



Close-up of connector and pin

TG.22.0111

## Specification

<b>Part No.</b>	TG.22.0111
<b>Product Name</b>	Penta-Band Cellular Connector Mount GSM-DCS-PCS-UMTS-CDMA-GPRS-EDGE-HSPA 800MHz ~2200 MHz
<b>Feature</b>	0dBi Gain Straight SMA Male, 50 Ohms ROHS Compliant

## 1. Introduction

The TG.22.0111, Penta-band GSM-DCS-PCS-UMTS-CDMA-GPRS-EDGE-HSPA 800MHz to 2200MHz monopole helical antenna is a quality robust antenna with high gain in a small form factor. Connection is made via straight SMA(M) connector.

With a hardened waterproof PU casing, this antenna is a low cost small form factor external antenna solution for telematics devices

This antenna also comes in a white version.  
[TG.22.0111W](#)



## 2. Key Antenna Performance Indicators

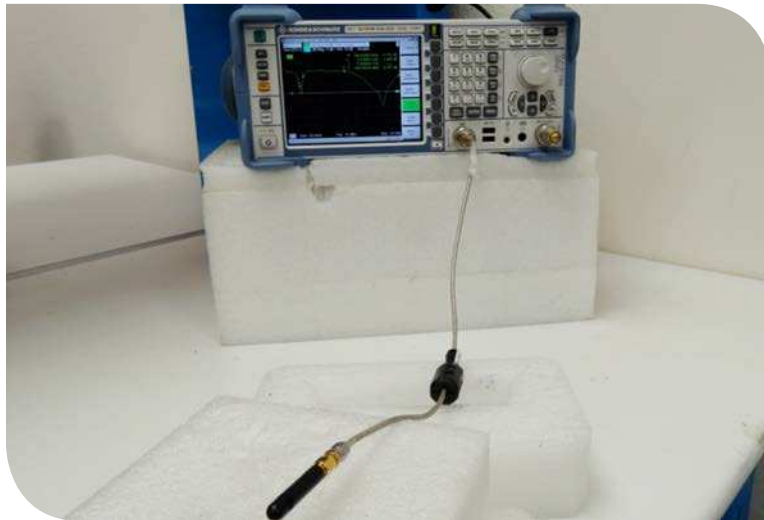
### 2.1 Electrical Specifications

Parameter	Specification
Frequency range	800MHz to 2200MHz
Bands	GSM-DCS-PCS-UMTS-CDMA-GPRS-EDGE-HSPA
VSWR	≤ 2.3
Polarization	Linear
Power handling	20 W
Impedance	50 Ohms
Connector	Straight SMA(M)

### 2.2 Environmental & Mechanical Characteristics

Parameter	Specification
Temperature	-40°C to +85°C
Radome color	Black
Radome material	Pu
Weight	6 g

