



TAOGLAS®



Datasheet

Part No:
G30.B.108111

Description

Olympian Direct Mount Ultra Wide-Band
4G/3G/2G
LTE / Cellular / Wi-Fi Antenna
For 2G/3G/4G Applications

Features:

698 to 960MHz, 2.4GHz and 1710 to 2700MHz
Heavy duty screw mount
UV and Features vandal resistant ABS
housing and thread
L-Shaped bracket
IP67 compliant
Standard is 1M RG-316 SMA(M)
Cables and Connectors Customizable
CE Certified
RoHS & REACH Compliant

| | | |
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1. Introduction



This G30.wm, wall mounted G30 Olympian antenna is a high performance screw mount wide-band cellular antenna with stainless steel L-bracket to allow it to be mounted on a wall or panel. Omni-directional high gain and high efficiency across all bands ensures constant reception and transmission. This is vital for today's high data bandwidth applications in video and mobile broadband.

Durable UV resistant ABS housing is resistant to vandalism and direct attack. At only 48mm in height it is small enough to mount unobtrusively in most locations. This antenna is mounted on metal and plastic structures and is locked from the inside of the structure by a nut. Adhesive foam at the base provides a watertight seal to the mounting structure. High quality waterproof and corrosion resistant Teflon jacket RG316 is used for the cable.

Two of these G30 separated at distance from each other are ideal for the latest LTE MIMO spatial diversity applications.

Customized cable length and connectors are available. Taoglas recommend a minimum cable length of 70mm when used on a ground plane to achieve an efficiency of greater than 40% in the 900MHz band and greater than 60% in the 1800MHz band. For longer cable lengths and if 700MHz band is required, it is necessary to use the MA740 Pantheon for 4G/3G/2G or the MA741 4G/3G/2G MIMO Pantheon.

2. Specification

| LTE Electrical | | | | | | | | | |
|--|-----------------|--------------|----------------|-------------------|-----------------|-----------|--------------|-------------------|------------------|
| Band | Frequency (MHz) | Measurement | Efficiency (%) | Average Gain (dB) | Peak Gain (dBi) | Impedance | Polarization | Radiation Pattern | Max. input power |
| 5GNR/4G Band 5,8,12,13,14,17,18,20,26,27,28,29,71 | 617-960 | Free Space | 46.2 | -3.36 | 3.38 | 50 Ω | Linear | Omni | 2W |
| | | Ground Plane | 47.6 | -3.22 | 4.54 | | | | |
| 5GNR/4G Band 21,32,74,75,76 | 1427-1518 | Free Space | 31.9 | -4.96 | 2.90 | | | | |
| | | Ground Plane | 23.8 | -6.24 | 0.92 | | | | |
| 4G/3G Band 1,2,3,4,9,23,25,35,39,66 | 1710-2200 | Free Space | 52.7 | -2.78 | 6.21 | | | | |
| | | Ground Plane | 59.3 | -2.27 | 4.39 | | | | |
| 4G/3G Band 40 | 2300-2400 | Free Space | 52.3 | -2.81 | 4.39 | | | | |
| | | Ground Plane | 52.0 | -2.84 | 2.76 | | | | |
| Wi-Fi 2400 | 2400-2500 | Free Space | 50.2 | -2.99 | 4.30 | | | | |
| | | Ground Plane | 48.6 | -3.14 | 2.28 | | | | |
| 4G/3G Band 7,38,41 | 2490-2690 | Free Space | 50.2 | -2.99 | 3.29 | | | | |
| | | Ground Plane | 48.2 | -3.17 | 1.92 | | | | |

* The G30 antenna performance was measured with 30X30 cm metal ground plane.

| Mechanical | |
|----------------------|---|
| Dimensions (mm) | Height=48mm and Diameter=50mm |
| Weight | 66g |
| Material | UV Resistant ABS |
| Connector | SMA(M) Fully Customizable |
| Cable | 1m of RG316 |
| Base and Thread | Nickel plated steel |
| Weather proof gasket | CR4305 foam with 3M9448B double-side adhesive |
| Nut | M12 |
| Sealant | Rubber Stopper |

| Environmental | |
|-------------------|--|
| Temperature Range | -40°C to +85°C |
| Protection | IP67 |
| Corrosion | 5% NaCl for 96hrs- Nickel plated steel base and thread |
| 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 |

| 5G/4G Bands | | | | |
|-------------|---|----------------|------------|--------------|
| Band Number | 5GNR / FR1 / LTE / LTE-Advanced / WCDMA / HSPA / HSPA+ / TD-SCDMA | | | |
| | Uplink | Downlink | Free Space | Ground Plane |
| B1 | 1920 to 1980 | 2110 to 2170 | ✓ | ✓ |
| B2 | 1850 to 1910 | 1930 to 1990 | ✓ | ✓ |
| B3 | 1710 to 1785 | 1805 to 1880 | ✓ | ✓ |
| B4 | 1710 to 1755 | 2110 to 2155 | ✓ | ✓ |
| B5 | 824 to 849 | 869 to 894 | ✓ | ✓ |
| B7 | 2500 to 2570 | 2620 to 2690 | ✓ | ✓ |
| B8 | 880 to 915 | 925 to 960 | ✓ | ✓ |
| B9* | 17499 to 17849 | 18449 to 18799 | ✓ | ✓ |
| B11 | 14279 to 14479 | 14759 to 14959 | ✓ | ✓ |
| B12 | 699 to 716 | 729 to 746 | ✓ | ✓ |
| B13 | 777 to 787 | 746 to 756 | ✓ | ✓ |
| B14 | 788 to 798 | 758 to 768 | ✓ | ✓ |
| B17 | 704 to 716 | 734 to 746 | ✓ | ✓ |
| B18 | 815 to 830 | 860 to 875 | ✓ | ✓ |
| B19 | 830 to 845 | 875 to 890 | ✓ | ✓ |
| B20 | 832 to 862 | 791 to 821 | ✓ | ✓ |
| B21 | 14479 to 14629 | 14959 to 15109 | ✓ | ✓ |
| B22* | 3410 to 3490 | 3510 to 3590 | ✓ | ✓ |
| B23* | 2000 to 2020 | 2180 to 2200 | ✓ | ✓ |
| B24 | 16265 to 16605 | 1525 to 1559 | ✓ | ✓ |
| B25 | 1850 to 1915 | 1930 to 1995 | ✓ | ✓ |
| B26 | 814 to 849 | 859 to 894 | ✓ | ✓ |
| B27* | 807 to 824 | 852 to 869 | ✓ | ✓ |
| B28 | 703 to 748 | 758 to 803 | ✓ | ✓ |
| B29 | | 717 to 728 | ✓ | ✓ |
| B30 | 2305 to 2315 | 2350 to 2360 | ✓ | ✓ |
| B31 | 4525 to 4575 | 4625 to 4675 | ✗ | ✗ |
| B32 | | 1452 to 1496 | ✓ | ✓ |
| B34 | | 2010 to 2025 | ✓ | ✓ |
| B35 | | 1850 to 1910 | ✓ | ✓ |
| B36 | | 1930 to 1990 | ✓ | ✓ |
| B37 | | 1910 to 1930 | ✓ | ✓ |
| B38 | | 2570 to 2620 | ✓ | ✓ |
| B39 | | 1880 to 1920 | ✓ | ✓ |
| B40 | | 2300 to 2400 | ✓ | ✓ |
| B41 | | 2496 to 2690 | ✓ | ✓ |
| B42 | | 3400 to 3600 | ✓ | ✓ |
| B43 | | 3600 to 3800 | ✓ | ✓ |
| B45 | | 1447 to 1467 | ✓ | ✓ |
| B46 | | 5150 to 5925 | ✓ | ✓ |
| B47 | | 5855 to 5925 | ✓ | ✓ |
| B48 | | 3550 to 3700 | ✓ | ✓ |
| B49 | | 3550 to 3700 | ✓ | ✓ |
| B50 | | 1432 to 1517 | ✓ | ✓ |
| B51 | | 1427 to 1432 | ✓ | ✓ |
| B52 | | 3300 to 3400 | ✓ | ✓ |
| B53 | | 24835 to 2495 | ✓ | ✓ |
| B65 | 1920 to 2010 | 2110 to 2200 | ✓ | ✓ |
| B66 | 1710 to 1780 | 2110 to 2200 | ✓ | ✓ |
| B68 | 698 to 728 | 753 to 783 | ✓ | ✓ |
| B69 | | 2570 to 2620 | ✓ | ✓ |
| B70 | 1695 to 1710 | 1995 to 2020 | ✓ | ✓ |
| B71 | 663 to 698 | 617 to 652 | ✓ | ✓ |
| B72 | 451 to 456 | 461 to 466 | ✗ | ✗ |
| B73 | 450 to 455 | 460 to 465 | ✗ | ✗ |
| B74 | 1427 to 1470 | 1475 to 1518 | ✓ | ✓ |
| B75 | | 1432 to 1517 | ✓ | ✓ |
| B76 | | 1427 to 1432 | ✓ | ✓ |
| B77 | | 3300 to 4200 | ✓ | ✓ |
| B78 | | 3300 to 3800 | ✓ | ✓ |
| B79 | | 4400 to 5000 | ✓ | ✓ |
| B85 | 698 to 716 | 728 to 746 | ✓ | ✓ |
| B87 | 410 to 415 | 420 to 425 | ✗ | ✗ |
| B88 | 412 to 417 | 422 to 427 | ✗ | ✗ |

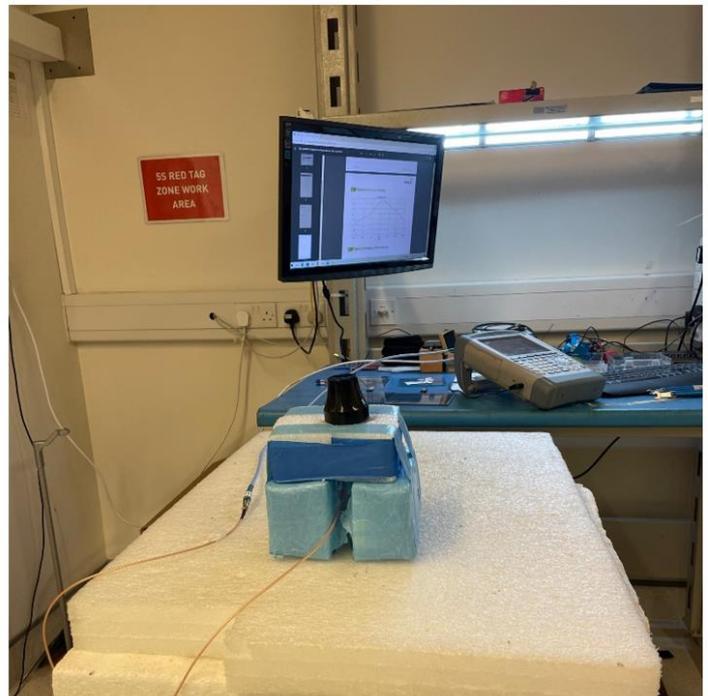
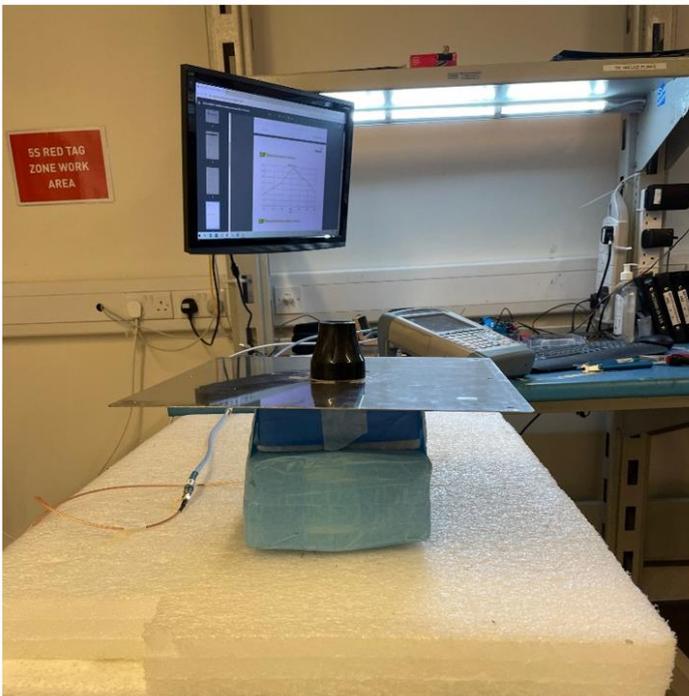
3. Antenna Characteristics

