

SPECIFICATION

Thin Heat-Shrink Wrapped Cellular I-Bar Adhesive Type External Antenna

- Part No. : **GSA.8830.A.201111**
- Product Name : Heat-Shrink Wrapped Penta-Band
I-Bar Antenna
- Feature : GSM / CDMA /DCS /PCS / WCDMA / UMTS /
HSPA/ HSDPA / GPRS / EDGE
850/900/1800/1900/2100 MHz bands
2m RG174 cable with SMA(M) connector
90mm*20.8mm*4.6mm
Low profile IP67(Internal PCB)
With heat shrink to protect antenna
RoHS Compliant



1. Introduction

The GSA.8830 Penta-band I-Bar antenna is flexible and robust. Its slim-line design encased in waterproof heat-shrink material allows for covert and convenient installation in automotive vehicles. Omni-directional gain across all bands ensures constant reception and transmission.

With its unique dipole design, the GSA.8830 has exceptional industry performance characteristics considering its very low profile at 4.6mm and has a compact size 90mm*20.8mm. It's suitable for customers that appreciate highest performance at a lower price.

This antenna is designed and tuned to be mounted on glass or plastic (not on metal). Cable lengths and connectors are fully customizable.

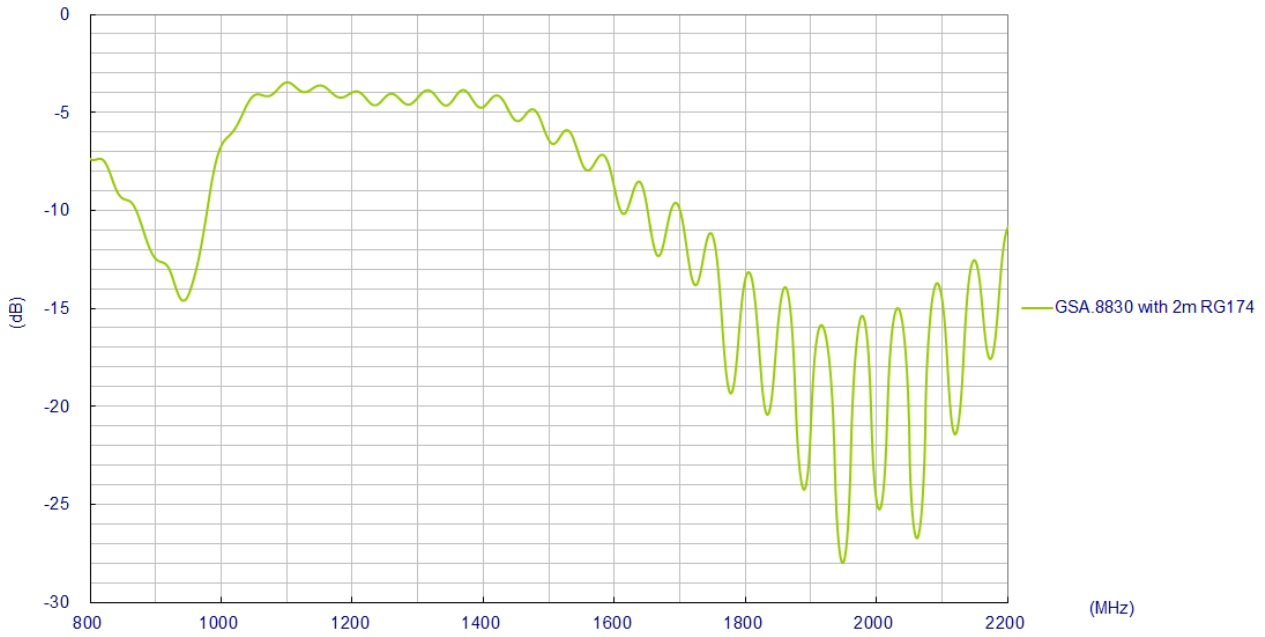
