

SPECIFICATION

| | | |
|--------------|---|---|
| Part No. | : | GW.15.2113 |
| Product Name | : | 2.4GHz 2dBi Screw mount Dipole Antenna |
| Description | : | SMA Male Straight Connector Hinged TPU Housing IP65 at SMA Connector Length 108.5mm ROHS Compliant |



1. Introduction

The GW.15 2.4 GHz dipole SMA plug mount antenna is ideal for 2.4 GHz wireless applications such as Bluetooth and Wireless LAN. At only 108mm in length omni-directional 2dBi 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.

Many module manufacturers specify peak gain requirements for any antennas that is to be connected to that module. Upon testing of any of our antenna with your device and a selection of appropriate layout, integration technique, or cable, Taoglas can make sure any of our antennas peak gain will be below the peak gain requirements. Taoglas can then issue a specification and/or report for this selected WiFi antennas in your device that will clearly show it complying with the peak gain requirements, so you can be assured you are meeting regulatory requirements for that module.

It is better not to select an embedded antenna with very low free-space peak gain ($<2\text{dBi}$) directly, as this antenna would have worse performance in your device, and lead to compromised performance compared to using a Taoglas antenna.

2. Electrical Properties

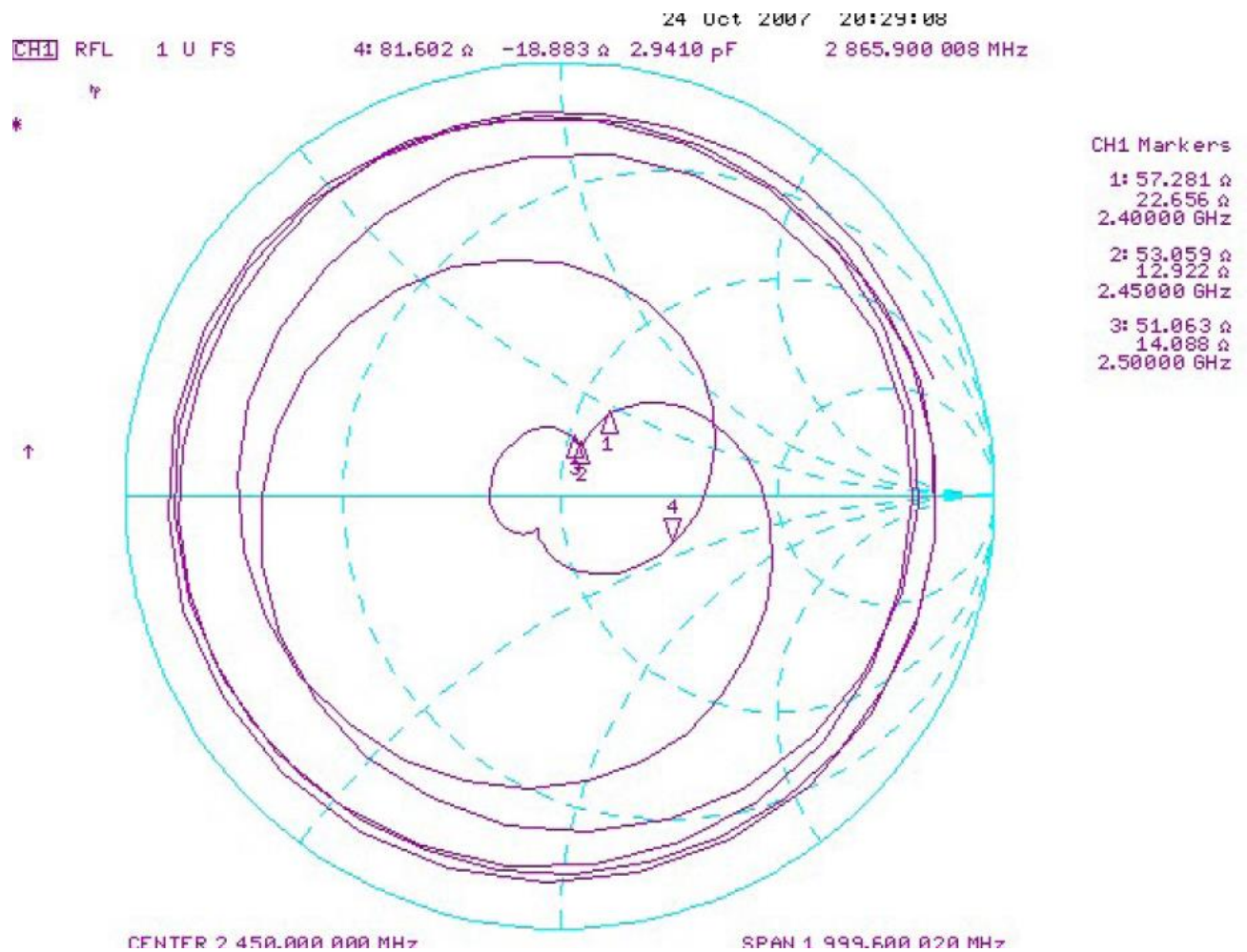
| | | |
|-----|----------------|-------------------|
| 2.1 | Frequency | 2.4 GHz ~ 2.5 GHz |
| 2.2 | Gain (peak) | 2 dBi |
| 2.3 | V.S.W.R | 1.8 Max |
| 2.4 | Return Loss | - 10 dB Maximum |
| 2.5 | Radiation | Omni-directional |
| 2.6 | Polarization | Linear Vertical |
| 2.7 | Power Handling | 1W |

