Datasheet

Apex Series

Part No:
TG.31.8113W

Description

Apex Series - Hinged TG.31 White Wideband 5G/4G and Wi-FI Antenna

Features:

Operates from 600MHz - 7125MHz
Highest efficiency for worldwide LTE and Wi-Fi Bands
Covering LTE / CAT-M1 / NB-IoT / GPS / Wi-Fi
High-performance Dipole Terminal Antenna Design
Hinged 90° termination with SMA(M) Connector
Enhanced hinge for high vibration environments
Dimensions: 210mm * 45mm * 13mm
RoHS & REACH Compliant

1. Introduction

The Taoglas TG.31.8113W has been expertly designed to meet the requirements of the next generation of 5G modules, gateways and routers. The antenna is a ground plane independent (Dipole) antenna with a SMA (M) connector and swivel mechanism that allows the antenna part to be rotated. The TG.31 exhibits high efficiency across the 600-7500MHz cellular and Wi-Fi spectrum.

Typical Applications Include:
- POS Kiosks
- Robotics and Autonomous
- Gateways and Routers

With very high efficiency on every cellular band globally, it is an ideal solution for any device requiring high, reliable performance. It is also guaranteed to meet any type of approval or carrier certification requirements from an RF standpoint. It is an omni-directional antenna, and the radiation patterns display this and are stable across all bands.

It has a quality robust UV resistant housing for use with wireless terminals. The swivel and hinge mechanism allows the antenna part itself to be orientated in different directions and can help avoid touching off other antennas or objects close by as well as helping with isolation by orientating the antenna in different directions in MIMO systems.

2. Specification

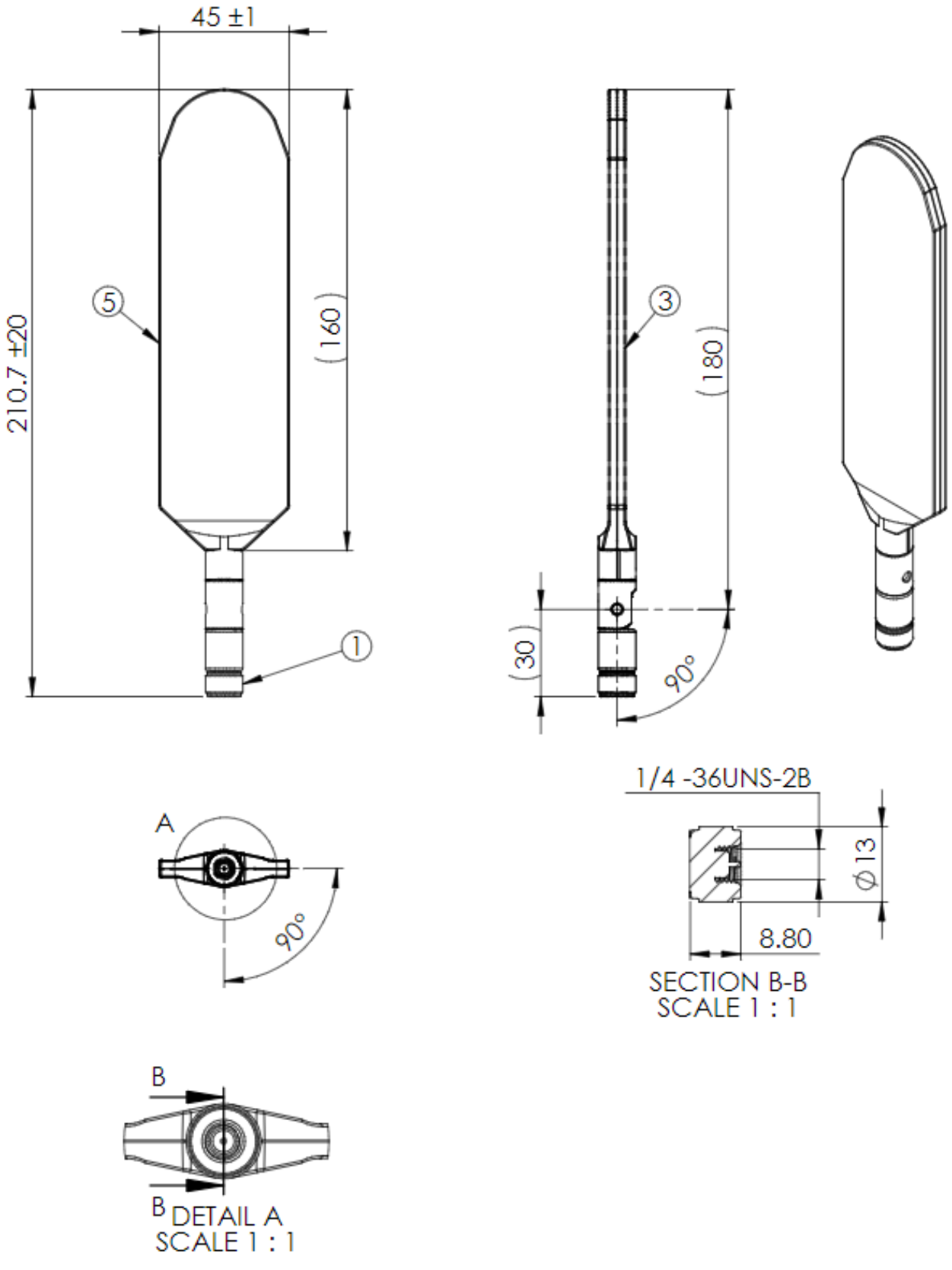
Electrical								
Band	Frequency (MHz)	Measurement	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern
5GNR/4G Band71	617-698	Bent Centre Ground Plane	13.5	-8.71	0.44	50 Ω	Linear	Omni
		Bent Edge Ground Plane	30.4	-5.17	1.34			
		Bent Free Space	30.8	-5.12	0.49			
		Straight Centre Ground Plane	32.5	-4.88	0.88			
		Straight Edge Ground Plane	26.5	-5.76	0.01			
		Straight Free Space	26.5	-5.77	-0.46			
4G/3G Band 12,13,14,17,28,29	698-806	Bent Centre Ground Plane	42.9	-3.68	3.76			
		Bent Edge Ground Plane	73.3	-1.35	3.77			
		Bent Free Space	77.8	-1.09	4.05			
		Straight Centre Ground Plane	78.2	-1.07	3.85			
		Straight Edge Ground Plane	69.5	-1.58	3.12			
		Straight Free Space	70.8	-1.50	3.42			
4G/3G/NB-IoT/Cat M Band 5,8,18,19,20,26,27	824-960	Bent Centre Ground Plane	42.5	-3.71	2.21			
		Bent Edge Ground Plane	77.7	-1.09	3.43			
		Bent Free Space	69.4	-1.59	3.75			
		Straight Centre Ground Plane	64.9	-1.88	4.71			
		Straight Edge Ground Plane	83.6	-0.78	4.29			
		Straight Free Space	73.2	-1.35	4.20			
5GNR/4G Band 21,32,74,75,76	1427-1518	Bent Centre Ground Plane	48.5	-3.14	6.56			
		Bent Edge Ground Plane	45.4	-3.43	1.26			
		Bent Free Space	42.7	-3.69	3.74			
		Straight Centre Ground Plane	43.3	-3.63	5.06			
		Straight Edge Ground Plane	45.3	-3.44	2.16			
		Straight Free Space	42.0	-3.77	3.98			
4G/3G Band 1,2,3,4,9,23,25,35,39, 66	1710-2200	Bent Centre Ground Plane	66.0	-1.81	7.14			
		Bent Edge Ground Plane	64.4	-1.91	2.63			
		Bent Free Space	78.6	-1.05	3.12			
		Straight Centre Ground Plane	70.5	-1.52	3.91			
		Straight Edge Ground Plane	60.7	-2.17	2.94			
		Straight Free Space	72.1	-1.42	4.74			
4G/3G Band 7,30,38,40,41	2300-2690	Bent Centre Ground Plane	61.7	-2.10	6.84			
		Bent Edge Ground Plane	53.8	-2.69	4.33			
		Bent Free Space	71.3	-1.47	4.67			
		Straight Centre Ground Plane	52.2	-2.83	6.39			
		Straight Edge Ground Plane	50.4	-2.98	5.24			
		Straight Free Space	62.4	-2.05	5.53			
5GNR/4G Band 22,42,48,77,78,79	3300-3850	Bent Centre Ground Plane	46.3	-3.34	8.89			
		Bent Edge Ground Plane	34.7	-4.60	6.15			
		Bent Free Space	45.9	-3.38	3.72			
		Straight Centre Ground Plane	41.6	-3.81	5.80			
		Straight Edge Ground Plane	30.7	-5.13	6.23			
		Straight Free Space	37.3	-4.28	2.82			
LTE5200/Wi-Fi5800	5150-5925	Bent Centre Ground Plane	37.9	-4.21	7.45			
		Bent Edge Ground Plane	32.6	-4.87	6.65			
		Bent Free Space	53.0	-2.76	4.04			
		Straight Centre Ground Plane	46.0	-3.38	7.62			
		Straight Edge Ground Plane	30.2	-5.20	3.93			
		Straight Free Space	48.5	-3.14	3.76			
Wi-Fi - 6GHz	5925-7125	Bent Centre Ground Plane	69.0	-1.61	8.76			
		Bent Edge Ground Plane	44.6	-3.51	8.77			
		Bent Free Space	80.9	-0.92	5.31			
		Straight Centre Ground Plane	55.8	-2.53	9.65			
		Straight Edge Ground Plane	44.1	-3.56	5.55			
		Straight Free Space	73.9	-1.31	5.64			

5G/4G Bands								
Band Number	5GNR / FR1 / LTE / LTE-Advanced / WCDMA / HSPA / HSPA+ / TD-SCDMA							
	Uplink	Downlink	Bent Centre Ground Plane	Bent Edge Ground Plane	Bent Free Space	Straight Centre Ground Plane	Straight Edge Ground Plane	Straight Free Space
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*	1749.9 to 1784.9	1844.9 to 1879.9	✓	✓	✓	✓	✓	✓
B11	1427.9 to 1447.9	1475.9 to 1495.9	✓	✓	✓	✓	✓	✓
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	1447.9 to 1462.9	1495.9 to 1510.9	✓	✓	✓	✓	✓	✓
B22*	3410 to 3490	3510 to 3590	✓	✓	✓	✓	✓	✓
B23*	2000 to 2020	2180 to 2200	✓	✓	✓	✓	✓	✓
B24	1626.5 to 1660.5	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	452.5 to 457.5	462.5 to 467.5	✗	✗	✗	✗	✗	✗
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	2483.5 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	✗	✗	✗	✗	✗	✗

Mechanical	
Casing	UV Resistant PC/ABS
Connector	SMA Male Hinged 90°

Environmental	
Temperature Range	-40°C to 85°C
Humidity	Non-condensing 65°C 95% RH

3. Mechanical Drawing



4. Installation Guide

Taoglas produces a range of antennas have independent rotating SMA connectors. This enables the user to install the antenna in a preferable direction. After tightening the SMA connector, the antenna will sit firmly on users' base/router on either a table or on a wall. This installation sheet is illustrated using the TG.45 on a wall mounted device as an example.

Step 1.
Adjust the antenna to preferable direction or orientation, then mount the antennas SMA(M) connector onto the SMA(F) connector of the device. (See figure 1)

Step 2.
Firmly old the antenna housing with one hand, while rotating the SMA(M) connector with the other hand until the connector is tight and holds a fixed position. (See figure 2) Recommended torque is 0.34 - 0.57 NM or 3 - 5in-lbs.

Note: If more than one antenna is being used and for ease of installation, it is best practice to install the largest antenna first.

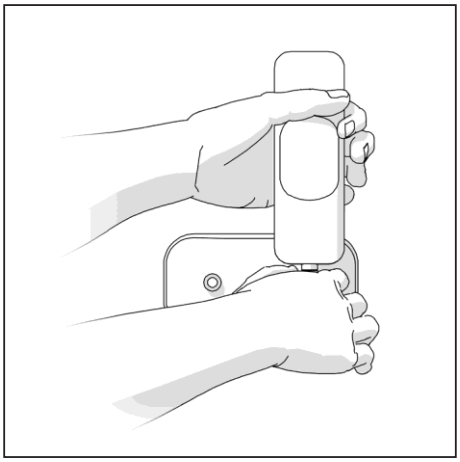


Figure 1.
Place the antenna onto the connector of the device and hold the antenna in the preferred orientation.

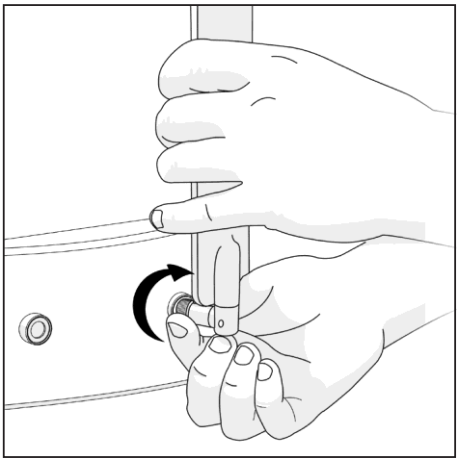


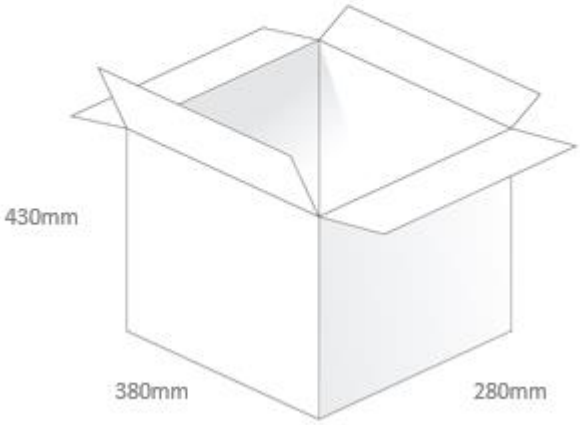
Figure 2.
Fix the connector to the device by twisting the rotating head of the SMA connector until it is tight enough to hold the antenna in the correct position.

5. Packaging

1pc TG.31.8113W per Small PE Bag

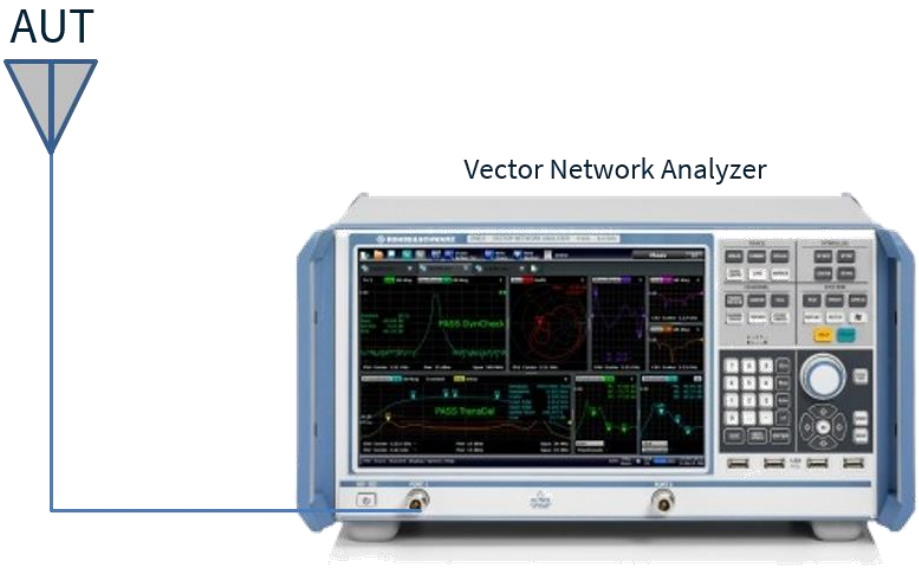
50pcs per Large PE Bag

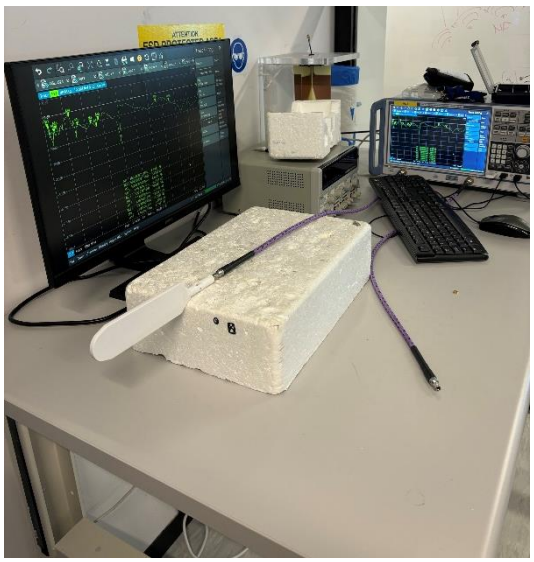
250pcs TG.31.8113W per Carton
Carton Dimensions: 430*380*280mm



