Datasheet

Wi-Fi® Barracuda

Part No:
OMB.242.08F21

Description:

8dBi Omni-Directional Outdoor Antenna

For Wi-Fi®/Bluetooth®/Zigbee® 2.4-2.5dBi

Features:

Omni-Directional Radiation Pattern

Collinear

8dBi Peak Gain

Robust Design for all Weather Operation

Length: 553mm

Diameter: 24mm

Weight: 380g

IP65 Waterproof

N Type Female Connector

Wall/Pole Mount Bracket Included

RoHS & Reach Compliant

Ireland & USA
ISO 9001:2015
Certified

Taiwan
ISO 9001:2015
Certified

IATF16949

1. Introduction

The Barracuda OMB.242.08F21 has been designed to provide long distance coverage at the 2.4-2.5GHz Wi-Fi® band. The OMB.242 is a fiberglass robust outdoor antenna for use where an omnidirectional radiation pattern is required. The fiberglass enclosure is UV coated making this antenna suitable for the harshest outdoor environments. The Barracuda is IP65 rated and can be mounted in areas where installation may be difficult.

The peak gain of 8dBi ensures constant reception and transmission between the device and its network. The omnidirectional antenna collinear dipole design means it 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.

Typical Applications Include:

- Public Safety
- Wireless Video Systems
- Agriculture

This antenna is provided with a wall/pole mount bracket, for more information please contact your regional Taoglas customer support team.

2. Specifications

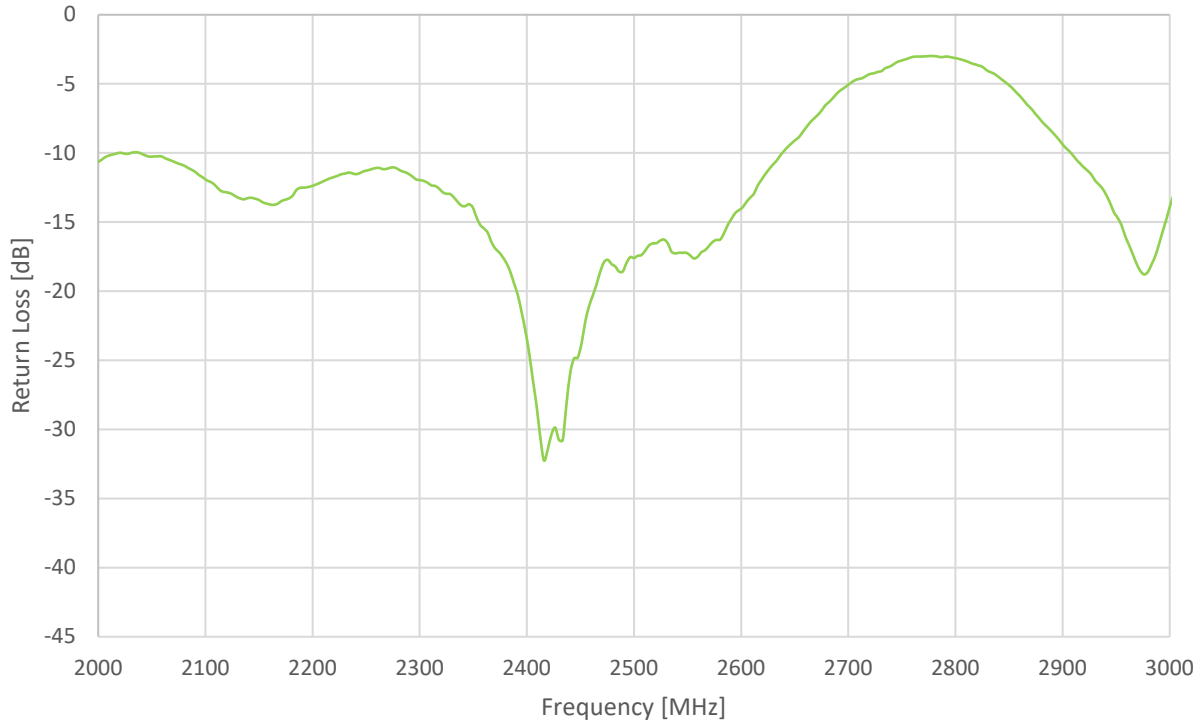
Wi-Fi MIMO	
Frequency (MHz)	**2400~2500**
Efficiency (%)	
Free Space	97
Average Gain (dB)	
Free Space	-0.12
Peak Gain (dBi)	
Free Space	8.0
Impedance	50 Ohms
Polarization	Vertical
Radiation Pattern	Omni
Max. input power	50W
VSWR	≤ 1.3
Vertical Beamwidth	57°
Horizontal Beamwidth	360°

