



# TAOGLAS®



# Datasheet

## Barracuda

**Part No:**  
**OMB.433.B03F21**

### Description:

Barracuda - 433MHz 3dBi Omni Directional Outdoor Antenna with N Type Female Connector, U-Bolt, 523mm Length

### Features:

- Omni-Directional Radiation Pattern
- Collinear
- 3dBi Peak gain, 433 MHz
- Fiberglass Housing
- Robust design for all weather operation
- IP65 Waterproof
- Length: 553mm, Weight: 350g
- N type Female connector
- Wall/Pole Mount bracket included
- RoHS & Reach Compliant

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## 1. Introduction



The OMB.433.B03F21 is a fiberglass Omni-directional outdoor antenna, operating in the 433 MHz ISM band. The antenna is designed for applications such as metering, industrial / environmental monitoring, remote asset monitoring, and mesh network applications.

The OMB.433 operates at 433MHz, one of the most widely used license free ISM bands, with a 3dBi peak gain. The omni-directional 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.

Another larger model, the OMB.433.B06F21 with 6dBi peak gain, also working in the 433MHz ISM band, is also available. Gain and connector customizable, subject to MOQ.

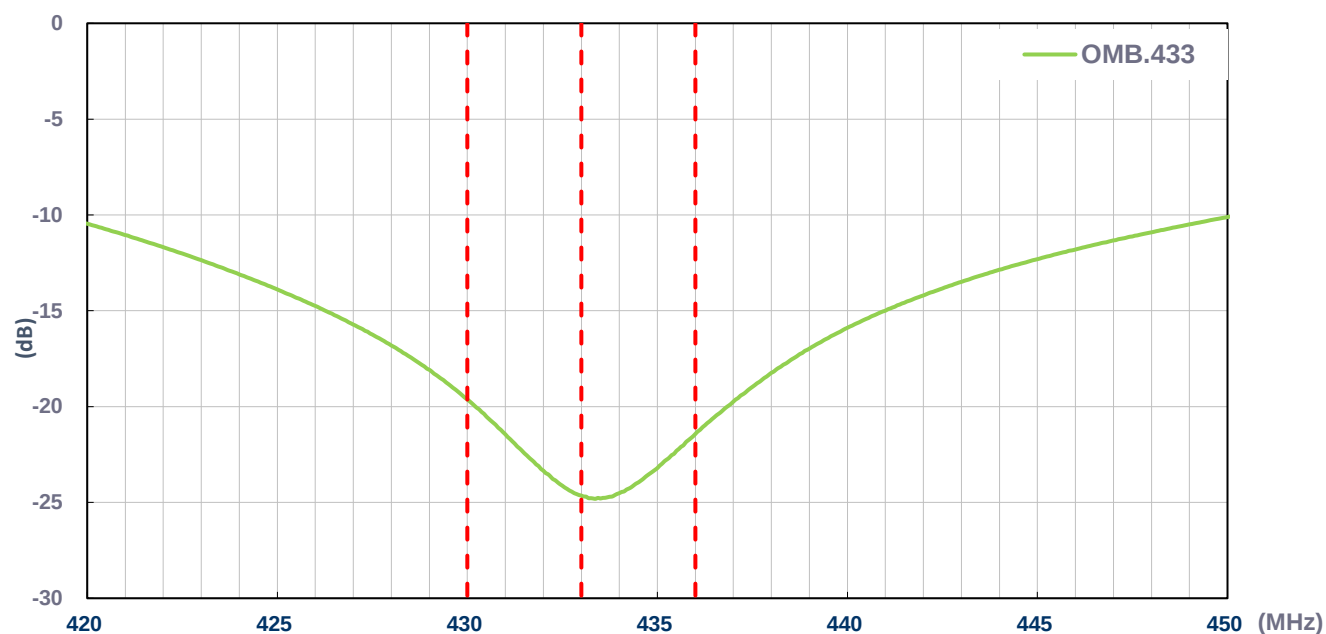
## 2. Specifications

| Electrical                  |                        |
|-----------------------------|------------------------|
| Frequency (MHz)             | 433                    |
| Antenna Type                | Collinear Dipole Array |
| Peak Gain                   | 3 dB                   |
| Polarization                | Vertical               |
| Impedance                   | 50 ohms                |
| Max Input Power             | 100 watts              |
| VSWR                        | 1.5:1                  |
| Radiation                   | Omni-Directional       |
| Vertical Beamwidth          | 60 Deg                 |
| Horizontal Beamwidth        | 360 Deg                |
| Internal Material           | Copper                 |
| Connector                   | N Type Female          |
| Mechanical                  |                        |
| Length                      | 553 mm (Max)           |
| Radome Diameter             | 24mm                   |
| Bracket Dimension           | 70 x 53mm (Max)        |
| Antenna Weight              | 350g                   |
| Mounting Accessories Weight | 70g                    |
| Application                 | Indoor/Outdoor         |
| Radome Material             | White Fiberglass       |
| Bracket Material            | Aluminium              |
| Mount Style                 | Pole Mount/Wall Mount  |
| U Bolt                      | Stainless Steel        |
| Wind Resistance             | >150mph (>241km/h)     |
| Waterproof                  | IP65                   |
| Environmental               |                        |
| Storage Temperature         | -40°C to +85°C         |
| Operating Temperature       | -40°C to +85°C         |
| Operating Humidity          | 10%~90% non-condensing |
| Storage Humidity            | 5%~90% non-condensing  |

