

SPECIFICATION

Part No. : **FW.91.TNC.M**

Product Name : Penta-band cellular 2G/3G
GSM/CDMA/UMTS
Flexible Whip Monopole Antenna
850/900/1800/1900/2100 MHz

Feature : IP67
Robust Inner Steel Core
TNC Male Connector
RoHS Compliant✓

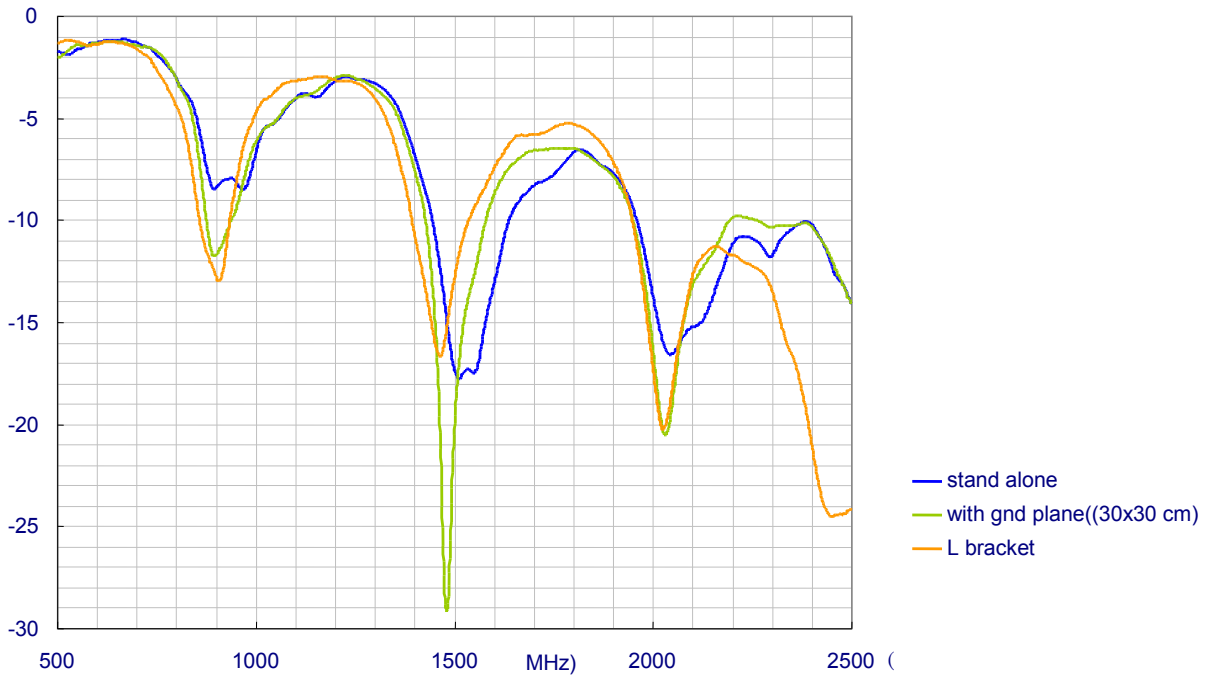


1. Specification

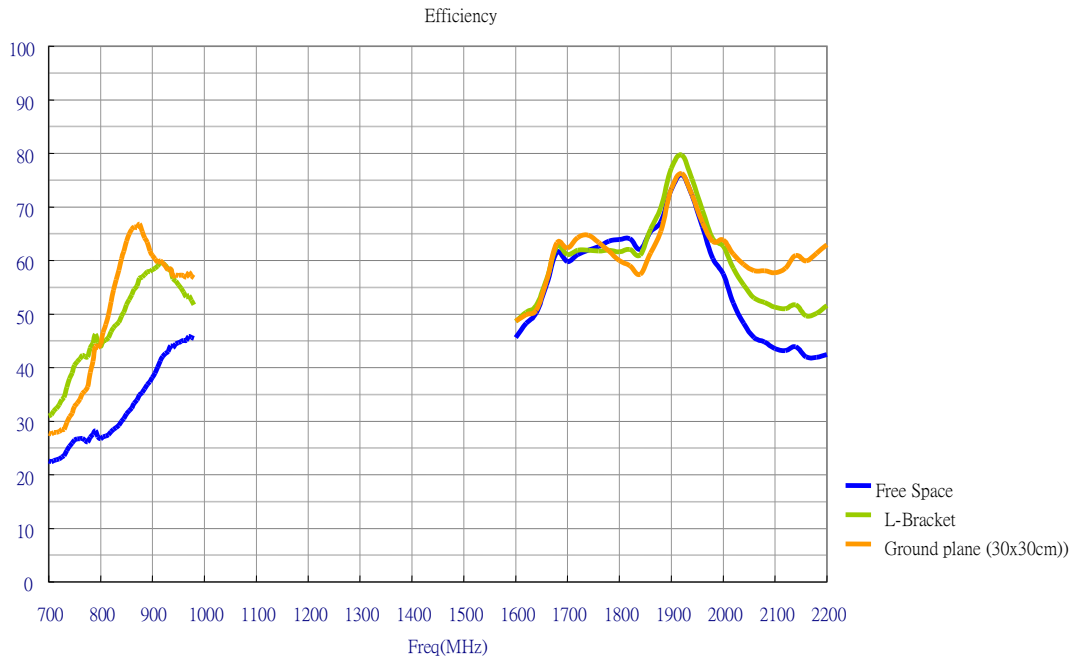
| CELLULAR | | | | | |
|----------------------------|----------------------------|---------|-----------|-----------|-----------|
| Frequency (MHz) | 824~896 | 880~960 | 1710~1880 | 1850~1990 | 1710~2170 |
| Peak Gain (dBi) | | | | | |
| Free Space | -0.7 | -0.9 | 1.7 | 2.5 | 2.2 |
| With Ground plane(30x30cm) | 2.5 | 3.0 | 4.5 | 4.5 | 3.5 |
| L - Bracket | 3.0 | 3.0 | 3.5 | 4.5 | 2.5 |
| Average Gain (dBi) | | | | | |
| Free Space | -5.7 | -5.3 | -2.3 | -1.7 | -3.9 |
| With Ground plane(30x30cm) | -2.2 | -2.6 | -2.3 | -1.7 | -2.2 |
| L - Bracket | -3.0 | -2.6 | -2.3 | -1.7 | -3.0 |
| Efficiency | | | | | |
| Free Space | 27% | 30% | 59% | 68% | 40% |
| With Ground plane(30x30cm) | 60% | 55% | 59% | 68% | 60% |
| L - Bracket | 50% | 55% | 59% | 68% | 50% |
| Impedance | 50Ω | | | | |
| Polarization | Linear | | | | |
| Radiation Pattern | Omni | | | | |
| Input Power | 50 W | | | | |
| MECHANICAL | | | | | |
| Dimensions | Height 255 ± 5 mm | | | | |
| Base Diameter | 16.05 ± 0.2 mm | | | | |
| Whip Diameter | 4 ± 0.2 mm | | | | |
| Casing | ABS | | | | |
| Connector | TNC Male | | | | |
| ENVIRONMENTAL | | | | | |
| Temperature Range | -40°C to 85°C | | | | |
| Humidity | Non-condensing 65°C 95% RH | | | | |

