



# TAOGLAS®



# Datasheet

## 433MHz Cyclops

**Part No:**  
**WM.43.A.305111**

### **Description:**

Cyclops 433MHz 0dBi Wall Mount Flexible Whip Antenna

### **Features:**

- ISM 433MHz Whip Antenna
- Wall-Mount Bracket
- More than 50% efficiency
- Flexible Inner Steel Core Whip
- IP65 Waterproof
- SMA(M) ST connector standard
- 3m Low loss CFD-200 cable standard
- Cable is hidden internally in the Bracket
- RoHS & Reach Compliant

|                            |    |
|----------------------------|----|
| 1. Introduction            | 3  |
| 2. Specifications          | 4  |
| 3. Antenna Characteristics | 6  |
| 4. 2D Radiation Patterns   | 8  |
| 5. 3D Radiation Patterns   | 10 |
| 6. Mechanical Drawing      | 11 |
| 7. Installation            | 12 |
| 8. Packaging               | 13 |
| Changelog                  | 14 |

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## 1. Introduction



The WM.43 is a 0dBi wall mount flexible omni-directional whip. This antenna is optimized for the 433 MHz ISM band. Common applications are wireless sensor monitoring, smart metering, wireless M-Bus metering, remote asset monitoring, and security systems.

The radiation pattern is omni-directional in the azimuth, allowing for large coverage range in typical indoor or outdoor installations.

Typical Applications include:

- Remote Monitoring
- Smart Metering
- Smart City

This antenna has more than 60% efficiency while fixed on the L-bracket. The whip is made up of a flexible inner steel core covered by TPU, so it is extremely resistant to collisions and maintaining its original shape and RF performance. The whip and the internal connection to the bracket is completely IP67 waterproof. The whip can be removed by unscrewing.

The bracket allows complete concealment of the cable for a more secure integration and cleaner installation. The cable can also be routed out of the back wall of the bracket into the interior of the mounting wall for added security against vandalism. The standard version comes with 3 metres of extremely low loss CFD-200 cable (0.3dB against 0.7dB for RG58) to allow for flexibility of placement. The cable and connector can be completely customized. The whip itself can also be changed for different frequency bands or gain requirements.

Contact your regional Taoglas Customer Support Team for more information or installation guidelines.