2. Specification Table

| GSM Band | | | | | |
|-----------------------|-----------------------|---------|-----------|-----------|-----------|
| | GSM 850 | GSM 900 | DCS | PCS | WCDMA I |
| Frequency (MHz) | 824~896 | 880~960 | 1710~1880 | 1850~1990 | 1920~2170 |
| Peak Gain (dBi)* | -0.23 | 0.77 | 0.67 | 0.98 | 0.73 |
| Average Gain (dBi)* | -4.66 | -5.39 | -3.93 | -3.43 | -3.42 |
| Efficiency (%)* | 34.55 | 28.94 | 40.57 | 45.53 | 45.52 |
| Return Loss (dB)* | < -8 | < -9 | < -10 | < -10 | < -10 |
| Polarization | Linear | | | | |
| Impedance | 50 Ω | | | | |
| MECHANICAL | | | | | |
| Antenna Dimensions | 90mm x 20.8mm x 4.6mm | | | | |
| Material | FR4 | | | | |
| Cable type | RG174 Coaxial Cable | | | | |
| Cable length | 2m | | | | |
| Connector type | SMA(M) | | | | |
| Adhesive | 3M 467 | | | | |
| IP rating | IP67(Internal PCB) | | | | |
| ENVIRONMENTAL | | | | | |
| Operation Temperature | -40°C ~ +85°C | | | | |
| Storage Temperature | -40°C ~ +85°C | | | | |

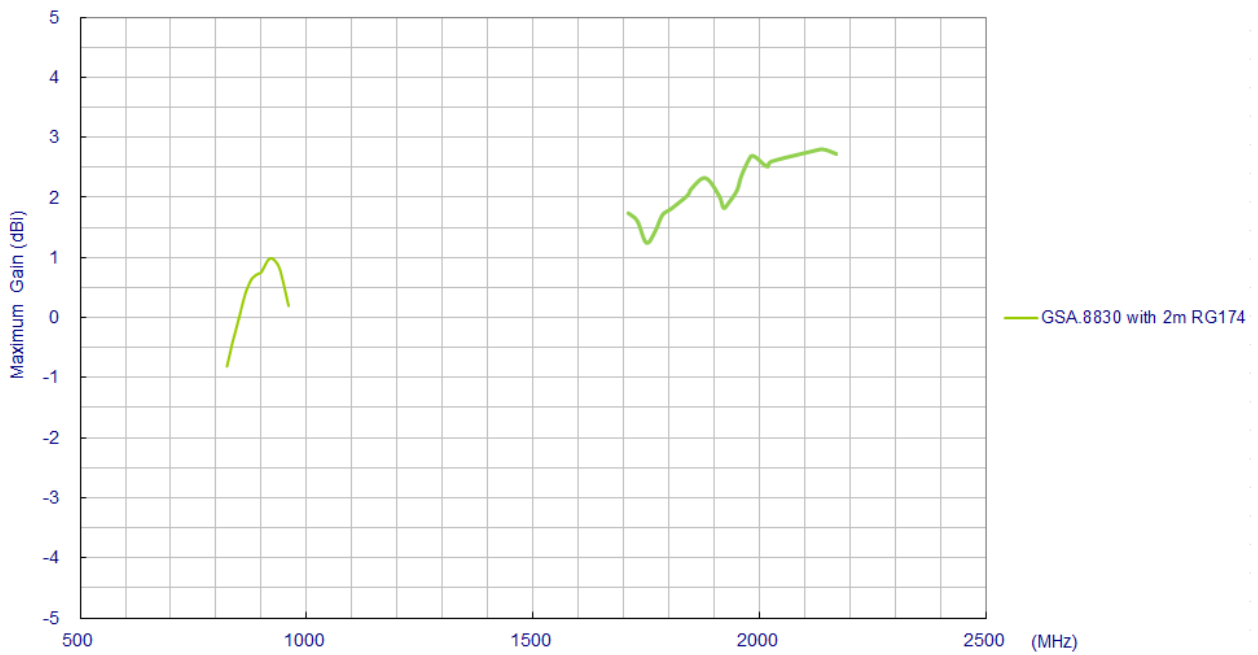
* Antenna is tested at the connector, to include 2 meter cable loss, adhered on a 2mm thickness ABS material base substrate.

