

## SPECIFICATION

Part No. : GW.59.3153  
Product Name : 2.4GHz/5.1~5.85GHz 3dBi Screw mount Dipole  
Antenna  
Description : RP-SMA Male Straight Connector  
Hinged  
IP-65  
TPU Housing  
Length 156mm  
ROHS Compliant



## 1. Introduction

The GW.59 dipole RP-SMA plug mount antenna is ideal for 2.4GHz/5.15~5.85GHz wireless applications such as Bluetooth and Wireless LAN. At 156mm in length omni-directional 3dBi gain 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.

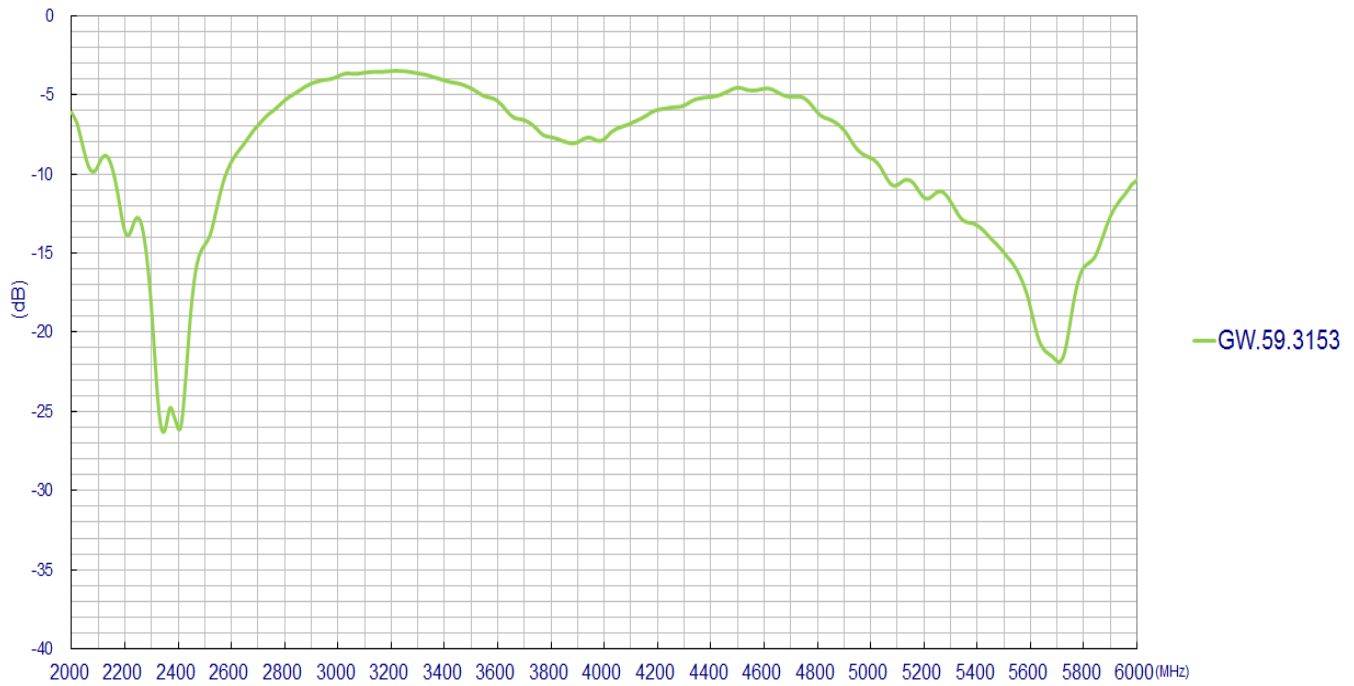
## 2. Specification Table

Parameter	GSM Band	
Frequency	2.4 ~ 2.5GHz,	5.15 ~ 5.85GHz
Peak Gain (dBi)*	2.37	2.93
Average Gain (dBi)*	-1.21	-1.32
Efficiency (%)*	75	73
Return Loss (dB)*	- 10 dB Maximum	
Radiation	Omni-directional	
Polarization	Linear Vertical	
Power Handling	1W	
Impedance	50 Ω	
<b>MECHANICAL</b>		
Cable	RG-178 Coaxial Cable	
Antenna Cover	TPE	
Antenna Base	PC & PBT	
Color	Black	
Connector	RP-SMA(M)	
IP rating	IP65	
<b>ENVIRONMENTAL</b>		
Operation Temperature	-40°C ~ + 85°C	
Storage Temperature	-40°C ~ + 85°C	