3. Mechanical Properties

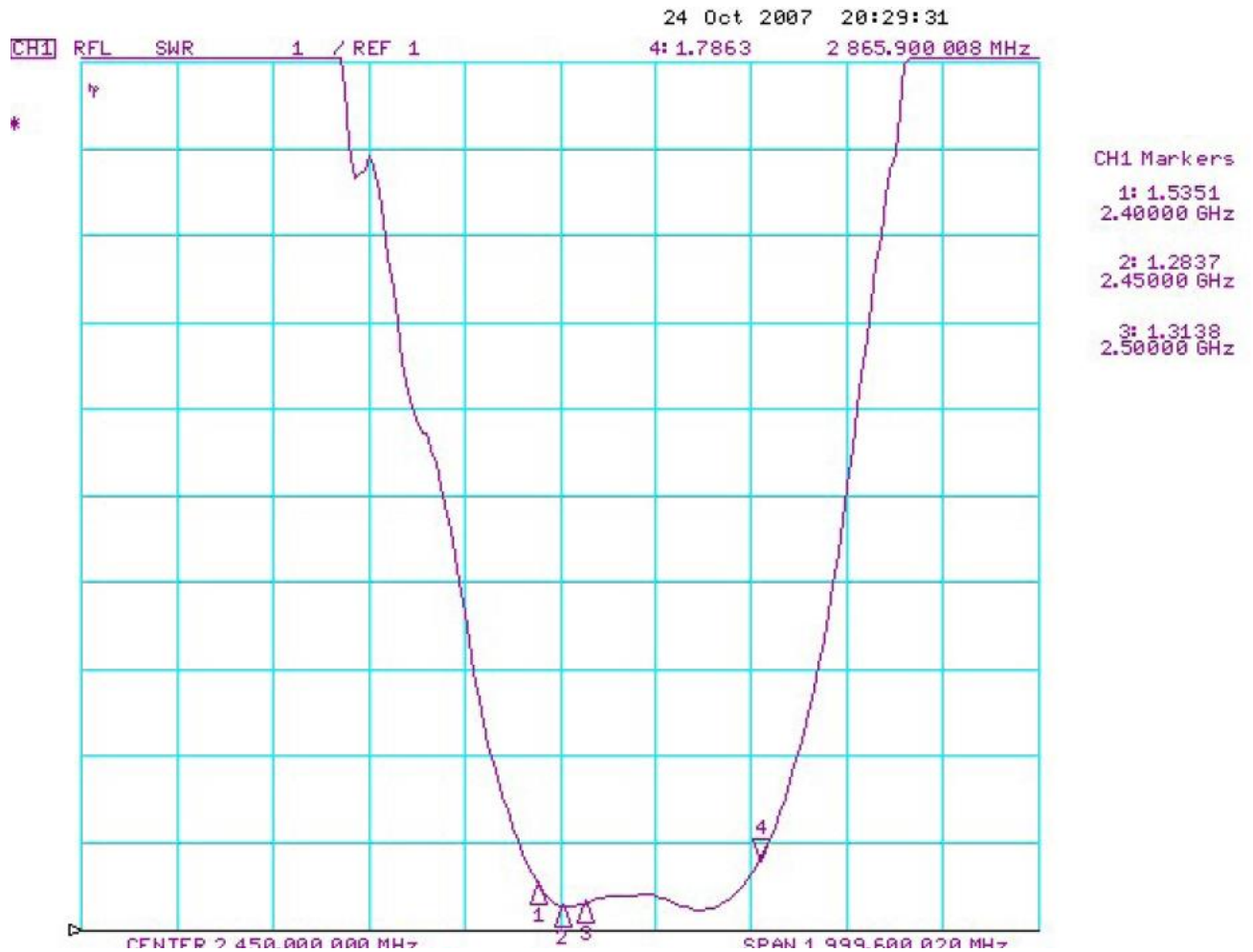
| | | |
|-----|-----------------------|-----------------------|
| 3.1 | Cable | RG-178 Coaxial Cable |
| 3.2 | Antenna Cover | TPE |
| 3.3 | Antenna Base | Nylon |
| 3.4 | Operating Temperature | -40°C ~ + 85°C |
| 3.5 | Storage Temperature | -30°C ~ + 90°C |
| 3.6 | Color | Black |
| 3.7 | Connector | SMA Plug Male |
| 3.8 | IP rating | IP65 at SMA Connector |