3. Antenna Characteristics

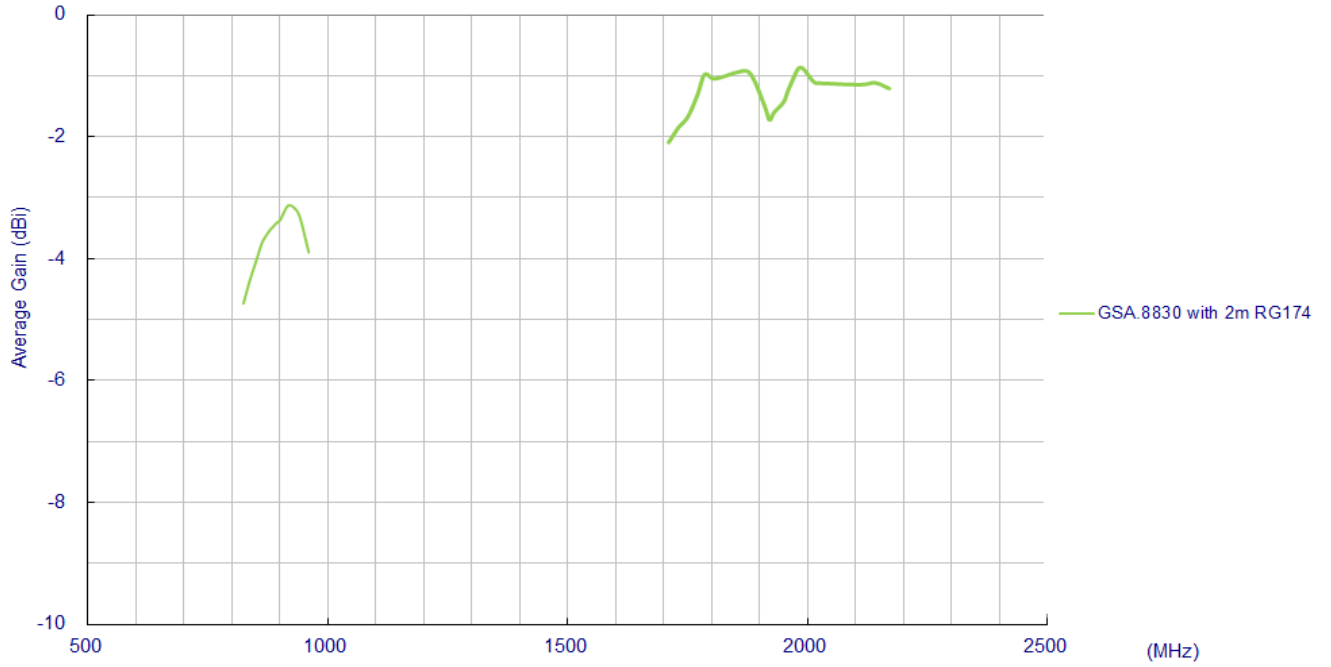
3.1. Return Loss



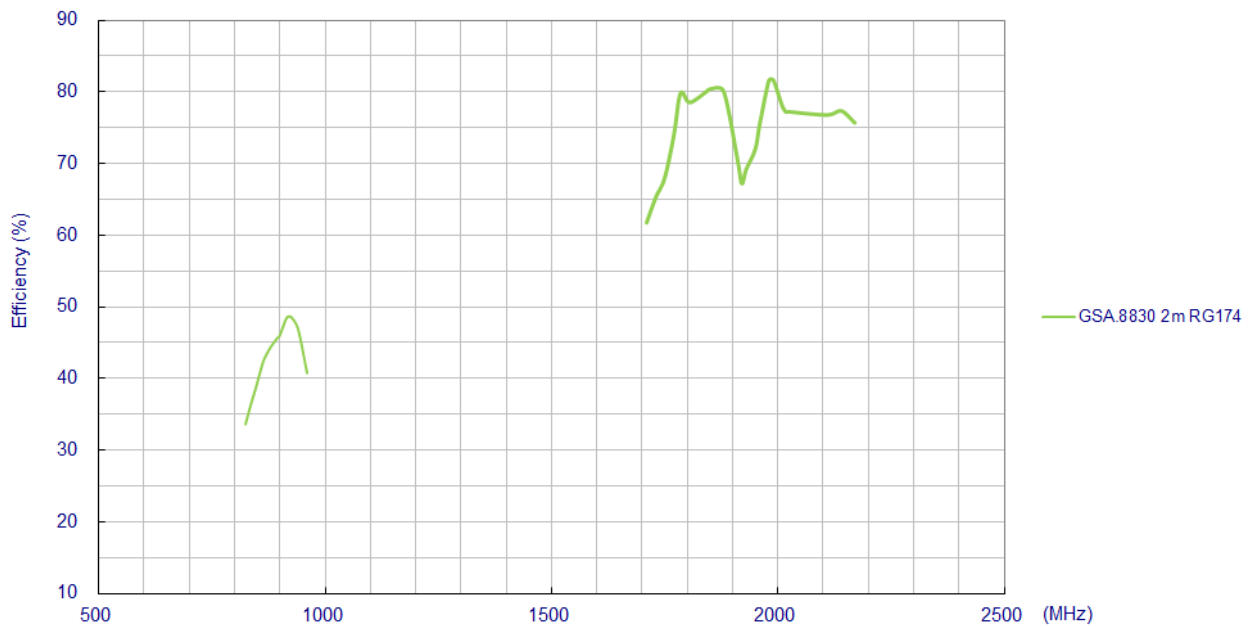