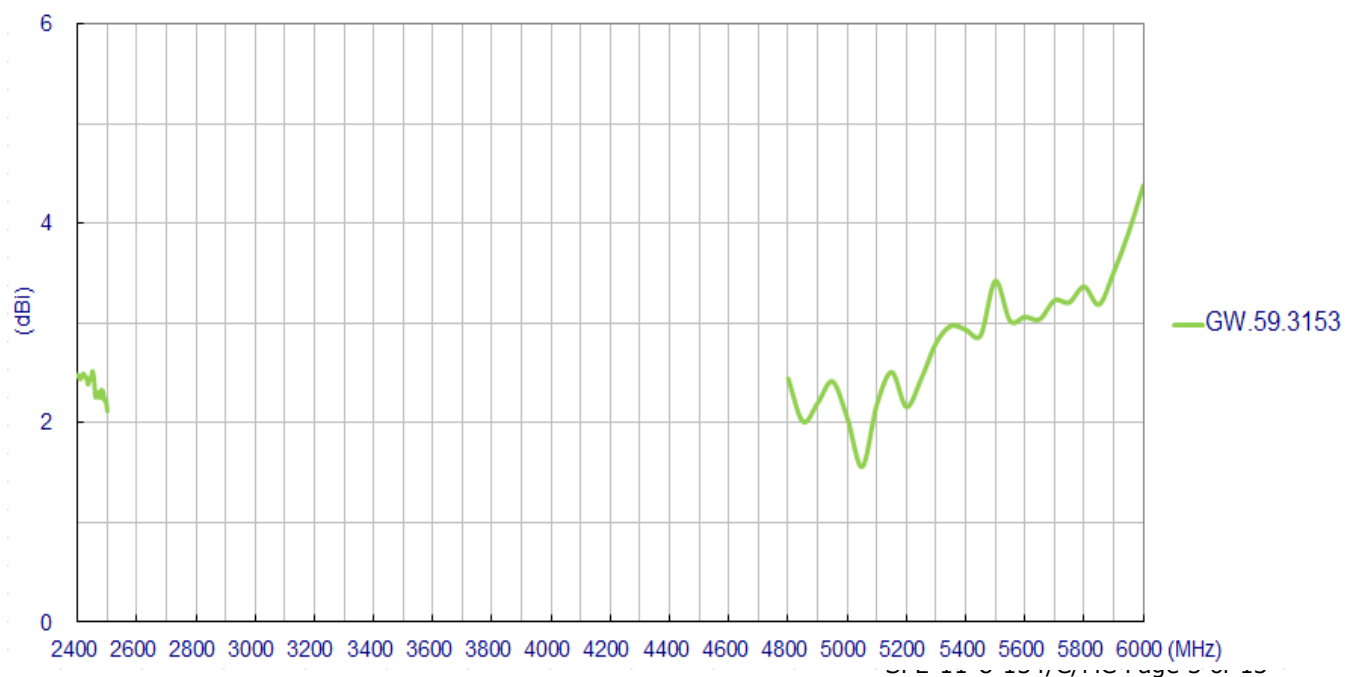
**\*The antenna was measured in free space.**

