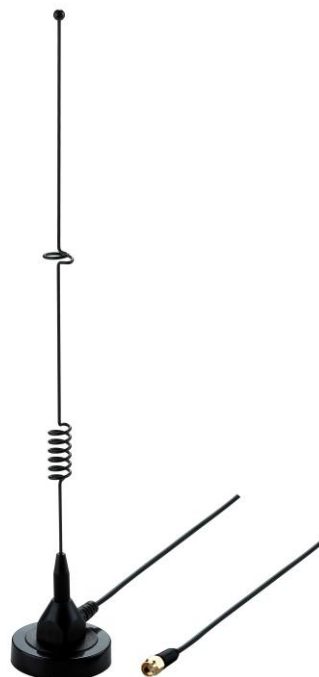


SPECIFICATION

- Part No. : **GA.110.101111**
- Product Name : 4G/3G/2G High Gain
Magnetic Mount Ultra-Wideband Antenna
- Feature : LTE / GSM / CDMA /DCS /PCS / WCDMA /
UMTS / HSDPA / GPRS / EDGE / GPS / Wi-Fi
698MHz to 960MHz, 1575.42MHz,
1710MHz to 2700MHz, 3500MHz
1m RG174 Cable, SMA(M) Connector
Typical 40% Efficiency and 3dBi Peak Gain
Robust High Strength Super Magnet Mount
Custom cables and connectors available
RoHS Compliant



1. Introduction

The GA.110 magnetic ultra-wideband cellular antenna delivers stable high omnidirectional gain and efficiencies across all common 4G, 3G and 2G global cellular bands from 700 MHz to 3.5 GHz.

This high performing antenna can be used for all cellular devices and will not require changing antennas when deploying from country to country or technology to technology like CDMA to GSM or 4G to 3G. Being magnetic mount it is designed to be mounted on a ground plane for optimal performance. A reliable return loss of <10dB when mounted on a metal plate ensures it complies with the industry standards set by module makers and networks worldwide. Taoglas recommends using the antenna with 1m cable length or less and can provide customized connectors and cable lengths upon customer requirements.

The strong magnet base is extremely stable and robust, using only high quality neodymium magnets for a secure magnetic mount to ensure a high pull force to disengage.