3.2. Maximum Gain



3.3. Average Gain

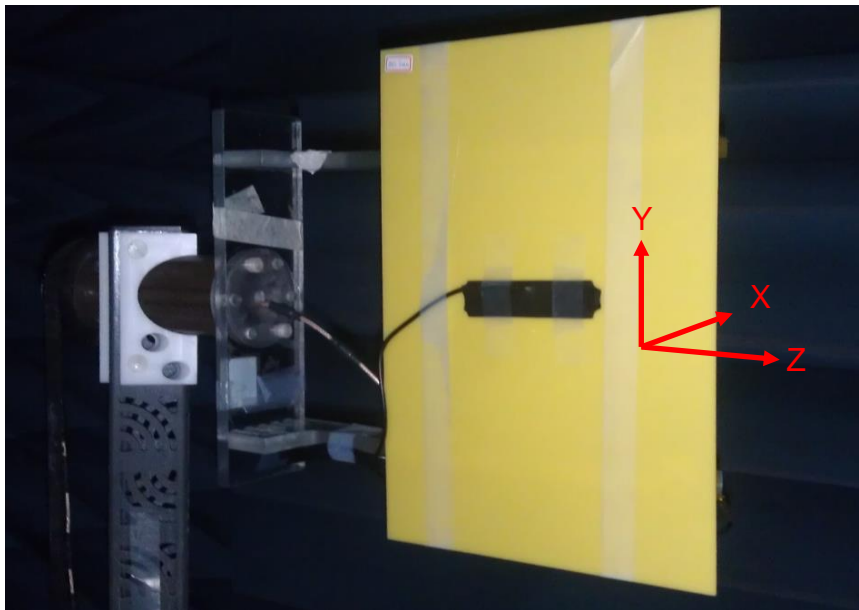


3.4. Efficiency



