



TAOGLAS®



Datasheet

Part No:
MA342.A.BI.001

Description

2-in-1 Black Adhesive/Magnetic Mount 4G/LTE MIMO
With 2m of RG-174 and SMA(M) Connectors

Features:

Compact, Adhesive/Magnetic Mount Antenna
2x LTE MIMO
Covers All Global Cellular Bands from 600-6000MHz
Dims: 58mm * 58mm * 65mm
Cable: 2m of RG174
Connector: SMA(M)
RoHS & Reach Compliant

| | | |
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ISO 9001:2015
Certified



Taiwan
ISO 9001:2015
Certified



1. Introduction



The Taoglas MA342 adhesive/magnetic mount antenna has been designed for high performance 2-in-1 combination antenna with 5G/4G MIMO. The robust, compact housing is just at only 65mm tall and 58mm in diameter, it is an ideal for external antenna for assets requiring Cellular and Wi-Fi connectivity.

The 5G/4G antenna, covers all worldwide LTE bands, includes many sub 6GHz, 5G FR1 bands and includes fallback to 3G/2G bands where required.

The IP67 rated enclosure is made from a durable, UV resistant ASA material that makes it resistant to vandalism or impact. An integrated rubber O-ring under the enclosure prevents water ingress under the antenna. It is mounted from the inside of the user device enclosure and the small thread allows for installation in situations where space is minimal.

Typical applications include:

- Smart Metering and Remote Monitoring
- Digital Signage
- Transportation and Telematics

Cable type and length, and connectors are fully customizable, and the MA342 can also be customized for other configurations. It is also available in white (MA342.W.LBI.001). Contact your regional Taoglas customer support team for more information.

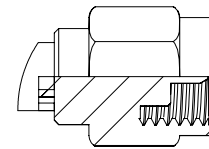
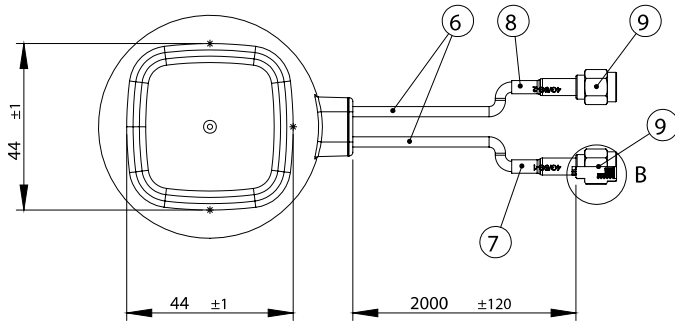
2. Specification

| LTE Electrical | | | | | | | | | |
|--|-----------------|-------------|----------------|-------------------|-----------------|-----------|--------------|-------------------|------------------|
| Band | Frequency (MHz) | Measurement | Efficiency (%) | Average Gain (dB) | Peak Gain (dBi) | Impedance | Polarization | Radiation Pattern | Max. input power |
| 5GNR/4G Band71 | 617-698 | LTE1 | 28.1 | -5.51 | -0.78 | 50 Ω | Linear | Omni | 2W |
| | | LTE2 | 24.7 | -6.07 | -0.91 | | | | |
| 4G/3G Band 12,13,14,17,28,29 | 698-824 | LTE1 | 44.7 | -3.50 | 0.99 | | | | |
| | | LTE2 | 43.3 | -3.63 | 1.12 | | | | |
| 4G/3G/NB-IoT/Cat M Band 5,8,18,19,20,26,27 | 824-960 | LTE1 | 46.7 | -3.31 | 0.99 | | | | |
| | | LTE2 | 57.4 | -2.41 | 1.55 | | | | |
| 5GNR/4G Band 21,32,74,75,76 | 1427-1518 | LTE1 | 33.2 | -4.79 | 2.87 | | | | |
| | | LTE2 | 30.6 | -5.15 | 2.68 | | | | |
| 4G/3G Band 1,2,3,4,9,23,25,35,39, 66 | 1710-2200 | LTE1 | 65.3 | -1.85 | 5.93 | | | | |
| | | LTE2 | 63.5 | -1.97 | 5.34 | | | | |
| 4G/3G Band 7,30,38,40,41 | 2300-2690 | LTE1 | 69.0 | -1.61 | 5.64 | | | | |
| | | LTE2 | 70.9 | -1.50 | 5.95 | | | | |
| 5GNR/4G Band 22,42,48,77,78,79 | 3300-5000 | LTE1 | 55.7 | -2.54 | 6.84 | | | | |
| | | LTE2 | 61.6 | -2.10 | 6.70 | | | | |
| LTE5200/Wi-Fi5800 | 5150-5925 | LTE1 | 57.3 | -2.42 | 6.00 | | | | |
| | | LTE2 | 56.4 | -2.48 | 5.97 | | | | |

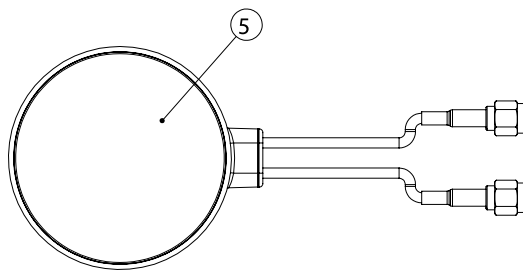
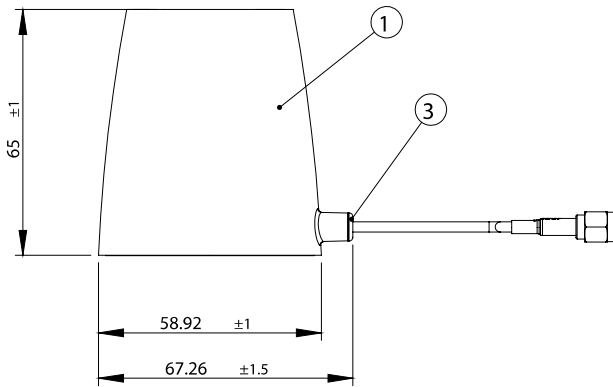
| Mechanical | |
|------------|----------------|
| Dimensions | 58 x 58 x 65mm |
| Material | ASA |
| Connector | SMA(M) |
| Cable | 2m of RG174 |

| Environmental | |
|------------------------|-------------|
| Temperature Range | -40 - +85°C |
| RoHs & REACH Compliant | Yes |

3. Mechanical Drawing



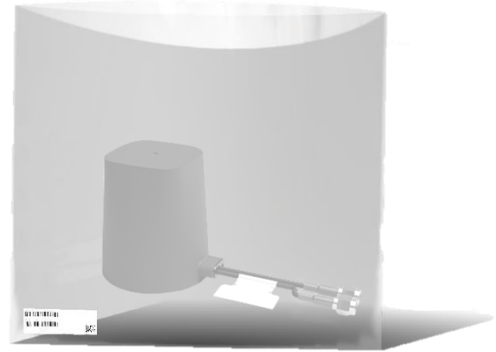
DETAIL B
SCALE 2 : 1



| | Name | Material | Finish | Qty |
|---|---------------------------------|-----------------|---------------------|-----|
| 1 | Top housing | ASA | Black | 1 |
| 2 | Bottom housing | ASA | Black | 1 |
| 3 | Grommet | Silicone Rubber | Black | 1 |
| 4 | Magnet pack/N48 | NdFeB | Ni Plated | 1 |
| 5 | Matte Silver Label | PET | Matte Silver | 1 |
| 6 | RG174 Coaxial Cable | PVC | Black | 2 |
| 7 | Heat Shrink Tube(4G/5G-1) | PE | Red Tube/White Text | 1 |
| 8 | Heat Shrink Tube(4G/5G-2) | PE | Red Tube/White Text | 1 |
| 9 | SMA(M)ST Plug_for RG-316/RG-174 | Brass | Au Plated | 2 |