Mechanical	
Connector	N Type Female
Connector Location	Bottom
Dimensions	Length 553mm, Diameter 24mm
Radome Diameter	24mm
Weight (& Mounting Bracket max)	380g
Internal Material	Copper
Radome Material	White Fiberglass
Waterproof	IP65
Mounting Style	Pole Mount/Wall Mount
Mounting	32-45mm Stainless Steel U-Type Screw

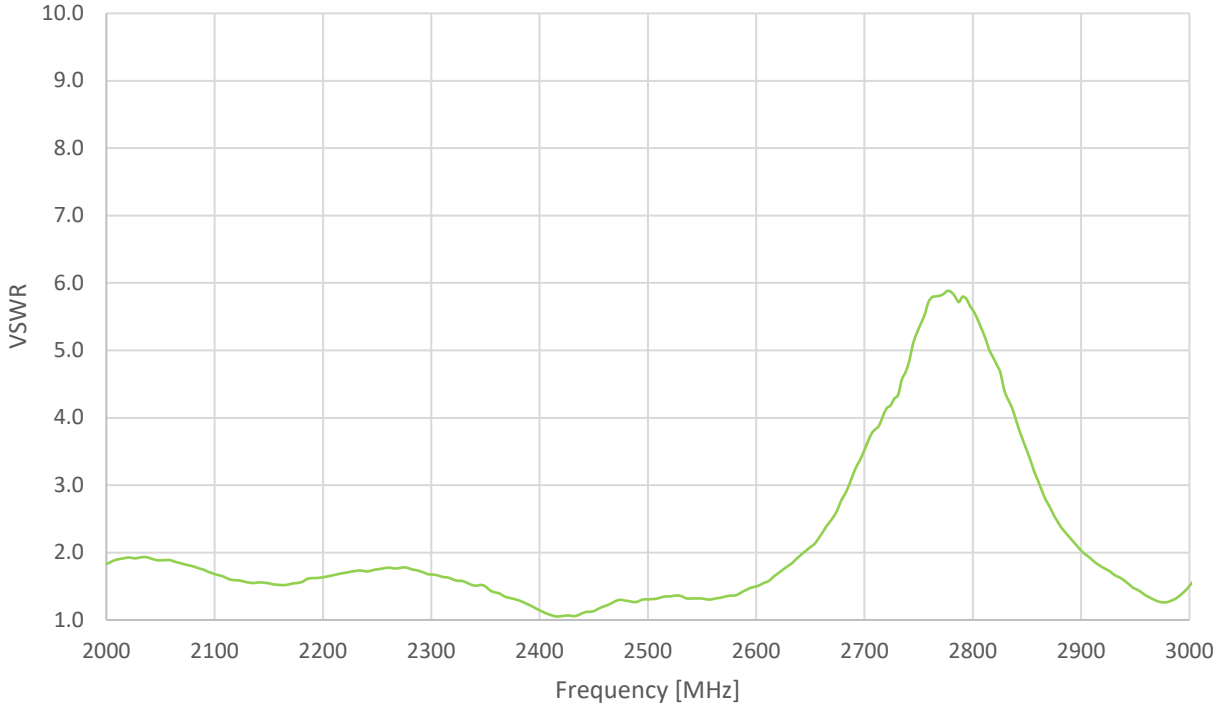
Wind Survival	>150mph(>241km/h)
Operating Temperature	-40°C to +60°C
Storage Temperature	-40°C to +80°C
Operating Humidity	10%~90% non-condensing
Storage Humidity	5%~90% non-condensing