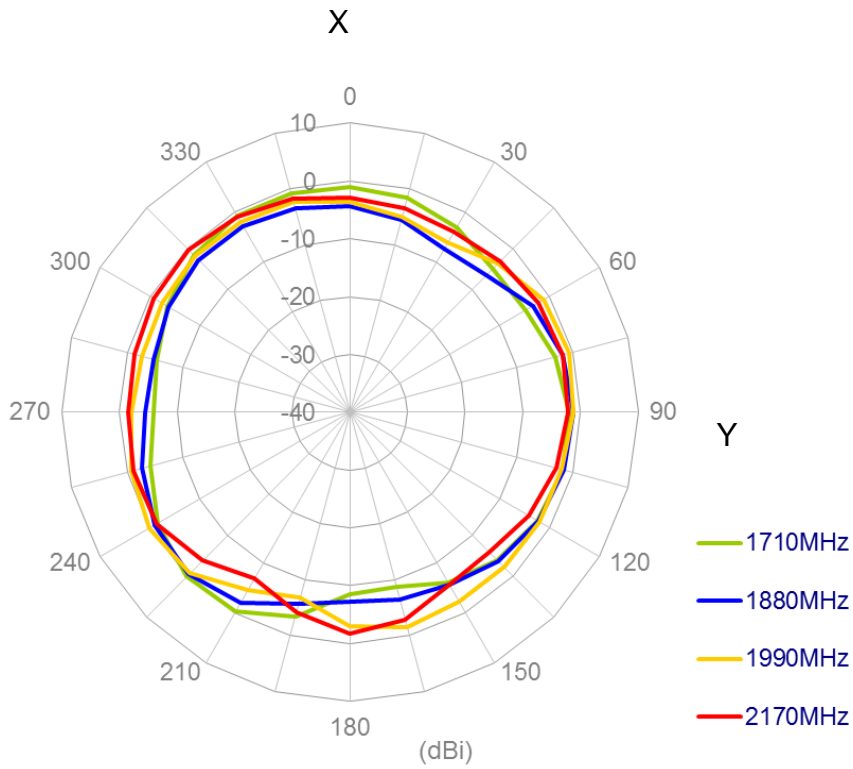
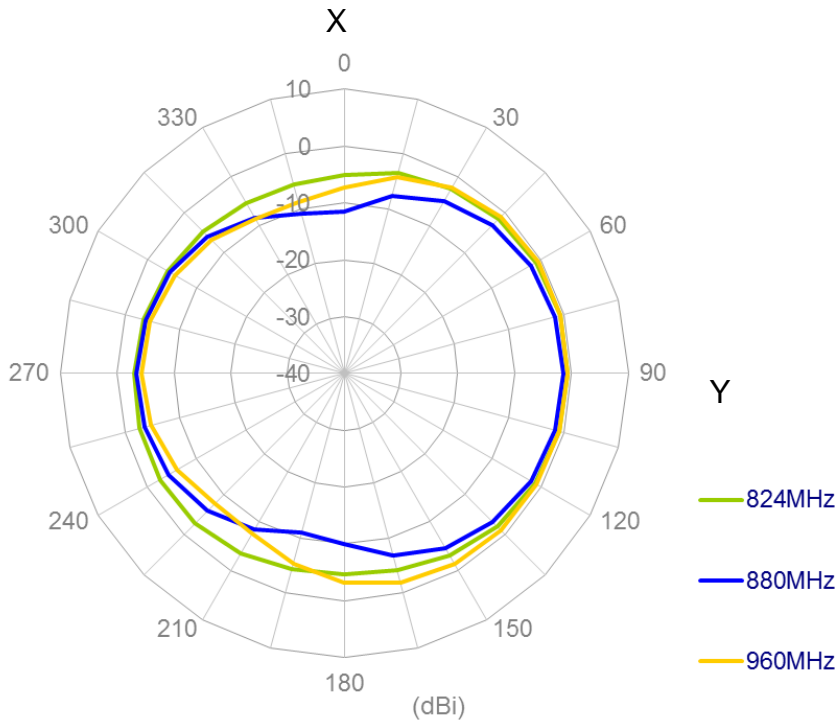
4. Antenna Radiation Patterns