3.1 Test Setup

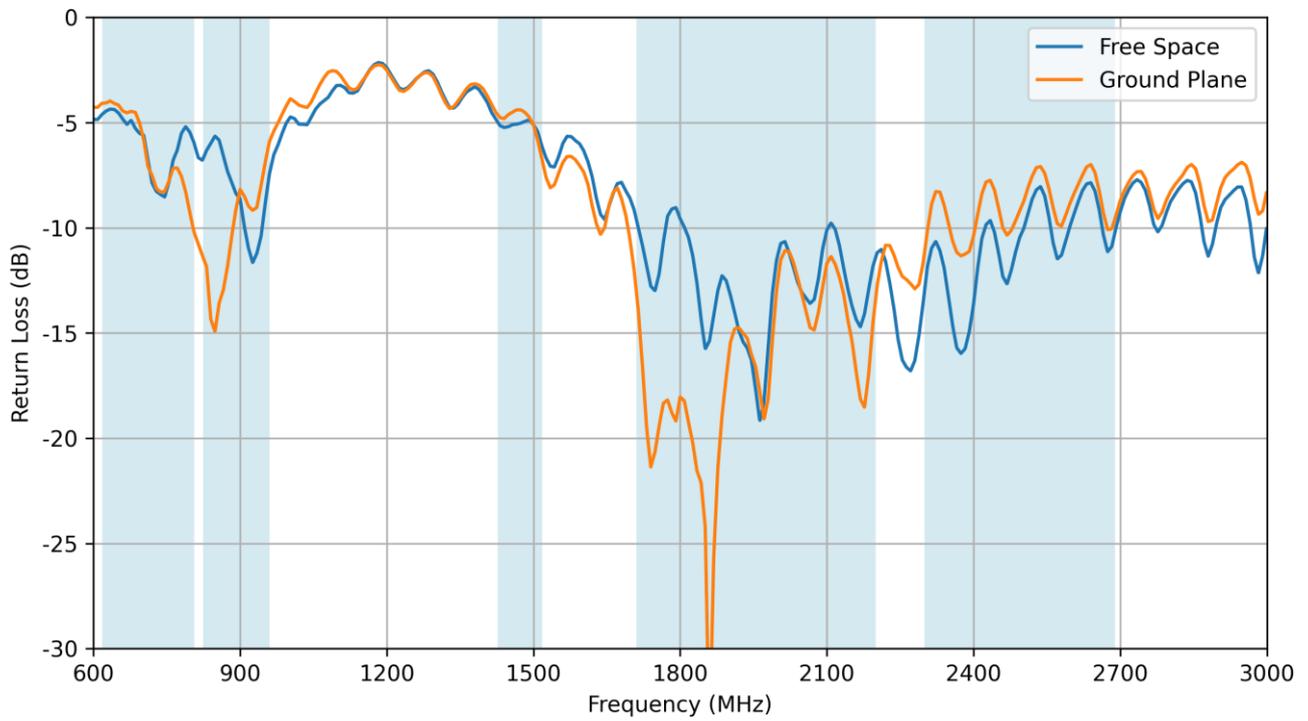
AUT



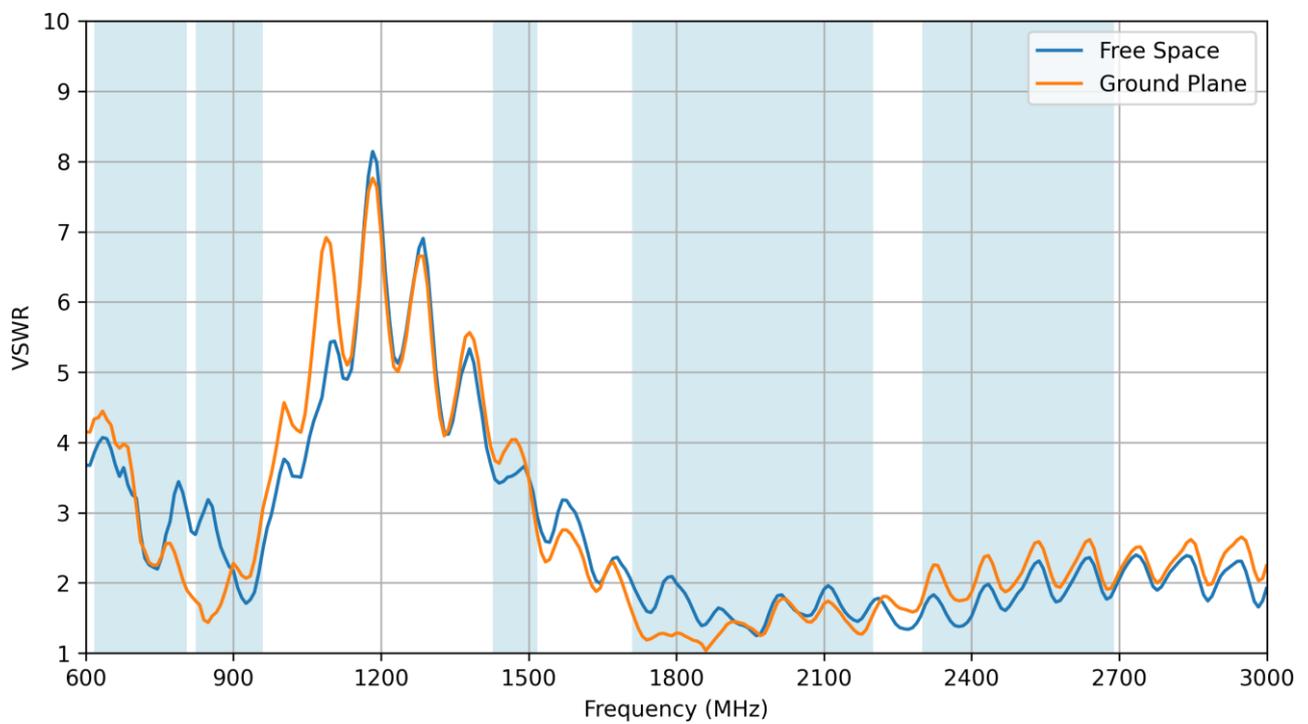
Vector Network Analyzer



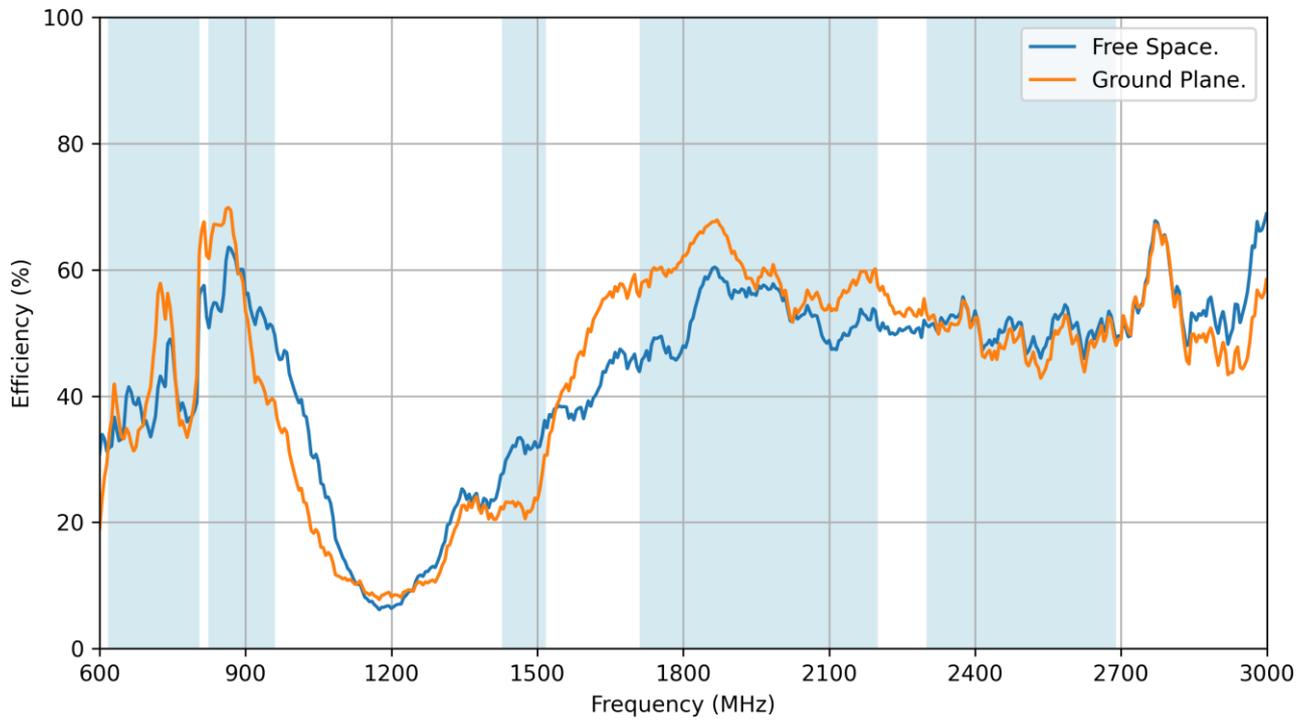
3.2 Return Loss



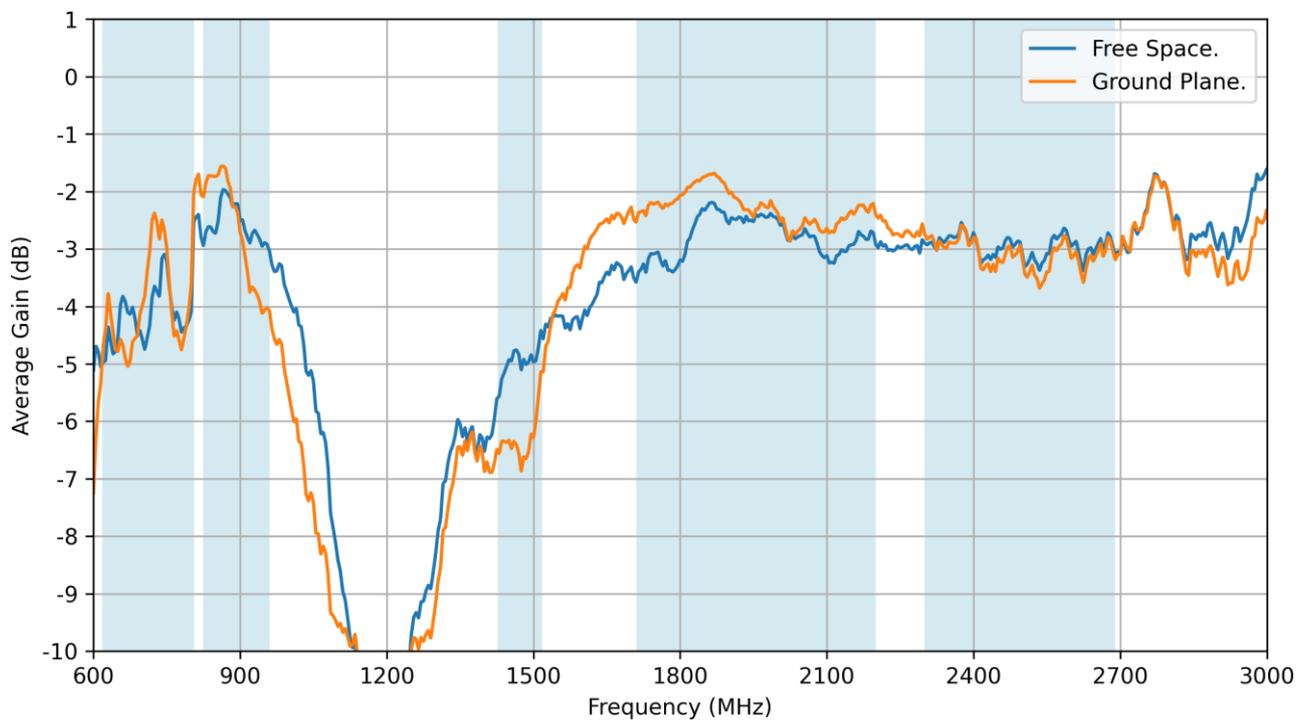
3.3 VSWR



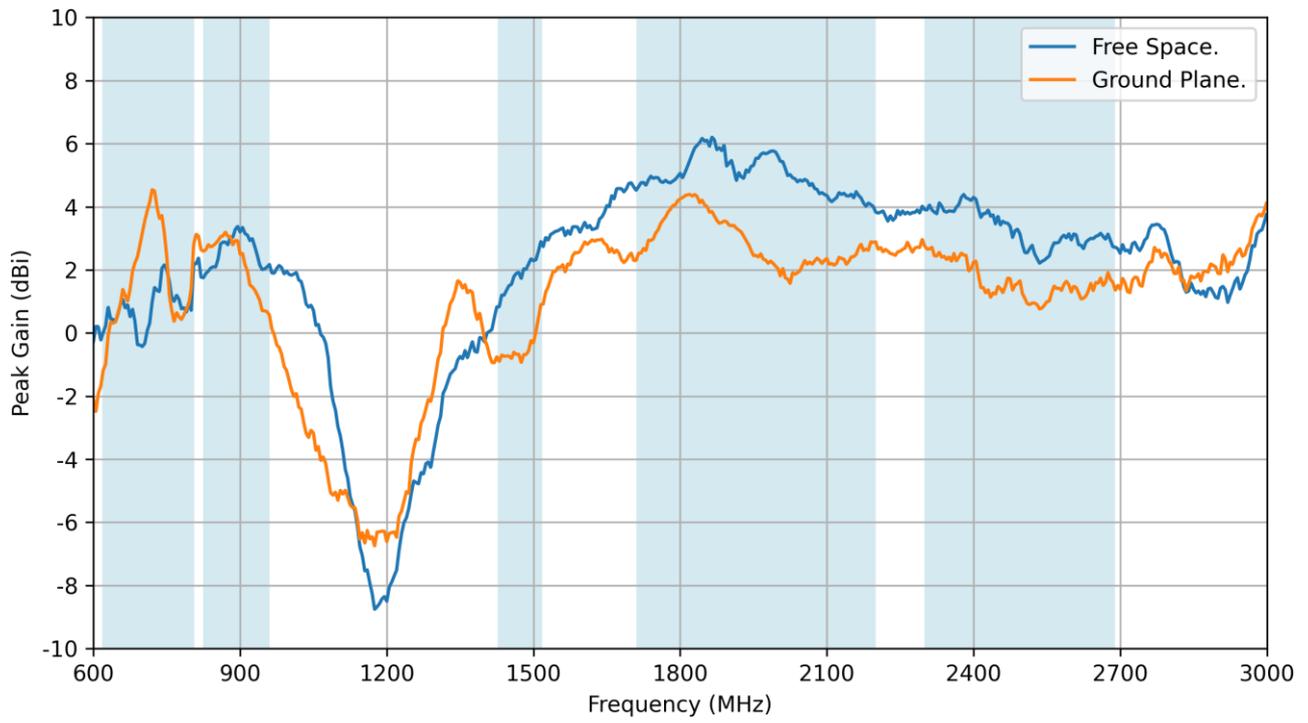
3.4 Efficiency



3.5 Average Gain