4. Measurements

4.1 Smith Chart



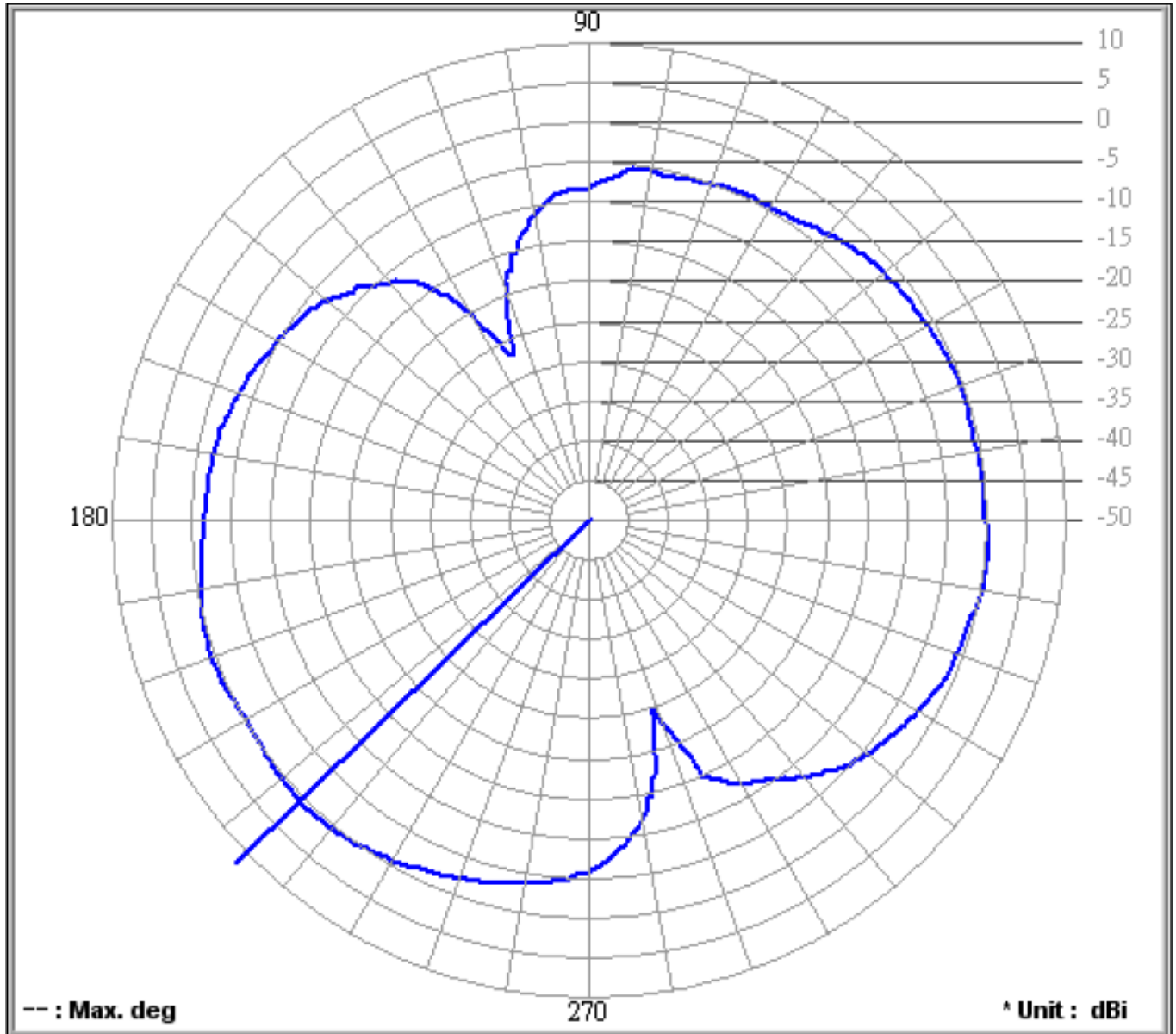
4.2 VSWR



4.3 Return Loss



4.4 Far-field Amplitude - Horizontal Plane 2.4GHz



Frequency (MHz) : **2400.00**

Antenna Polarity : **Vertical**

Average Value (dB) : **-2.76**

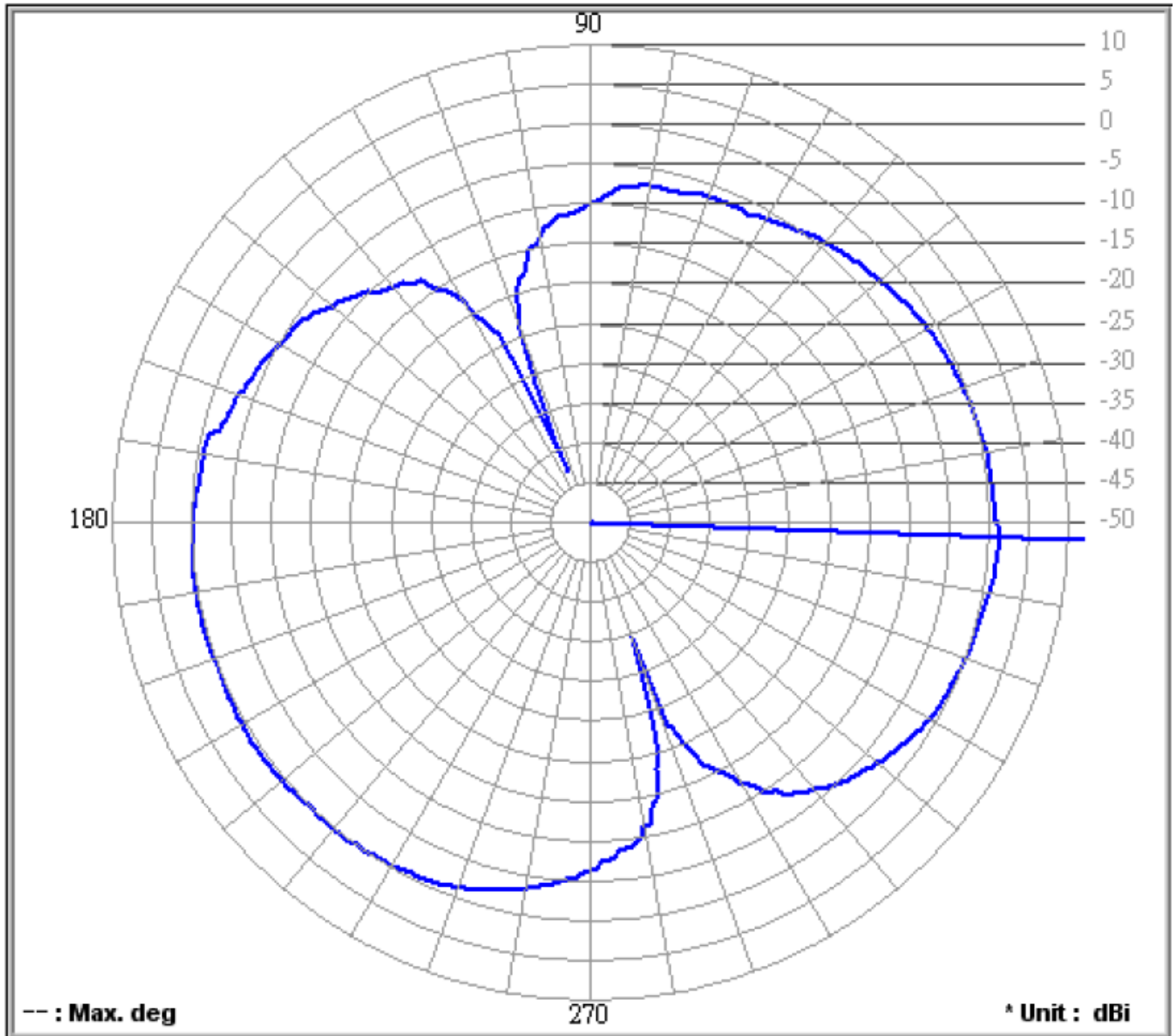
Maximum Value (dB) : **0.66**

Maximum Value (degree) : **224**

Minimum Value (dB) : **-27.16**