4. Packaging

1 PCS / PE Bag
Weight: 161g



60 PCS / Carton
Dimensions: 430 x 380 x 280mm
Weight: 10.76Kg



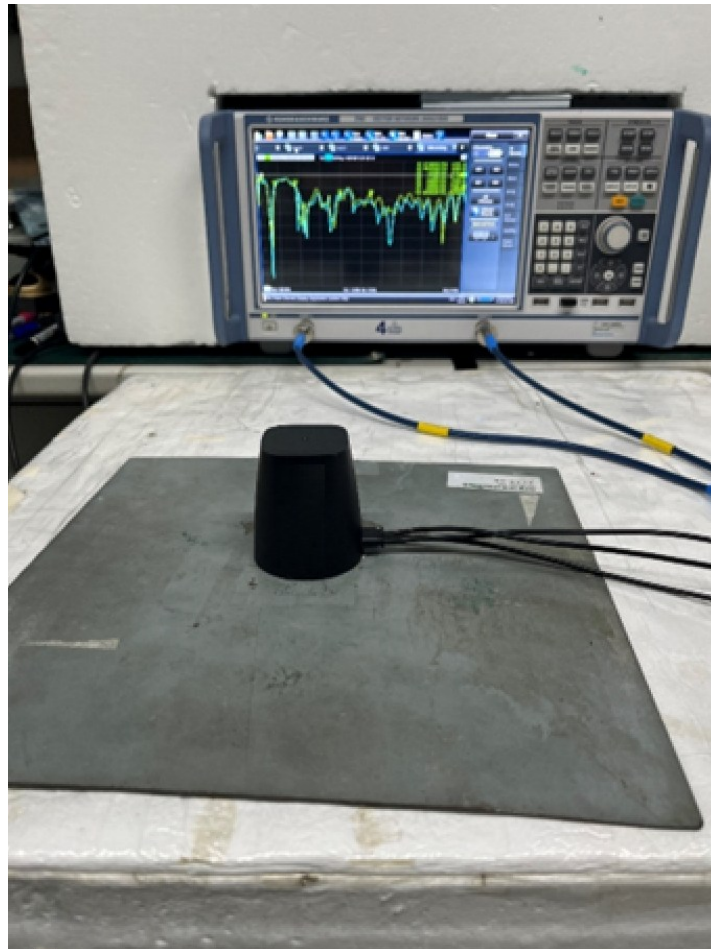
5. Antenna Characteristics

5.1 Test Setup

AUT

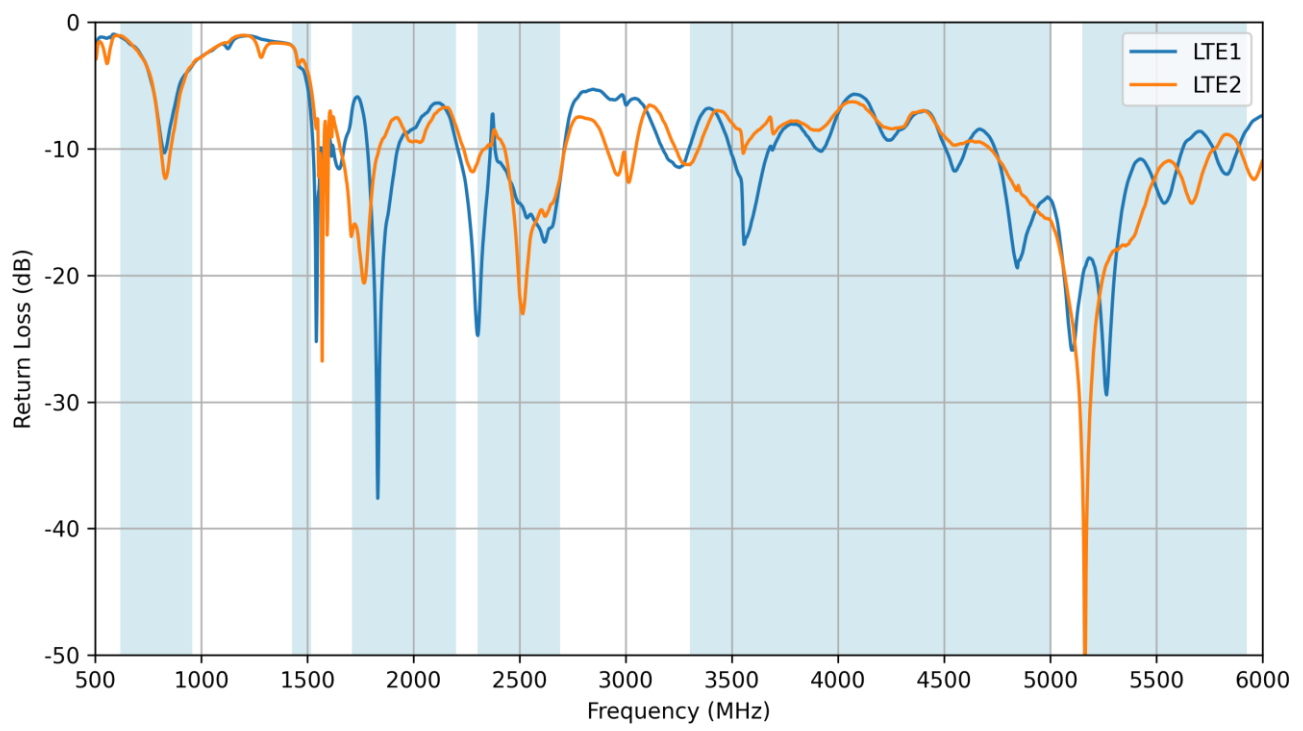


Vector Network Analyzer

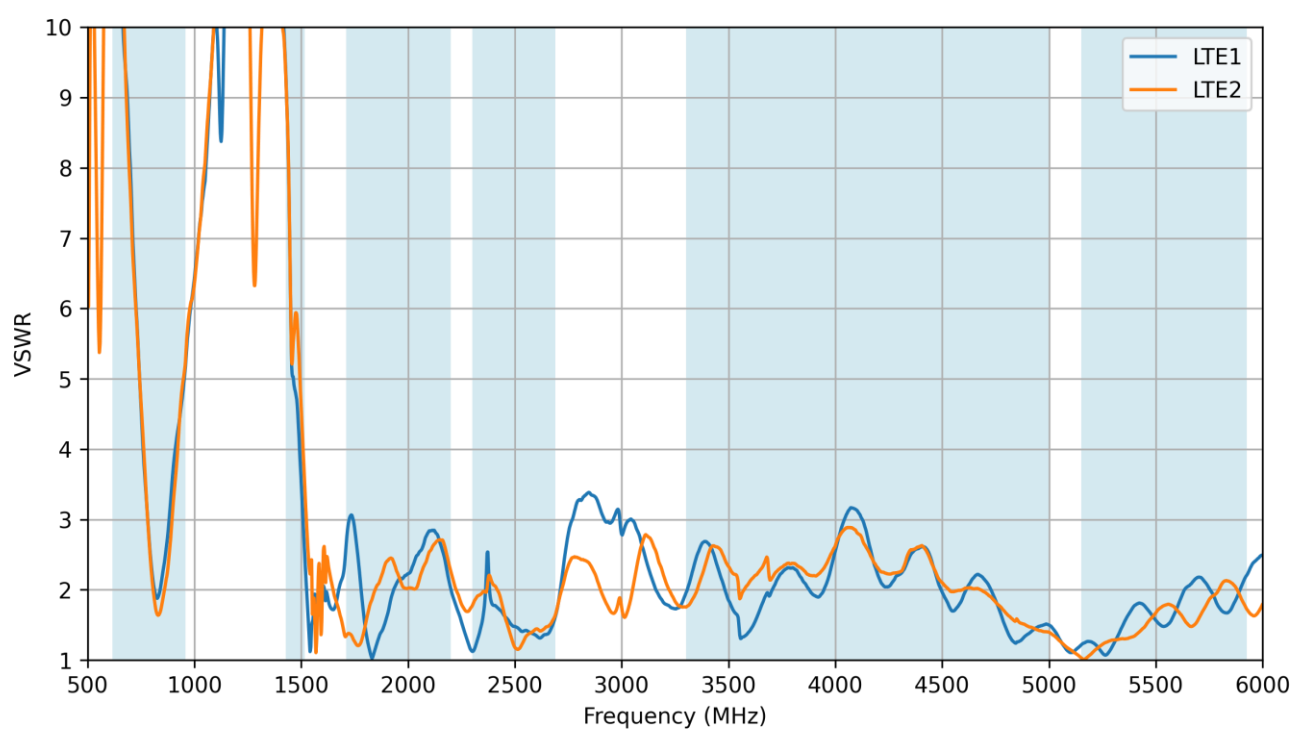


VNA Set-up on 30x30cm Ground Plane

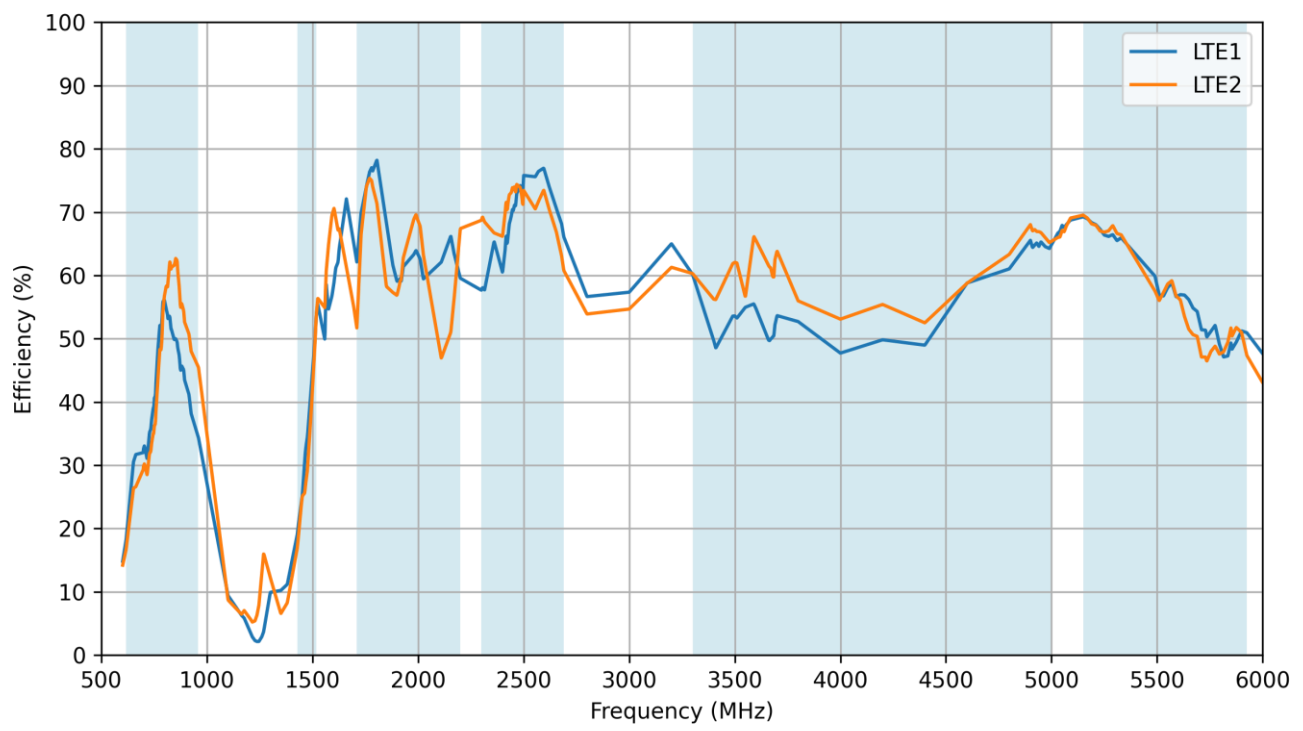
5.2 LTE - Return Loss



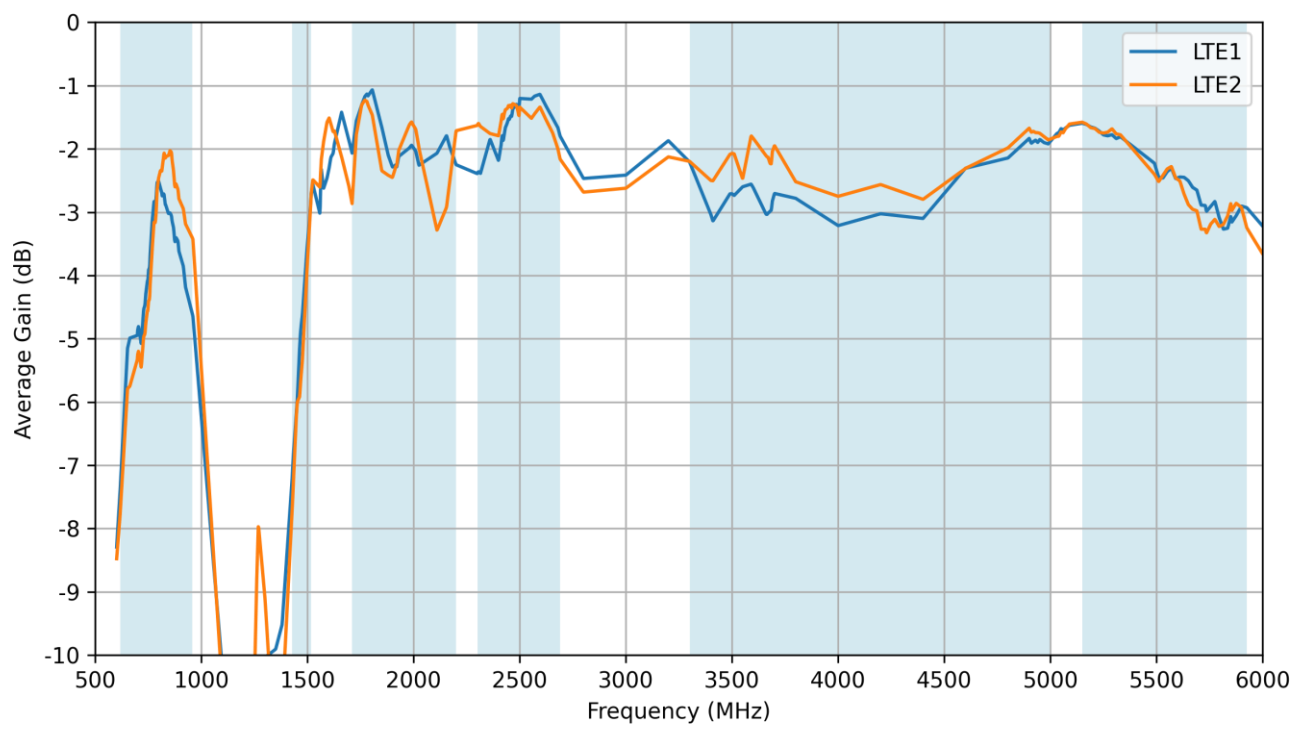
5.3 LTE - VSWR



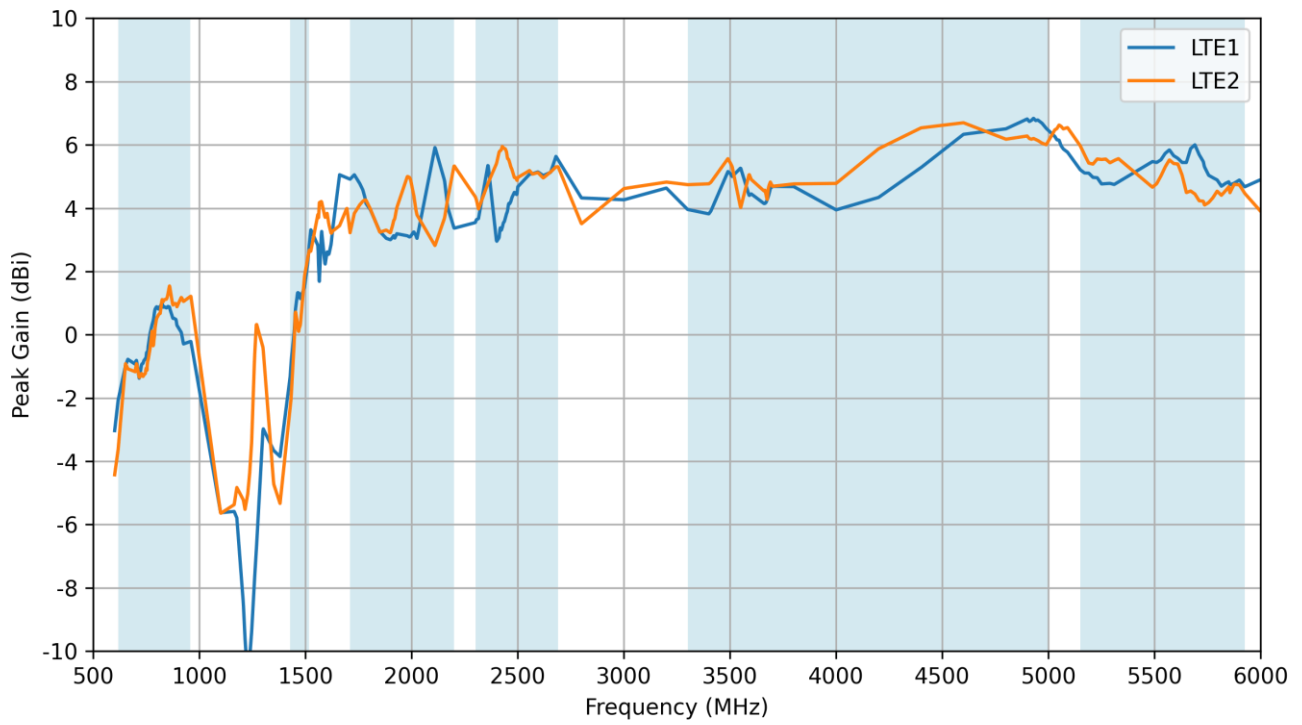
5.4 LTE - Efficiency



5.5 LTE - Average Gain

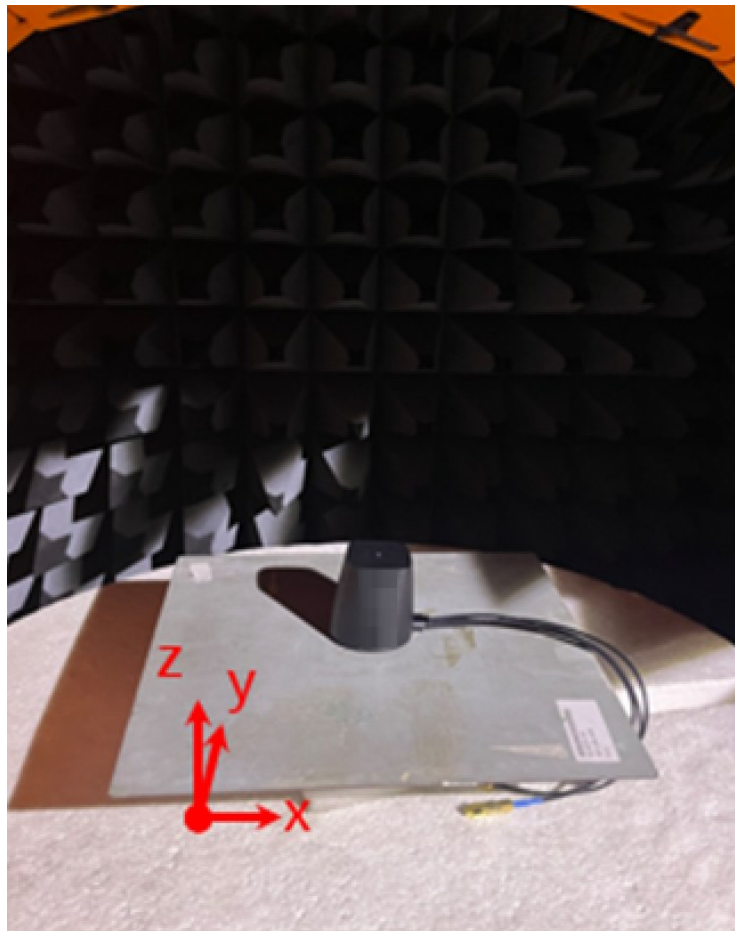
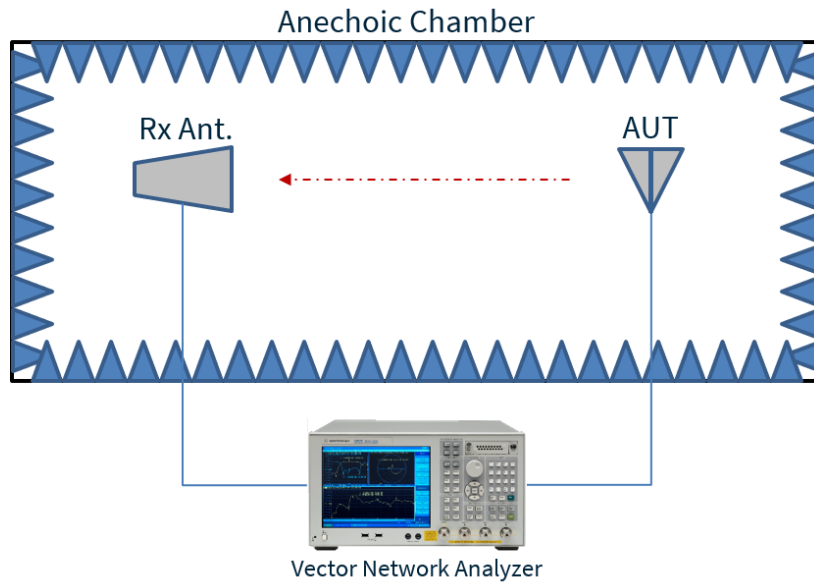