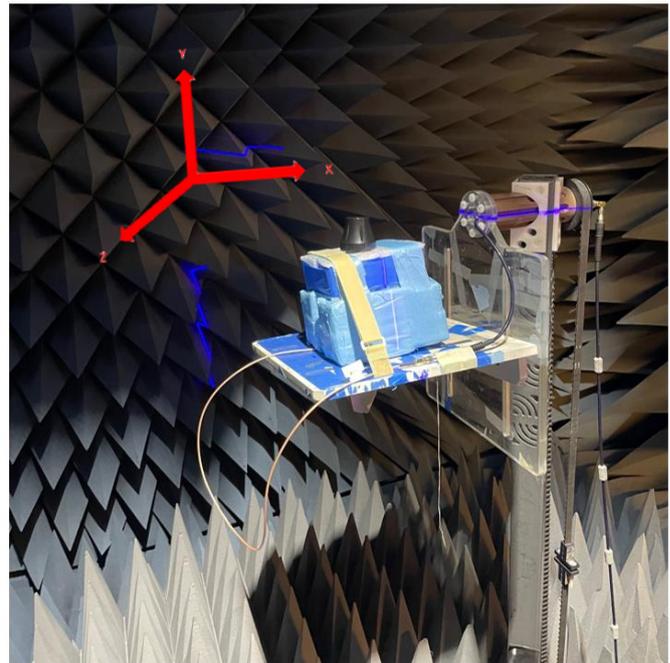
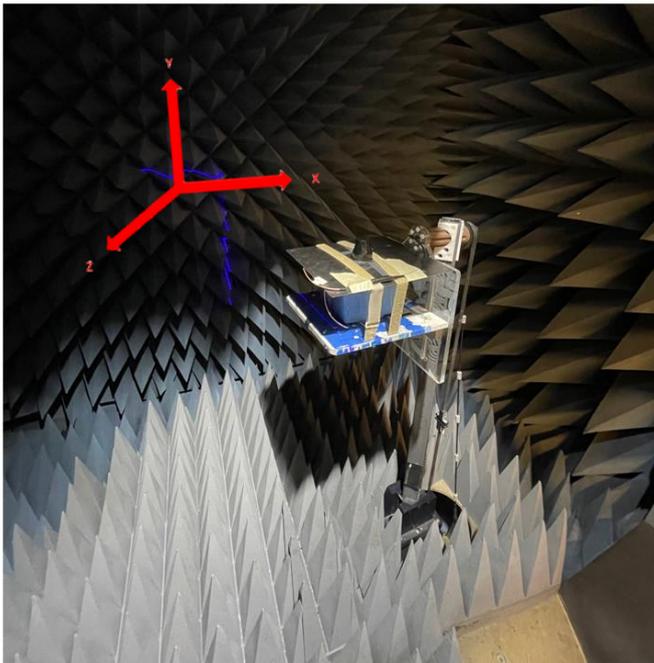
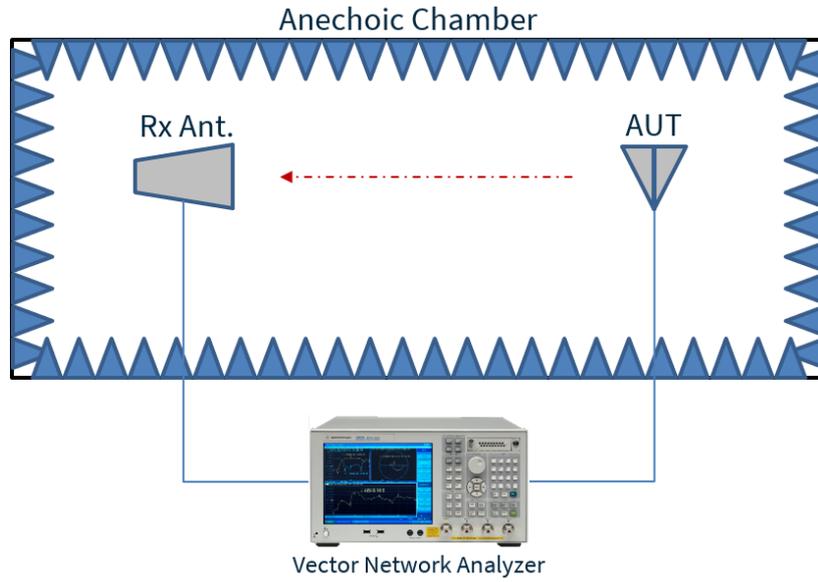


3.6 Peak Gain

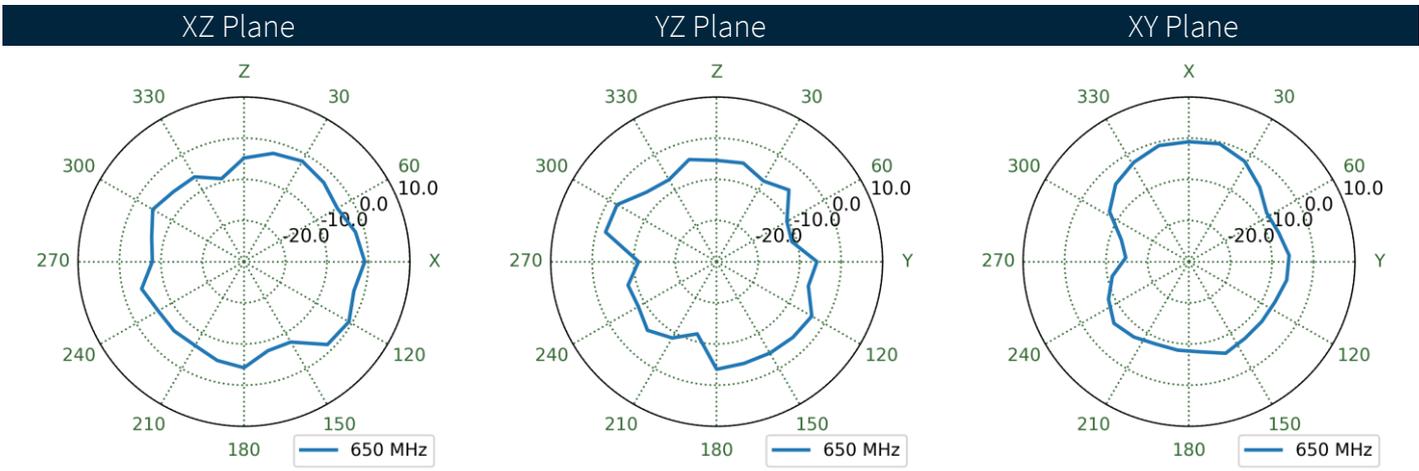
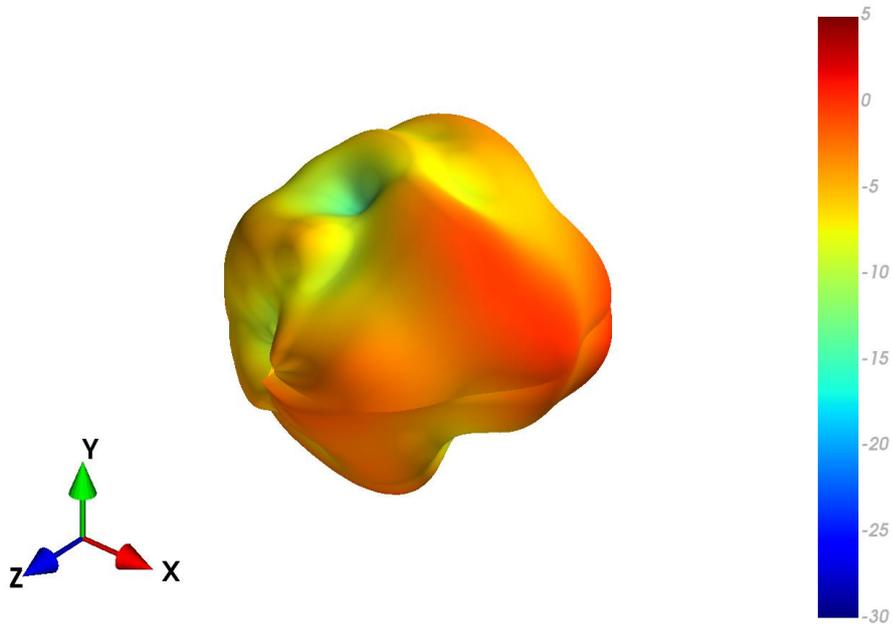


4. Radiation Patterns

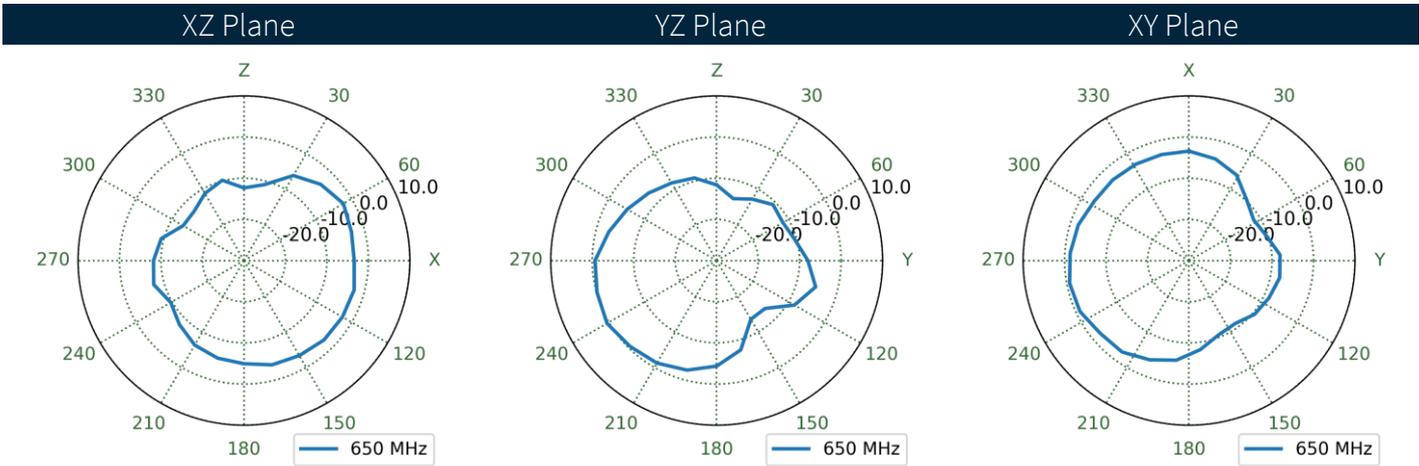
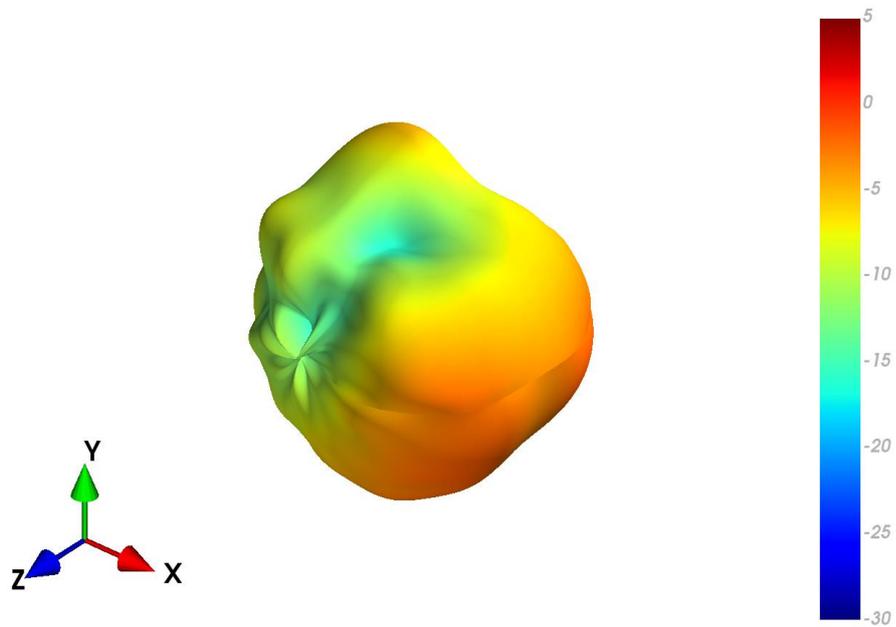
4.1 Test Setup