### 3. Antenna Characteristics

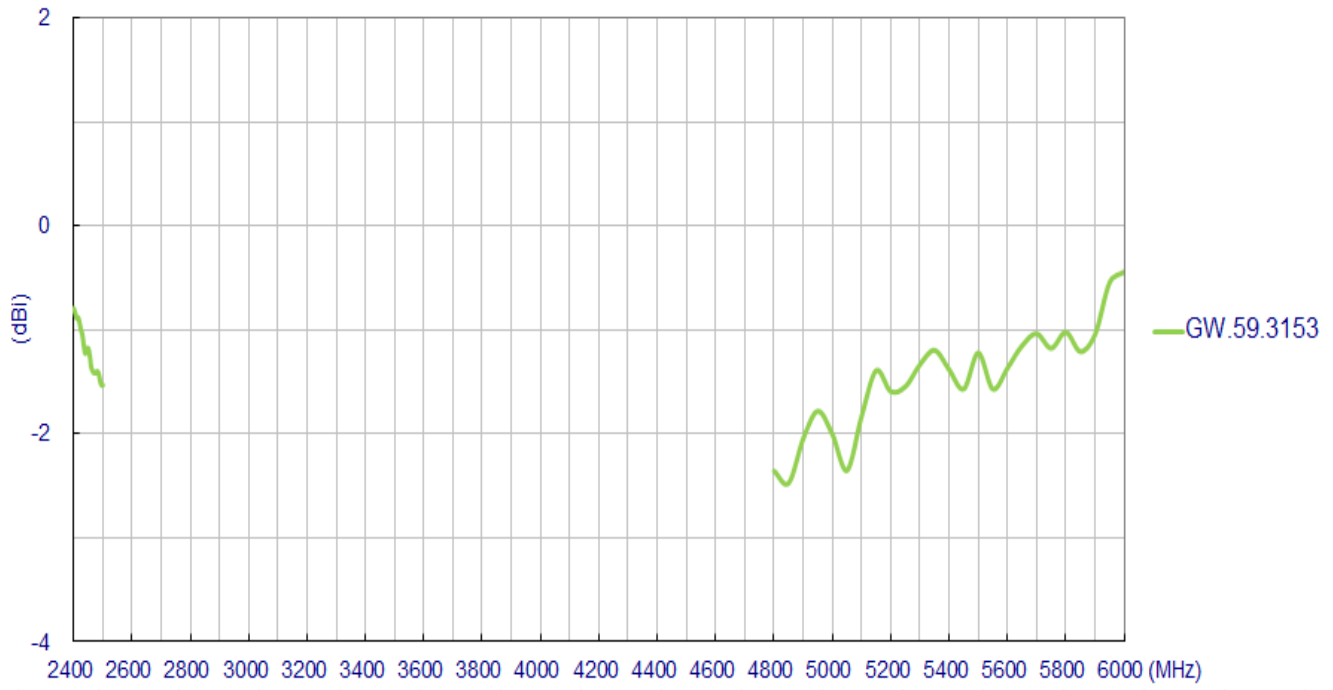
#### 3.1. Return Loss



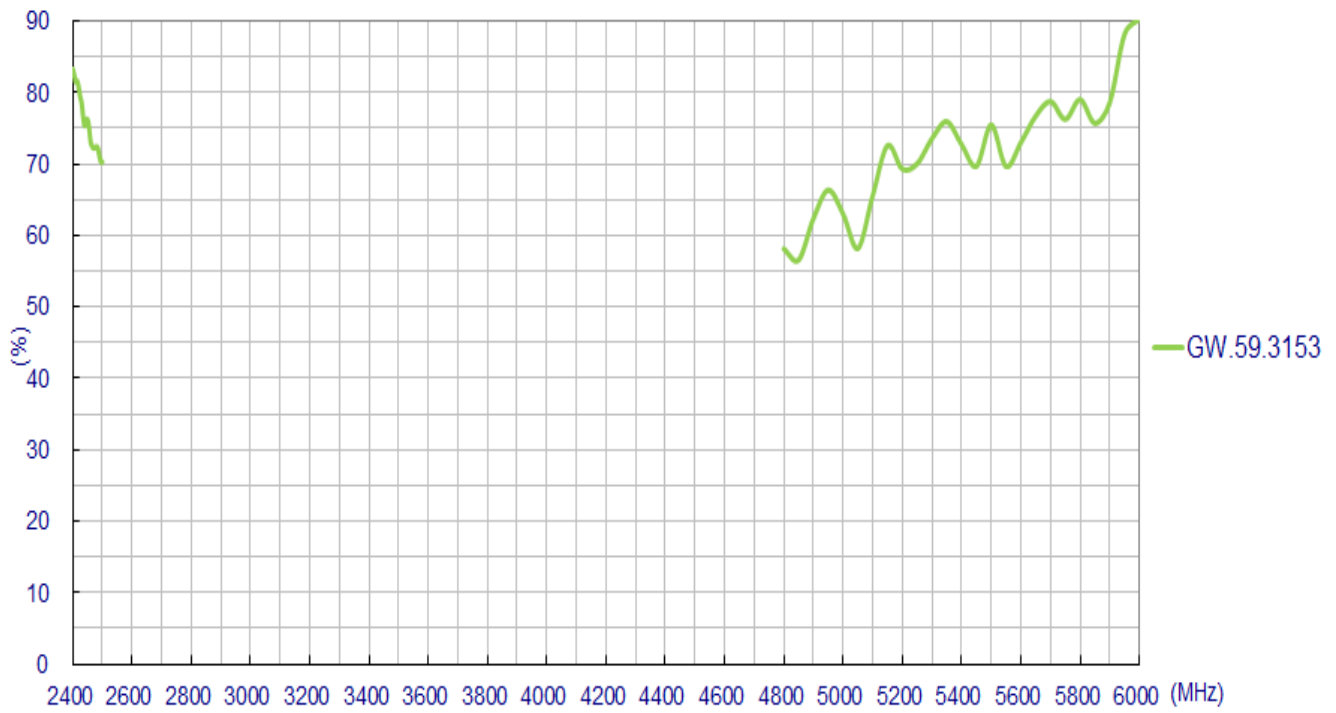
#### 3.2. Peak Gain



### 3.3. Average Gain

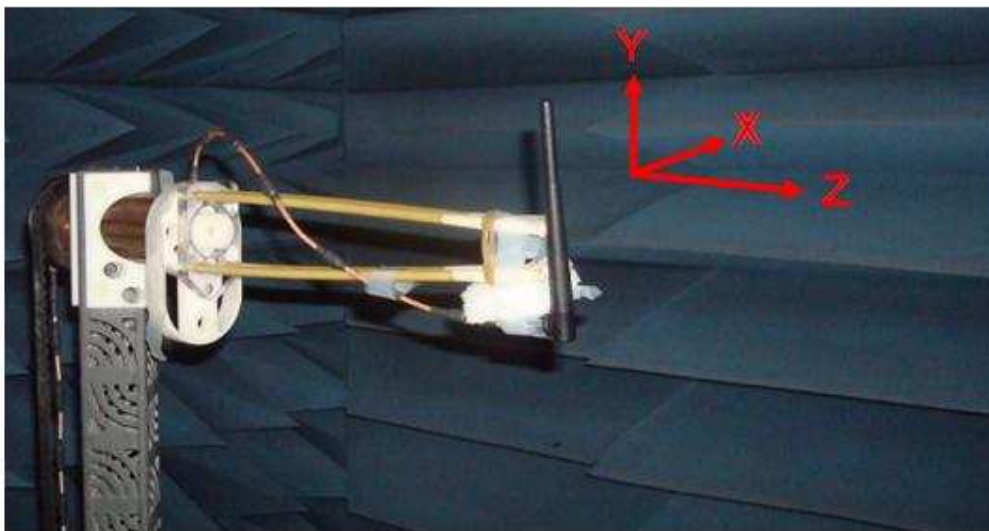


