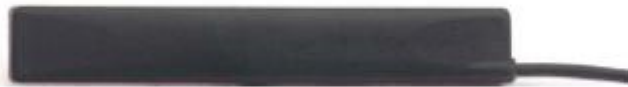


SPECIFICATION

- Part No. : **GSA.8821.B.301111**
- Product Name : I-Bar Penta-band Cellular Antenna
Works with GSM / CDMA / PCS / DCS /UMTS/
WCDMA
- Feature : Low profile for easy installation
Fully customized cable and connector
RoHS Compliant



Top View



Side View

1. Introduction

GSA.8821 I-Bar Penta-band Cellular Antenna is flexible and robust. The slim-line designed for covert and convenient installation in automotive vehicles.

Its omni-directional gain across all bands ensures constant reception and transmission. This dipole antenna is designed to be mounted on glass or plastic (not on metal). Cables and connectors are fully customizable. It comes with strong 3M double-sided adhesive for a permanent and secure fix to your vehicle interior.

2. Specification

| ELECTRICAL | | | | | | |
|-----------------------------|-----|---------|---------|-----------|-----------|-----------|
| System | | AMPS | GSM | DCS | PCS | UMTS |
| Band (MHz) | | 824-896 | 880-960 | 1710-1880 | 1850-1990 | 1710-2170 |
| Free Space Return Loss (dB) | | | | | | |
| Cable length (meter) | 3.0 | -7.8 | -8.5 | -9.2 | -13.6 | -16.0 |
| | 2.0 | -6.3 | -6.6 | -6.5 | -9.5 | -11.2 |
| | 1.0 | -4.7 | -5.4 | -4.7 | -10.1 | -10.1 |
| | 0.5 | -3.8 | -3.9 | -3.6 | -10.1 | -10.0 |
| Free Space Peak Gain (dBi) | | | | | | |
| Cable length (meter) | 3.0 | -5.1 | -1.6 | -2.7 | -2.7 | -2.7 |
| | 2.0 | -1.2 | 1.3 | 2.2 | 2.2 | 2.2 |
| | 1.0 | 1.8 | 1.8 | 1.9 | 2.7 | 2.7 |
| | 0.5 | -0.5 | 2.6 | 1.8 | 2.8 | 2.8 |
| Free Space Efficiency (%) | | | | | | |
| Cable length (meter) | 3.0 | 7% | 20% | 12% | 15% | 12% |
| | 2.0 | 24% | 45% | 28% | 37% | 32% |
| | 1.0 | 42% | 46% | 41% | 52% | 44% |
| | 0.5 | 35% | 59% | 40% | 53% | 45% |
| Polarization | | Linear | | | | |
| Impedance | | 50 ohms | | | | |
| Input Power | | 10W max | | | | |

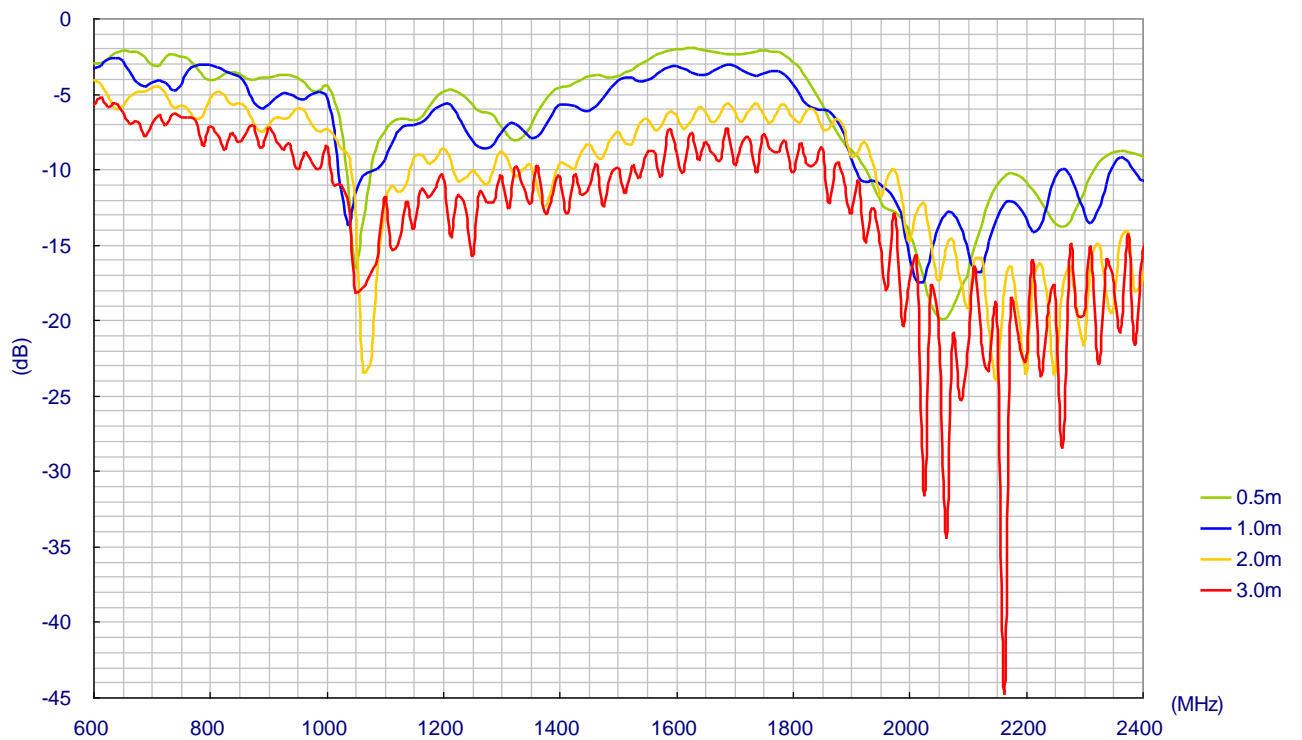
| MECHANICAL | |
|-------------------|--------------------------------------|
| Dimensions | 106.7 x 14.7 x 5.3mm |
| Cable | RG 174 Standard, Fully customizable |
| Connector | SMA (M) Standard, Fully customizable |
| Casing | UV Resistant TPE |
| Weight | 40g |
| ENVIRONMENTAL | |
| Waterproof | IP65 |
| Temperature Range | -40°C to +105°C |
| Thermal Shock | 100 cycles -40°C to +85°C |
| Humidity | Non-condensing 65°C 95% RH |
| Shock (Drop Test) | 1m drop on concrete 6 axes |
| Cable Pull | 8kgf |

