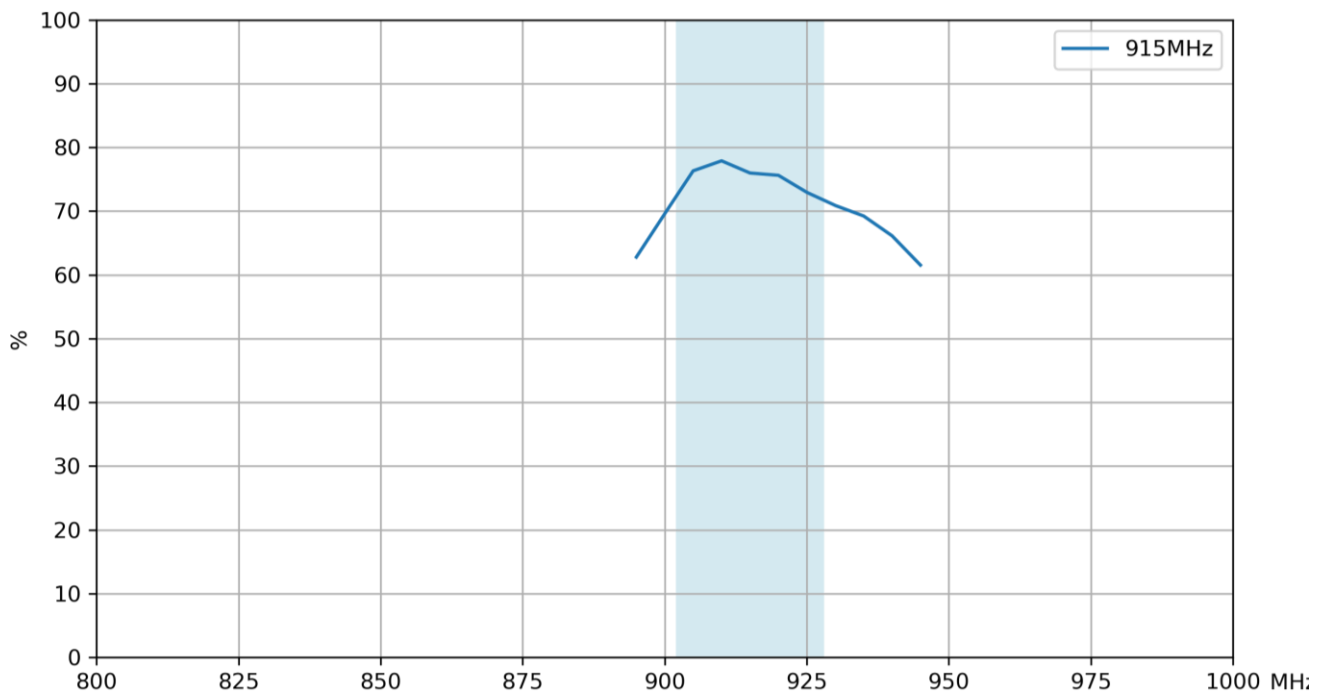
Electrical								
Frequency (MHz)	Band	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max Input Power
915MHz	902-928	75.7	-1.21	5.9	50Ω	Linear	Omni	30W
Mechanical								
Length		1094±30mm						
Bracket Dimension		70*54mm						
Radome Diameter		24mm						
Antenna Weight		500g						
Mounting Accessories		70g						
Application		Indoor/Outdoor						
Radome Material		White Fiberglass						
Base Material		Aluminium						
Mount Style		Pole Mount/Wall Mount						
Mounting		Stainless Steel						
Wind Resistance		>150mph (>241km/h)						
Waterproof		IP65						
Environmental								
Storage Temperature		-20°C to +80°C						
Operating Temperature		-20°C to +60°C						
Operating Humidity		10%~80% Non-condensing						
Storage Humidity		5%~80% Non-condensing						