5.6 LTE - Peak Gain



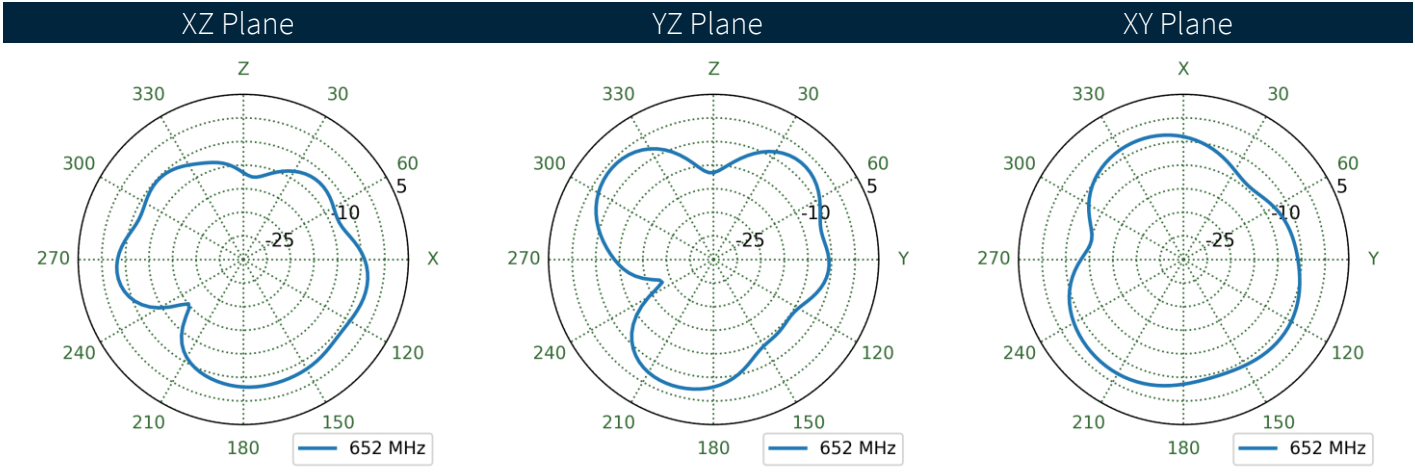
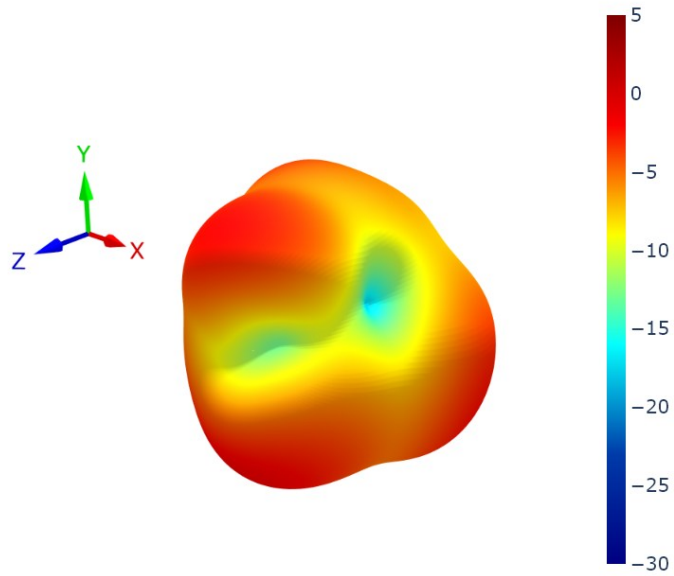
6. Radiation Patterns

6.1 Test Setup

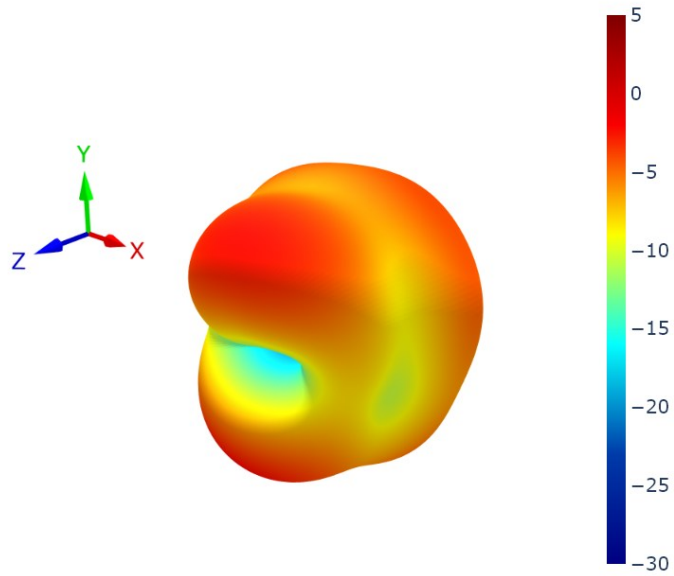


Chamber Set-up on 30x30cm Ground Plane

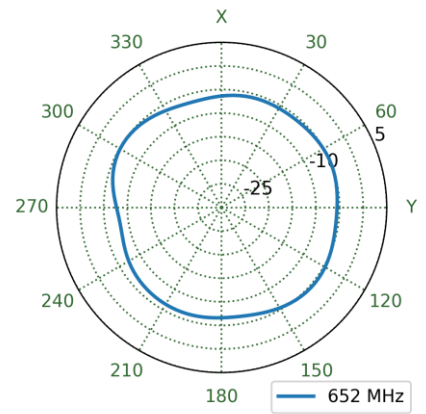
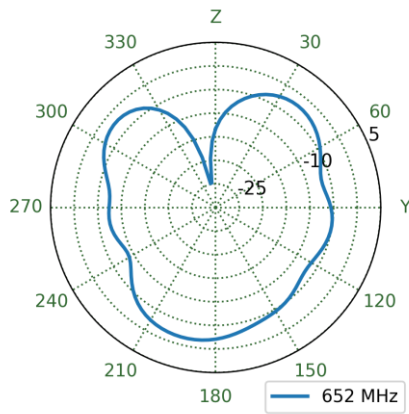
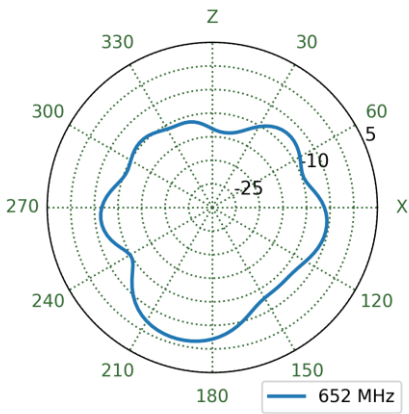
6.2 LTE1 Patterns at 650 MHz



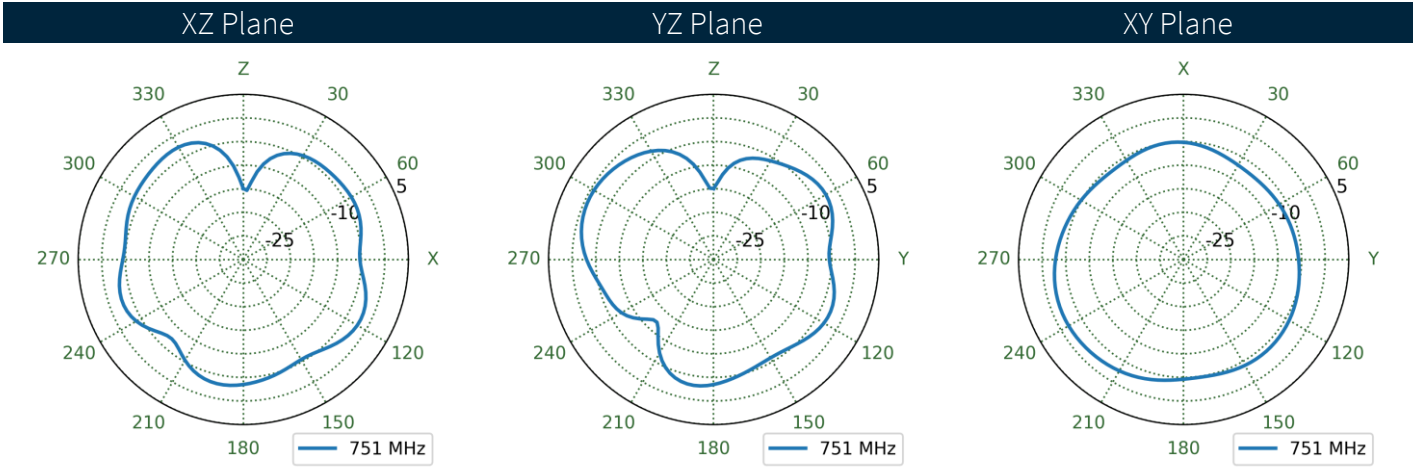
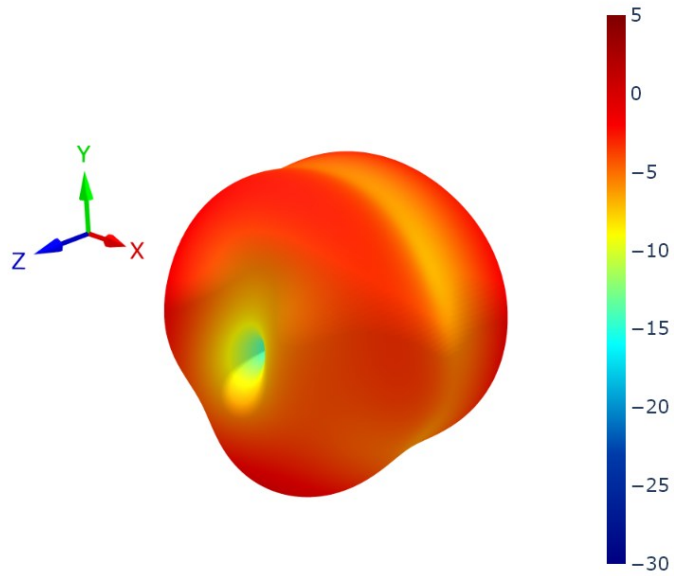
6.3 LTE2 Patterns at 650 MHz



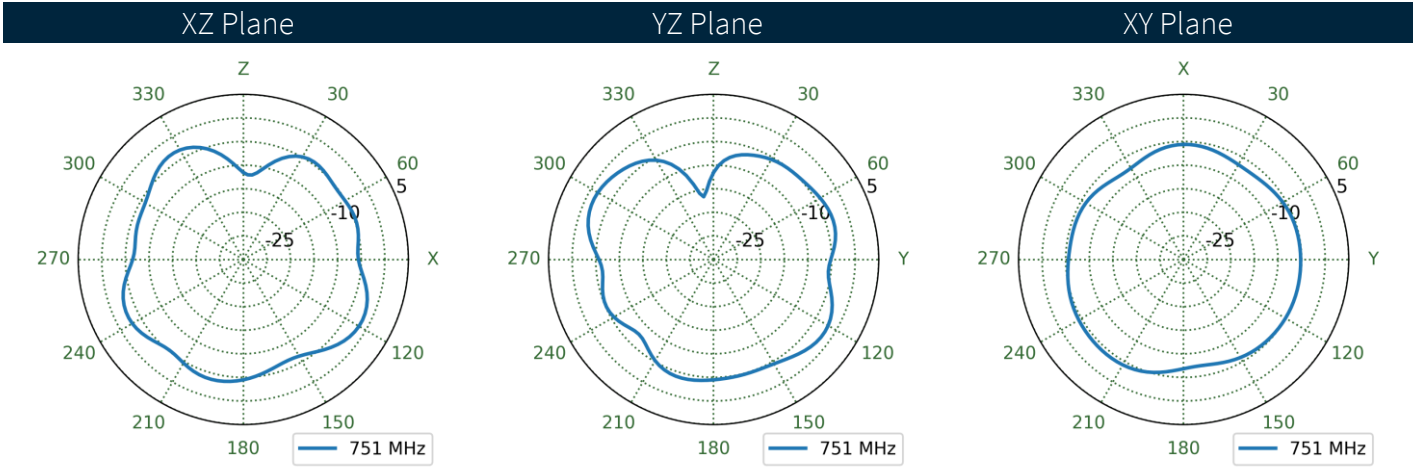
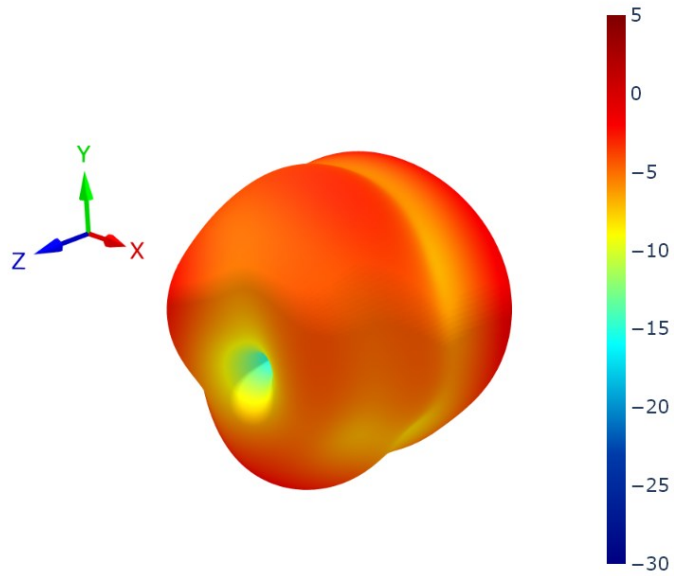
XZ Plane YZ Plane XY Plane