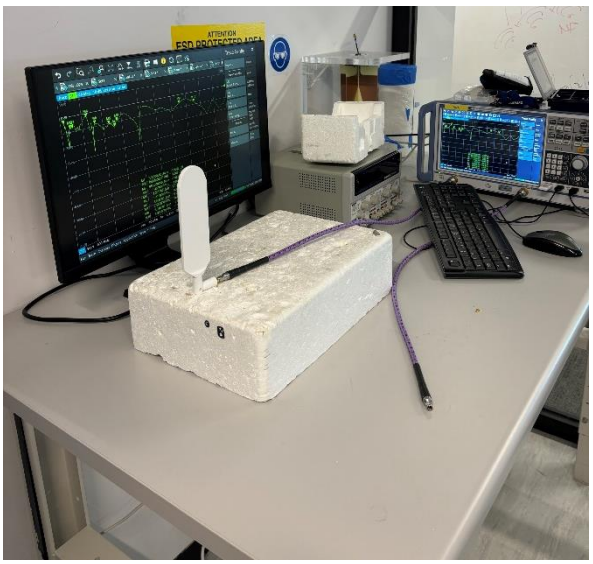
6. Antenna Characteristics

6.1 Test Setup

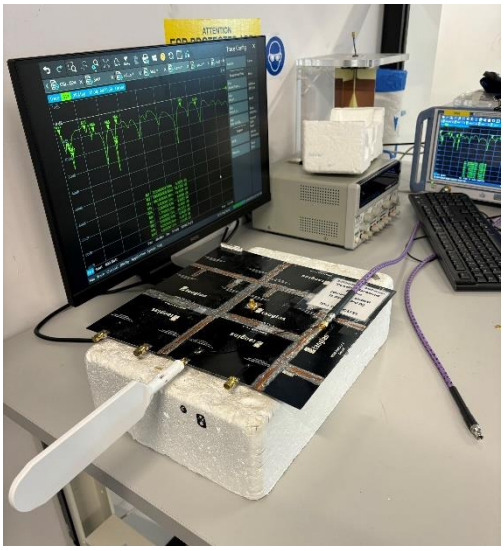




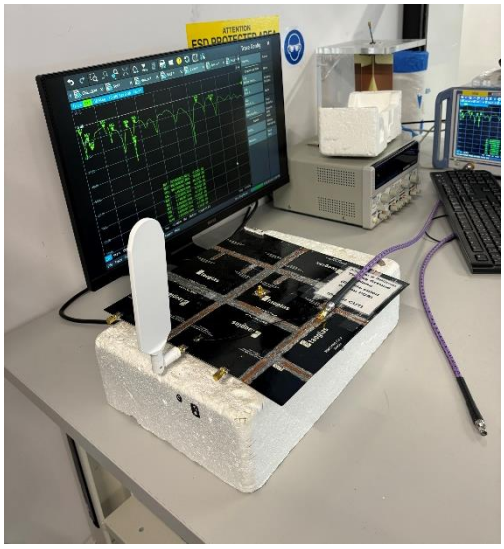
VNA Set up Straight in Free Space



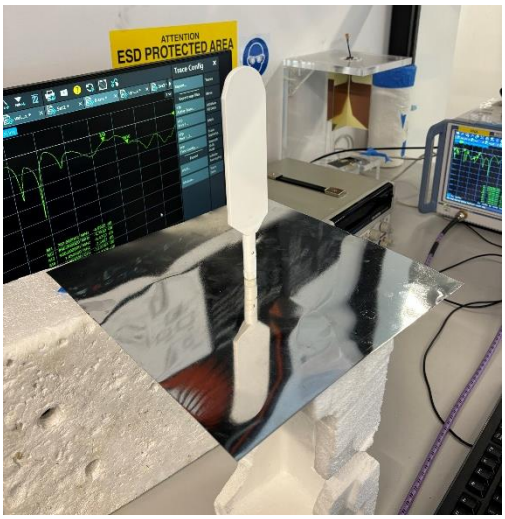
VNA Set up Bent in Free Space



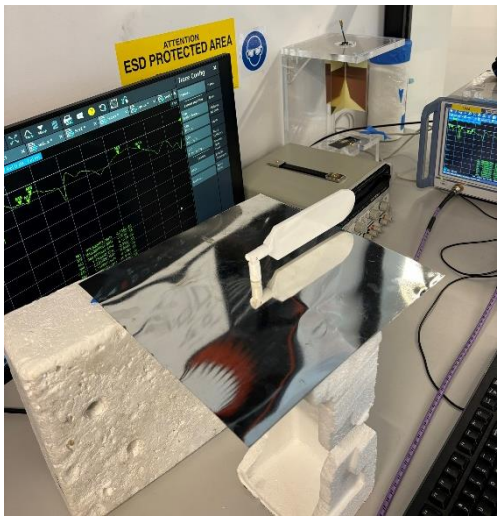
VNA Set up Straight on Edge of 30x30cm Ground Plane