### 3.4. Efficiency

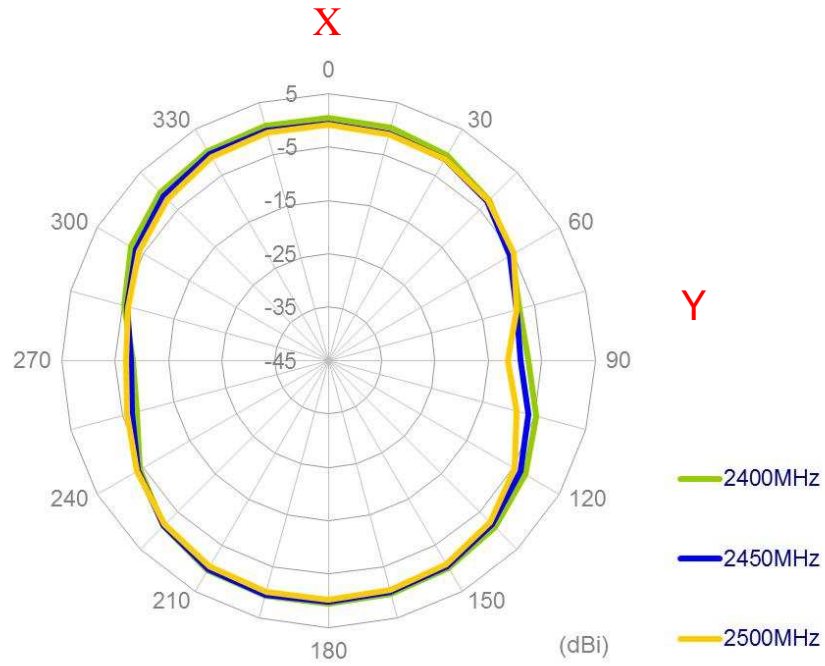


## 4. Radiation Patterns

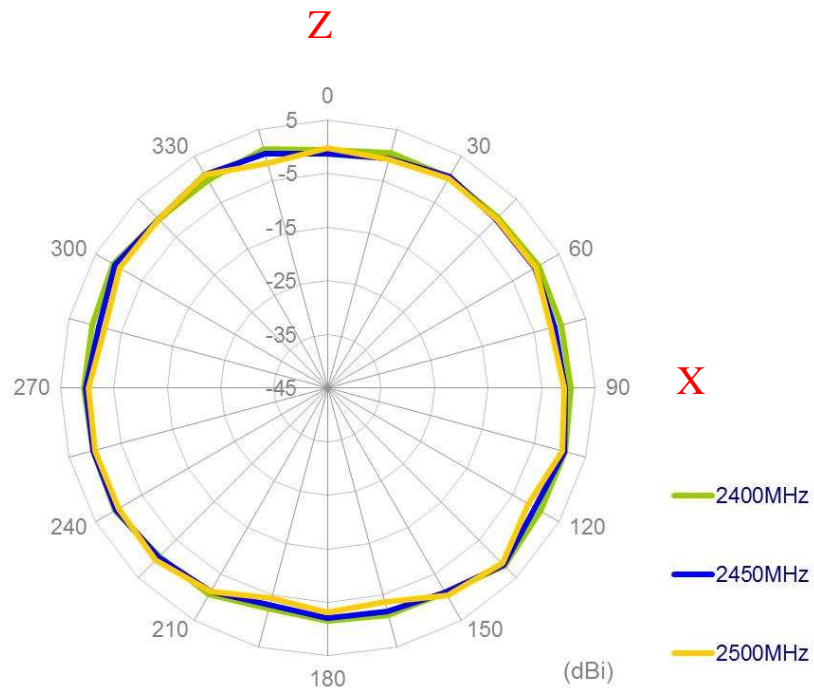
The antenna radiation pattern was measured in ETS Anechoic Chamber. The testing setup is as below. The antenna was measured in free space.



