



Close-up of
connector and pin

TG.22.0111

Specification

Part No.	TG.22.0111
Product Name	Penta-Band Cellular Connector Mount GSM-DCS-PCS-UMTS-CDMA-GPRS-EDGE-HSPA 800MHz ~2200 MHz
Feature	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

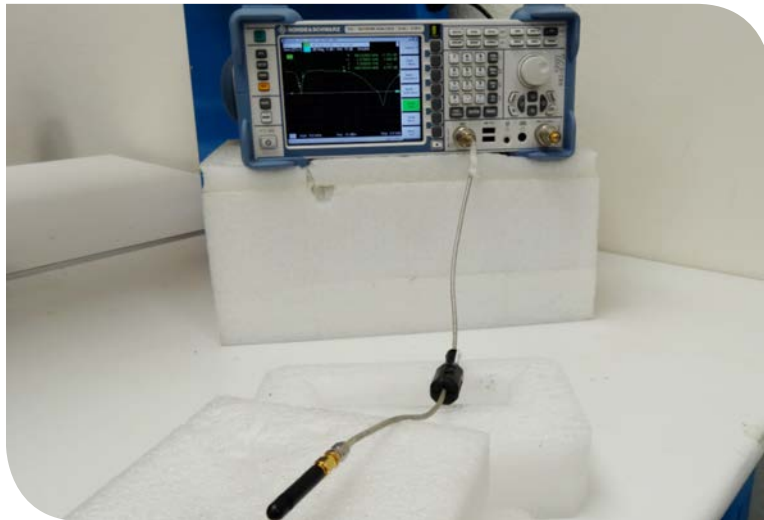


Figure 1. Impedance and VSWR measurements (left hand)