3. Antenna Characteristics

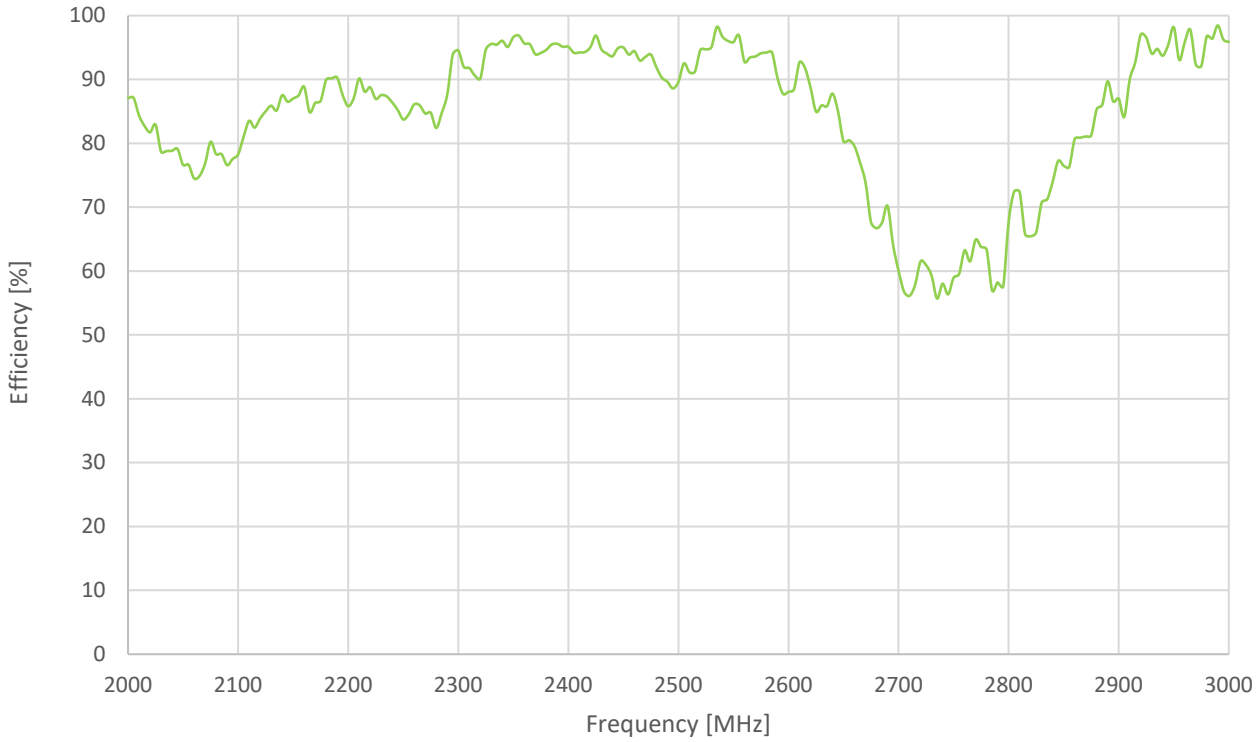
3.1 Return Loss



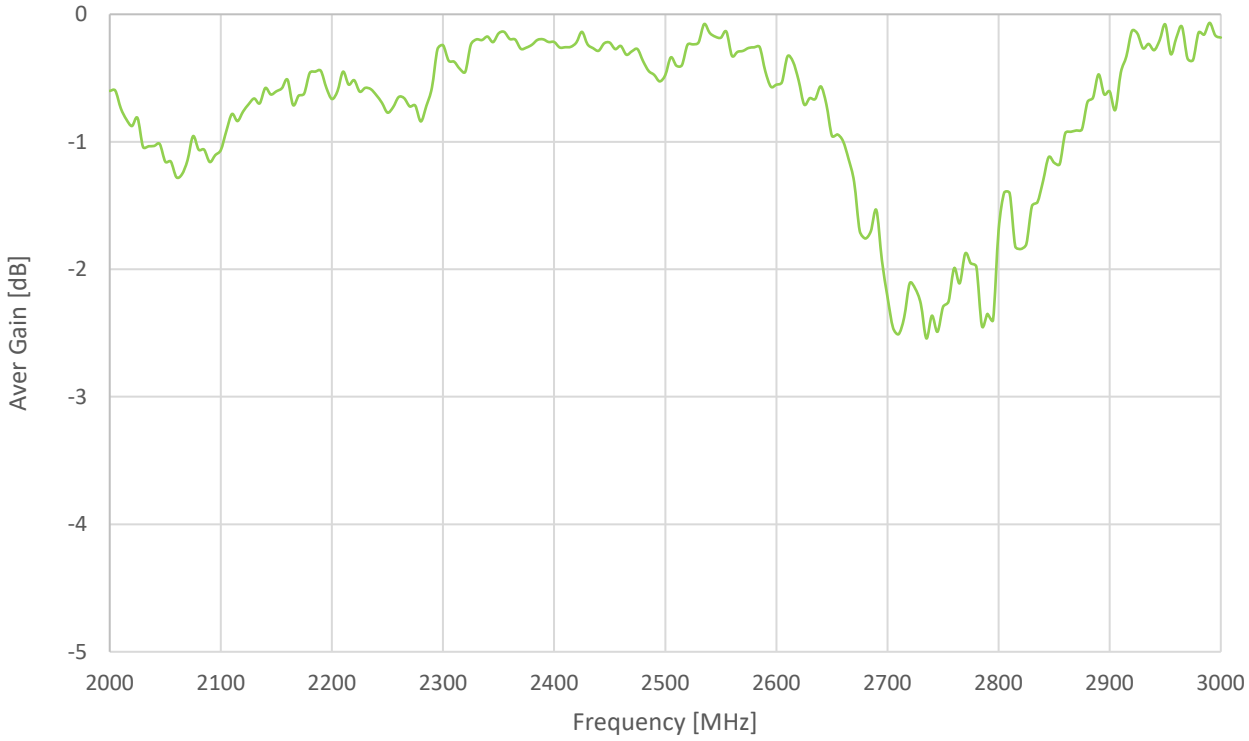
