

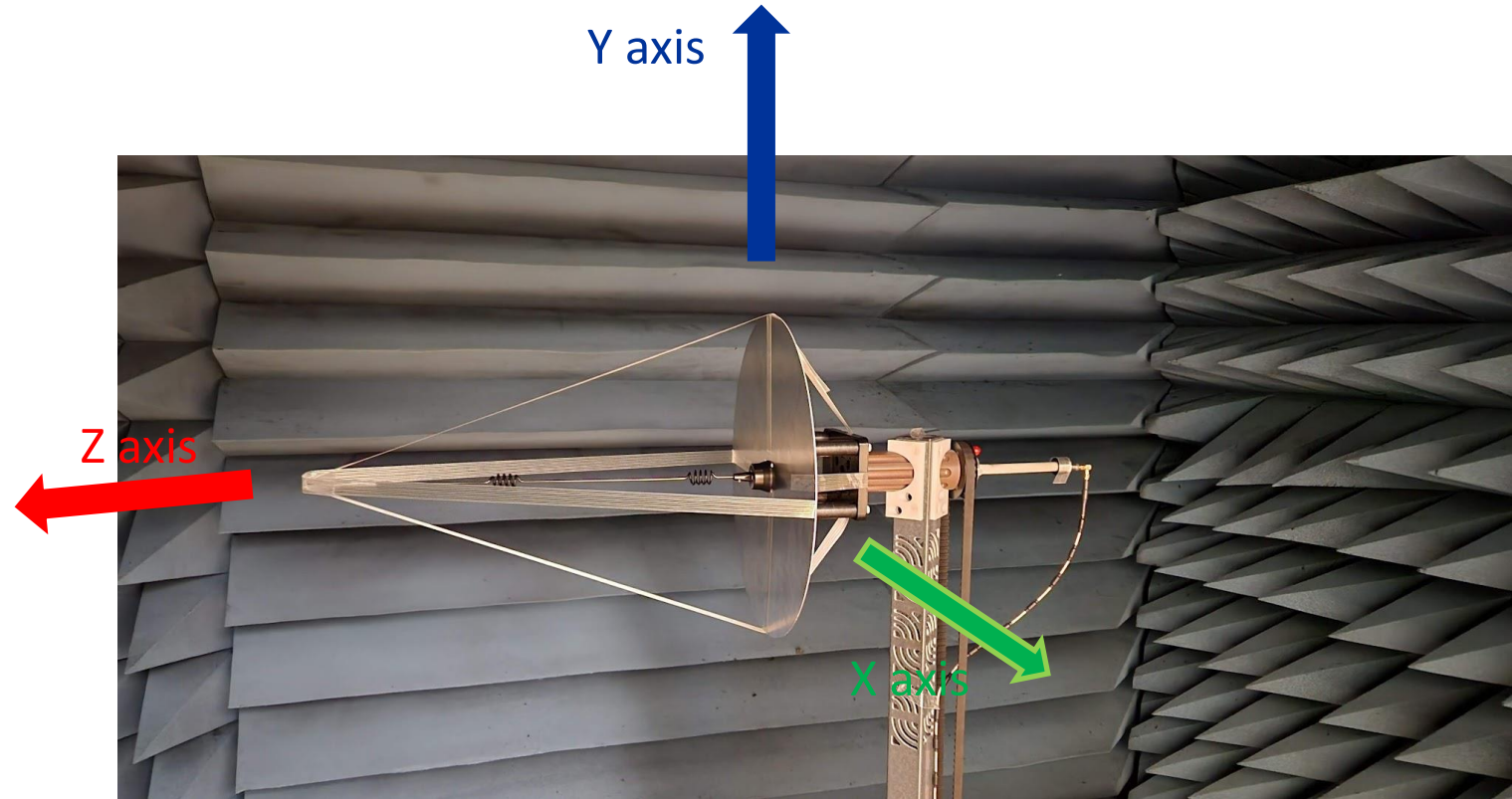
# Measurement Results of NMO5T900B

Rev 01

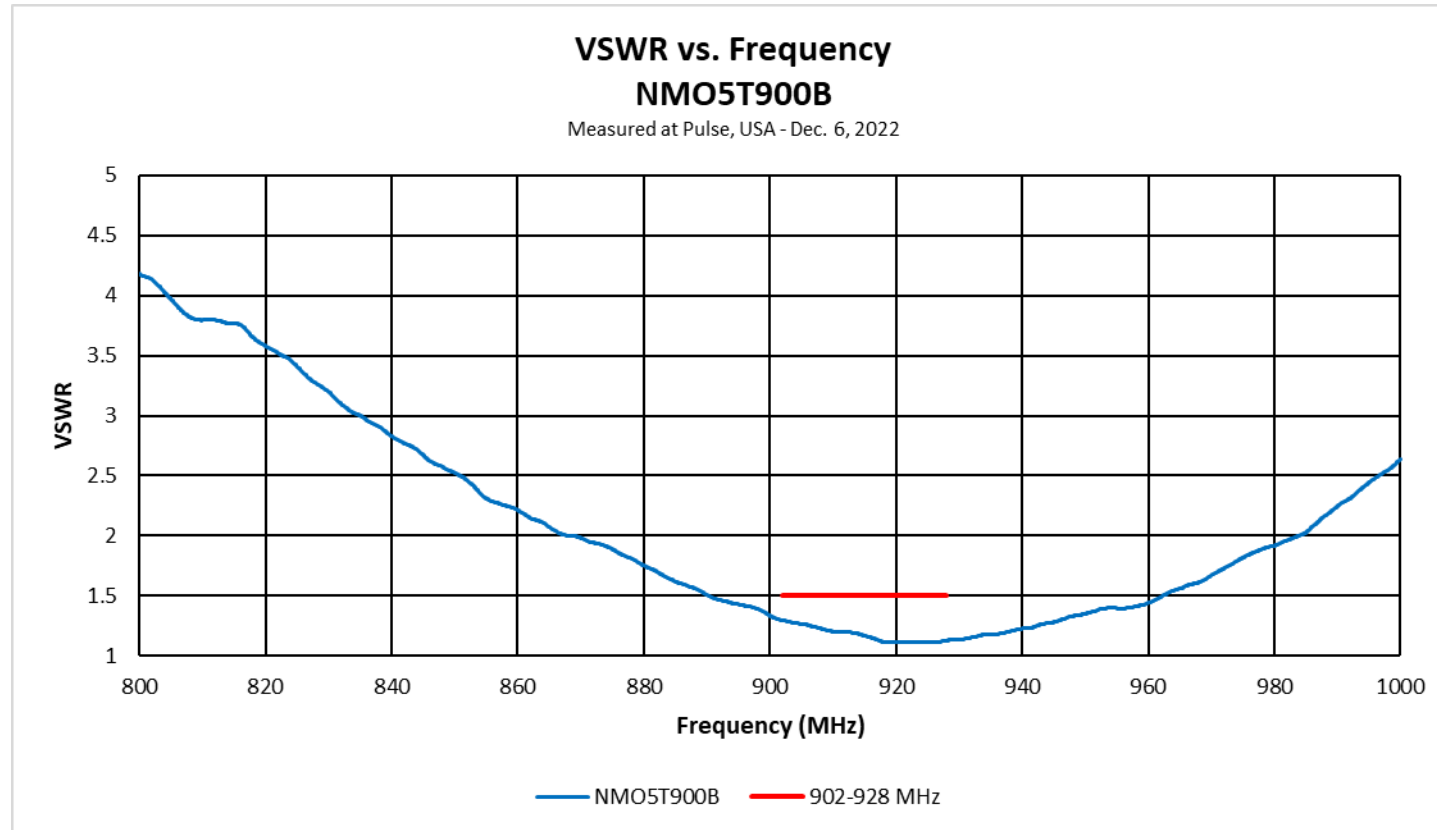
December 7, 2022