4. Antenna Parameters

4.1 Return Loss

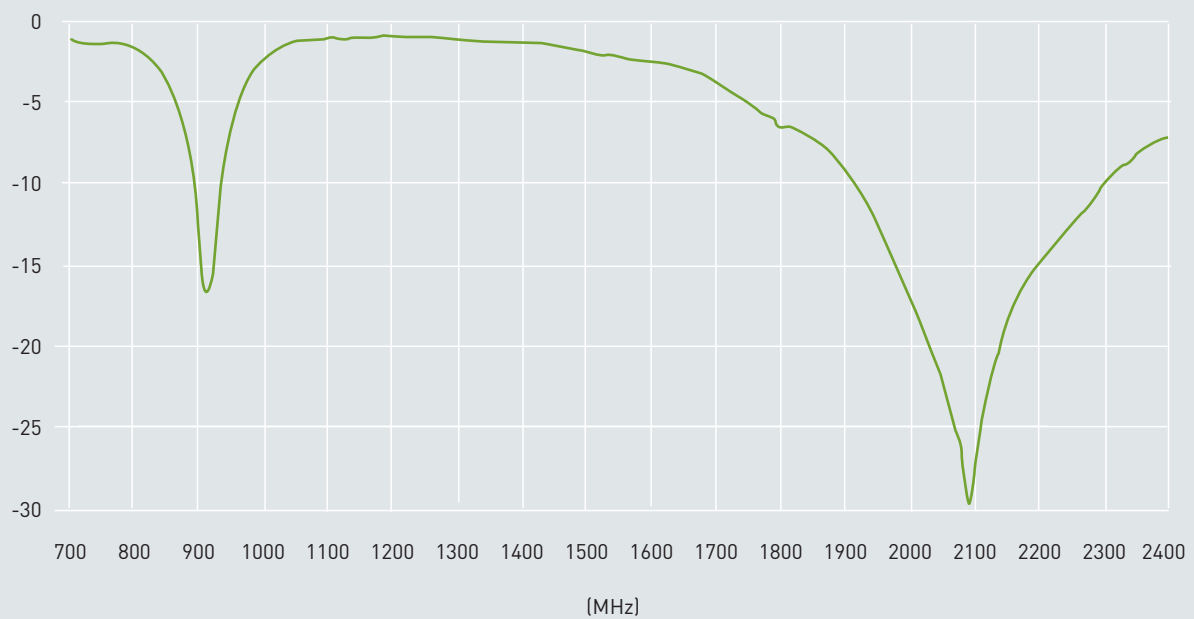


Figure 2. Return Loss of TG.22.0111

4.2 VSWR

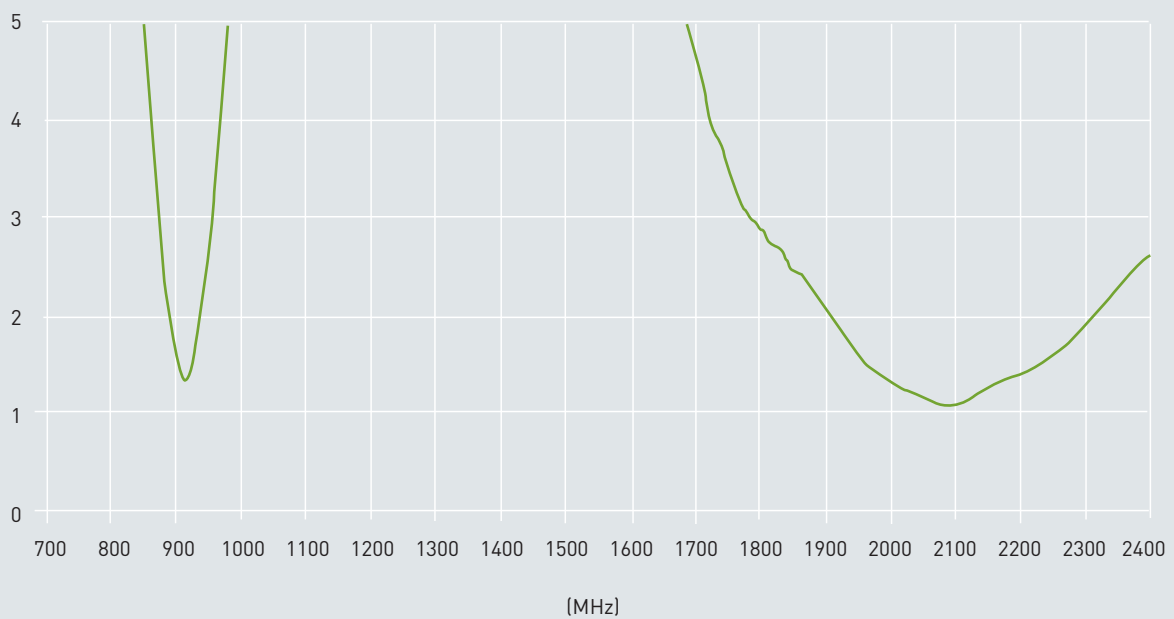
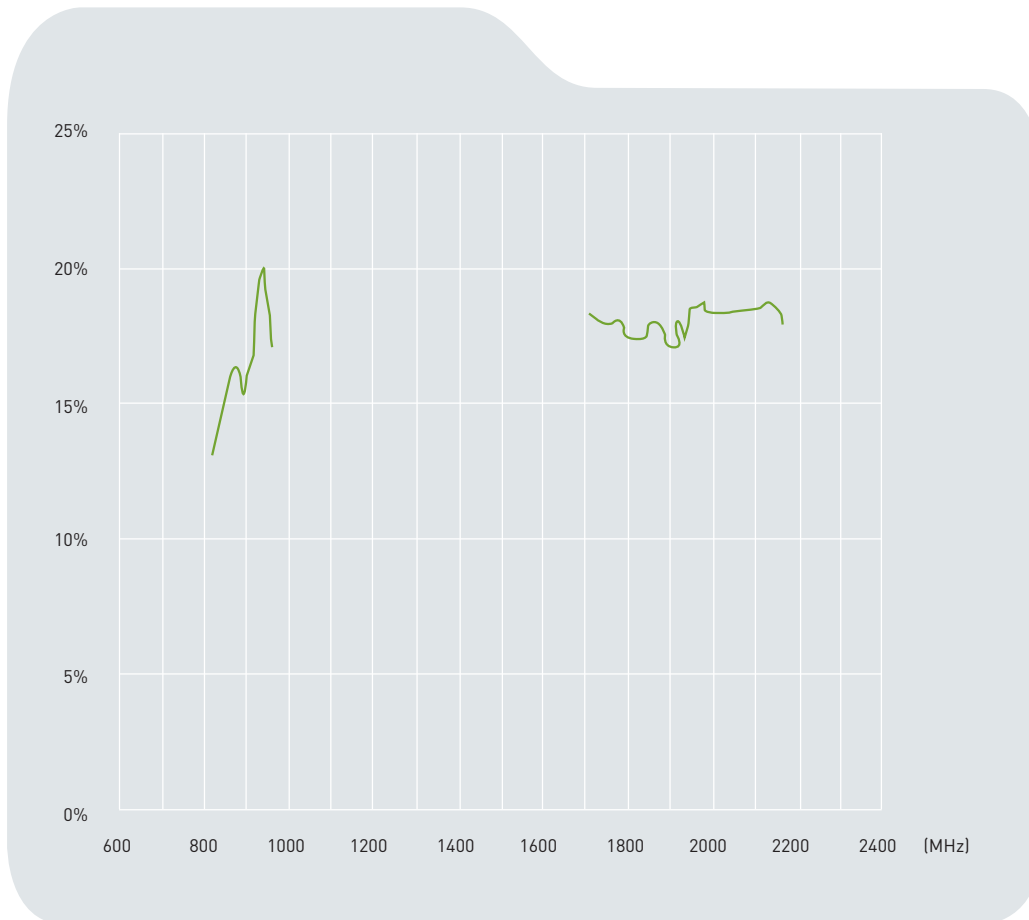