2. Antenna Characteristics

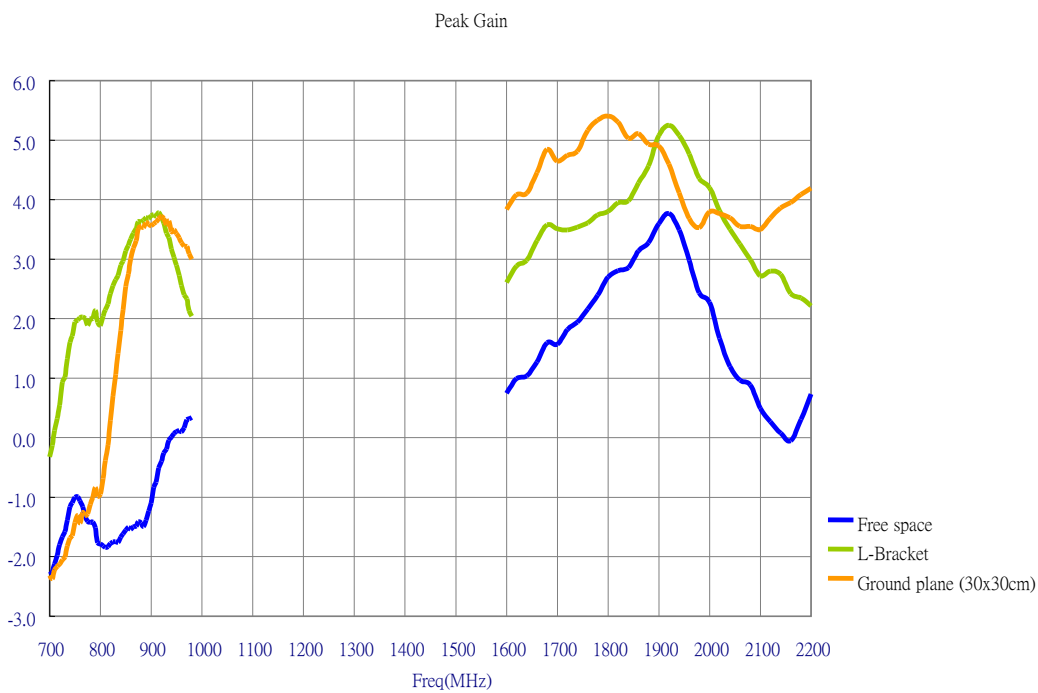
2.1. Return Loss



2.2. Antenna Efficiency

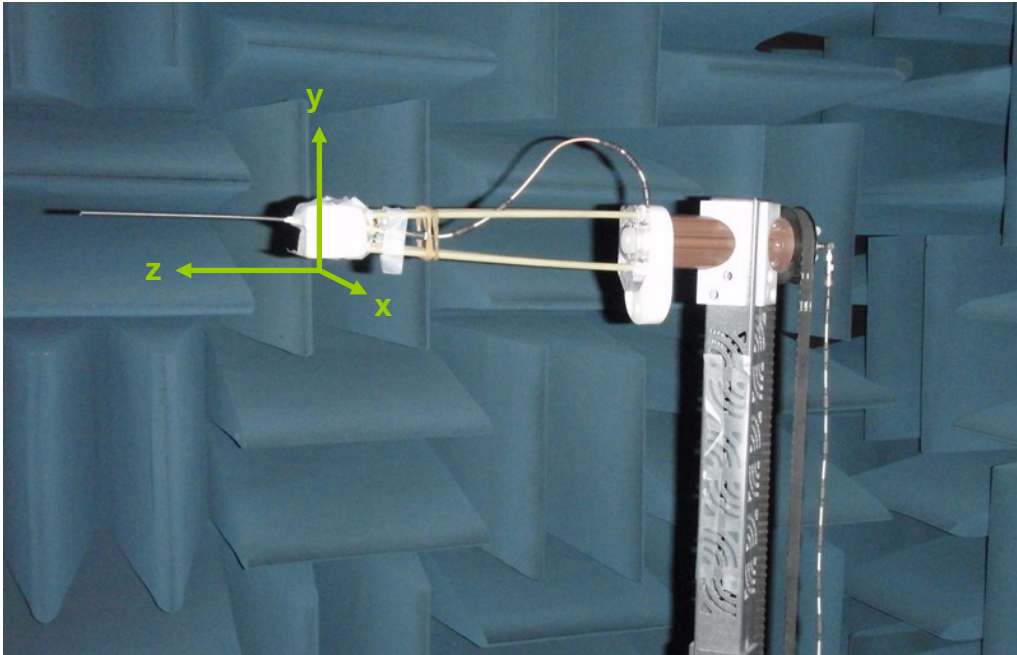


2.3. Peak Gain

