

SPECIFICATION

- Part No. : **MA.206.A.A301111.B301151**
- Product Name : MA.206 Stingray GPS/2.4~2.54GHz Combination Adhesive Antenna
- Features : GPS - High gain LNA up to 32dB
2.4~2.5GHz
Height 10.8mm Diameter 55.1mm
RoHS Compliant



3D view



top view
(this side faces the sky)



underside view
(this side faces the passenger)

1. Introduction

This is a combination high performance GPS and 2.4~2.5GHz antenna to simplify AVL or Fleet management antenna systems worldwide. Its high quality low profile covert housing can be attached onto the glass or even out of sight under the dashboard. This combination is ideal for those applications that require durability, small size and covert installation.

The standard version has 3 metres RG174 cable and SMA(M) connector on GPS and RP-SMA(M) on 2.4~2.5GHz. The cables and connectors are completely customizable according to customer request.

Features

GPS

- High LNA Gain up to 32 dB
- Antenna Gain 30 ± 2 dB
- Miniaturized to 55.15x12mm
- Low Noise 1.5 dB max

Wi-Fi

- Advanced 2.4~2.5GHz

Other

- Water Resistant IP 65
- Quality textured covert design. Low profile
- UV resistant ABS housing
- Comes with high grade 3M double sided tape for quick and easy mounting
- Customizable cables and connectors