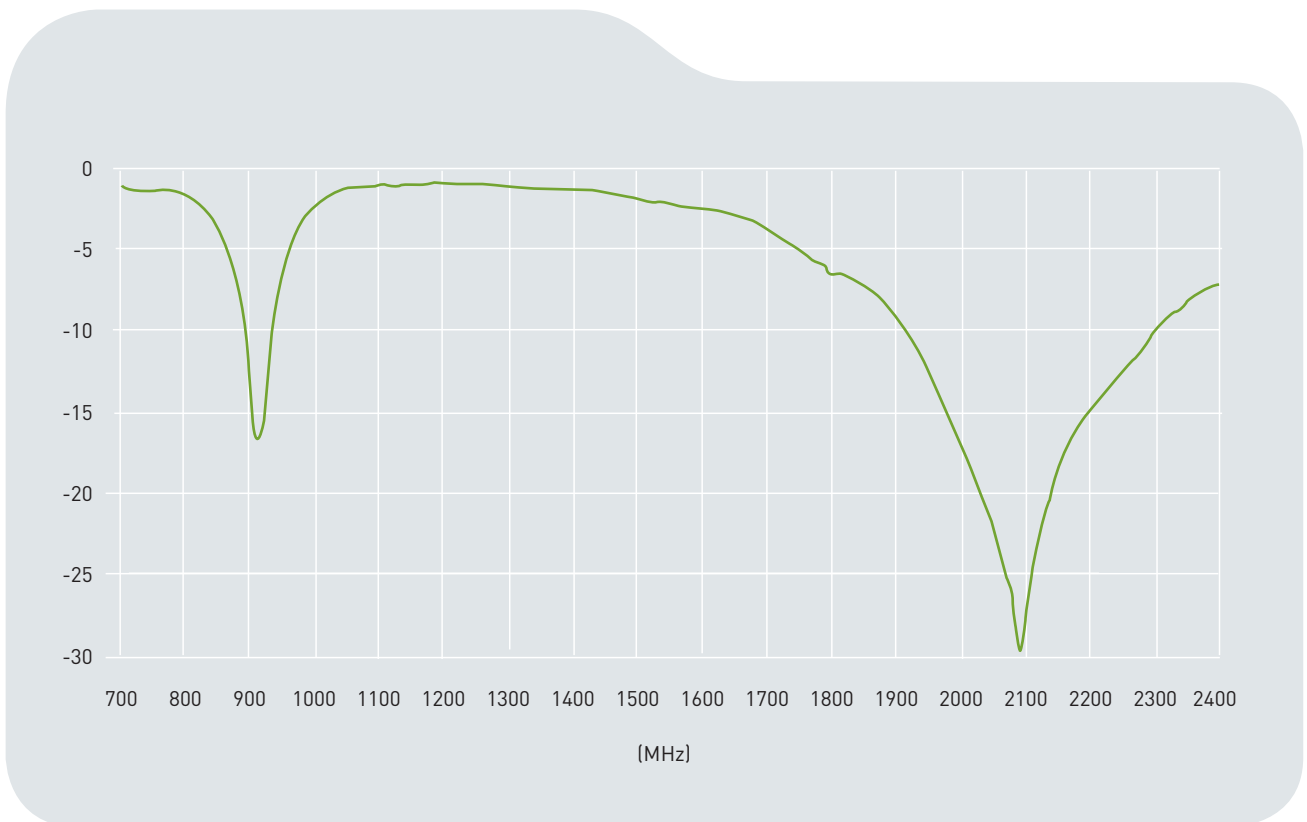
### 3. Test Set Up



**Figure 1.** Impedance and VSWR measurements (left hand)

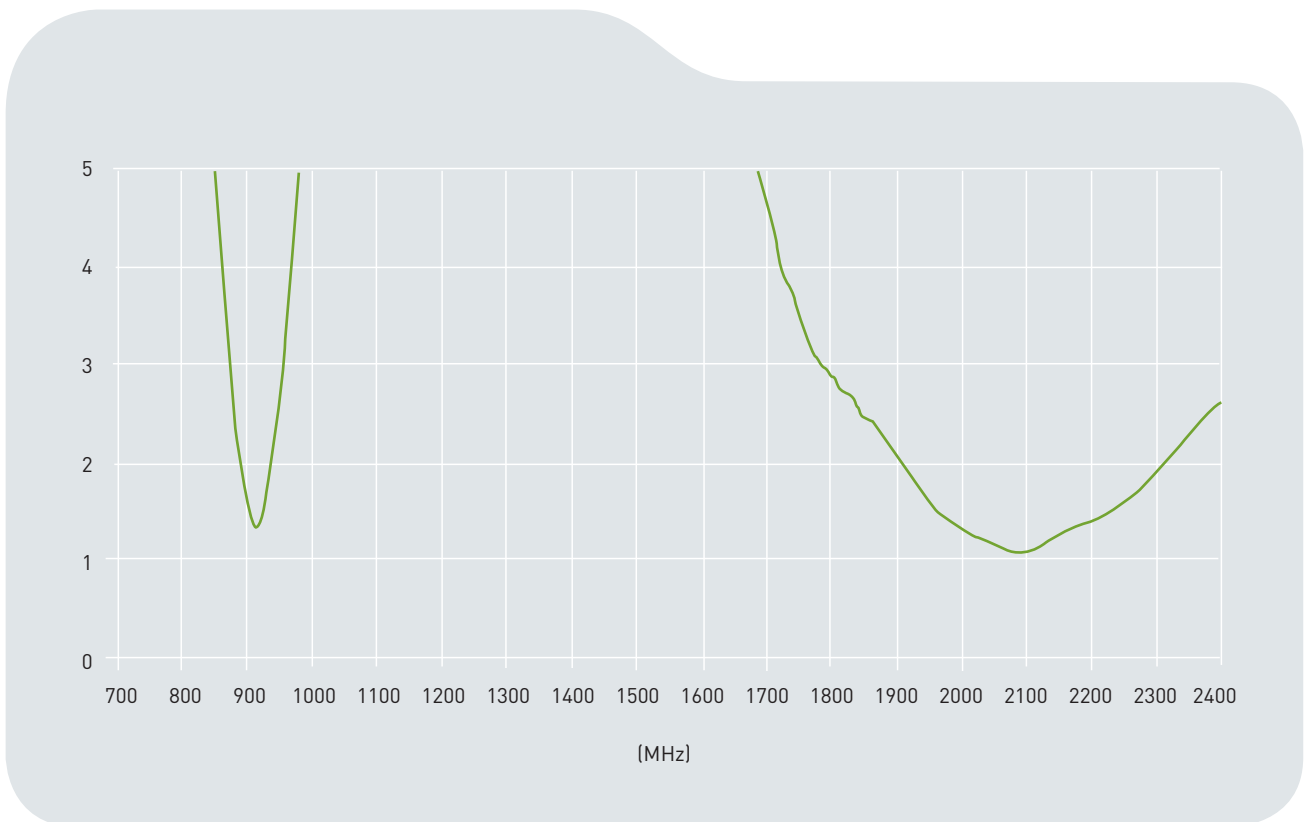
## 4. Antenna Parameters

### 4.1 Return Loss



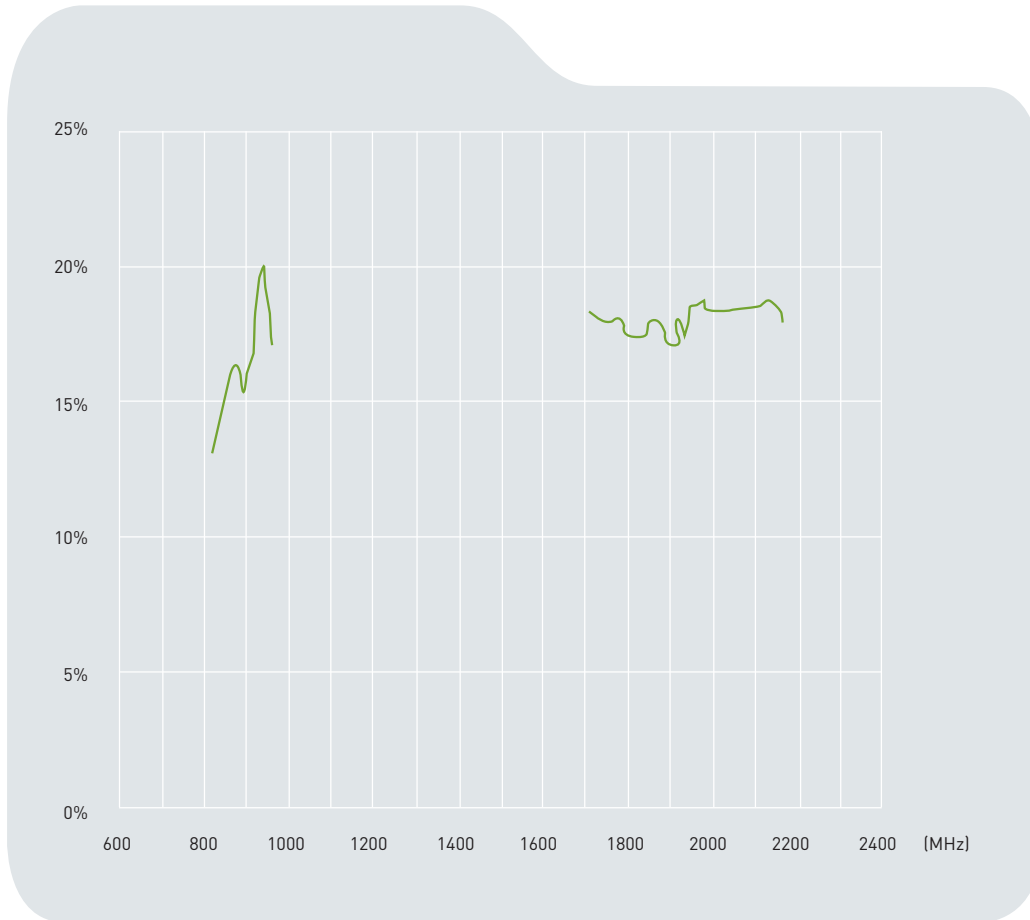
**Figure 2.** Return Loss of TG.22.0111

## 4.2 VSWR



**Figure 3.** VSWR of TG.22.0111

### 4.3 Efficiency (dB)



<b>Frequency</b>	824	836	849	869	880	894	900	915	925	940	960
<b>Efficiency</b>	13.18%	14.31%	15.37%	16.30%	16.21%	15.43%	16.01%	16.83%	18.20%	19.92%	17.11%