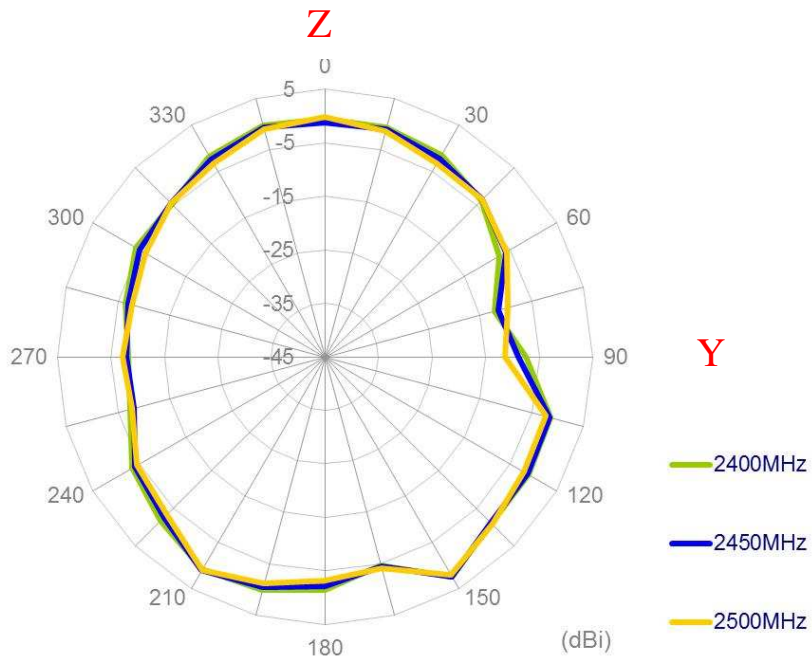
XY Plane



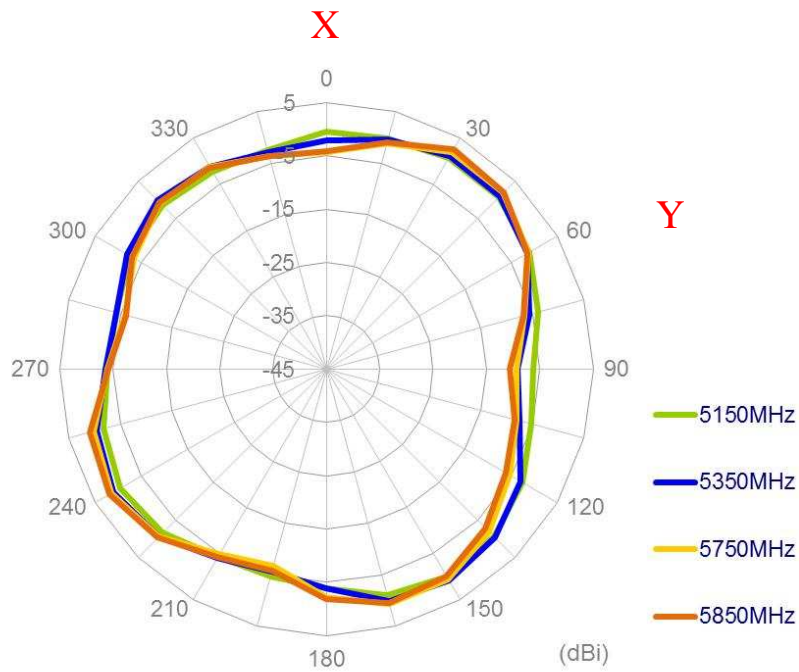
XZ Plane



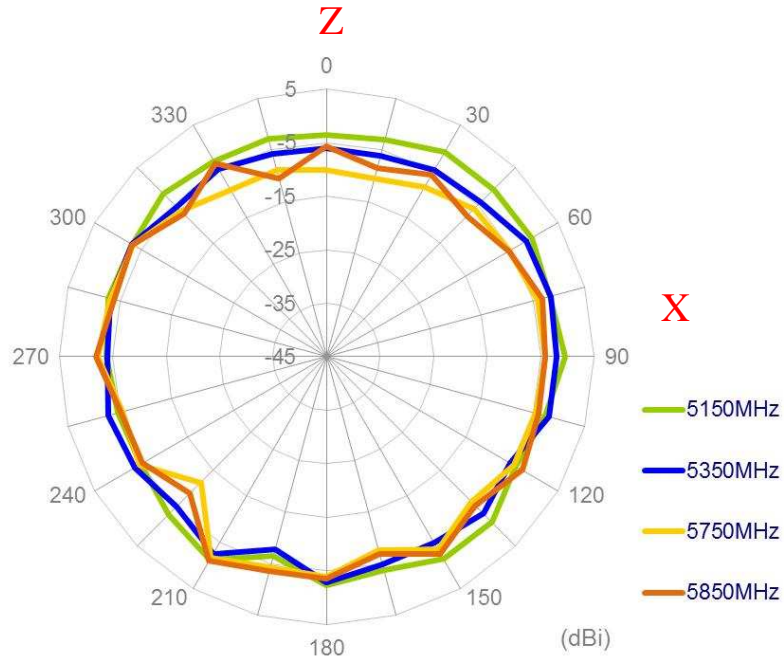
YZ Plane



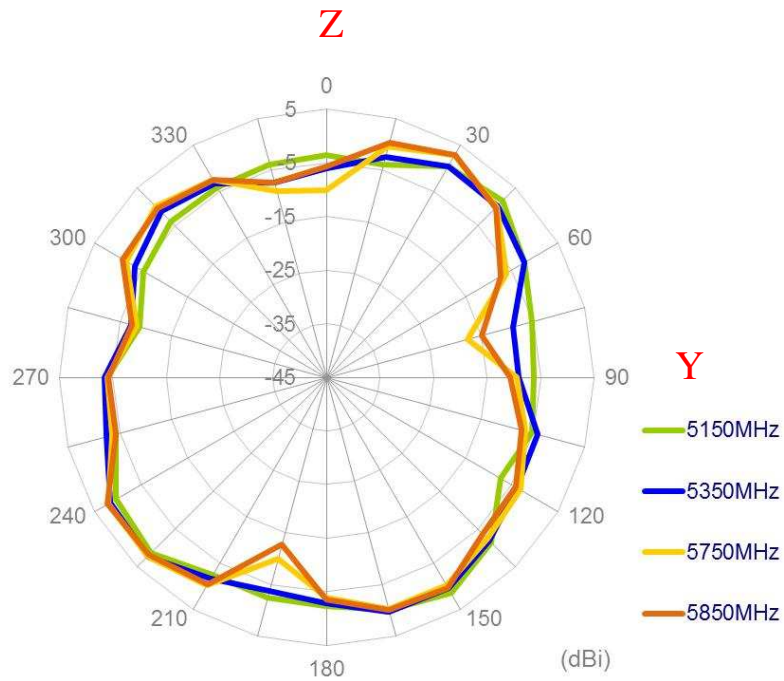