VNA Set up Bent on Edge of 30x30cm Ground Plane

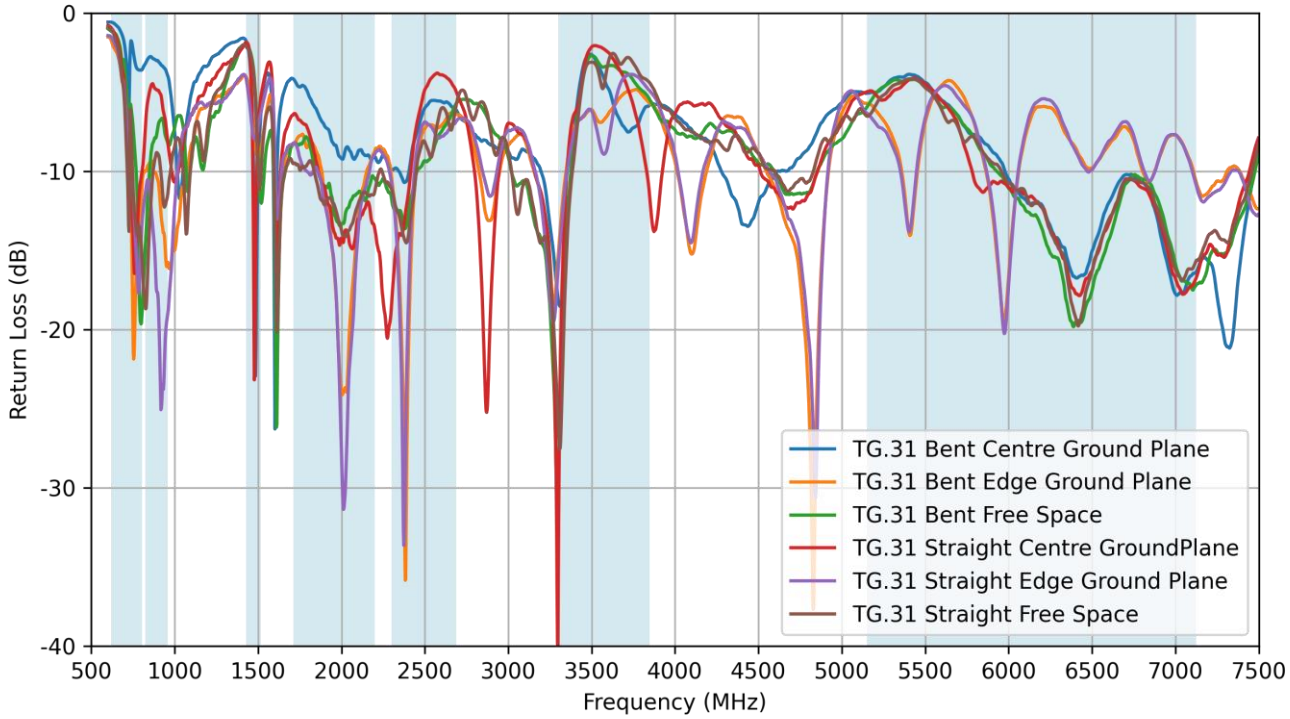


VNA Set up Straight in Centre of 30x30cm Ground Plane

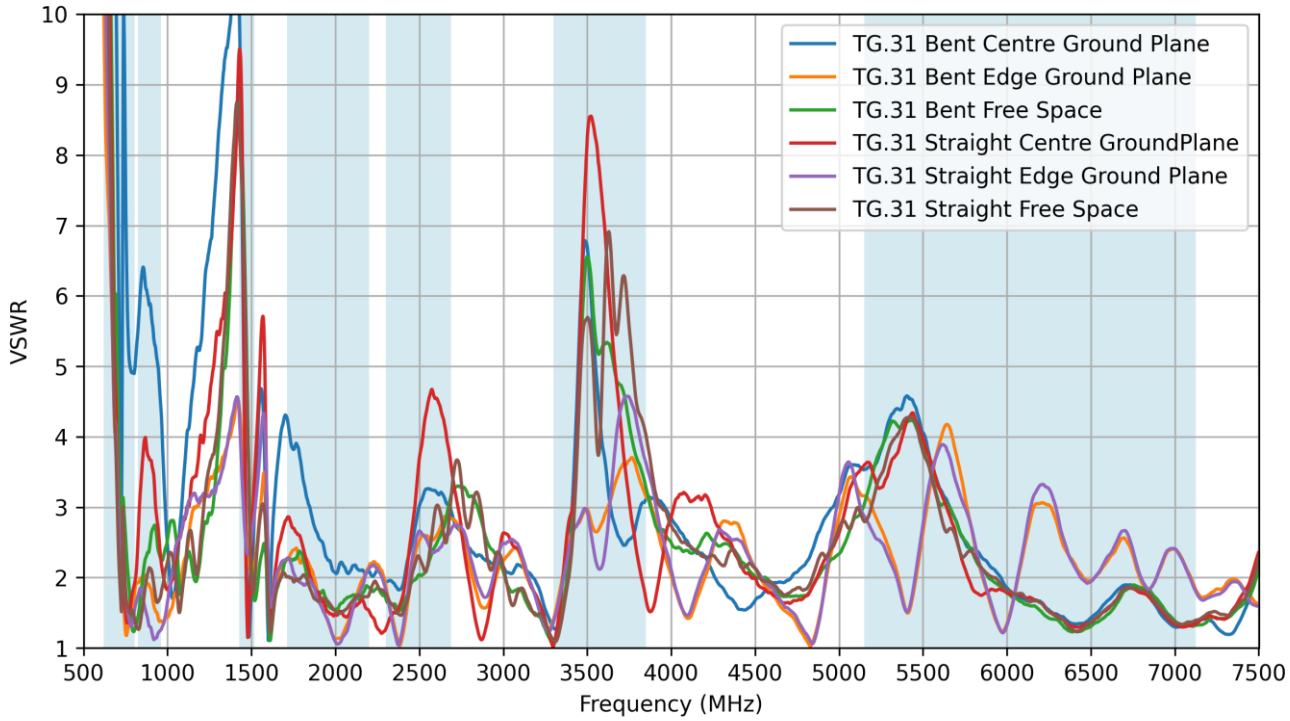


VNA Set up Bent in Centre of 30x30cm Ground Plane

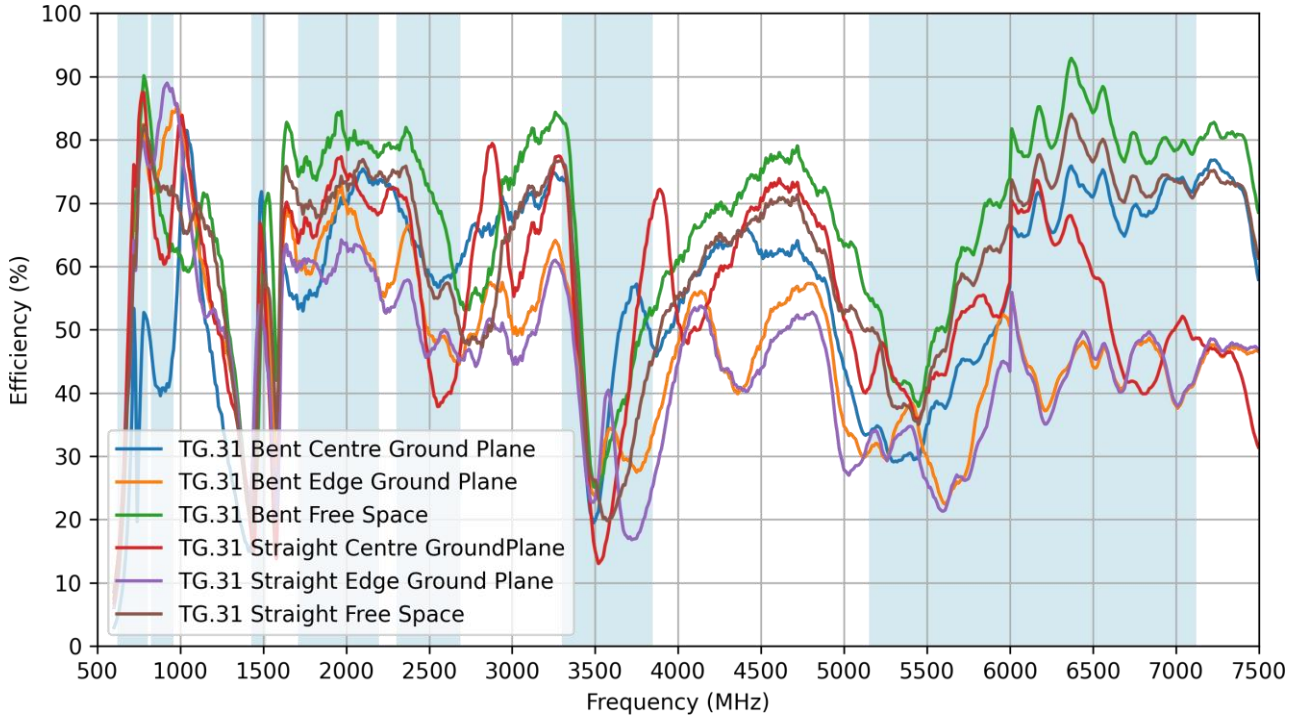
6.2 Return Loss



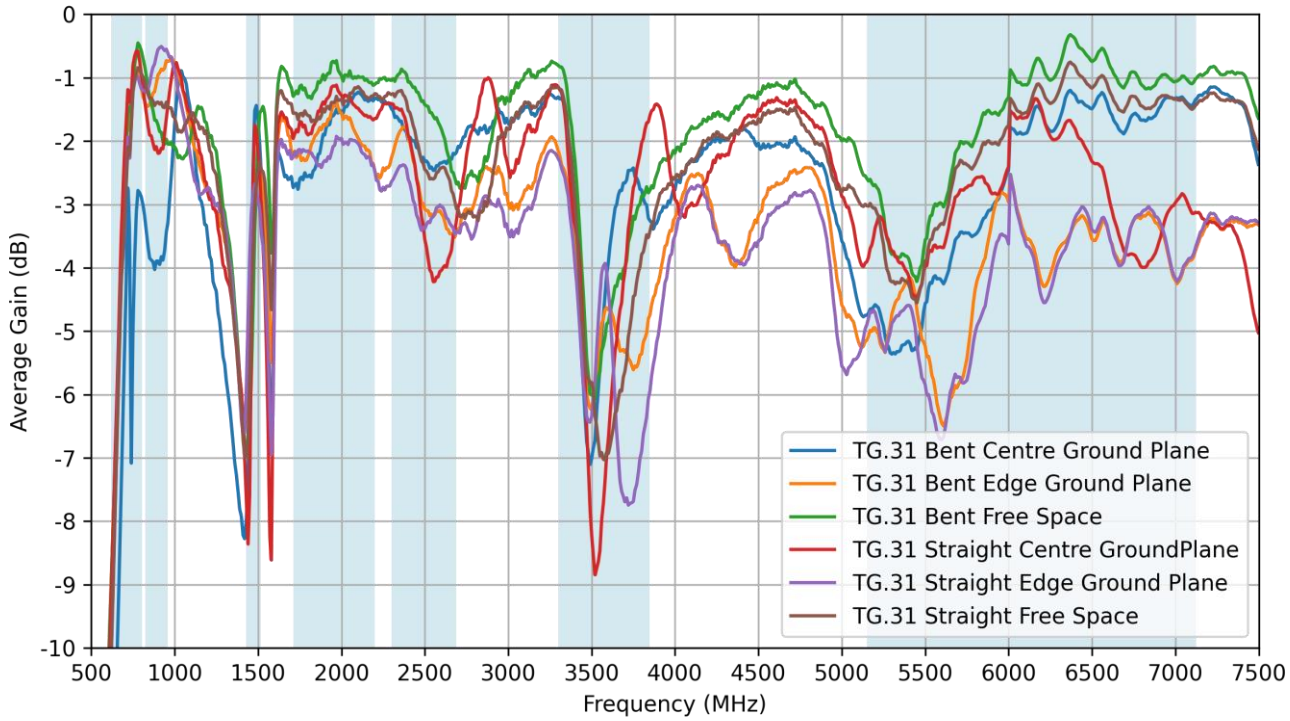
6.3 VSWR



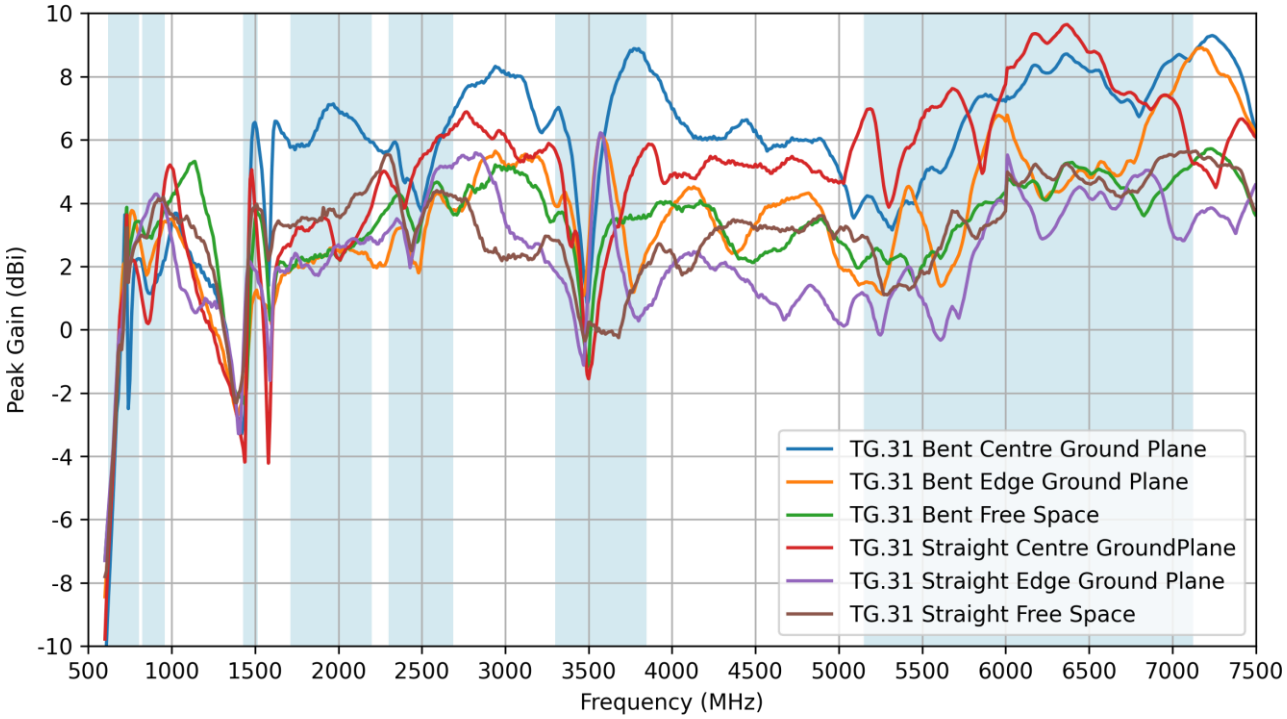
6.4 Efficiency



6.5 Average Gain

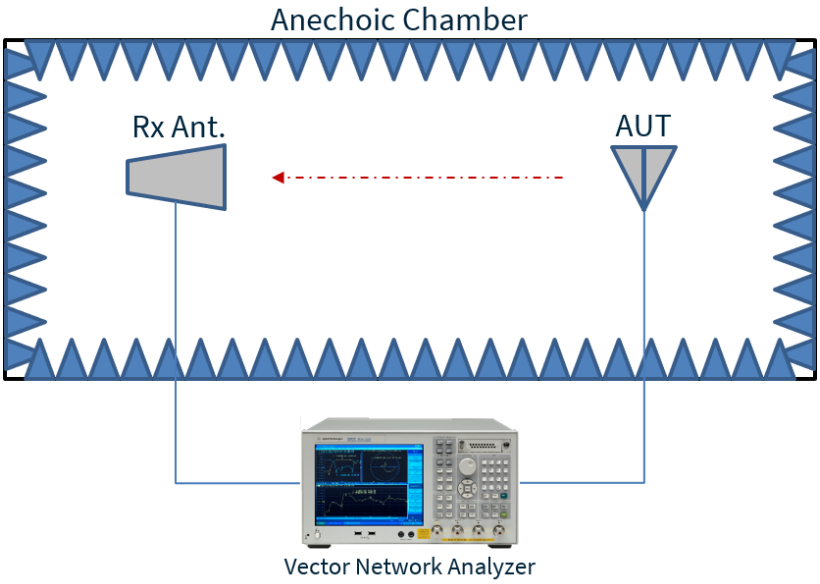


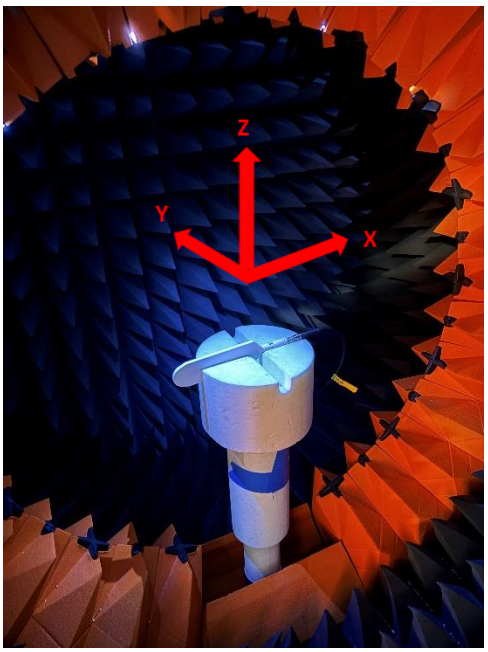
6.6 Peak Gain


Peak Gain (dBi)
Frequency (MHz)
TG.31 Bent Centre Ground Plane
TG.31 Bent Edge Ground Plane
TG.31 Bent Free Space
TG.31 Straight Centre GroundPlane
TG.31 Straight Edge Ground Plane
TG.31 Straight Free Space

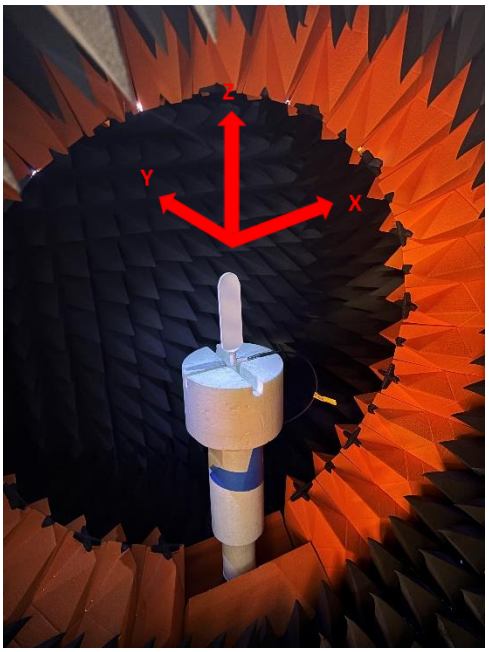
7. Radiation Patterns

7.1 Test Setup

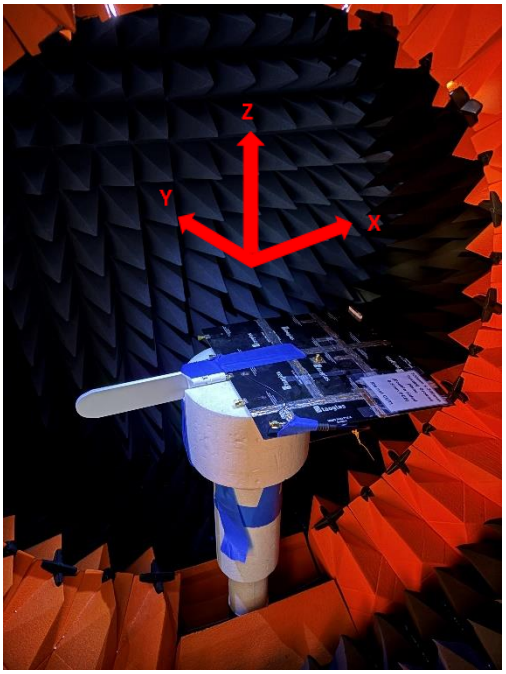




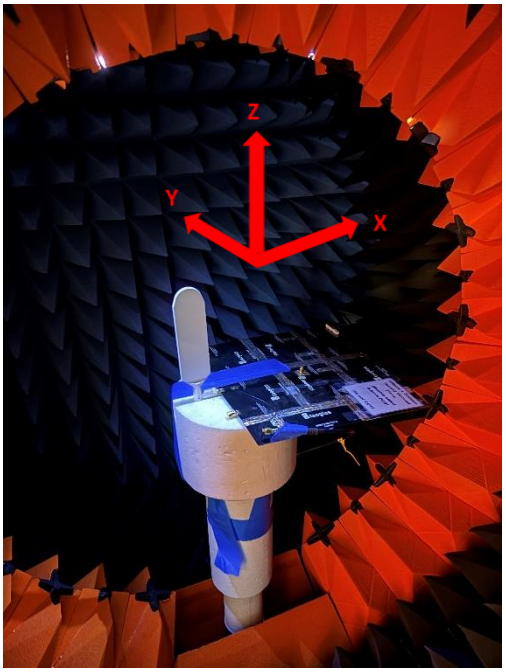
Chamber Set up Straight
in Free Space



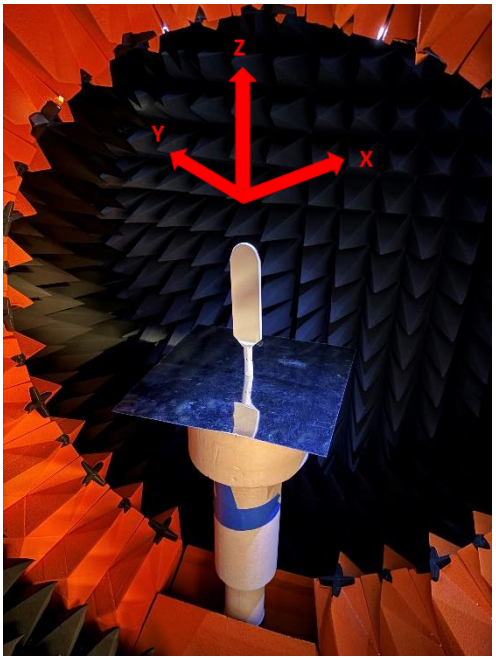
Chamber Set up Bent
in Free Space



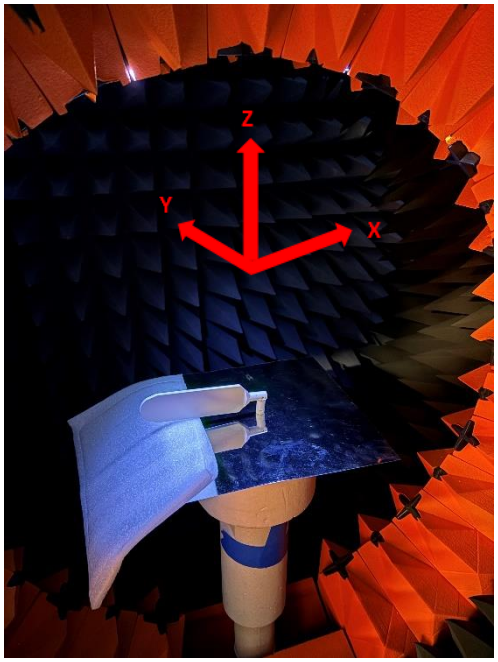
Chamber Set up Straight on Edge of 30x30cm Ground Plane



Chamber Set up Bent on Edge of 30x30cm Ground Plane

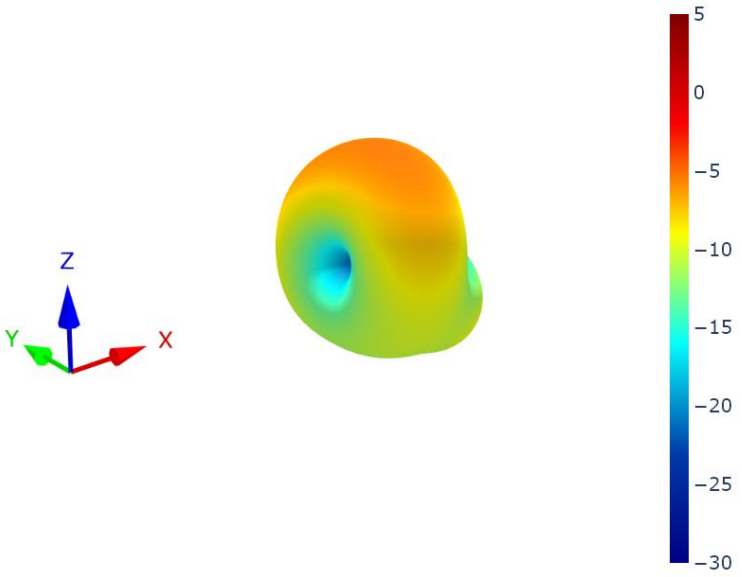


Chamber Set up Straight in Centre of 30x30cm Ground Plane

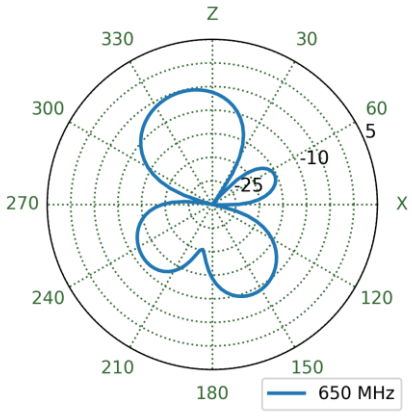


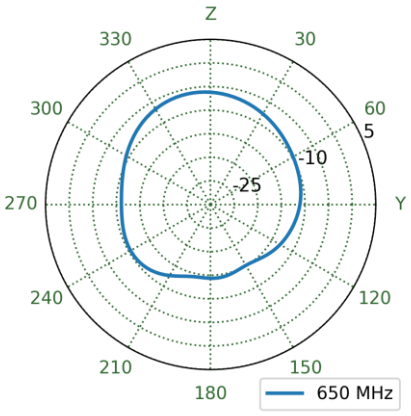
Chamber Set up Bent in Centre of 30x30cm Ground Plane

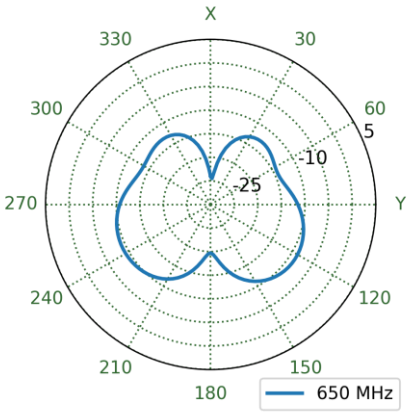
7.2 Bent Centre Ground Plane Patterns at 650 MHz



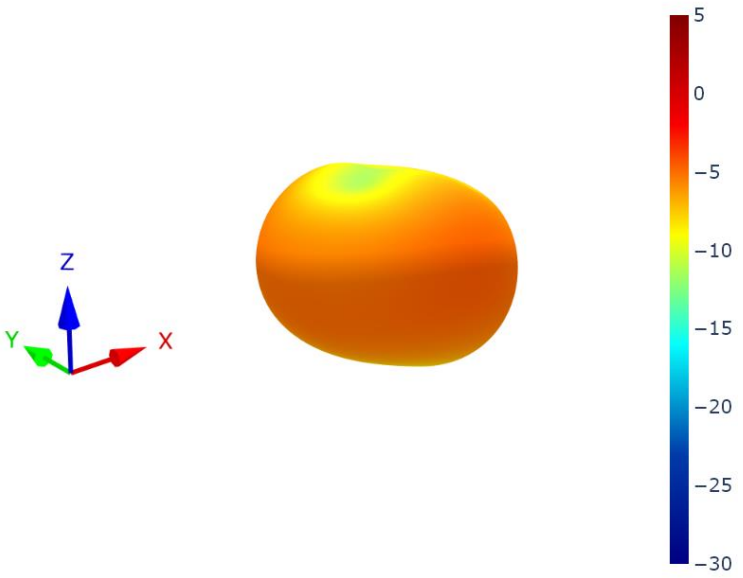
XZ Plane	YZ Plane	XY Plane

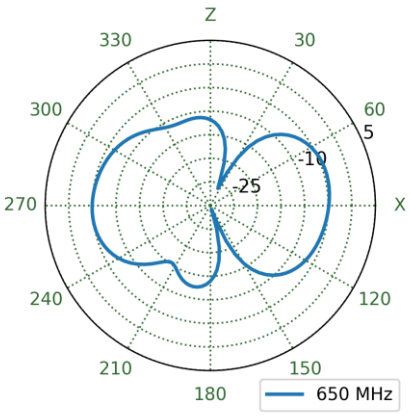
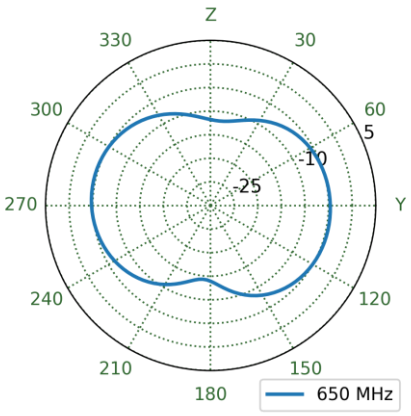
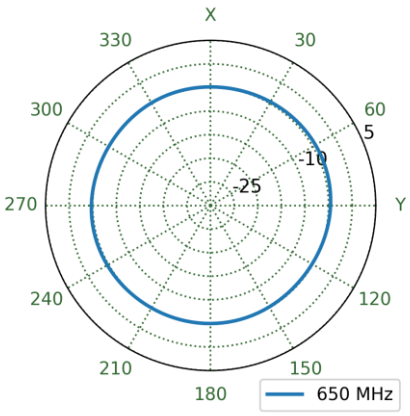