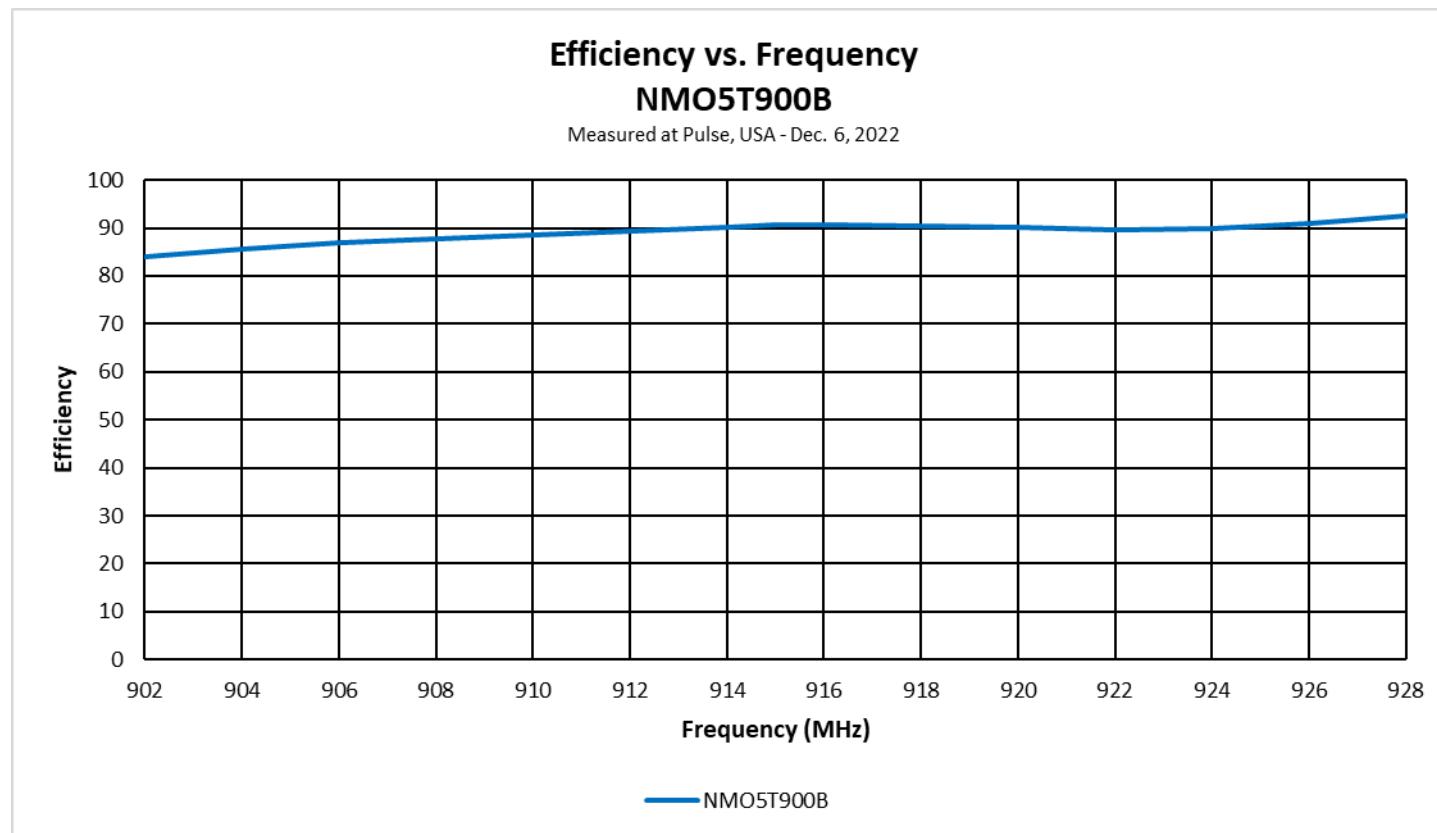


# Test Setup

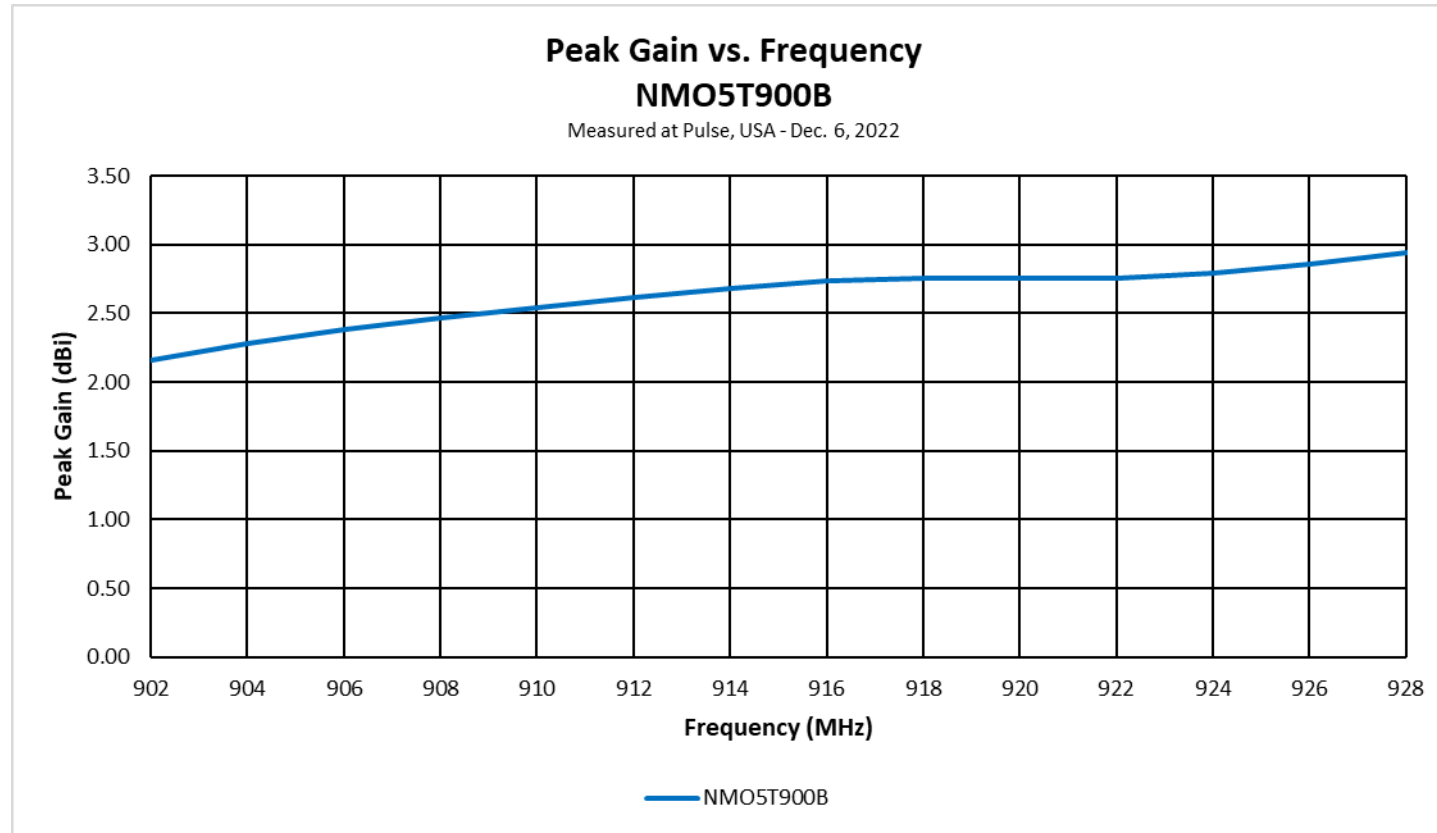


# Return Loss

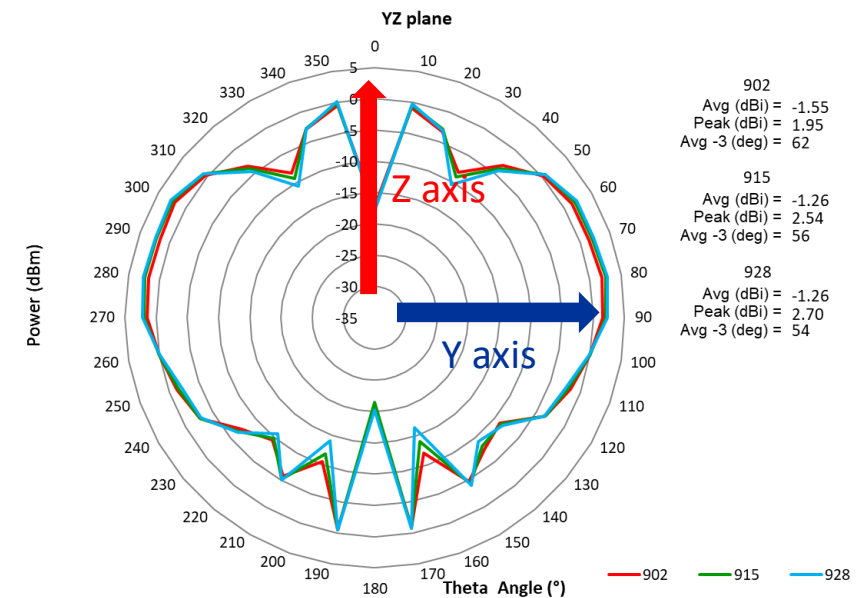