Figure 3. VSWR of TG.22.0111

4.3 Efficiency (dB)



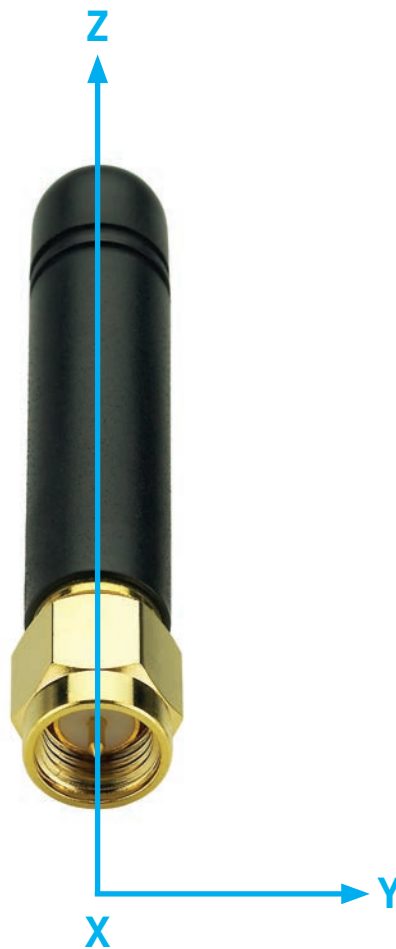
Frequency	824	836	849	869	880	894	900	915	925	940	960
Efficiency	13.18%	14.31%	15.37%	16.30%	16.21%	15.43%	16.01%	16.83%	18.20%	19.92%	17.11%