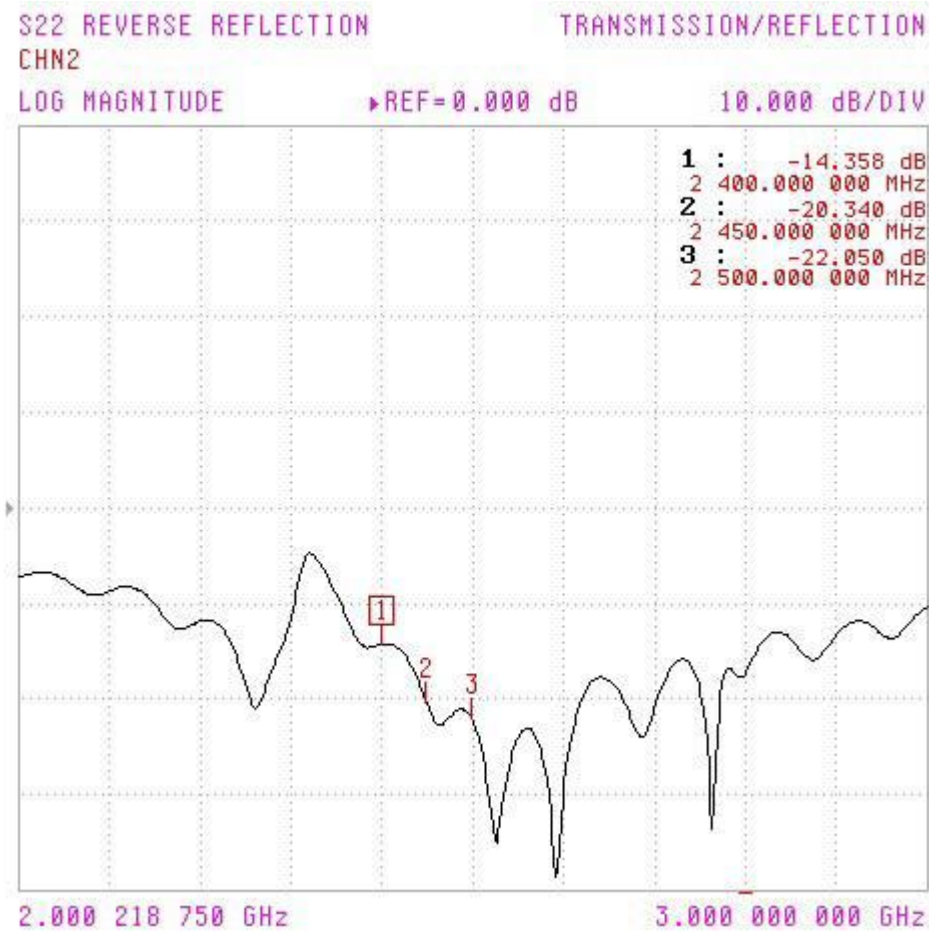
2. Specification

| Performance Specifications | | |
|----------------------------|--|--|
| Items | GPS Antenna | 2.4~2.5GHz |
| Features | High performance GPS ceramic patch antenna with cutting edge low noise amplifier | 2400MHz to 2500MHz |
| Frequency | 1575.42 MHz \pm 2MHz | As above |
| Gain | 28dB typ. | - |
| | Gain at Zenith: -1.0 dBi min | |
| | Axial Ratio :3.0 dB max | |
| Noise Figure | 2dB max. | - |
| Polarization | RHCP | - |
| DC Power Input | 2.7~3.3V | - |
| Bandwidth | 10 MHz min | - |
| VSWR | ≤ 1.92 | ≤ 1.92 |
| Impedance | 50 Ω | 50 Ω |
| Cable / Connector | Standard 1/2/3/5/10m RG-174 Cables and Connectors Fully Customizable | Standard 1/2/3/5/10m RG-174 Cables and Connectors Fully Customizable |
| Operating Temperature | -40 $^{\circ}$ C ~ +85 $^{\circ}$ C | -40 $^{\circ}$ C ~ +85 $^{\circ}$ C |
| Storage Temperature | -40 $^{\circ}$ C ~ +95 $^{\circ}$ C | -40 $^{\circ}$ C ~ +95 $^{\circ}$ C |
| Size | 55mm * 10.8mm | |
| Housing | UV resistant ABS | |

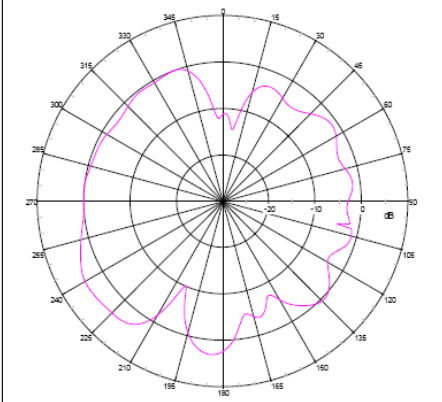
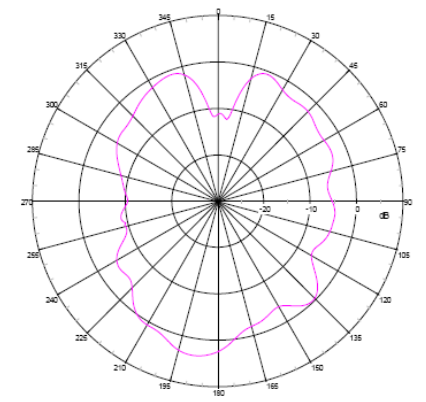
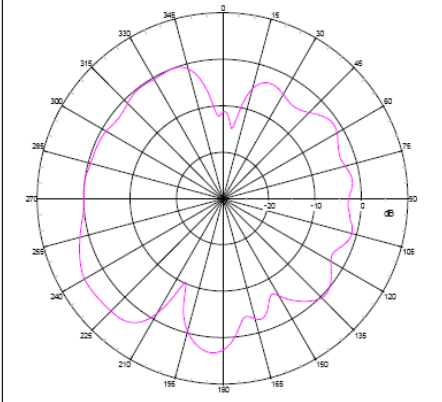
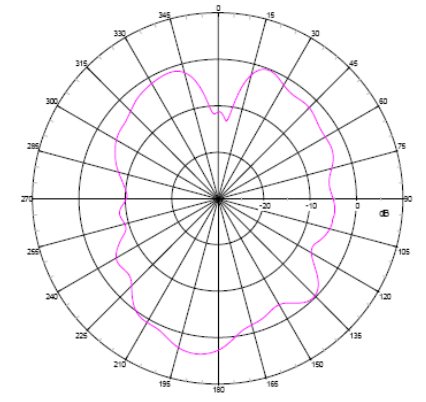
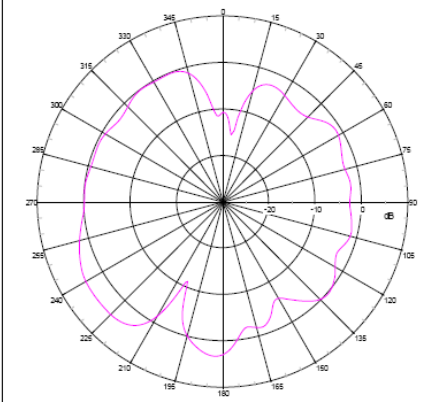
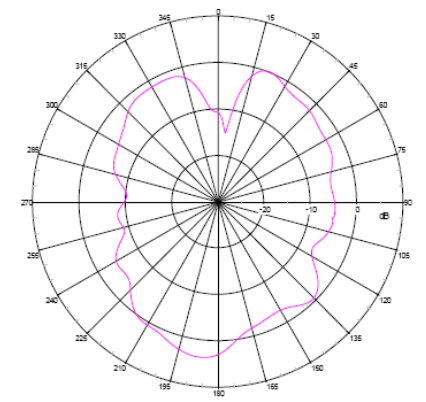
***note: specifications may be subject to change**