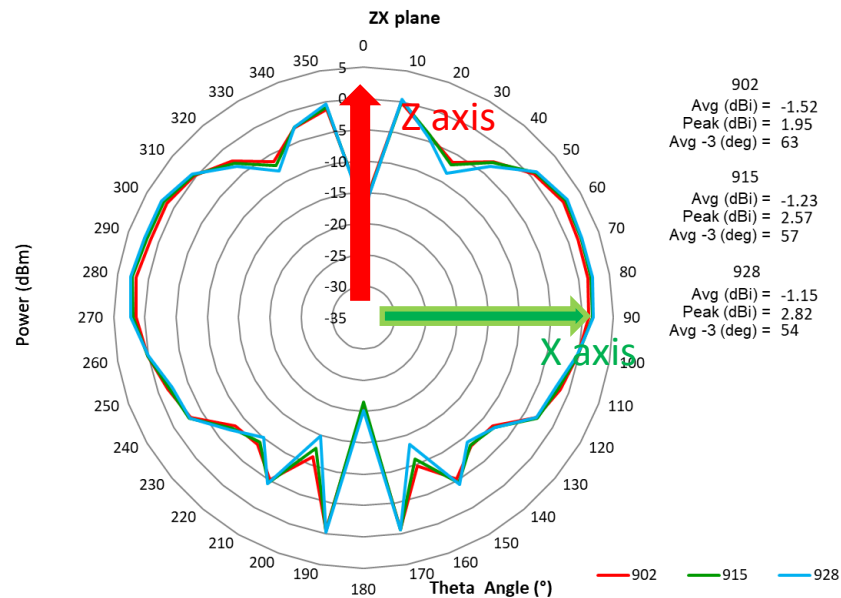
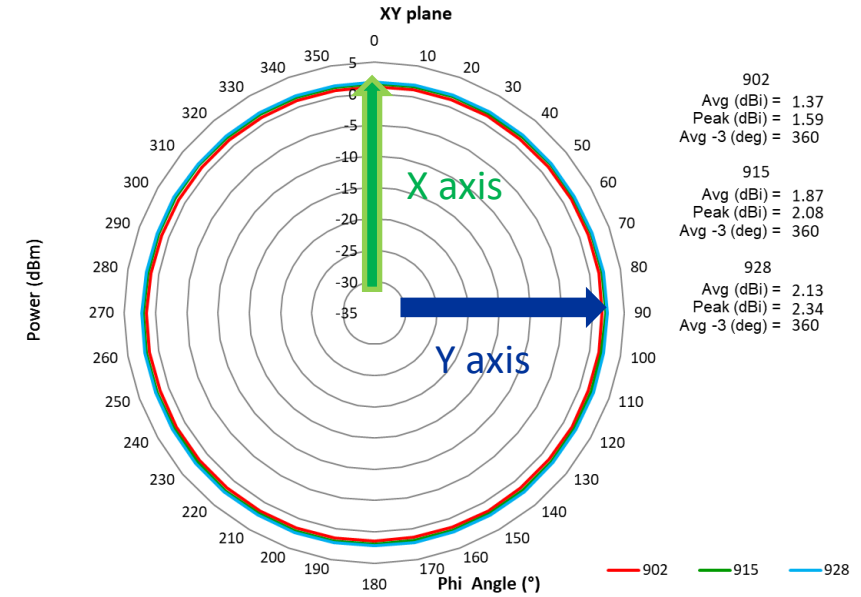
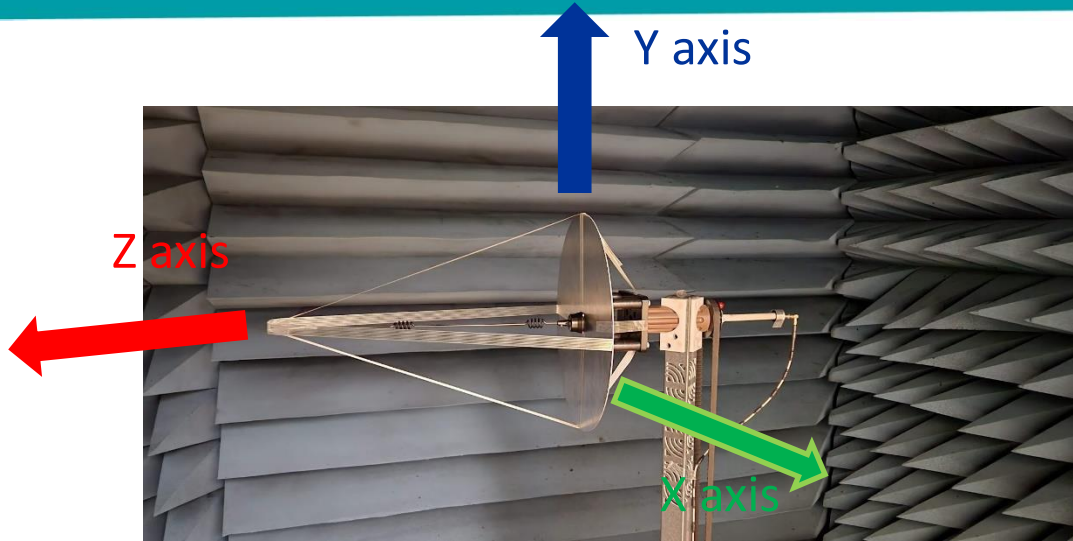