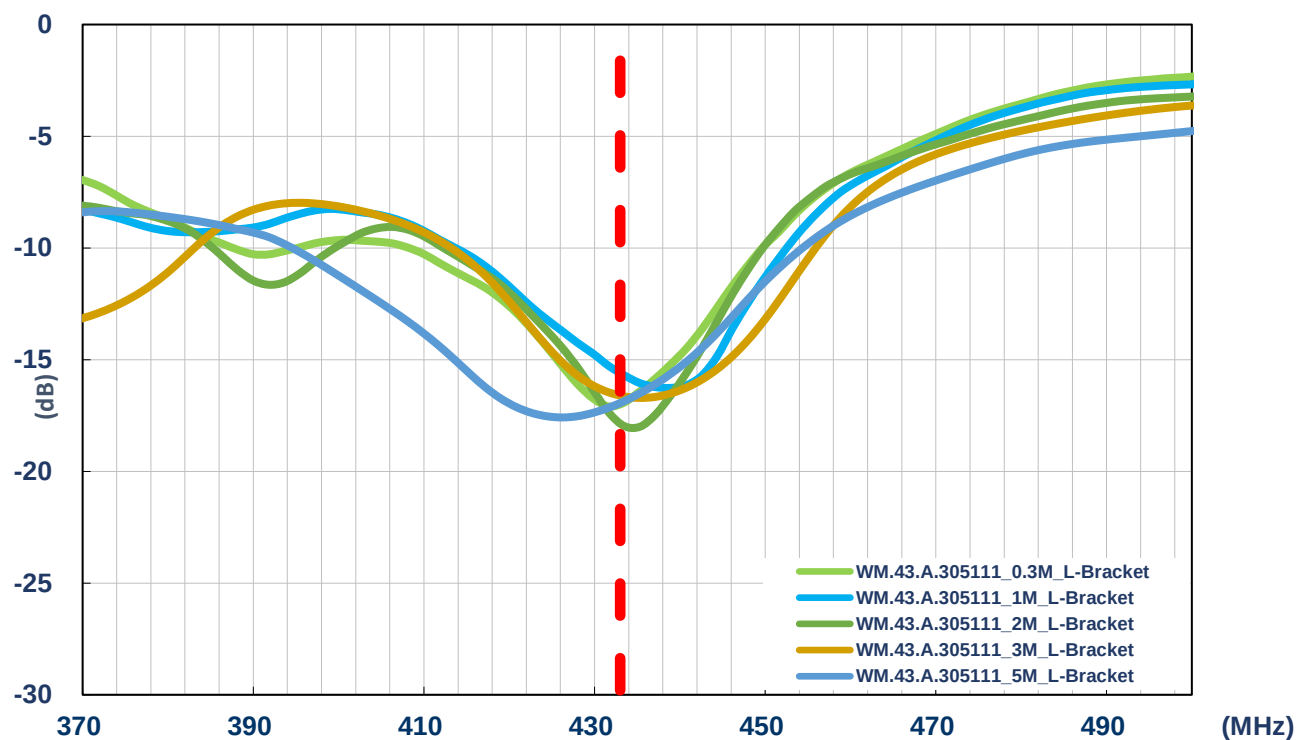
## 2. Specifications

| Cellular          |                  |
|-------------------|------------------|
| Frequency (MHz)   | 433MHz           |
| Peak Gain (dBi)   |                  |
| 30cm              | 0.88             |
| 1m                | 0.68             |
| 2m                | 0.38             |
| 3m                | 0.18             |
| 5m                | -0.02            |
| Average Gain (dB) |                  |
| 30cm              | -2.02            |
| 1m                | -2.22            |
| 2m                | -2.52            |
| 3m                | -2.72            |
| 5m                | -2.92            |
| Efficiency (%)    |                  |
| 30cm              | 62.80            |
| 1m                | 59.98            |
| 2m                | 55.98            |
| 3m                | 53.46            |
| 5m                | 51.05            |
| Return Loss(dB)   | <-10             |
| Impedance         | 50Ω              |
| Polarization      | Linear           |
| Radiation Pattern | Omni-Directional |
| Input Power       | 10W              |

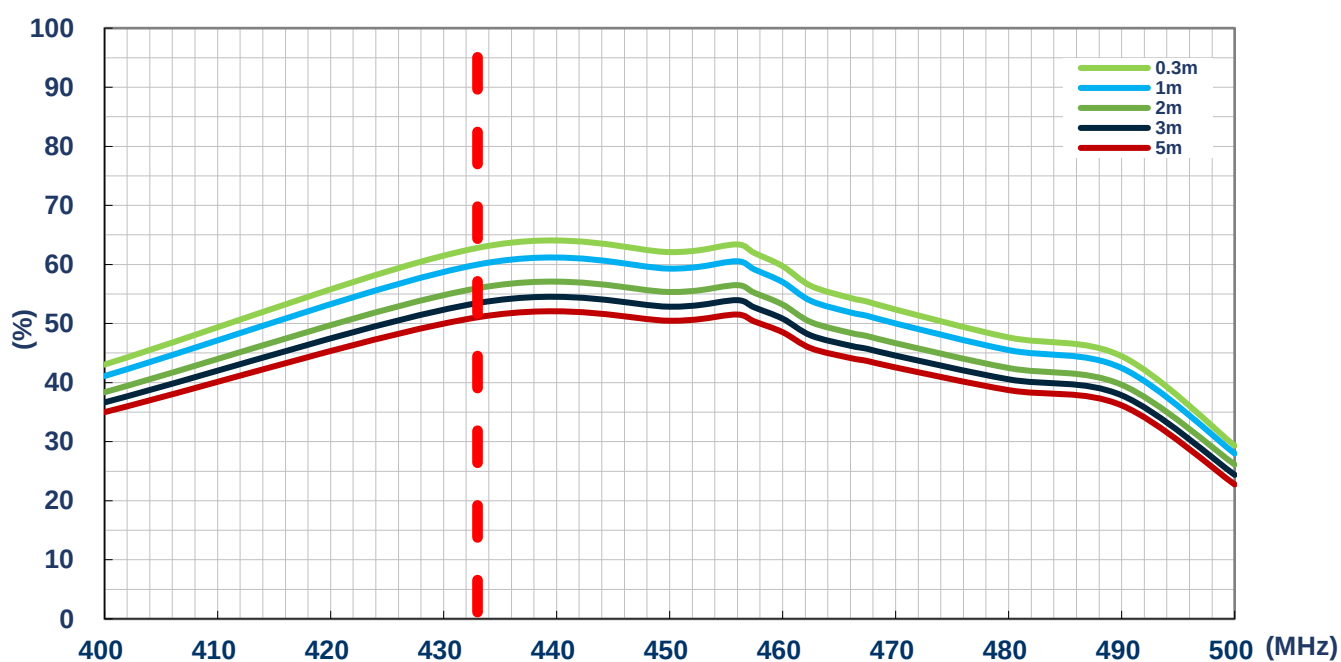
| Mechanical            |                            |
|-----------------------|----------------------------|
| Antenna Height        | 324mm                      |
| Bracket Dimensions    | 118 x 32 mm                |
| Cable                 | 3m CFD-200                 |
| Connector             | SMA(M) ST                  |
| Antenna Casing        | ABS                        |
| Bracket Casing        | PC                         |
| Weight                | 330g                       |
| Environmental         |                            |
| Waterproof Rating     | IP67                       |
| Operation Temperature | -40°C to 85°C              |
| Humidity              | Non-condensing 65°C 95% RH |