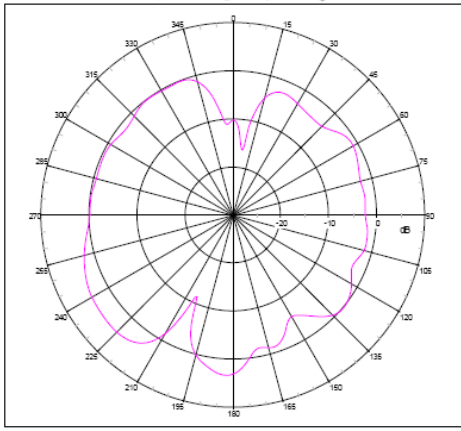
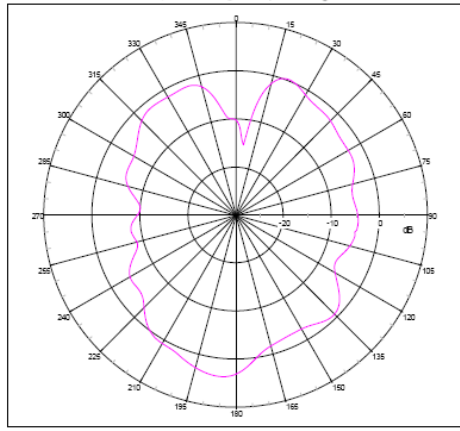
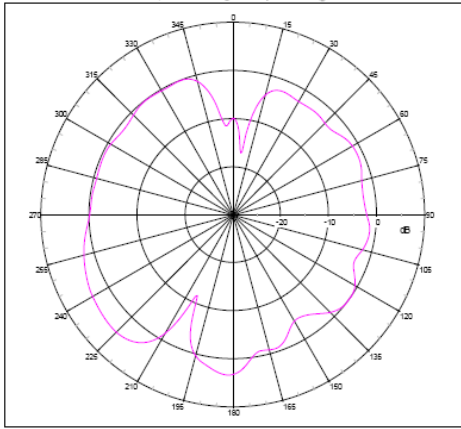
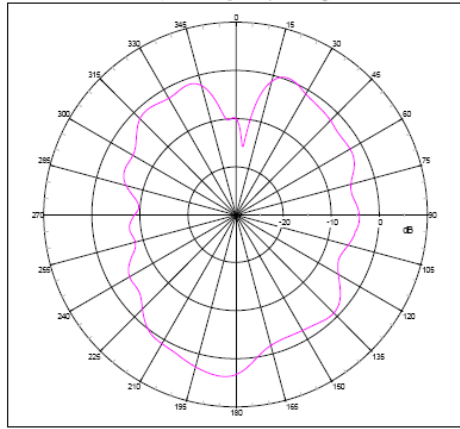
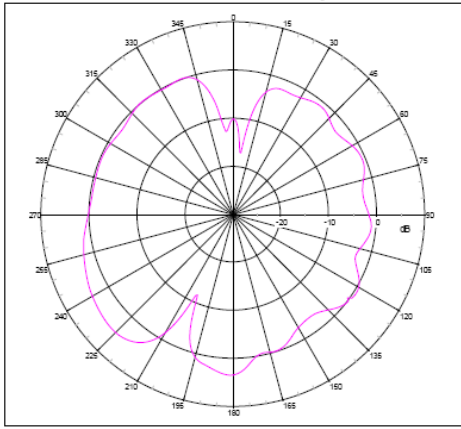
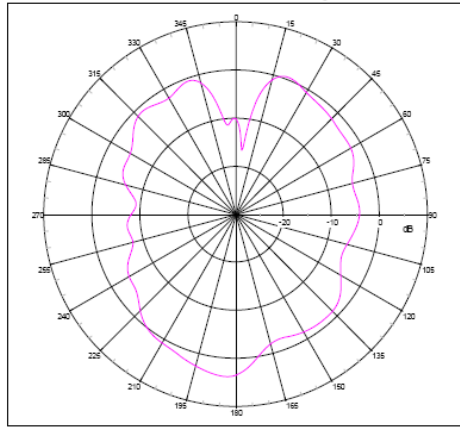
3. Electrical Characteristic – 2.4~2.5GHz