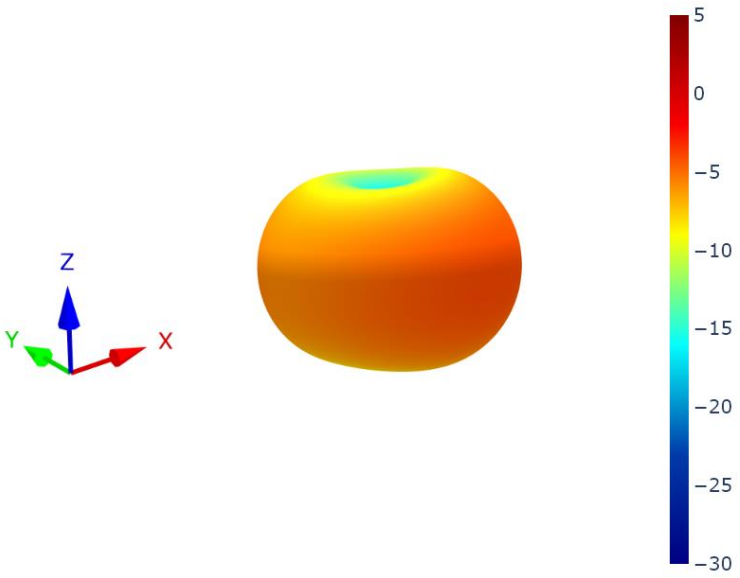


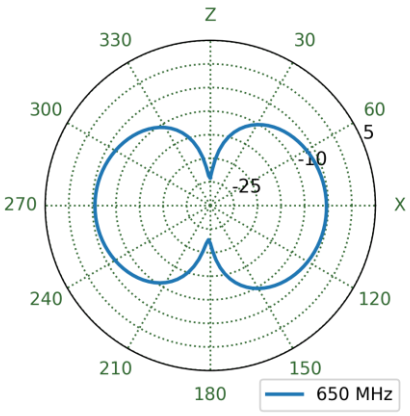
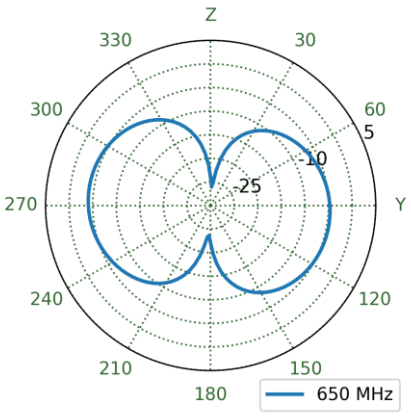
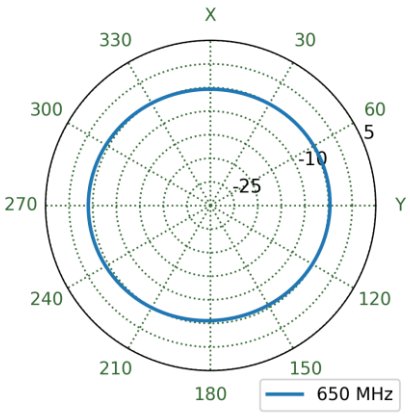
7.3 Bent Edge Ground Plane Patterns at 650 MHz



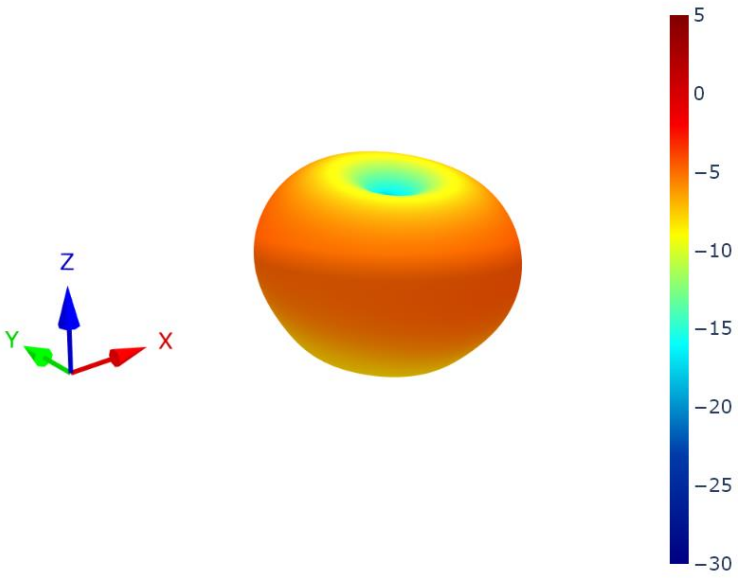
XZ Plane	YZ Plane	XY Plane
		

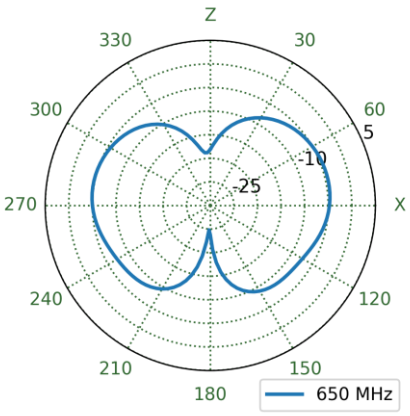
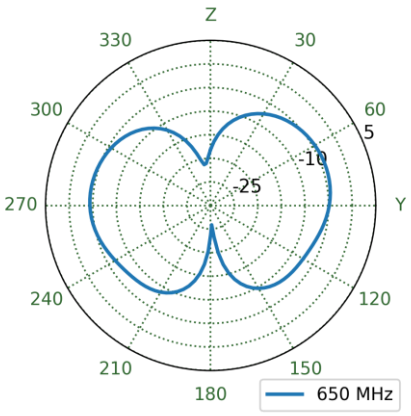
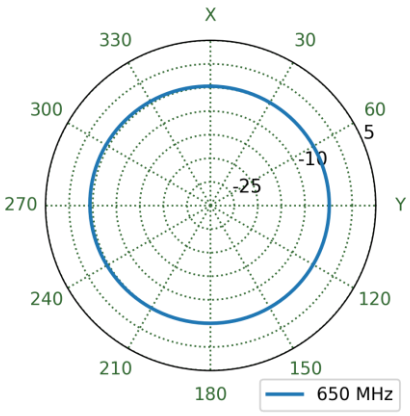
7.4 Bent Free Space Patterns at 650 MHz



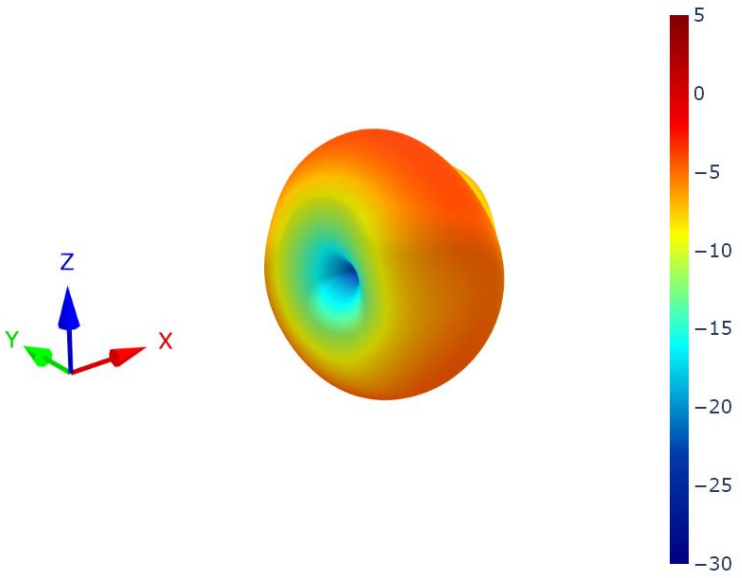
XZ Plane	YZ Plane	XY Plane
		

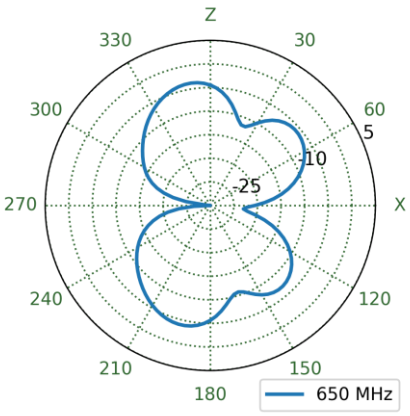
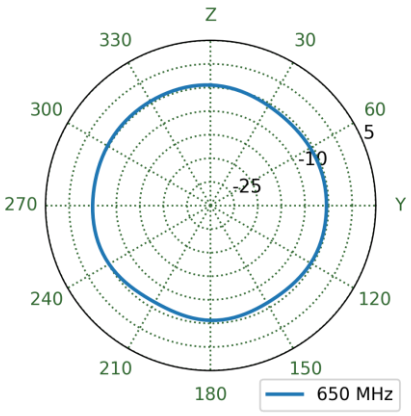
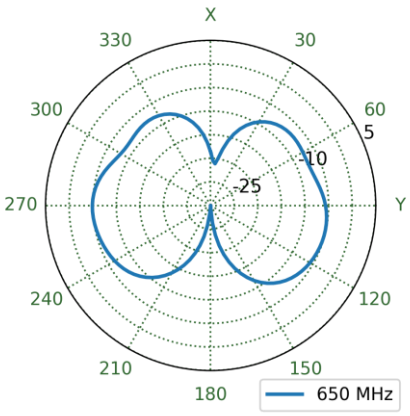
7.5 Straight Centre Ground Plane Patterns at 650 MHz



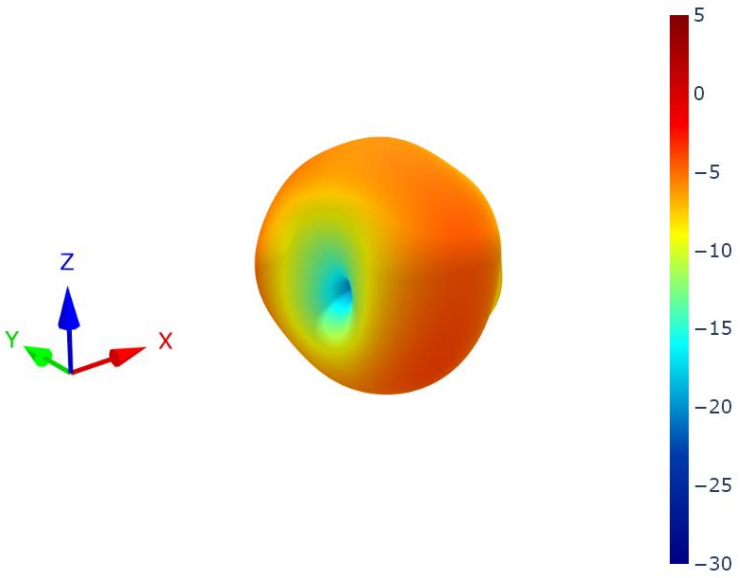
XZ Plane	YZ Plane	XY Plane
		

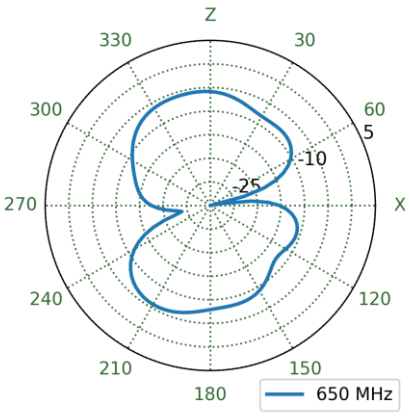
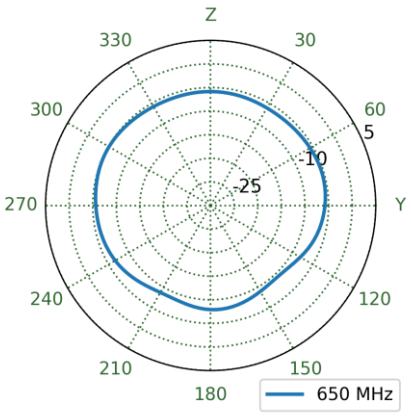
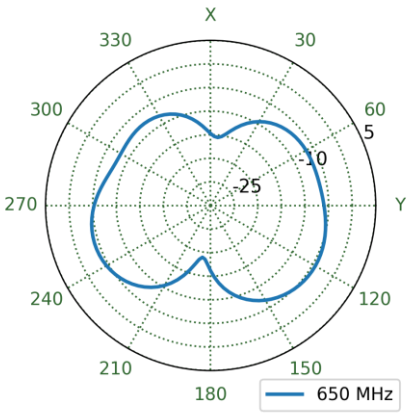
7.6 Straight Edge Ground Plane Patterns at 650 MHz



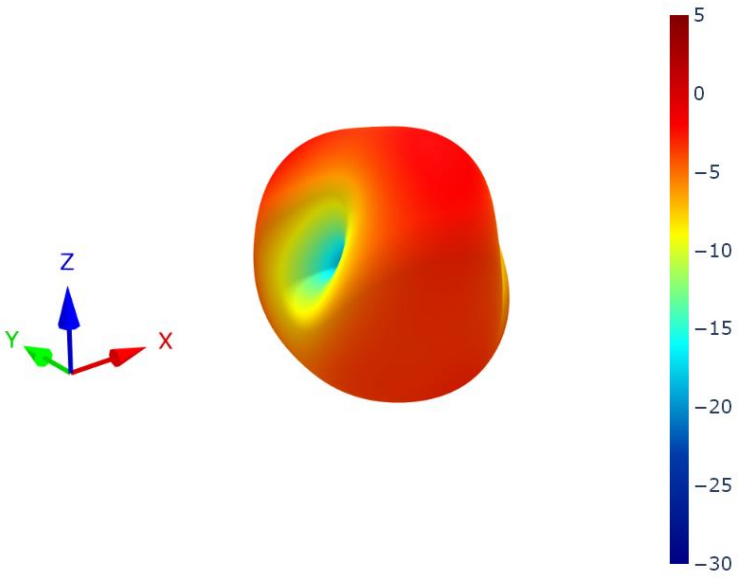
XZ Plane	YZ Plane	XY Plane
		

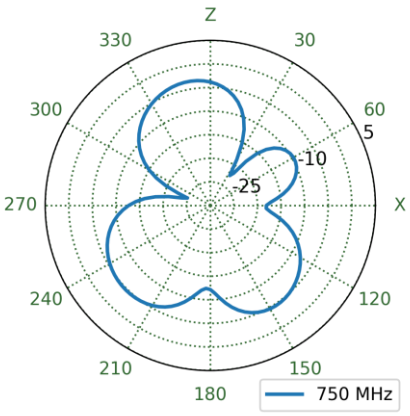
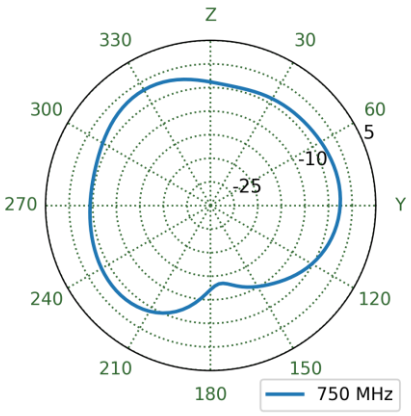
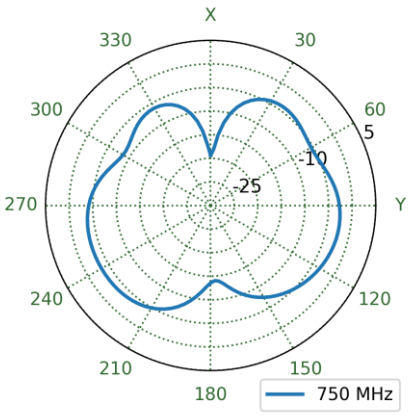
7.7 Straight Free Space Patterns at 650 MHz



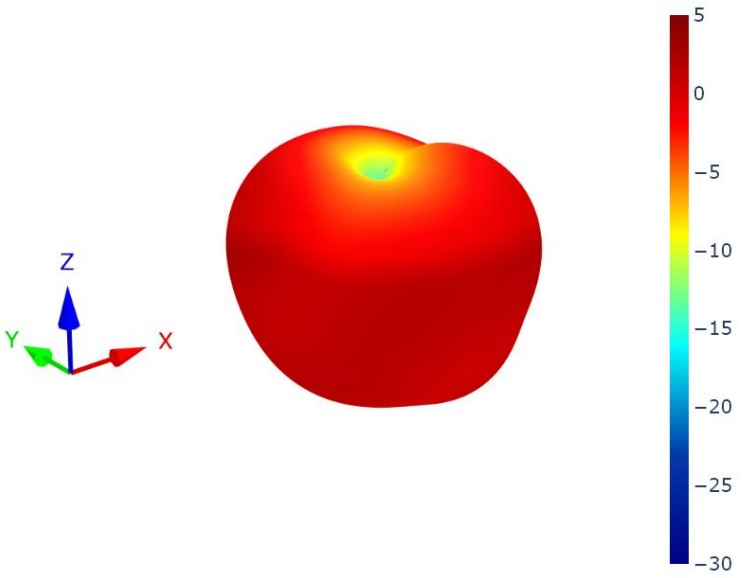
XZ Plane	YZ Plane	XY Plane
		

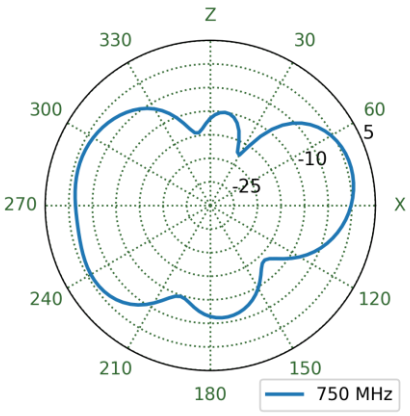
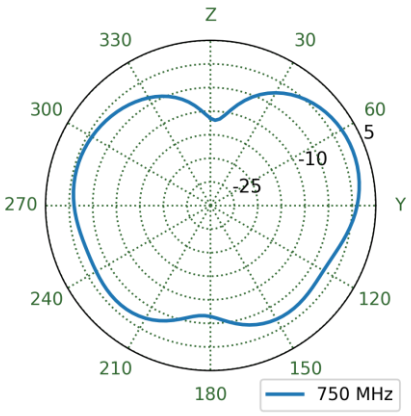
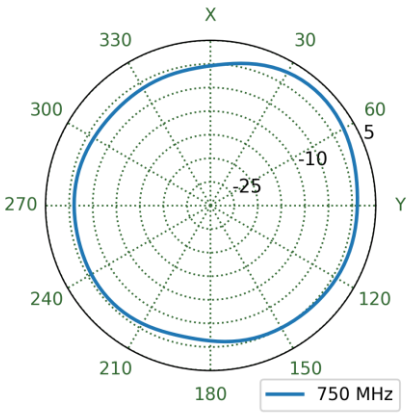
7.8 Bent Centre Ground Plane Patterns at 750 MHz