* Electrical properties are measurement of GSA.8821 with 3m RG174 SMA(M) in free space.

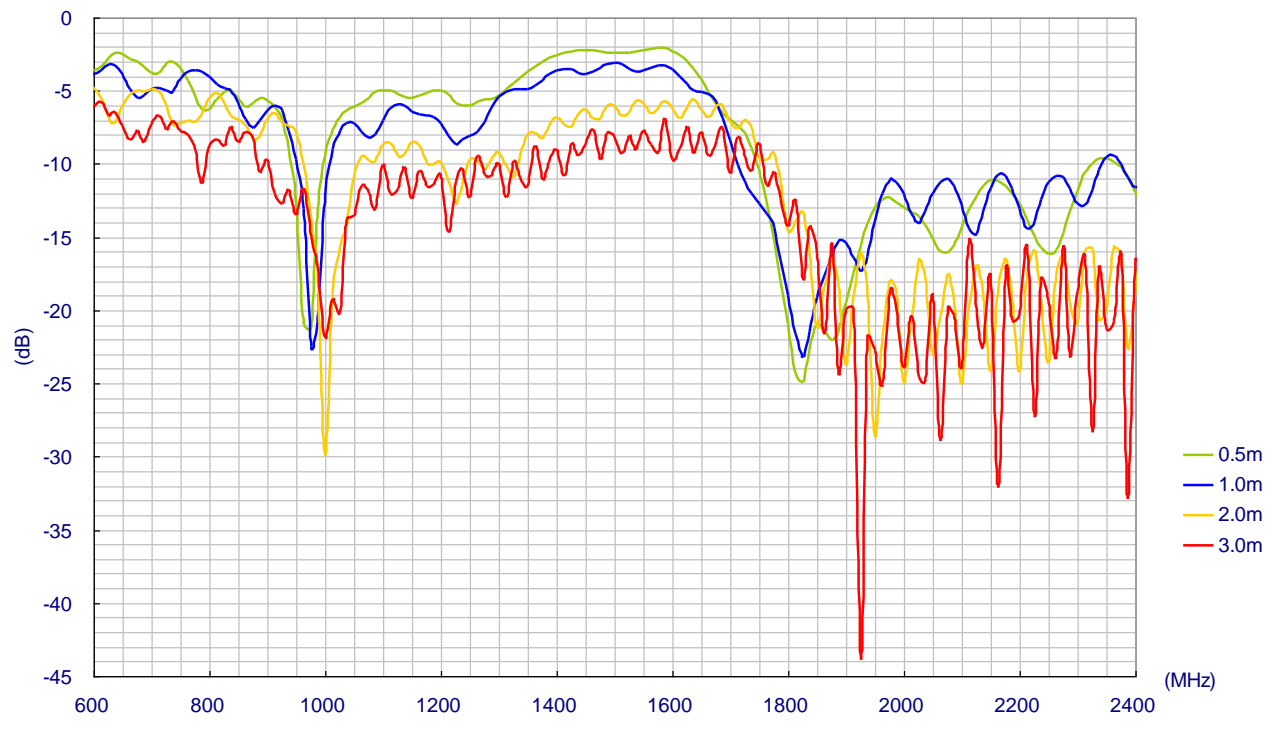
3. S11 Property of GSA.8821 with RG.174 Cable