<b>Frequency</b>	<b>1575</b>
<b>Efficiency</b>	<b>14.98%</b>

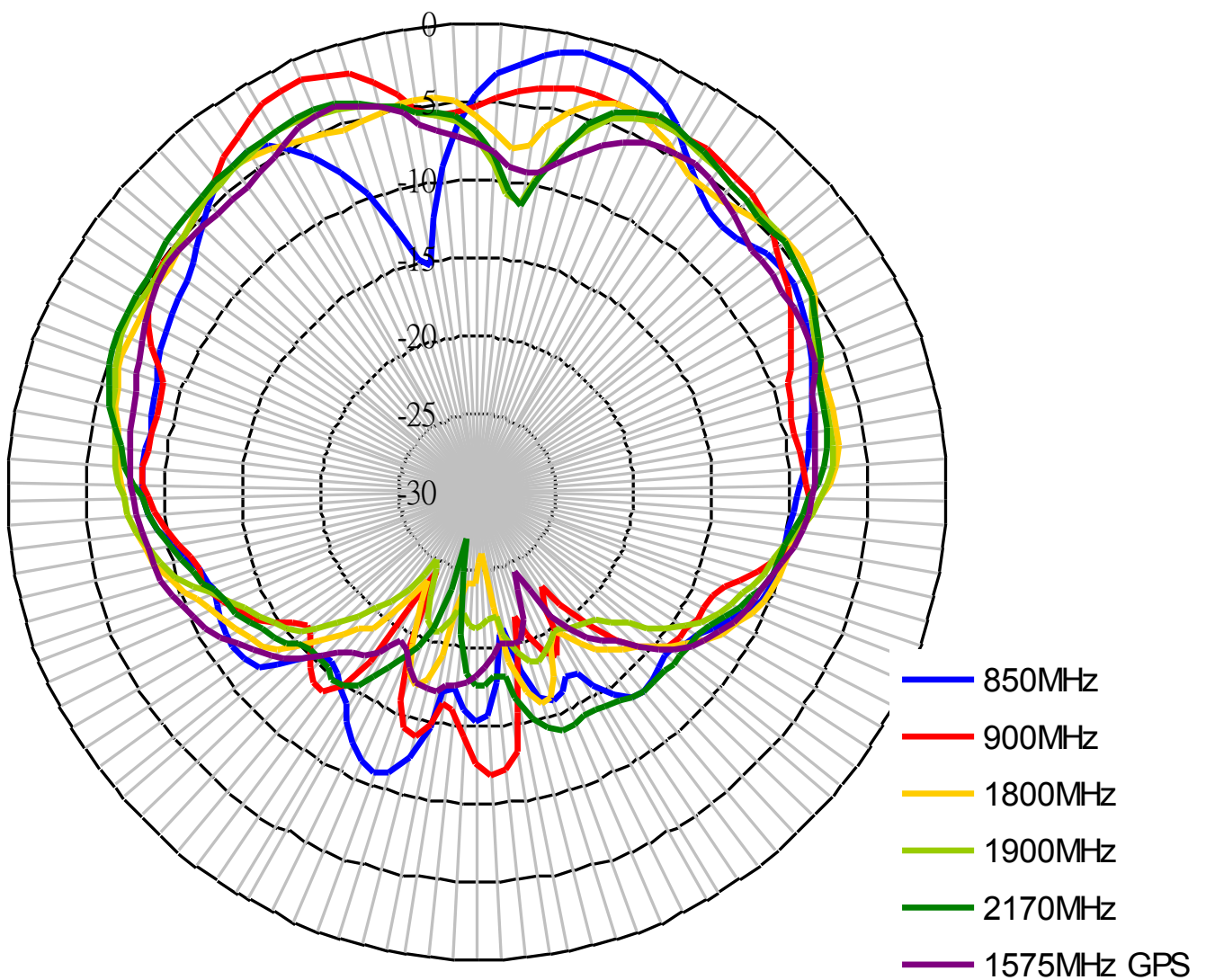
<b>Frequency</b>	1710	1750	1785	1805	1840	1850	1880	1910	1920	1930	1950
<b>Efficiency</b>	18.33%	17.96%	18.03%	17.45%	17.55%	18.01%	17.90%	17.13%	18.18%	17.50%	18.53%

<b>Frequency</b>	1960	1980	1990	2110	2140	2170
<b>Efficiency</b>	18.48%	18.81%	18.35%	18.62%	18.72%	17.92%