XY Plane



XZ Plane

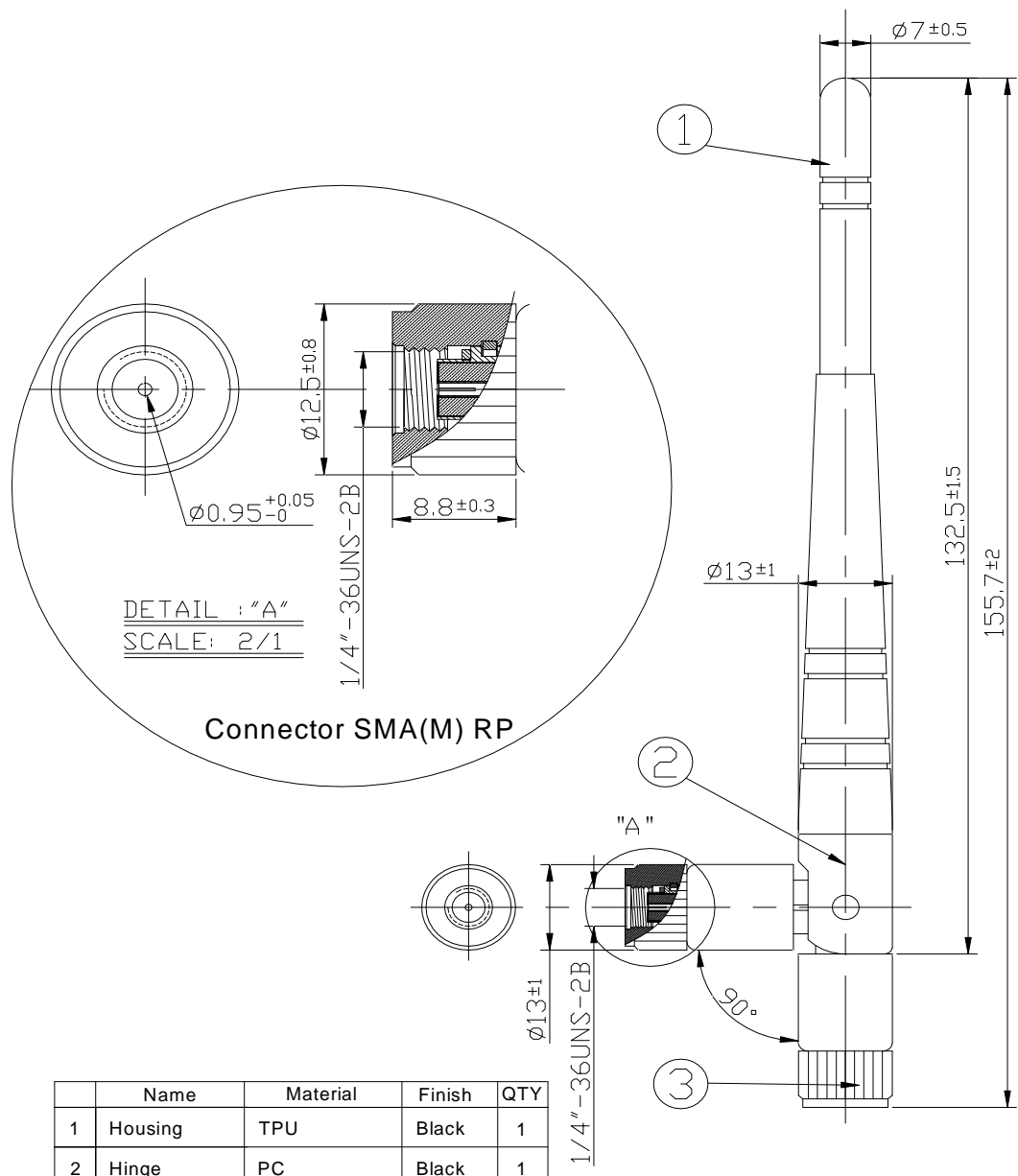


YZ Plane





# 5. Drawing



	Name	Material	Finish	QTY
1	Housing	TPU	Black	1
2	Hinge	PC	Black	1
3	SMA(M) RP	Brass	Black	1