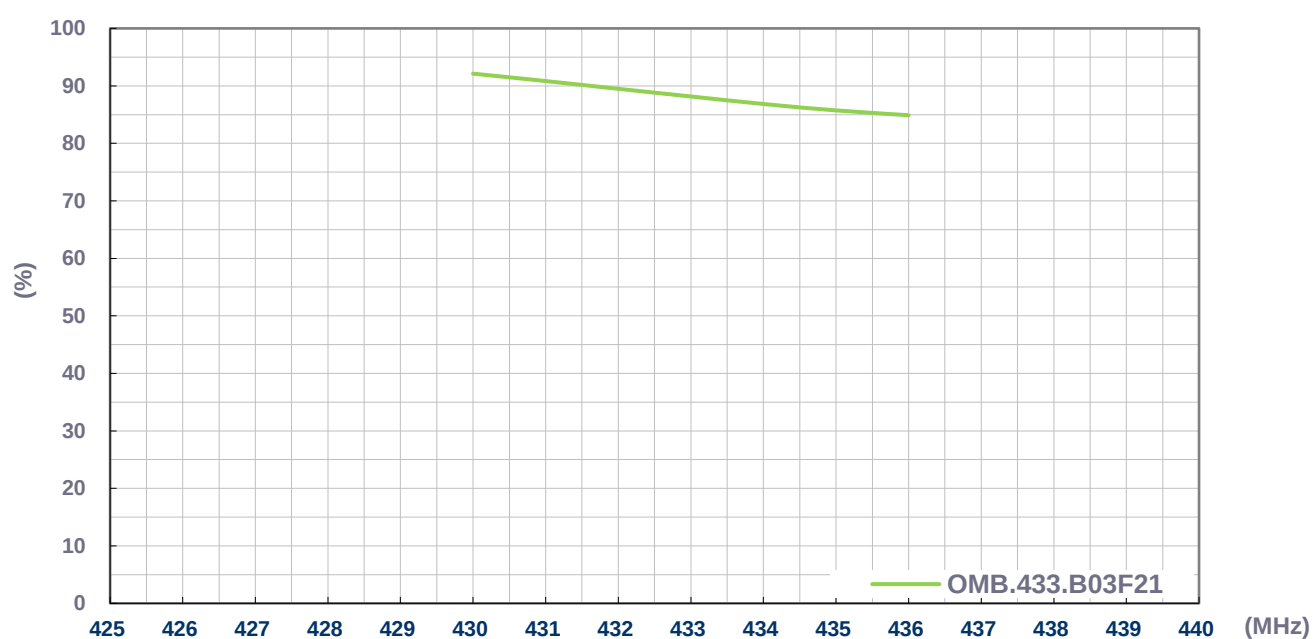
## 3. Antenna Characteristics

### 3.1 ISM 433

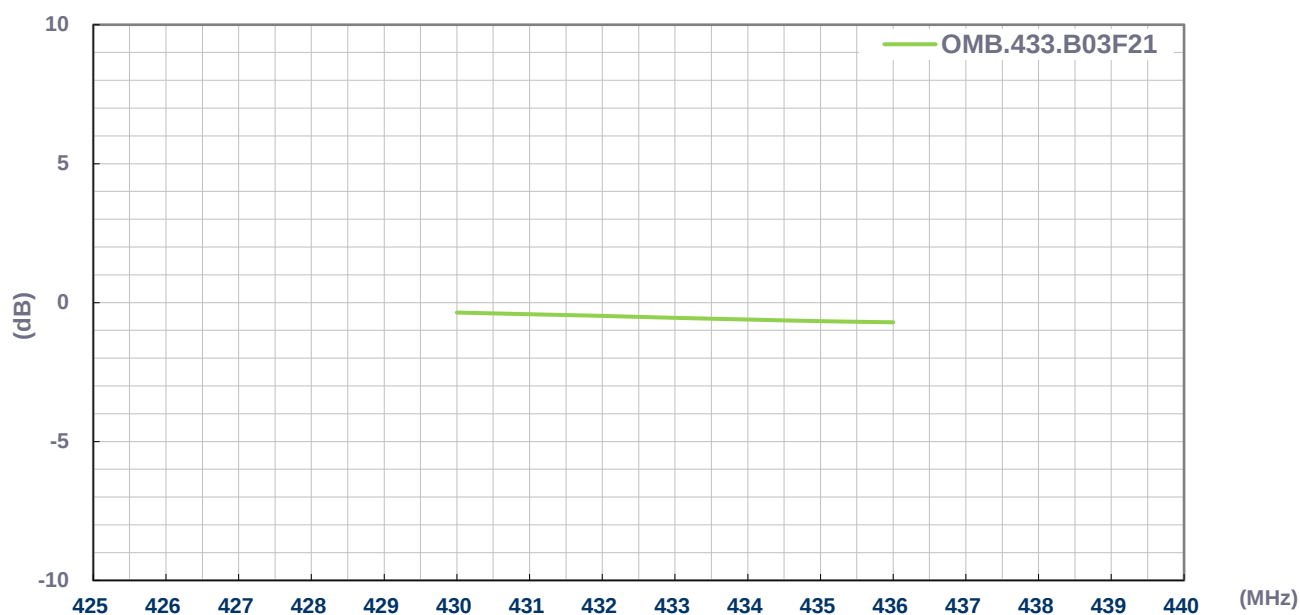
#### Return Loss



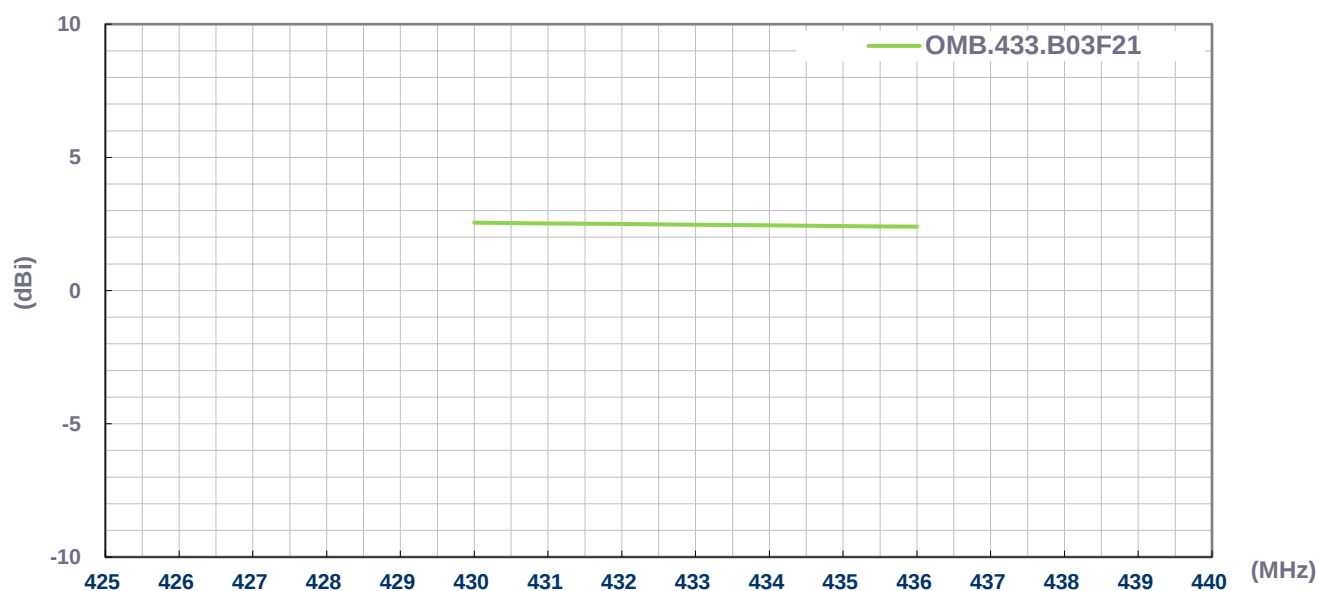