## 4.4 Radiation Pattern Data

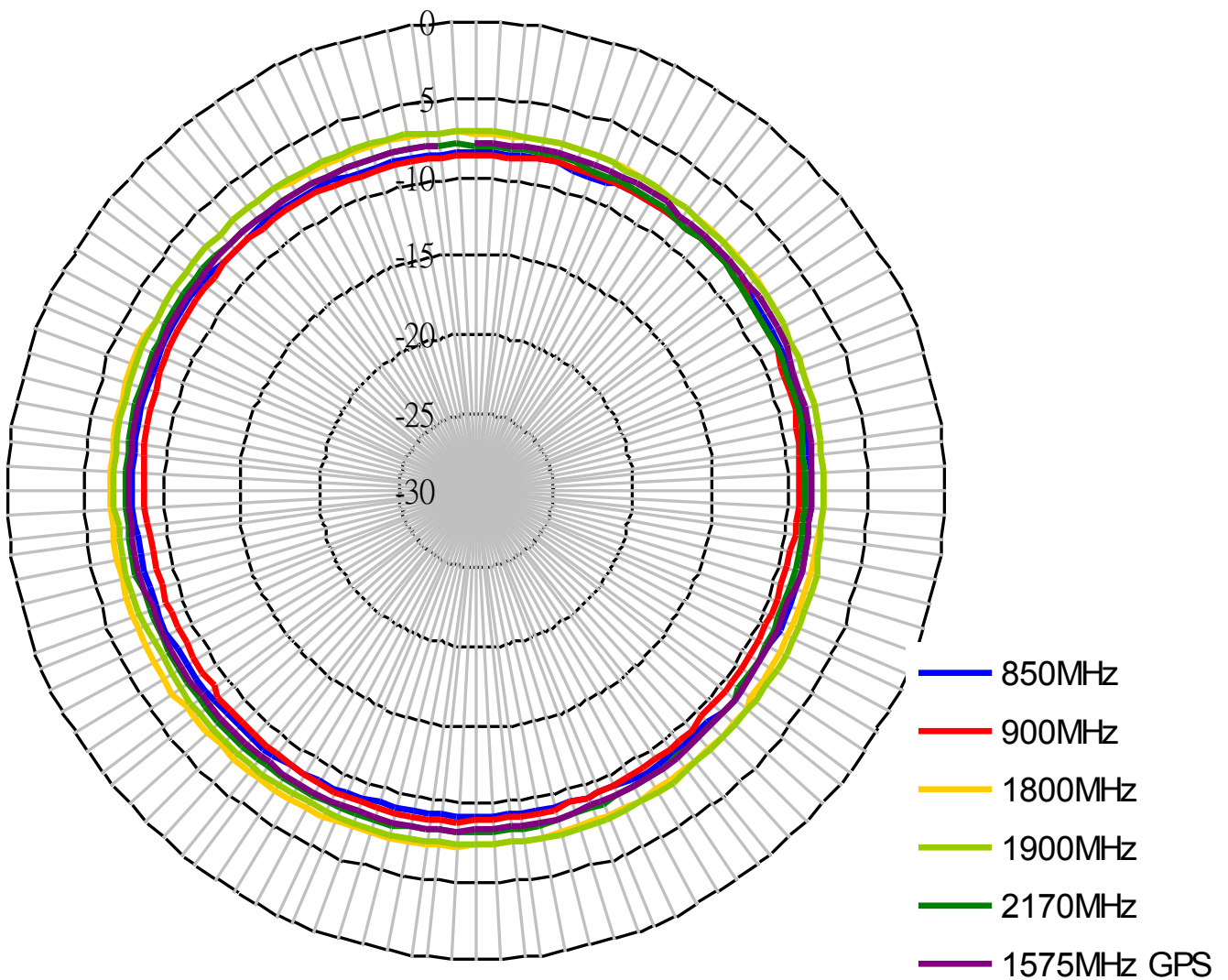


#### 4.4.1 Radiation Pattern, Aligned at the Connector