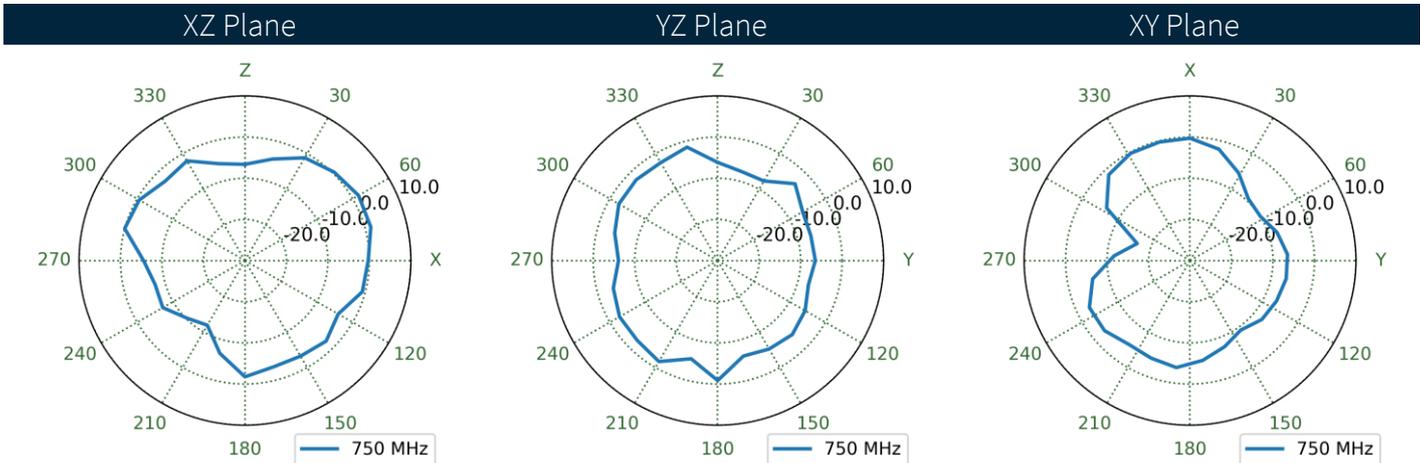
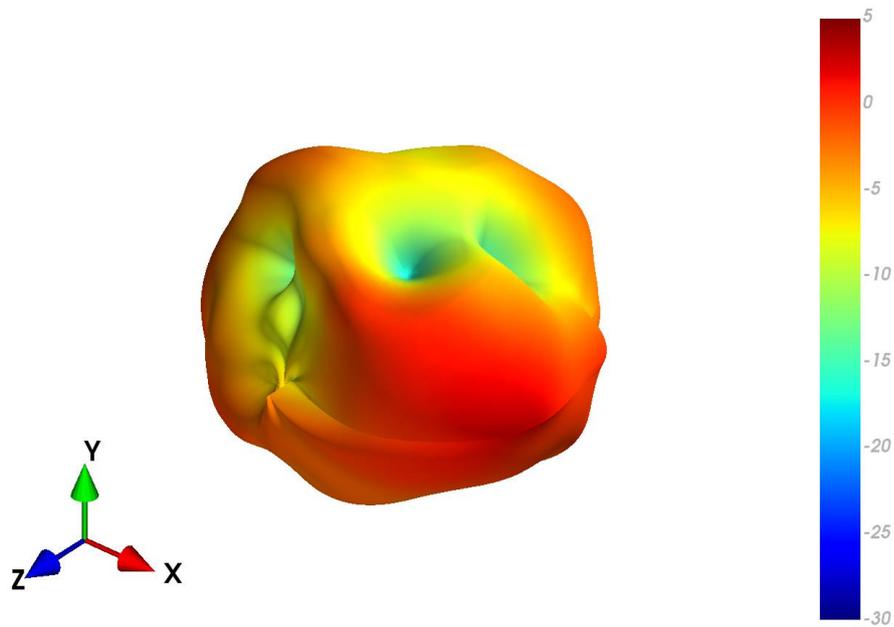
4.2 Free Space Patterns at 650 MHz



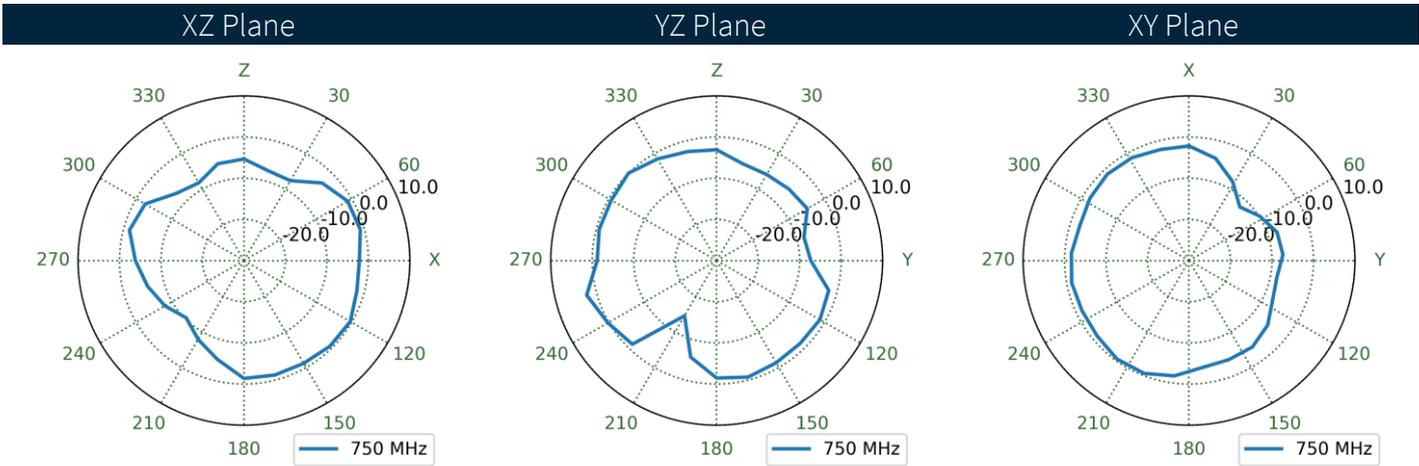
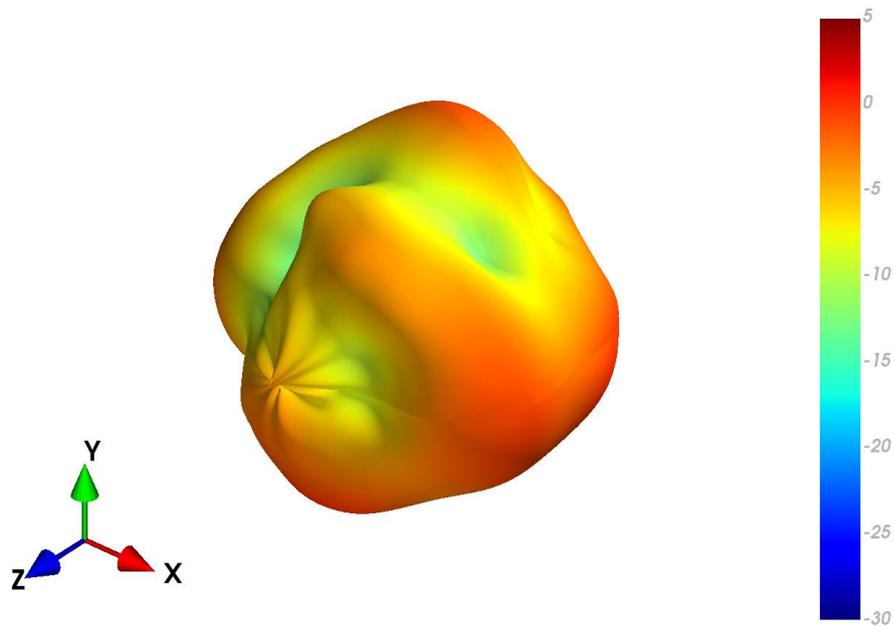
4.3 Ground Plane Patterns at 650 MHz



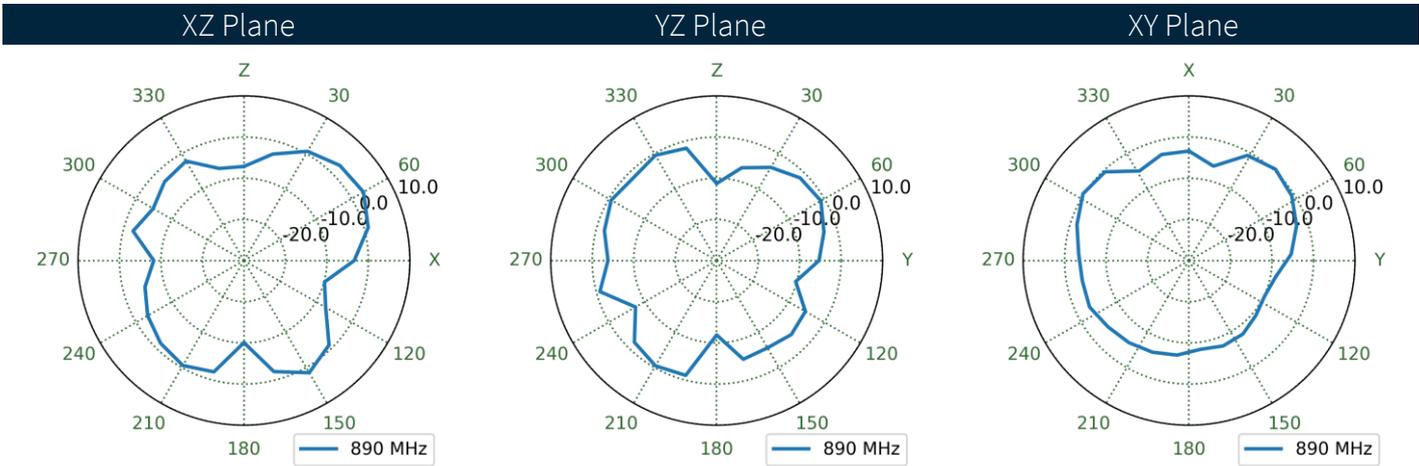
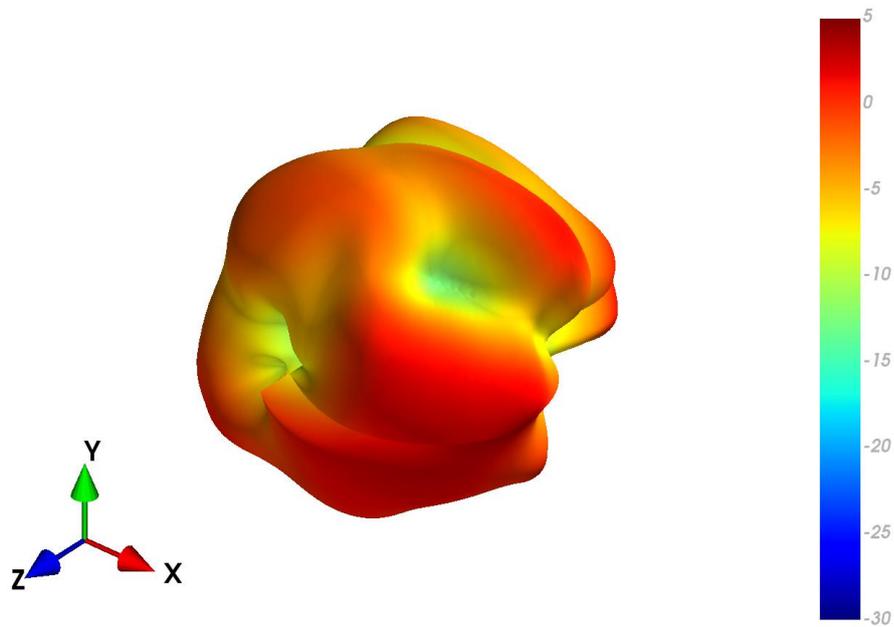
4.4 Free Space Patterns at 750 MHz