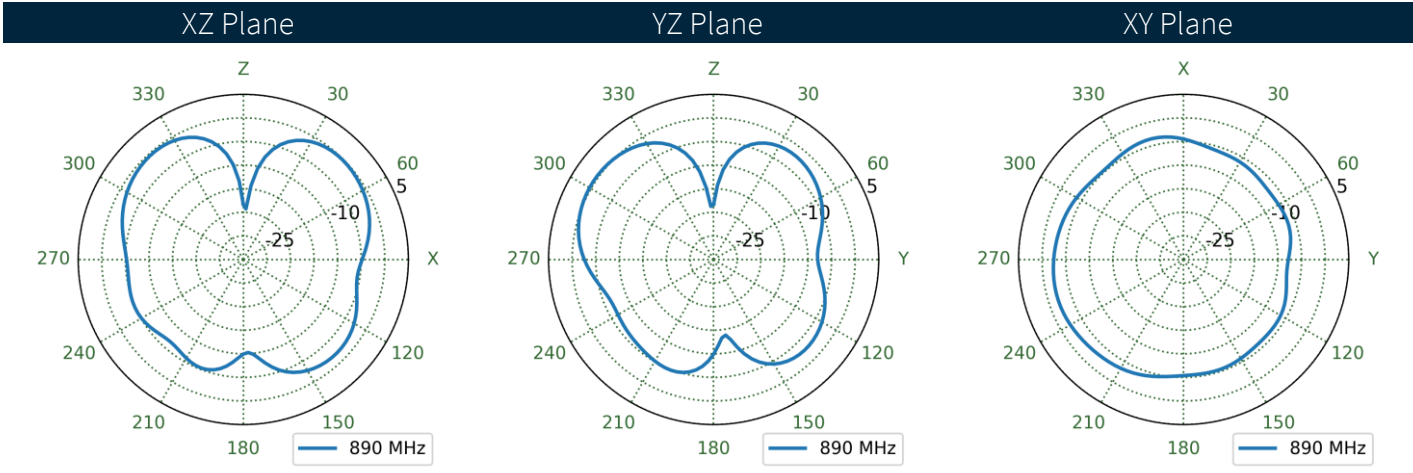
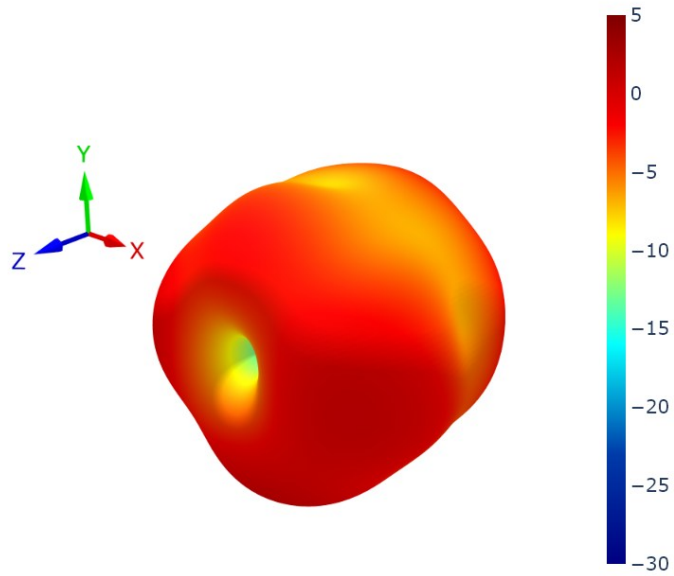
6.4 LTE1 Patterns at 750 MHz



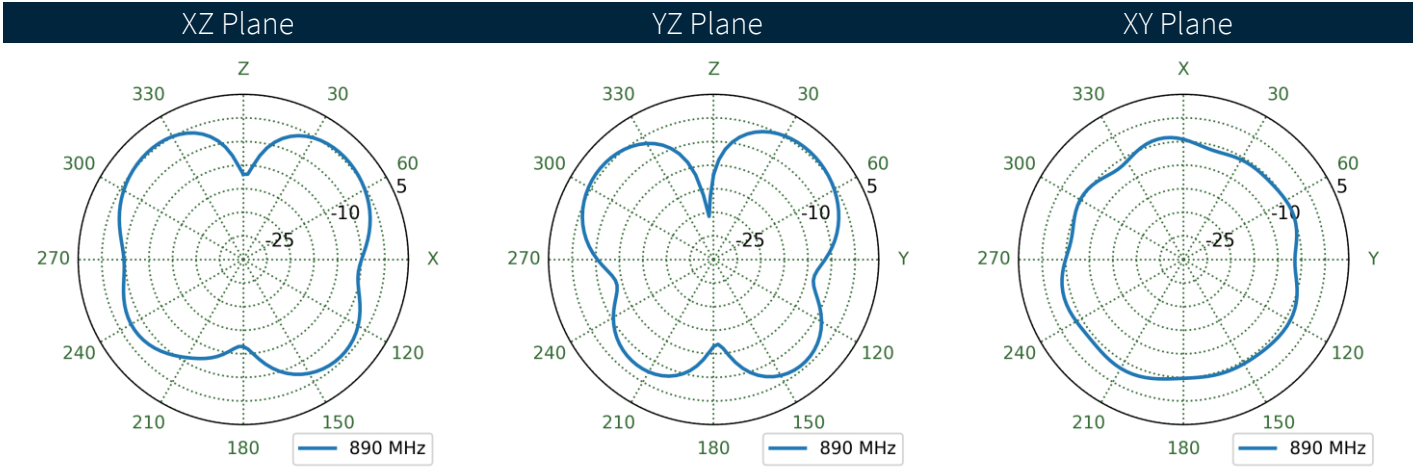
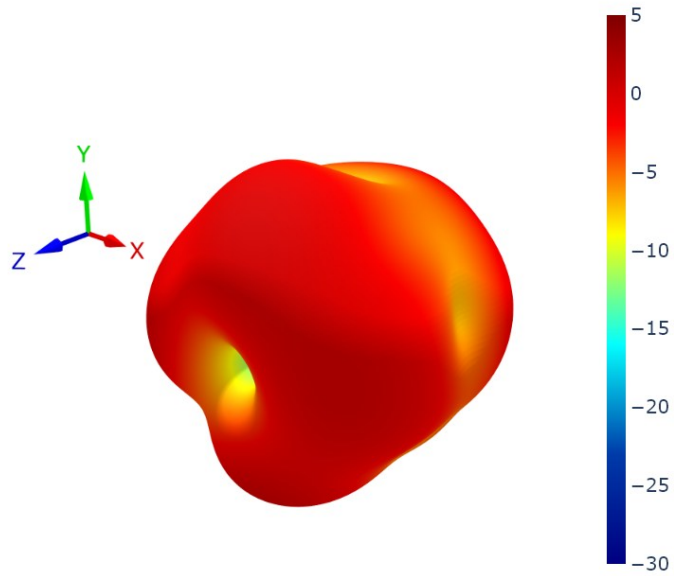
6.5 LTE2 Patterns at 750 MHz



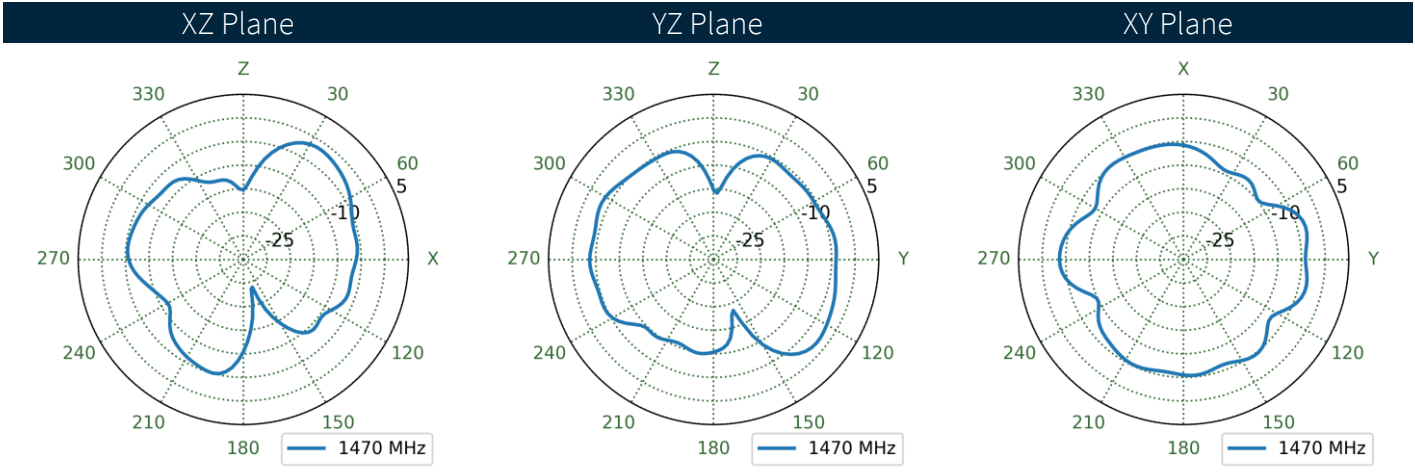
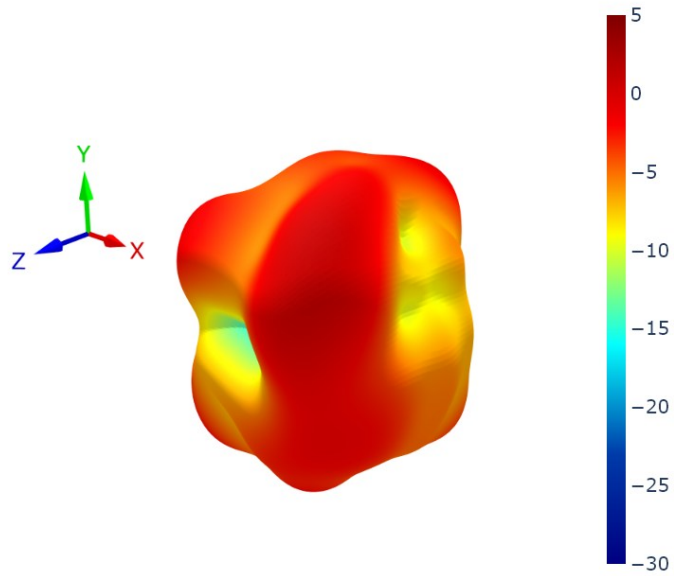
6.6 LTE1 Patterns at 890 MHz



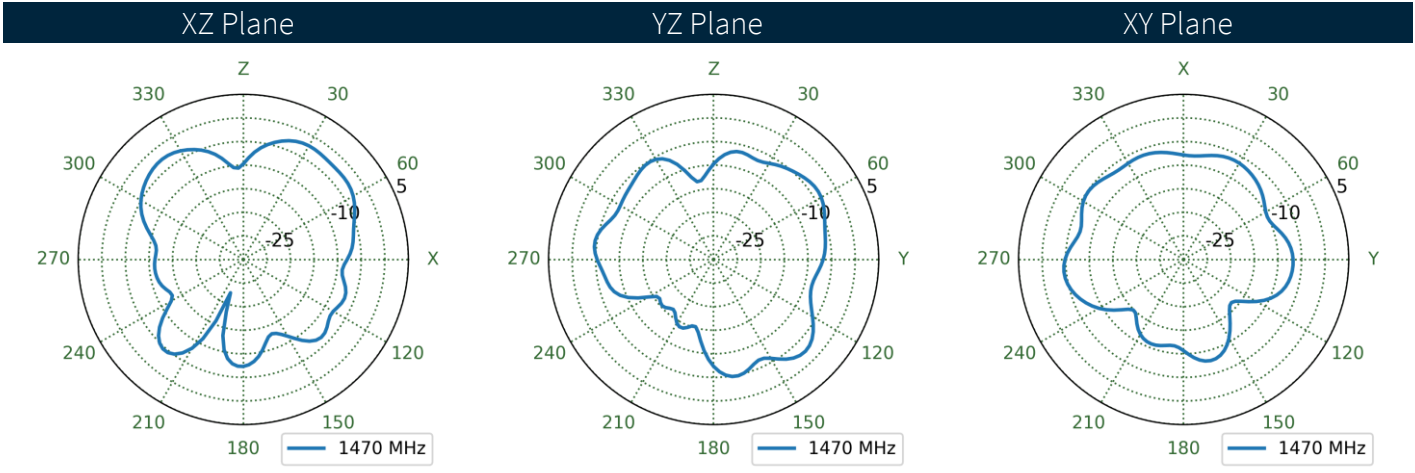
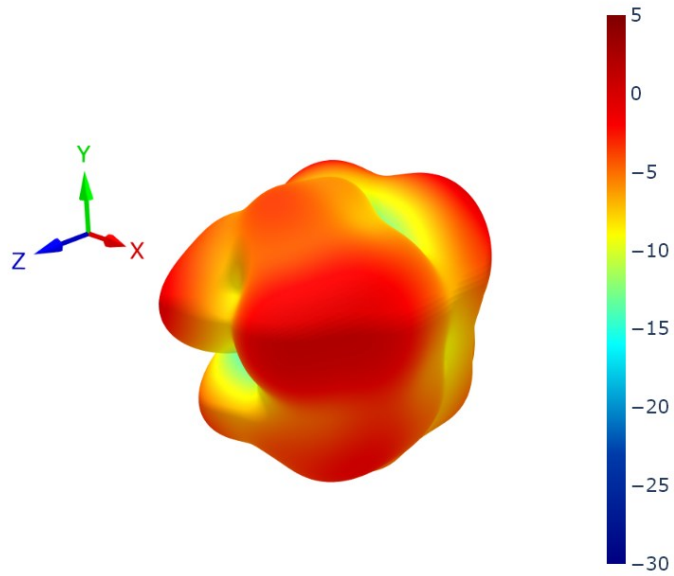
6.7 LTE2 Patterns at 890 MHz



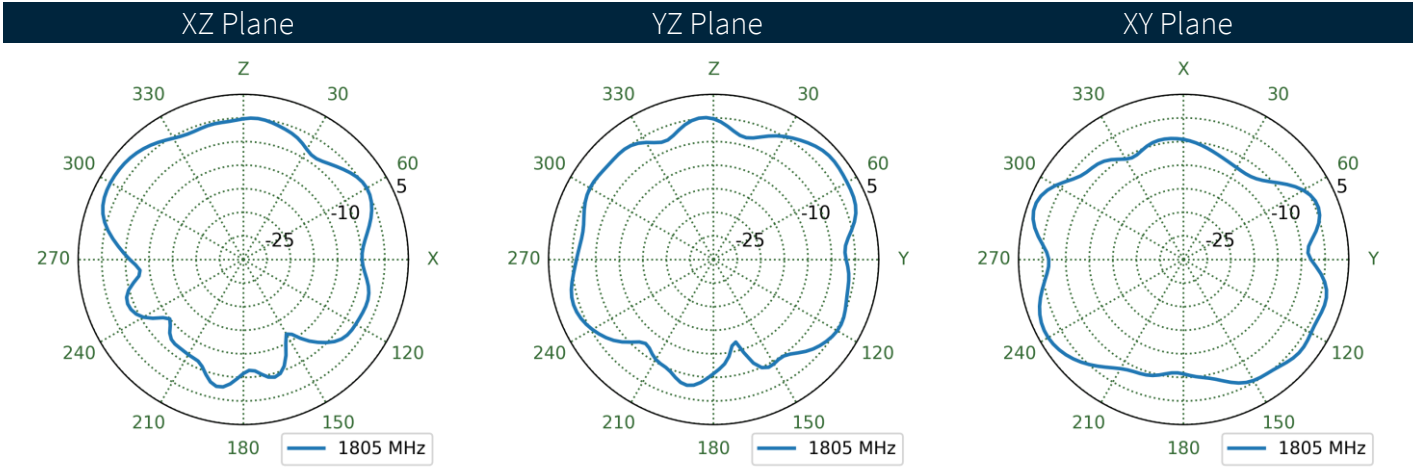
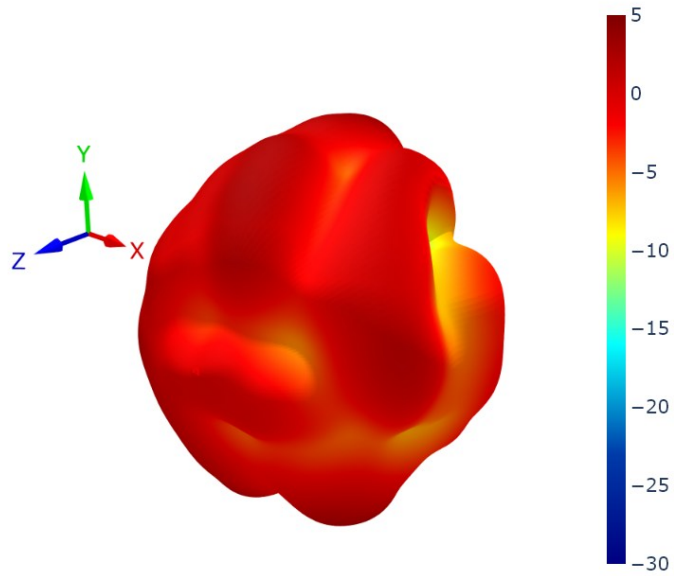
6.8 LTE1 Patterns at 1470 MHz