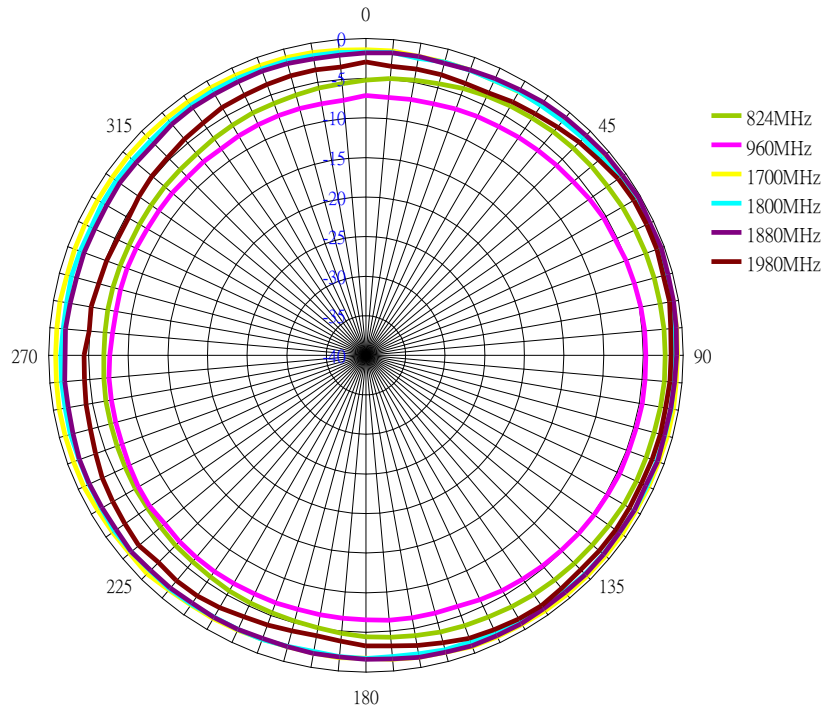


3. Antenna Radiation Pattern

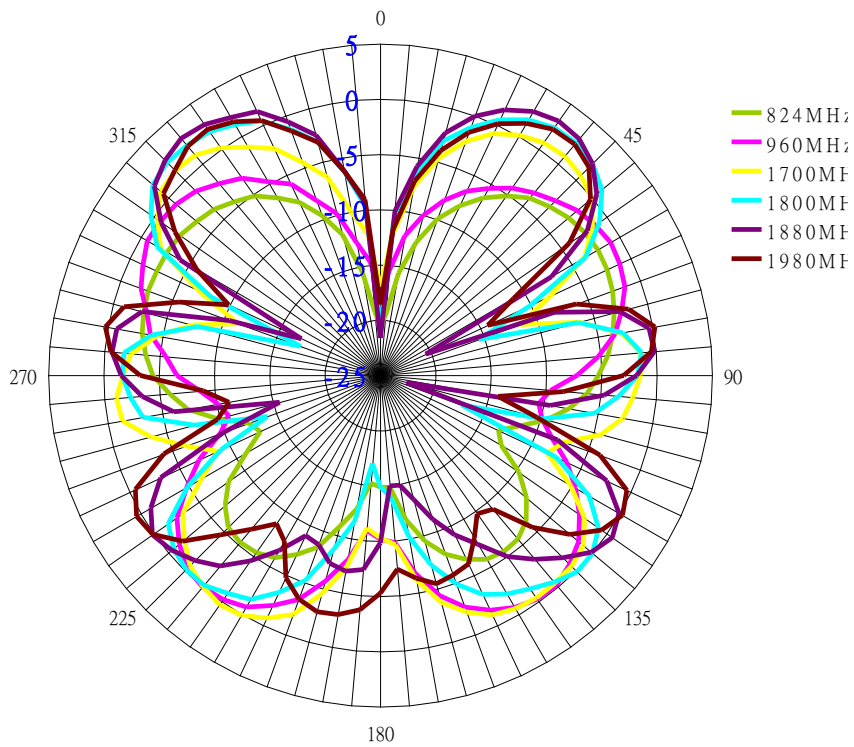
3.1. Antenna Stand Alone



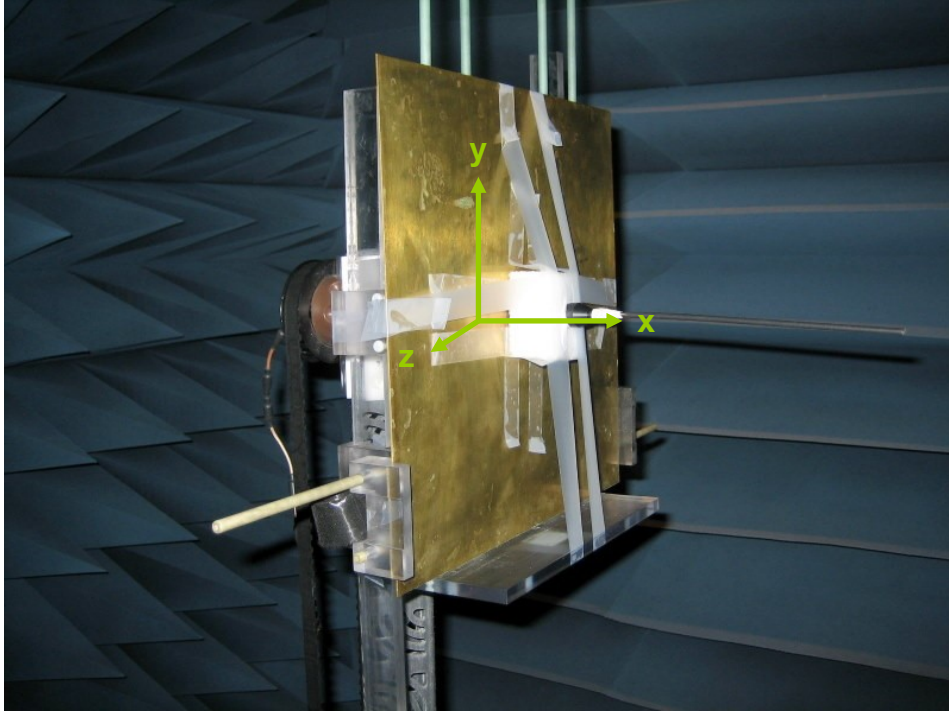