2. Specification

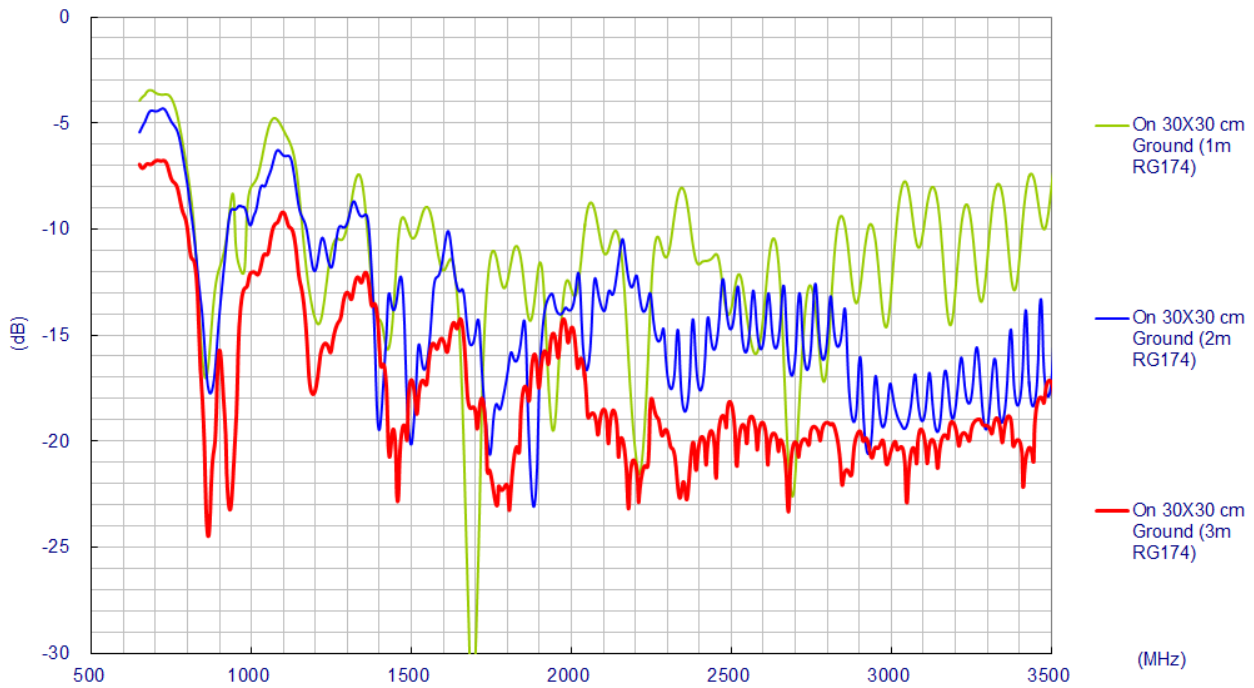
| ELECTRICAL | | | | | | | | |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Frequency (MHz) | 698~800 | 824~960 | 1575.42 | 1710~1880 | 1850~1990 | 1710~2170 | 2400~2700 | 3500 |
| Peak Gain (dBi) | | | | | | | | |
| 30x30cm GP (1m RG174) | 1.8 | 2.6 | 1.3 | 2.5 | 2.3 | 3.9 | 2.9 | 0.6 |
| 30x30cm GP (2m RG174) | -1.0 | 0.9 | 0.9 | 3.9 | 2.8 | 2.5 | 2.2 | -0.6 |
| 30x30cm GP (3m RG174) | -2.5 | -0.1 | -1.3 | 1.2 | 0.1 | 1.2 | -0.5 | -1.6 |
| Average Gain (dBi) | | | | | | | | |
| 30x30cm GP (1m RG174) | -4.9 | -2.4 | -3.4 | -2.7 | -3.8 | -3.3 | -4.4 | -7.2 |
| 30x30cm GP (2m RG174) | -6.3 | -3.1 | -4.4 | -3.9 | -4.3 | -4.1 | -5.4 | -5.5 |
| 30x30cm GP (3m RG174) | -7.2 | -4.4 | -6.2 | -5.5 | -6.3 | -6.1 | -7.4 | -8.9 |
| Efficiency (%) | | | | | | | | |
| 30x30cm GP (1m RG174) | 33.6 | 57.1 | 46.2 | 55.0 | 41.8 | 47.8 | 36.9 | 19.0 |
| 30x30cm GP (2m RG174) | 23.9 | 48.7 | 36.5 | 41.3 | 37.3 | 39.5 | 29.0 | 28.0 |
| 30x30cm GP (3m RG174) | 19.7 | 36.2 | 24.0 | 28.5 | 21.8 | 25.0 | 19.0 | 13.0 |
| Impedance | 50Ω | | | | | | | |
| Polarization | Linear | | | | | | | |
| Radiation Pattern | Omni | | | | | | | |
| Input Power | 50 W | | | | | | | |

| MECHANICAL | |
|-------------------|----------------------------|
| Base Diameter | 50mm |
| Whip Diameter | 298mm |
| Whip Material | Coated Brass |
| Connector | SMA Male |
| ENVIRONMENTAL | |
| Temperature Range | -40°C to 85°C |
| Humidity | Non-condensing 65°C 95% RH |

