



## DRAFT SPECIFICATION

Part No. : **GW.40.2153**

Product Name : 2.4~2.5GHz/5.15~5.85GHz Terminal Dipole  
Antenna

Description : RP-SMA(M) Straight Connector  
Hinge Rotatable  
TPU Housing  
Total Length 109mm  
IP65 at SMA Connector  
ROHS Compliant



## 1. Introduction

The GW.40 dipole RP-SMA(M) plug mount antenna is ideal for 2.4~2.5GHz/5.15~5.85GHz wireless applications such as Bluetooth and Wireless LAN. At 109mm in length omni-directional 3.74dBi gain for 2.4GHz and 2.5dBi gain for 5GHz across all bands ensures constant reception and transmission. The antenna structure is designed for robust handling and the housing is made with TPU giving superior environmental reliability and a quality finish. The antenna can be rotated 90 degrees on the base hinge for ease of placement.

## 2. Specification Table

| Parameter             | GSM Band              |                |
|-----------------------|-----------------------|----------------|
| Frequency             | 2.4 ~ 2.5GHz,         | 5.15 ~ 5.85GHz |
| Peak Gain (dBi)*      | 3.74                  | 2.50           |
| Average Gain (dBi)*   | -1.07                 | -1.83          |
| Efficiency (%)*)      | 78.30                 | 65.96          |
| Return loss           | < -10                 | < -7           |
| Radiation             | Omni-directional      |                |
| Polarization          | Linear Vertical       |                |
| Power Handling        | 2W                    |                |
| Impedance             | 50 Ω                  |                |
|                       | MECHANICAL            |                |
| Antenna Cover         | TPU                   |                |
| Antenna Base          | Nylon                 |                |
| Color                 | Black                 |                |
| Connector             | RP-SMA(M)             |                |
| Weight                | 10g                   |                |
| IP Rating             | IP65 at SMA Connector |                |
|                       | ENVIRONMENTAL         |                |
| Operation Temperature | -40°C ~ + 85°C        |                |
| Storage Temperature   | -40°C ~ + 85°C        |                |

\*The antenna was measured in free space.