Frequency	1575
Efficiency	14.98%

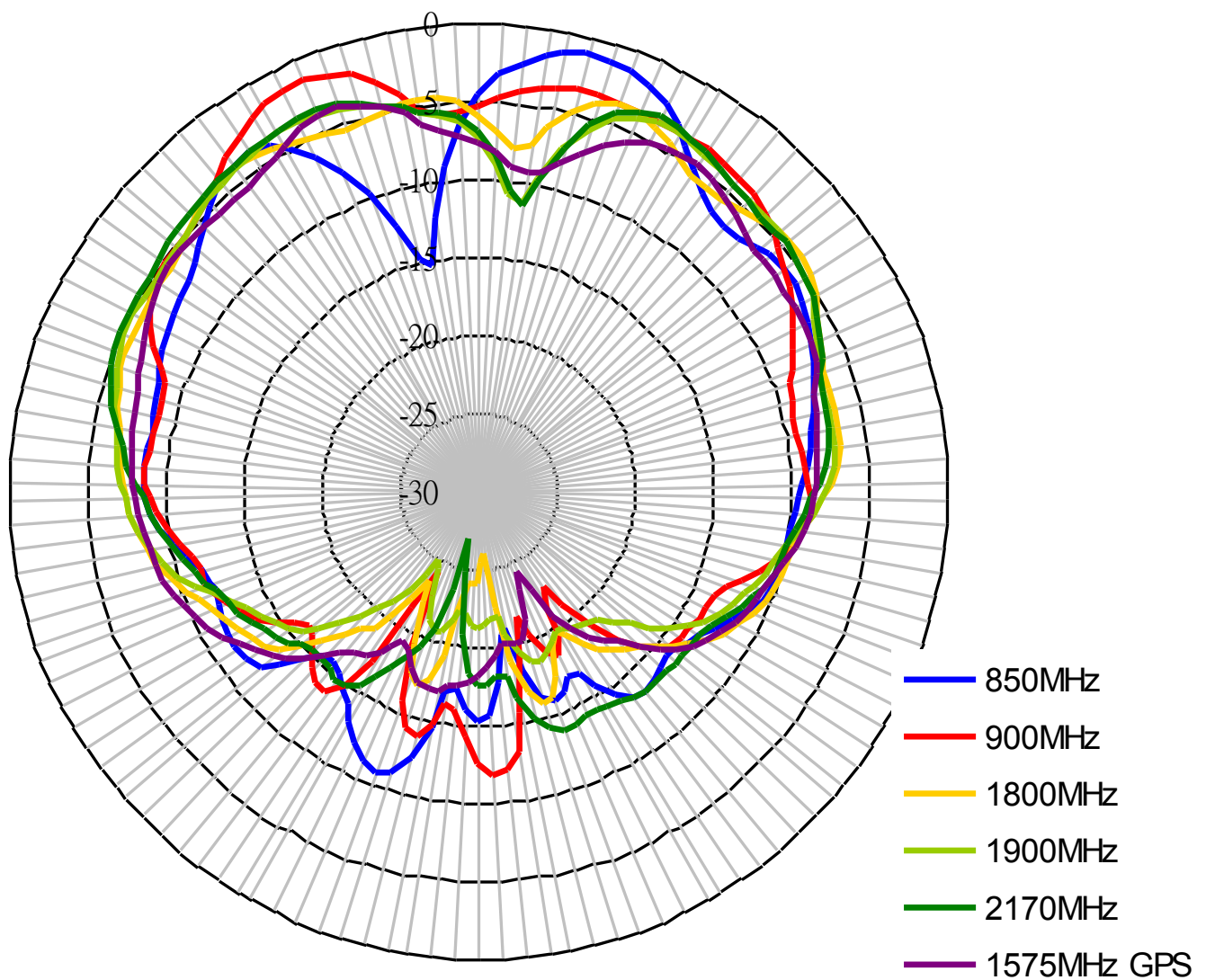
Frequency	1710	1750	1785	1805	1840	1850	1880	1910	1920	1930	1950
Efficiency	18.33%	17.96%	18.03%	17.45%	17.55%	18.01%	17.90%	17.13%	18.18%	17.50%	18.53%

Frequency	1960	1980	1990	2110	2140	2170
Efficiency	18.48%	18.81%	18.35%	18.62%	18.72%	17.92%