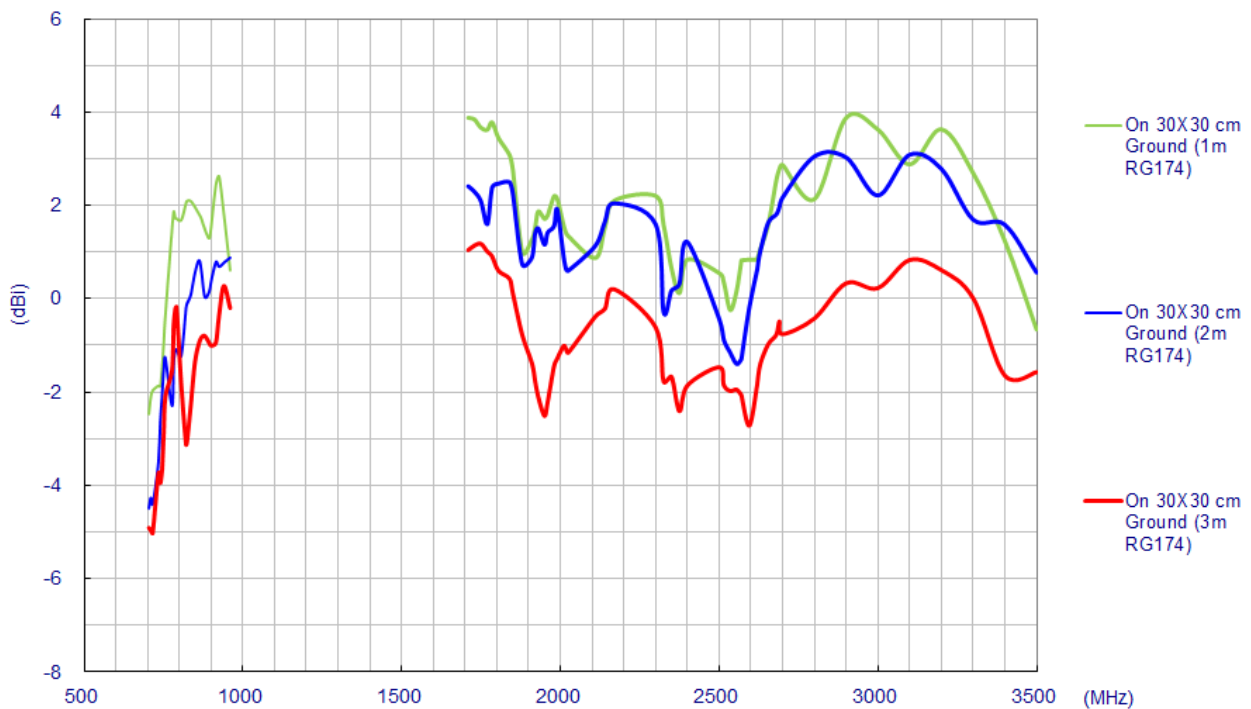
| LTE BANDS | | | |
|-------------|--|-------------------------------|---------|
| Band Number | LTE / LTE-Advanced / WCDMA / HSPA / HSPA+ / TD-SCDMA | | |
| | Uplink | Downlink | Covered |
| 1 | UL: 1920 to 1980 | DL: 2110 to 2170 | ✓ |
| 2 | UL: 1850 to 1910 | DL: 1930 to 1990 | ✓ |
| 3 | UL: 1710 to 1785 | DL: 1805 to 1880 | ✓ |
| 4 | UL: 1710 to 1755 | DL: 2110 to 2155 | ✓ |
| 5 | UL: 824 to 849 | DL: 869 to 894 | ✓ |
| 7 | UL: 2500 to 2570 | DL: 2620 to 2690 | ✓ |
| 8 | UL: 880 to 915 | DL: 925 to 960 | ✓ |
| 9 | UL: 1749.9 to 1784.9 | DL: 1844.9 to 1879.9 | ✓ |
| 11 | UL: 1427.9 to 1447.9 | DL: 1475.9 to 1495.9 | ✗ |
| 12 | UL: 699 to 716 | DL: 729 to 746 | ✓ |
| 13 | UL: 777 to 787 | DL: 746 to 756 | ✓ |
| 14 | UL: 788 to 798 | DL: 758 to 768 | ✓ |
| 17 | UL: 704 to 716 | DL: 734 to 746 (LTE only) | ✓ |
| 18 | UL: 815 to 830 | DL: 860 to 875 (LTE only) | ✓ |
| 19 | UL: 830 to 845 | DL: 875 to 890 | ✓ |
| 20 | UL: 832 to 862 | DL: 791 to 821 | ✓ |
| 21 | UL: 1447.9 to 1462.9 | DL: 1495.9 to 1510.9 | ✗ |
| 22 | UL: 3410 to 3490 | DL: 3510 to 3590 | ✗ |
| 23 | UL: 2000 to 2020 | DL: 2180 to 2200 (LTE only) | ✓ |
| 24 | UL: 1625.5 to 1660.5 | DL: 1525 to 1559 (LTE only) | ✓ |
| 25 | UL: 1850 to 1915 | DL: 1930 to 1995 | ✓ |
| 26 | UL: 814 to 849 | DL: 859 to 894 | ✓ |
| 27 | UL: 807 to 824 | DL: 852 to 869 (LTE only) | ✓ |
| 28 | UL: 703 to 748 | DL: 758 to 803 (LTE only) | ✓ |
| 29 | UL: - | DL: 717 to 728 (LTE only) | ✓ |
| 30 | UL: 2305 to 2315 | DL: 2350 to 2360 (LTE only) | ✓ |
| 31 | UL: 452.5 to 457.5 | DL: 462.5 to 467.5 (LTE only) | ✗ |
| 32 | UL: - | DL: 1452 - 1496 | ✗ |
| 35 | | 1850 to 1910 | ✓ |
| 38 | | 2570 to 2620 | ✓ |
| 39 | | 1880 to 1920 | ✓ |
| 40 | | 2300 to 2400 | ✓ |
| 41 | | 2496 to 2690 | ✓ |
| 42 | | 3400 to 3600 | ✗ |
| 43 | | 3600 to 3800 | ✗ |