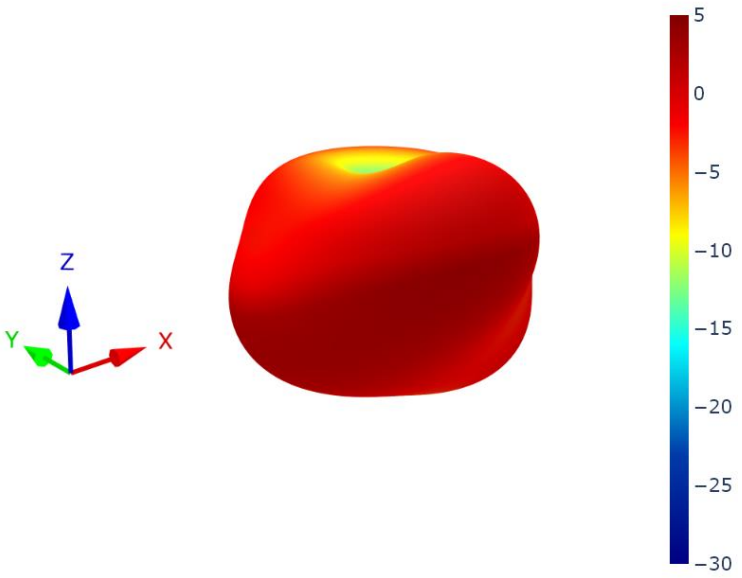
XZ Plane	YZ Plane	XY Plane
		

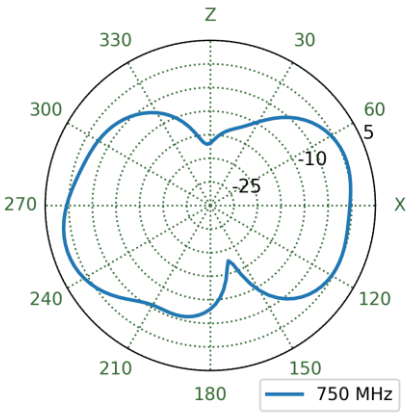
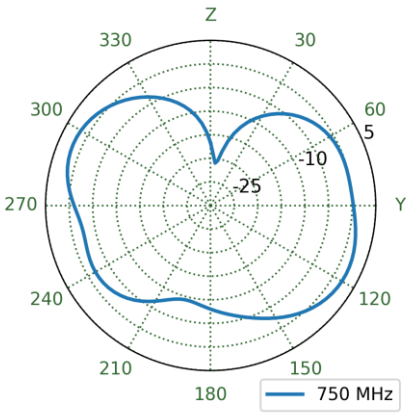
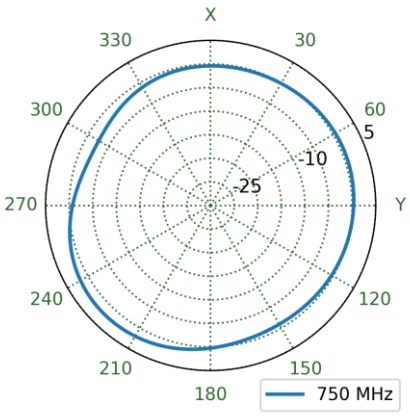
7.9 Bent Edge Ground Plane Patterns at 750 MHz



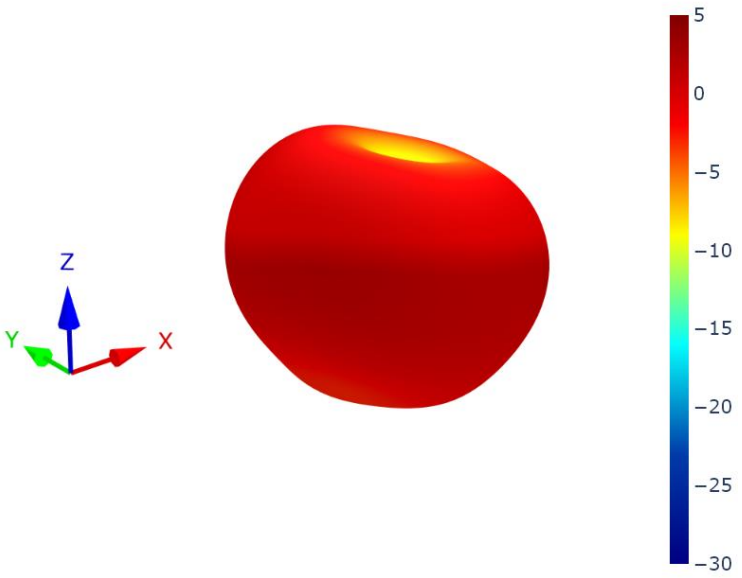
XZ Plane	YZ Plane	XY Plane
		

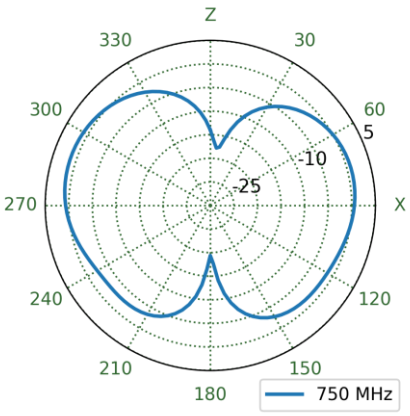
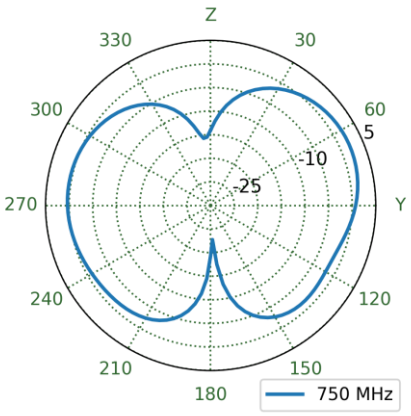
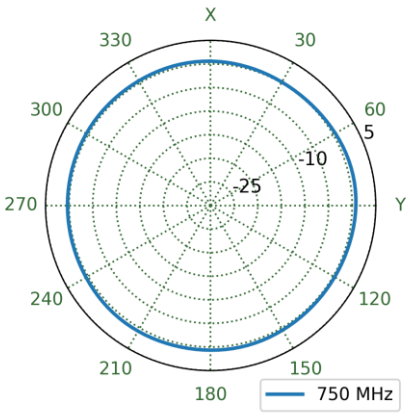
7.10 Bent Free Space Patterns at 750 MHz



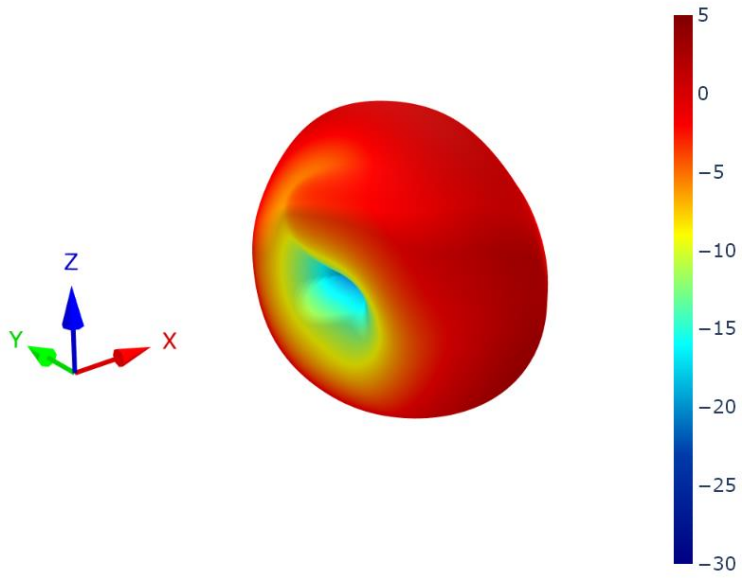
XZ Plane	YZ Plane	XY Plane
		

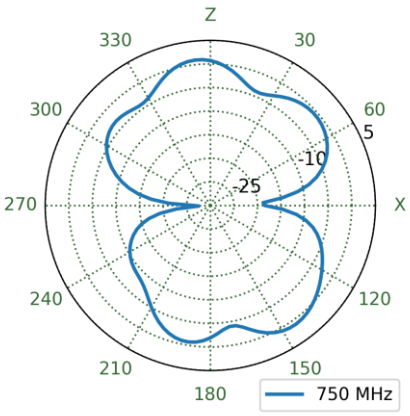
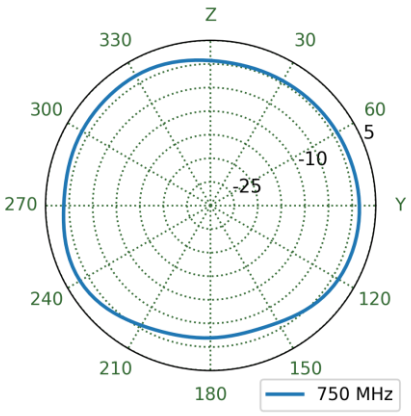
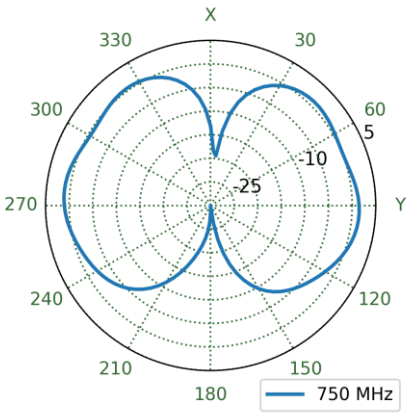
7.11 Straight Centre Ground Plane Patterns at 750 MHz



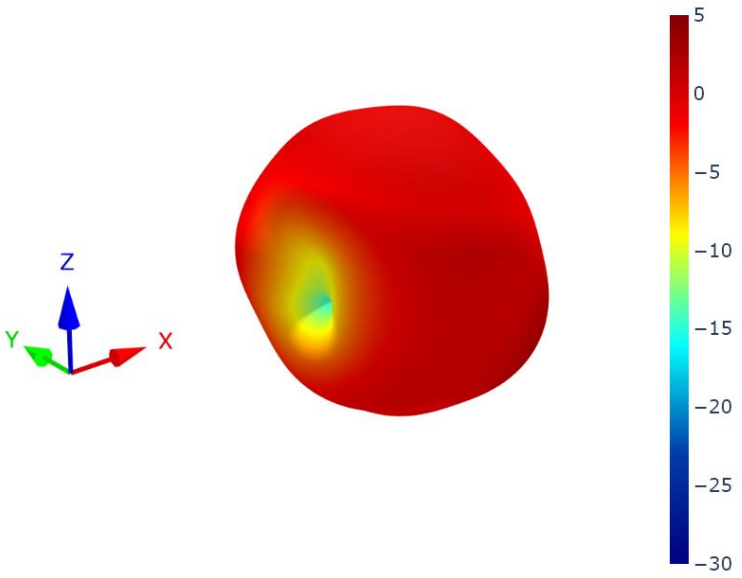
XZ Plane	YZ Plane	XY Plane
		

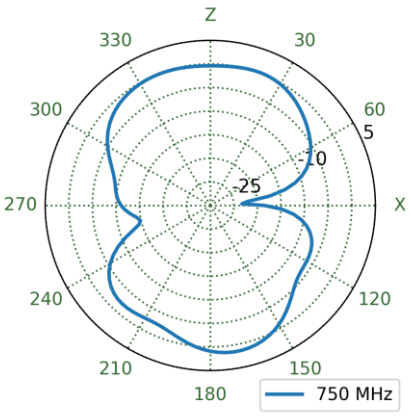
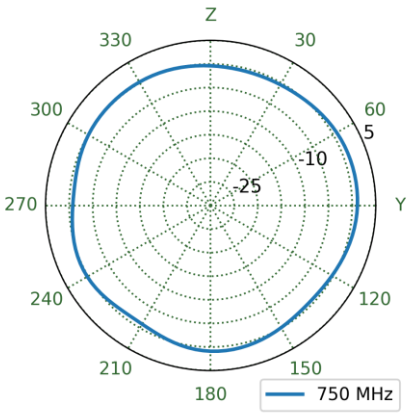
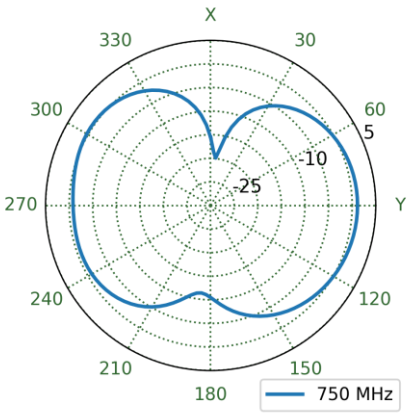
7.12 Straight Edge Ground Plane Patterns at 750 MHz



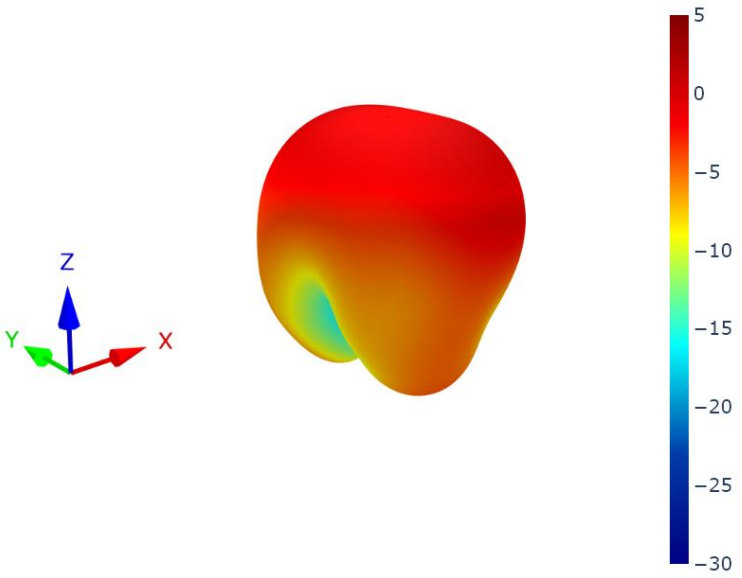
XZ Plane	YZ Plane	XY Plane
		

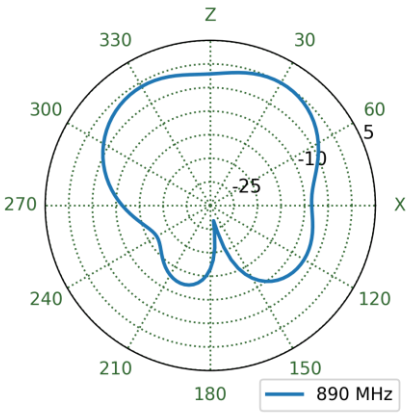
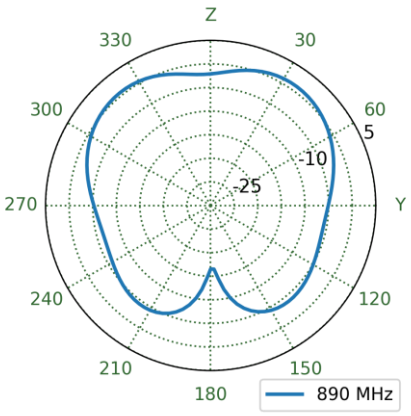
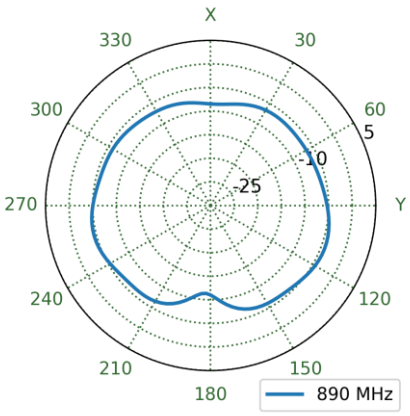
7.13 Straight Free Space Patterns at 750 MHz