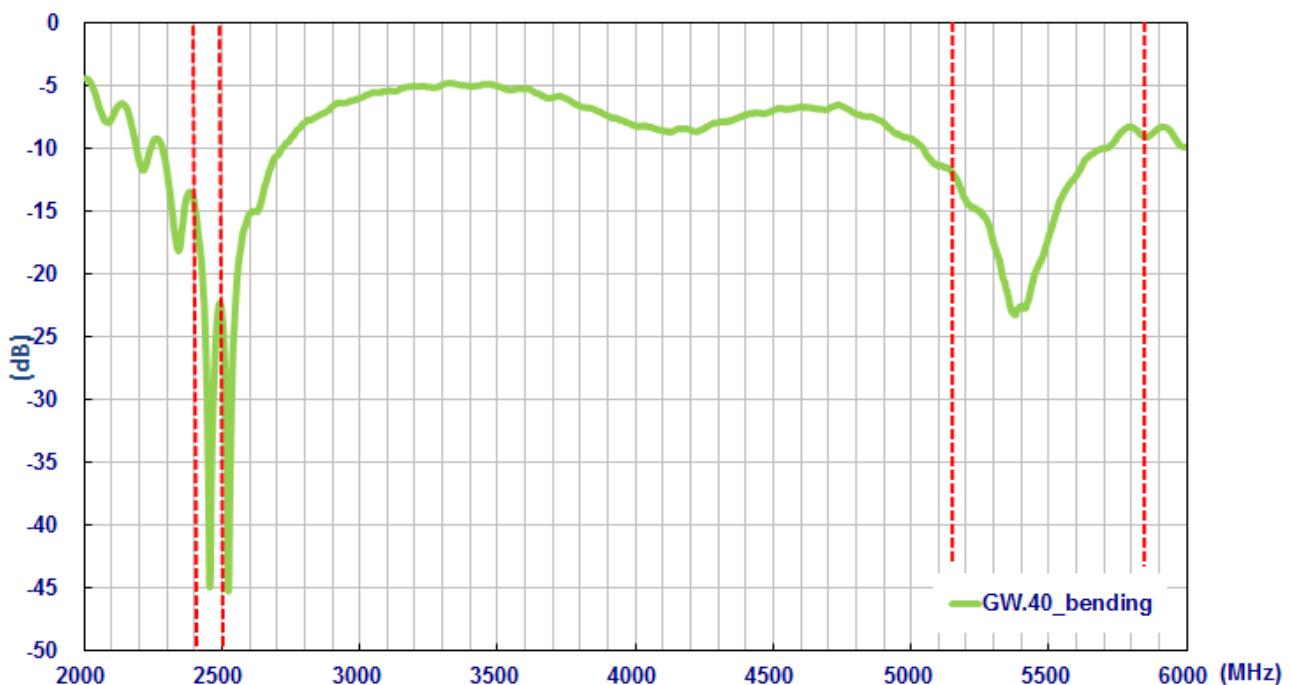
### 3. Antenna Characteristics

#### 3.1. Testing setup

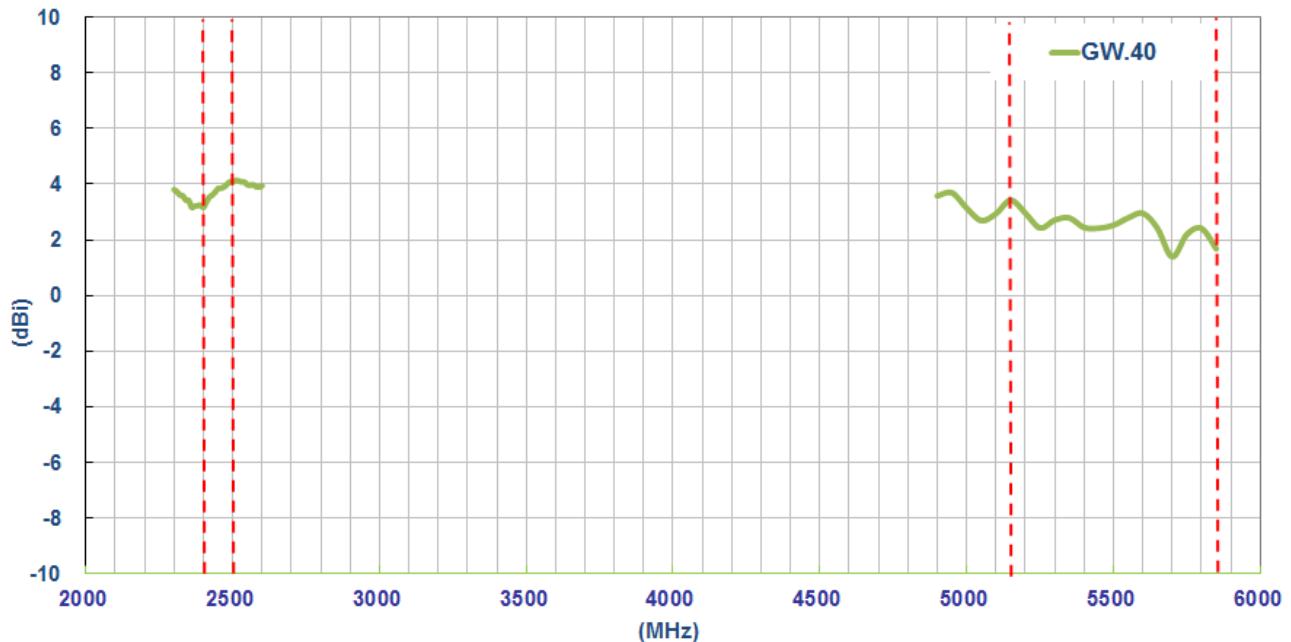