3.1 Return Loss (2.4~2.5GHz Antenna)



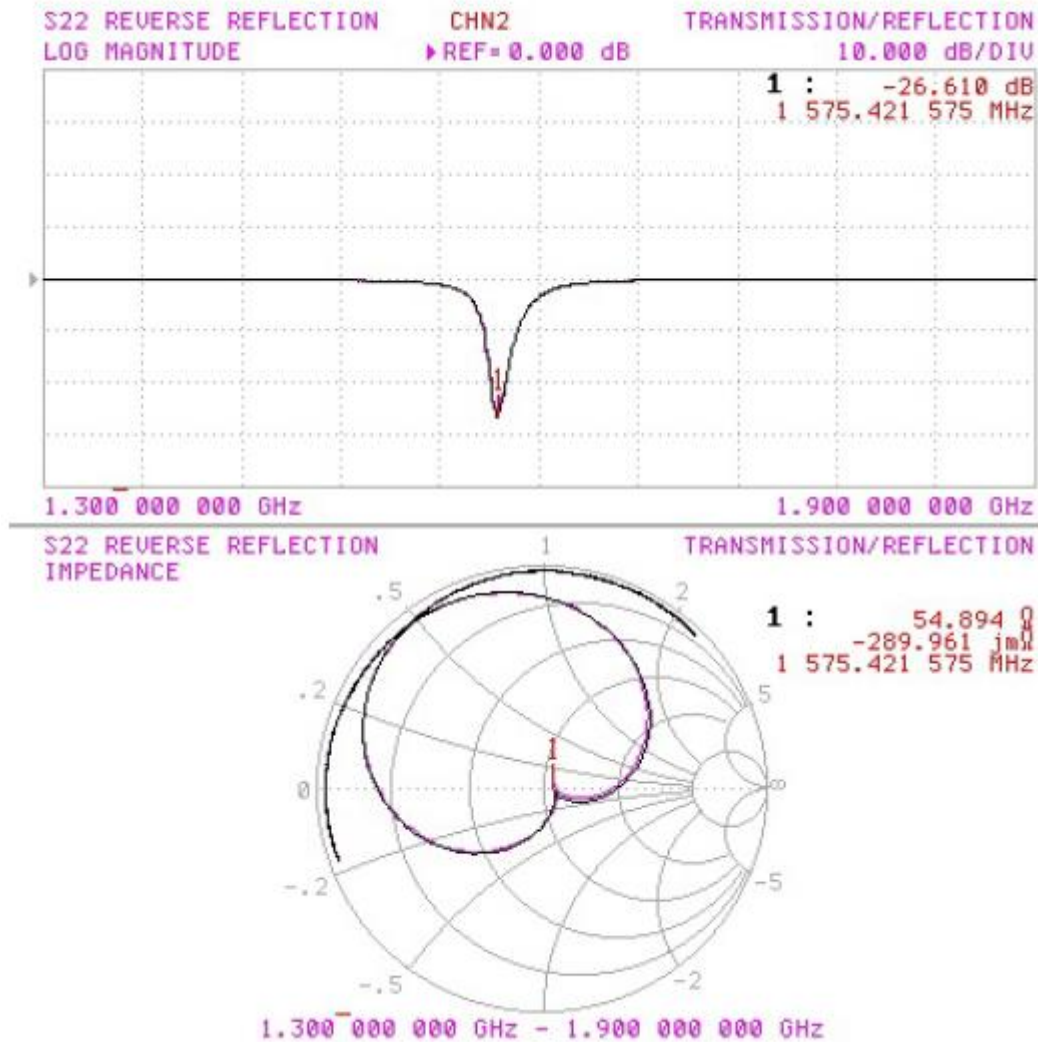
3.2 Radiation Patterns Wi-Fi Antenna

| Freq. | XZ Plane | YZ Plane |
|----------|---|--|
| 2400 MHz | <p>Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense) Gain= 3.242 dBi; Total Radiating Efficiency: 72.329% @2.40000 GHz</p>  | <p>Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense) Gain= 3.242 dBi; Total Radiating Efficiency: 72.329% @2.40000 GHz</p>  |
| 2412 MHz | <p>Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense) Gain= 3.400 dBi; Total Radiating Efficiency: 73.688% @2.41200 GHz</p>  | <p>Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense) Gain= 3.400 dBi; Total Radiating Efficiency: 73.688% @2.41200 GHz</p>  |
| 2437 MHz | <p>Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense) Gain= 3.237 dBi; Total Radiating Efficiency: 70.501% @2.43700 GHz</p>  | <p>Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense) Gain= 3.237 dBi; Total Radiating Efficiency: 70.501% @2.43700 GHz</p>  |