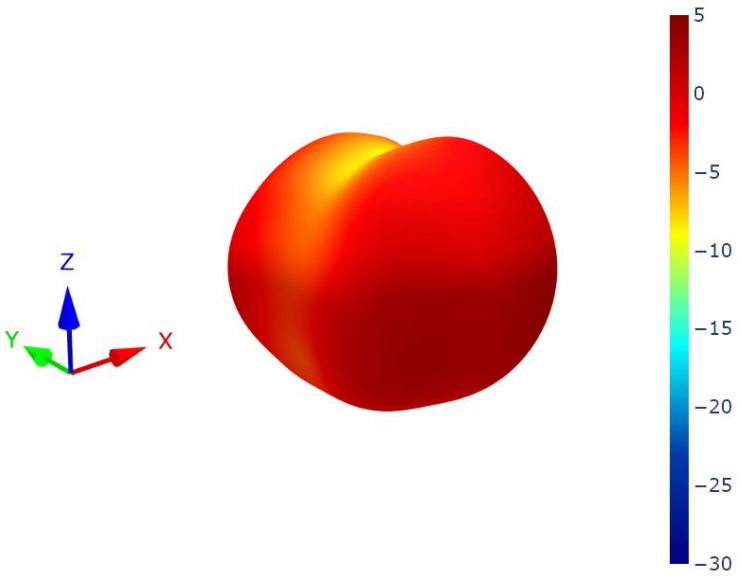
XZ Plane	YZ Plane	XY Plane
		

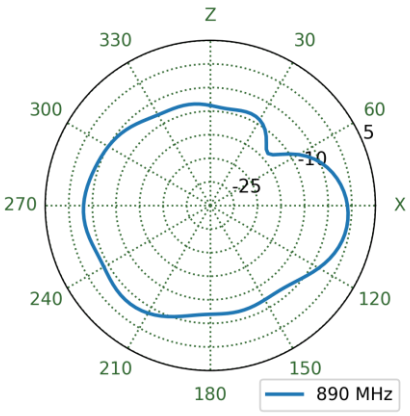
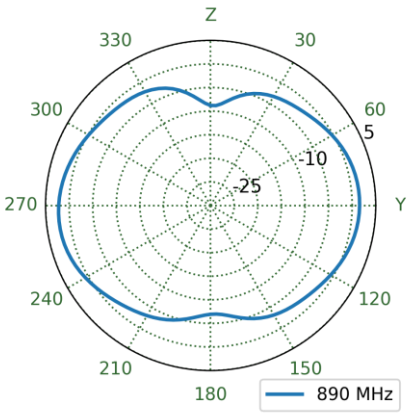
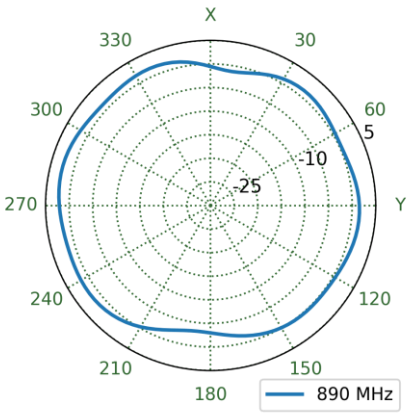
7.14 Bent Centre Ground Plane Patterns at 890 MHz



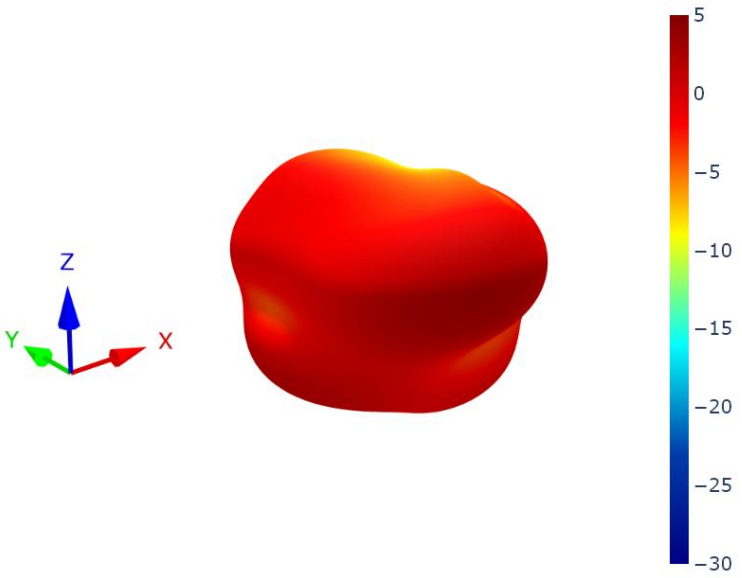
XZ Plane	YZ Plane	XY Plane
		

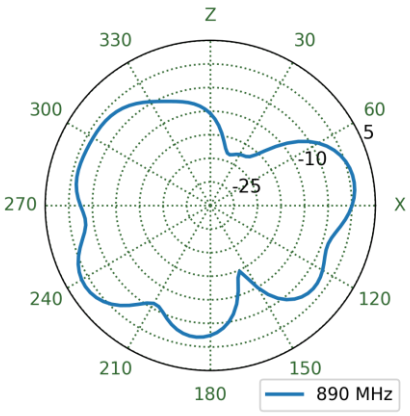
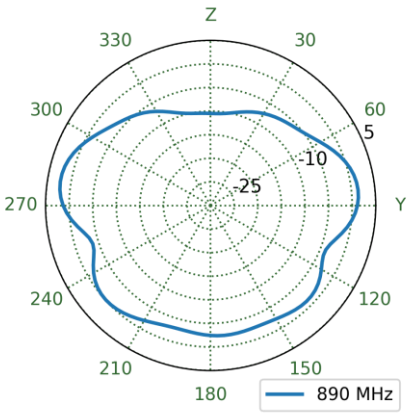
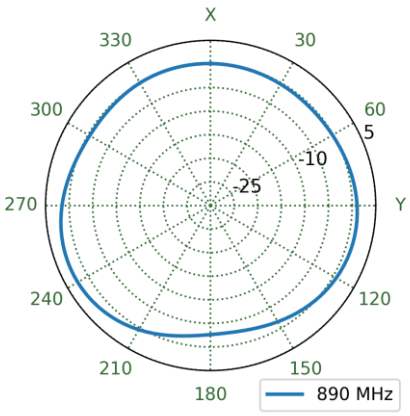
7.15 Bent Edge Ground Plane Patterns at 890 MHz



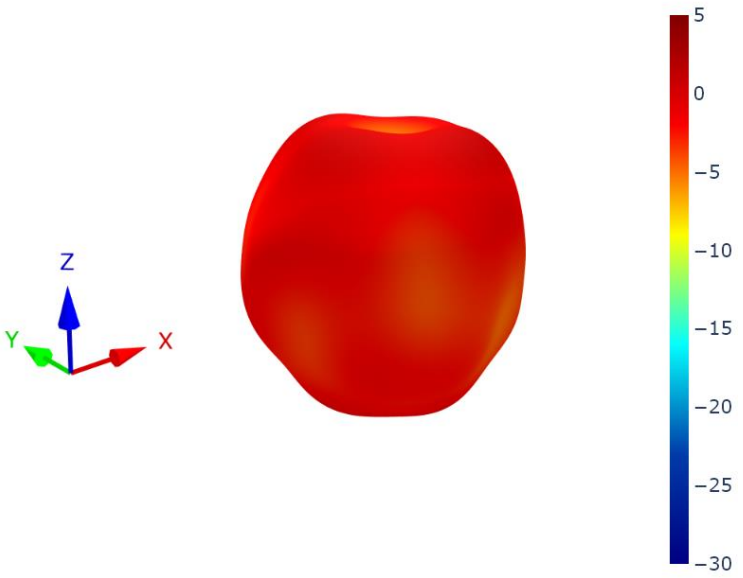
XZ Plane	YZ Plane	XY Plane
		

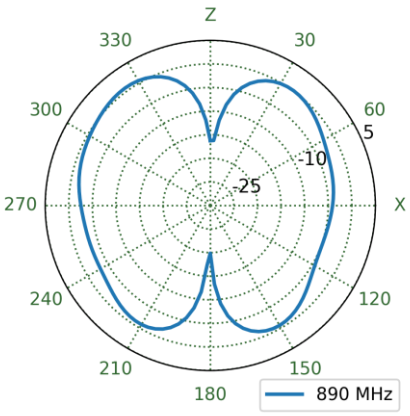
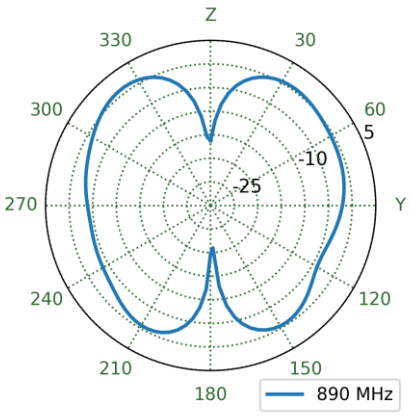
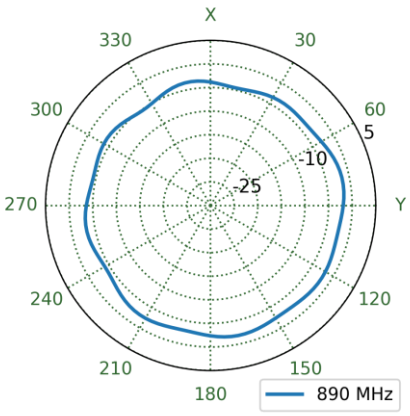
7.16 Bent Free Space Patterns at 890 MHz



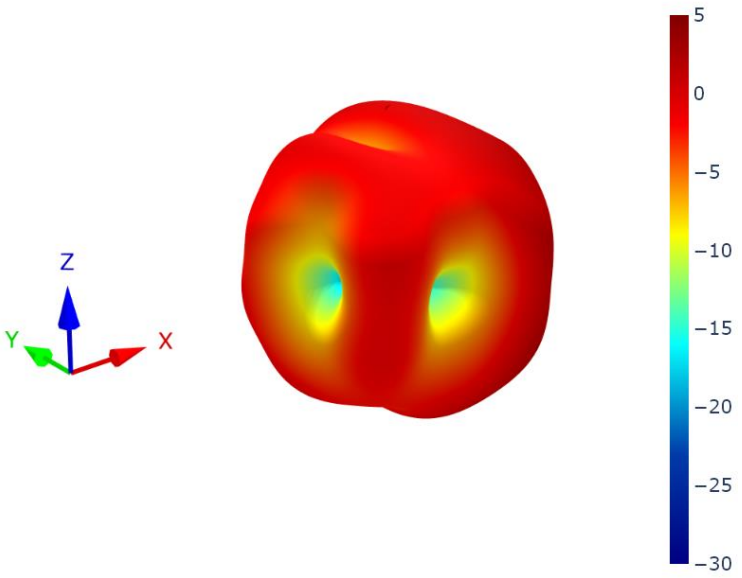
XZ Plane	YZ Plane	XY Plane
		

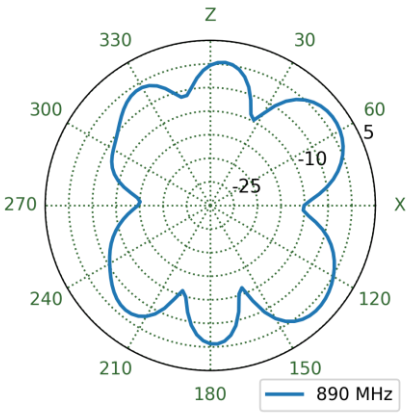
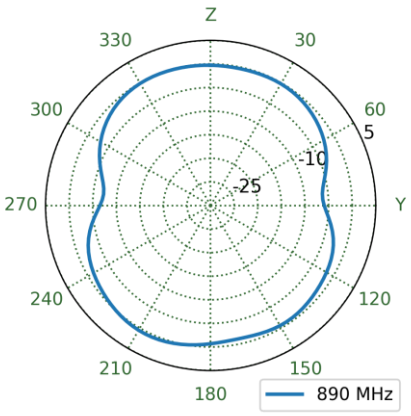
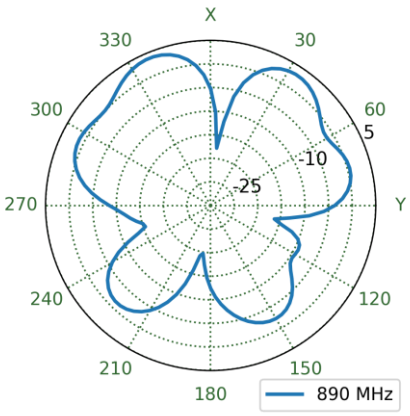
7.17 Straight Centre Ground Plane Patterns at 890 MHz



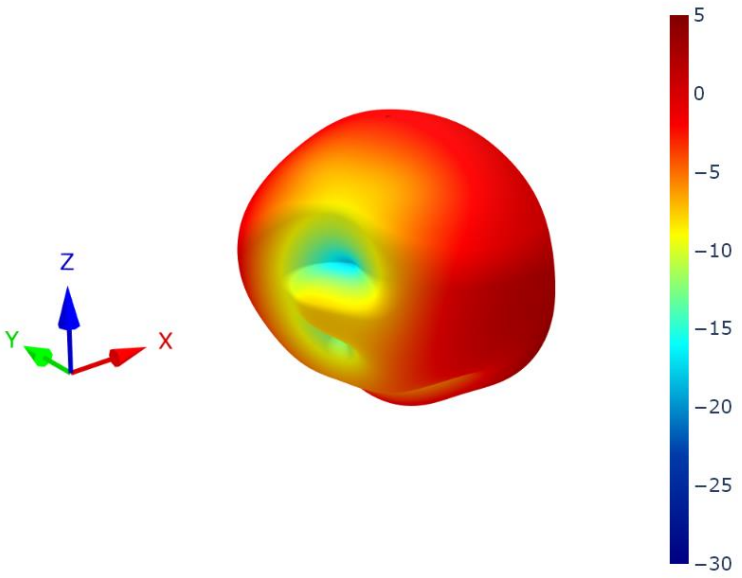
XZ Plane	YZ Plane	XY Plane
		

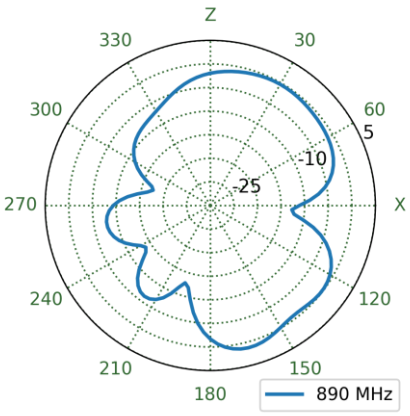
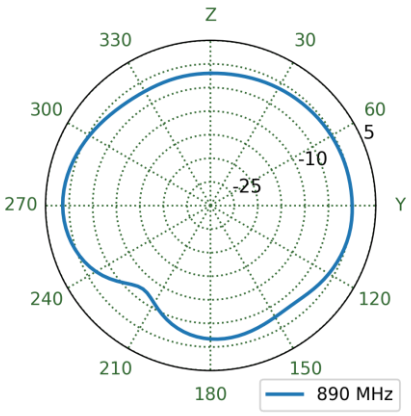
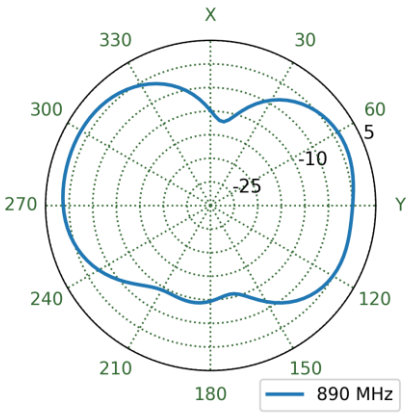
7.18 Straight Edge Ground Plane Patterns at 890 MHz



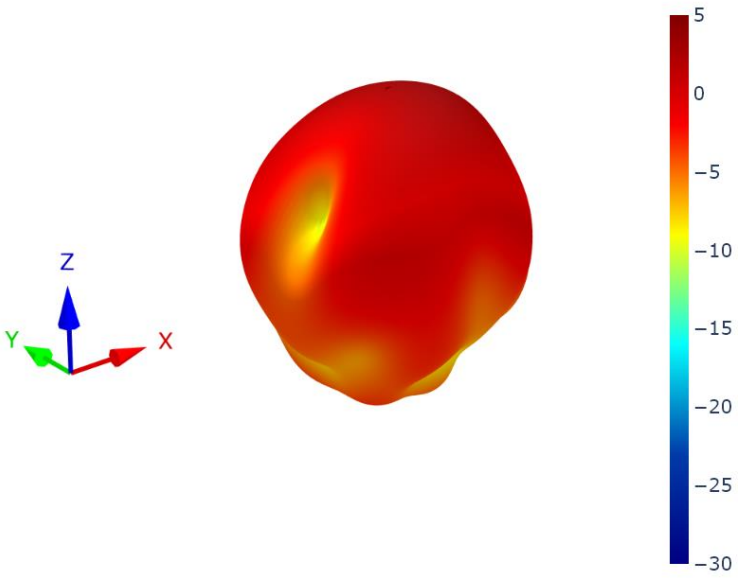
XZ Plane	YZ Plane	XY Plane
		

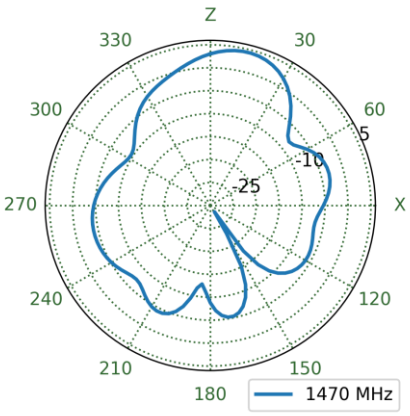
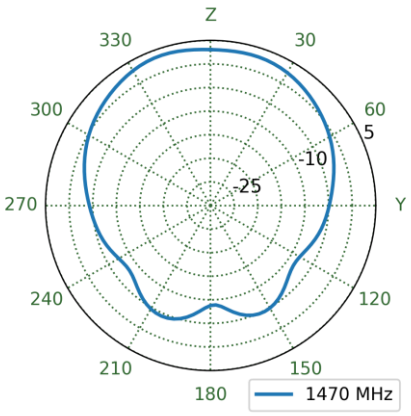
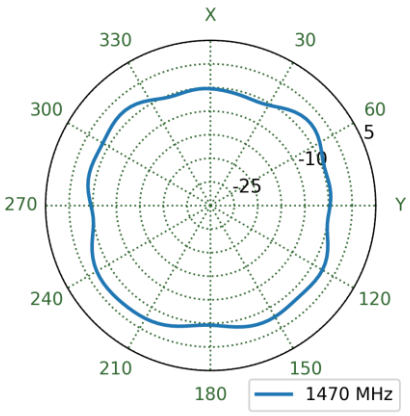
7.19 Straight Free Space Patterns at 890 MHz