## 3. Antenna Characteristics

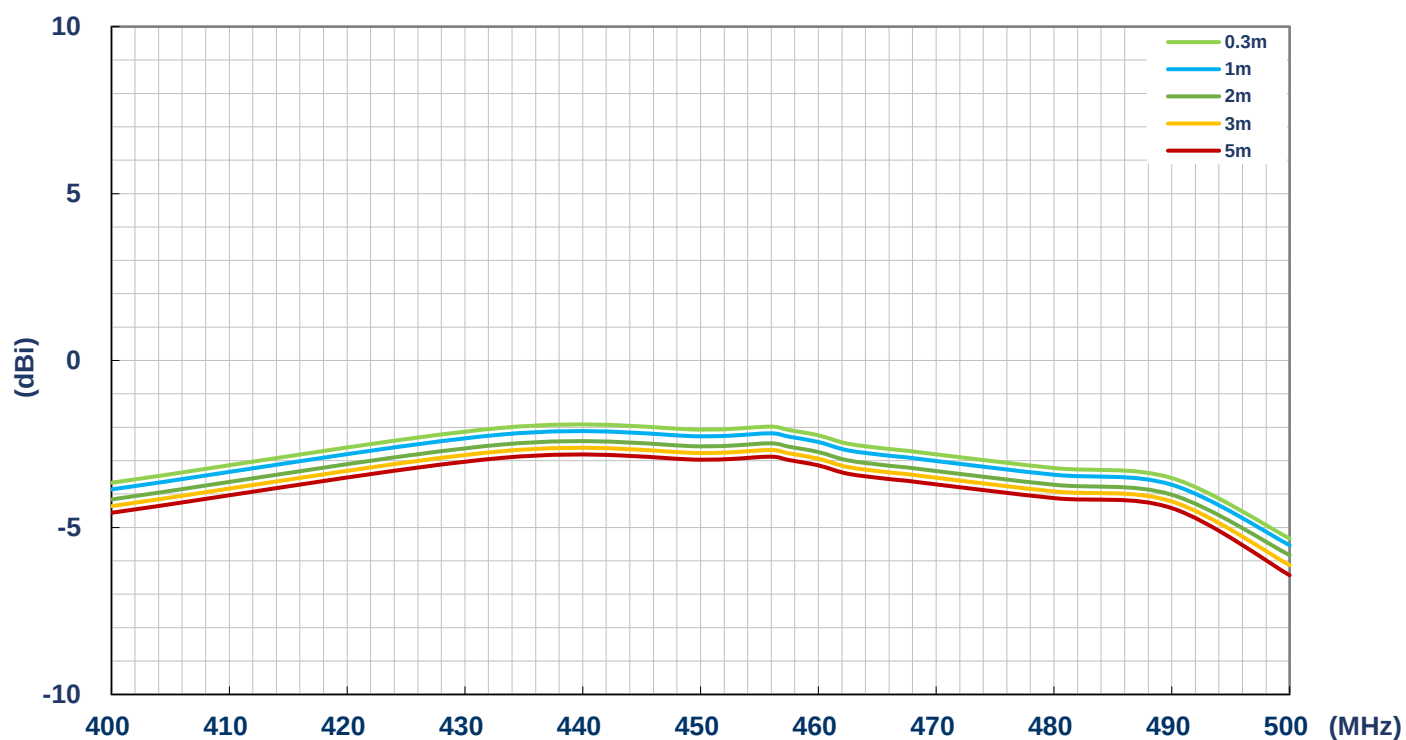
### 3.1 Return Loss



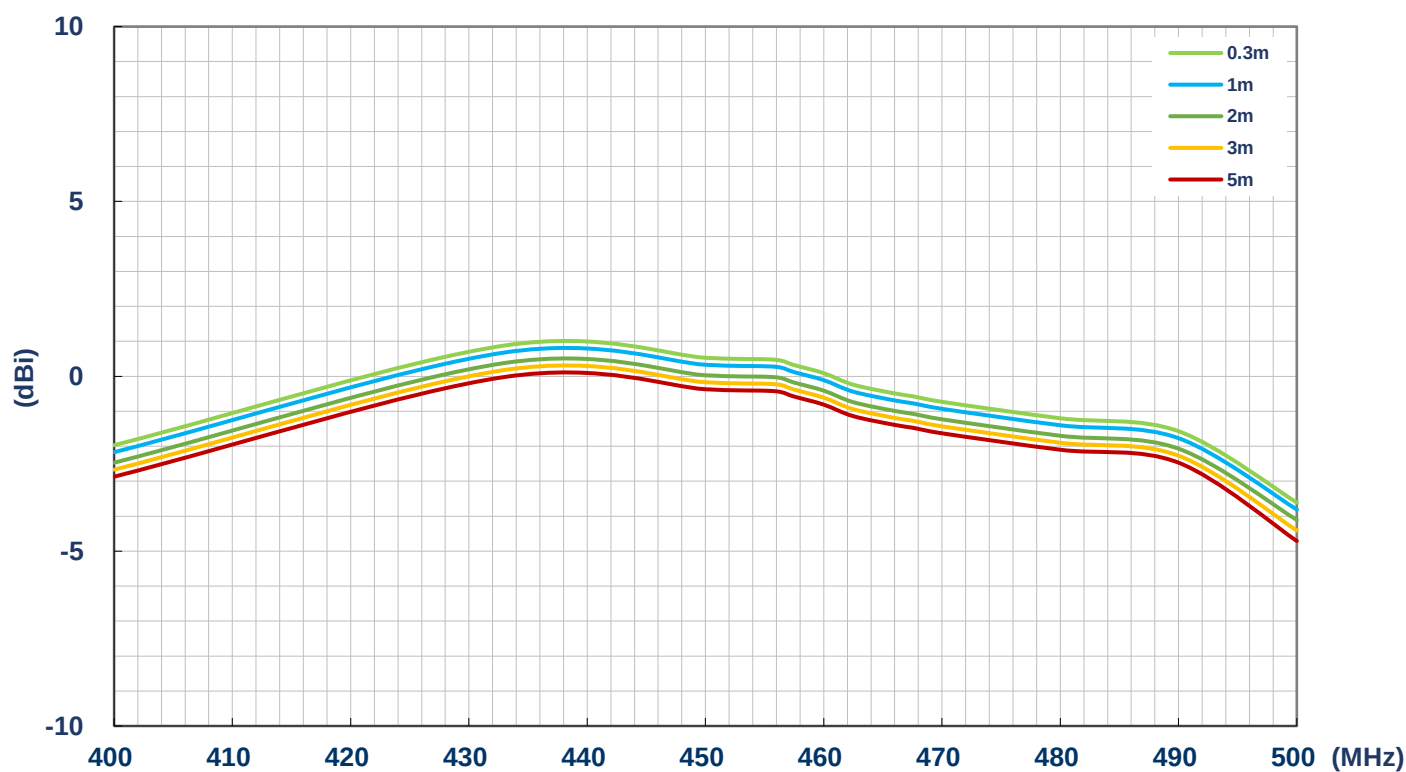
### 3.2 Efficiency



### 3.3 Average Gain

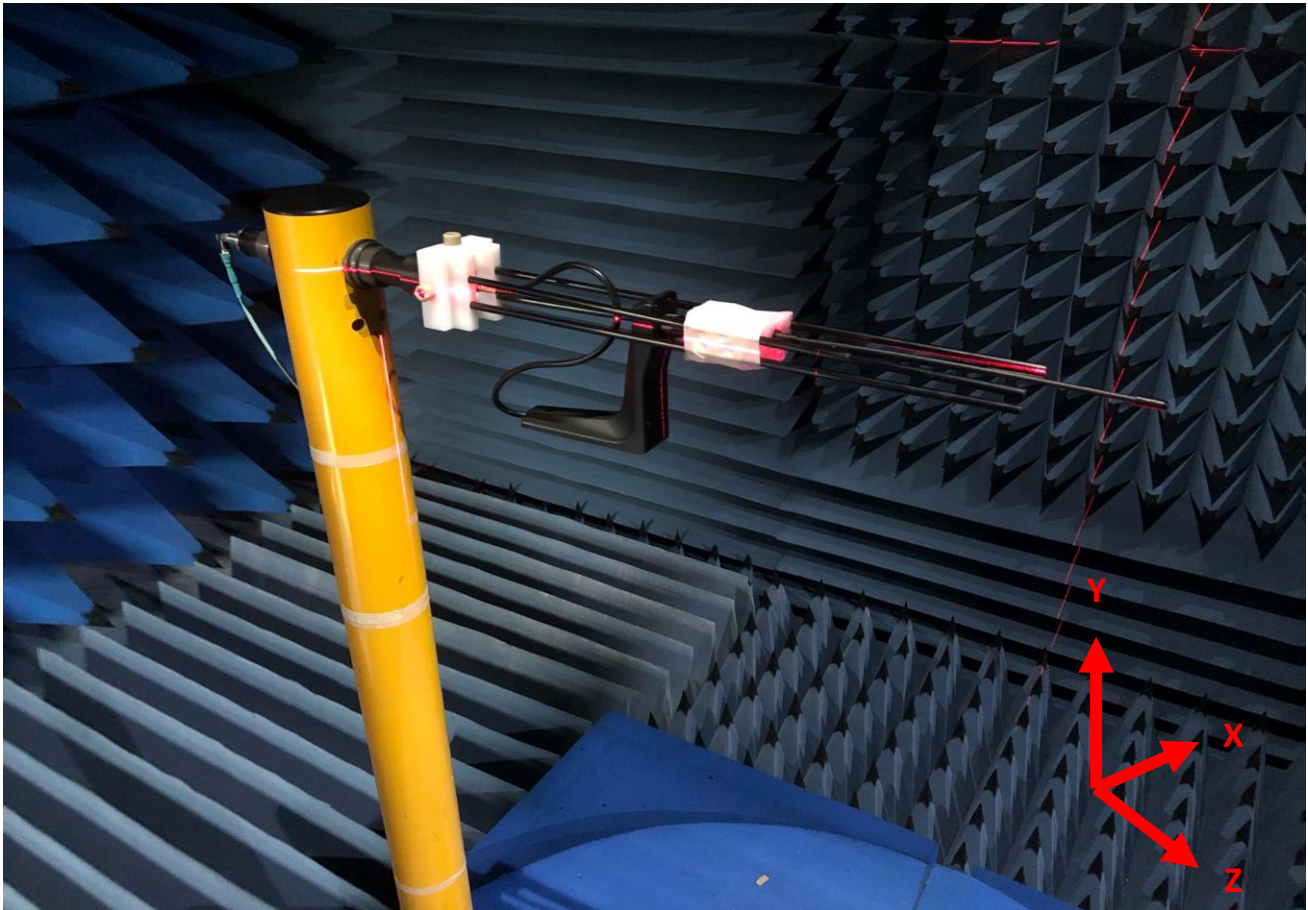


### 3.4 Peak Gain



## 4. 2D Radiation Patterns

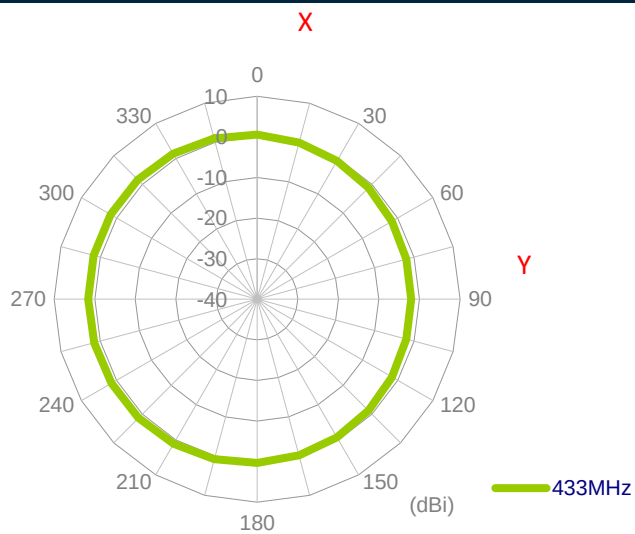