3. Antenna Characteristics

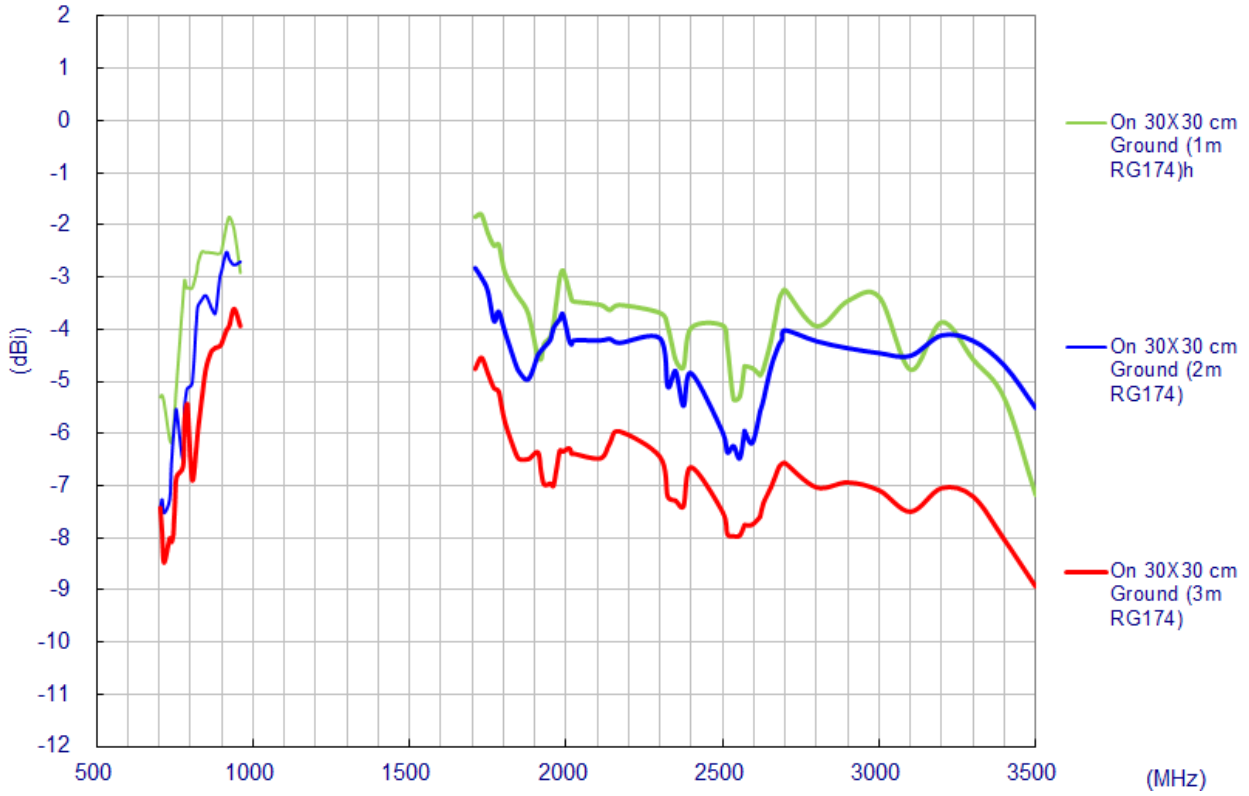
3.1. Return Loss



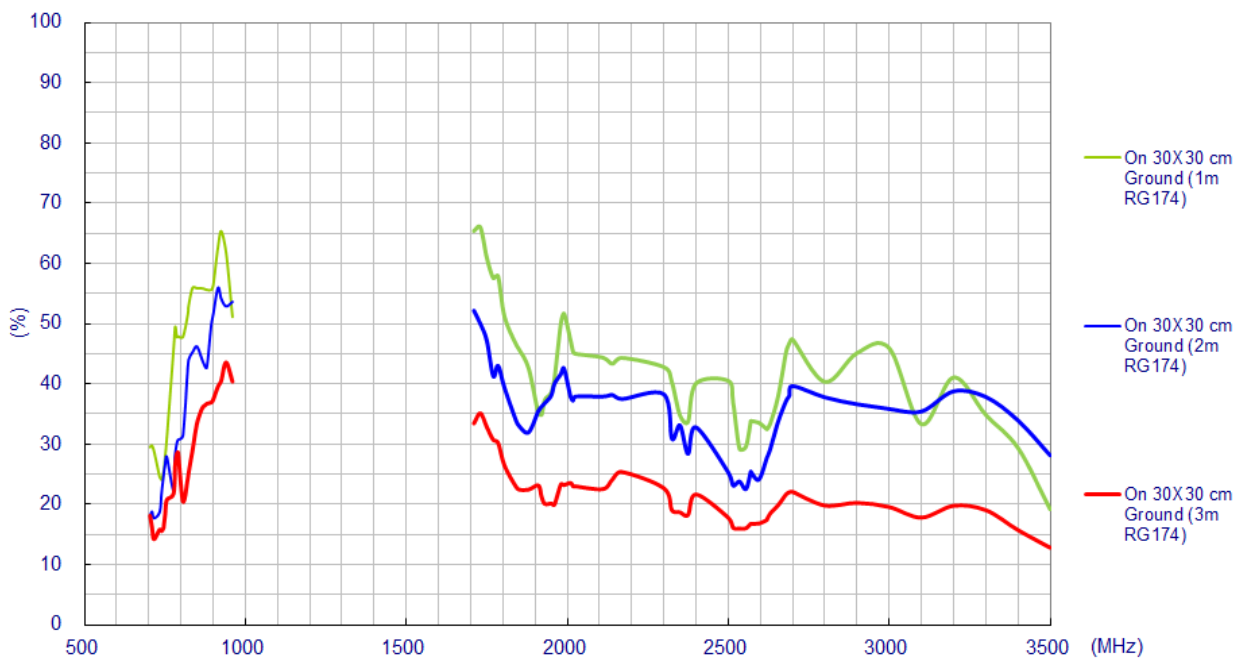
3.2. Maximum Gain