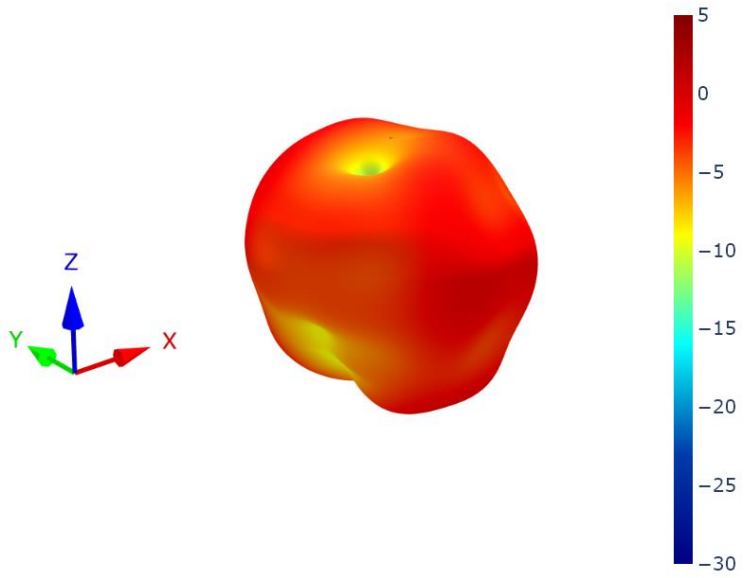
XZ Plane	YZ Plane	XY Plane
		

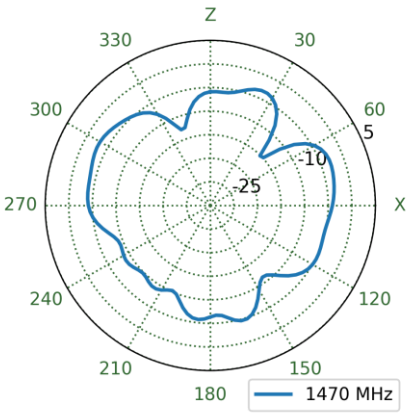
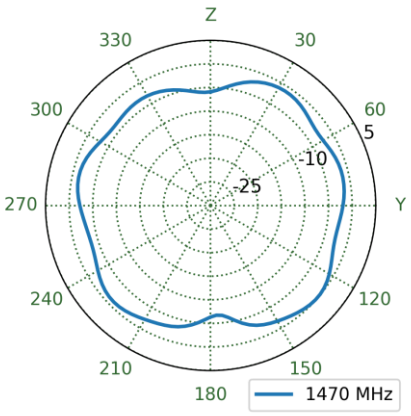
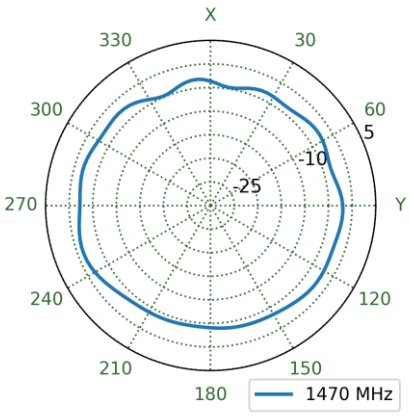
7.20 Bent Centre Ground Plane Patterns at 1475 MHz



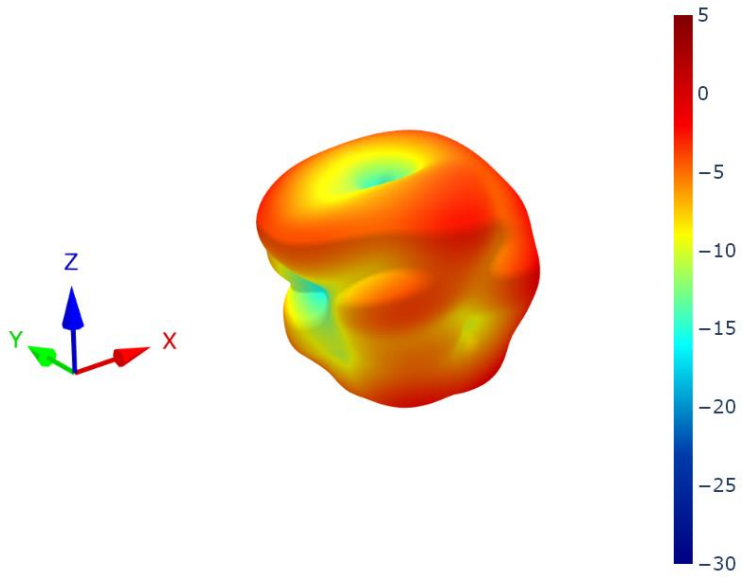
XZ Plane	YZ Plane	XY Plane
		

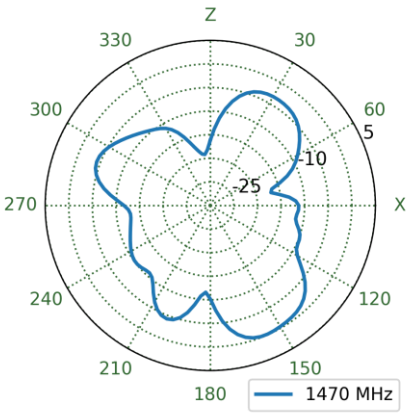
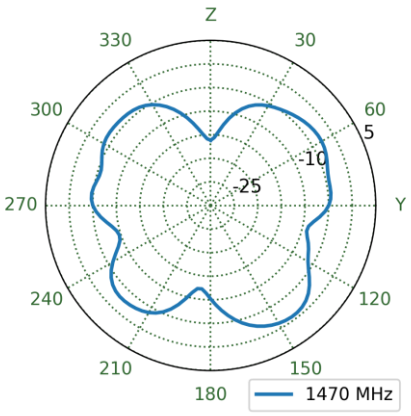
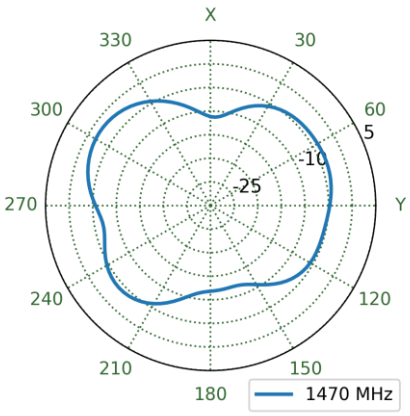
7.21 Bent Edge Ground Plane Patterns at 1475 MHz



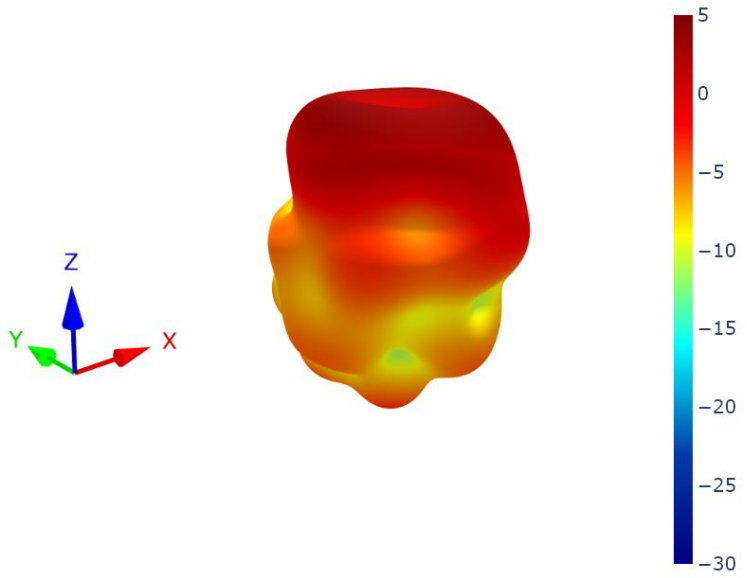
XZ Plane	YZ Plane	XY Plane
		

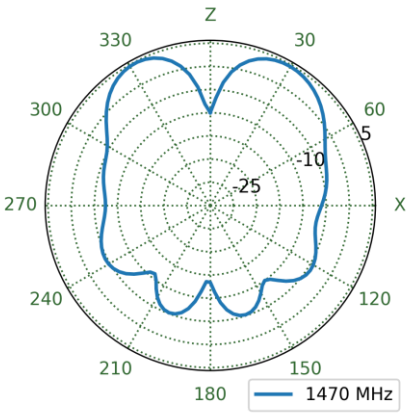
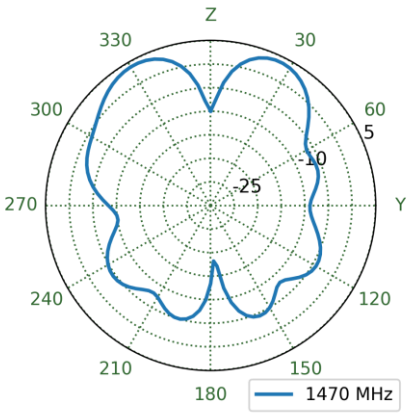
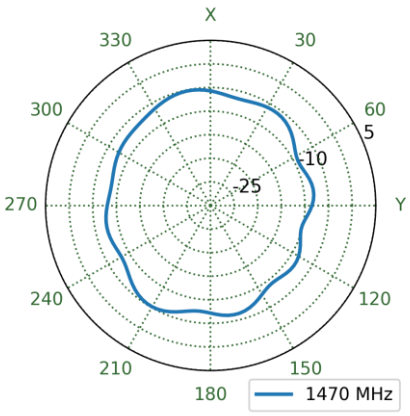
7.22 Bent Free Space Patterns at 1475 MHz



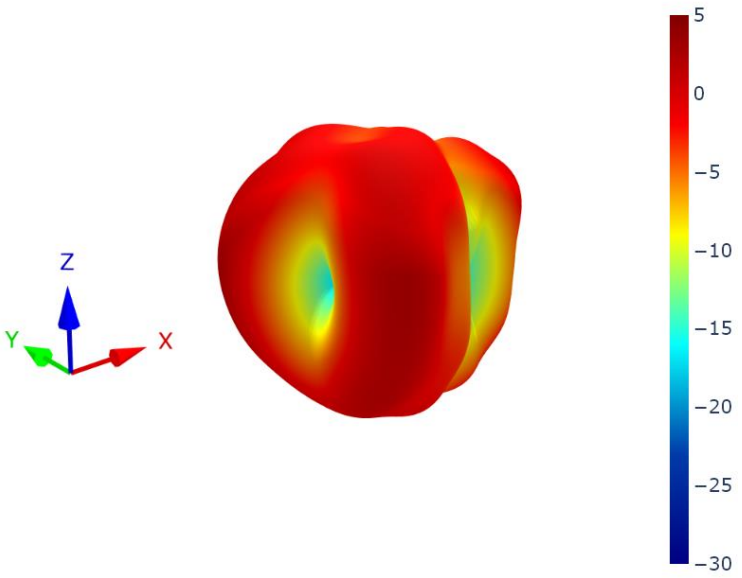
XZ Plane	YZ Plane	XY Plane
		

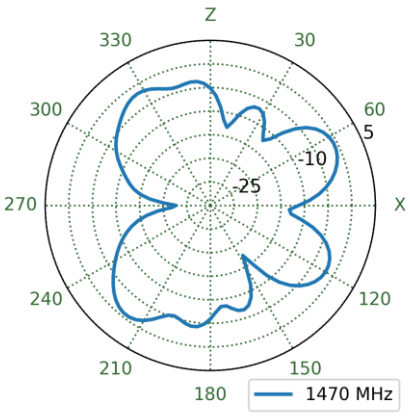
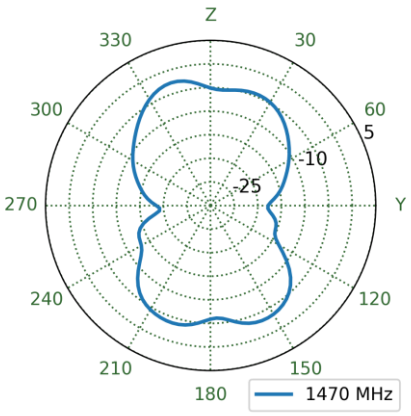
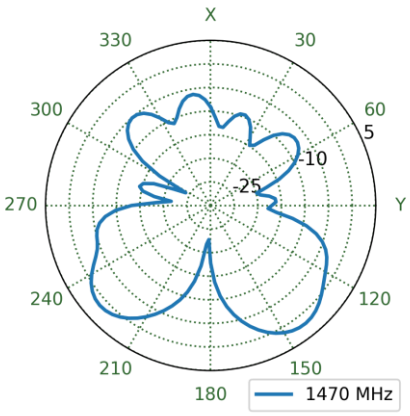
7.23 Straight Centre Ground Plane Patterns at 1475 MHz



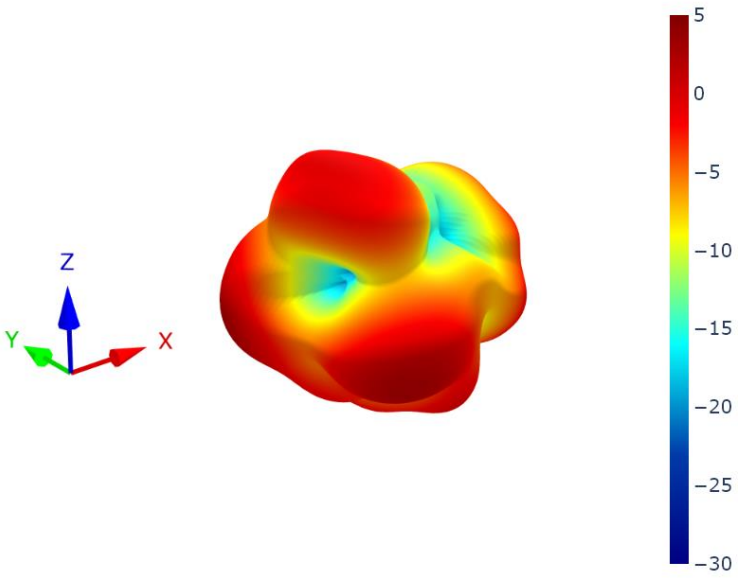
XZ Plane	YZ Plane	XY Plane
		

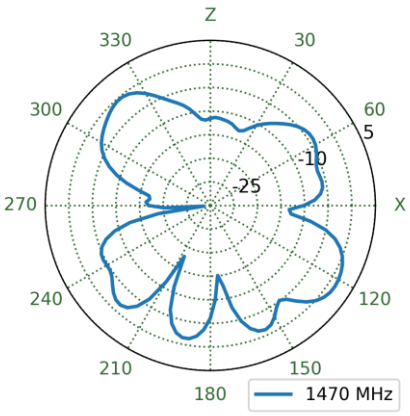
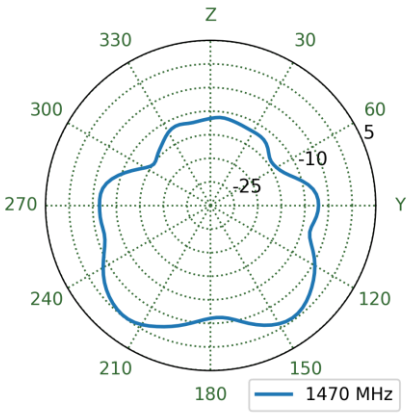
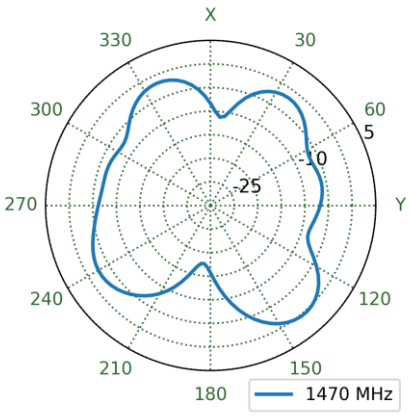
7.24 Straight Edge Ground Plane Patterns at 1475 MHz