# Peak Gain



# Radiation Patterns



## Thank You





# TAOGLAS®



## Datasheet

### Meteor

**Part No:**  
**FW.95.B.SMA.M**

### Description:

ISM Band 915Mhz Flexible Whip Monopole Antenna SMA(M) Straight

### Features:

External 915MHz Monopole Antenna

Designed for Outdoor Use

Over 60% high efficiency\*

2.71dBi high peak gain\*

Robust Inner Steel Core

Antenna Length: 226mm

SMA Type(M) Straight Connector

IP65 dust and water-resistant

\*Tested on 30cm\*30cm Ground Plane

RoHS Compliant

|                            |    |
|----------------------------|----|
| 1. Introduction            | 3  |
| 2. Specifications          | 4  |
| 3. Antenna Characteristics | 5  |
| 4. Radiation Patterns      | 7  |
| 5. Mechanical Drawing      | 9  |
| 6. Packaging               | 10 |
| <hr/>                      |    |
| Changelog                  | 11 |

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## 1. Introduction



The FW.95 is a flexible 915MHz whip antenna with a SMA type (M) connector for outdoor use. It features excellent efficiency (>60%) and high peak gain (>2.71 dBi) at 915MHz on a 30x30 cm ground plane.

The antenna was developed for monitoring systems, such as weather monitoring, motion / vibration sensors, and pollutants monitoring.

The FW.95 has an excellent omni-directional radiation pattern, ensuring wide coverage. The antenna's high efficiency means that it allows your radio to consume less power than with a lower efficiency antenna when transferring data. It also means a better signal strength and better sensitivity in areas of low signal levels. The antenna performs at its best while attached to a ground plane with dimensions of at least 30x30 cm. For an environment where there is no ground-plane available we recommend to use the terminal mount antenna the TI.19 or the outdoor fiberglass omni antenna the OMB.915.

The FW.95 whip is made of a flexible inner steel core covered by PE so it is extremely resistant to abrasion and maintains its original shape and RF performance even after shock. This rugged design and IP65 rating on the housing ensure high reliability.

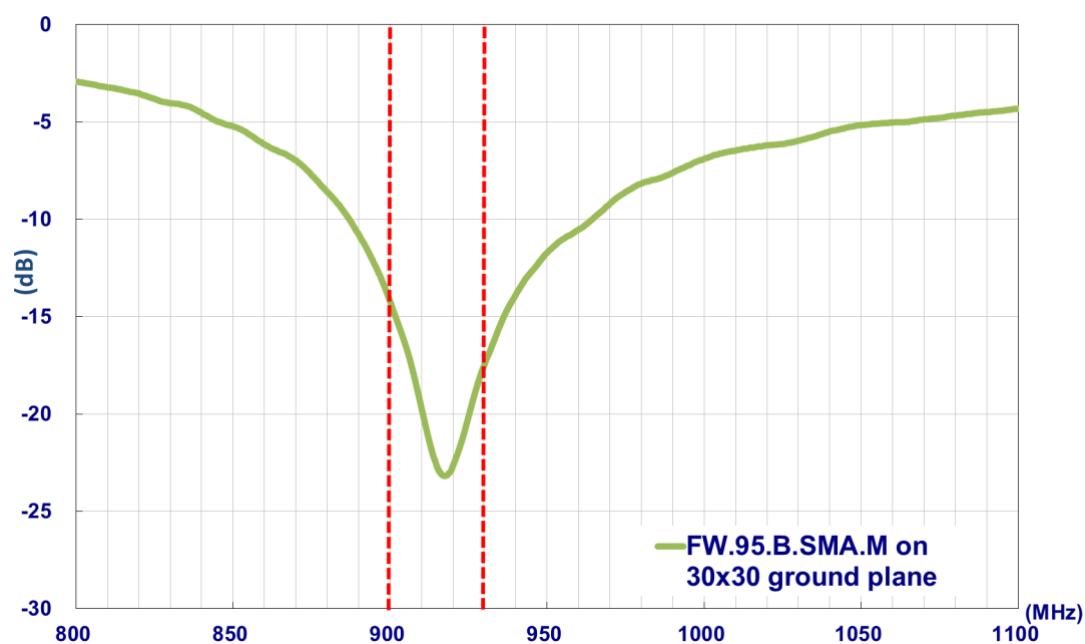
This antenna comes with SMA(M) connector as standard. Other custom variants can be provided subject to NRE and MOQ. Contact your regional Taoglas office for details..