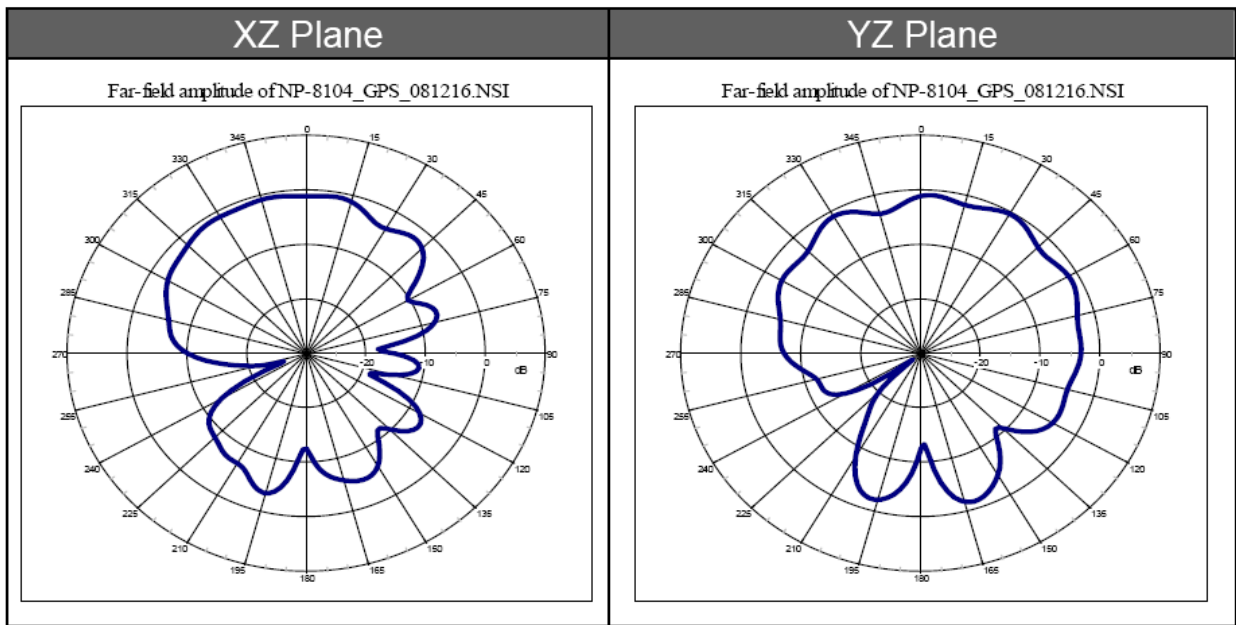
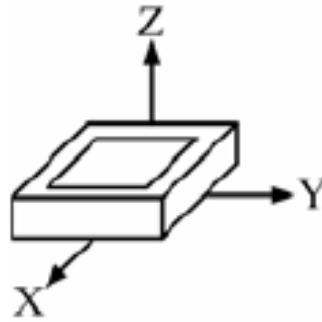
| Freq. | XZ Plane | YZ Plane |
|----------|---|--|
| 2450 MHz | <p>Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense) Gain= 3.171 dBi; Total Radiating Efficiency: 72.553% @2.45000 GHz</p>  | <p>Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense) Gain= 3.171 dBi; Total Radiating Efficiency: 72.553% @2.45000 GHz</p>  |
| 2472 MHz | <p>Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense) Gain= 3.176 dBi; Total Radiating Efficiency: 62.163% @2.47200 GHz</p>  | <p>Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense) Gain= 3.176 dBi; Total Radiating Efficiency: 62.163% @2.47200 GHz</p>  |
| 2500 MHz | <p>Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense) Gain= 3.328 dBi; Total Radiating Efficiency: 66.901% @2.50000 GHz</p>  | <p>Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense) Gain= 3.328 dBi; Total Radiating Efficiency: 66.901% @2.50000 GHz</p>  |