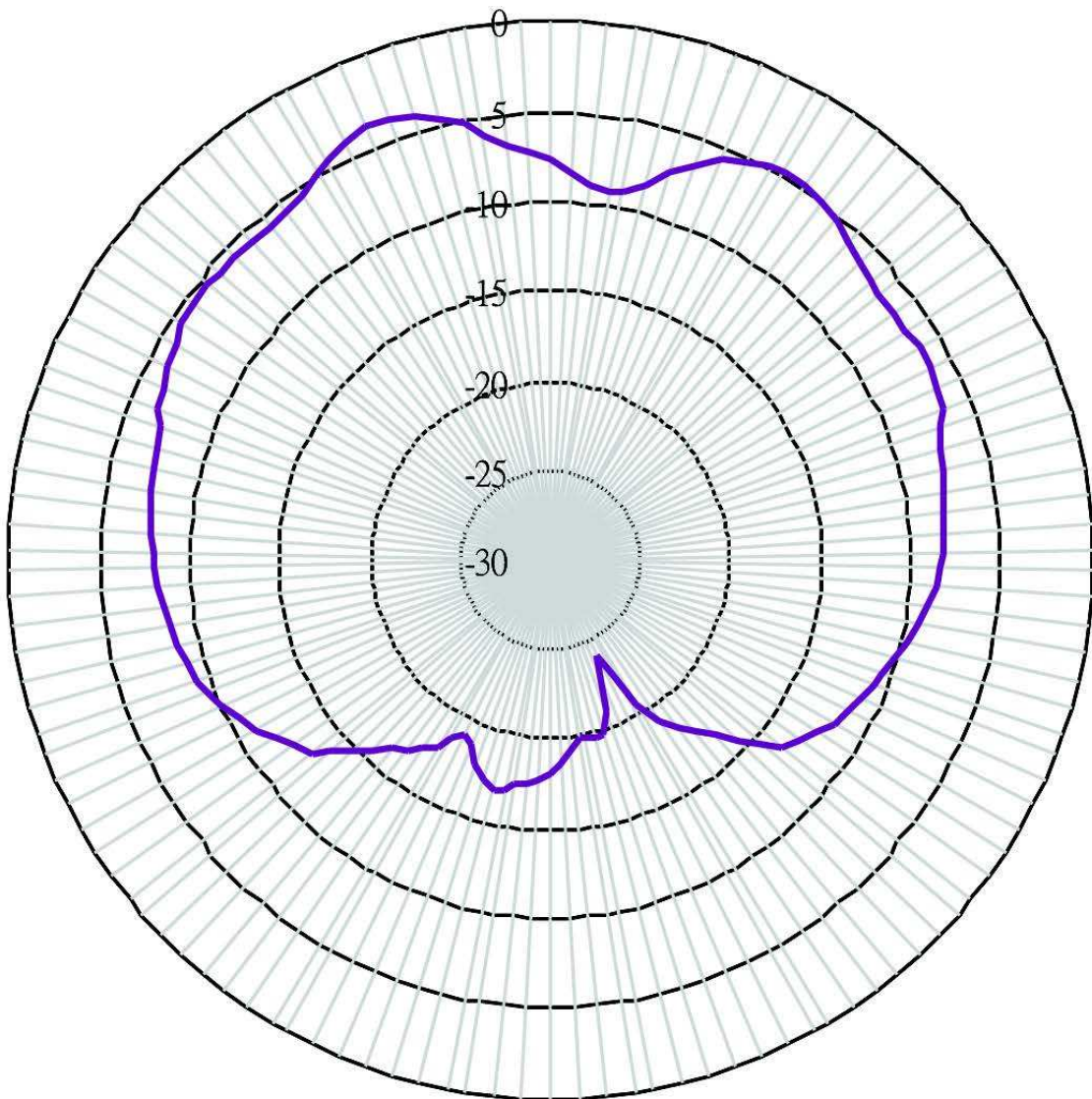




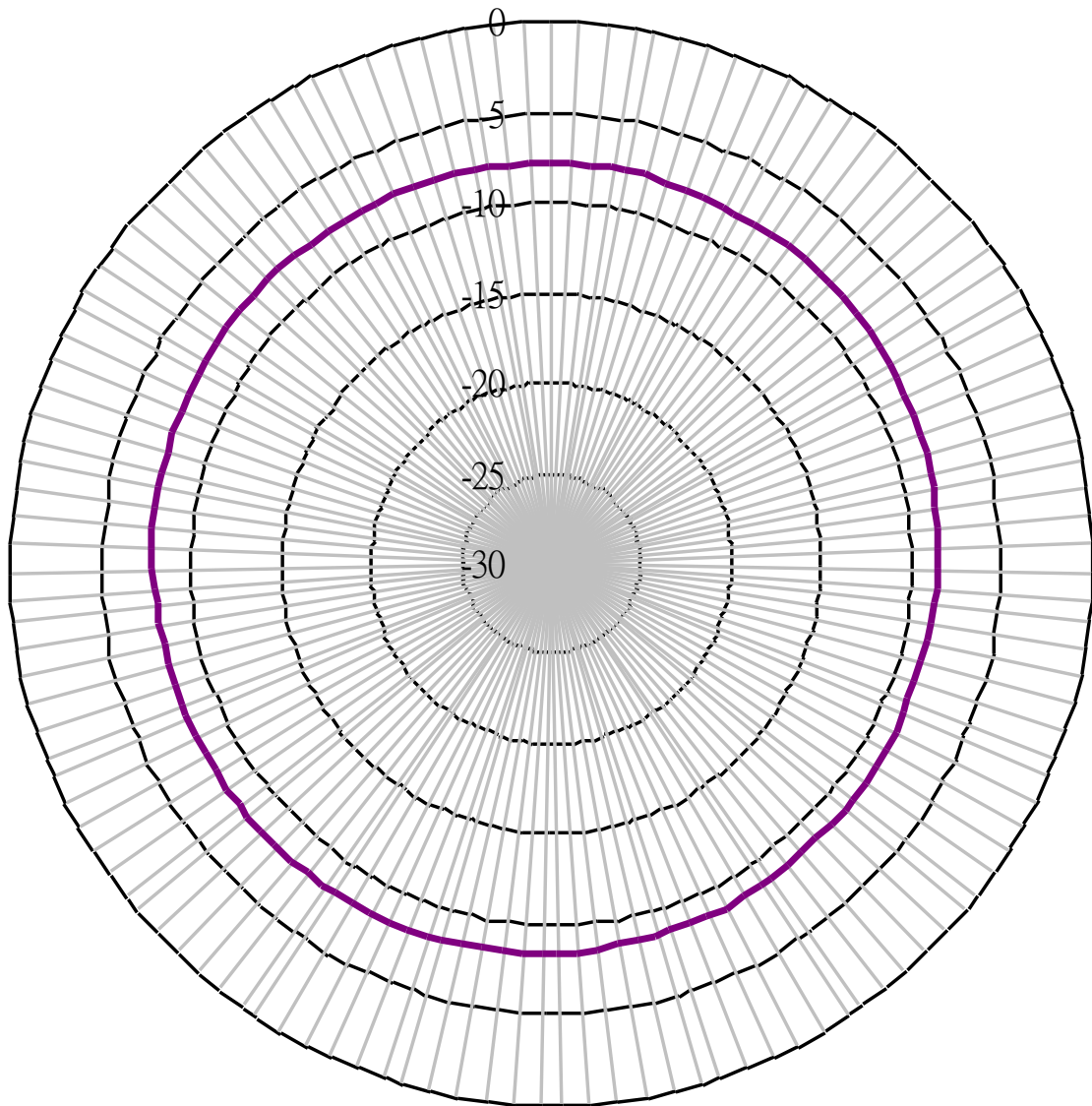
#### 4.4.2 Radiation Pattern, Azimuth Plane (XY)