### 4.1 Test Setup



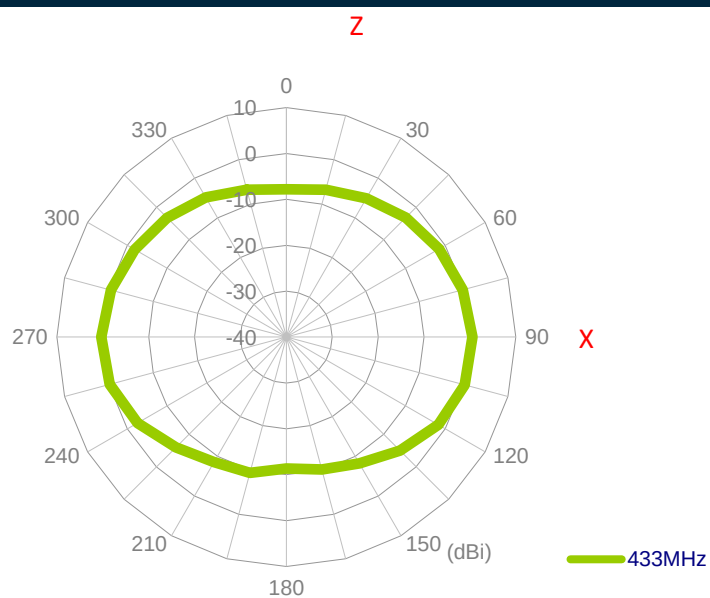
Free space



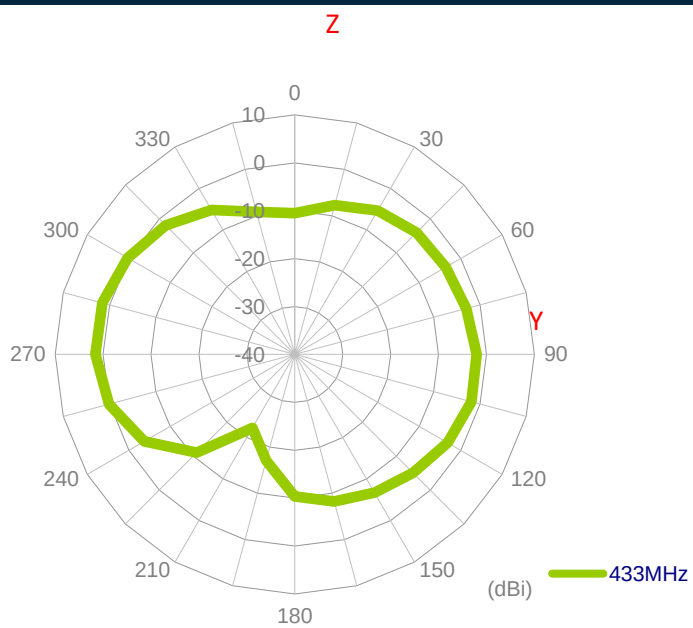
## XY Plane



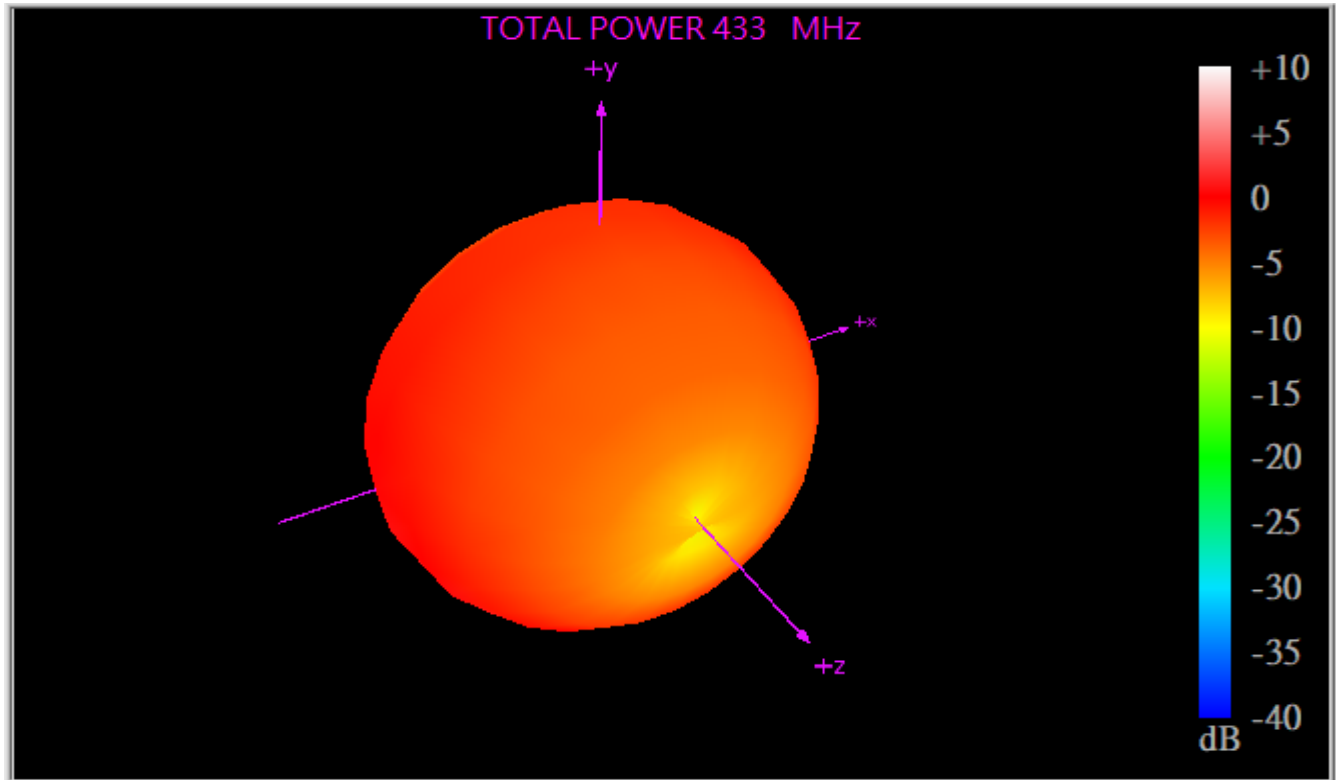
## XZ Plane



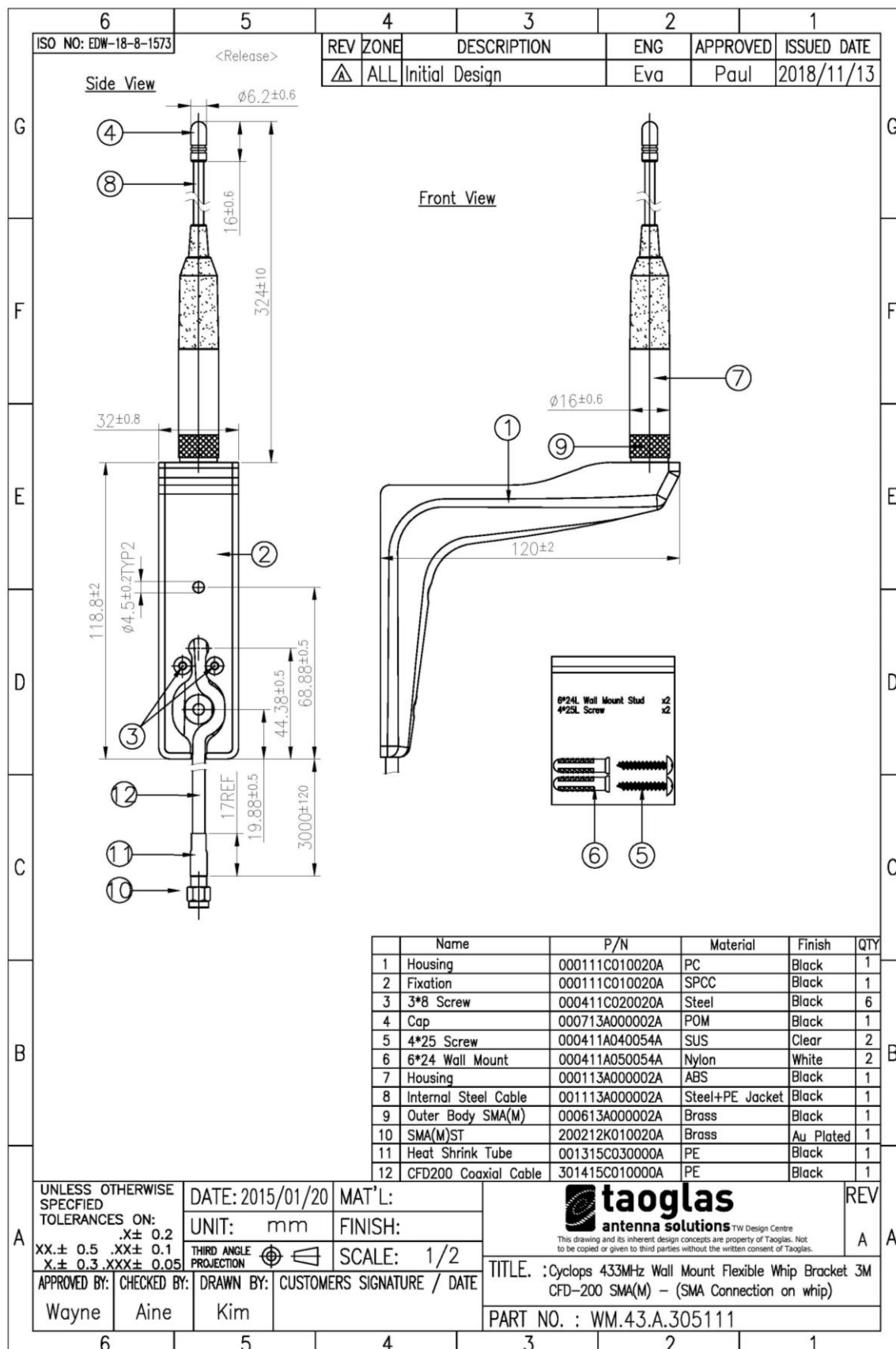
## YZ Plane



## 5. 3D Radiation Patterns

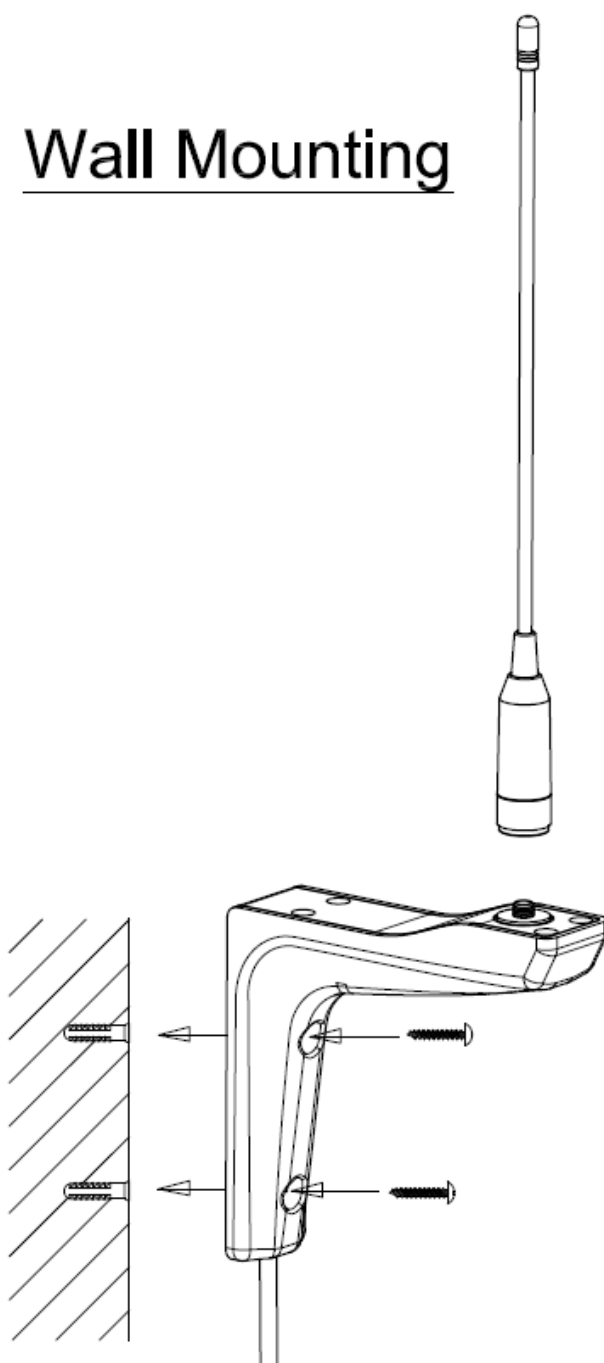