3.2 VSWR



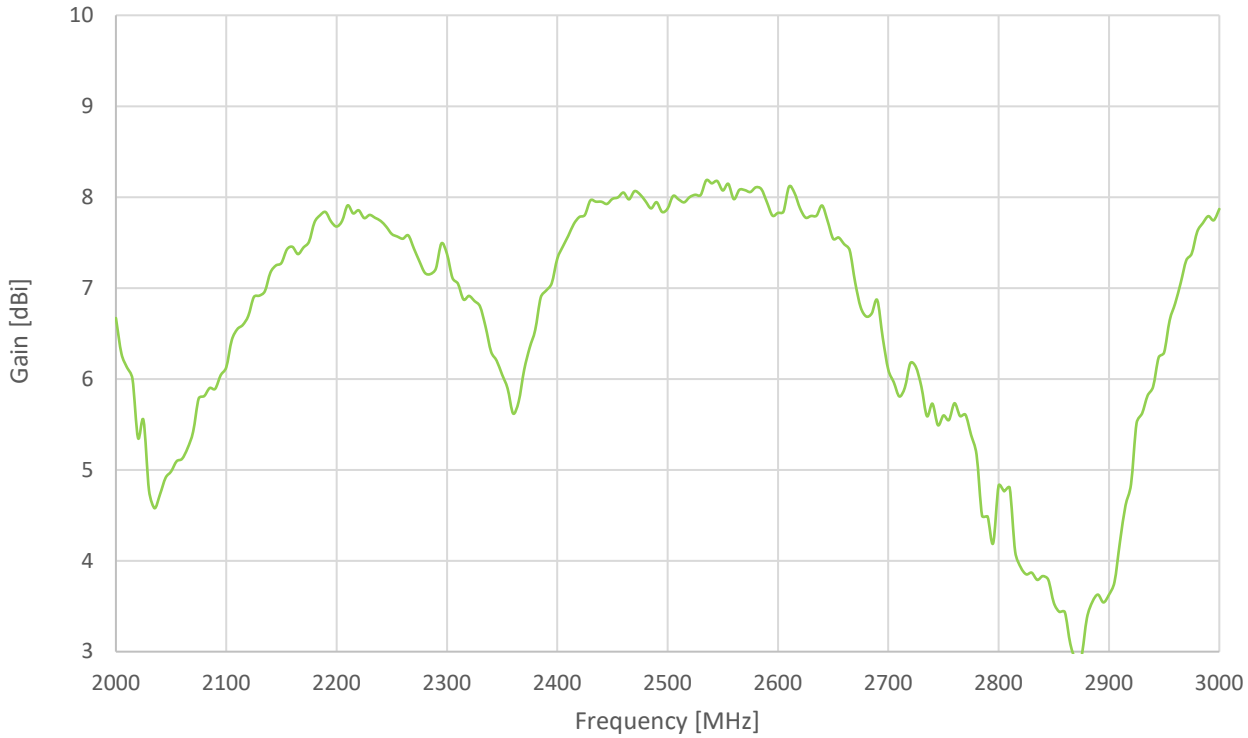
3.3 Efficiency



3.4 Average Gain

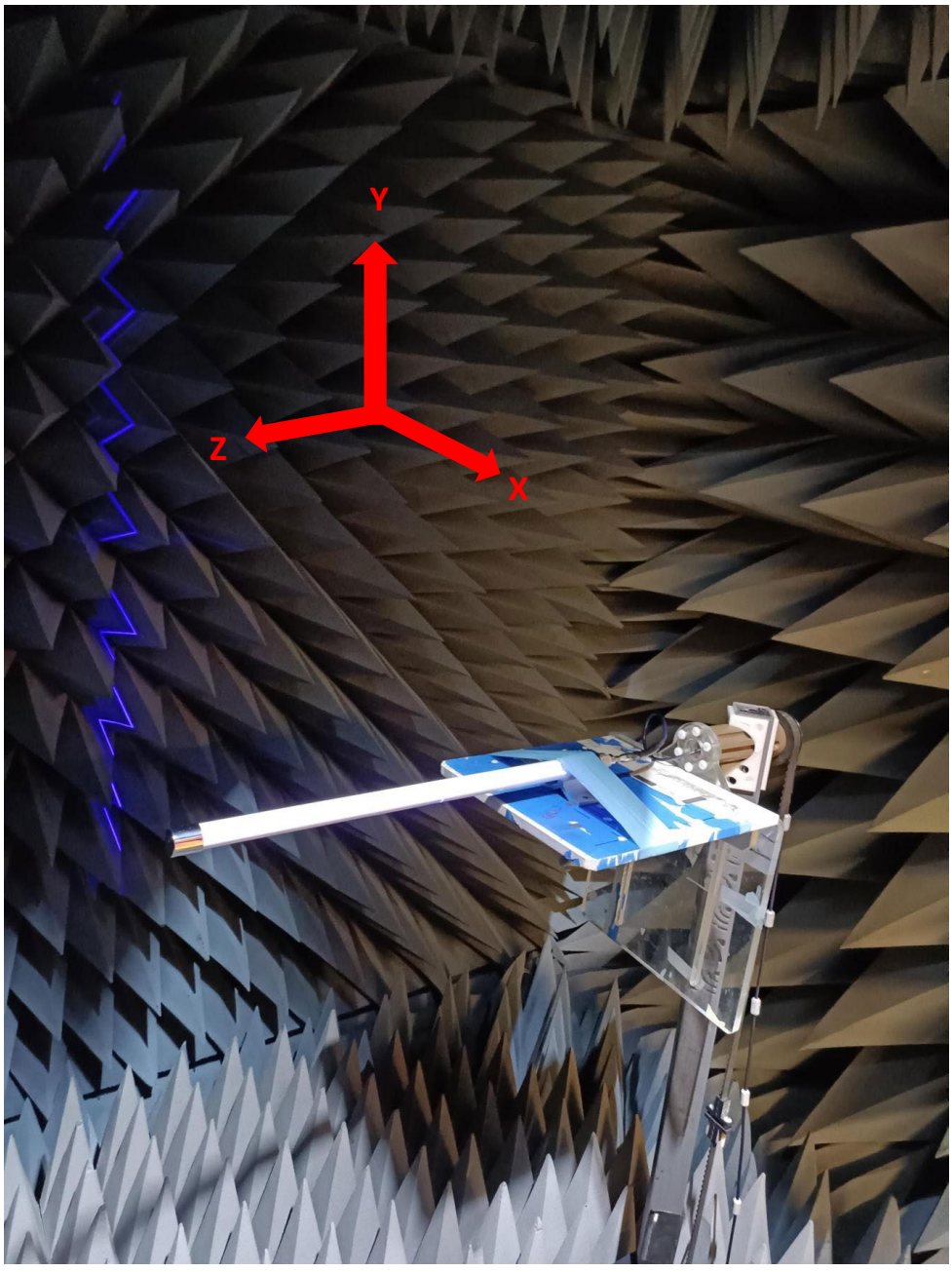


3.5 Peak Gain


10
9
8
7
6
5
4
3
Gain [dBi]
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
Frequency [MHz]