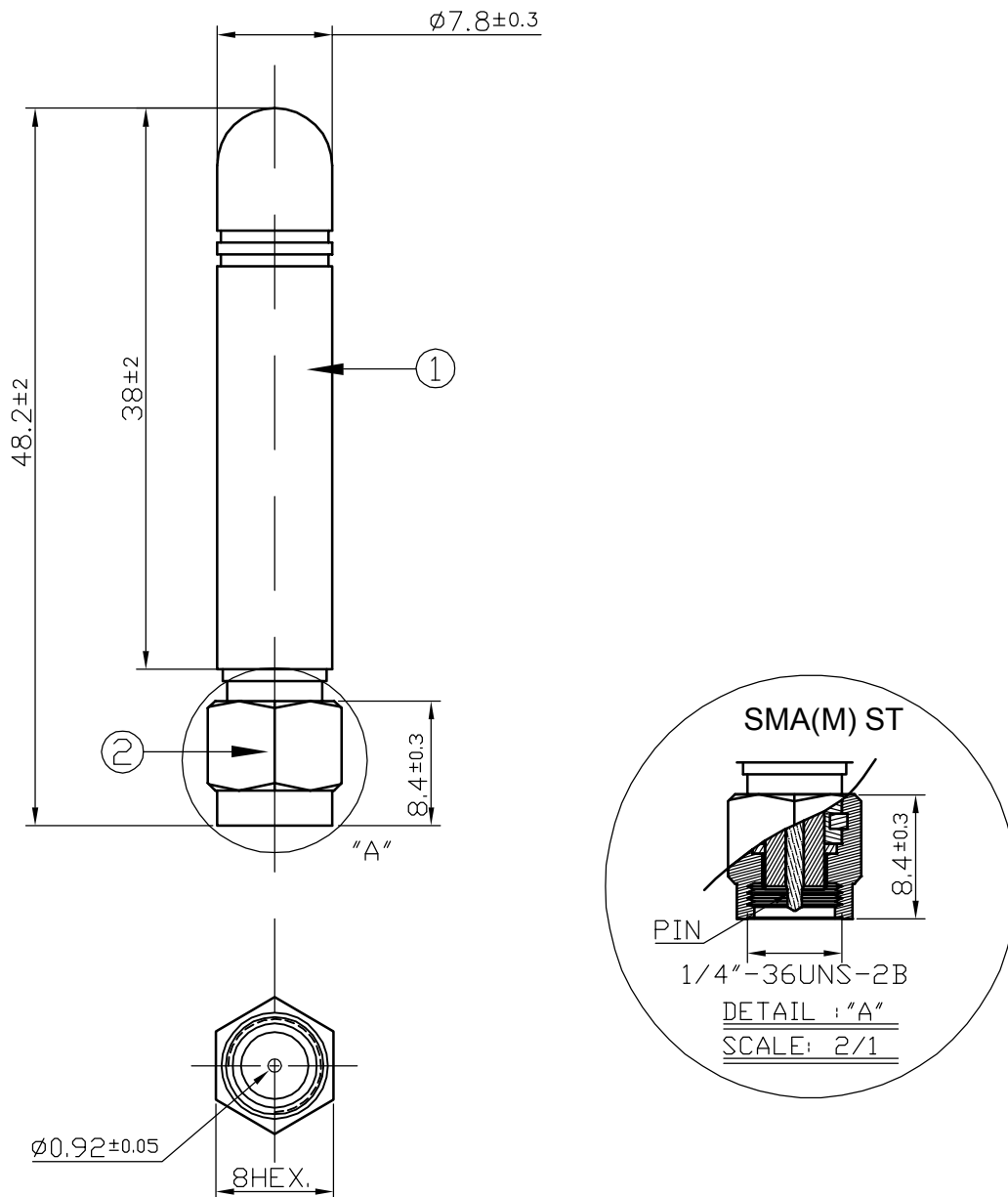
#### 4.4.3 Radiation pattern - Aligned at the connector 1575MHz only