4. Electrical Characteristic – GPS

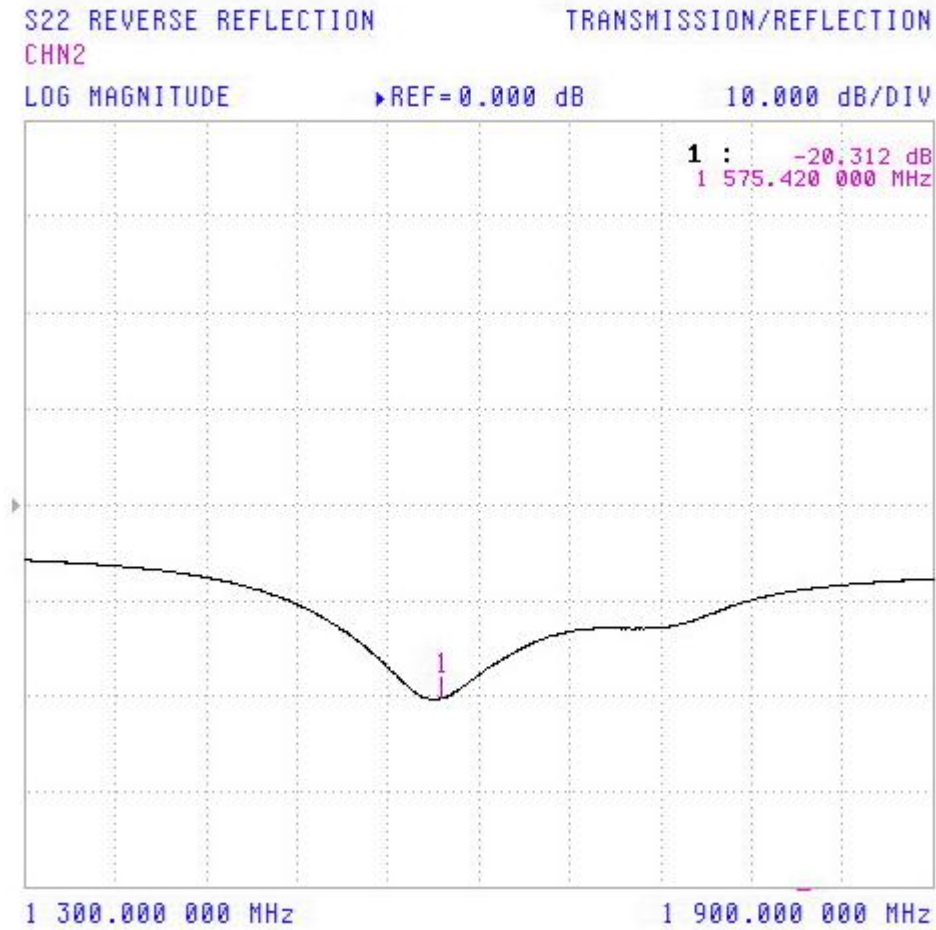
4.1 Return Loss