## 2. Specifications

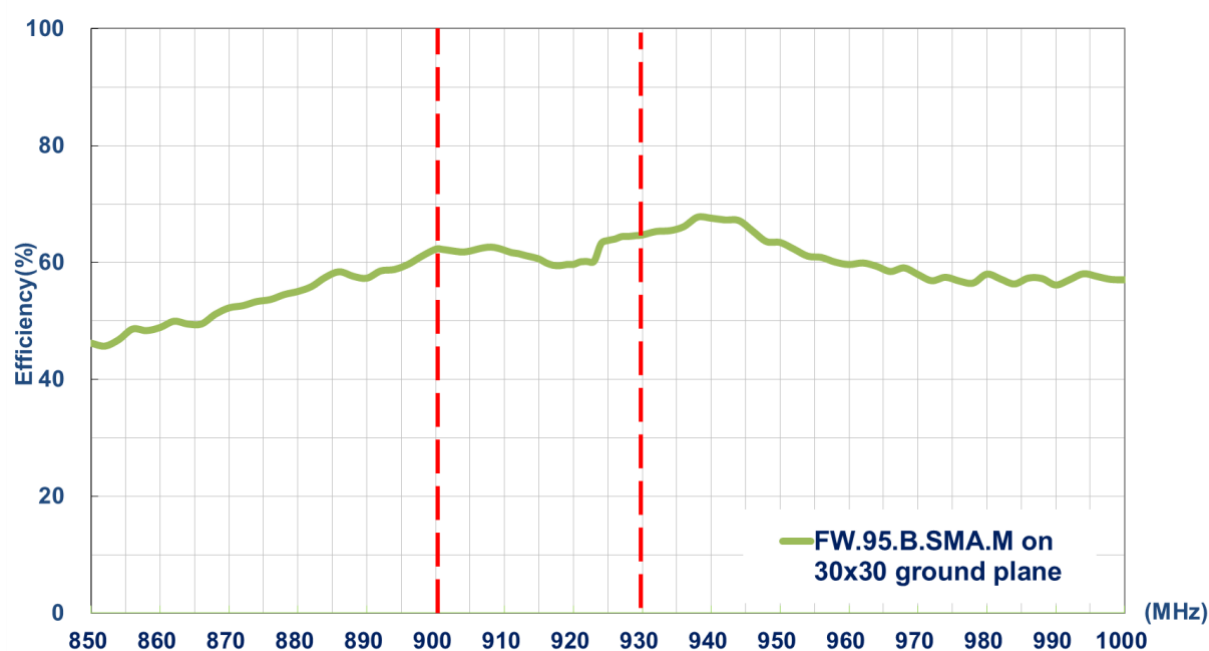
| ISM Band 915MHz           |                            |          |          |
|---------------------------|----------------------------|----------|----------|
| Center Frequency          | 902MHz                     | 915MHz   | 928MHz   |
| Design Environment        | On 30x30cm ground          |          |          |
| Efficiency                | 62.07 %                    | 60.60 %  | 64.46 %  |
| Peak Gain                 | 2.30 dBi                   | 2.71 dBi | 3.75 dBi |
| Return loss               | < -10 dB                   |          |          |
| VSWR                      | ≤ 2:1                      |          |          |
| Impedance                 | 50 Ω                       |          |          |
| Polarization              | Linear                     |          |          |
| Radiation Pattern         | Omni-Directional           |          |          |
| Input Power               | 2 W                        |          |          |
| Tested Power              | 10 W                       |          |          |
| Mechanical                |                            |          |          |
| Dimensions                | Length 226 ± 6 mm          |          |          |
| Base Diameter             | 16 ± 0.6 mm                |          |          |
| Whip Diameter             | 6.2 ± 0.6 mm               |          |          |
| Casing                    | ABS                        |          |          |
| Connector                 | SMA Type(M) Straight       |          |          |
| Weight                    | 38 g                       |          |          |
| Dust and Water Resistance | IP65                       |          |          |
| Environmental             |                            |          |          |
| Temperature Range         | -40°C to 85°C              |          |          |
| Humidity                  | Non-condensing 65°C 95% RH |          |          |