Cable

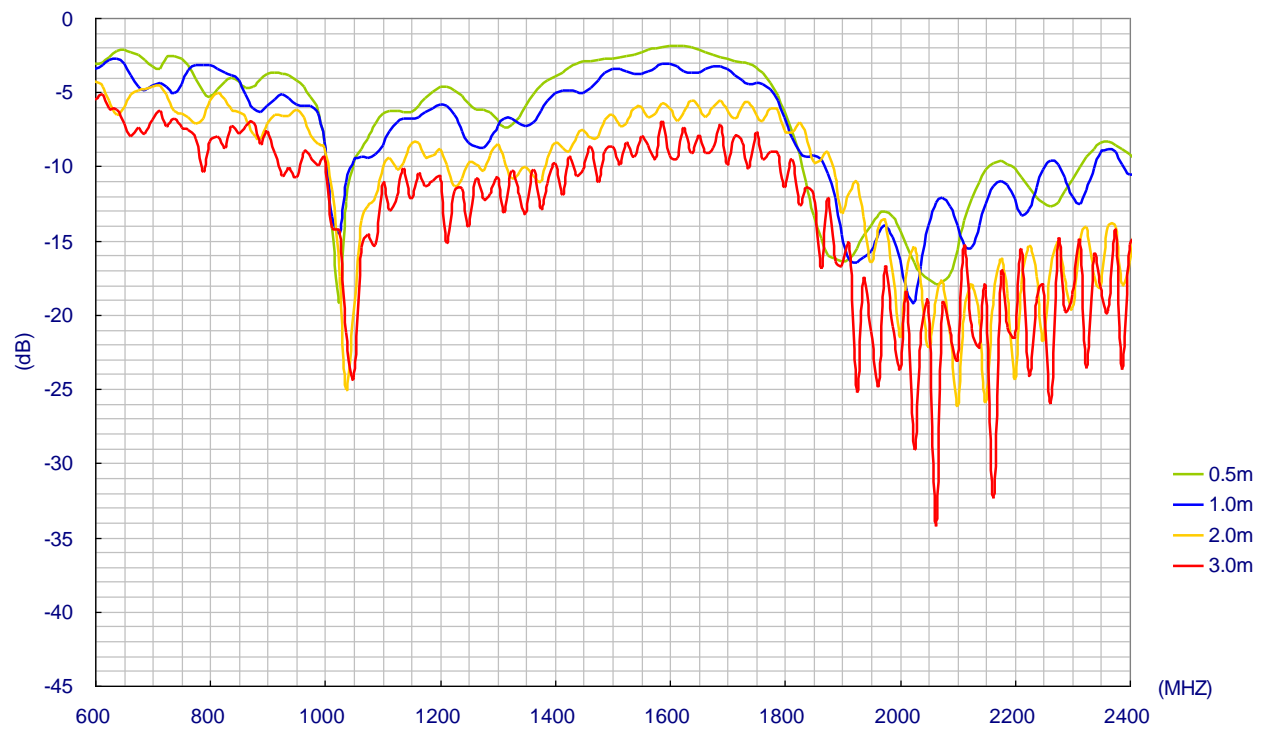
3.1. Free Space Return Loss



3.2. Return Loss of GSA.8821 Mounted on Glass

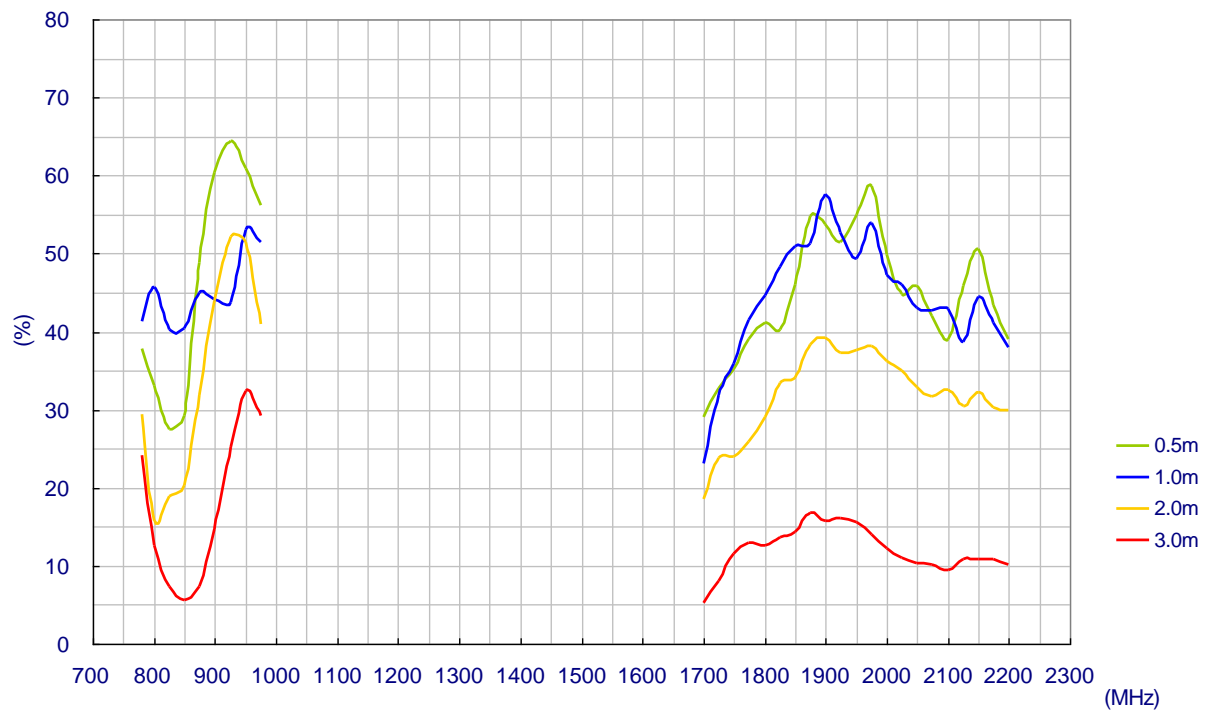


3.3. Return Loss of GSA.8821 Mounted on ABS