## 6. Mechanical Drawing (Units: mm)



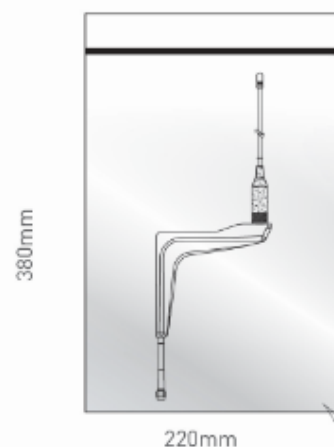
## 7. Installation

### Wall Mounting

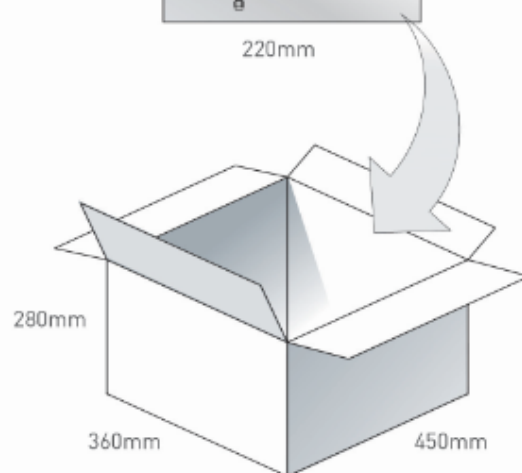


## 8. Packaging

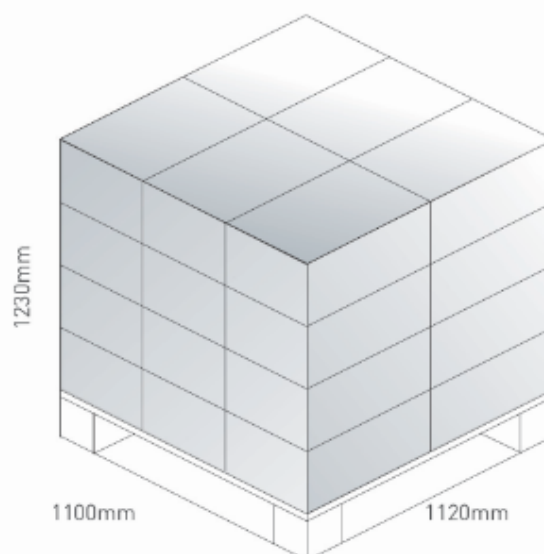
1 WM.43.A.305111 per PE bag  
Bag Dimensions - 380\*220mm  
Total Weight - 360g



25 PE bags per carton  
Carton Dimensions - 450\*360\*280mm  
Weight - 10.2Kg



Pallet Dimensions 1100\*1120\*1230mm  
24 Cartons per pallet  
6 Cartons per layer  
4 Layers



## Changelog for the datasheet

### SPE-15-8-029 – WM.43.A.305111

#### Revision: B (Current Version)

|                  |                                          |
|------------------|------------------------------------------|
| Date:            | 2019-06-13                               |
| Changes:         | Updated to the new template and new data |
| Changes Made by: | Jack Conroy                              |

#### Previous Revisions

#### Revision: A (Original First Release)

|         |             |
|---------|-------------|
| Date:   | 2015-06-05  |
| Notes:  |             |
| Author: | Jack Conroy |



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