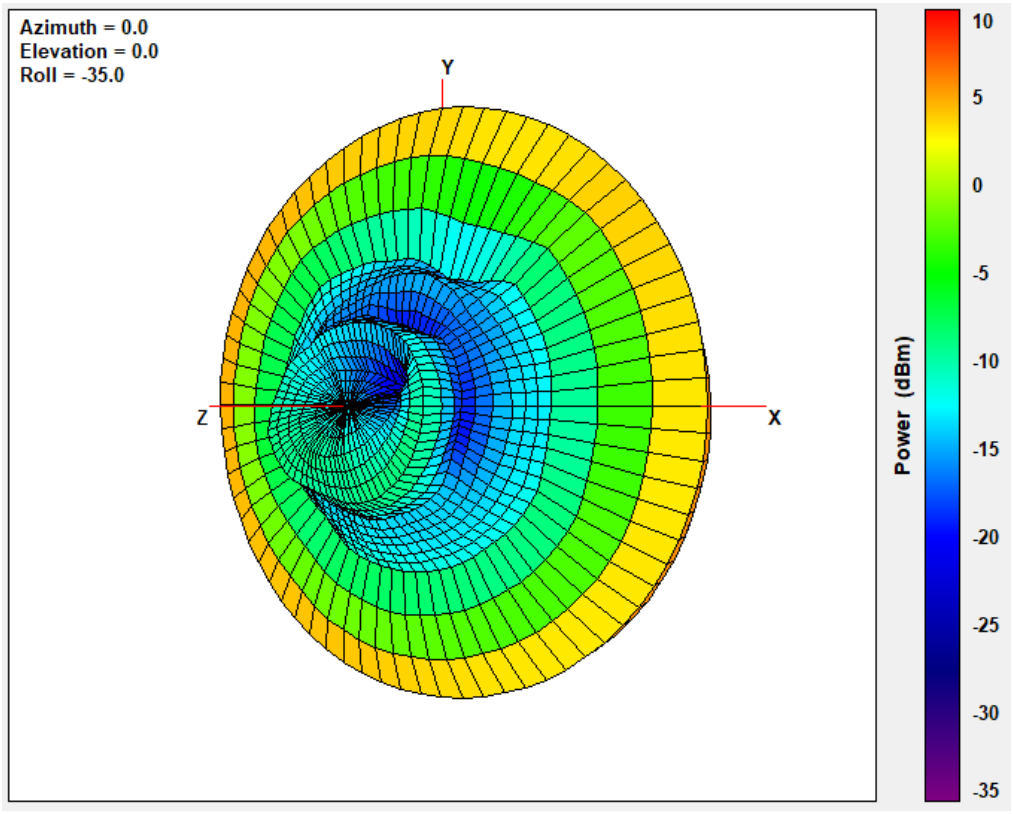
4. Radiation Patterns

4.1 Test Setup

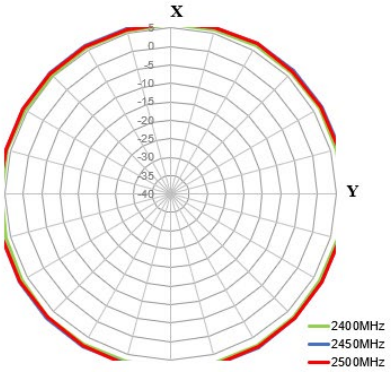


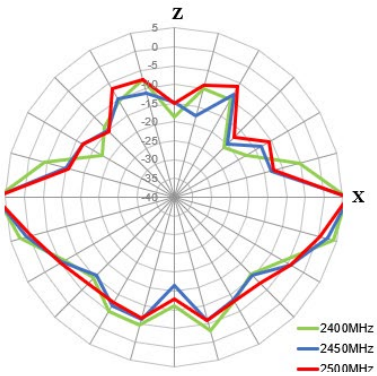
Free space

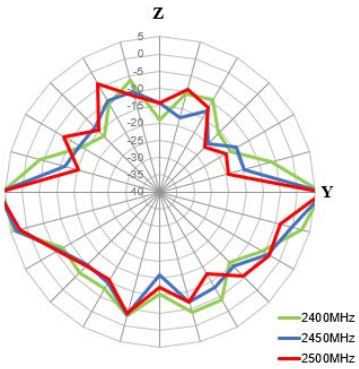
4.2 3D & 2D Radiation Patterns



XY Plane	XZ Plane	YZ Plane

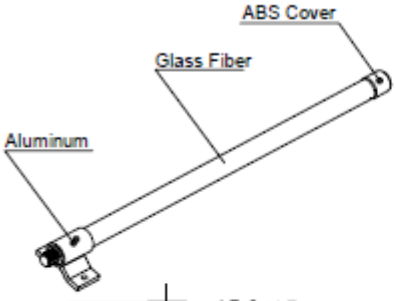


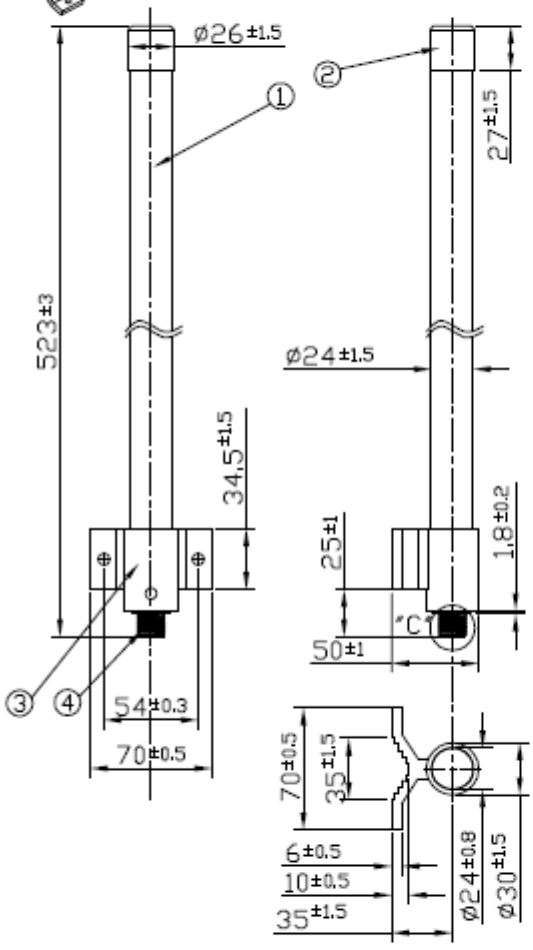