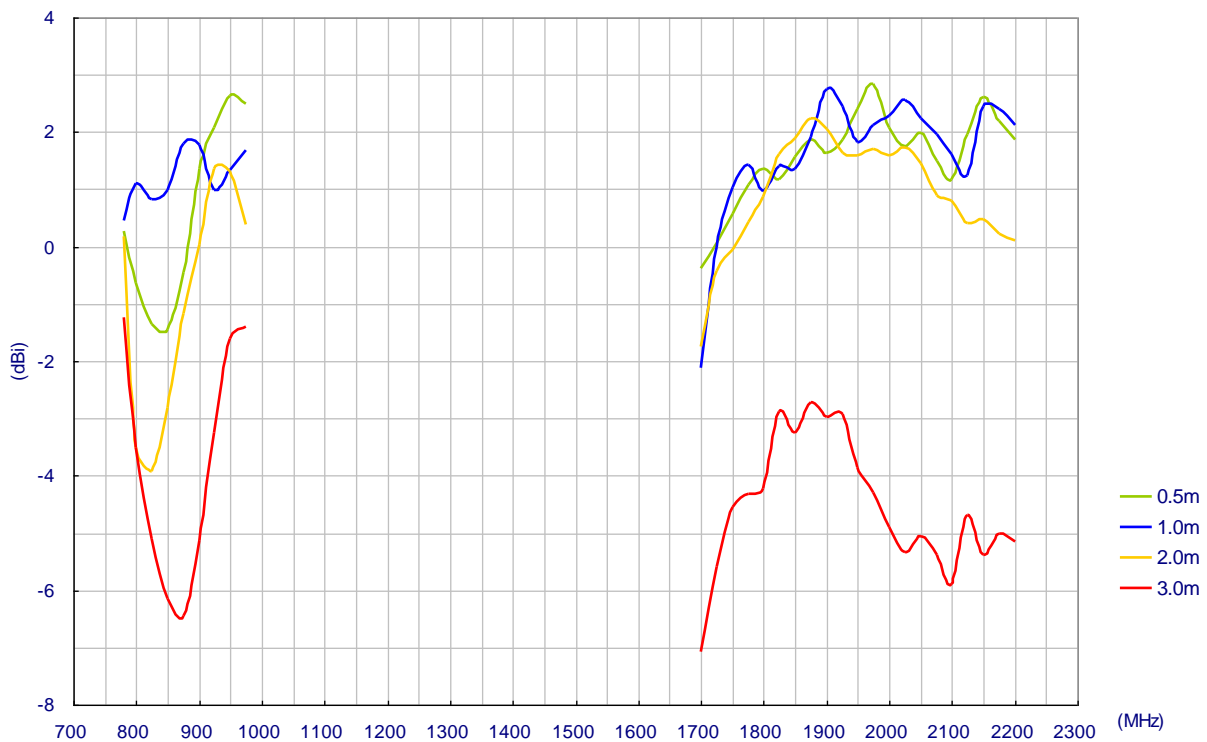


4. Free Space Antenna 3D Radiation Property

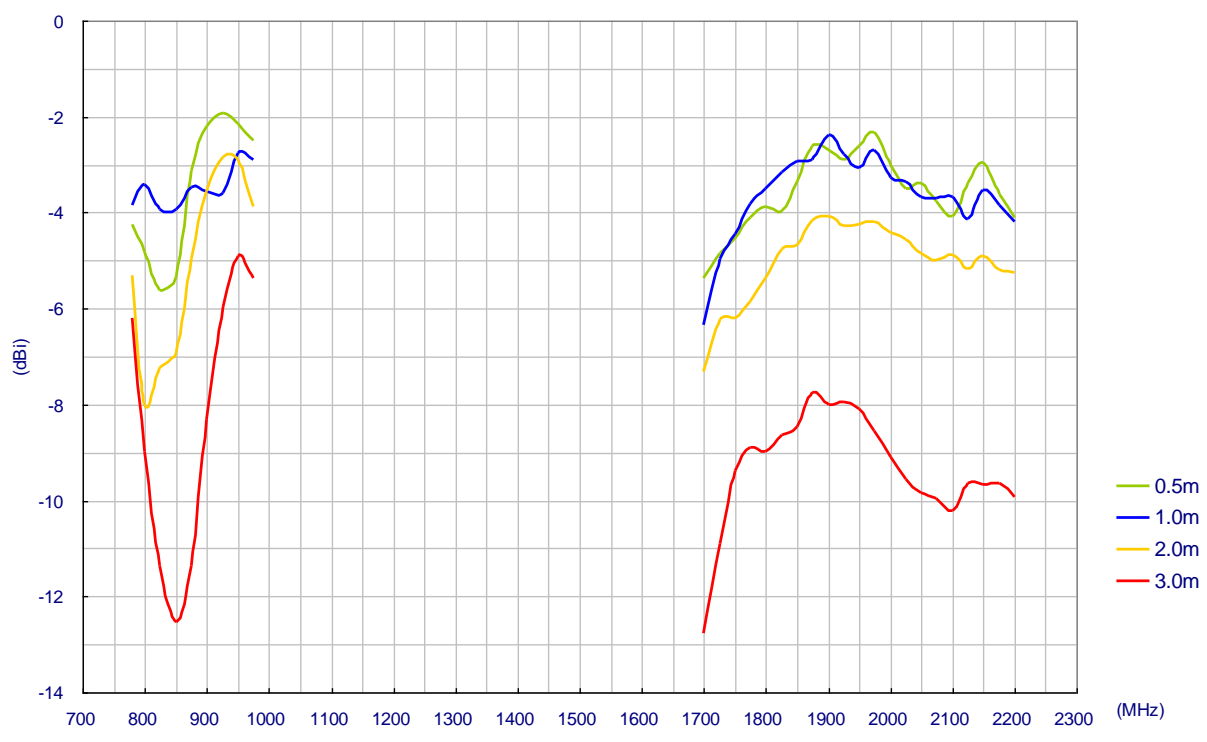
4.1. Efficiency of GSA.8821 with RG.174 Cable