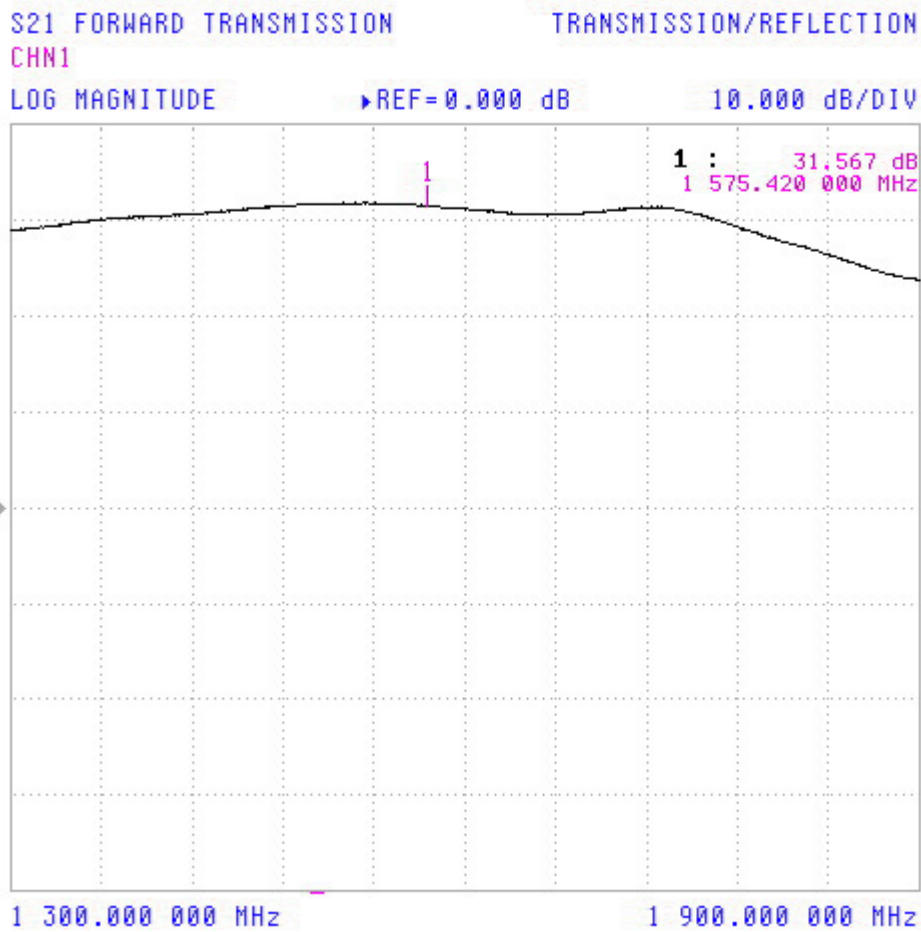
4.2 Radiation Patterns



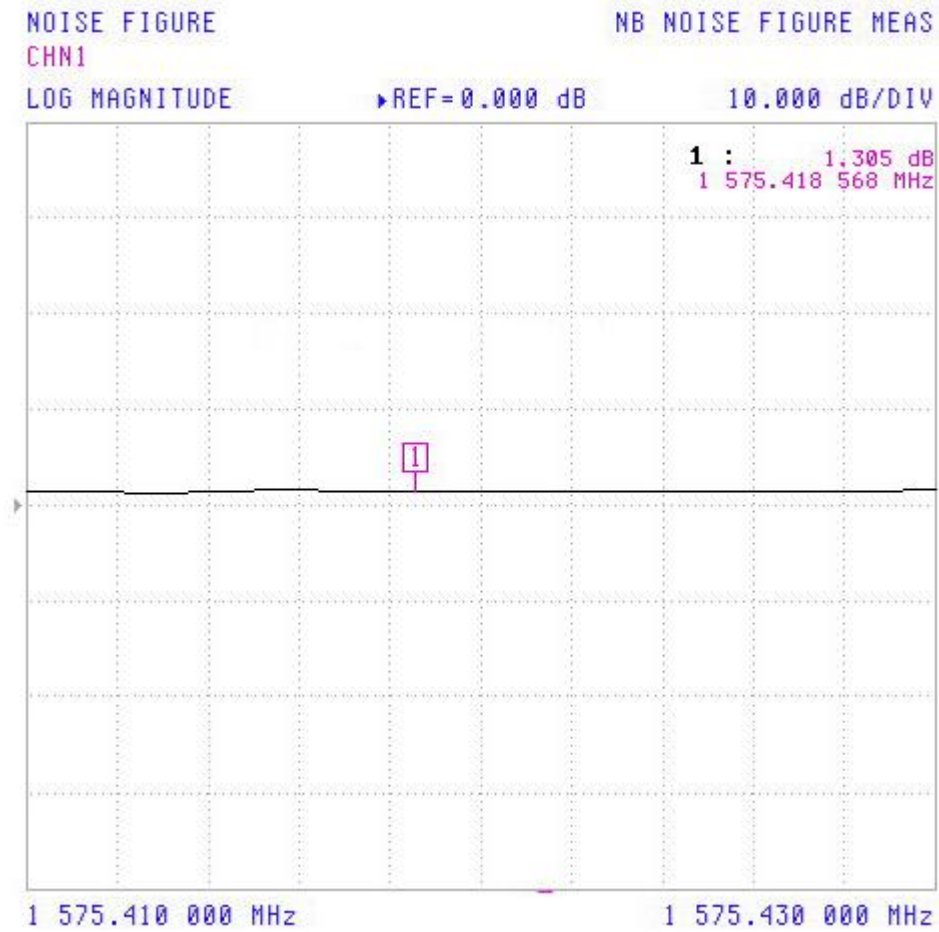
4.3 LNA S22