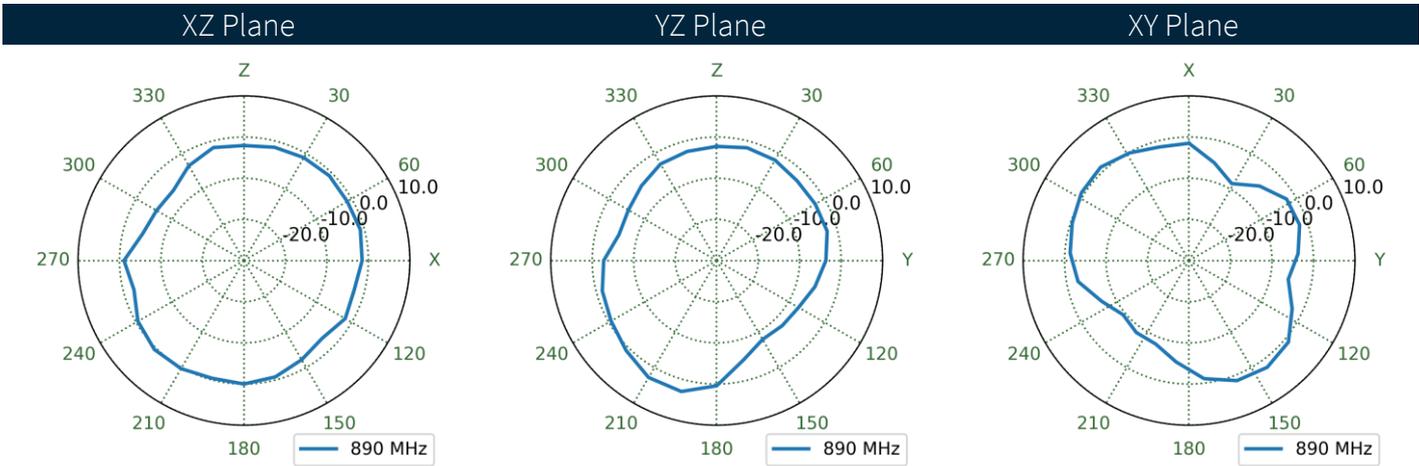
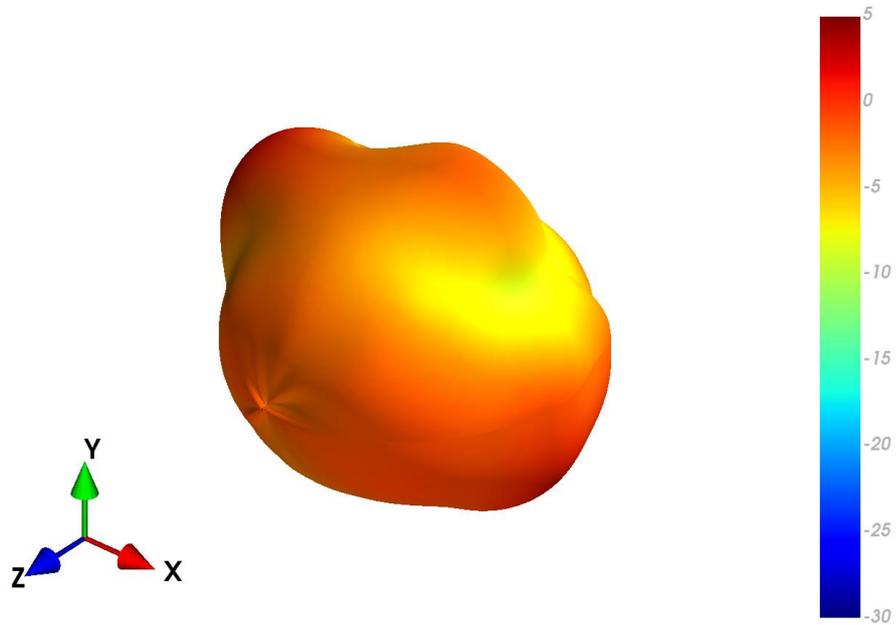
4.5 Ground Plane Patterns at 750 MHz



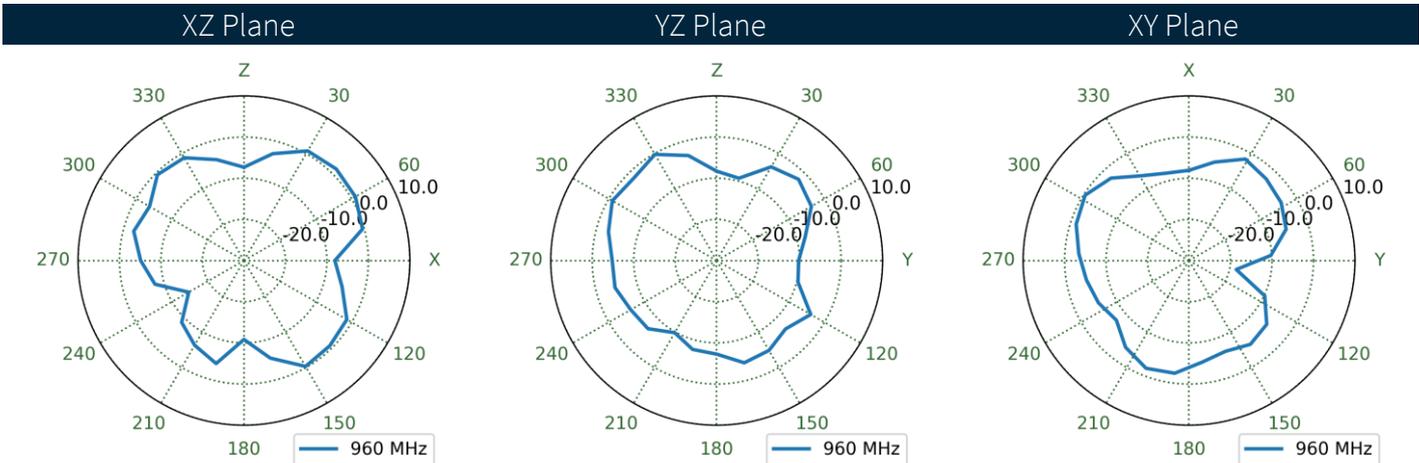
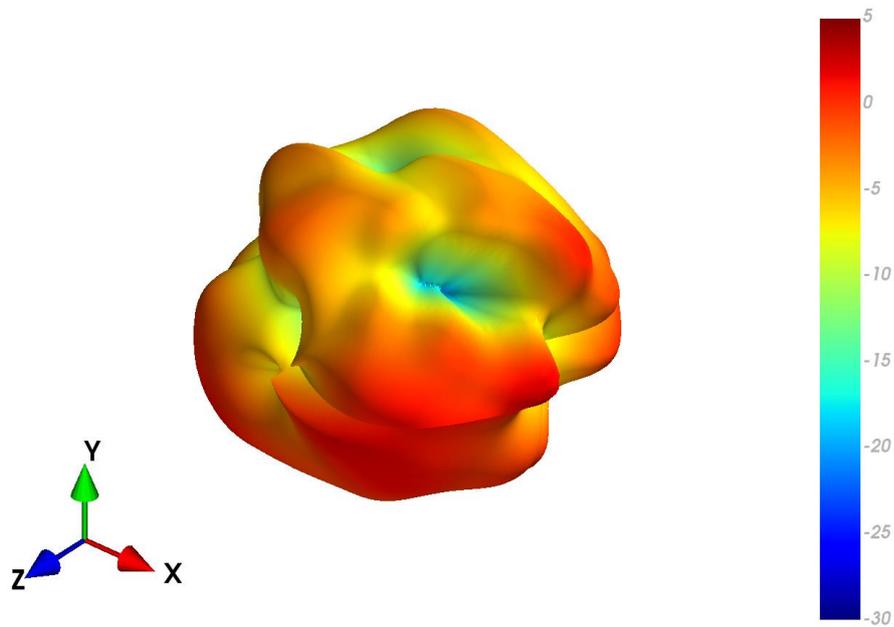
4.6 Free Space Patterns at 890 MHz



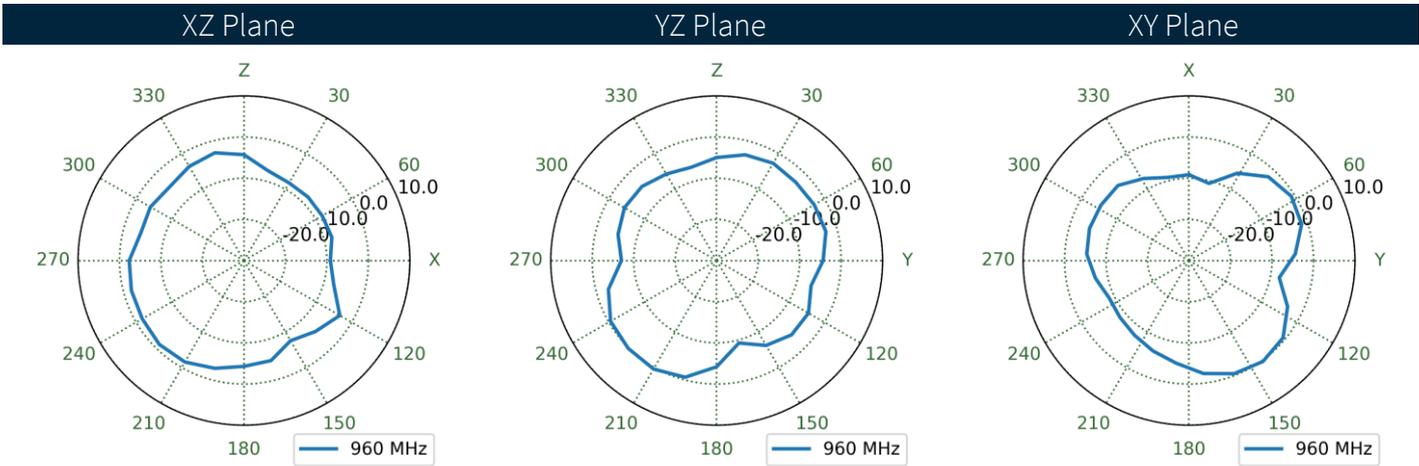
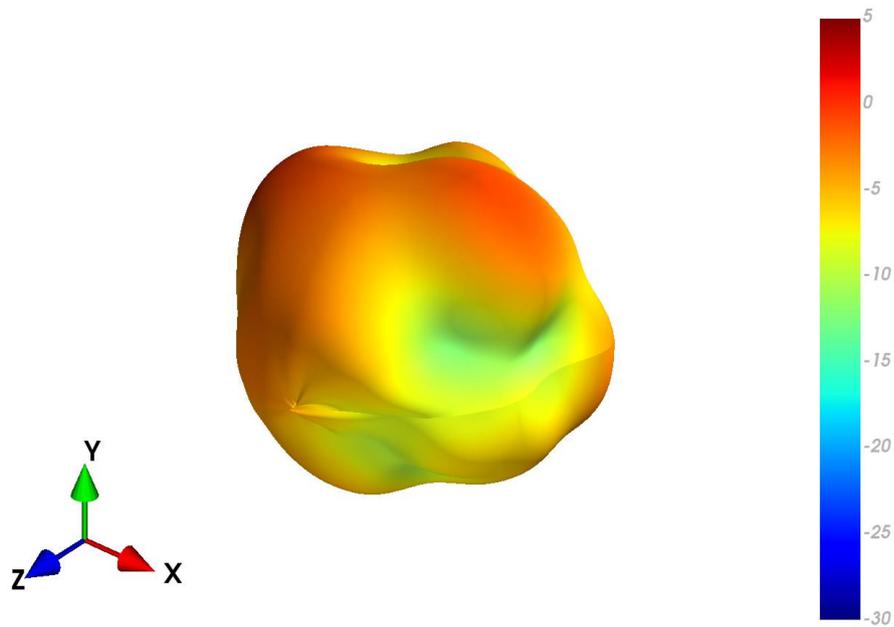
4.7 Ground Plane Patterns at 890 MHz