3.3. Average Gain

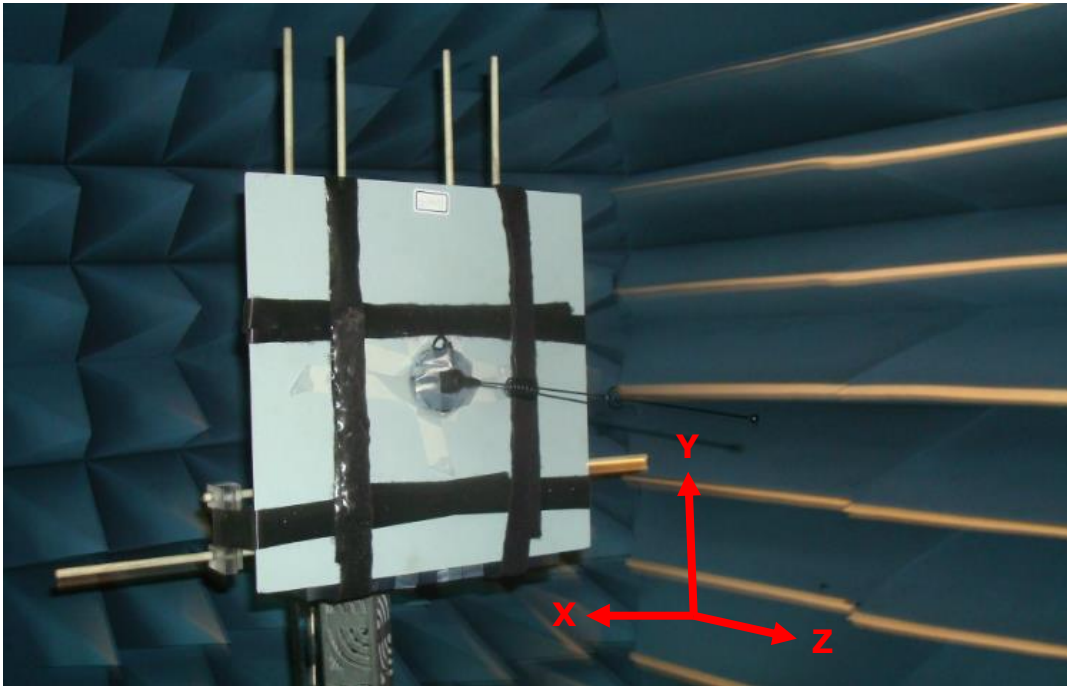


3.4. Efficiency



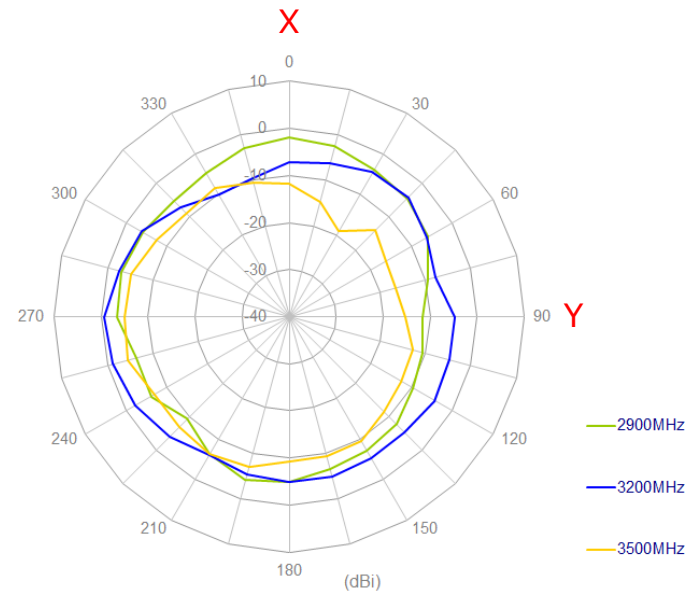