#### Efficiency



## Average Gain

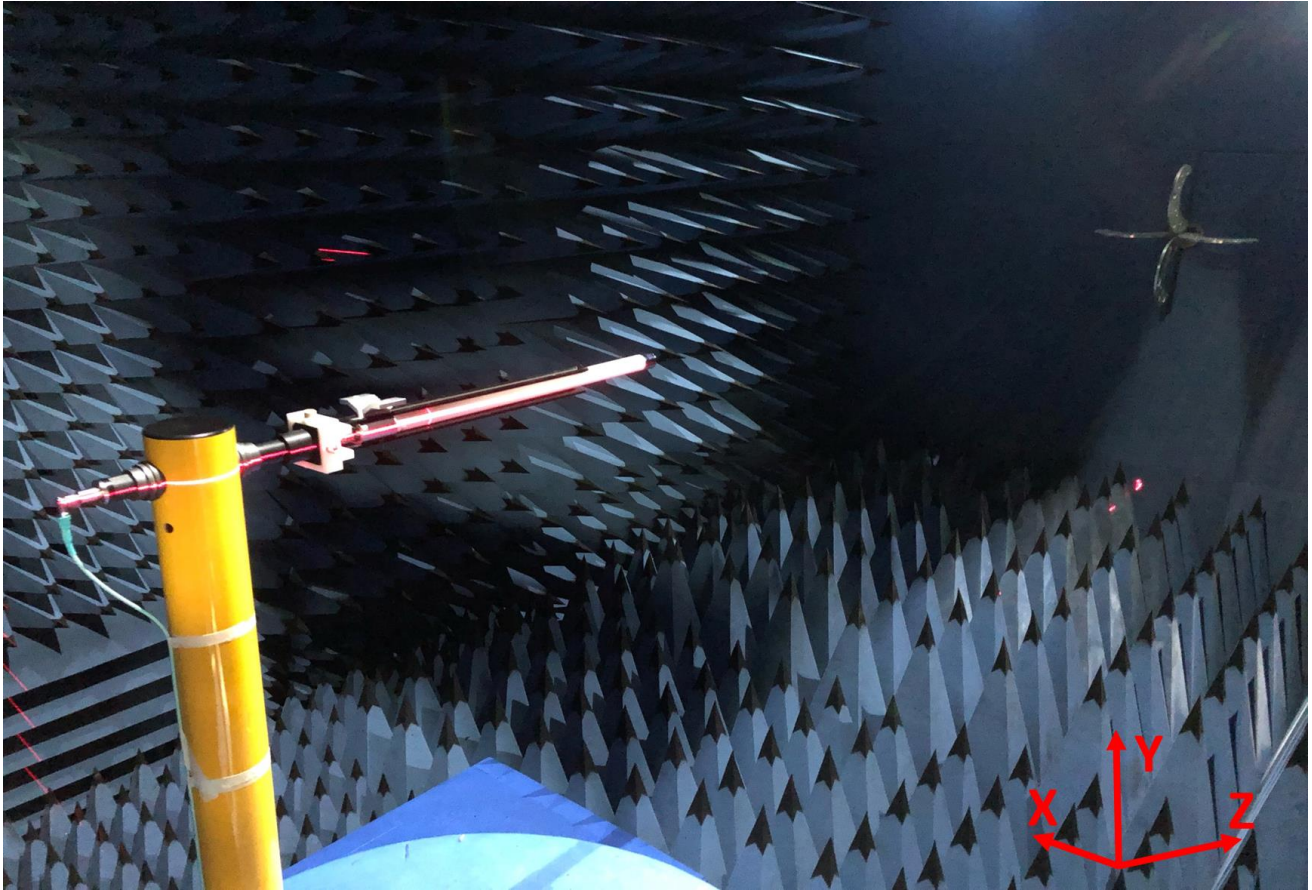


## Peak Gain

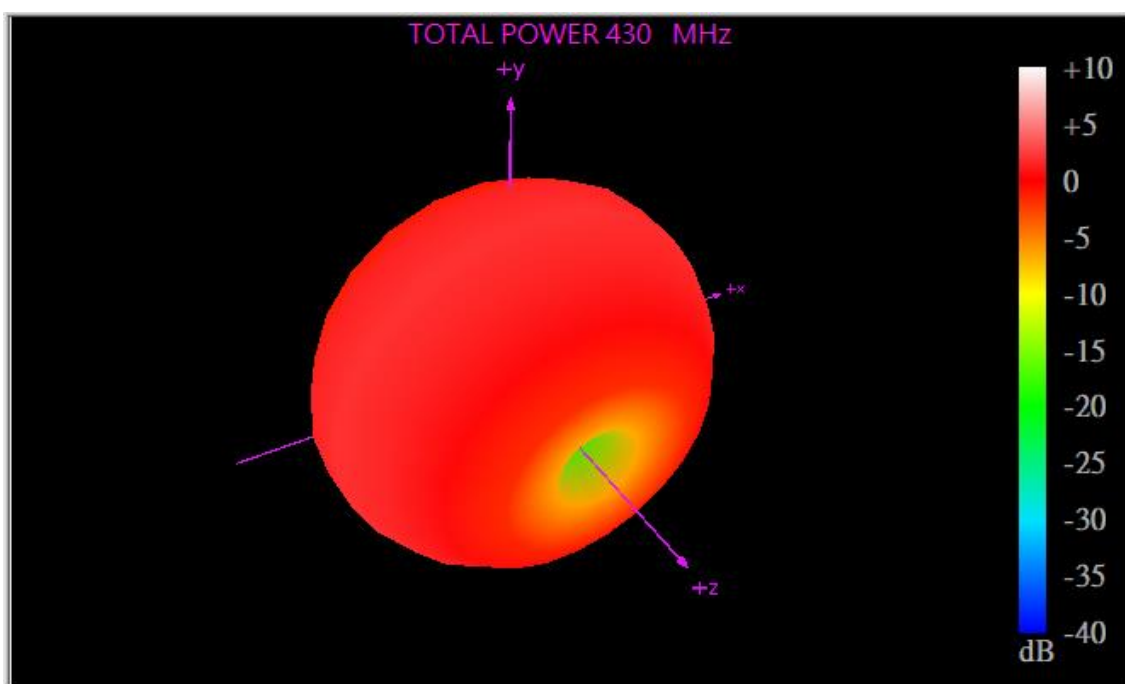


## 4. Radiation Patterns

### 4.1 