## 3. Antenna Characteristics

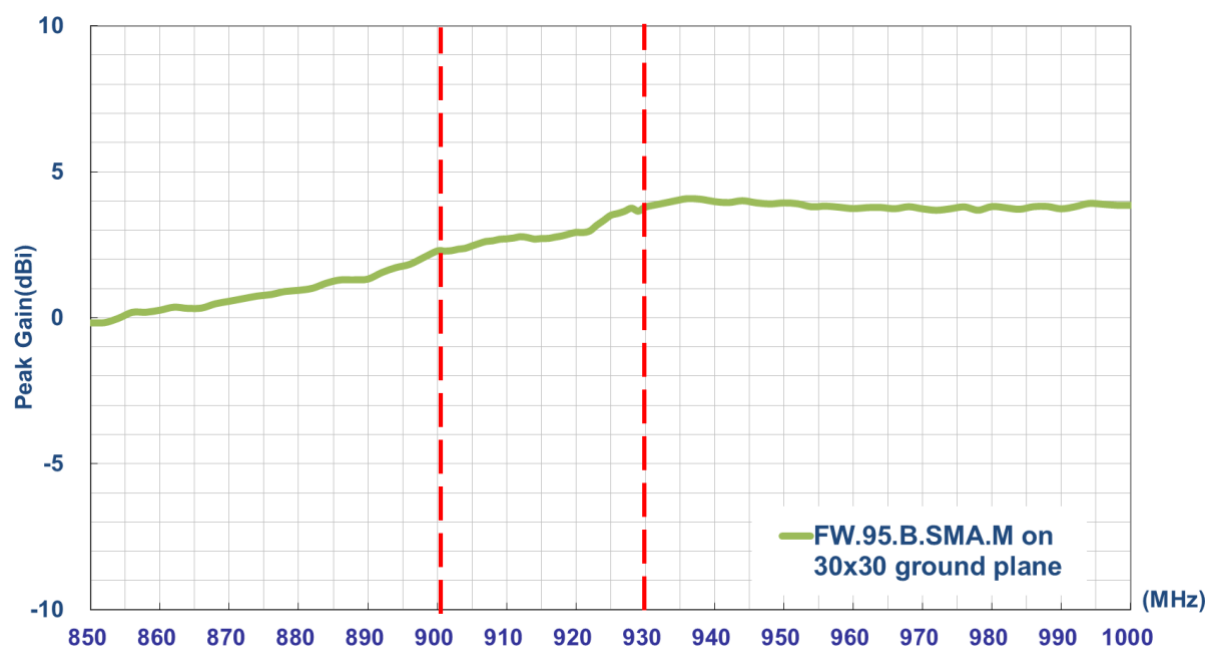
### 3.1 Return Loss



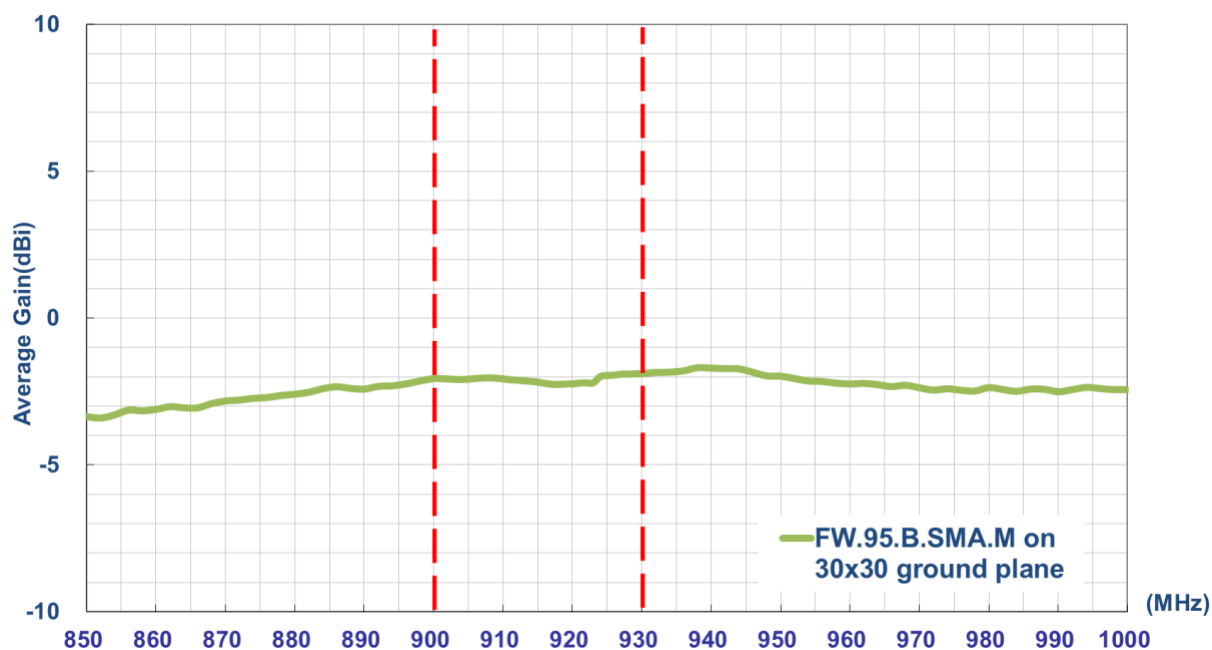
### 3.2 Efficiency



### 3.3 Peak Gain

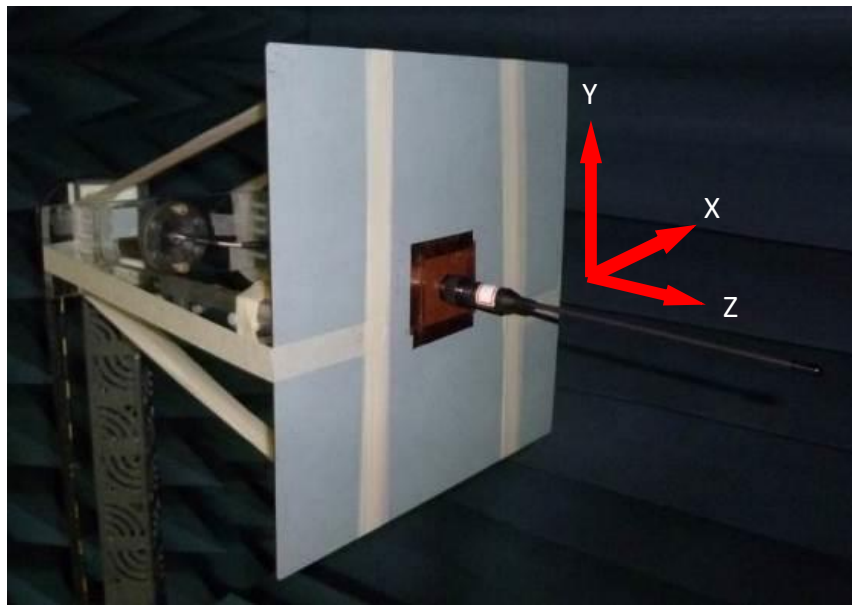


### 3.4 Average Gain



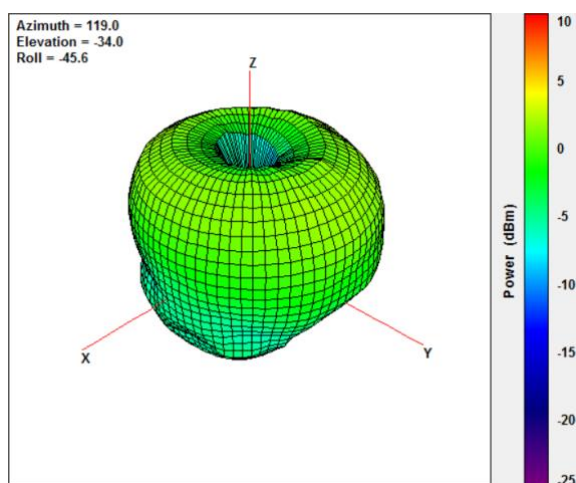
## 4. Radiation Patterns

### 4.1 Test Setup

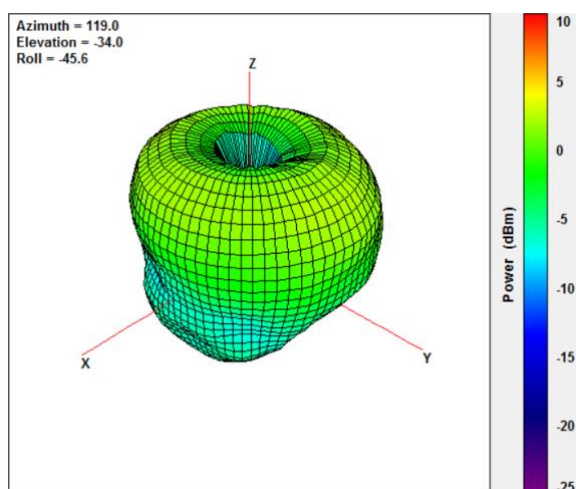
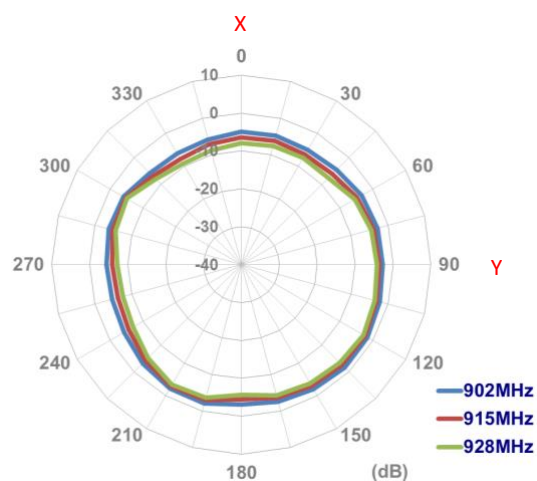