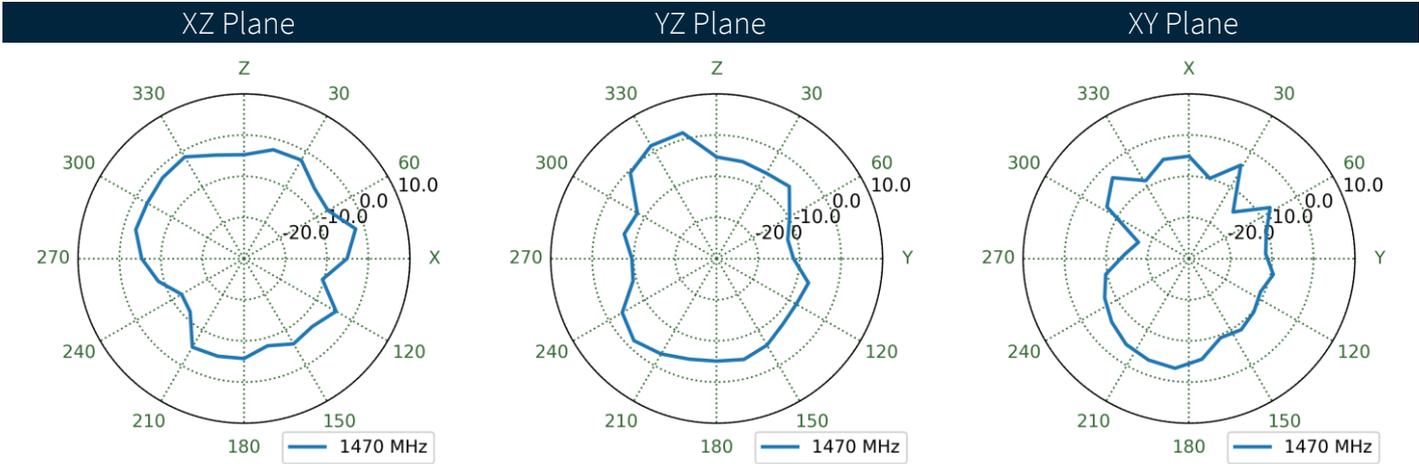
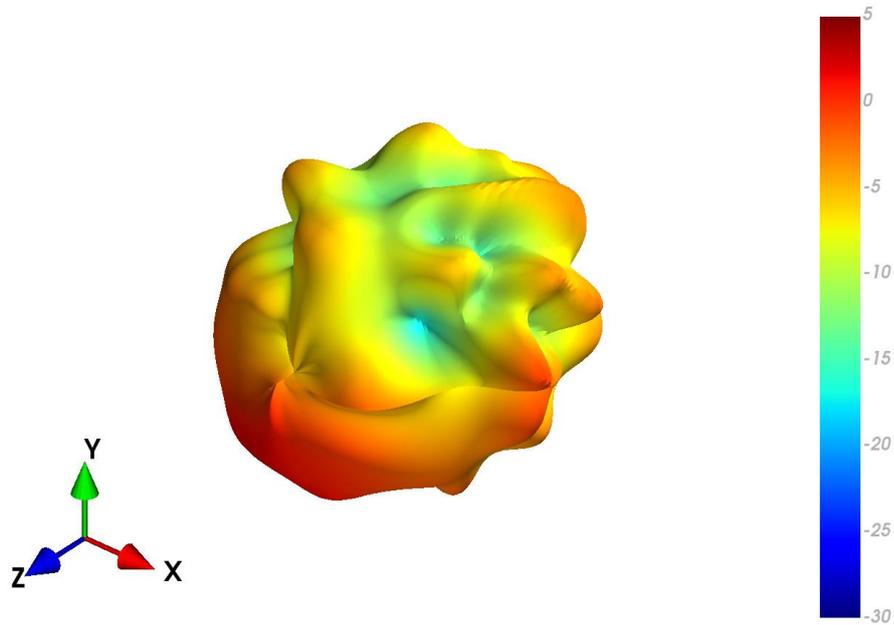
4.8 Free Space Patterns at 960 MHz



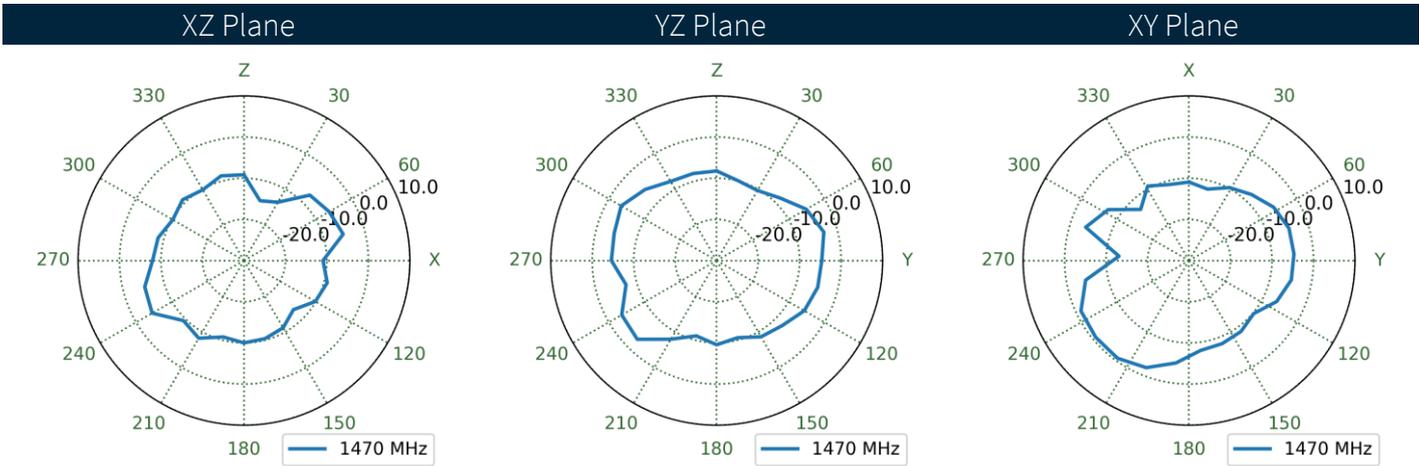
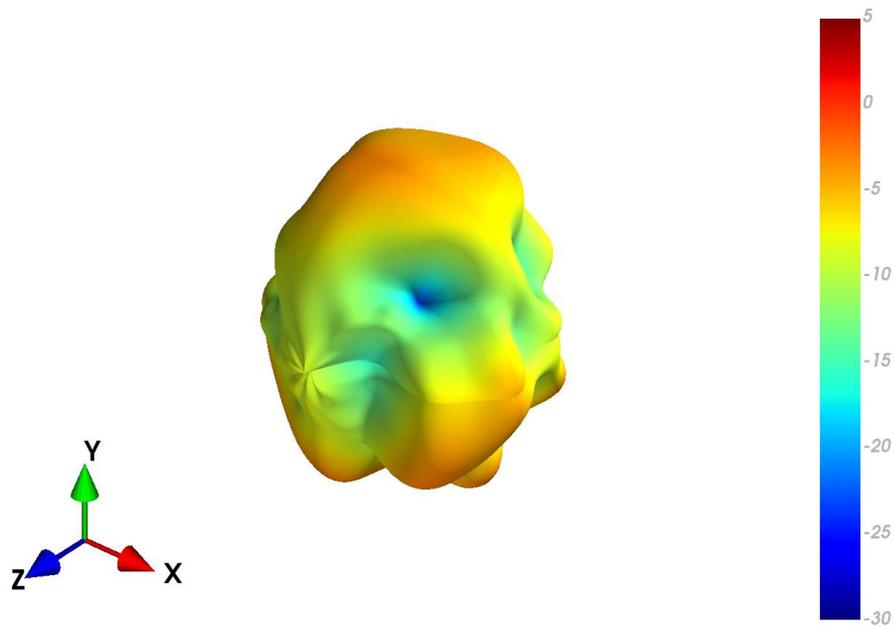
4.9 Ground Plane Patterns at 960 MHz



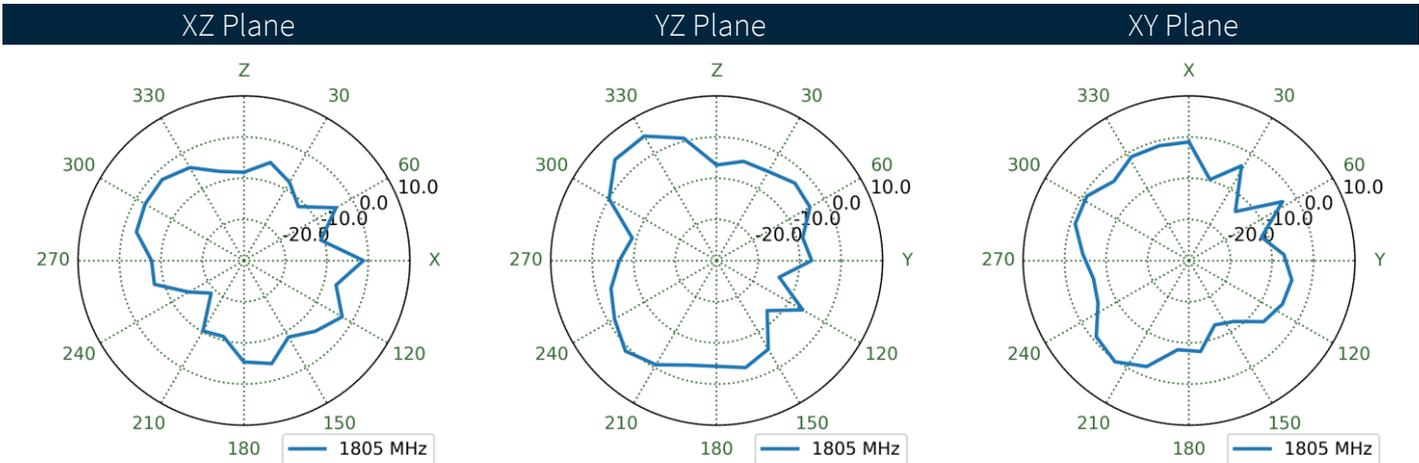
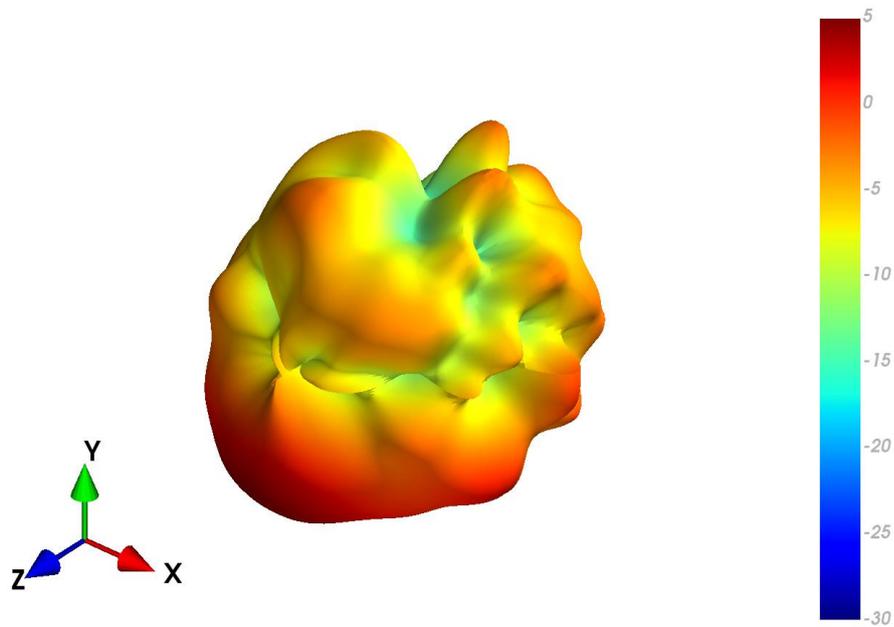
4.10 Free Space Patterns at 1470 MHz



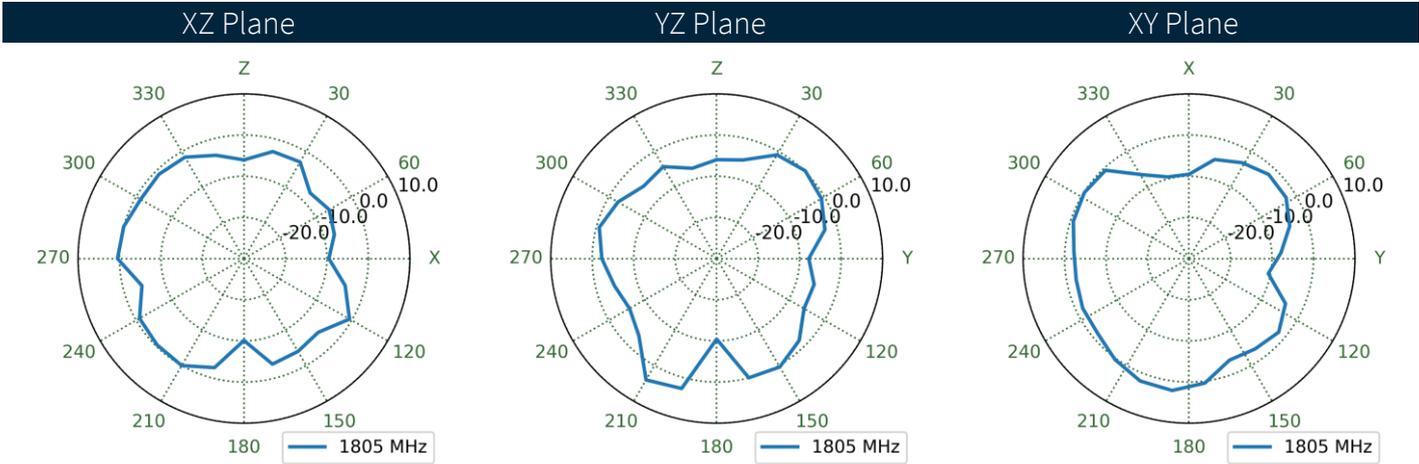
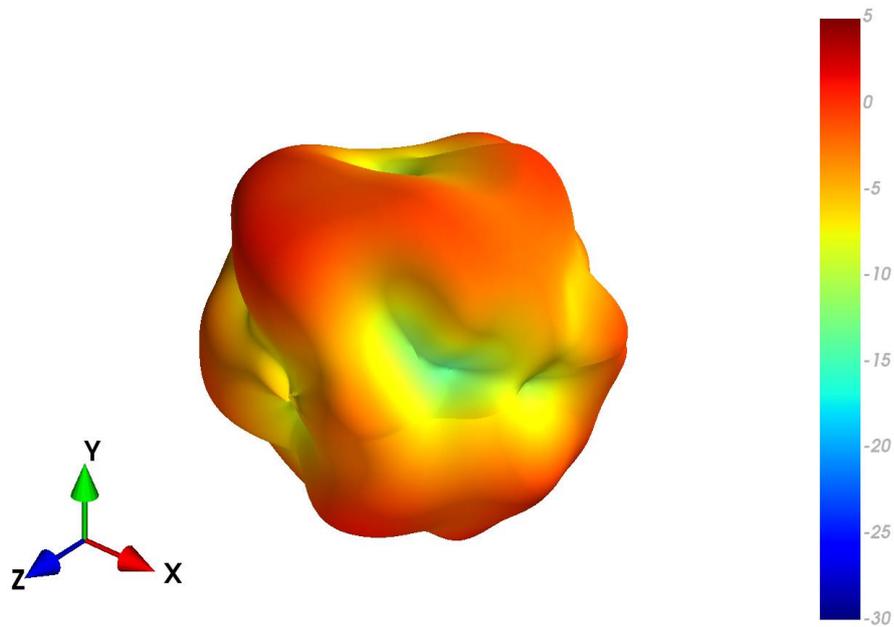
4.11 Ground Plane Patterns at 1470 MHz