Test Setup



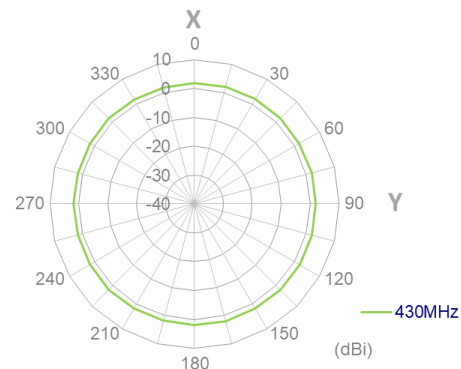
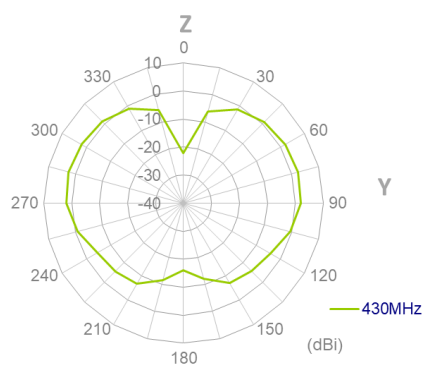
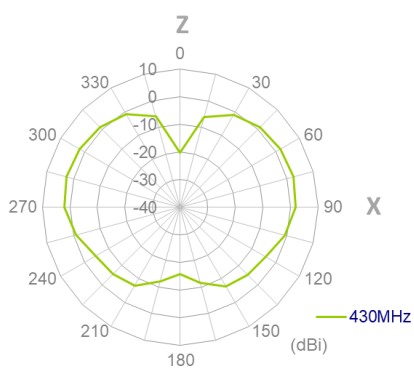
## 4.2 430MHz 3D and 2D Radiation Patterns