4.2. Peak Gain of GSA.8821 with RG.174 Cable

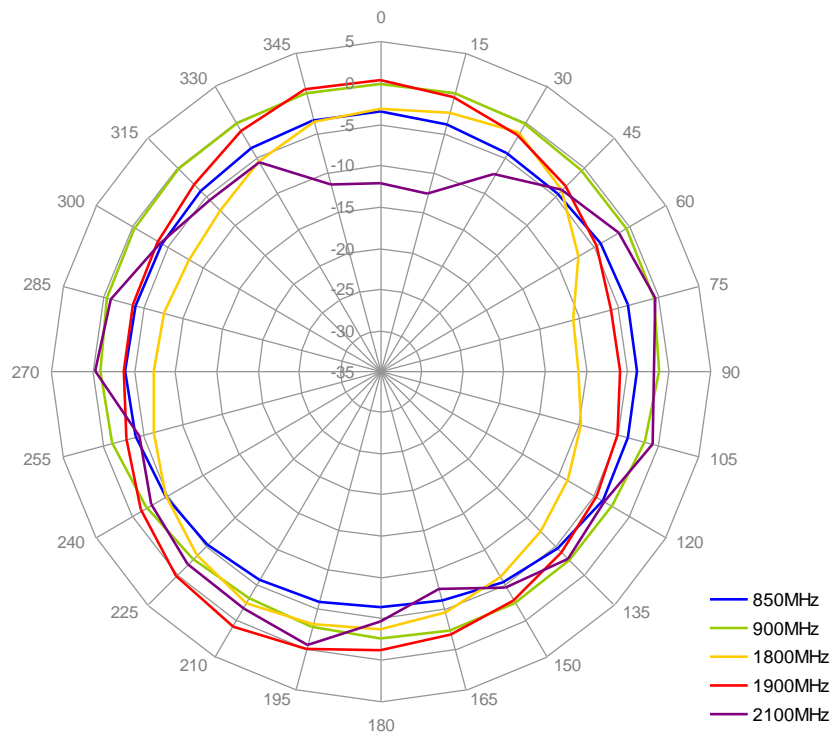


4.3. Average Gain of GSA.8821 with RG.174 Cable

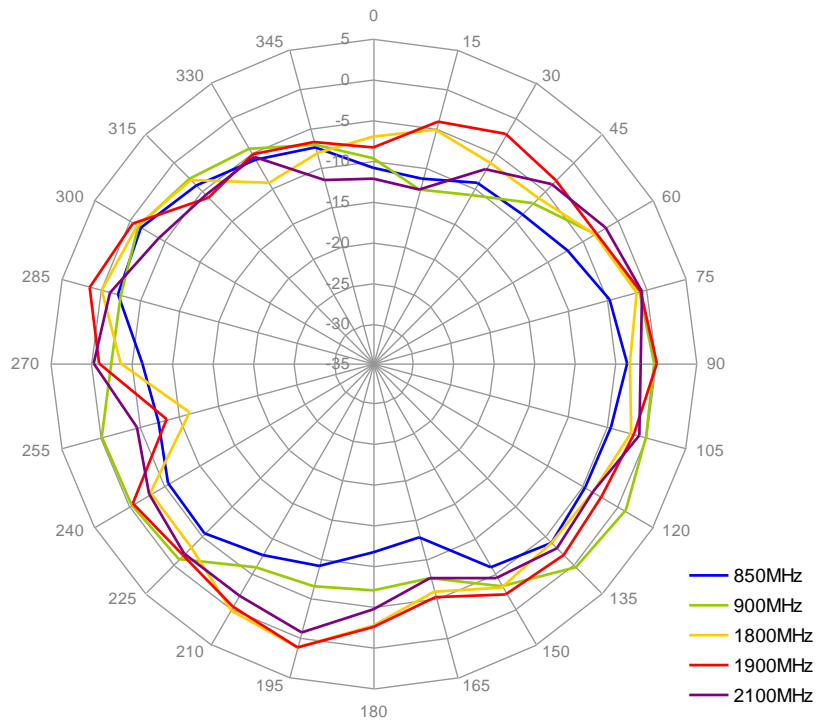


5. Radiation Pattern

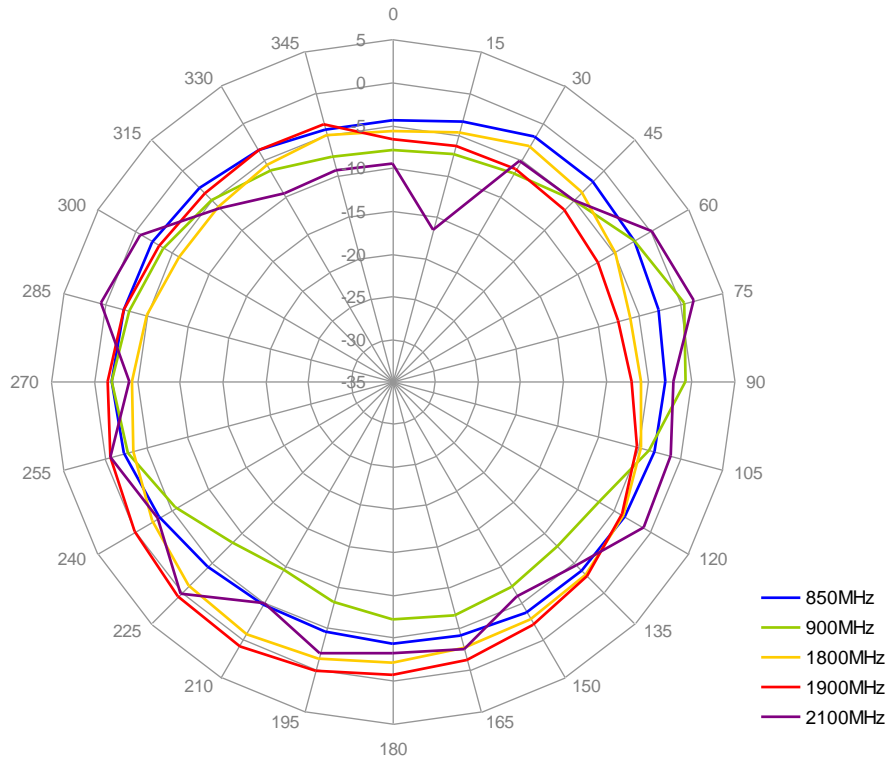
5.1. H-Plane Radiation of GSA.8821 with 0.5m RG.174 Cable