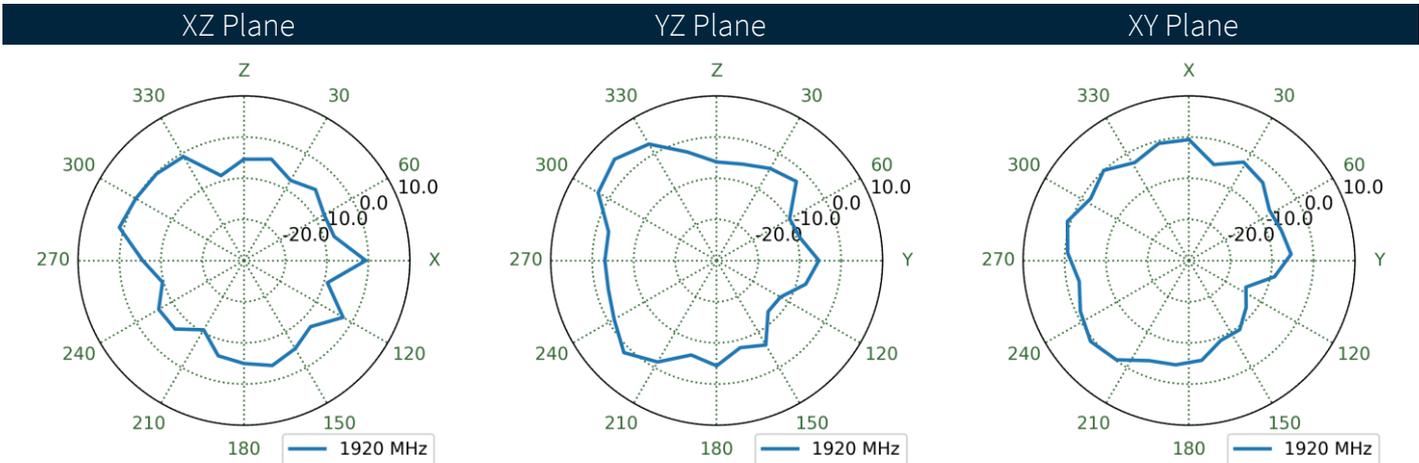
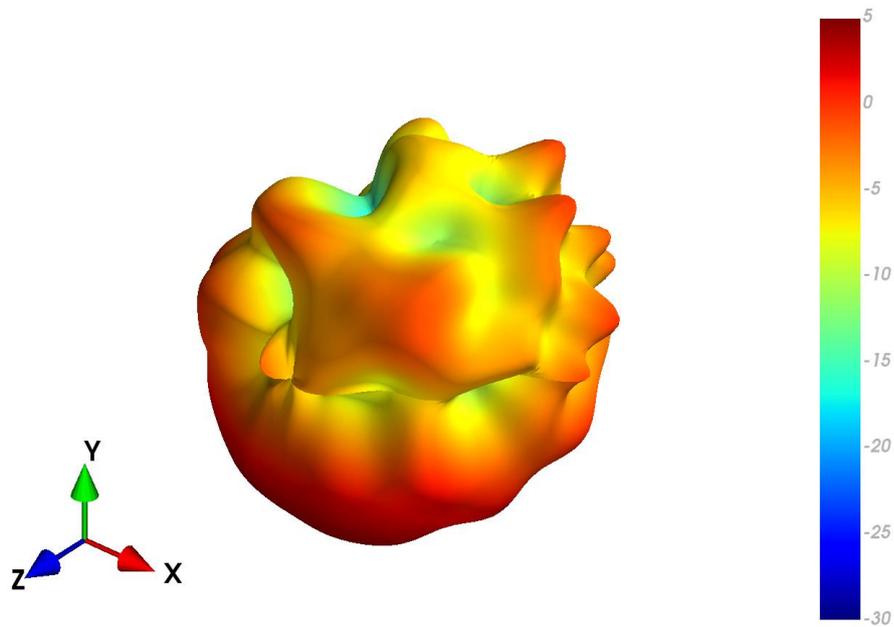
4.12 Free Space Patterns at 1805 MHz



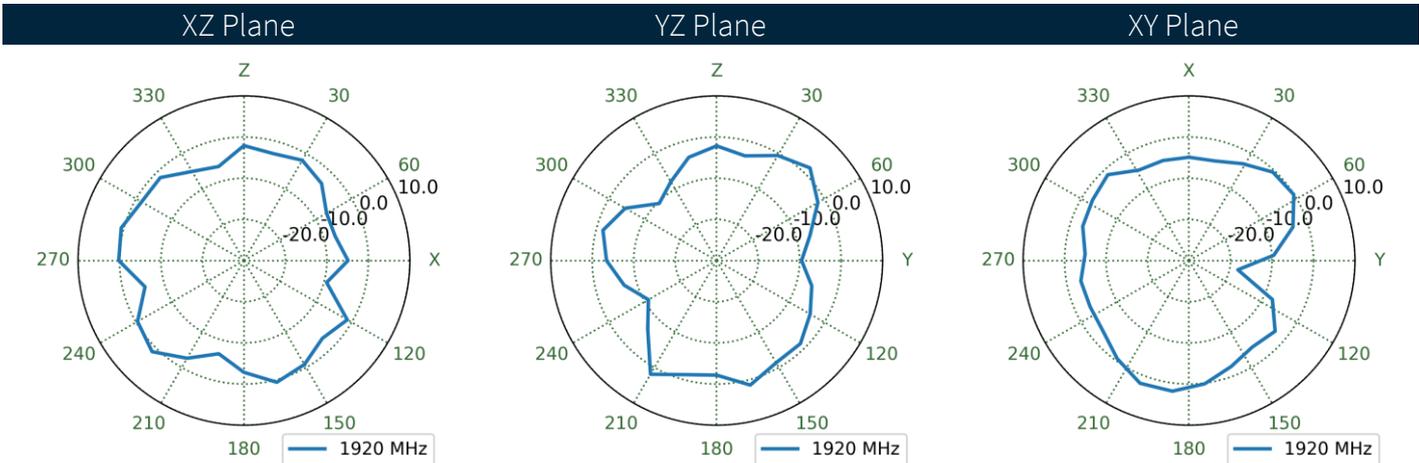
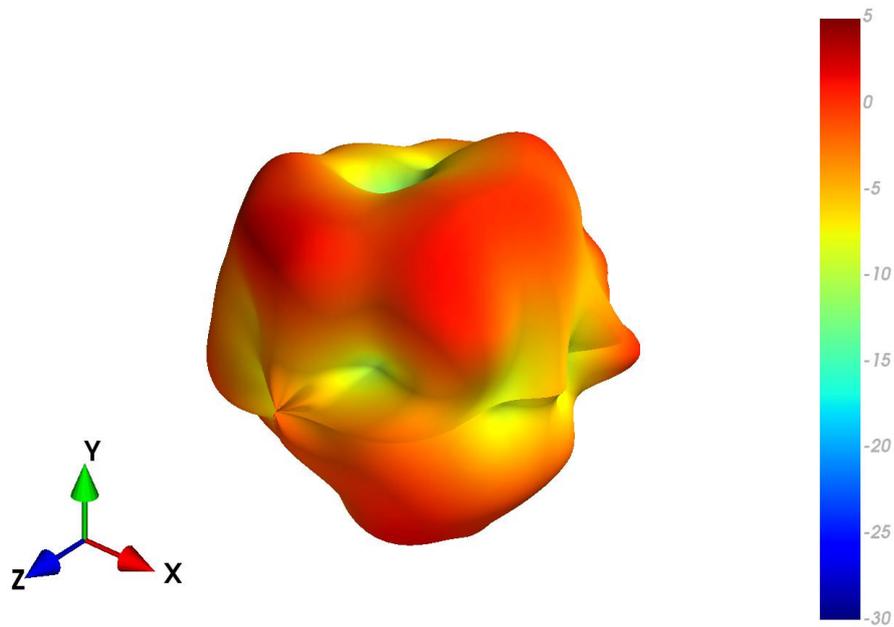
4.13 Ground Plane Patterns at 1805 MHz



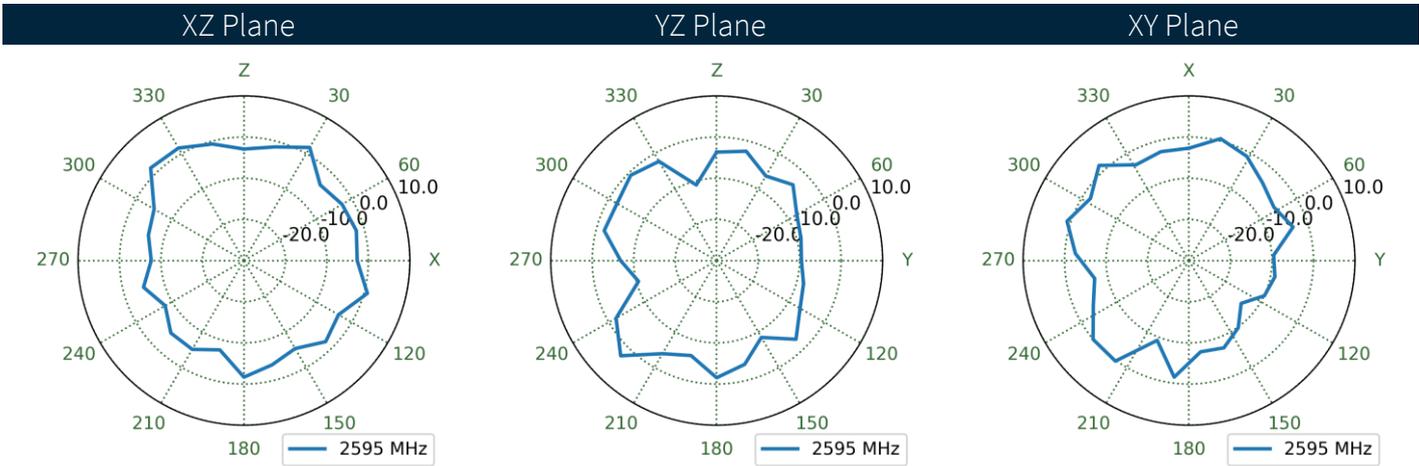
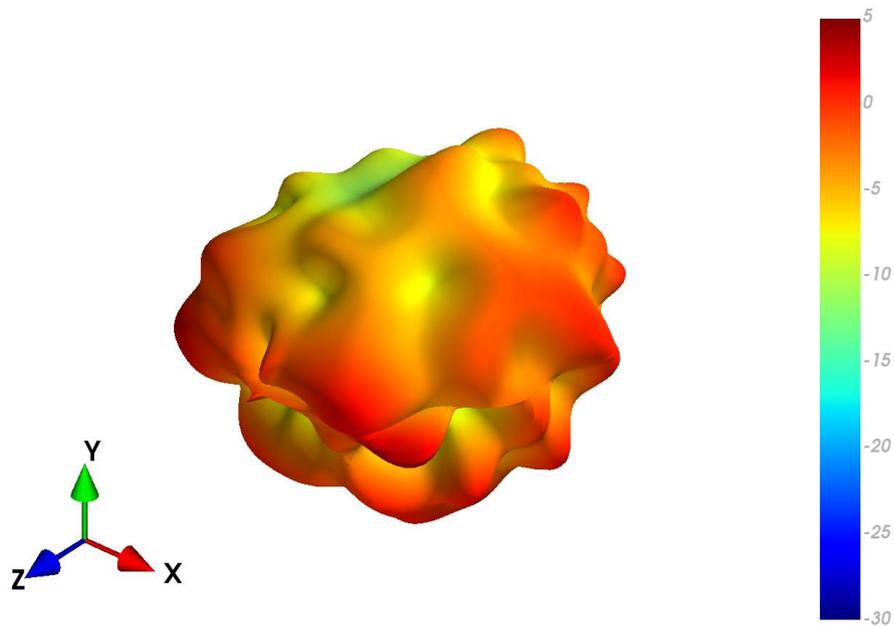
4.14 Free Space Patterns at 1920 MHz