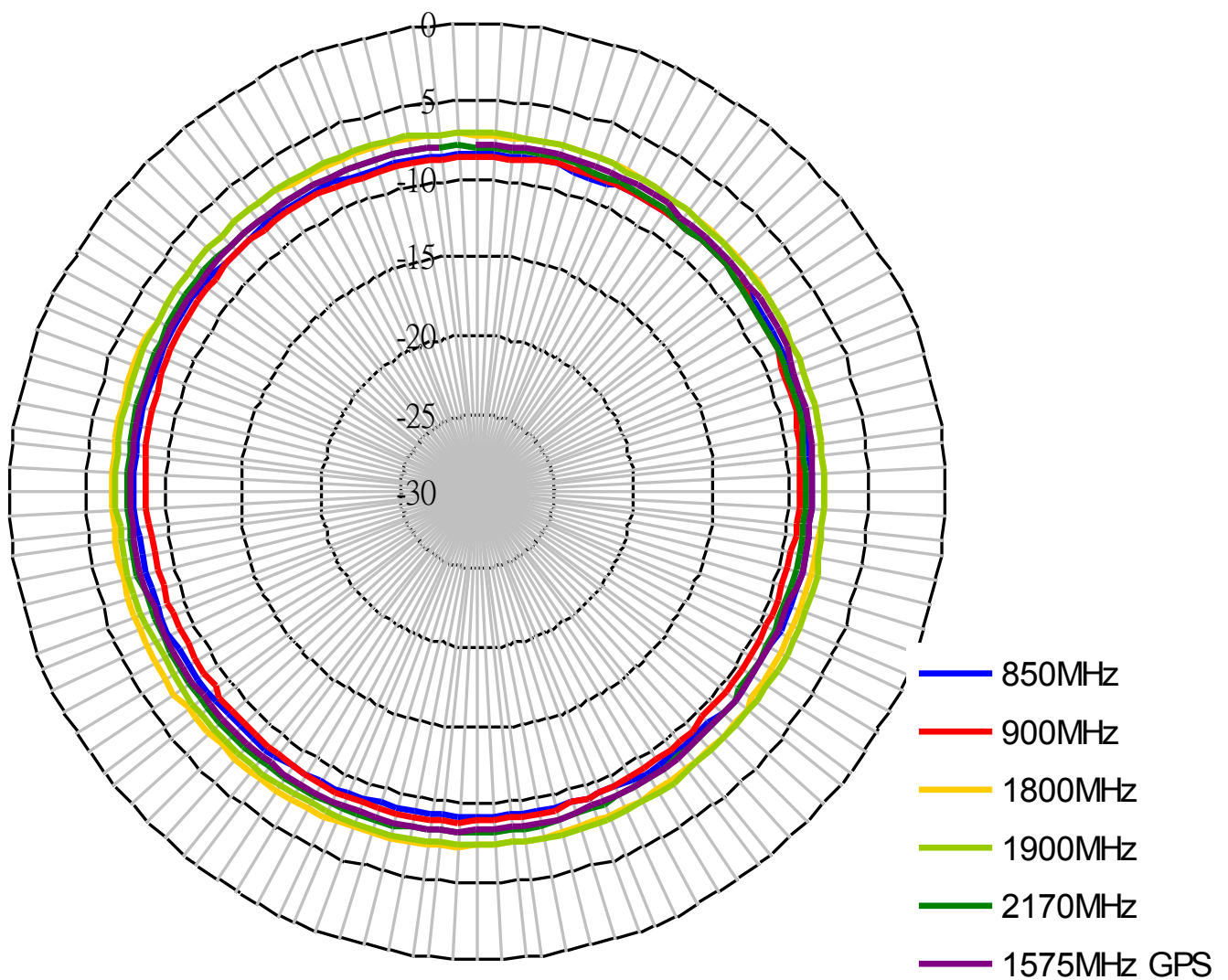
4.4 Radiation Pattern Data



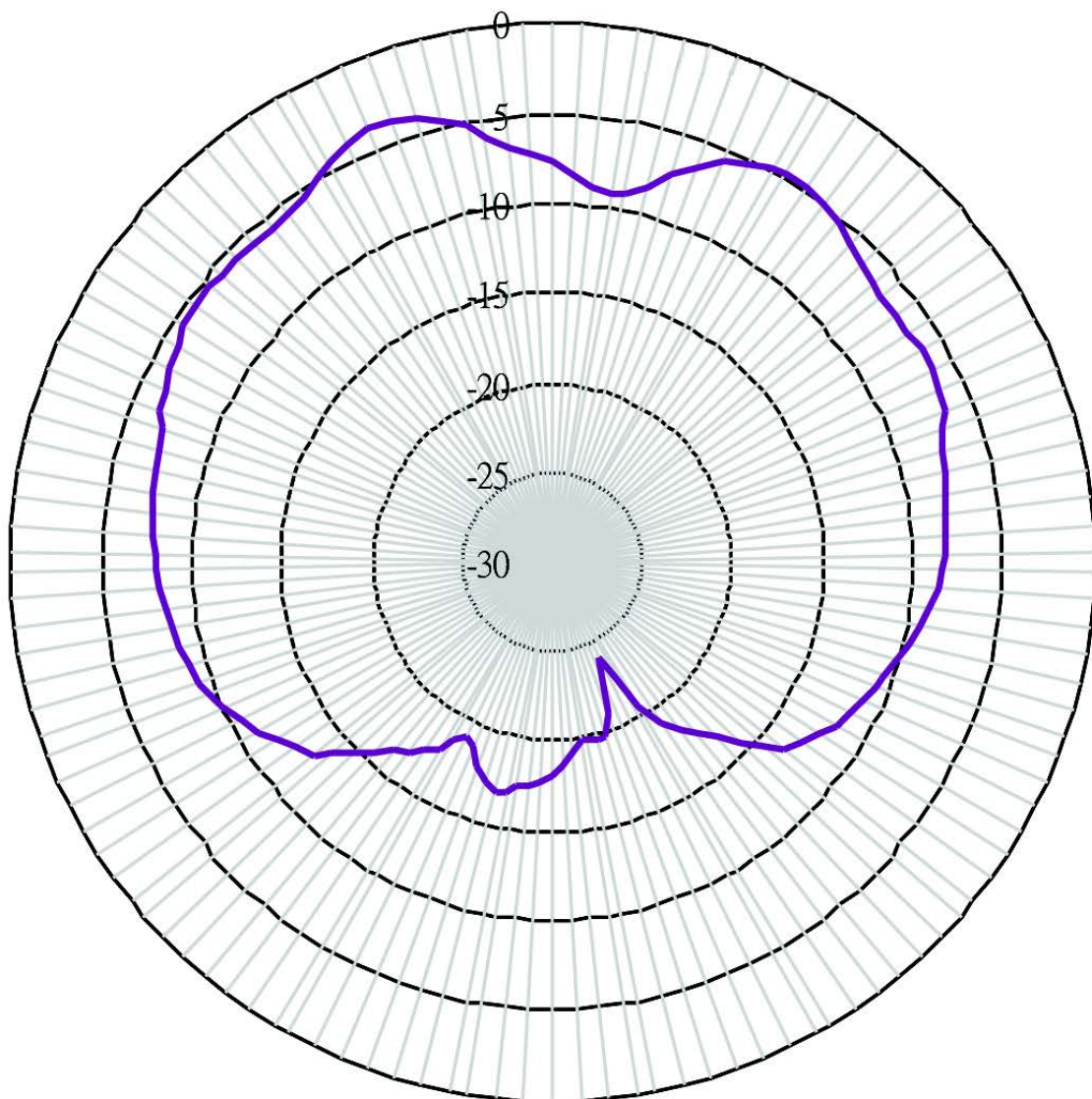