XY-plane



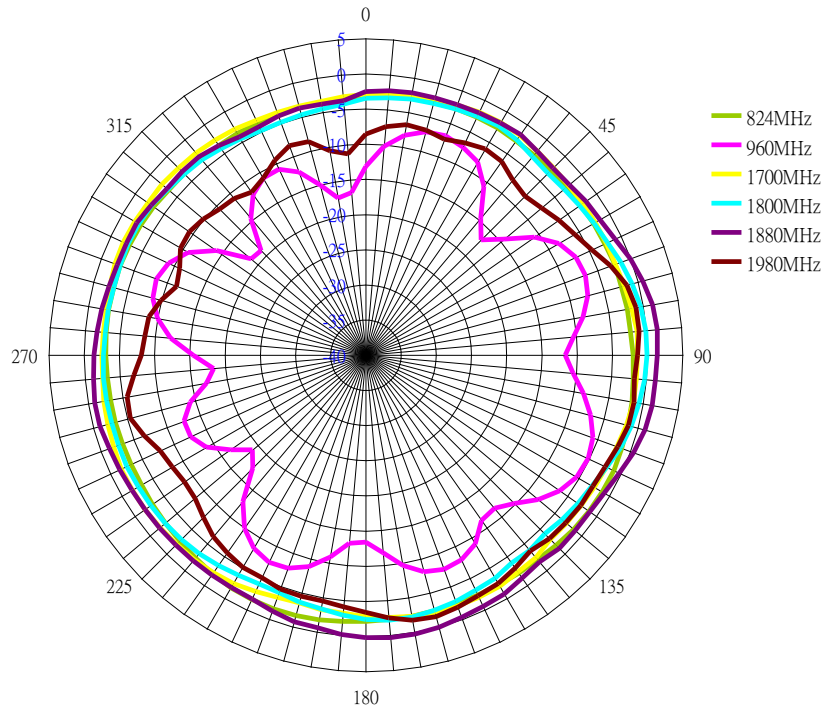
XZ-plane



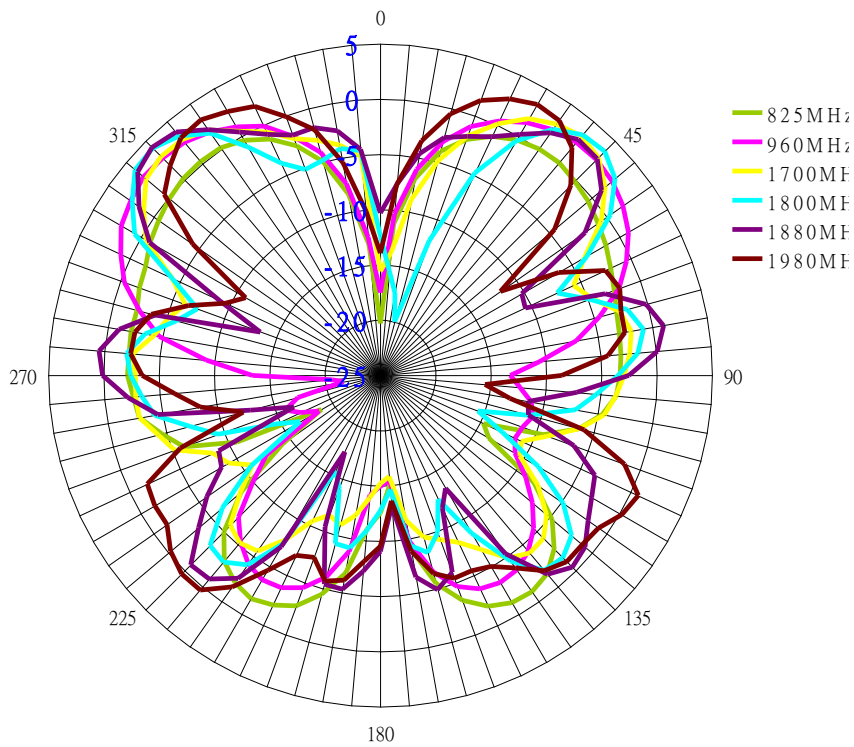
3.2. Antenna with Ground plane (30X30cm)