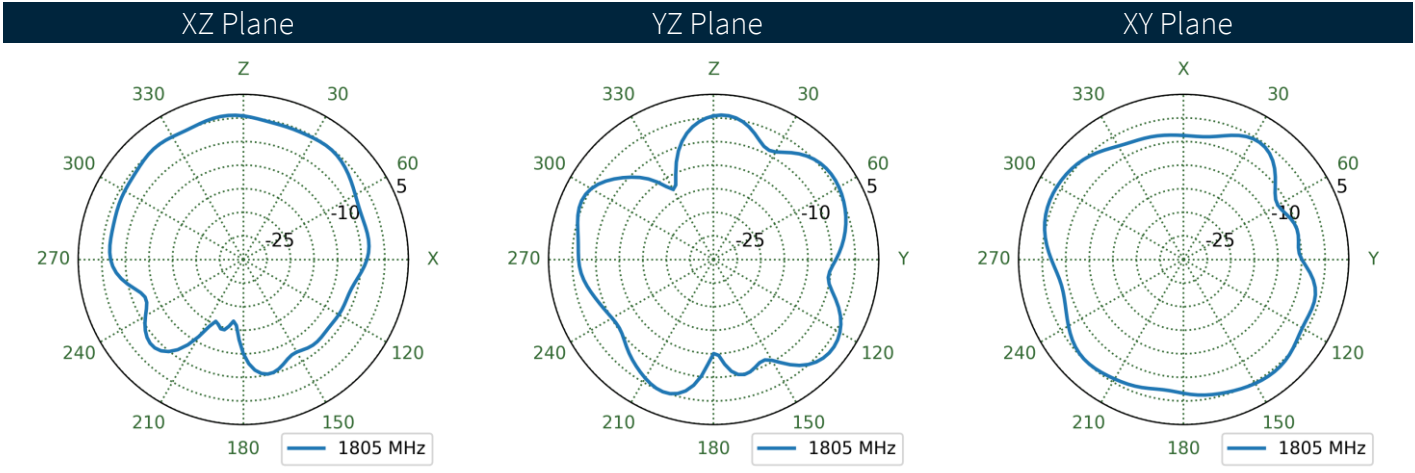
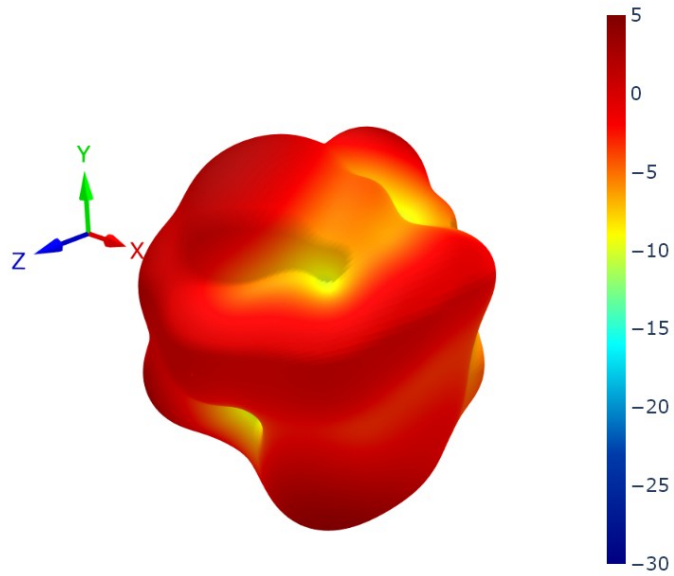
6.9 LTE2 Patterns at 1470 MHz



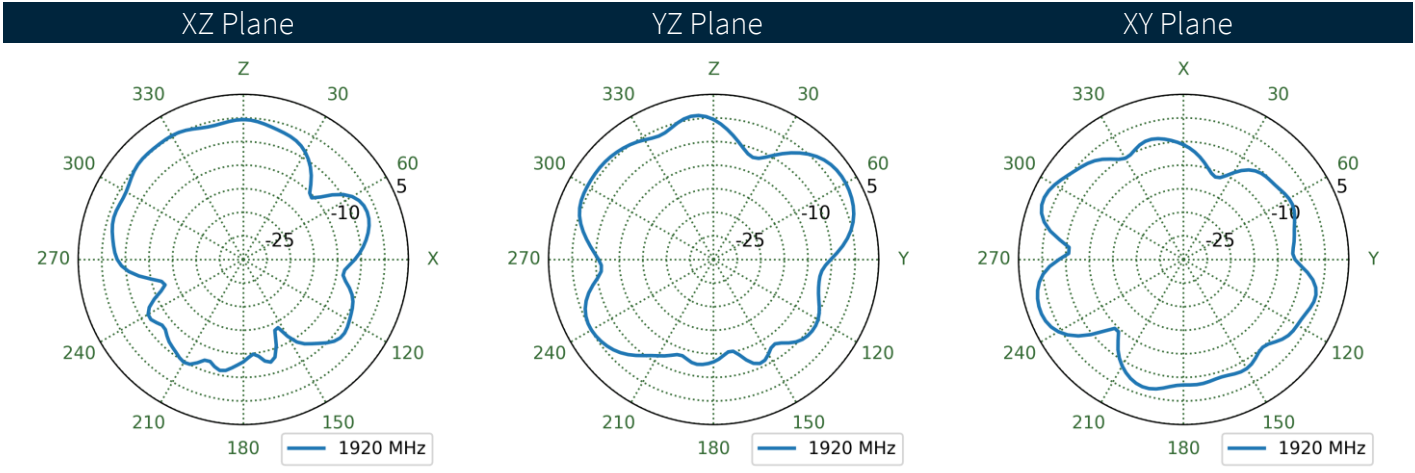
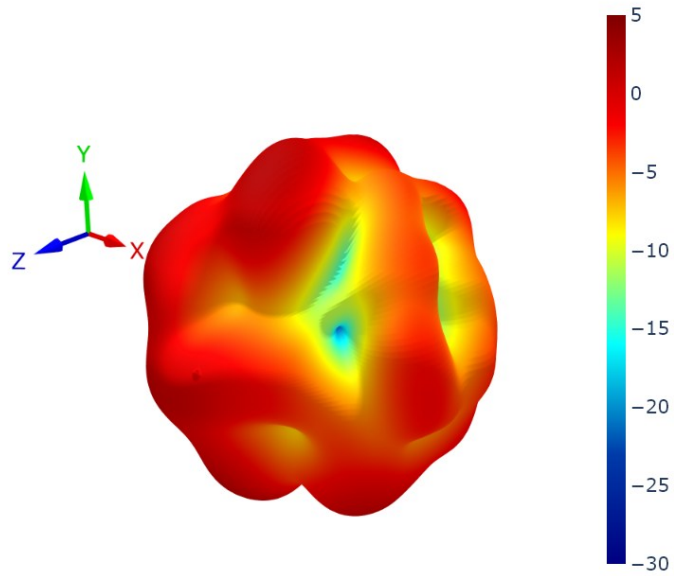
6.10 LTE1 Patterns at 1805 MHz



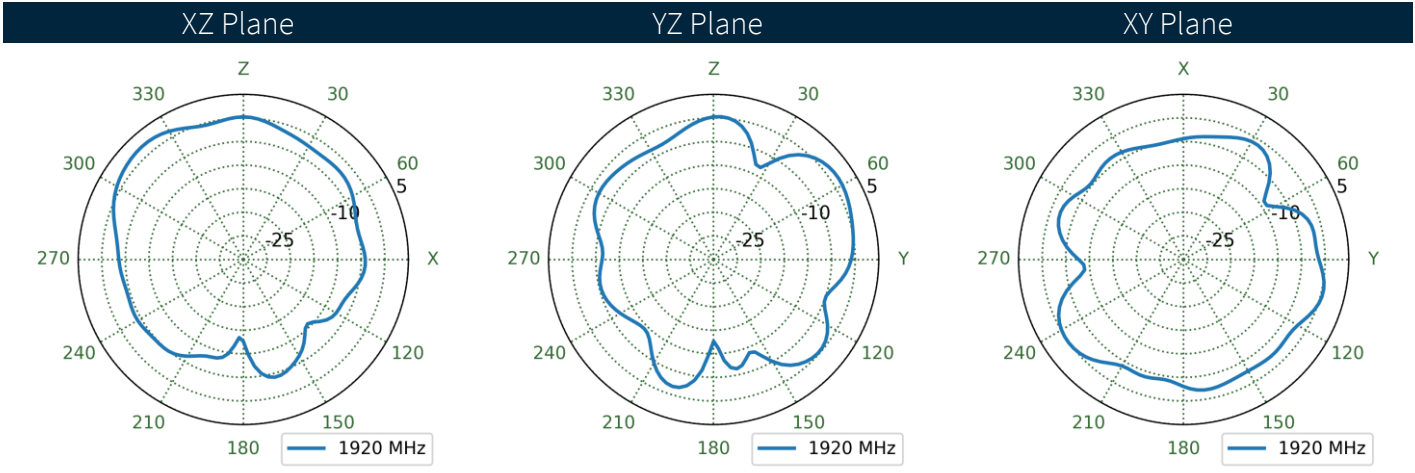
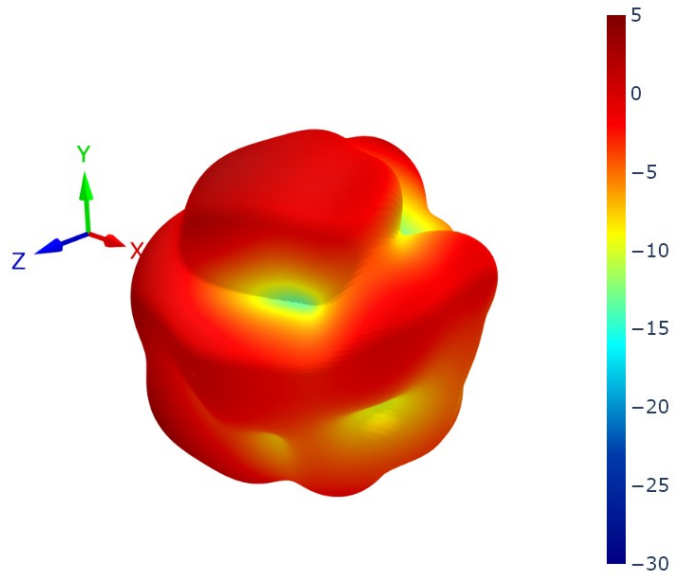
6.11 LTE2 Patterns at 1805 MHz



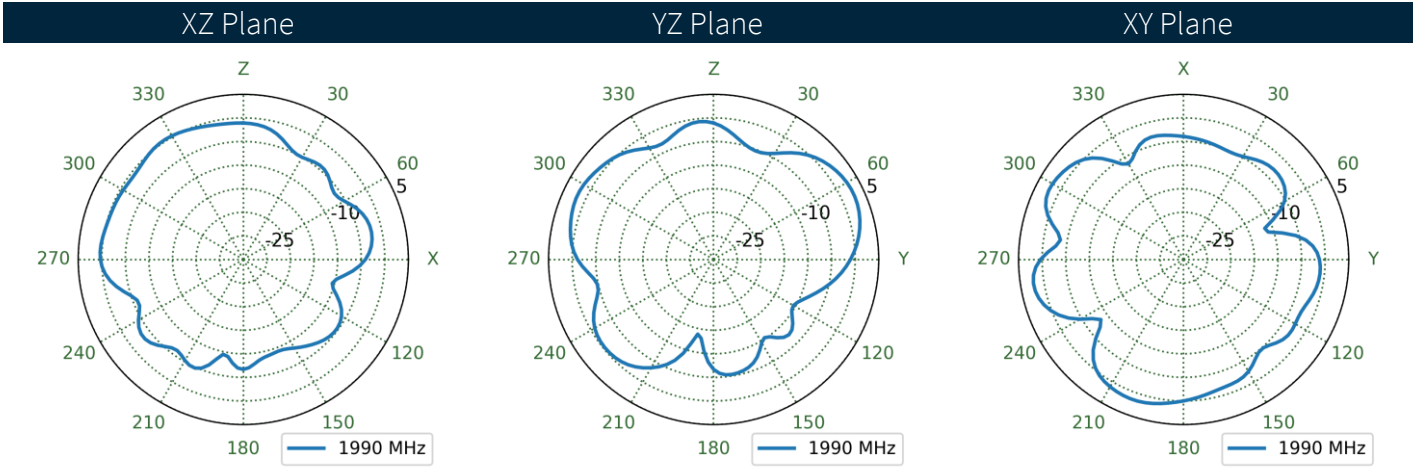
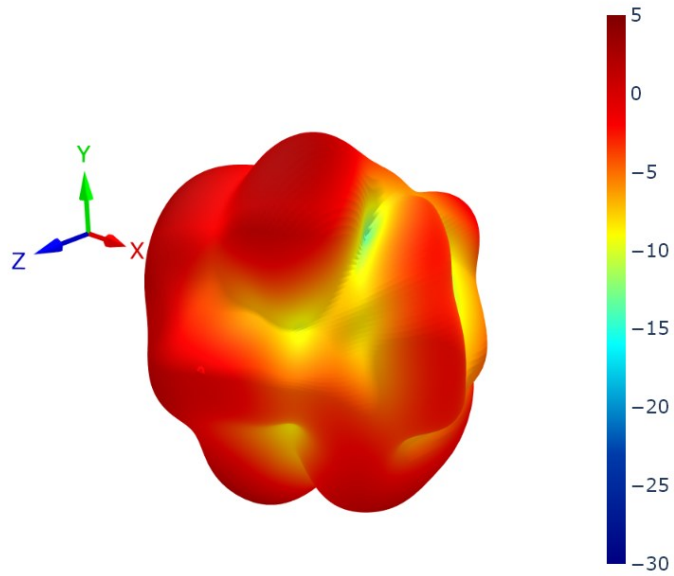
6.12 LTE1 Patterns at 1920 MHz