4.4.1 Radiation Pattern, Aligned at the Connector



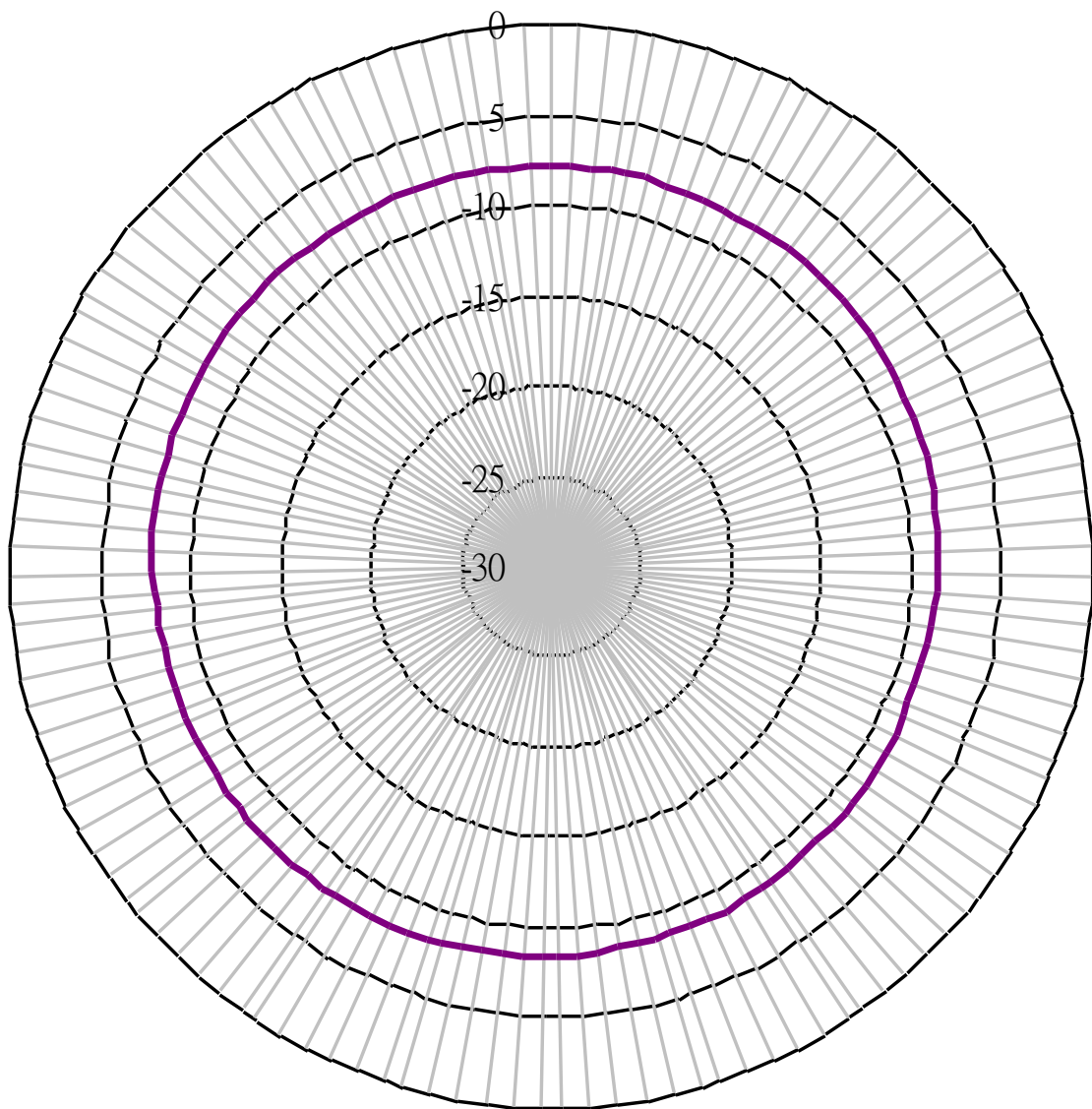
4.4.2 Radiation Pattern, Azimuth Plane (XY)