Minimum Value (degree) : **115**

4.5 Far-field Amplitude - Horizontal Plane 2.45GHz



Frequency (MHz) : **2450.00**

Antenna Polarity : **Vertical**

Average Value (dB) : **-2.46**

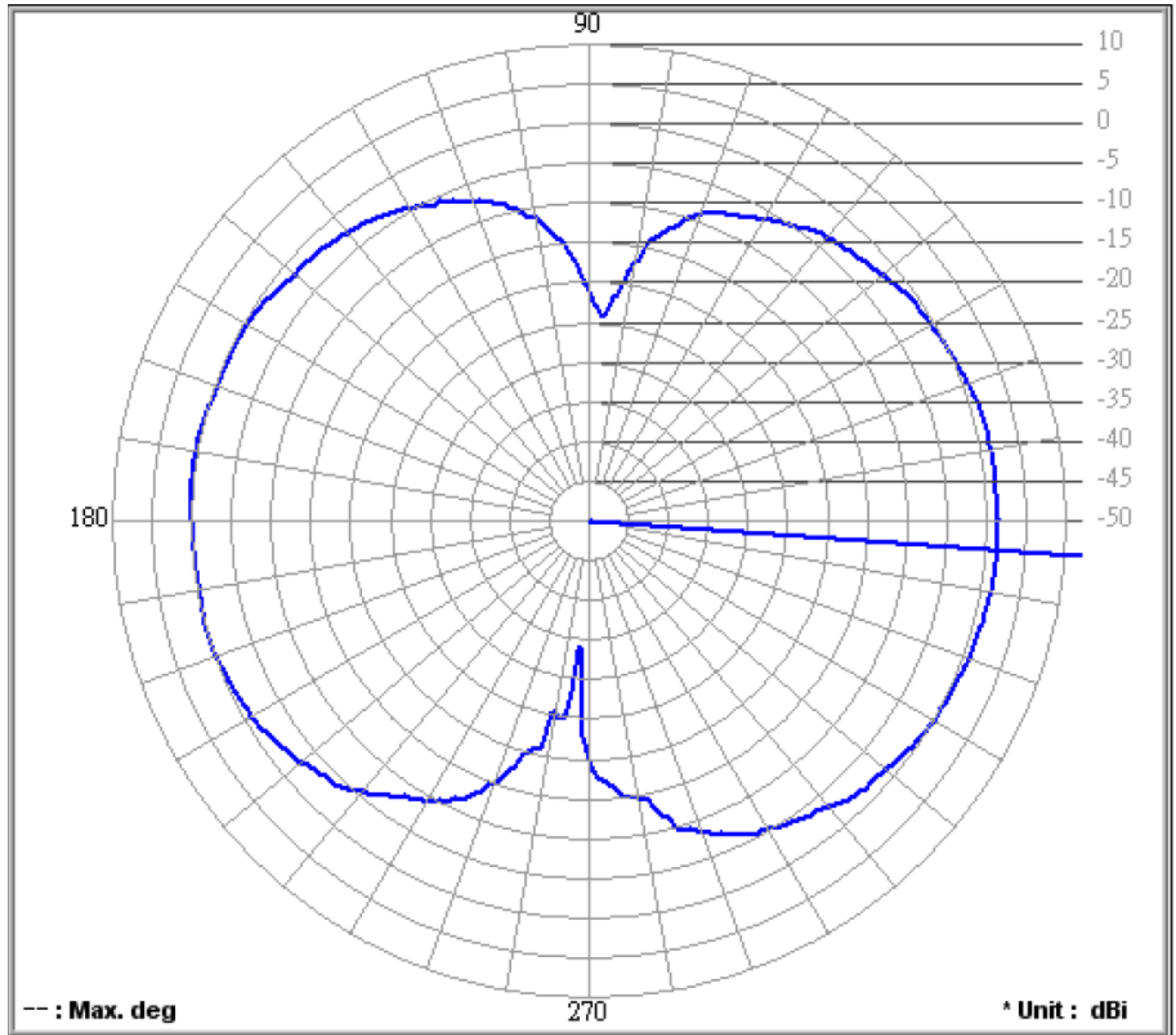
Maximum Value (dB) : **1.43**

Maximum Value (degree) : **358**

Minimum Value (dB) : **-42.89**

Minimum Value (degree) : **114**