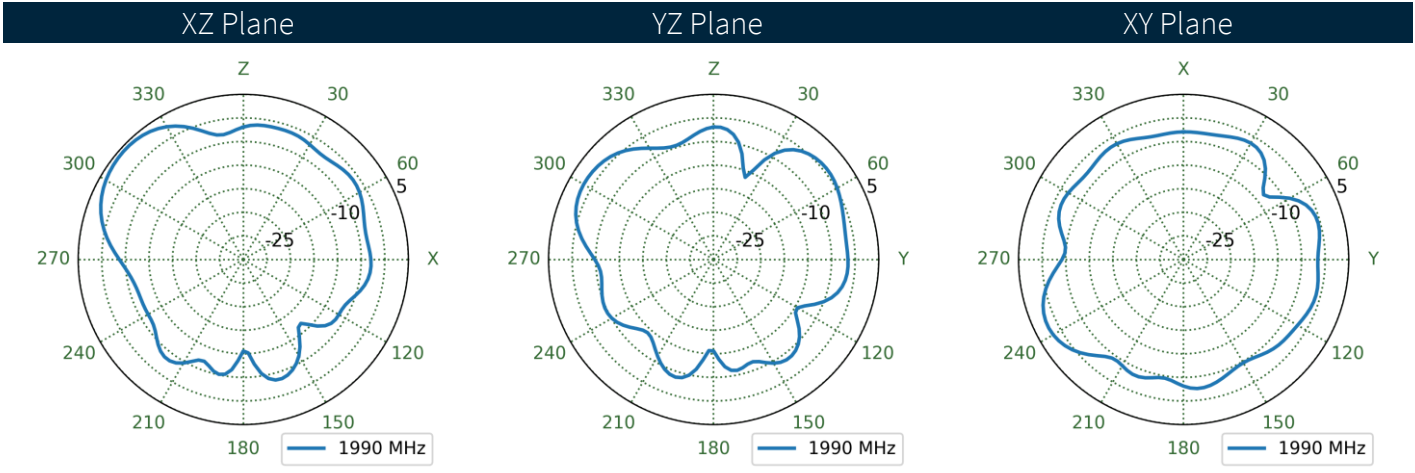
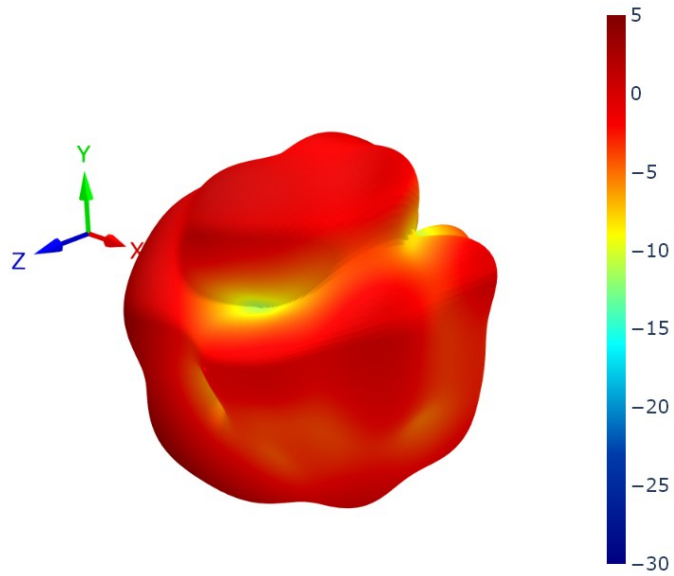
6.13 LTE2 Patterns at 1920 MHz



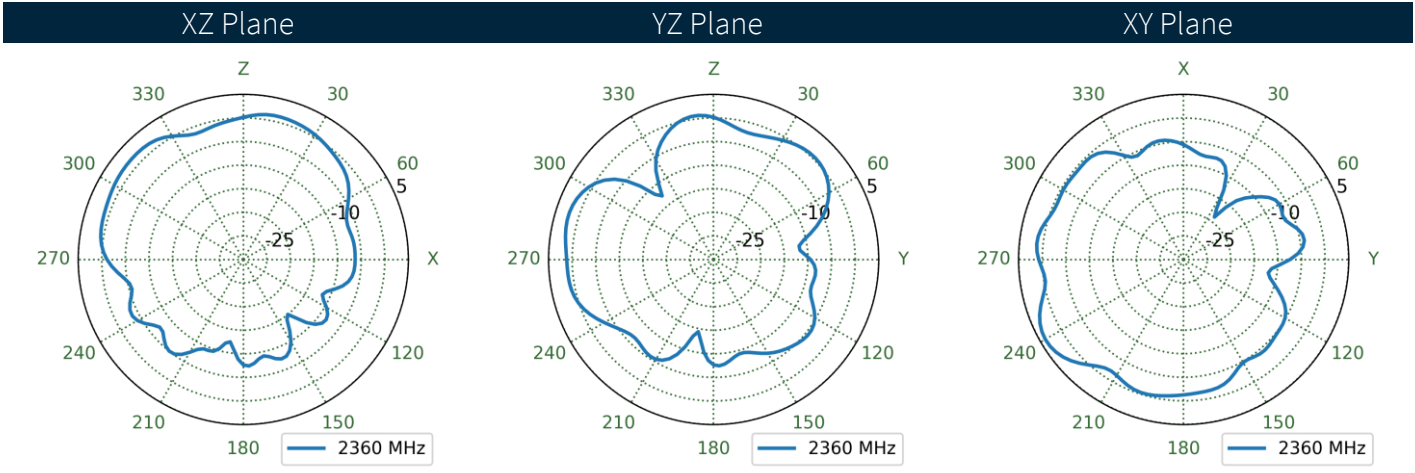
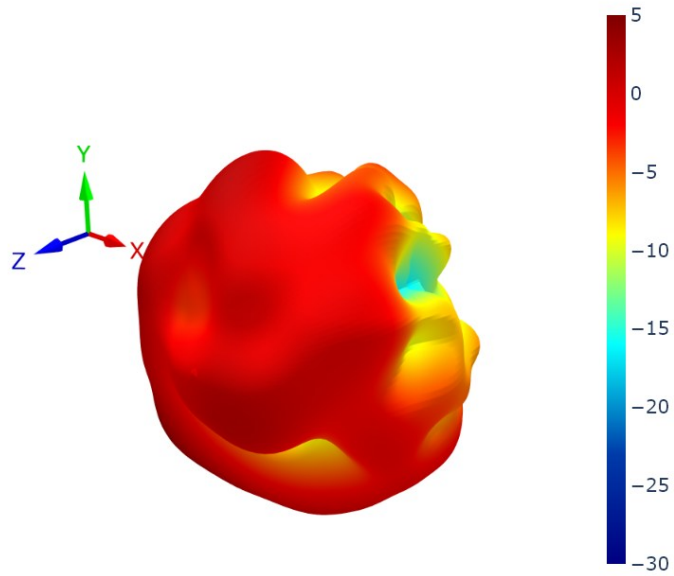
6.14 LTE1 Patterns at 1990 MHz



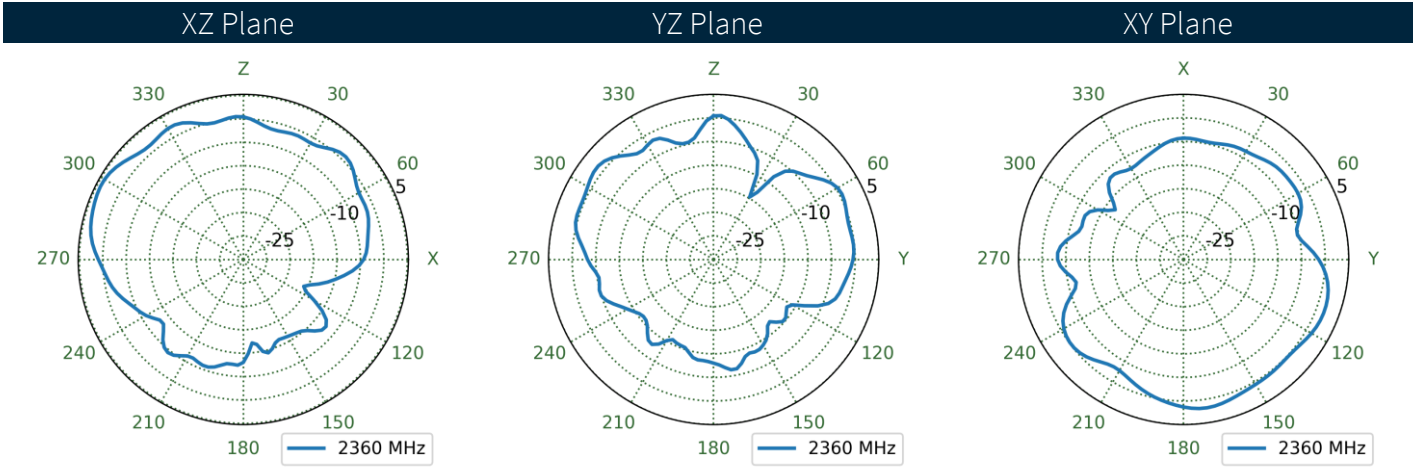
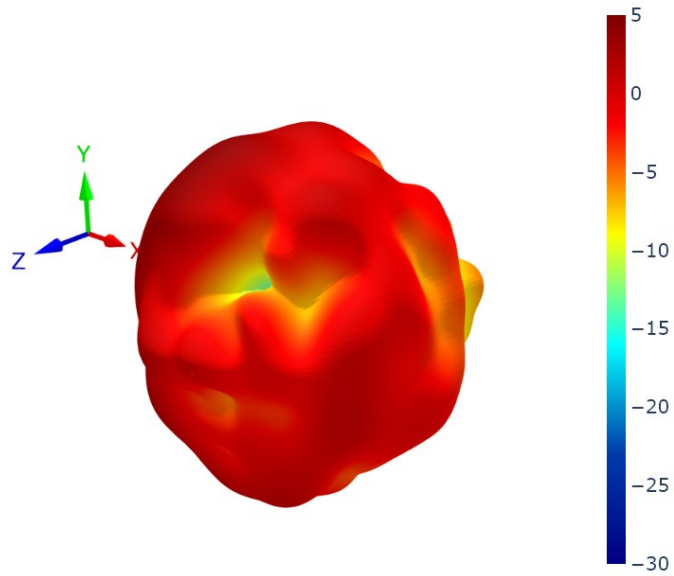
6.15 LTE2 Patterns at 1990 MHz



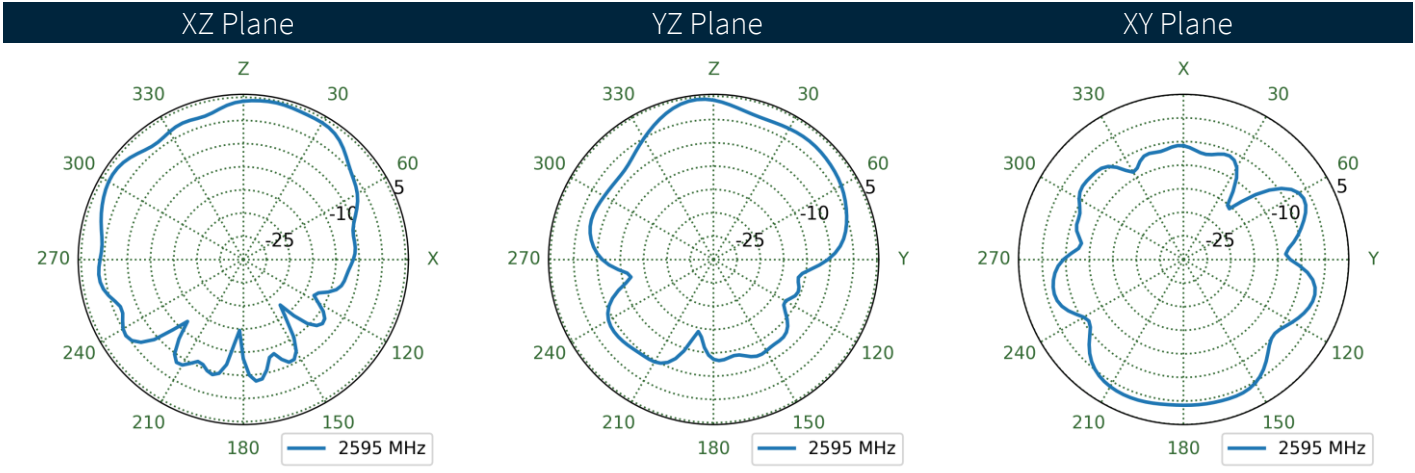
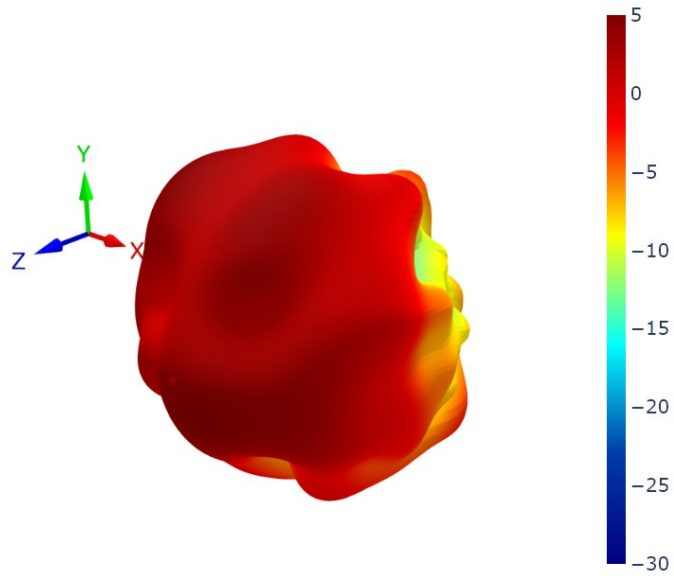
6.16 LTE1 Patterns at 2360 MHz