On 30x30 cm ground plane

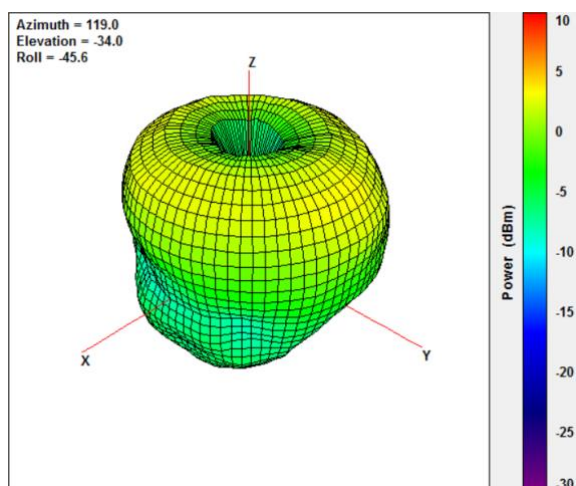
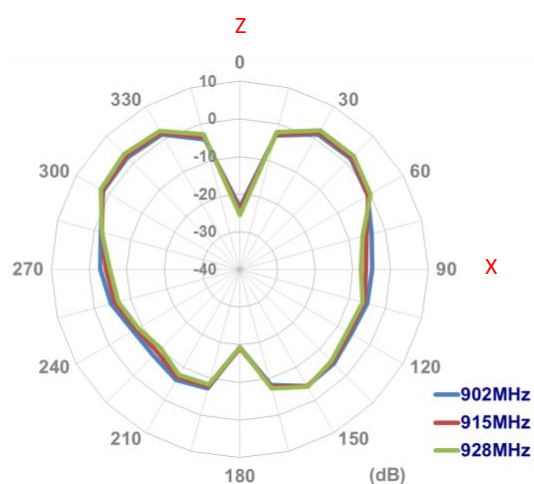
## 4.2 3D and 2D Radiation Patterns (On 30cm\*30cm Ground Plane)



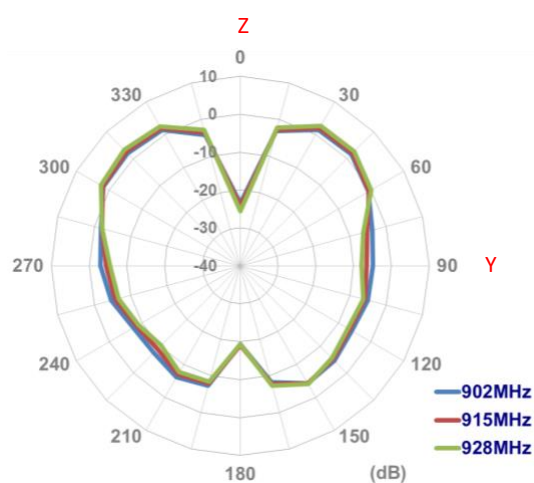
XZ Plane



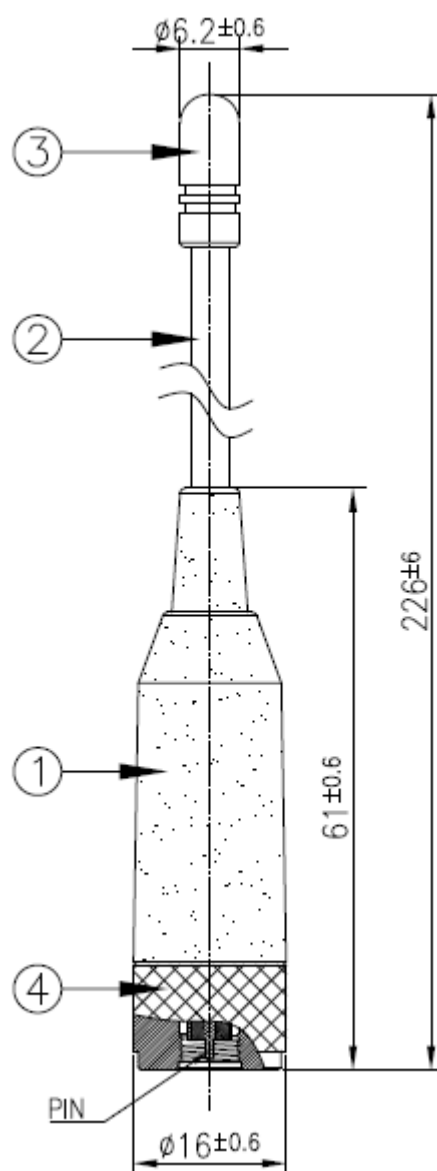
XZ Plane



YZ Plane



## 5. Mechanical Drawing (Units: mm)



|   | Name          | Material        | Finish | QTY |
|---|---------------|-----------------|--------|-----|
| 1 | Housing       | ABS             | Black  | 1   |
| 2 | Flexible Whip | Steel+PE Jacket | Black  | 1   |
| 3 | Cap           | ABS             | Black  | 1   |
| 4 | SMA(M)ST      | Brass           | Black  | 1   |