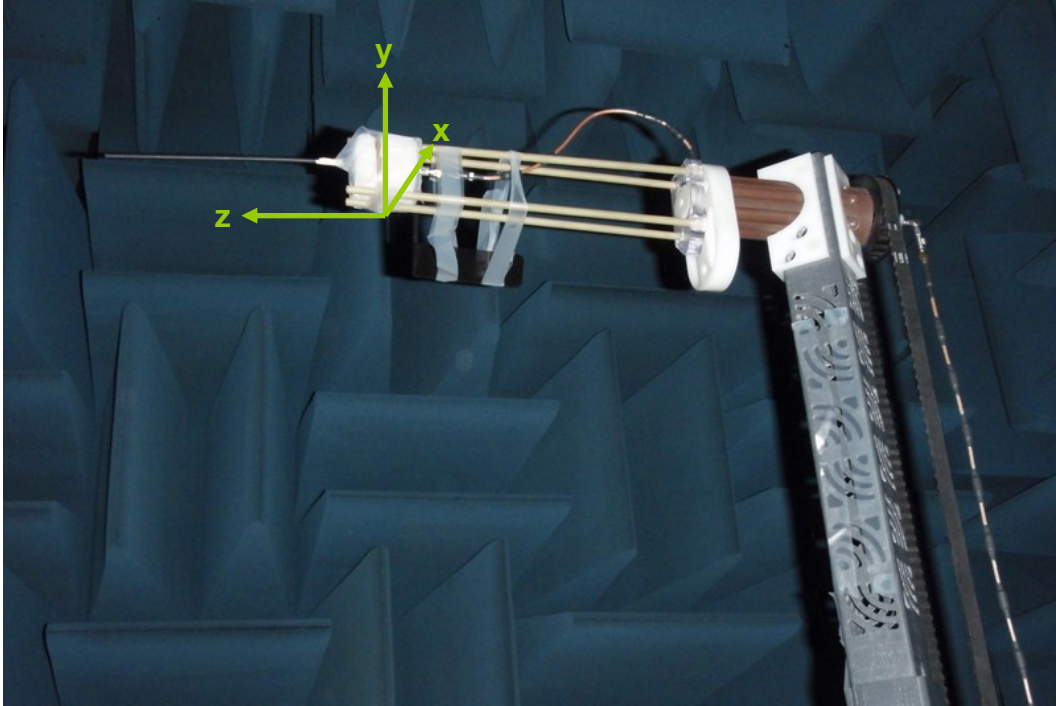
XY-plane



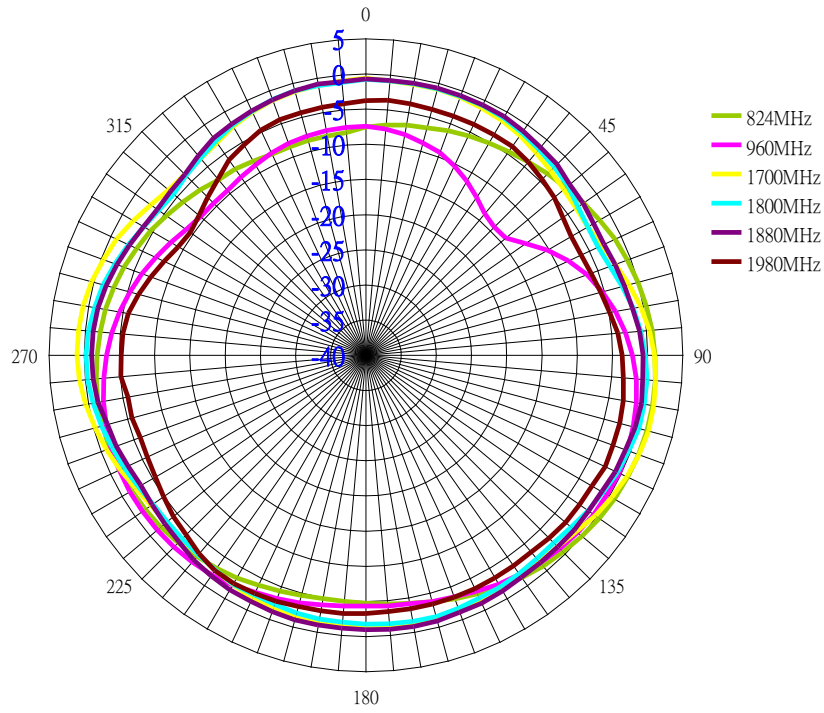
XZ-plane



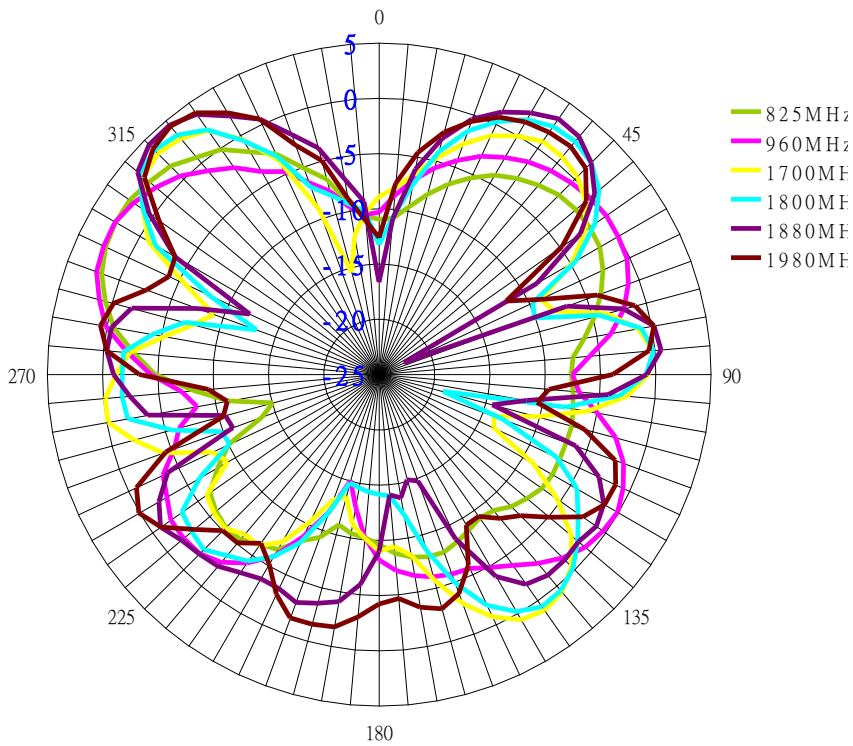
3.3. Antenna with L-Bracket



XY-plane

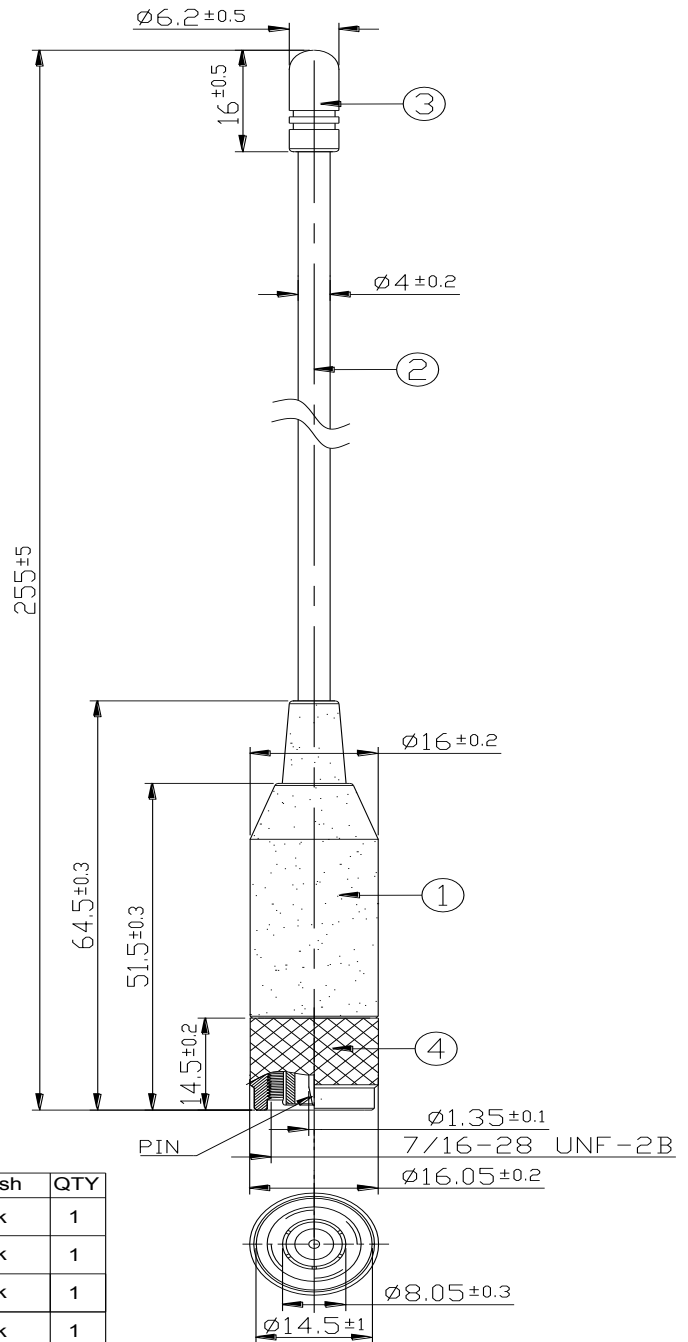