3. Antenna Characteristics

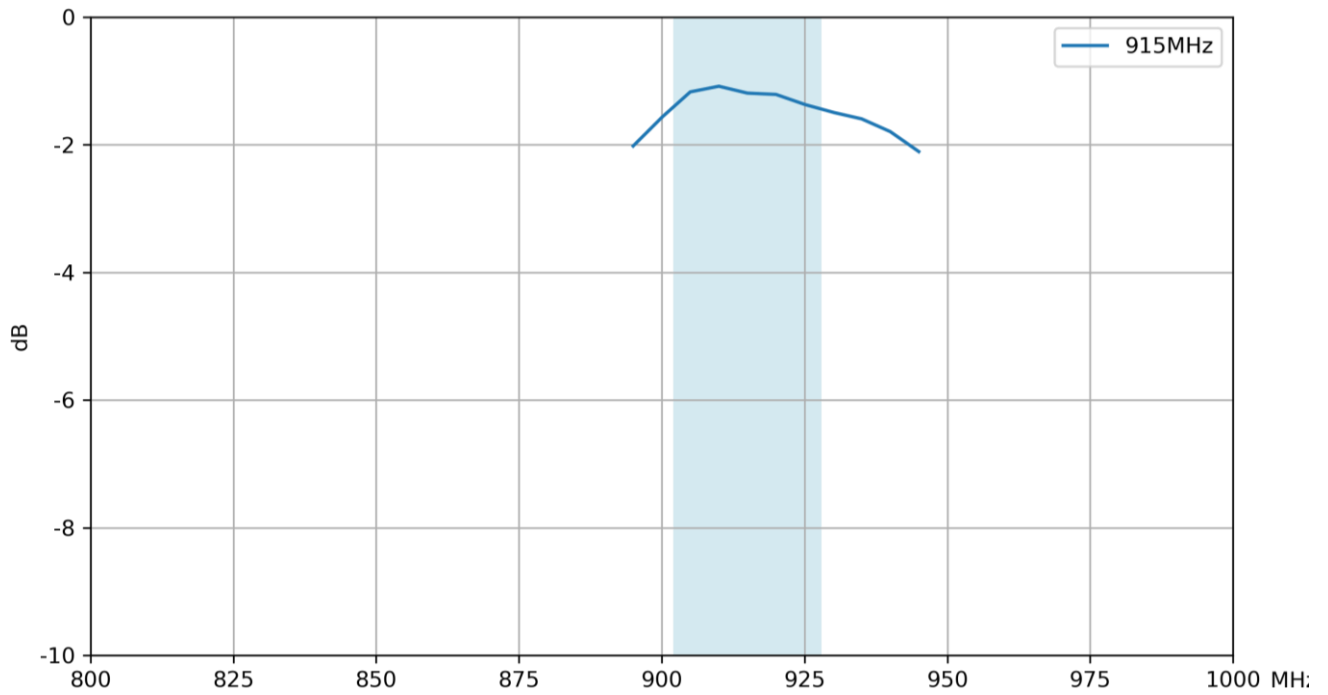
3.1 Return Loss



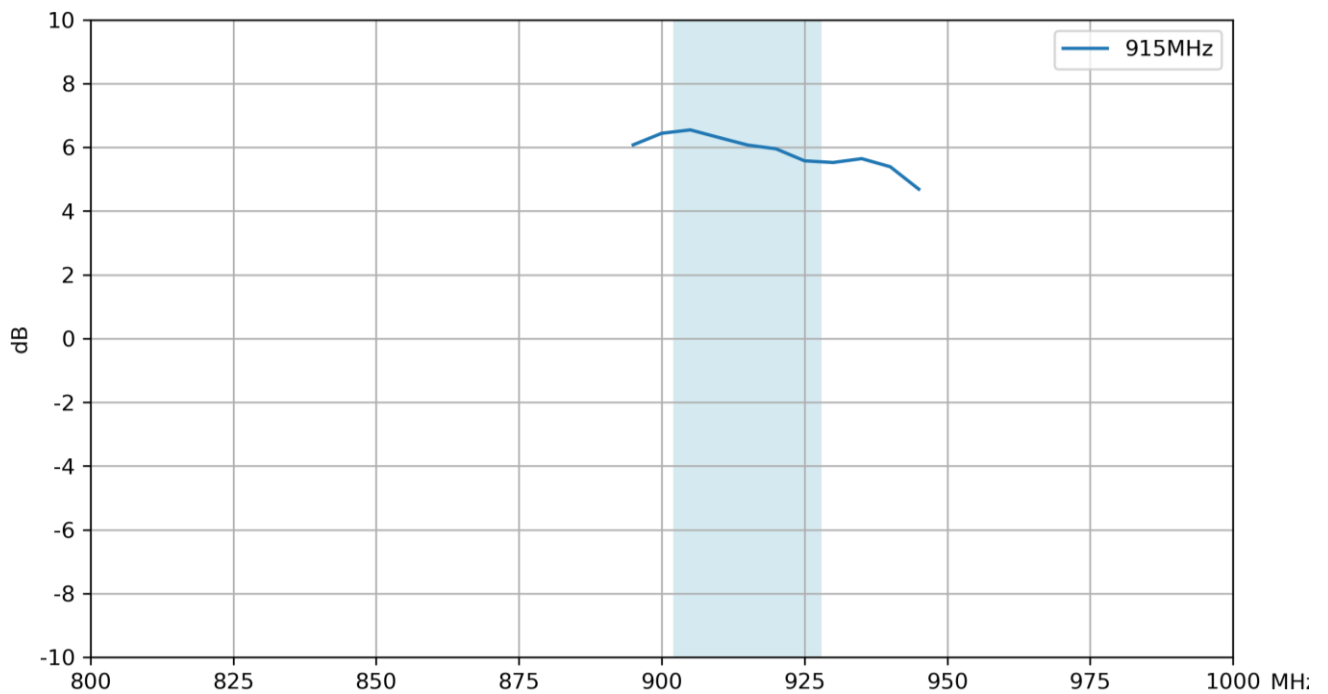
3.2 Efficiency