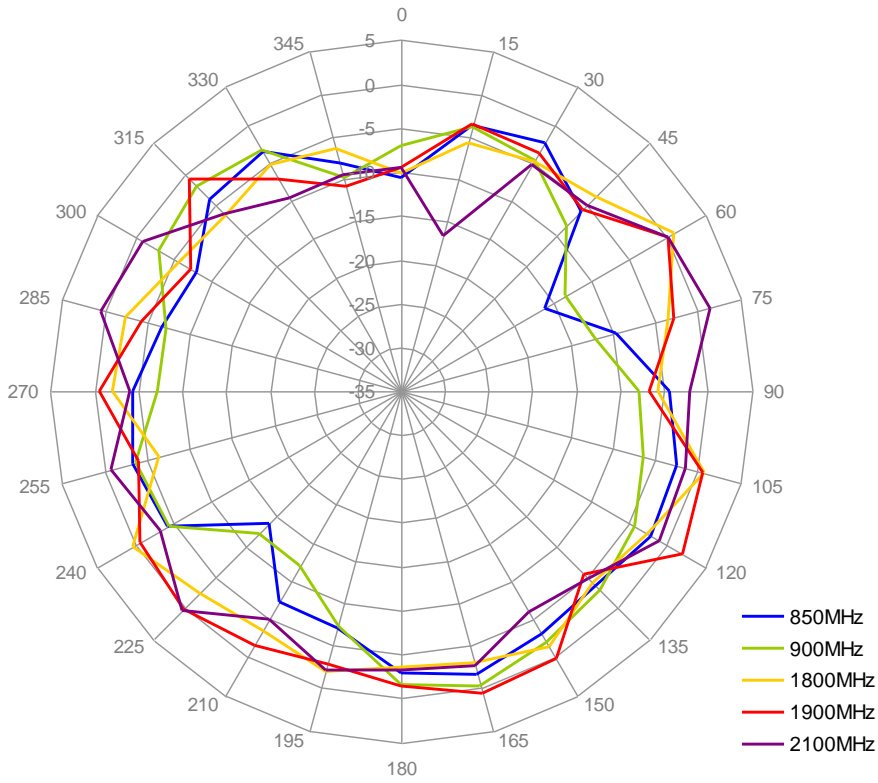
5.2. E-Plane Radiation of GSA.8821 with 0.5m RG.174 Cable



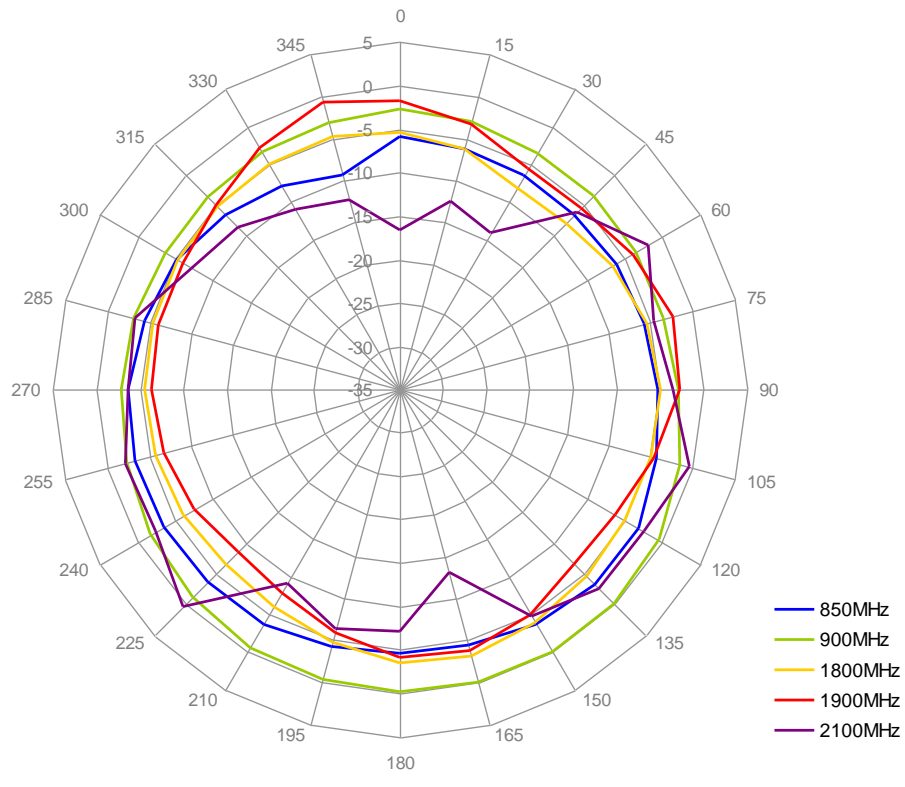
5.3. H-Plane Radiation of GSA.8821 with 1.0m RG.174 Cable