Test setup in free space

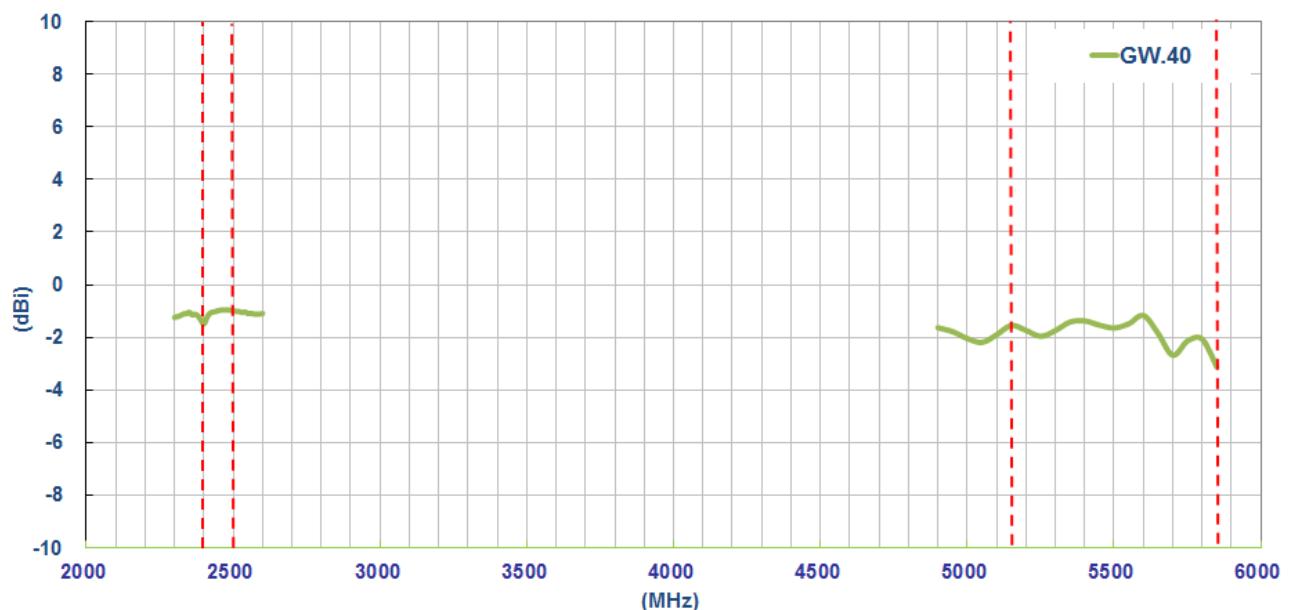
#### 3.2. Return Loss



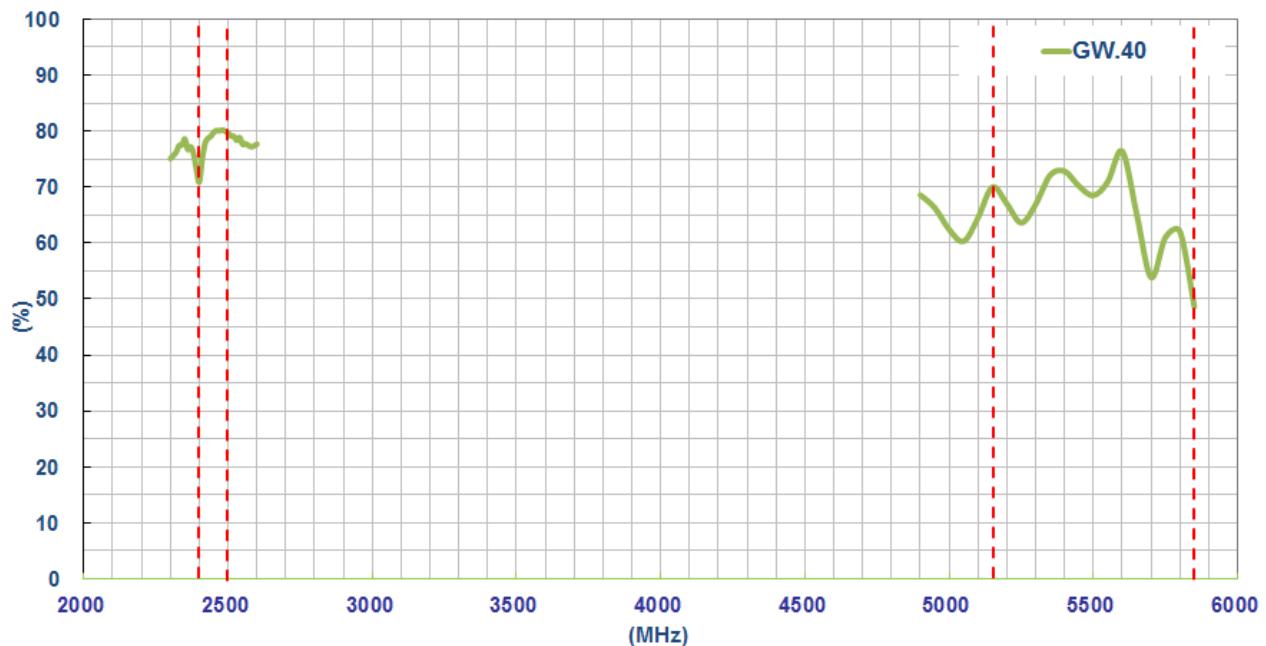