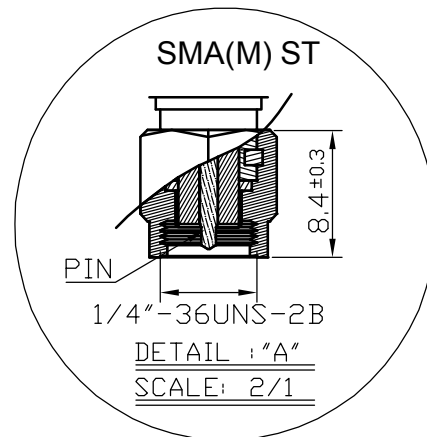
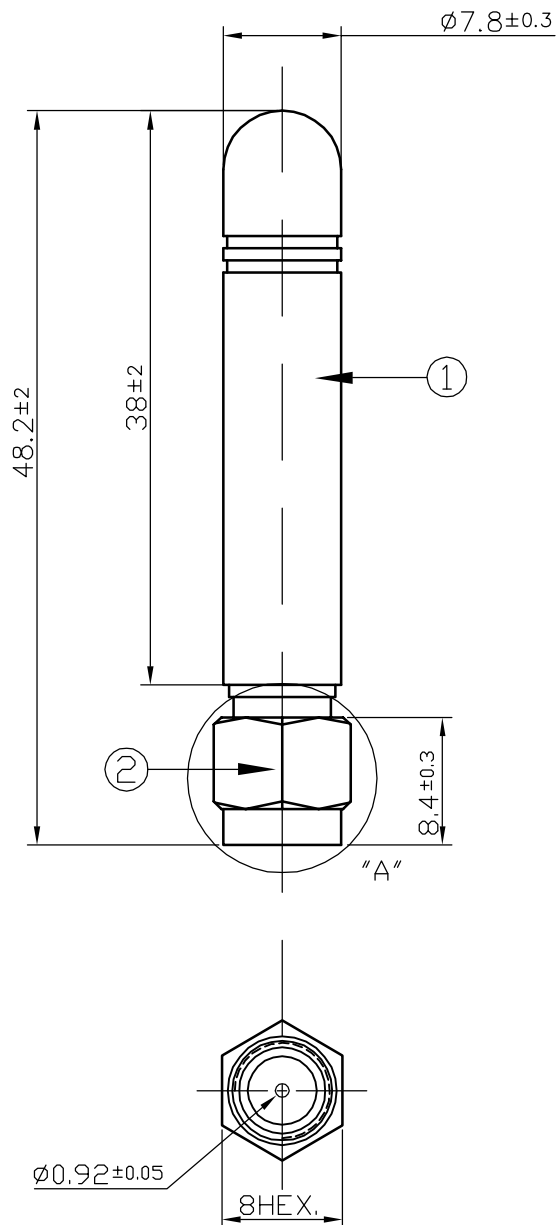
4.4.3 Radiation pattern – Aligned at the connector 1575MHz only