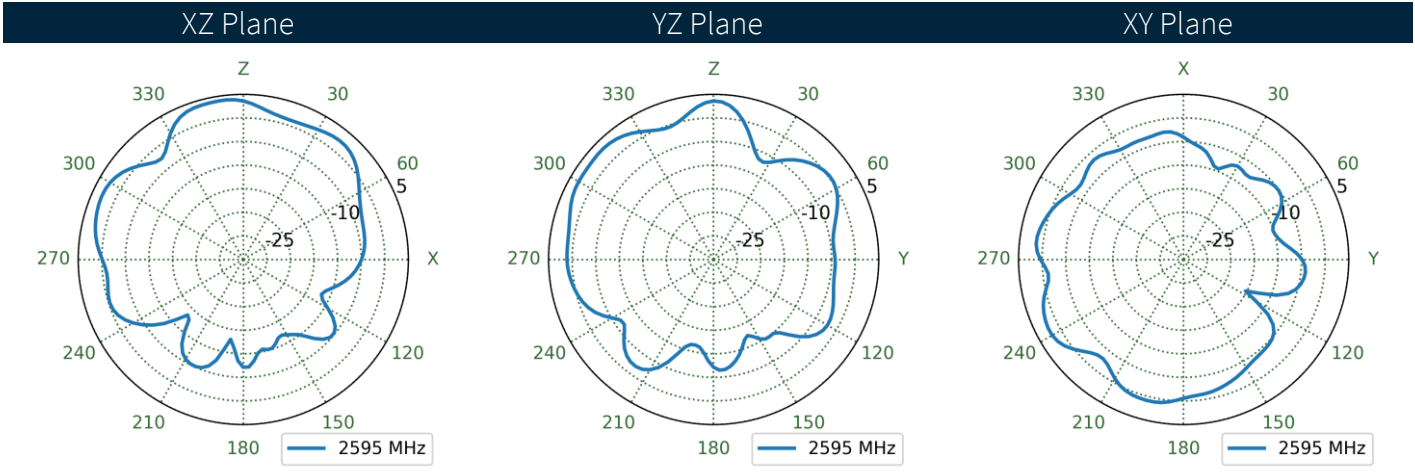
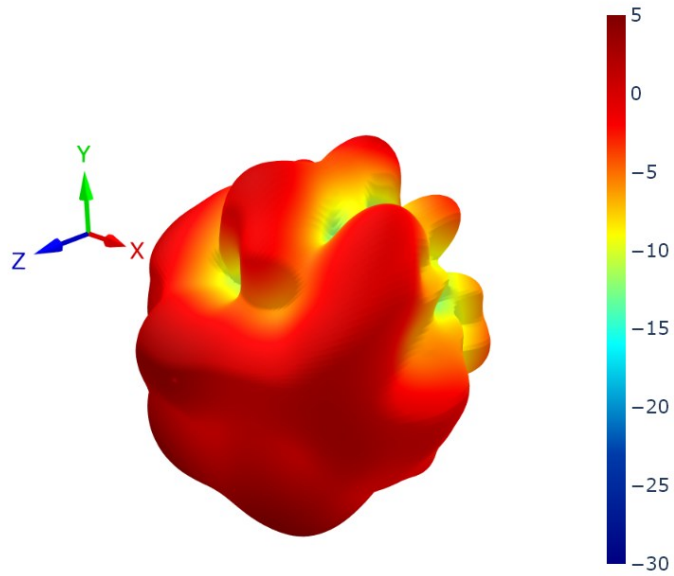
6.17 LTE2 Patterns at 2360 MHz



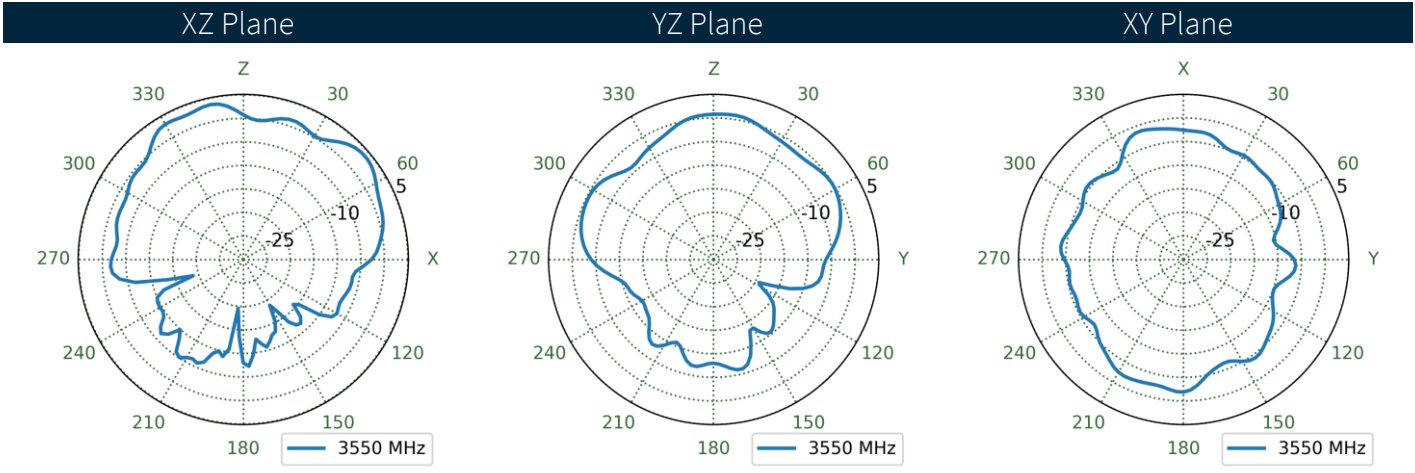
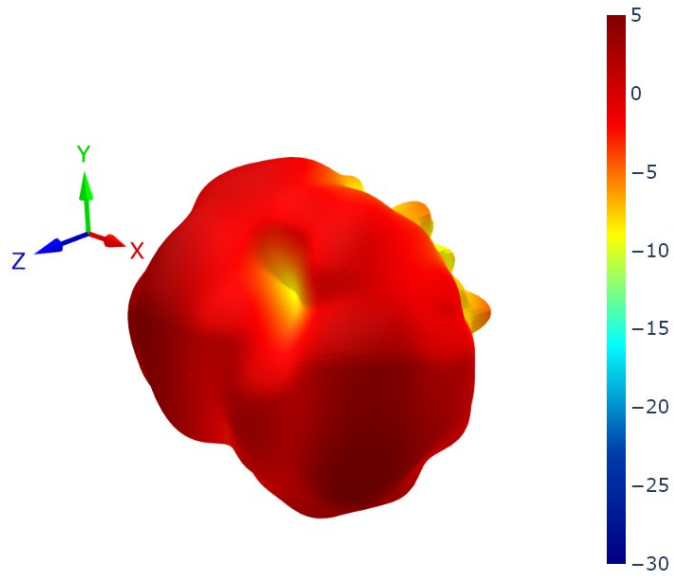
6.18 LTE1 Patterns at 2595 MHz



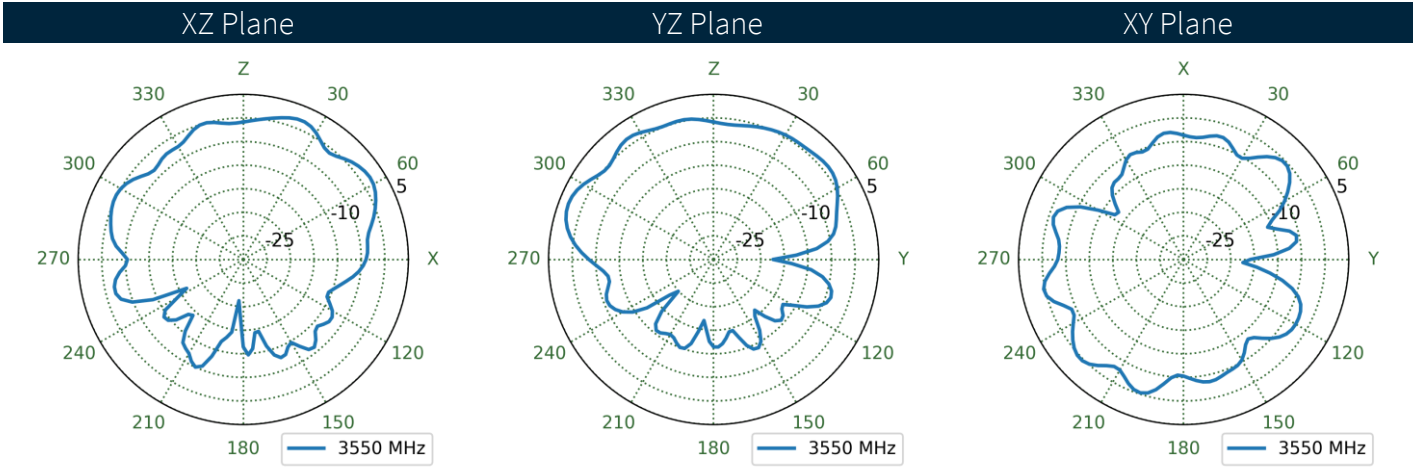
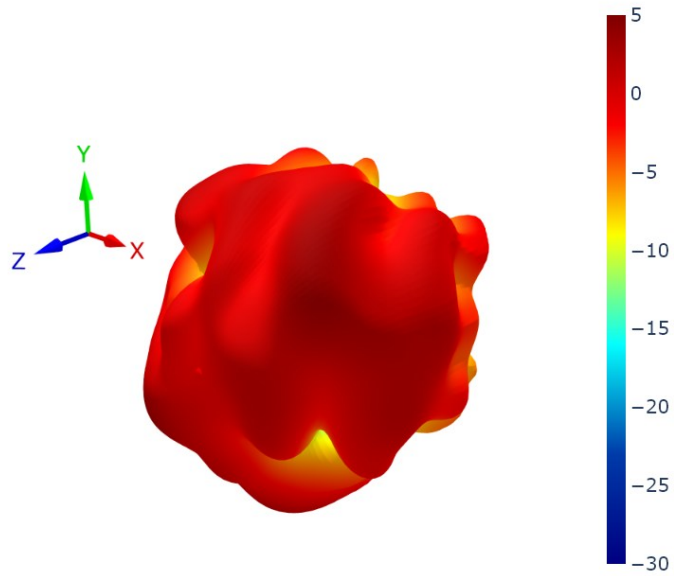
6.19 LTE2 Patterns at 2595 MHz



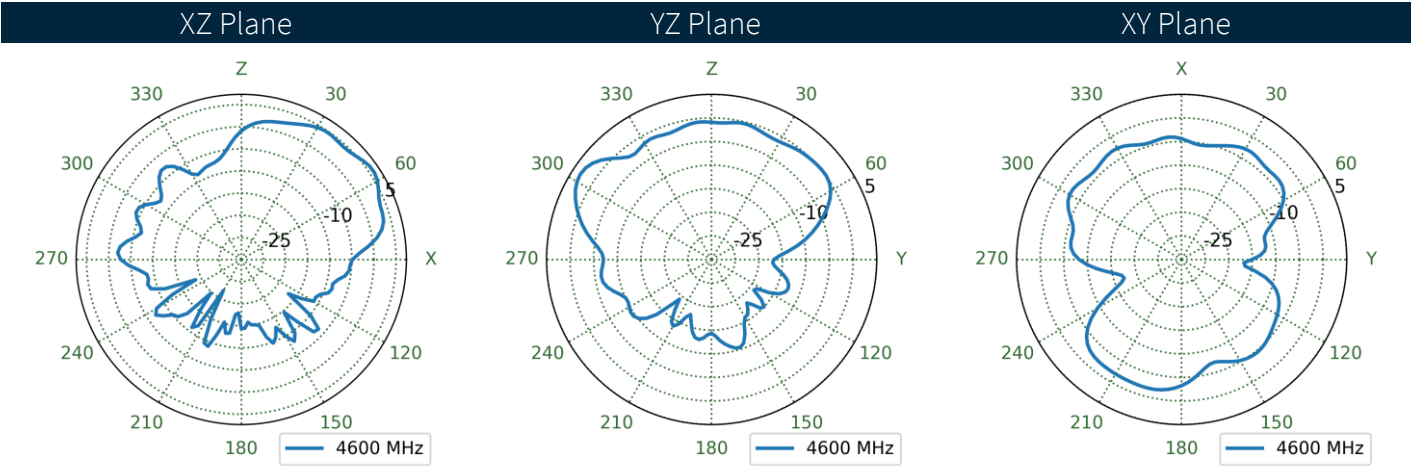
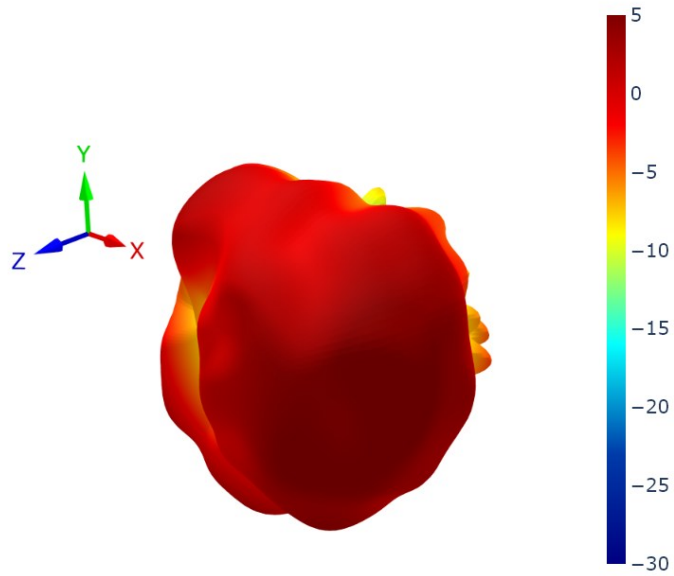
6.20 LTE1 Patterns at 3550 MHz



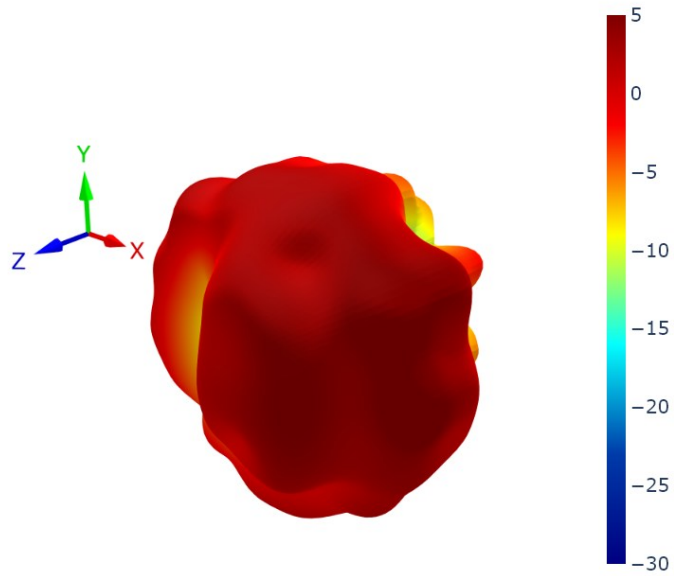
6.21 LTE2 Patterns at 3550 MHz



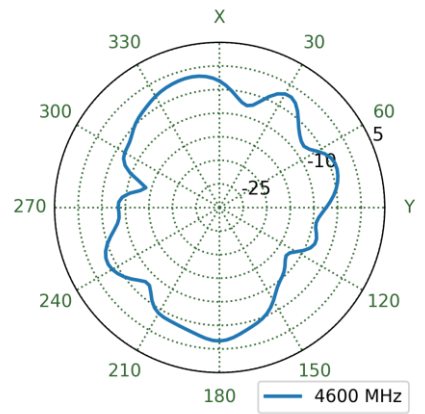
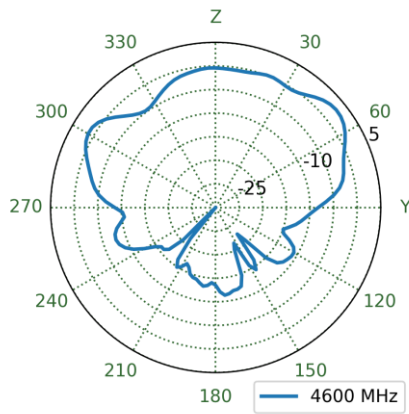
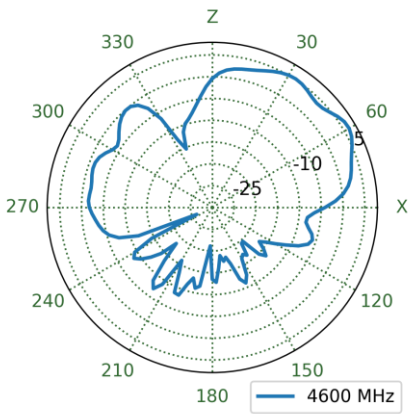
6.22 LTE1 Patterns at 4600 MHz