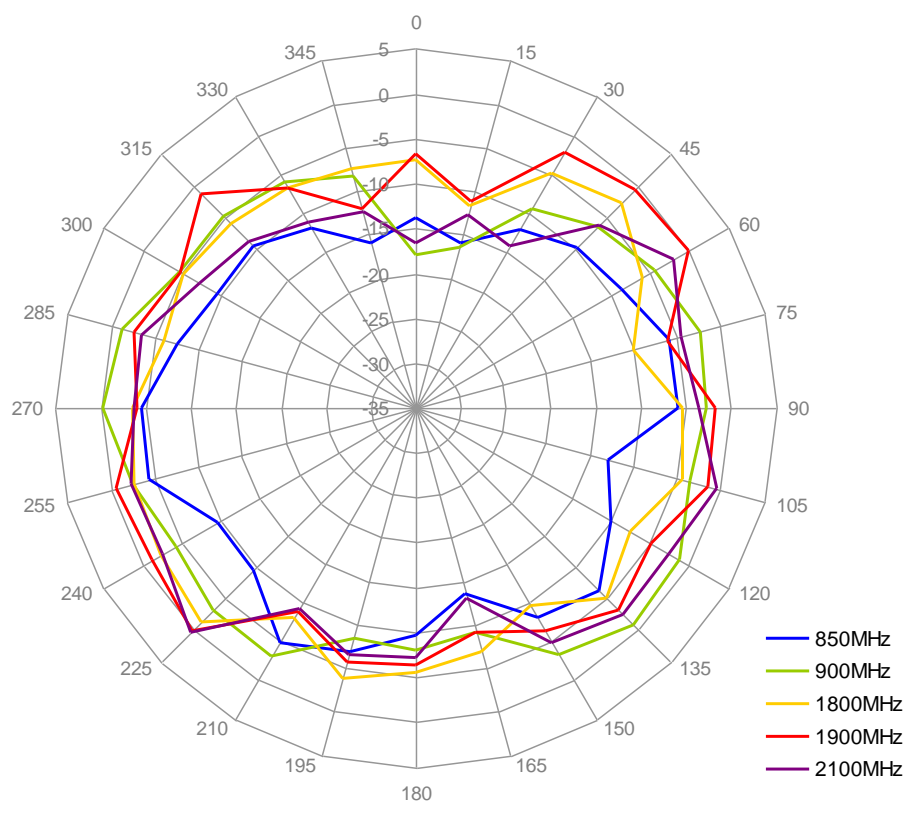
5.4. E-Plane Radiation of GSA.8821 with 1.0m RG.174 Cable



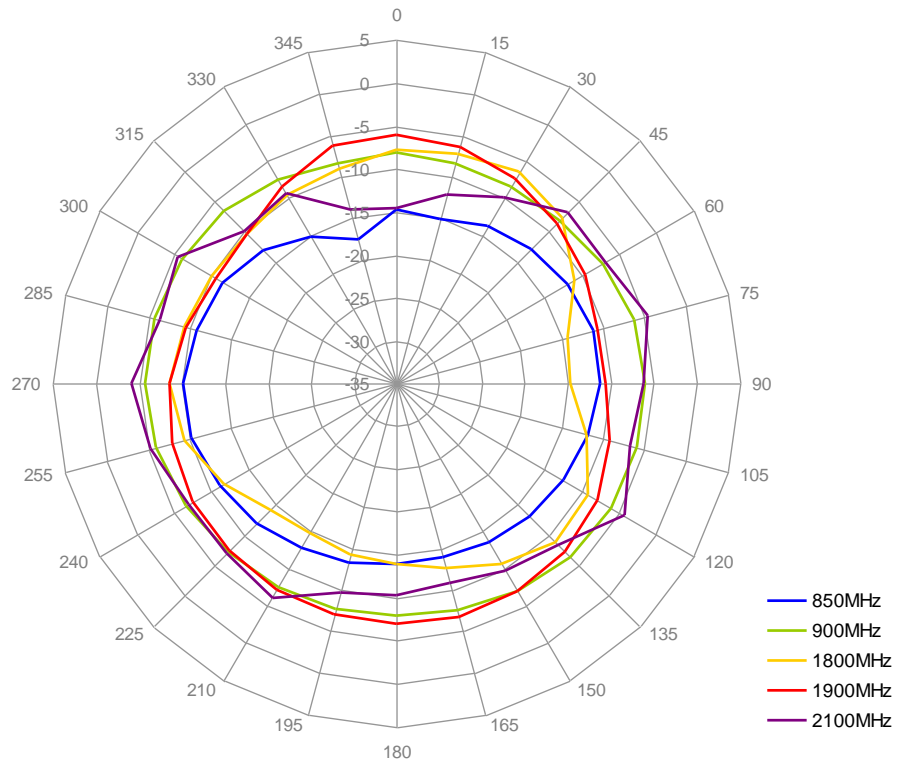
5.5. H-Plane Radiation of GSA.8821 with 2.0m RG.174 Cable