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

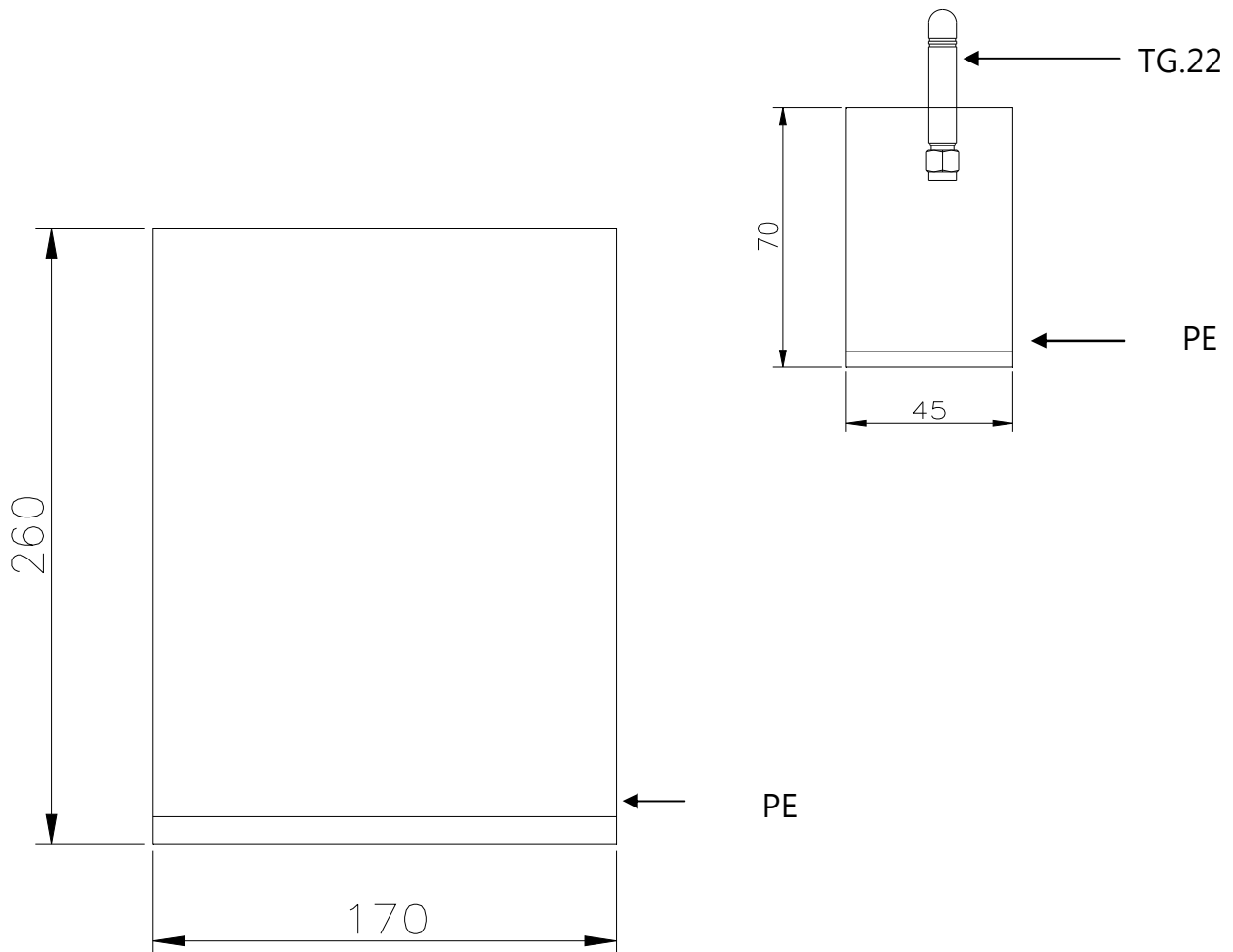


5. Drawing and Dimensions (unit: mm)



	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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