## 6. APPLICATION NOTE

### 6.1 GW.59 antenna measurement setup as shown the below ,(40mmx60mm PCB board)

On the short side



Antenna straight



Antenna R/A

On the long side



Antenna straight



Antenna R/A

On the 30cmX30cm ground plane

On the 50cmX50cm ground plane



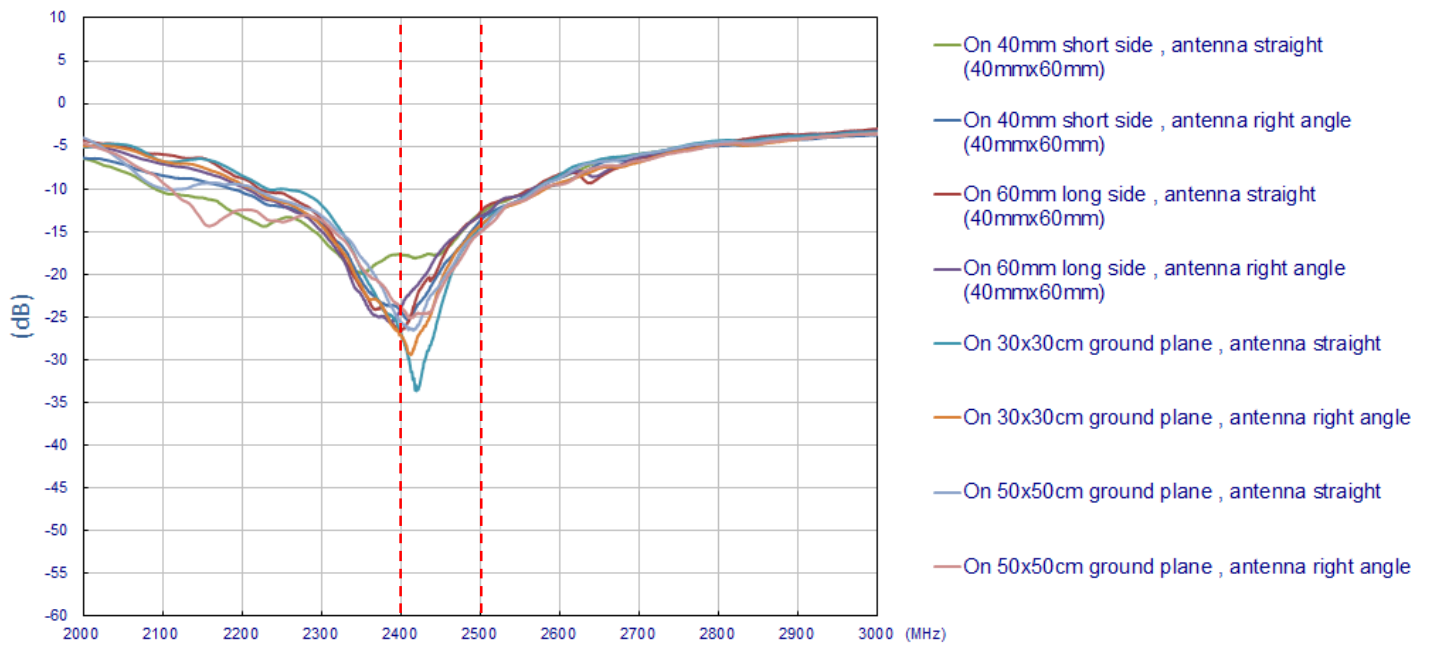
Antenna straight

Antenna R/A

Antenna straight

Antenna R/A

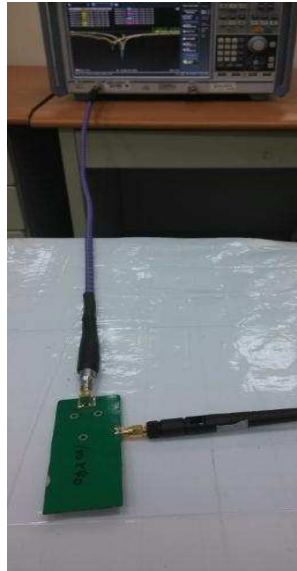
## 6.2 Return Loss when antenna setup on different conditions