Antenna setup in 3D Anechoic chamber

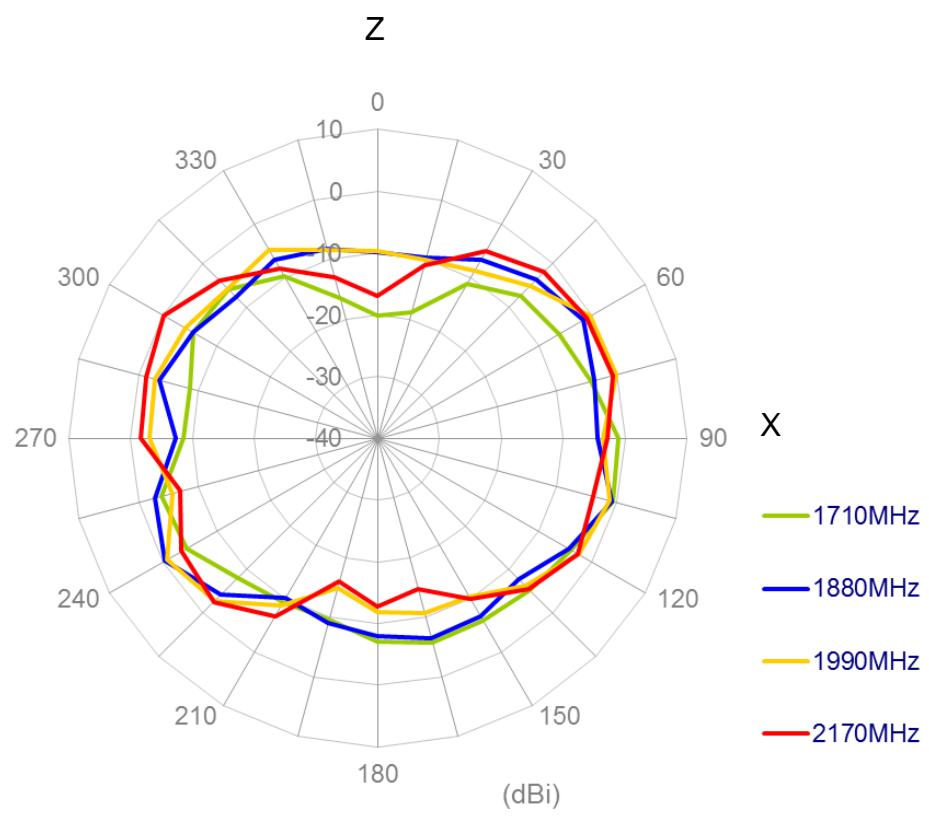
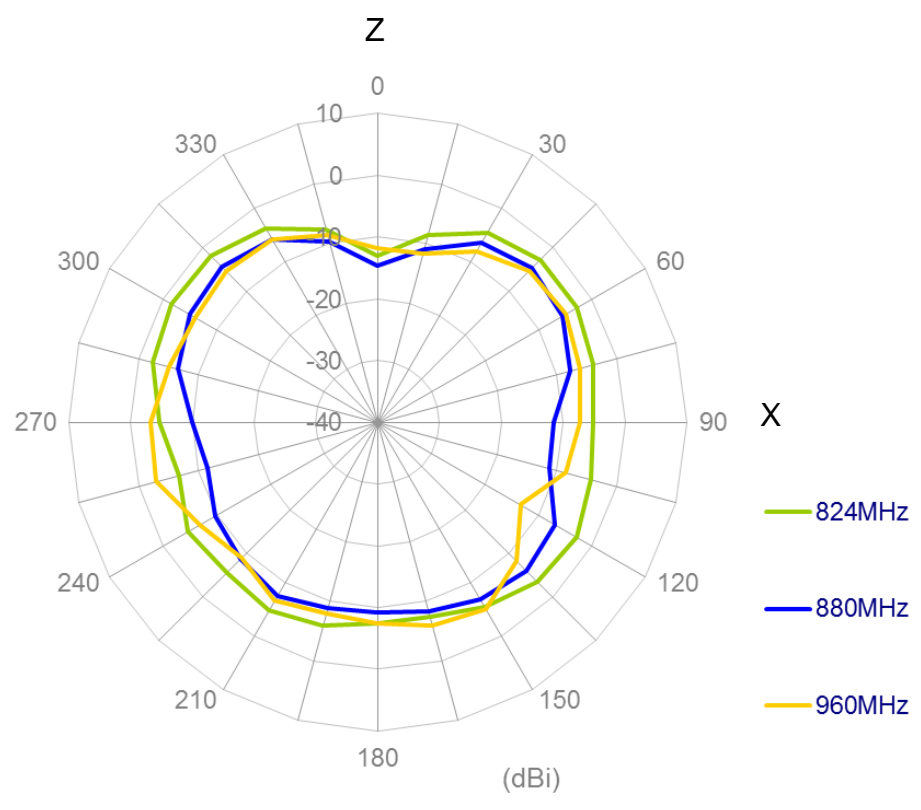