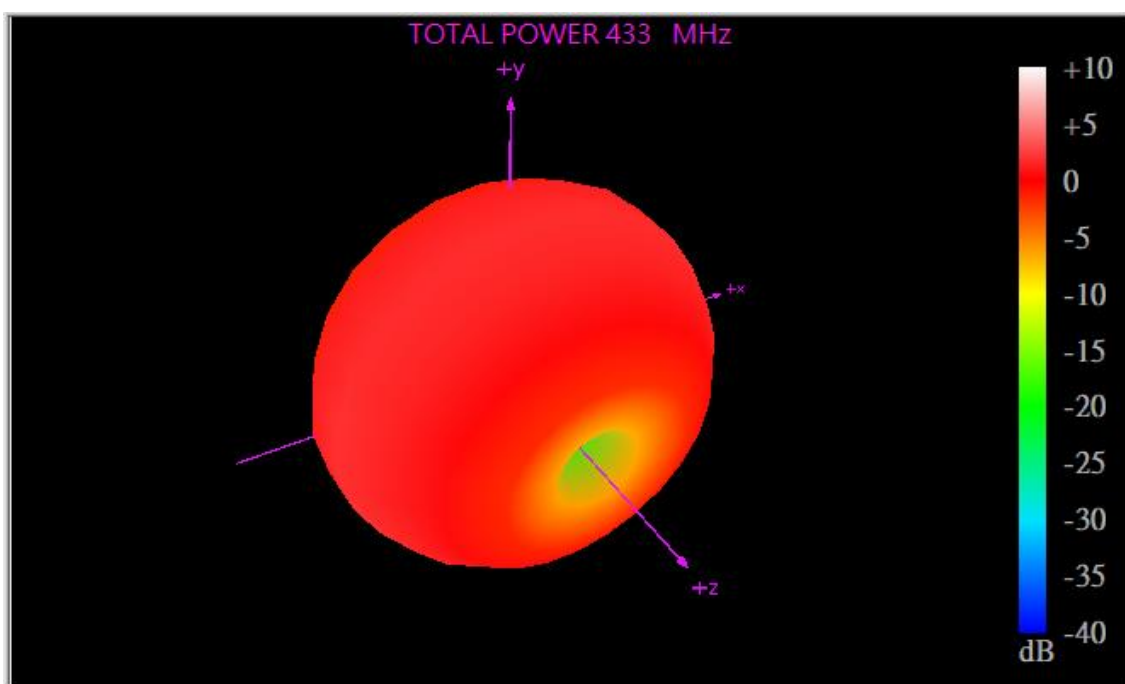
XZ Plane

YZ Plane

XY Plane



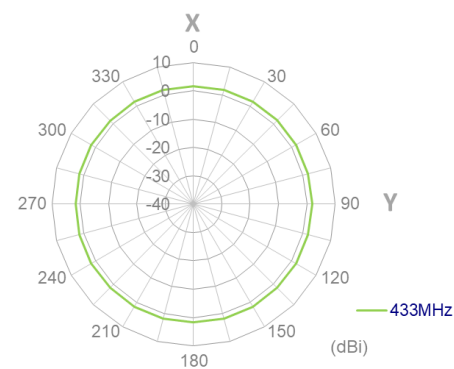
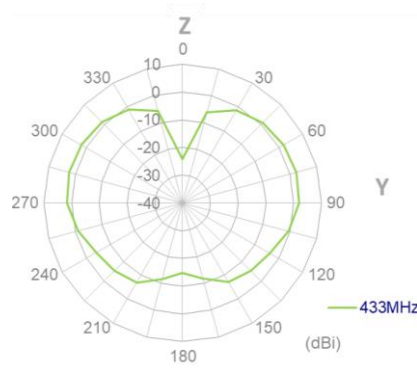
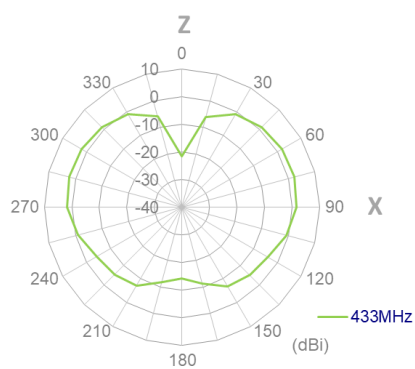
### 4.3 433 MHz 3D and 2D Radiation Patterns