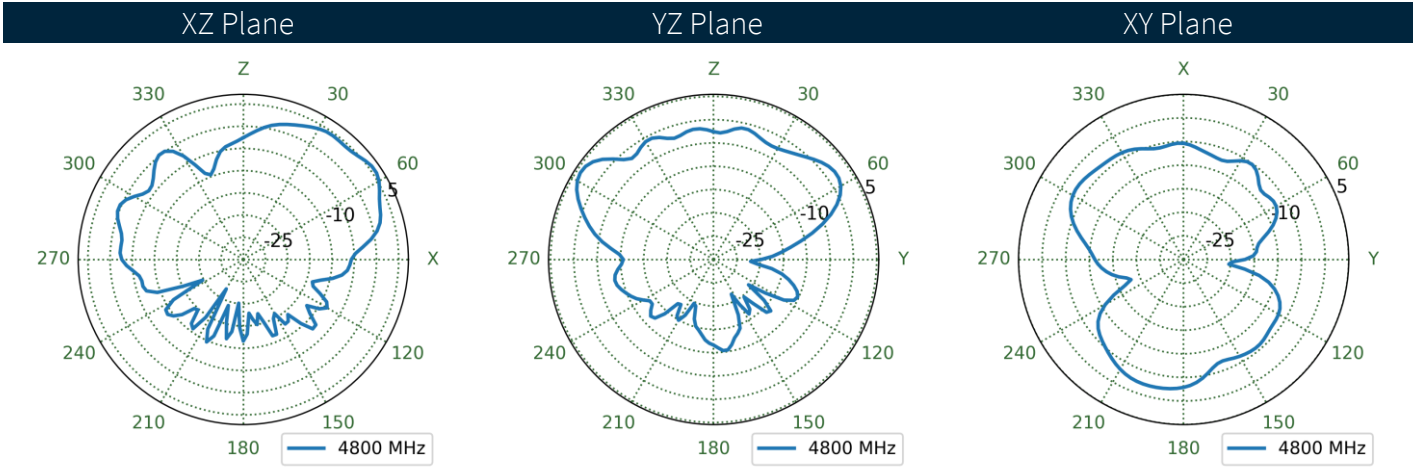
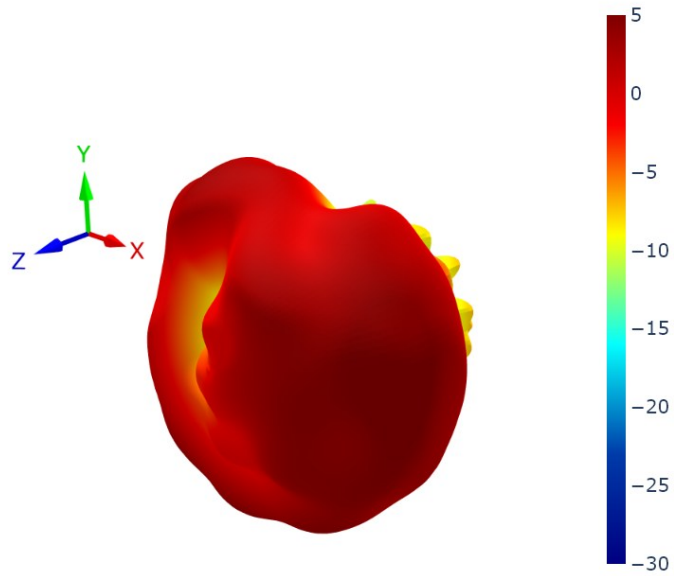
6.23 LTE2 Patterns at 4600 MHz



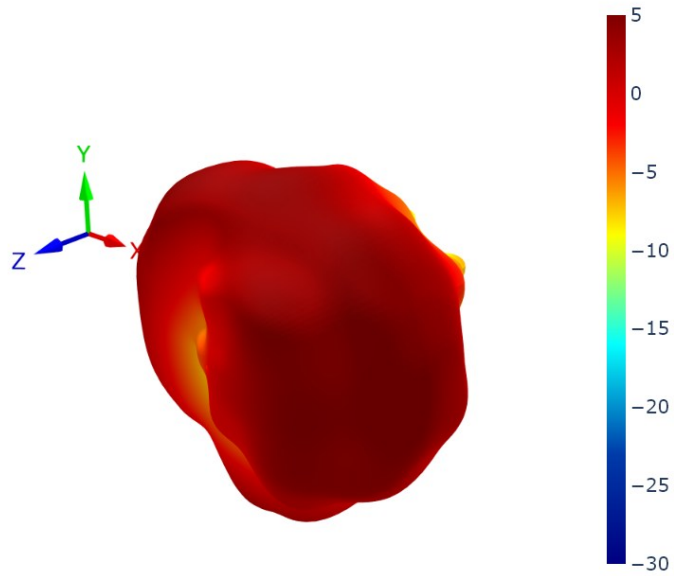
XZ Plane YZ Plane XY Plane



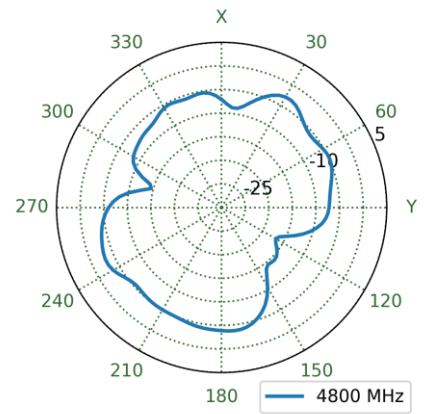
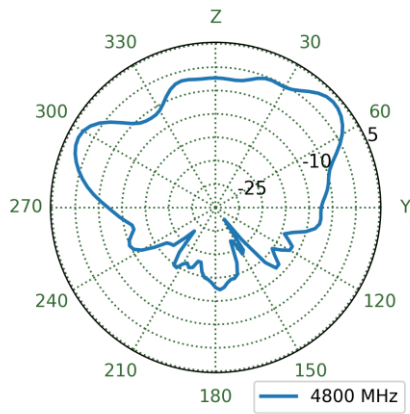
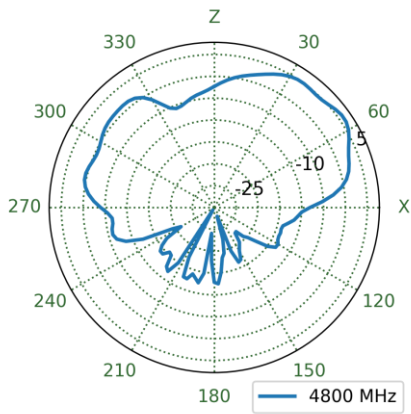
6.24 LTE1 Patterns at 4800 MHz



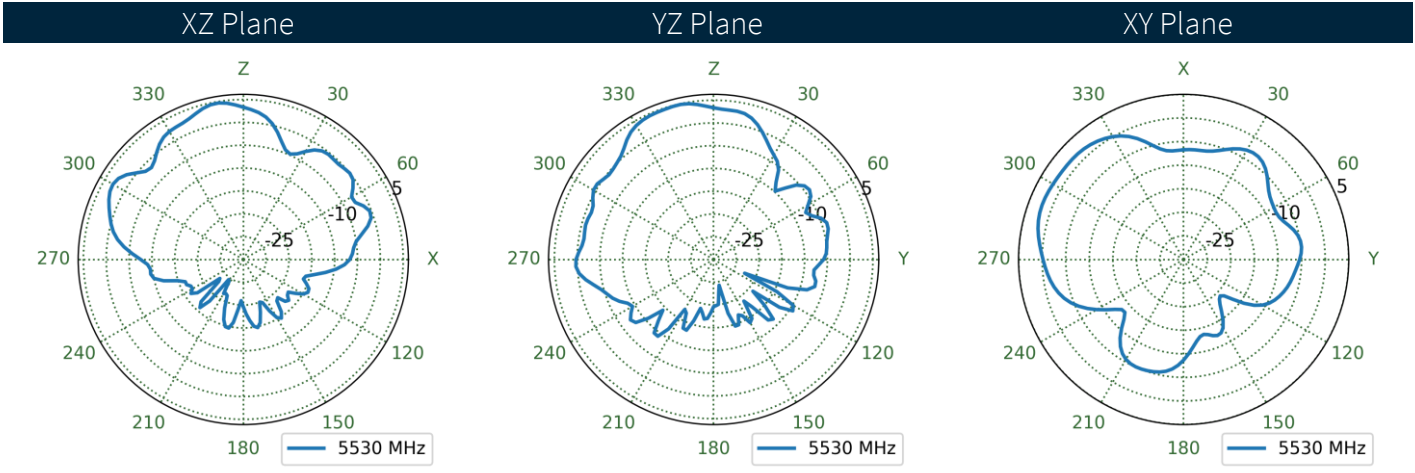
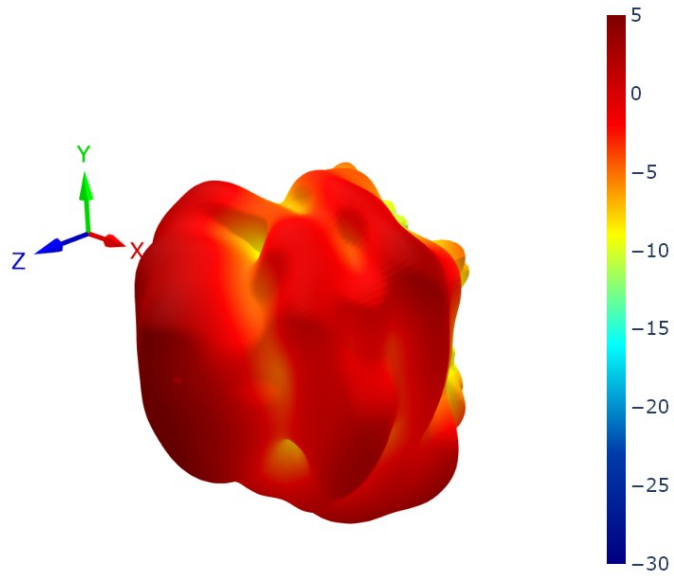
6.25 LTE2 Patterns at 4800 MHz



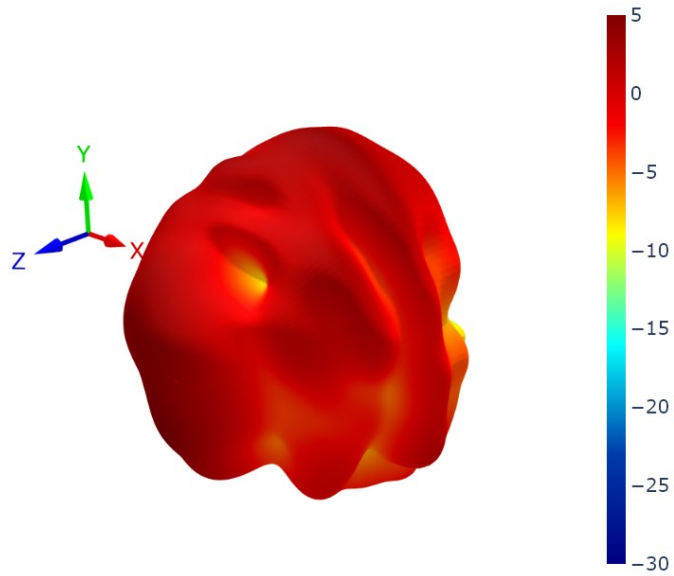
XZ Plane YZ Plane XY Plane



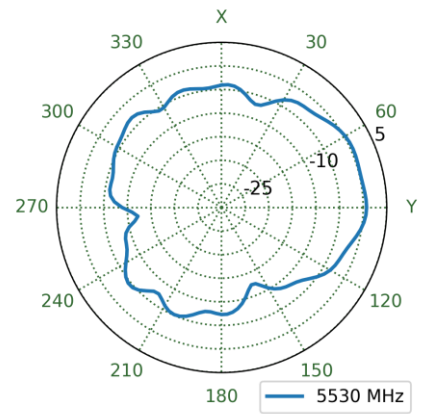
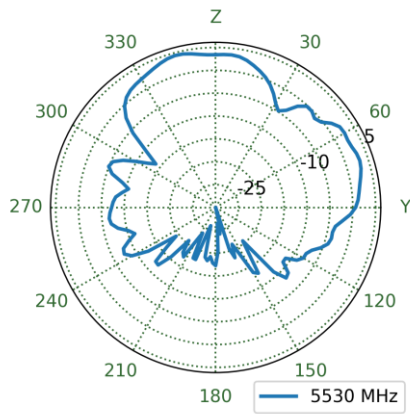
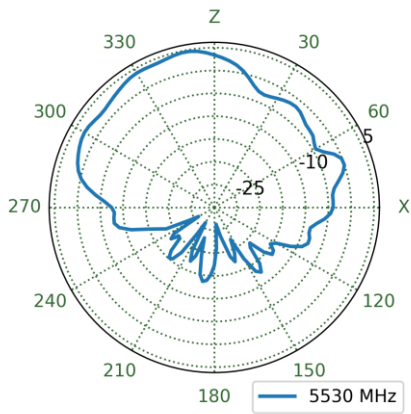
6.26 LTE1 Patterns at 5530 MHz



6.27 LTE2 Patterns at 5530 MHz



XZ Plane YZ Plane XY Plane



Changelog for the datasheet

SPE-24-8-213 – MA342.A.BI.001

Revision: A (Original First Release)

Date: 2024-09-04

Notes: Initial Release

Author: Gary West

Previous Revisions

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