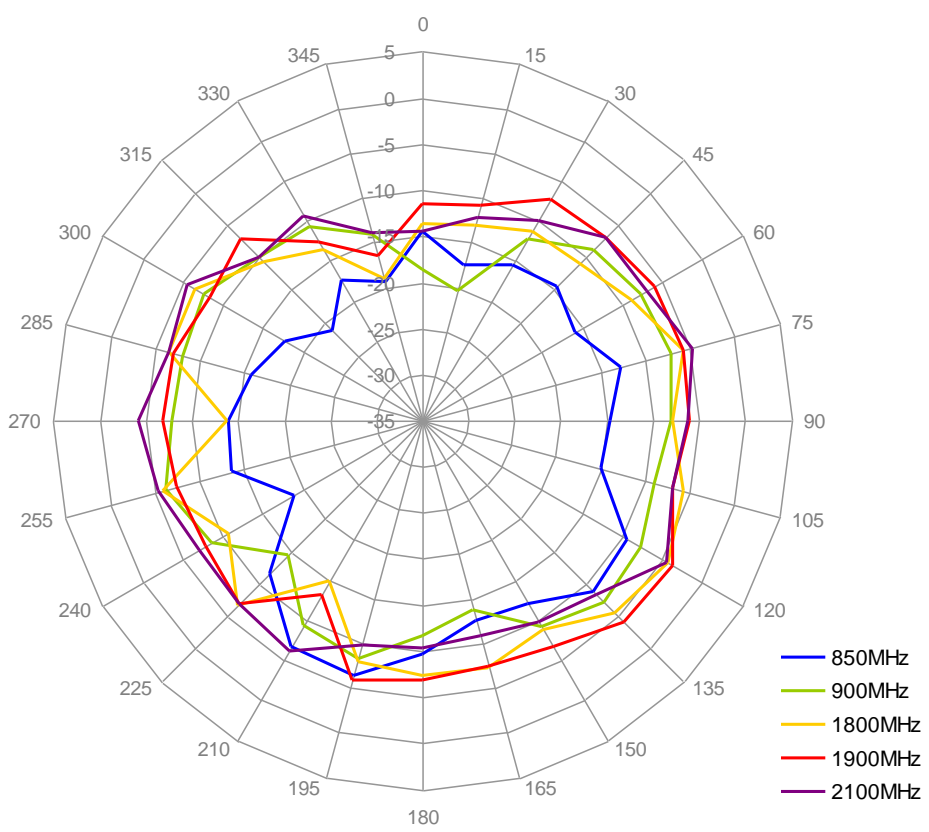
5.6. E-Plane Radiation of GSA.8821 with 2.0m RG.174 Cable



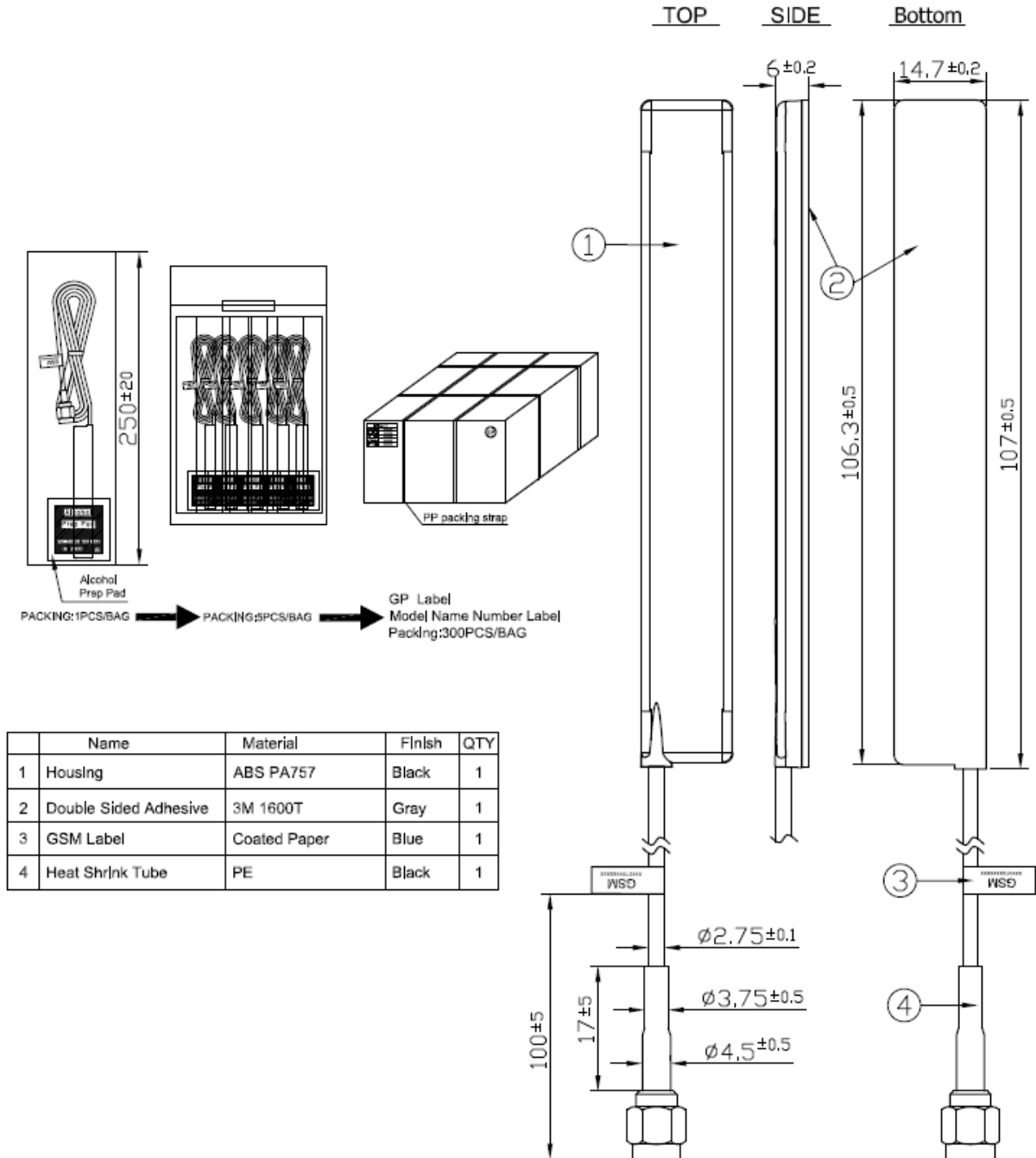
5.7. H-Plane Radiation of GSA.8821 with 3.0m RG.174 Cable



5.8. E-Plane Radiation of GSA.8821 with 3.0m RG.174 Cable



6. Mechanical Drawing



7. Packaging