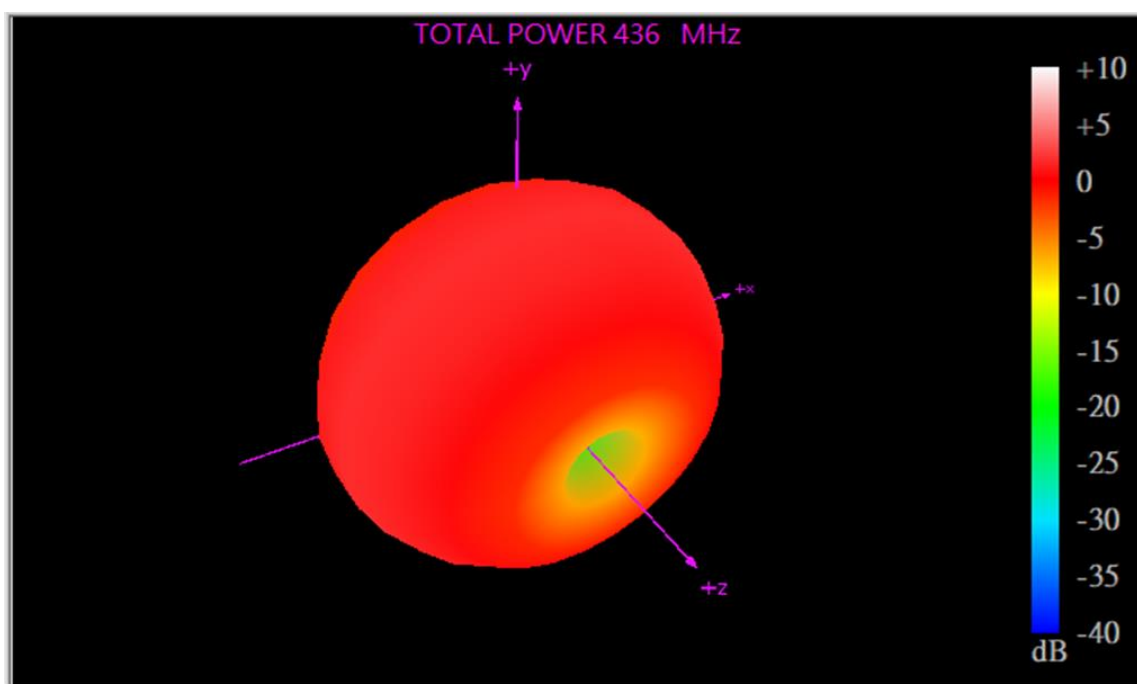
XZ Plane

YZ Plane

XY Plane



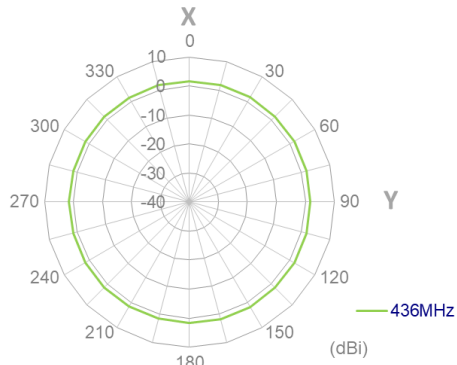
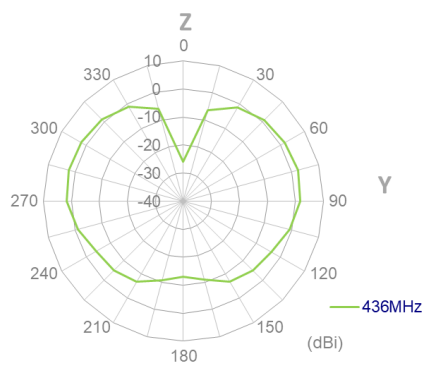
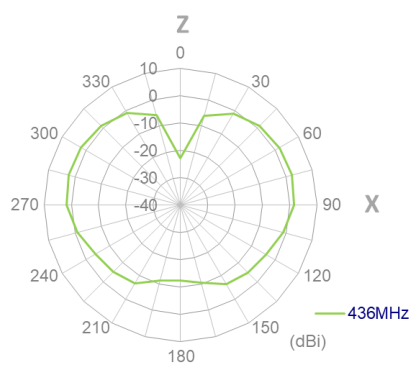
## 4.4 436 MHz 3D and 2D Radiation Patterns