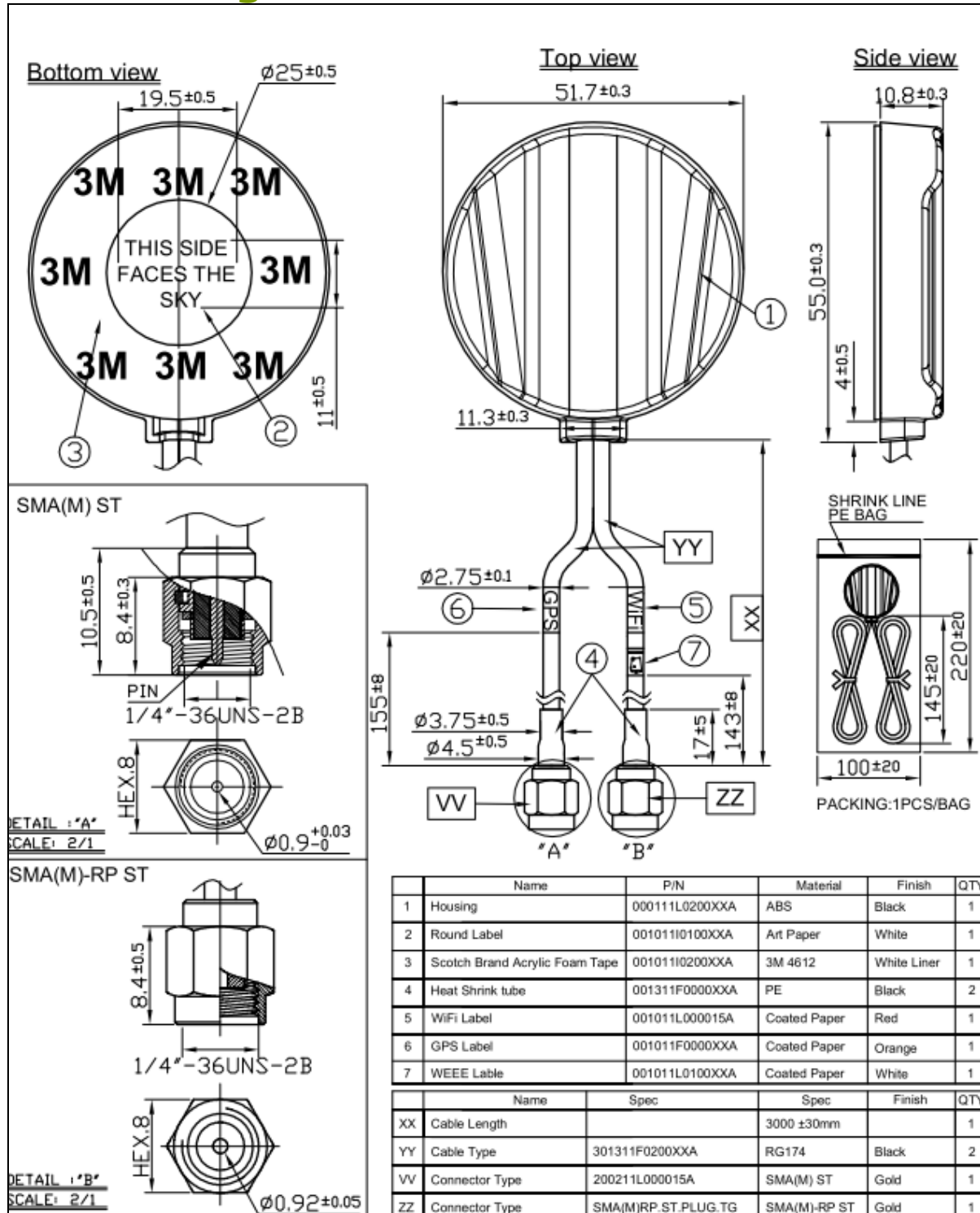
4.3 LNA S21



4.4 Noise Figure



5. Drawings



6. Packaging