### 3.3. Peak Gain



### 3.3 Average Gain



### 3.4 Efficiency

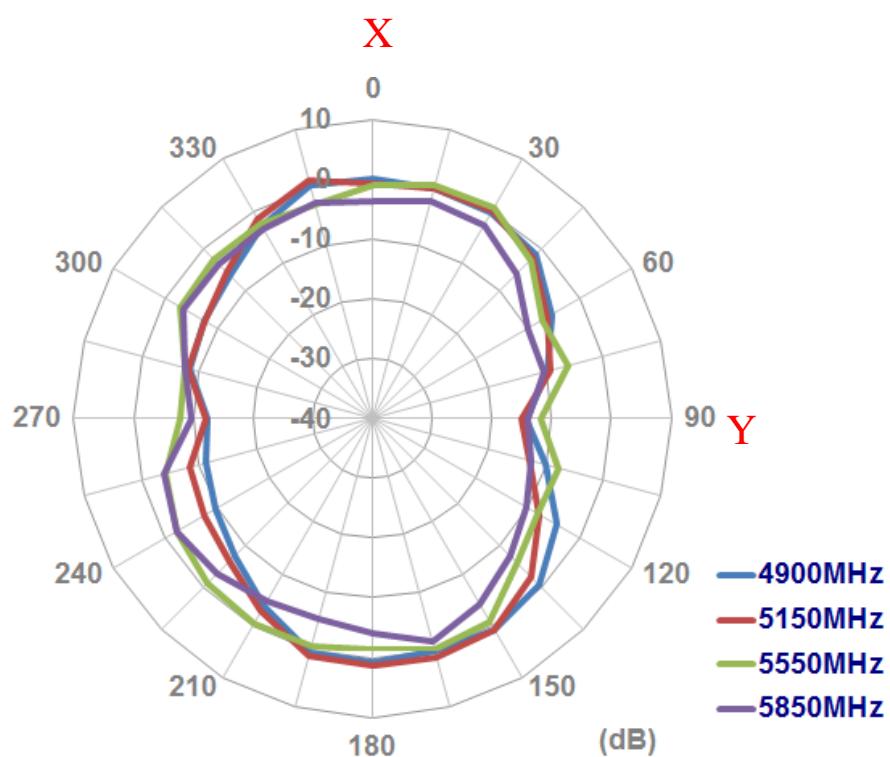
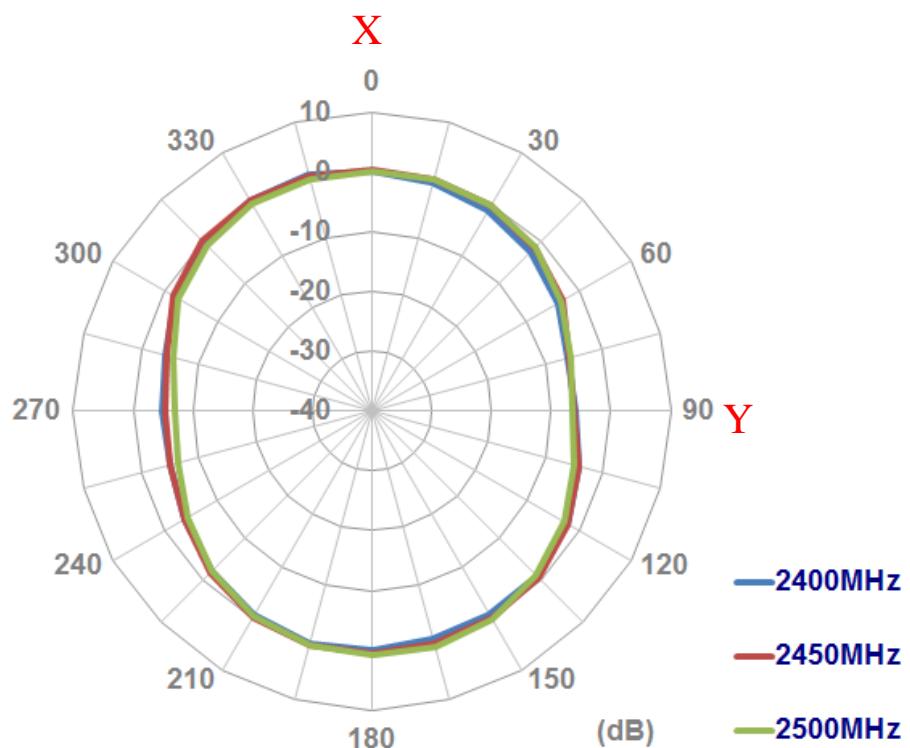