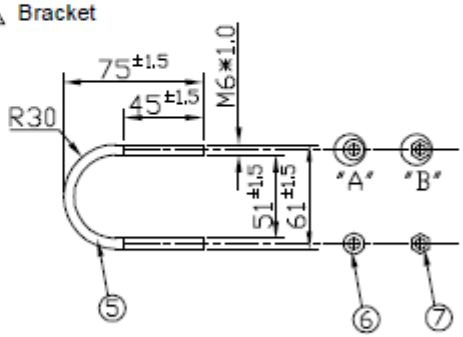
5. Mechanical Drawing (Units: mm)

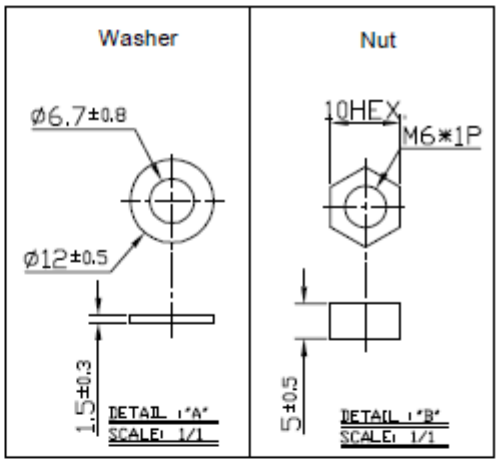
REV	ZONE	DESCRIPTION	ENG	APPROVED	ISSUED DATE
A	ALL	Initial Design	Jason		2011/6/14
B	ALL	Amend Dimension and Tolerance	Jason		2011/11/4
C	F3 A3	Amend Dimension	Sandy		2011/12/7



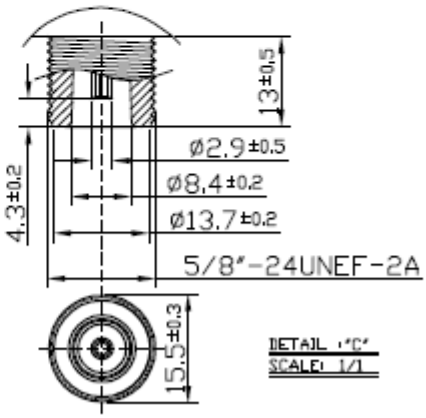


△C Bracket





N Type (F)