XZ-plane



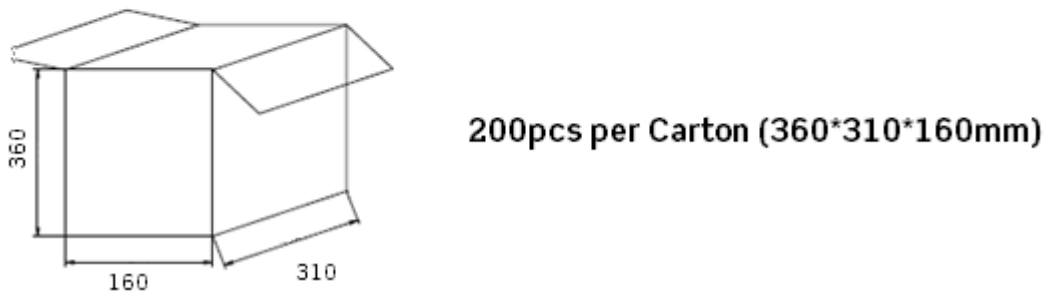
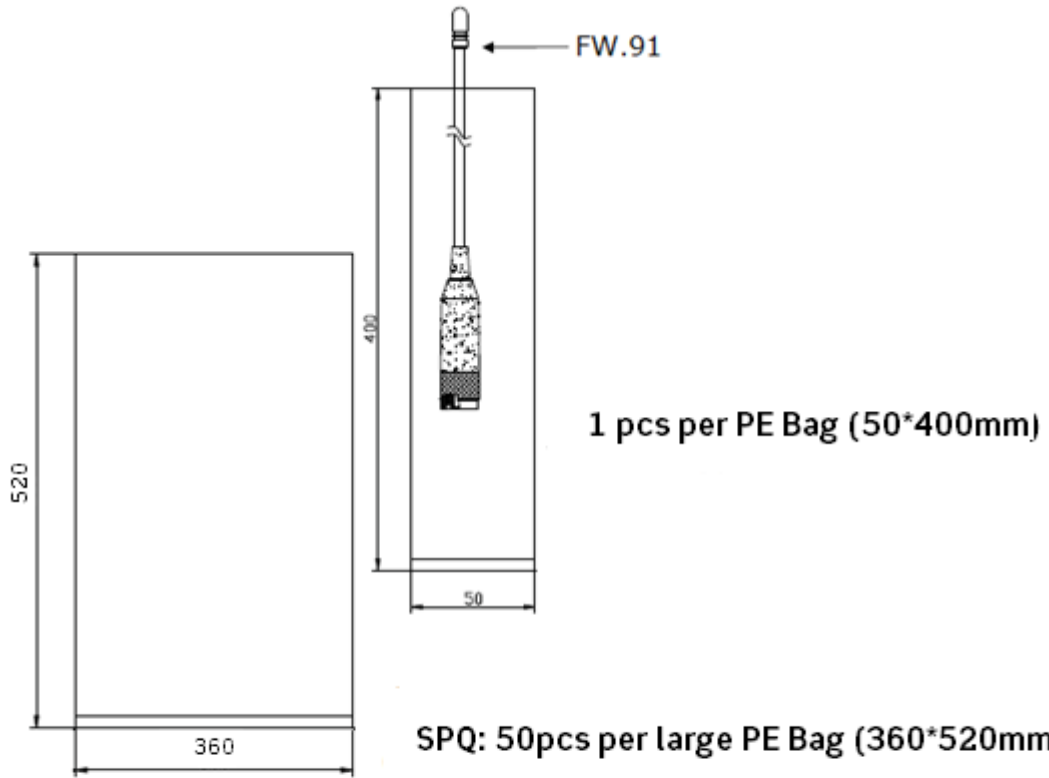
4. Antenna Drawing

Unit : mm



| | Name | Material | Finish | QTY |
|---|----------------------|-----------------|--------|-----|
| 1 | Housing | ABS | Black | 1 |
| 2 | Internal Steel Cable | Steel+PE Jacket | Black | 1 |
| 3 | CAP | ABS | Black | 1 |
| 4 | Outer Body TNC (M) | Brass | Black | 1 |

5. Packaging





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