3.3 Average Gain

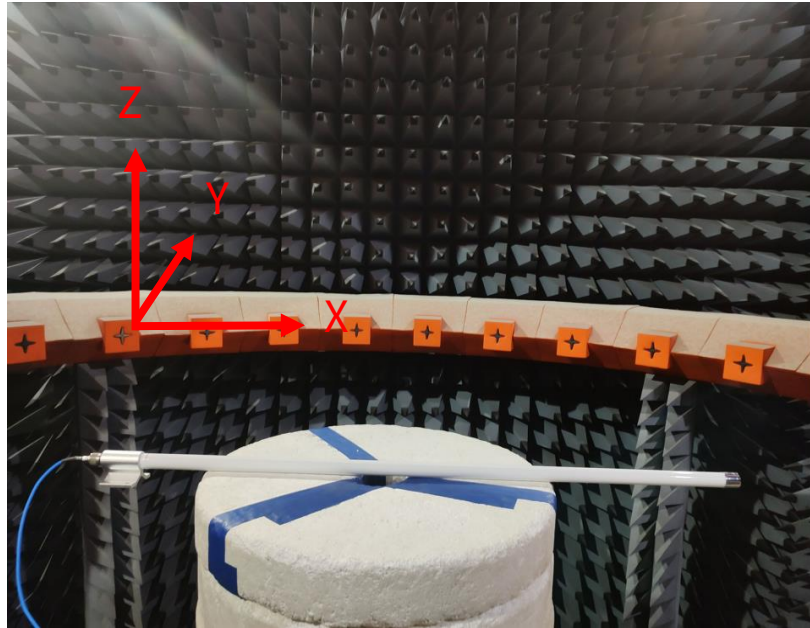


3.4 Peak Gain



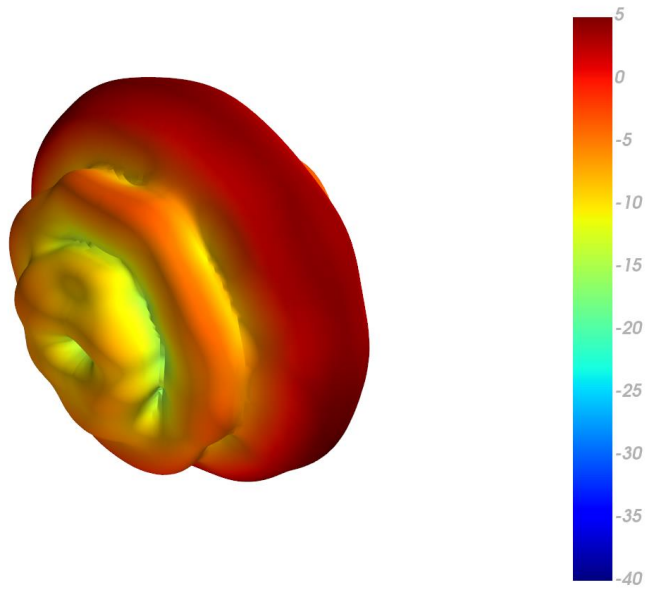
4. Radiation Patterns