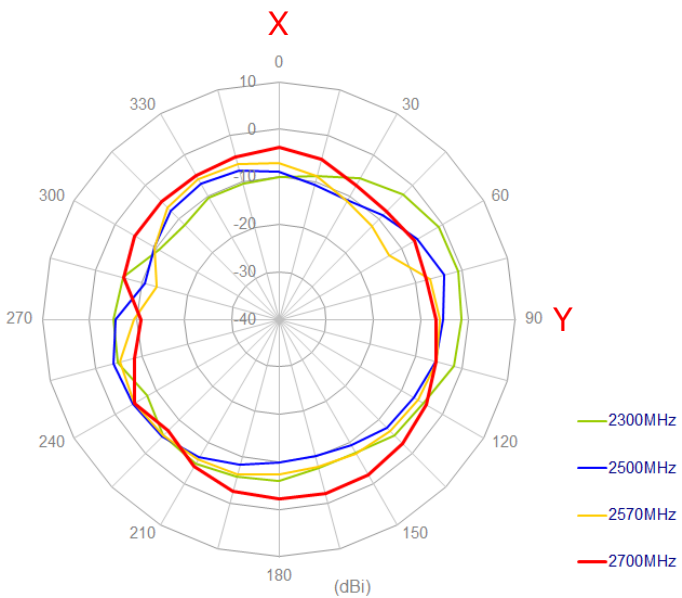
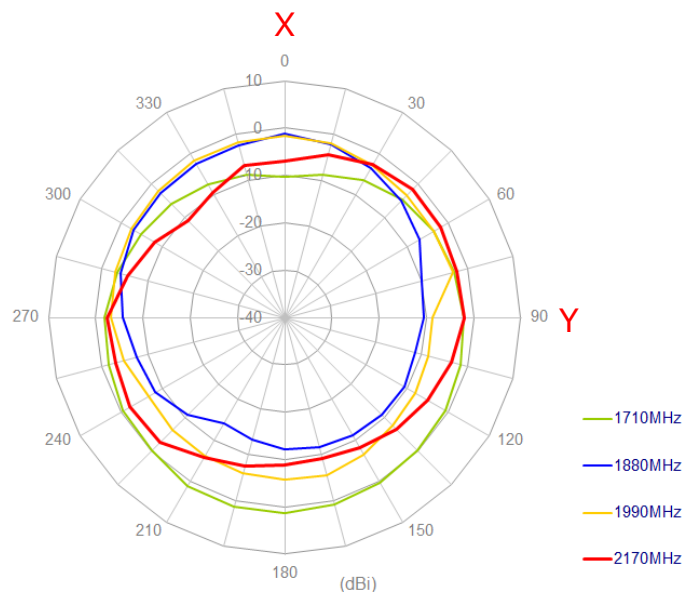
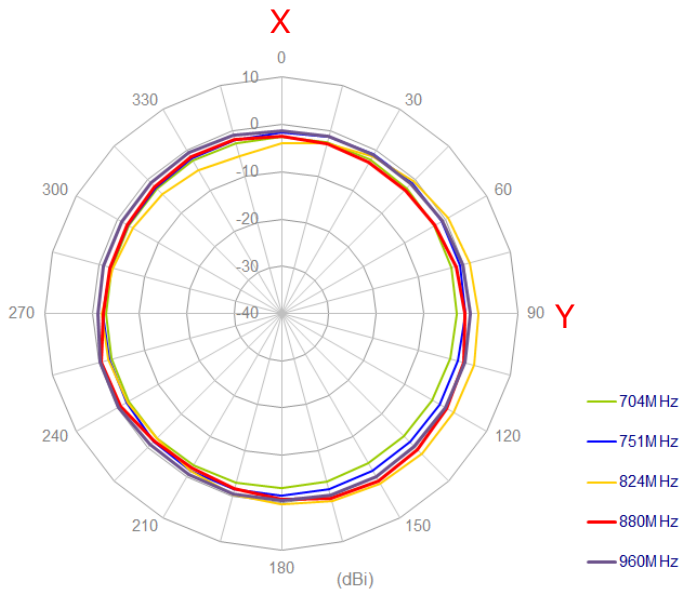
4. Antenna Radiation Patterns