	Name	P/N	Material	Finish	QTY
1	OMB.242 Antenna	001211K000021A	Glass Fiber	White	1
2	Cover	000111K000021A	ABS	Silver	1
3	Holder	000311K000021A	Aluminum	Silver	1
4	N Type(F)	201211K000021A	Brass	Ni Plated	1
5	M6 U Type Screw	000411K000021A	Stainless Steel	Silver	1
6	M6 Washer	000411K010021A	Stainless Steel	Silver	2
7	M6 Nut	000411K020021A	Stainless Steel	Silver	2

6. Installation Instructions

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

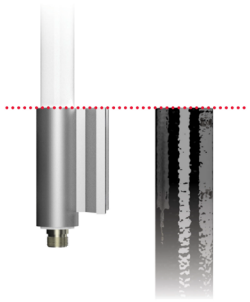
To ensure prime performance, the Barracuda OMB series should be mounted in a clean location that is clear from all obstruction so that there is no impact on radiation performance. Also, before installing there must be at least 15mm clearance of all metallic objects around the location. When mounting 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.

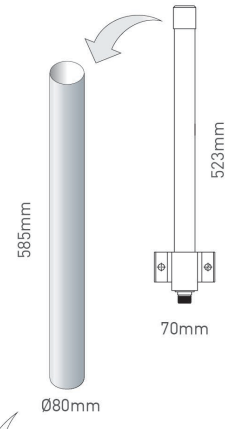
European Waste Electronic Equipment Directive 2002/96/EC
Please ensure that your old Waste Electricals and Electronics are recycled do not throw them away into standard waste.

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

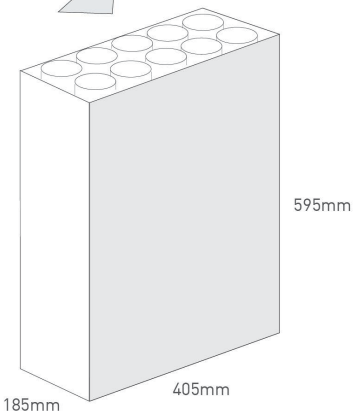
Harmonised Standards and References:
EN 301 489-1 (V2.2.1): ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements. Referencing CENELEC EN 55032 Class B.

7. Packaging

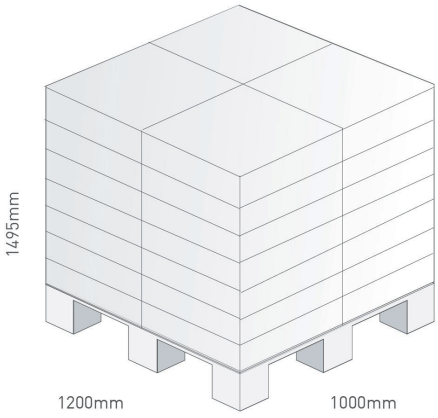
1 OMB.242.08F21 per tube
Tube Dimensions - Ø80mm*Height 585mm
Total Weight - 536.5g



10 tubes per carton
10 pcs OMB.242.08F21 per carton
Carton Dimensions - 405*595*185mm
Weight - 6.22kg



Pallet Dimensions 1200mm*1000mm*1495mm
28 Cartons per Pallet
4 Cartons per layer
7 Layers



Changelog for the datasheet

SPE-12-8-008 - OMB.242.08F21

Revision: G (Current Version)	
Date:	2022-08-23
Changes:	Updated data and ME drawing.
Changes Made by:	Gary West

Previous Revisions

Revision: F	
Date:	2019-10-31
Changes:	Installation Guide Amended
Changes Made by:	Jack Conroy

Revision: A (Original First Release)	
Date:	2011-01-20
Notes:	
Author:	Aine Doyle

Revision: E	
Date:	2018-03-27
Changes:	Installation Guide Amended
Changes Made by:	Jack Conroy

Revision: D	
Date:	2018-03-16
Changes:	Installation Guide Detail Added
Changes Made by:	Jack Conroy

Revision: C	
Date:	2017-03-08
Changes:	Removed Section
Changes Made by:	Aine Doyle

Revision: B	
Date:	2012-11-20
Changes:	Packaging Details Updated
Changes Made by:	Aine Doyle

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