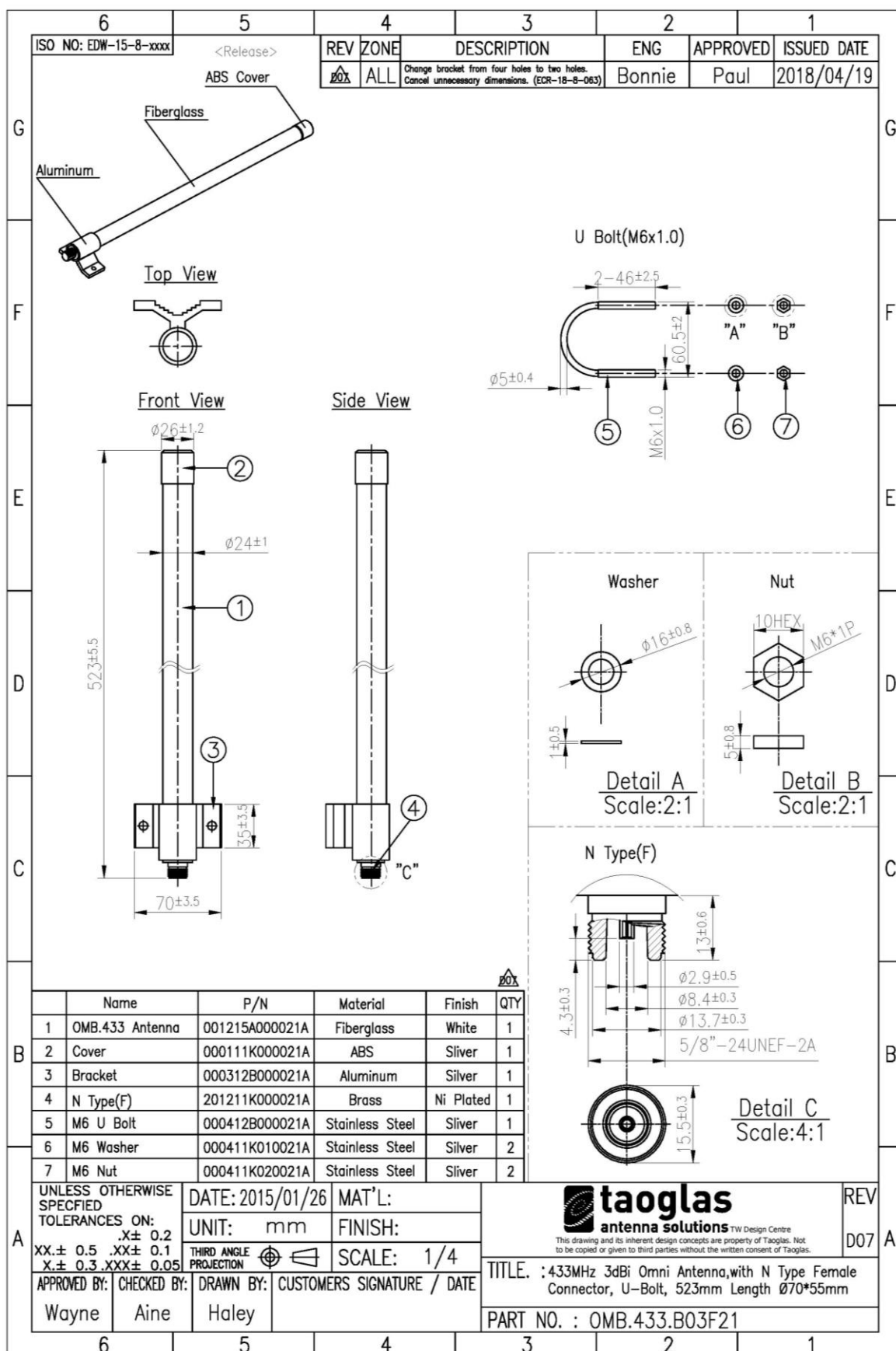
XZ Plane

YZ Plane

XY Plane



## 5. Mechanical Drawing (Units: mm)

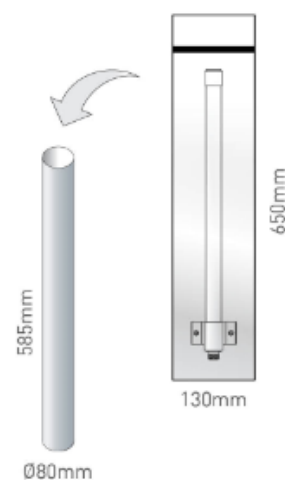


## 6. Packaging

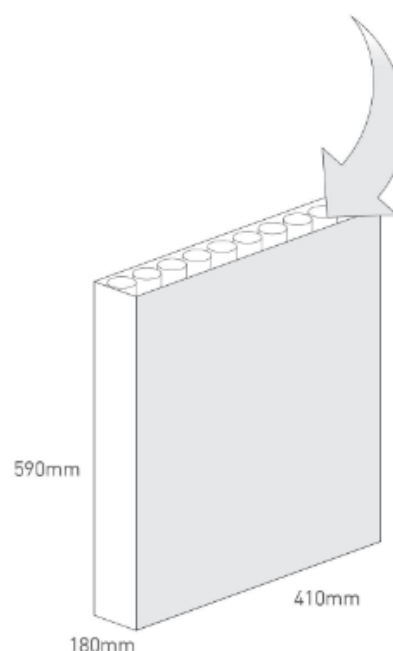
### OMB.433.B03F21

#### Packaging Specifications

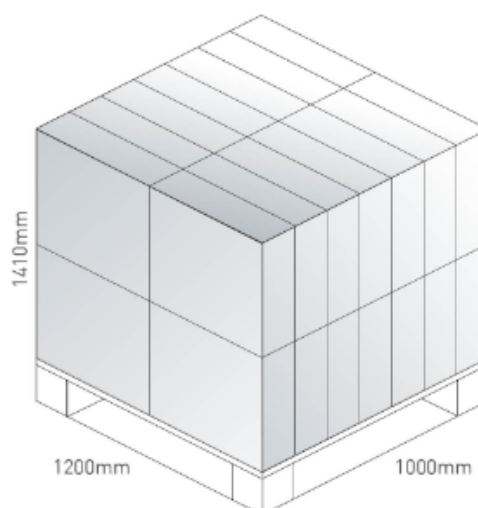
1 OMB.433.B03F21 per PE Bag  
 Bag Dimensions 130mm\*650mm  
 1 PE Bag per Tube  
 Tube Dimensions - Ø80mm\*Height 585mm  
 Total Weight - 620g



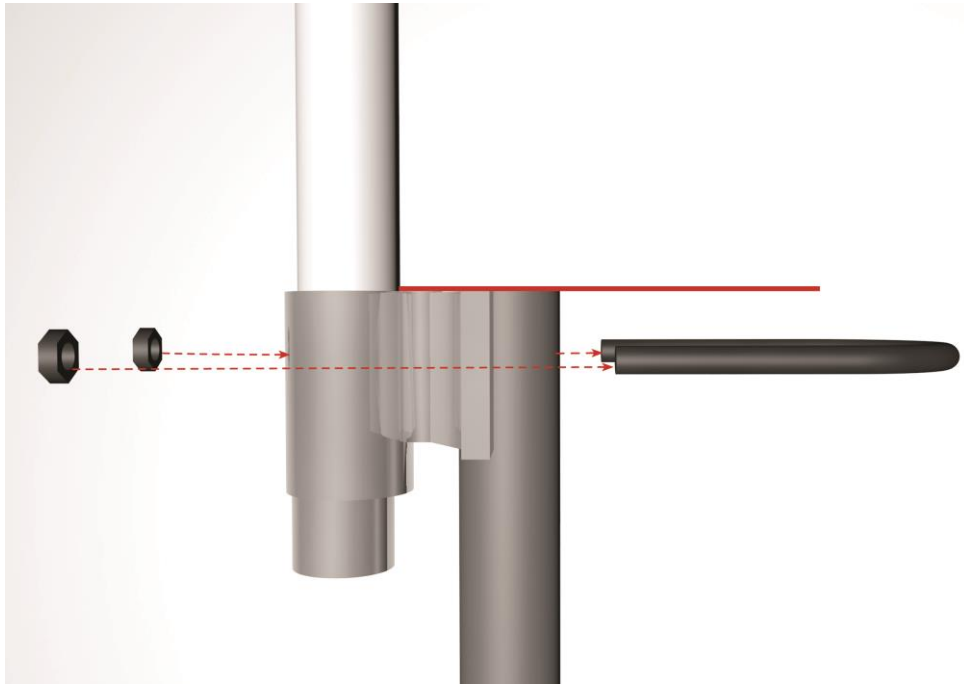
10 tubes per carton  
 Carton Dimensions - 590\*410\*180mm  
 Weight - 7.26Kg



Pallet dimensions 1200\*1000\*1410mm  
 28 Cartons per pallet



## 7. Antenna Installation Guide



## Changelog for the datasheet

**SPE-16-8-019 – OMB.433.B03F21**

### Revision: F (Current Version)

|         |                                                               |
|---------|---------------------------------------------------------------|
| Date:   | 2019-09-02                                                    |
| Notes:  | Updated template, added Return Loss, Efficiency, Average Gain |
| Author: | Yu Kai Yeung                                                  |

### Previous Revisions

|  |  |
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