4.1 Test Setup

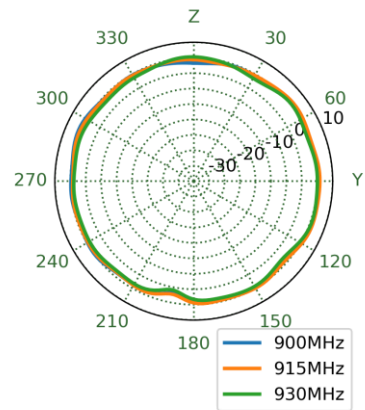
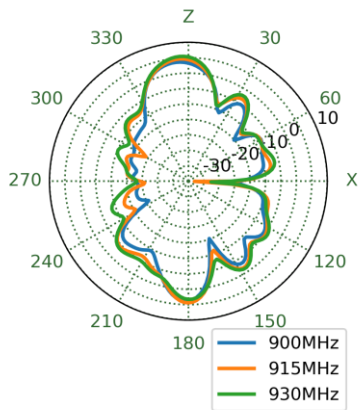
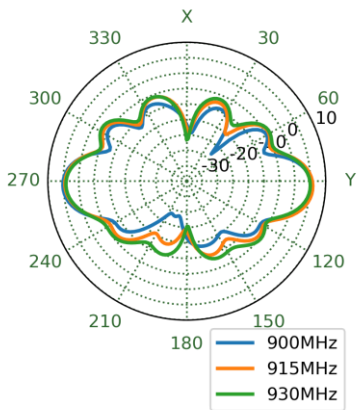