4.6 Far-field Amplitude - Horizontal Plane 2.5GHz



Frequency (MHz) : **2500.00**

Antenna Polarity : **Vertical**

Average Value (dB) : **-2.29**

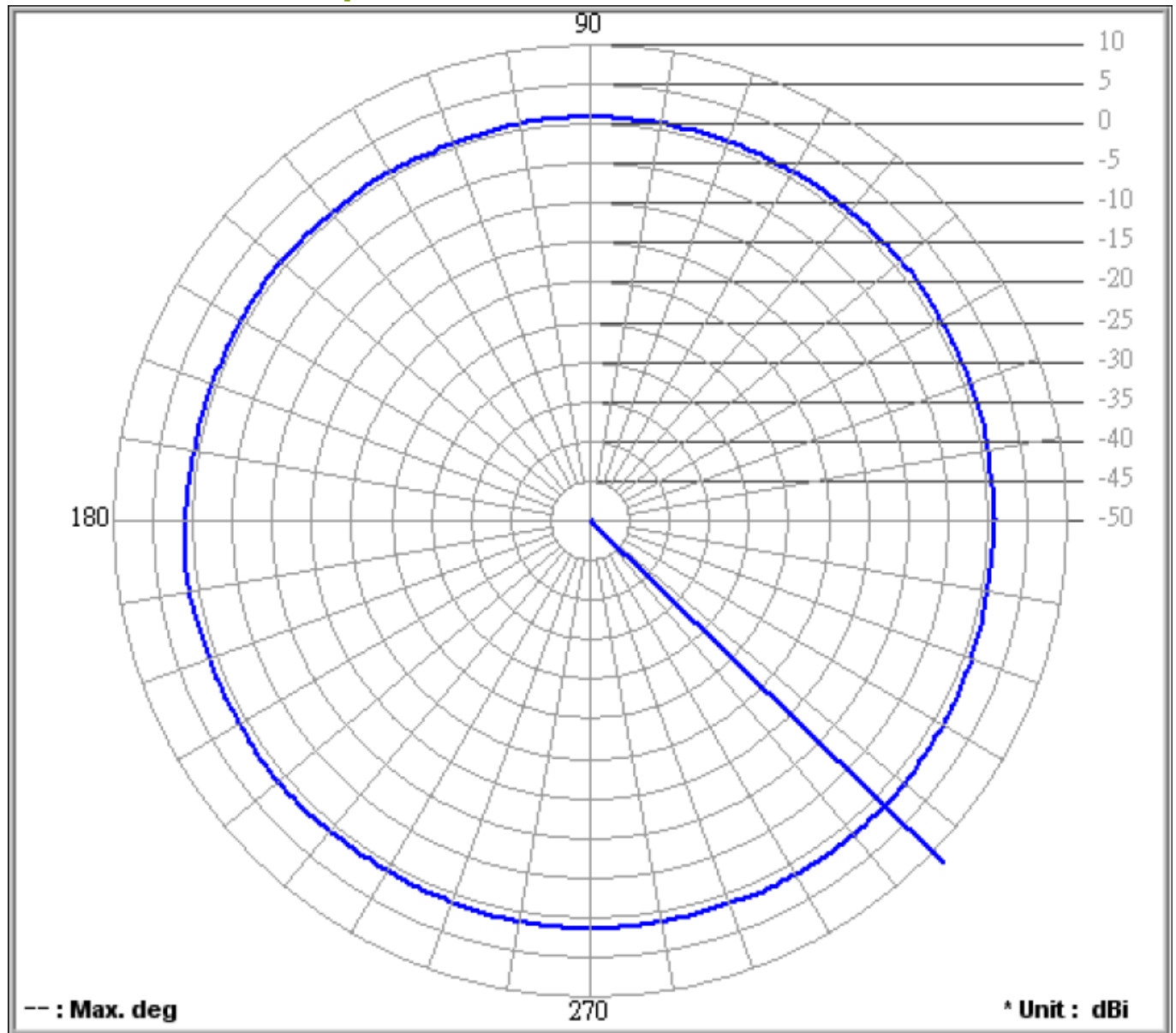
Maximum Value (dB) : **1.57**

Maximum Value (degree) : **356**

Minimum Value (dB) : **-34.14**

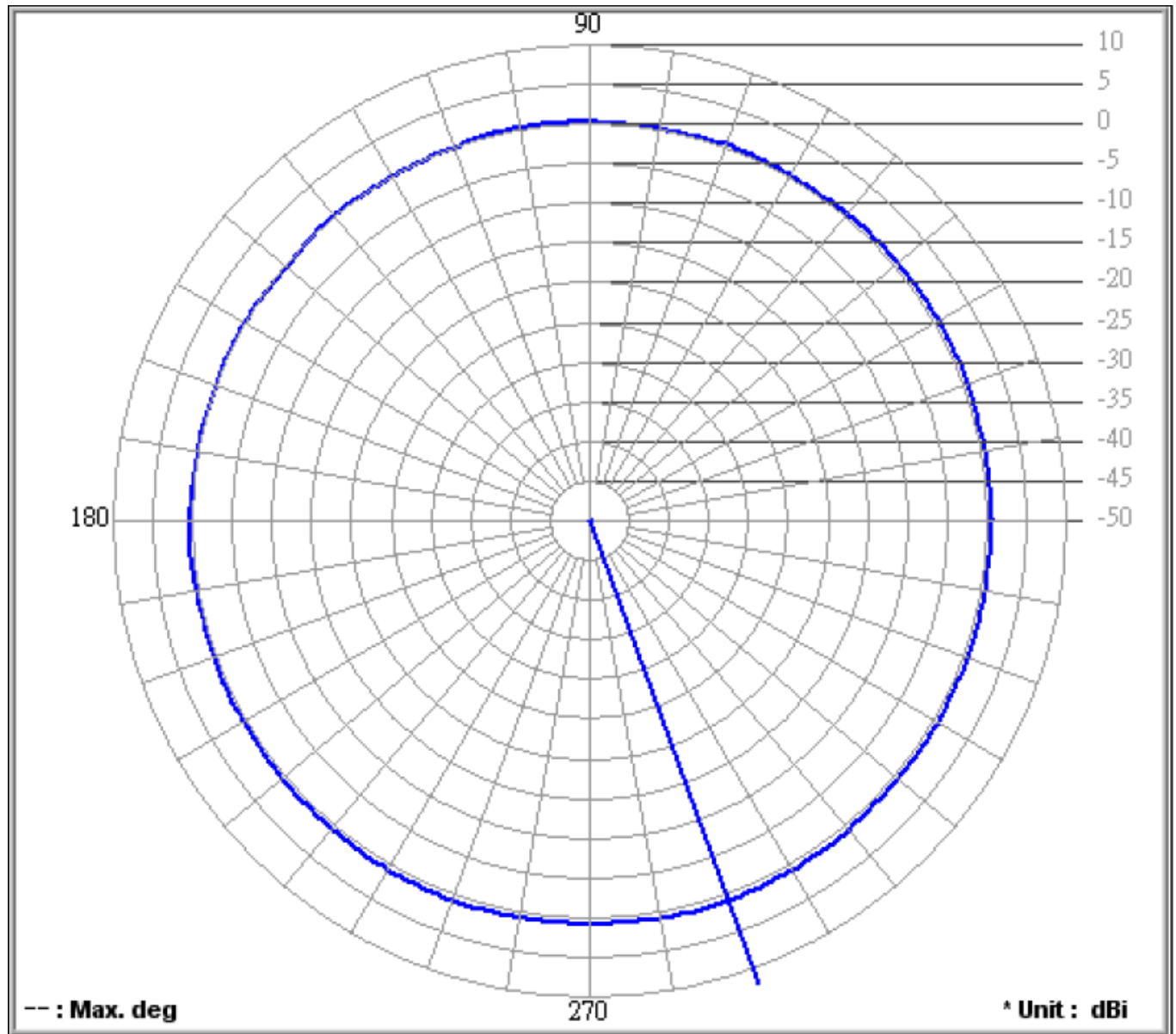
Minimum Value (degree) : **266**

4.7 Far-field Amplitude - Vertical Plane 2.4GHz



| | | | | | |
|----------------------|----------------|--------------------------|-----------------|----------------------|-------------|
| Frequency (MHz) : | 2400.00 | Antenna Polarity : | Vertical | Average Value (dB) : | 1.00 |
| Maximum Value (dB) : | 1.62 | Maximum Value (degree) : | 316 | | |
| Minimum Value (dB) : | 0.55 | Minimum Value (degree) : | 169 | | |