4.1. Antenna setup (On 300x300mm ground plane with 1m RG174 cable)

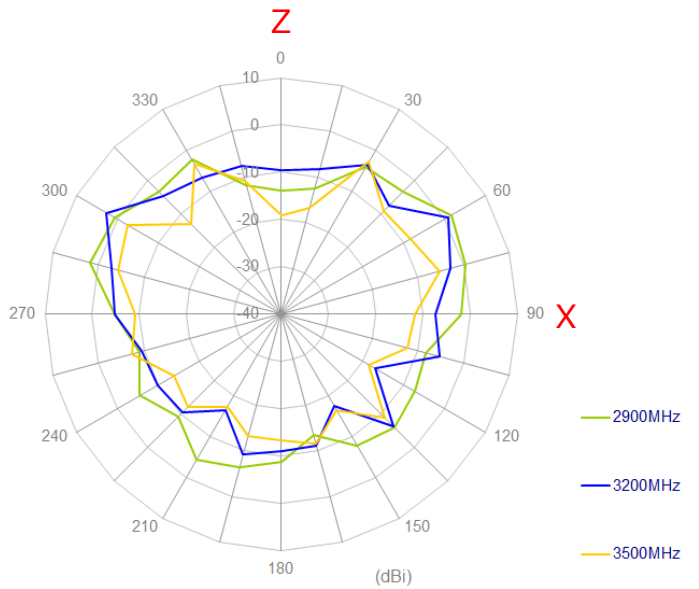
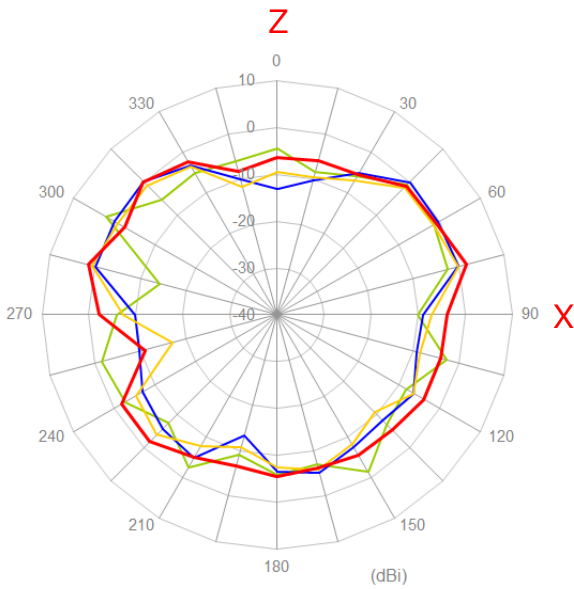
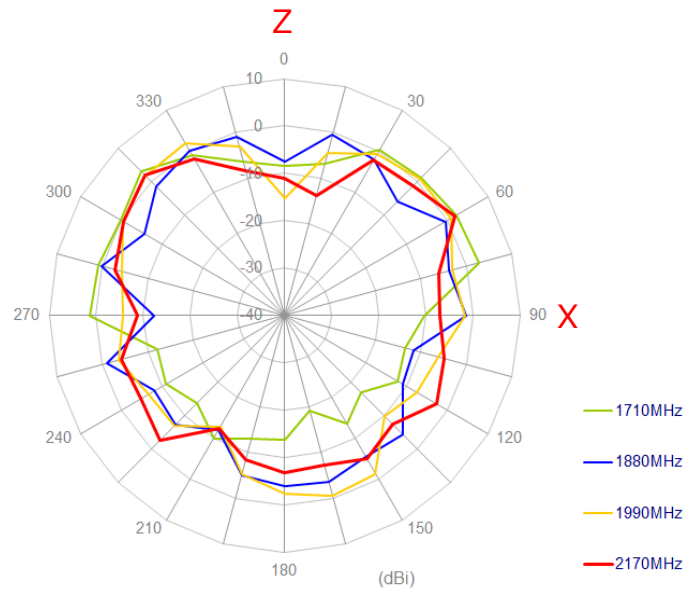
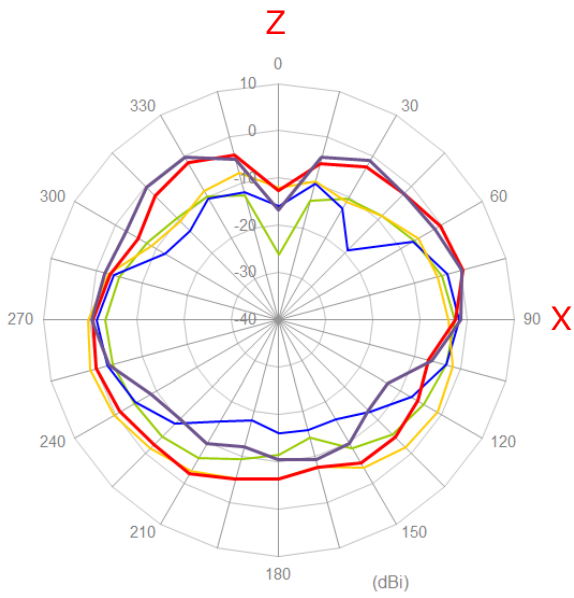