## 4. Radiation Patterns

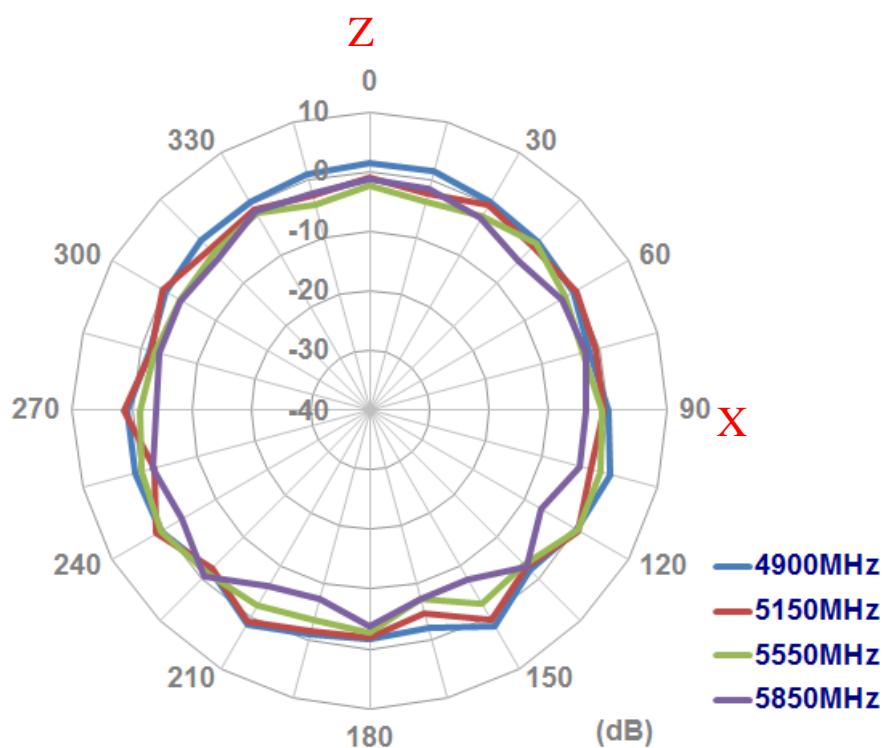
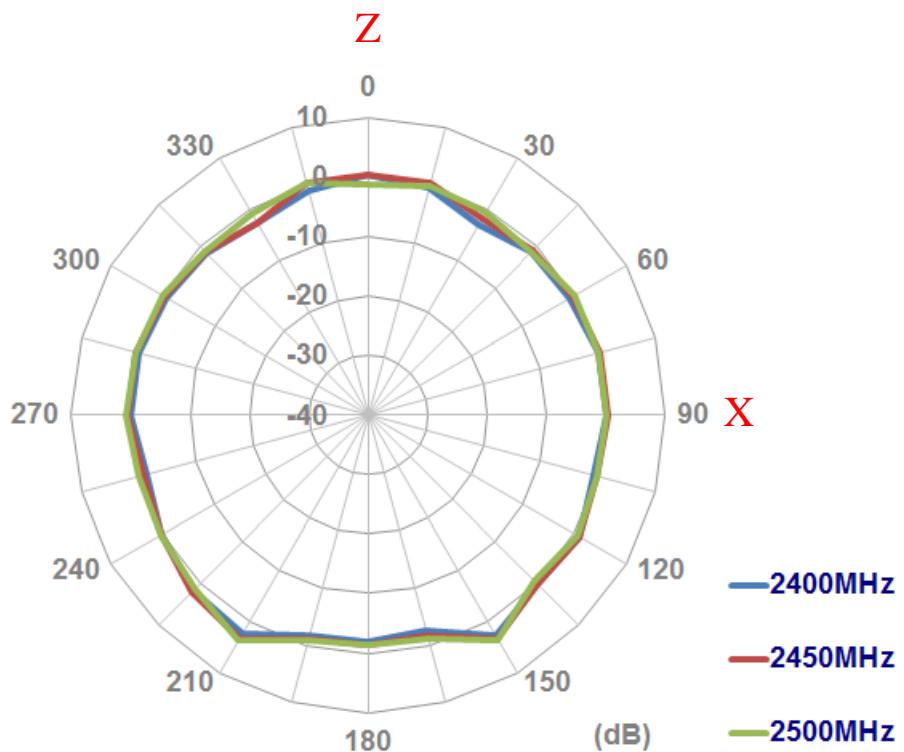
The antenna radiation pattern was measured in ETS Anechoic Chamber. The testing setup is as below. The antenna was measured in free space.