### 6.3 GW.59 antenna measurement,(40mmx100mm PCB board)

On the short side

On the long side



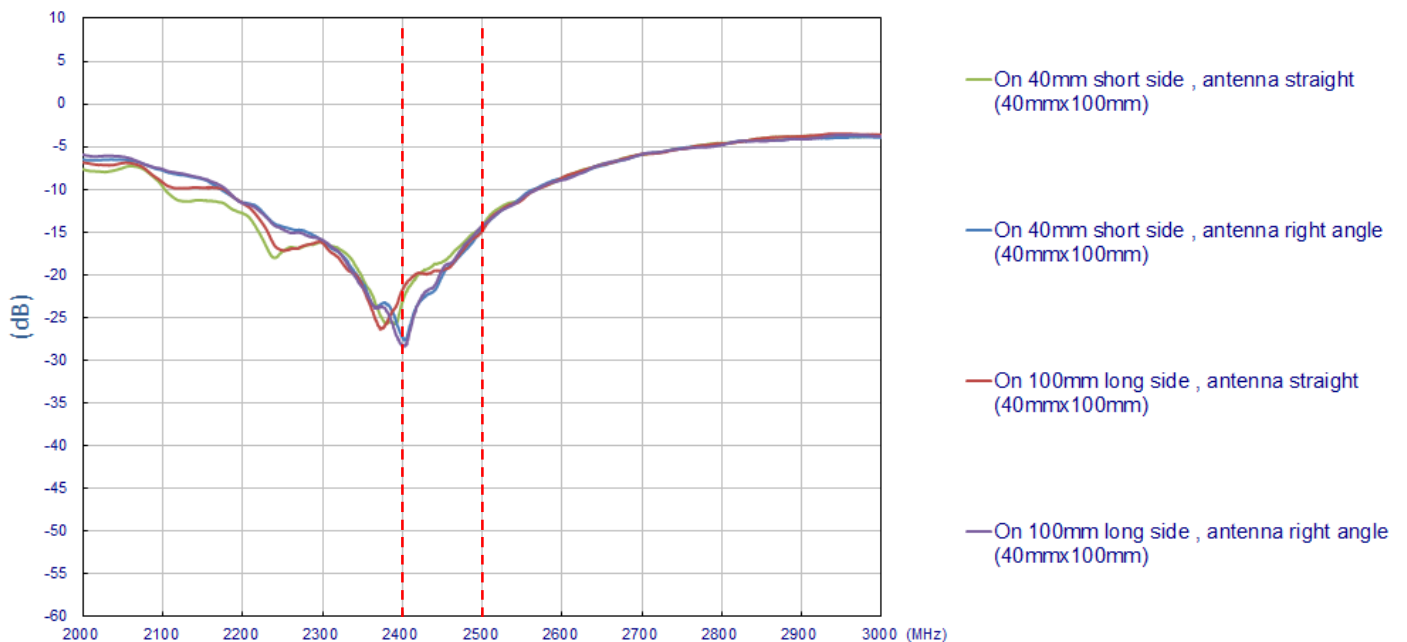
Antenna straight

Antenna R/A

Antenna straight

Antenna R/A

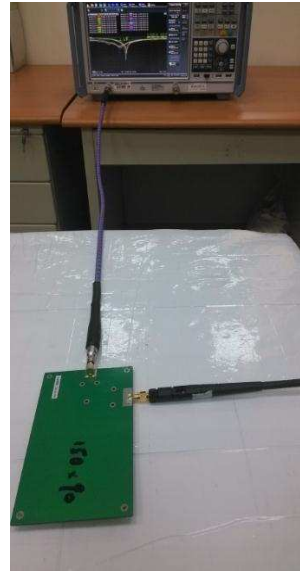
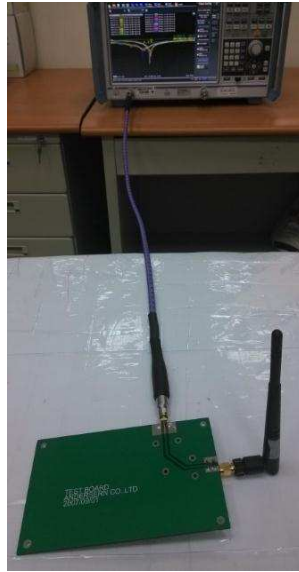
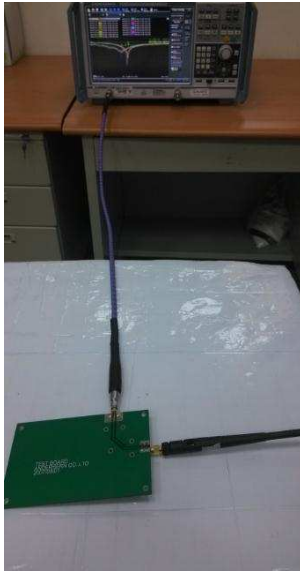
### 6.4 Return Loss when antenna setup on different conditions



## 6.5 GW.59 antenna measurement, (90mmx150mm PCB board)

On the short side

On the long side



Antenna straight

Antenna R/A

Antenna straight

Antenna R/A

## 6.6 Return Loss when antenna setup on different conditions