Free space

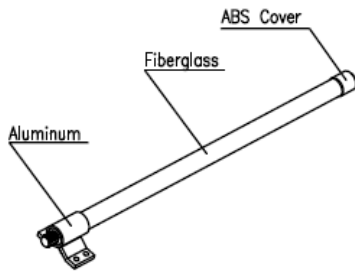
4.2 915MHz_2D & 3D Radiation Patterns



XY Plane XZ Plane YZ Plane



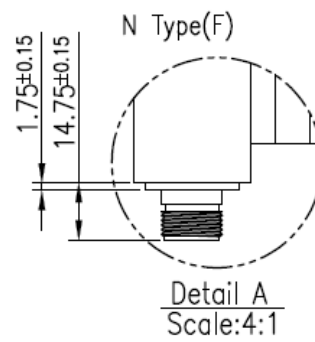
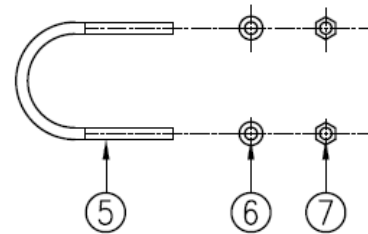
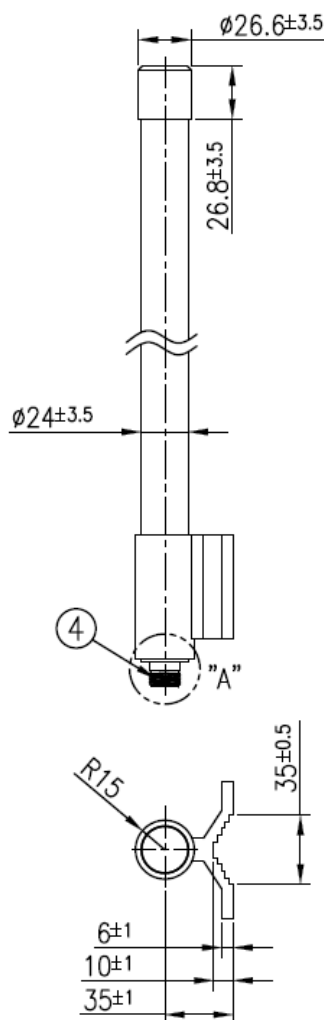
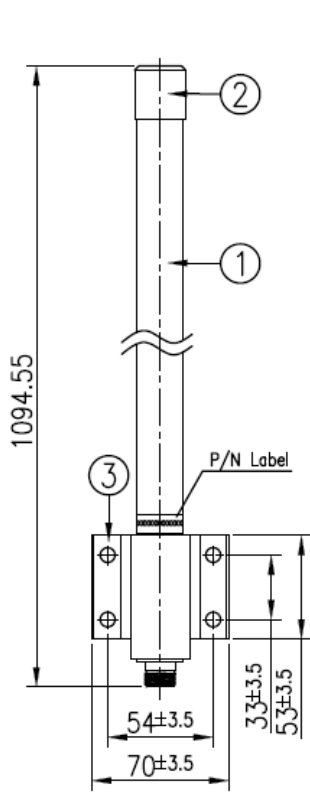
5. Mechanical Drawing (Units: mm)



Top View

Side View

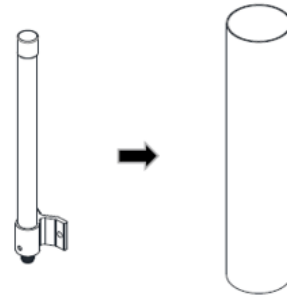
U-Bolt



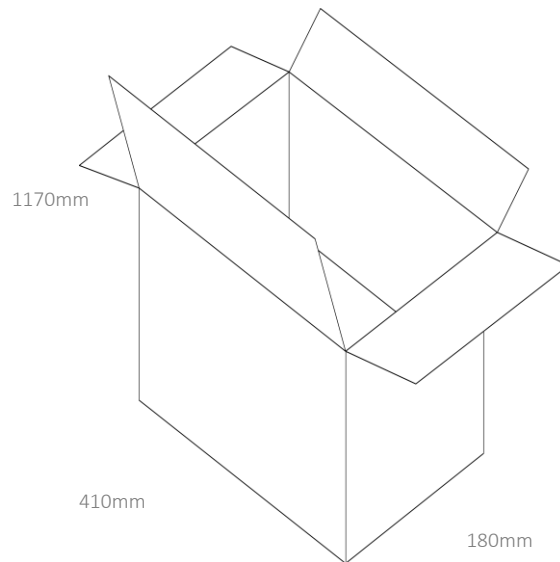
	Name	Material	Finish	QTY
1	OMB.915 Antenna	Glass Fiber	White	1
2	Cover	ABS	Silver	1
3	Bracket	Aluminum	Silver	1
4	N Type(F)	Brass	Ni Plated	1
5	M6 U Bolt	Stainless Steel	Silver	2
6	M6 Washer	Stainless Steel	Silver	4
7	M6 Nut	Stainless Steel	Silver	4

6. Packaging

1pcs OMB.915.B05F21 per Tube
 Dimensions – Ø80*1150



10pcs OMB.915.B05F21 per carton
 Dimensions - 1170*410*180mm



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.

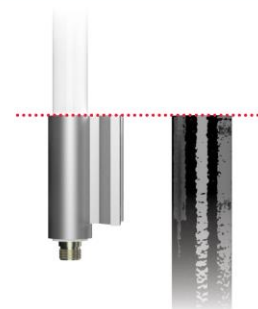
2 M6 U-Bolt 4 Washers 4 M6 Nuts 1 Barracuda Antenna



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 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-22-8-119 – OMB.915.B05F21

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

Previous Revisions