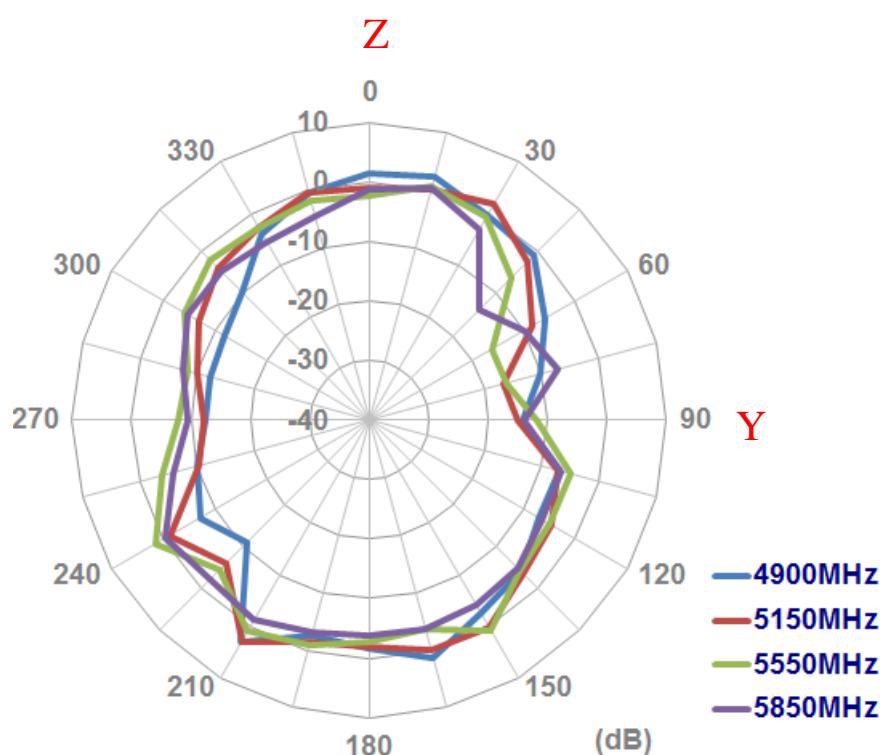
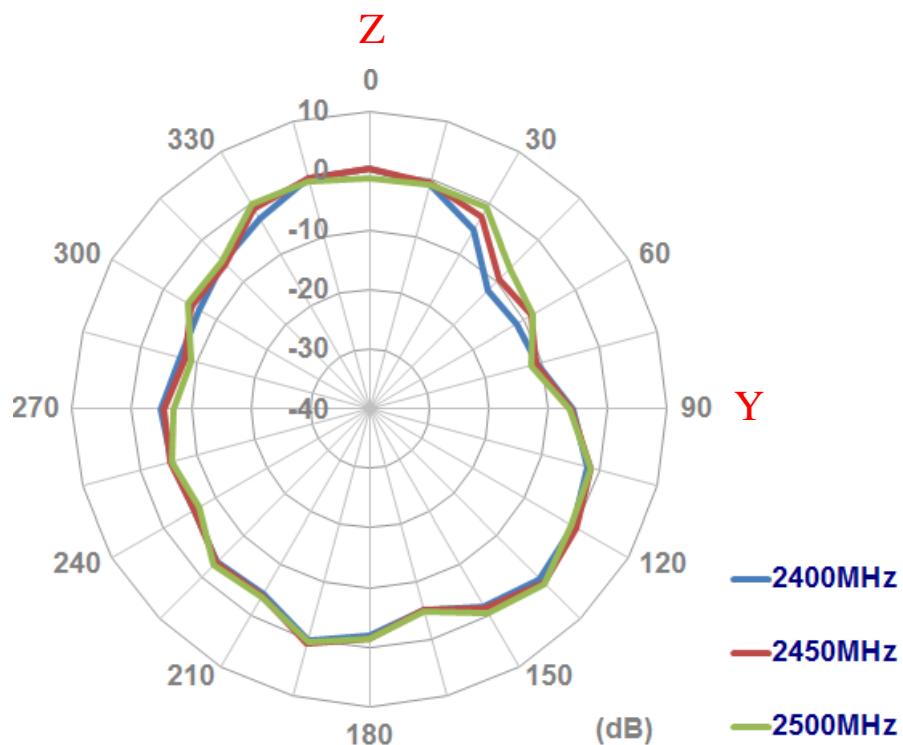
XY Plane