4.2. Radiation Patterns

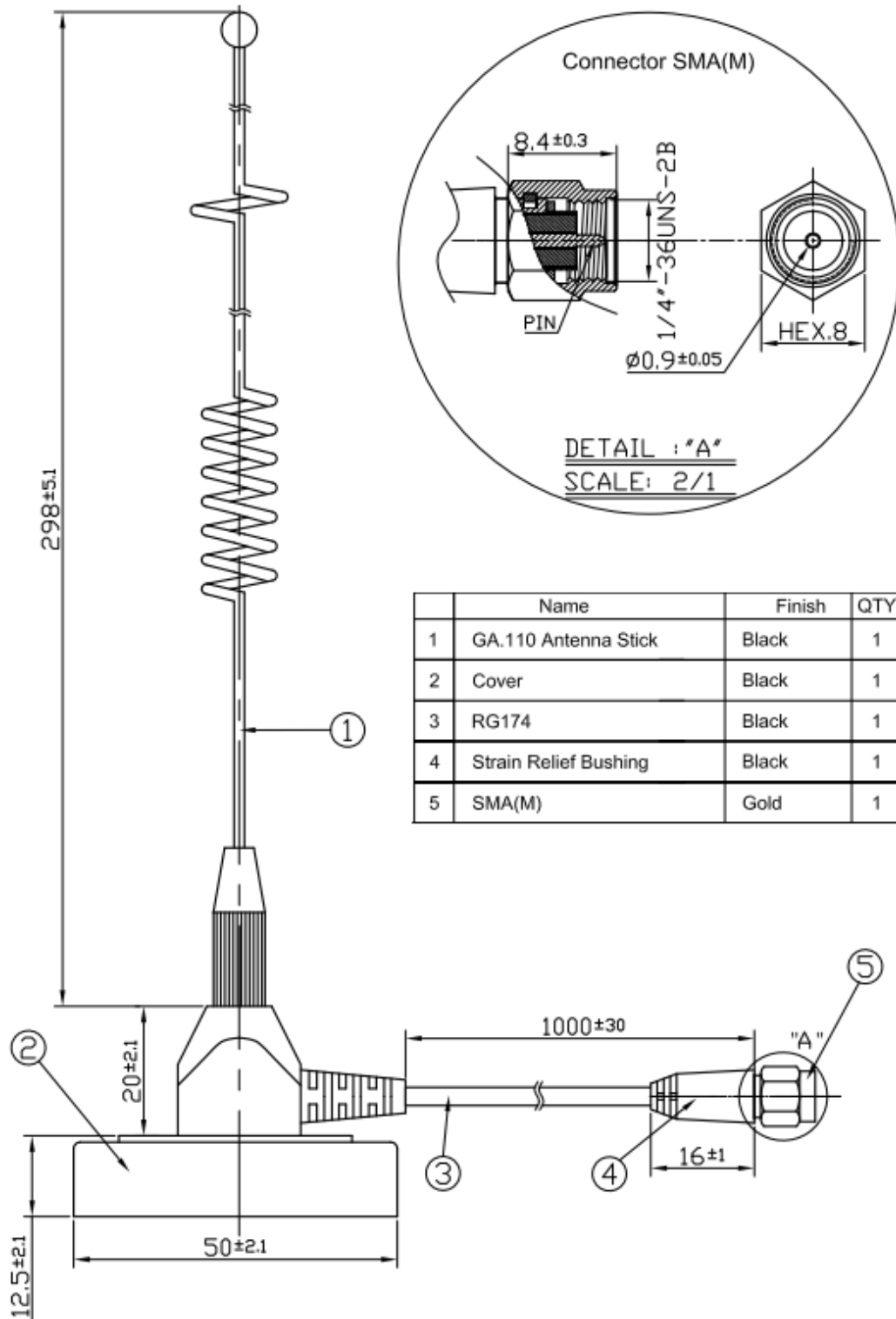
XY Plane



XZ Plane



5. Mechanical Drawing





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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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