4.8 Far-field Amplitude - Vertical Plane 2.45GHz

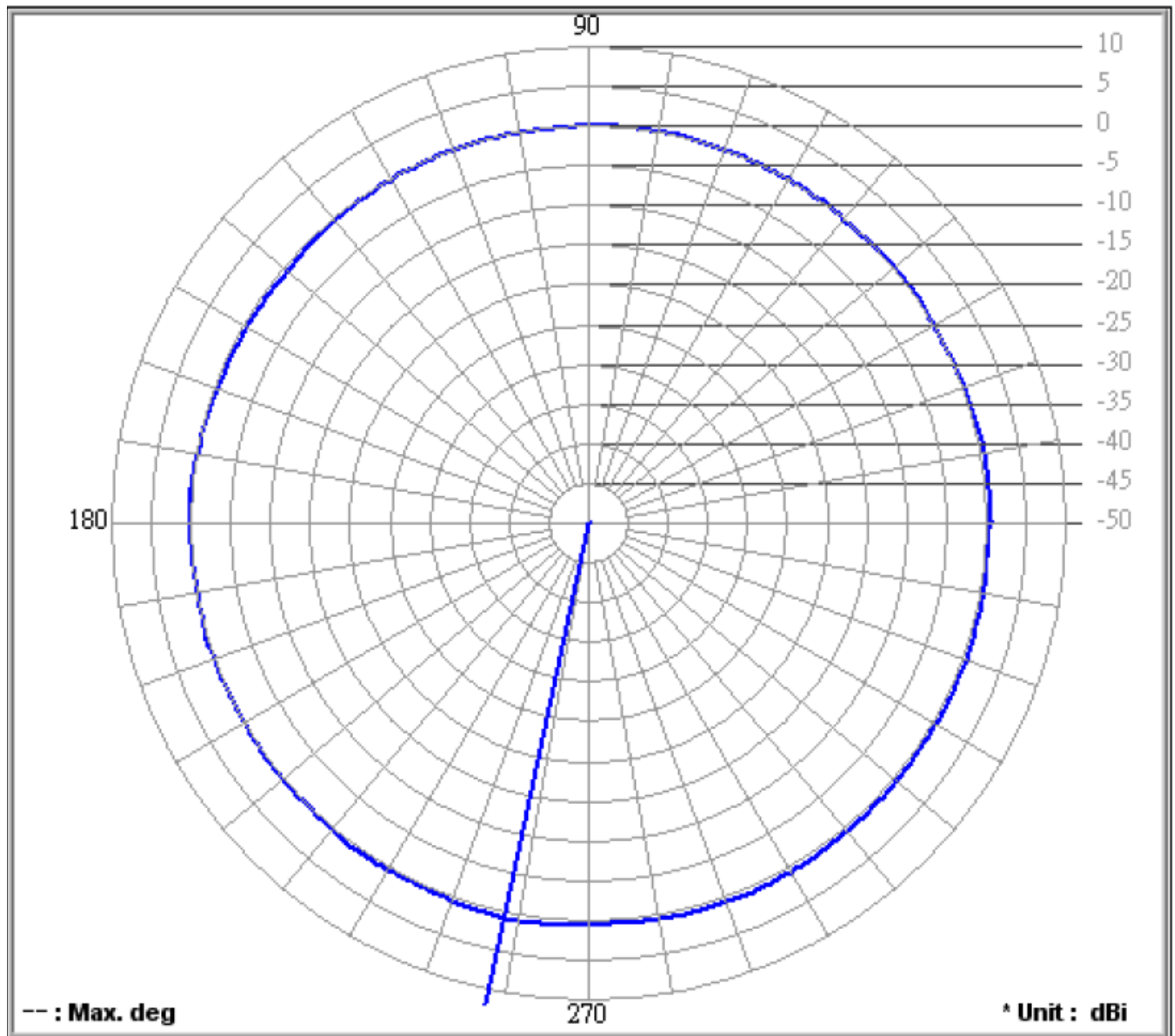


Frequency (MHz) : **2450.00** Antenna Polarity : **Vertical** Average Value (dB) : **0.48**

Maximum Value (dB) : **0.94** Maximum Value (degree) : **290**

Minimum Value (dB) : **-0.09** Minimum Value (degree) : **141**

4.9 Far-field Amplitude - Vertical Plane 2.5GHz



Frequency (MHz) : **2500.00**

Antenna Polarity : **Vertical**

Average Value (dB) : **0.23**