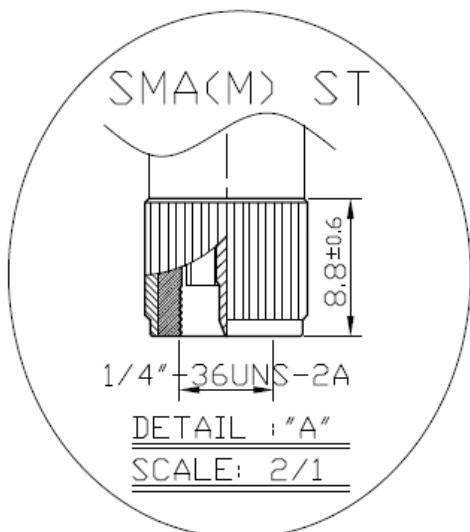
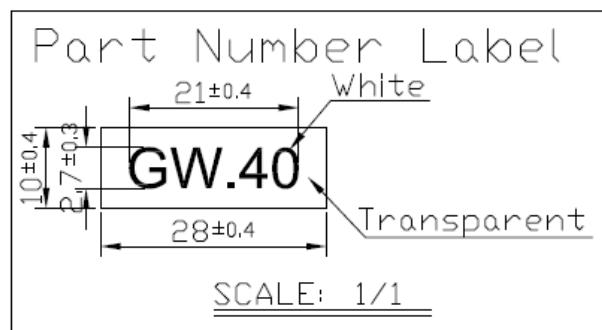
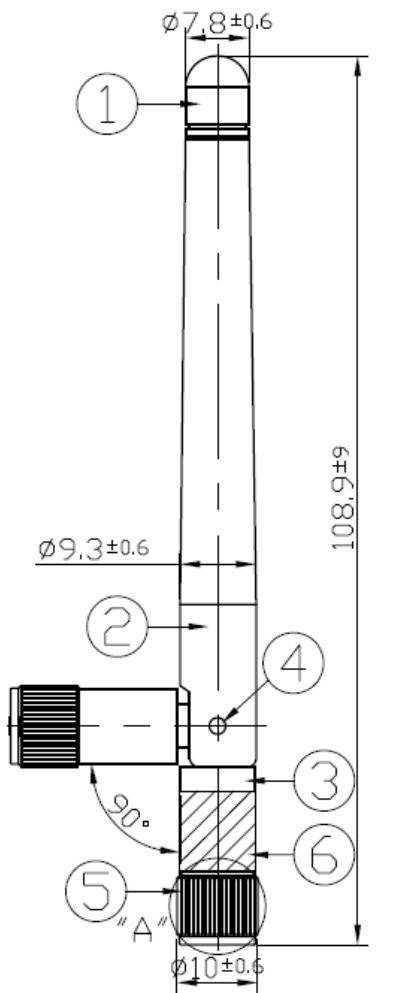
XZ Plane