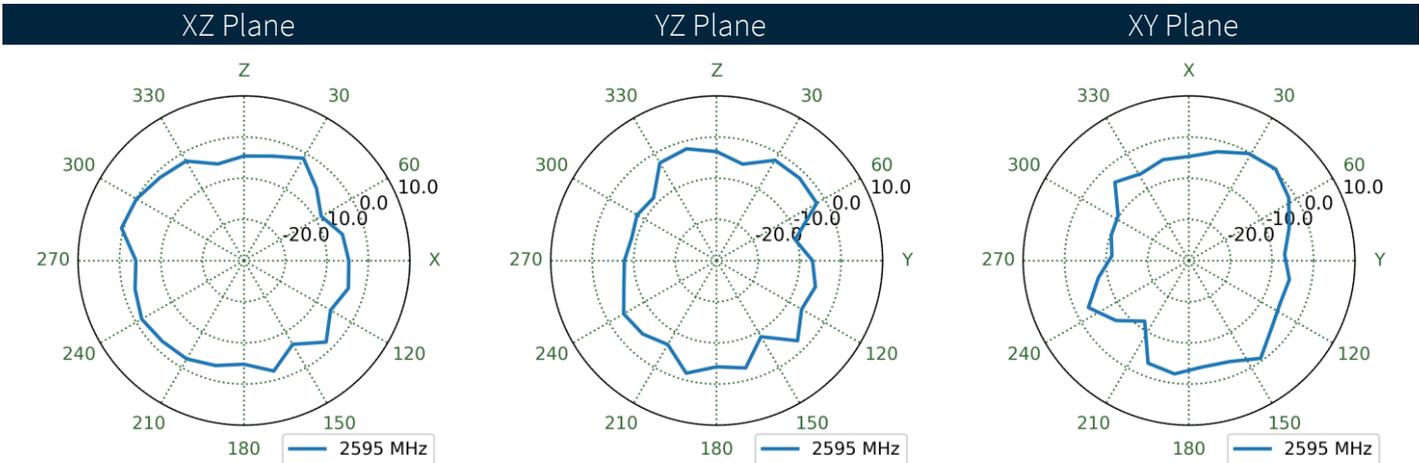
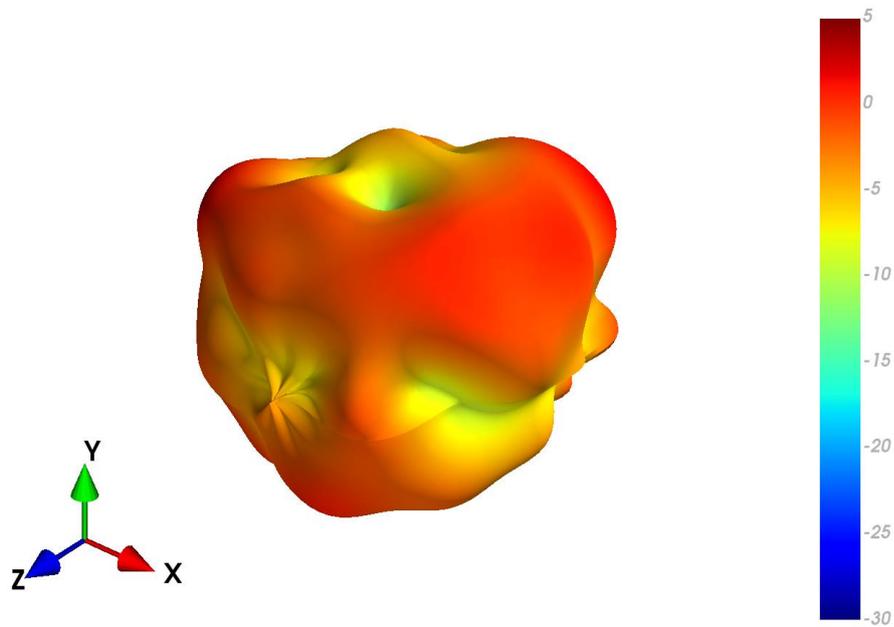
4.15 Ground Plane Patterns at 1920 MHz



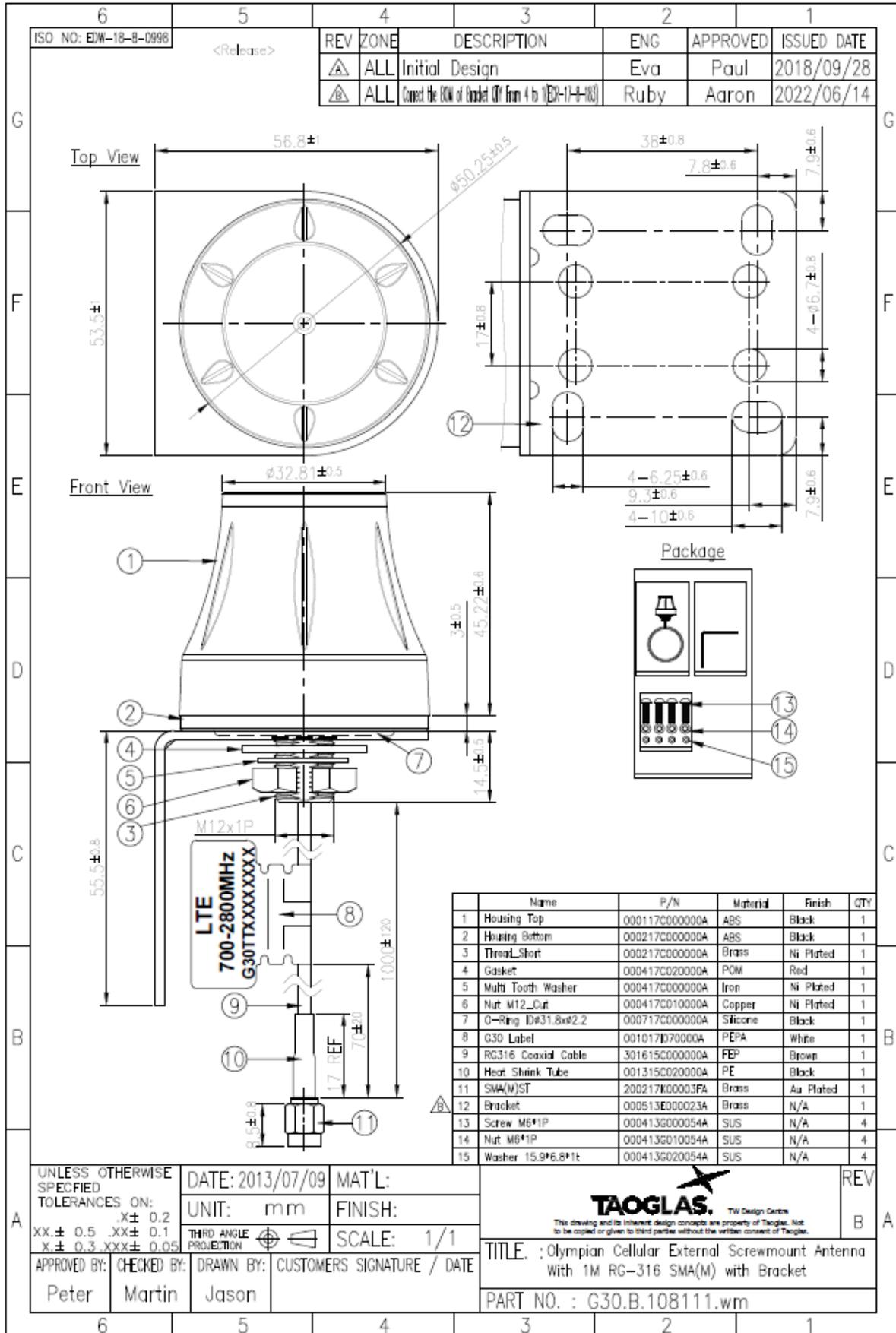
4.16 Free Space Patterns at 2595 MHz



4.17 Ground Plane Patterns at 2595 MHz

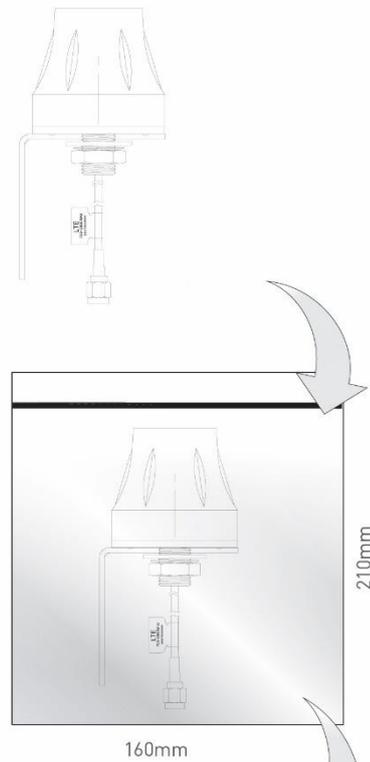


5. Mechanical Drawing

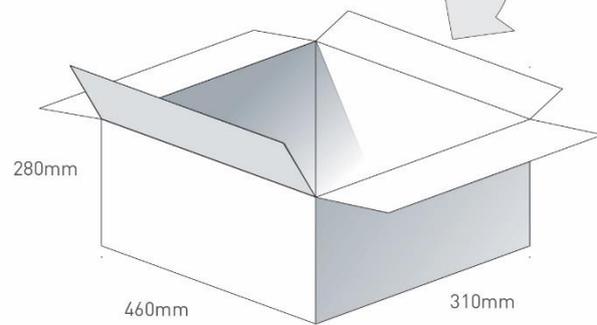


6. Packaging

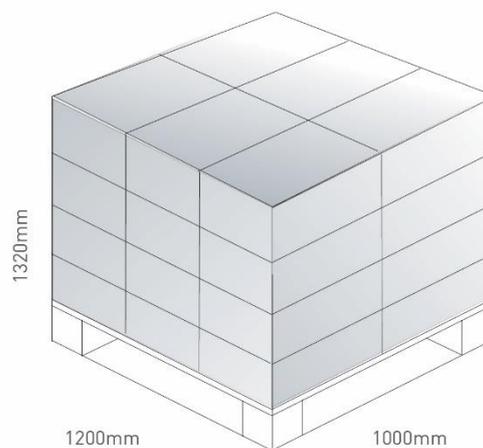
1pc G30.B.108111.wm per PE bag
 Bag Dimensions - 160*210 mm
 Weight - 170g



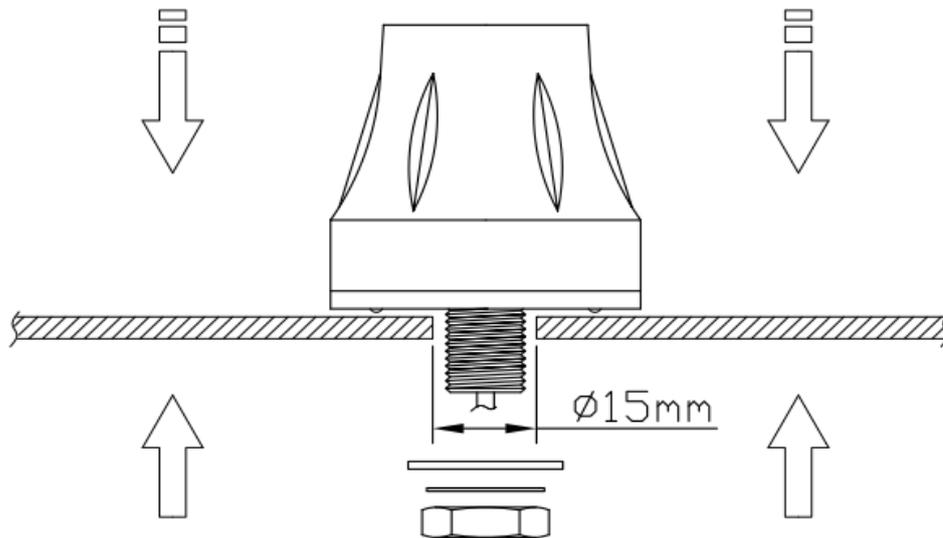
50pcs G30.B.108111.wm per carton
 Carton Dimensions - 460*310*280mm
 Weight - 9.5Kg



Pallet Dimensions 1200mm*1000mm*1320mm
 24 Cartons per Pallet
 6 Cartons per layer
 4 Layers



7. Installation Guide



Recommended torque for mounting: 5-7Nm

(Torque value obtained with antenna mounted on 1mm thick SUS-316 bracket)

Changelog for the datasheet

SPE-14-8-102 - G30.B.108111wm

Revision: F (Current Version)

| | |
|------------------|------------------------|
| Date: | 2023-03-09 |
| Changes: | Full datasheet update. |
| Changes Made by: | Gary West |

Previous Revisions

Revision: E

| | |
|------------------|-----------------|
| Date: | 2018-03-14 |
| Changes: | Drawing updated |
| Changes Made by: | Jack Conroy |

Revision: D

| | |
|------------------|----------------------|
| Date: | 2017-04-04 |
| Changes: | Added LTE band Table |
| Changes Made by: | Peter Monahan |

Revision: C

| | |
|------------------|----------------------|
| Date: | 2015-02-05 |
| Changes: | Removed ref to TL.01 |
| Changes Made by: | Aine Doyle |

Revision: B

| | |
|------------------|----------------|
| Date: | 2015-09-29 |
| Changes: | amended part # |
| Changes Made by: | Aine Doyle |

Revision: A (Original First Release)

| | |
|---------|------------|
| Date: | 2014-09-14 |
| Notes: | |
| Author: | Unknown |



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