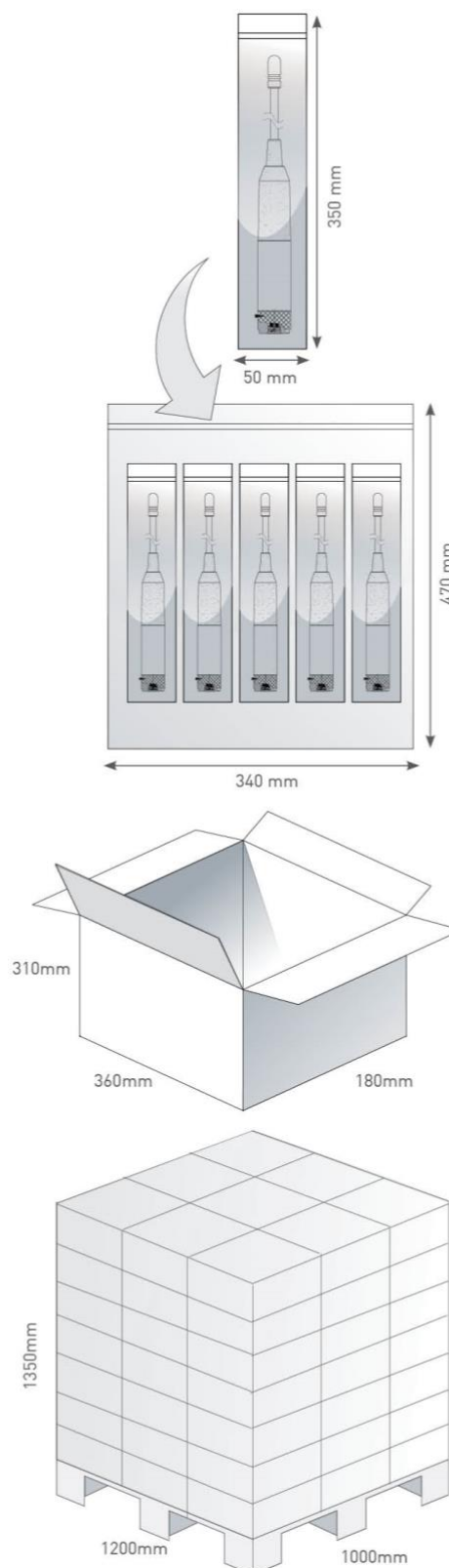
## 6. Packaging

1 pcs FW.95.B.SMA.M per PE Bag  
Bag Dimensions - 380\*50mm  
Weight - 38g

50 PE Bags per Large PE Bag  
50 pcs FW.95.B.SMA.M per Large PE Bag  
Large PE Bag Dimensions - 470\*340mm  
Weight - 2Kg

5 Large PE Bags per Carton  
50 pcs FW.95.B.SMA.M per Carton  
Carton Dimensions - 360\*310\*180mm  
Weight - 10.5Kg

Pallet Dimensions:  
1200\*1000\*1350mm  
63 Cartons Per Pallet  
9 Cartons Per Layer  
7 Layers



## Changelog for the datasheet

**SPE-16-8-007 - FW.95.B.SMA.M**

### Revision: B

|                  |                       |
|------------------|-----------------------|
| Date:            | 2019-08-16            |
| Changes:         | Updated to new format |
| Changes Made by: | Dan Cantwell          |

### Previous Revisions

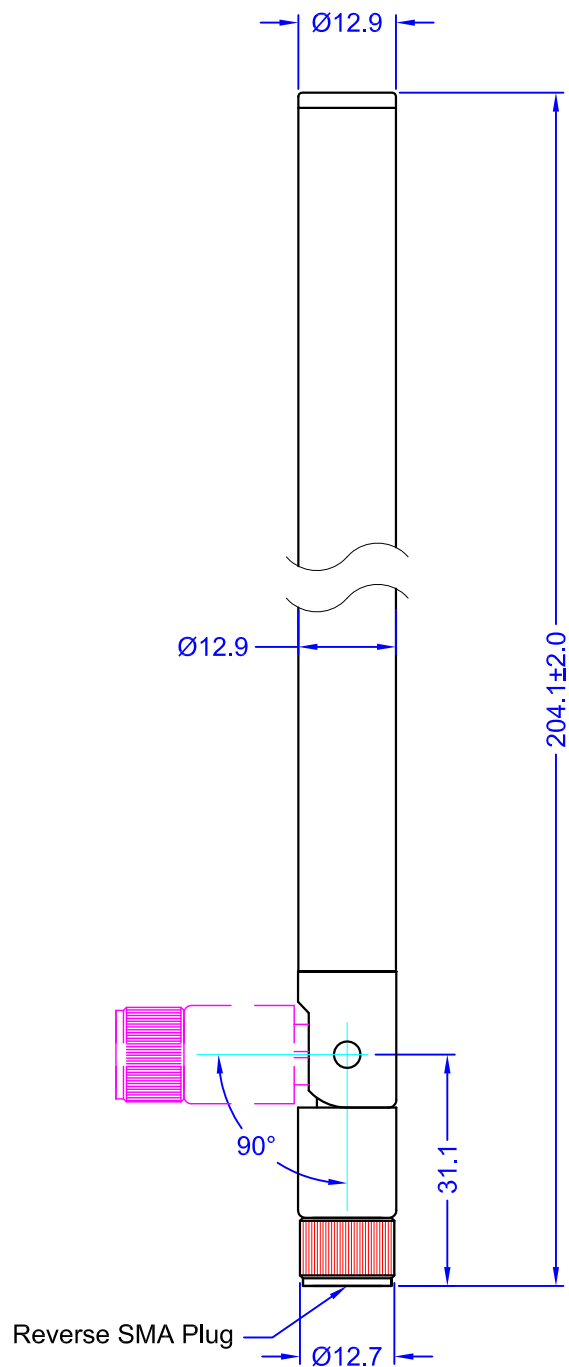
#### Revision: A (Original First Release)

|         |            |
|---------|------------|
| Date:   | 2015-12-01 |
| Notes:  |            |
| Author: | Wayne Yang |



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#### Electrical Properties:

|                  |             |
|------------------|-------------|
| Frequency Range: | 902~928 MHz |
| Impedance:       | 50Ω nominal |
| VSWR:            | <2.0        |
| Gain:            | 2.0 dBi     |
| Radiation:       | Omni        |
| Polarization:    | Vertical    |

#### Mechanical Properties:

|                     |                                                  |
|---------------------|--------------------------------------------------|
| Material:           | PC-1250Y                                         |
| Radome:             | Reverse SMA Plug Brass with black chrome plating |
| Ingress Protection: | IP67                                             |
| Weight:             | 31 g(est)                                        |
| Operation Temp.:    | -40°C to +85°C                                   |

|         |                                                |                |                                                                                       |        |
|---------|------------------------------------------------|----------------|---------------------------------------------------------------------------------------|--------|
| TITLE   | 900 MHz ISM Band Swivel<br>Antenna -1551 Model |                | Rev. Date                                                                             | SHEET  |
|         |                                                |                | 04/08/15                                                                              | 1 of 1 |
| UNIT    | DWG. NO.                                       | S1551AH - 915S |  |        |
| in.(mm) |                                                |                |                                                                                       |        |
| SCALE   |                                                |                |                                                                                       |        |
| none    |                                                |                |                                                                                       |        |

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