YZ Plane

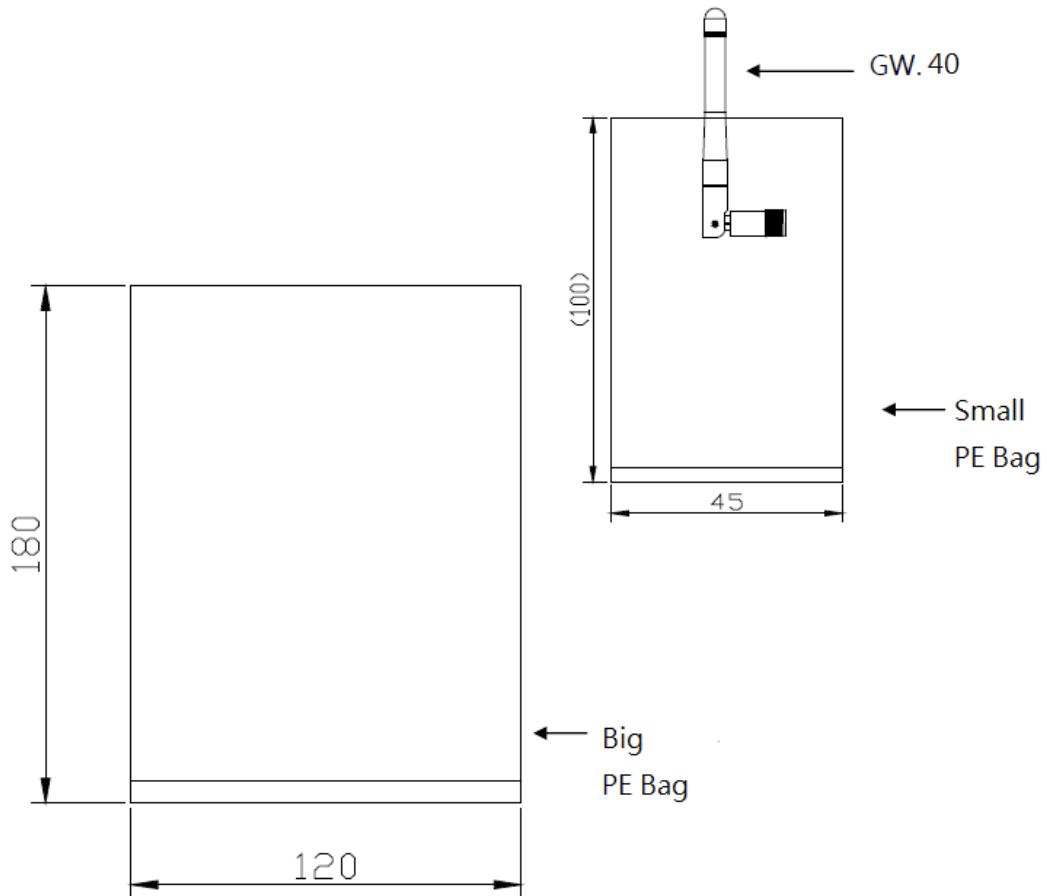


## 5. Drawing



|   | Name              | Material | Finish | QTY |
|---|-------------------|----------|--------|-----|
| ① | Housing           | TPU      | Black  | 1   |
| ② | Base 1            | Nylon    | Black  | 1   |
| ③ | Base 2            | Nylon    | Black  | 1   |
| ④ | Rotary Shaft      | Brass    | Black  | 1   |
| ⑤ | SMA(M) ST         | Brass    | Black  | 1   |
| ⑥ | Part Number Label | PET      | White  | 1   |

## 6. Packaging



1 piece per a Small PE bag, 20 small PE bags put in 1 pece big PE bag.