#### 4.4.4 Radiation Pattern, Azimuth Plane (XY) – 1575MHz only

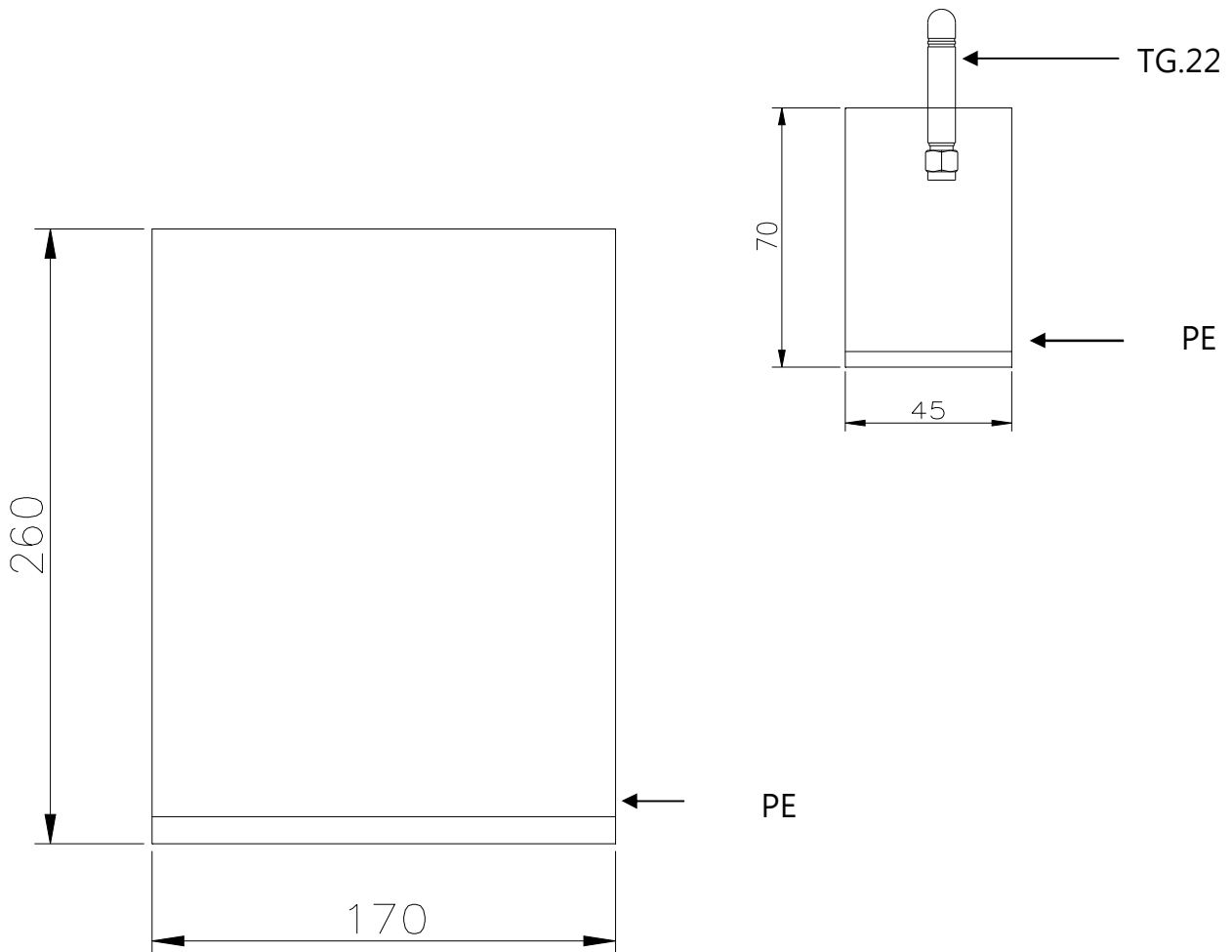


## 5. Drawing and Dimensions (unit: mm)



	Name	P/N	Material	Finish	Quantity
1	Antenna Housing	000111F0300XXA	TPEE	Black	1
2	SMA(M) ST	200211J000002A	Brass	Gold	1

## 6. Packaging



- 1pcs antennas per small PE bag.
- 100 small PE bags per big PE bag.
- 100pcs antennas per big sealed PE bag.

## 7. Installation

- 1) Use hand to screw the SMA connector.  
Tighten it until it feels a little tight.



- 2) Use torque wrench which has 0.9 Nm torque limit to tighten it.



- 3) Do not use normal wrench.



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