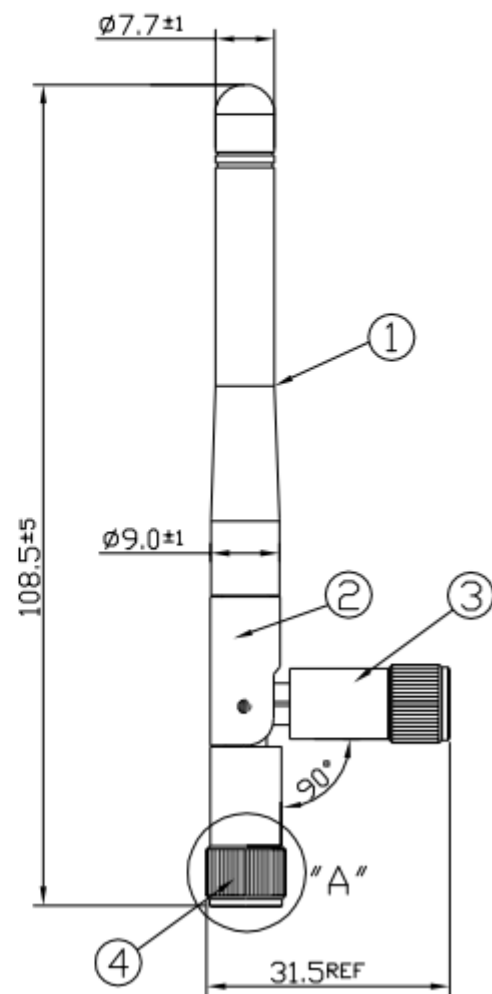
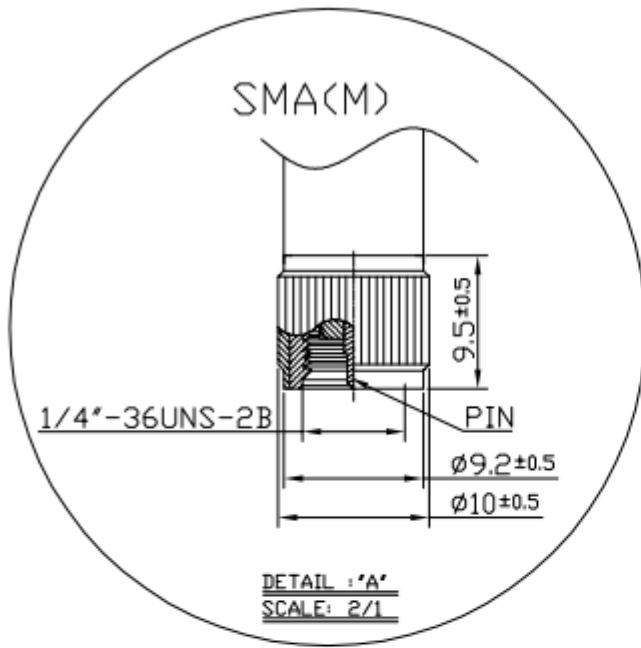
Maximum Value (dB) : **0.85**

Maximum Value (degree) : **258**

Minimum Value (dB) : **-0.59**

Minimum Value (degree) : **143**

5. Drawing



| | | |
|---|---------------|-------------------|
| 1 | GW.15 Housing | TPU (Black) |
| 2 | GW.15 Base I | Nylon(Black) |
| 3 | GW.15 Base II | Nylon(Black) |
| 4 | Connector | SMA Straight Plug |

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