Radiation Patterns

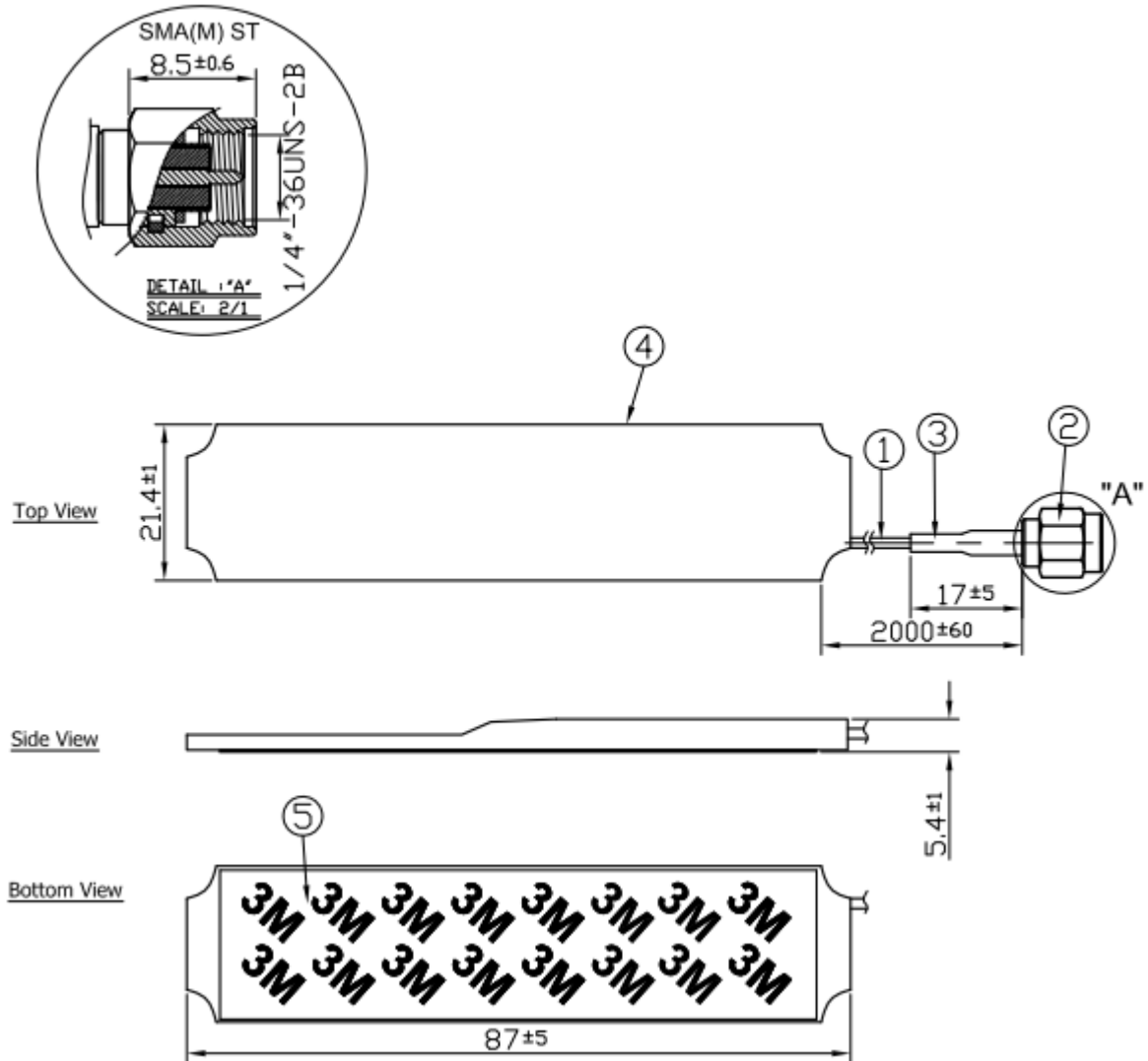
XY plane



XZ plane



5. Drawing



| | Name | P/N | Material | Finish | QTY |
|---|---------------------|----------------|----------|--------|-----|
| 1 | RG174 Coaxial Cable | 301313A000002A | FEP | Black | 1 |
| 2 | SMA(M) ST | 200212G000002A | Brass | Gold | 1 |
| 3 | Heat Shrink Tube | 001312E000002A | PE | Black | 1 |
| 4 | Heat Shrink Tube | 001312K000002A | PE | Black | 1 |
| 5 | 3M Adhesive | 001012K000039A | 3M 9448 | N/A | 1 |