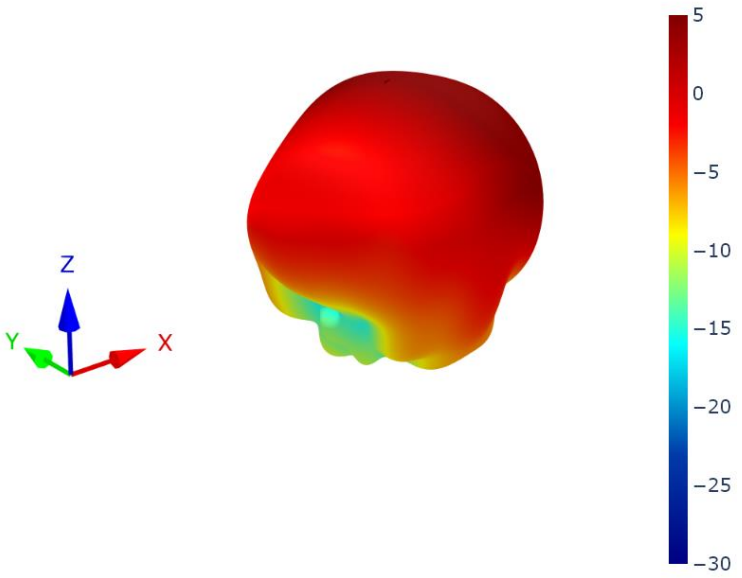
XZ Plane	YZ Plane	XY Plane
		

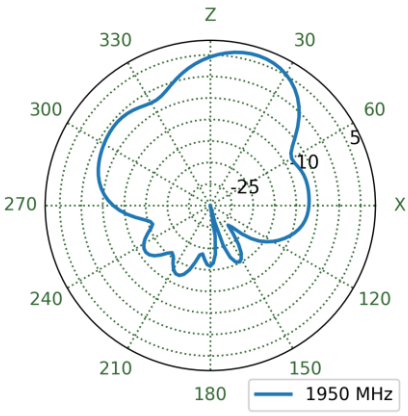
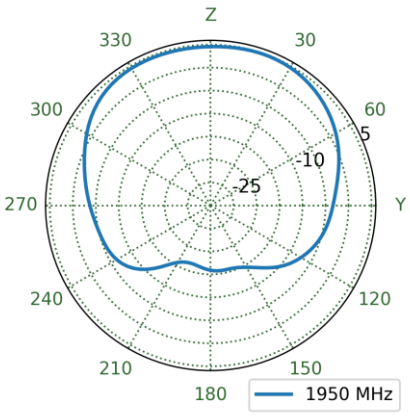
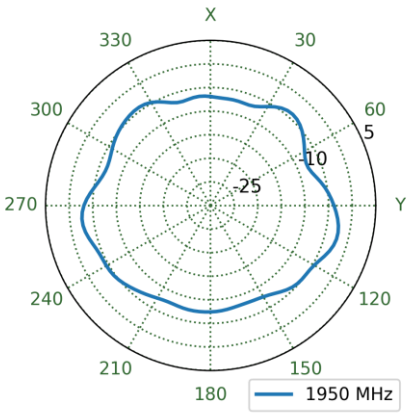
7.25 Straight Free Space Patterns at 1475 MHz



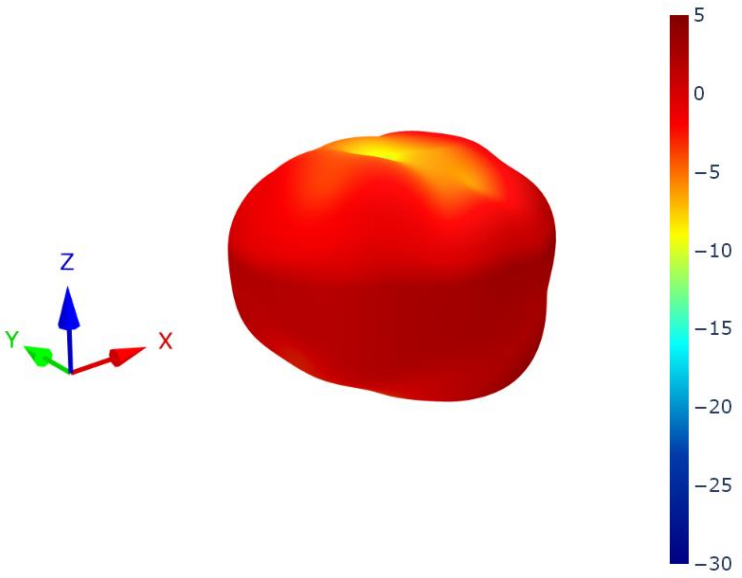
XZ Plane	YZ Plane	XY Plane
		

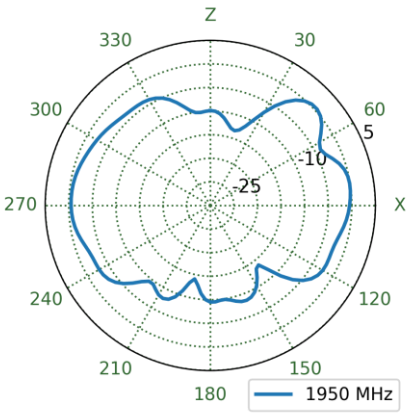
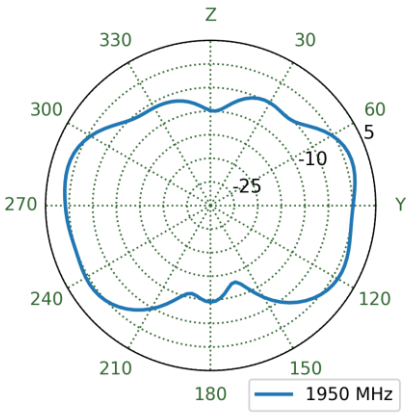
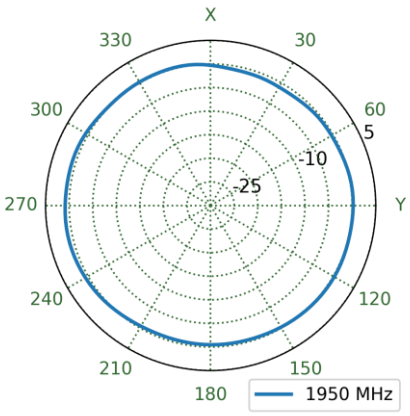
7.26 Bent Centre Ground Plane Patterns at 1955 MHz



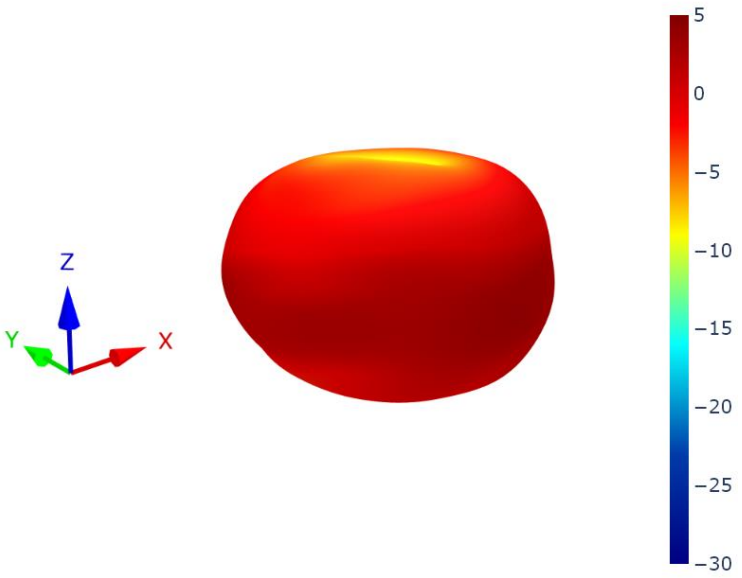
XZ Plane	YZ Plane	XY Plane
		

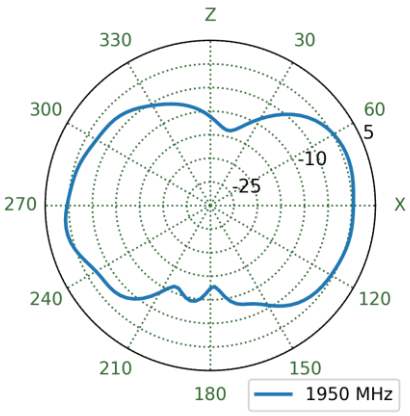
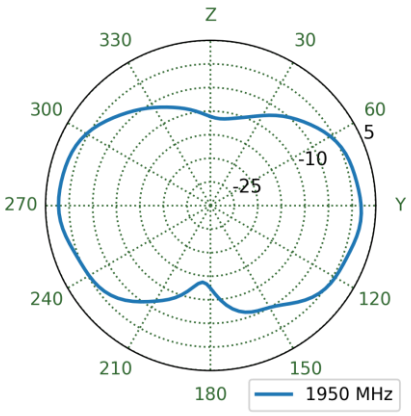
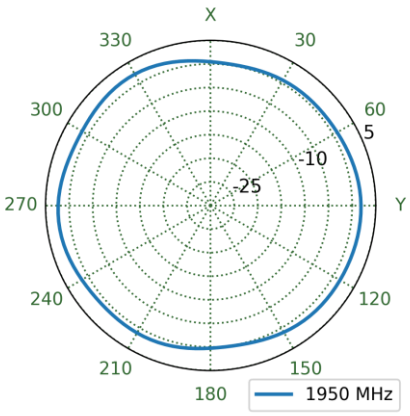
7.27 Bent Edge Ground Plane Patterns at 1955 MHz



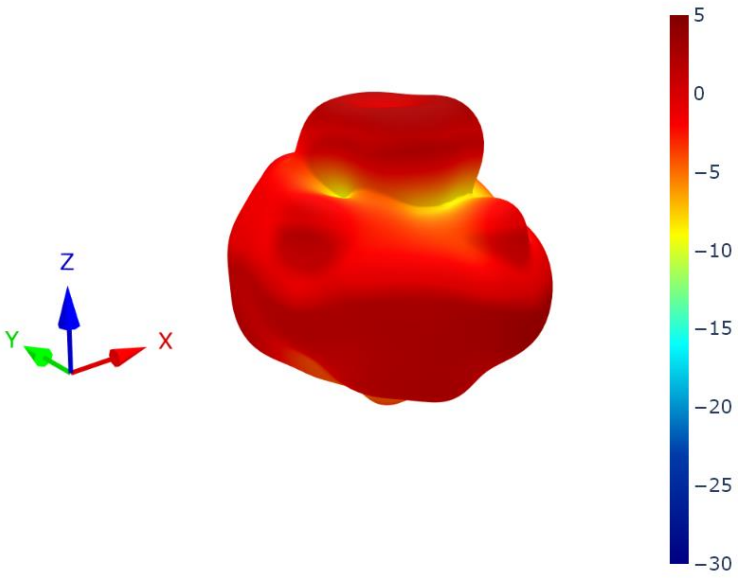
XZ Plane	YZ Plane	XY Plane
		

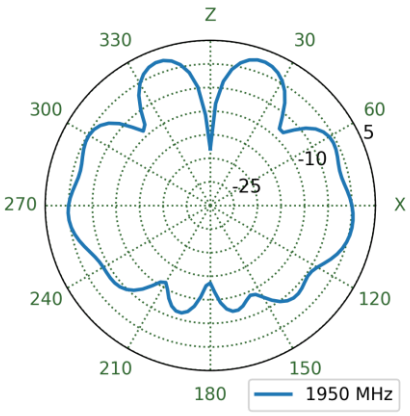
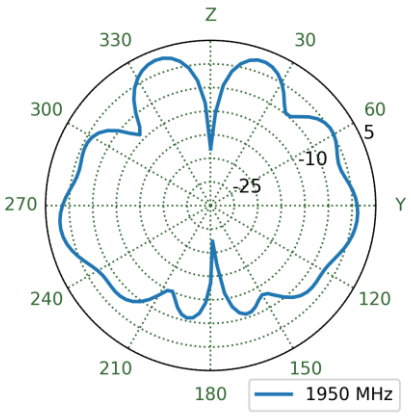
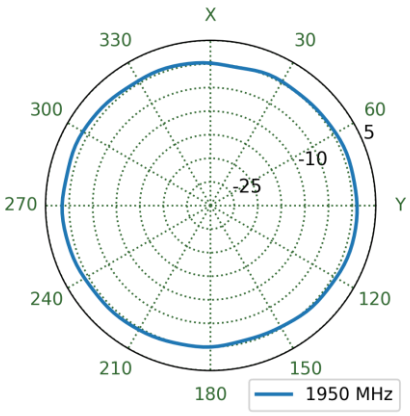
7.28 Bent Free Space Patterns at 1955 MHz



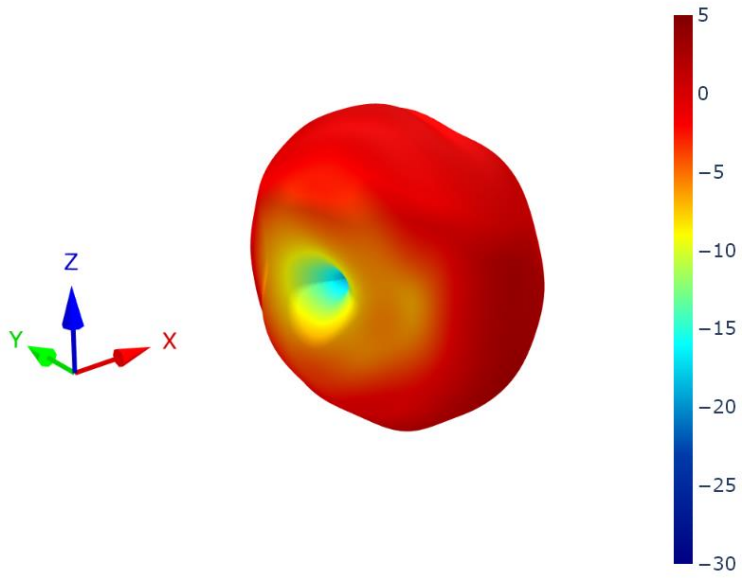
XZ Plane	YZ Plane	XY Plane
		

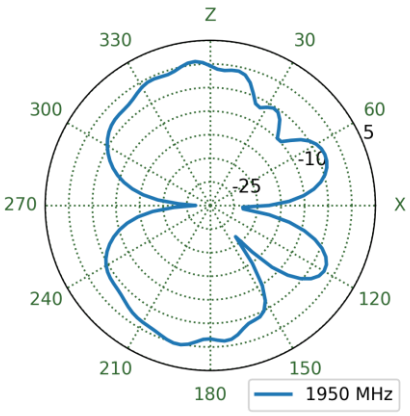
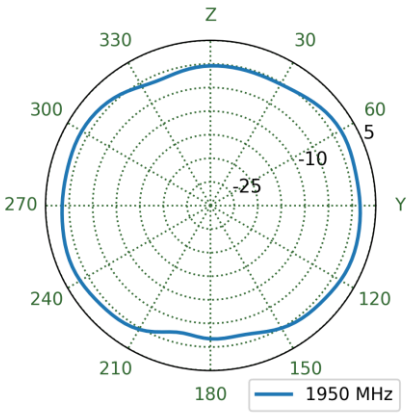
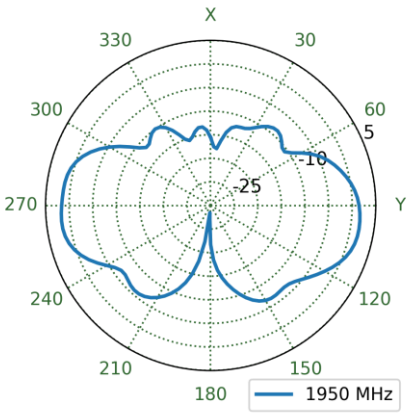
7.29 Straight Centre Ground Plane Patterns at 1955 MHz



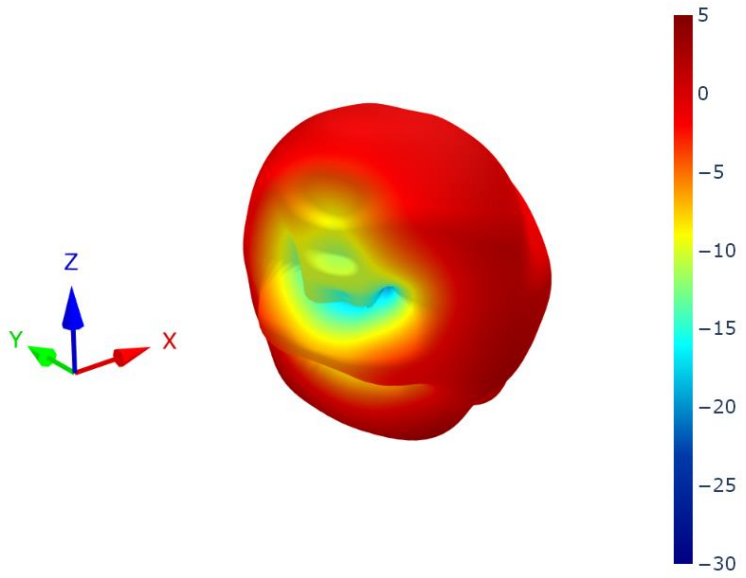
XZ Plane	YZ Plane	XY Plane
		

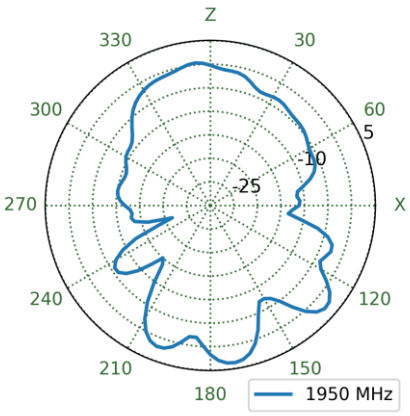
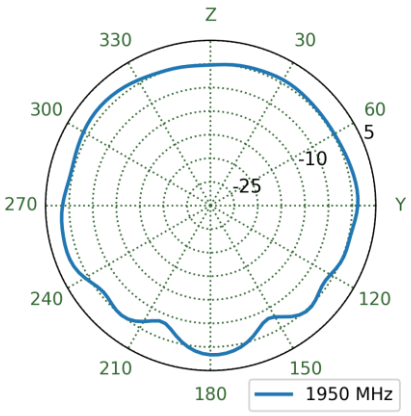
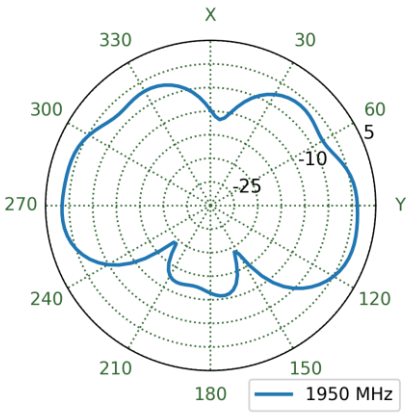
7.30 Straight Edge Ground Plane Patterns at 1955 MHz



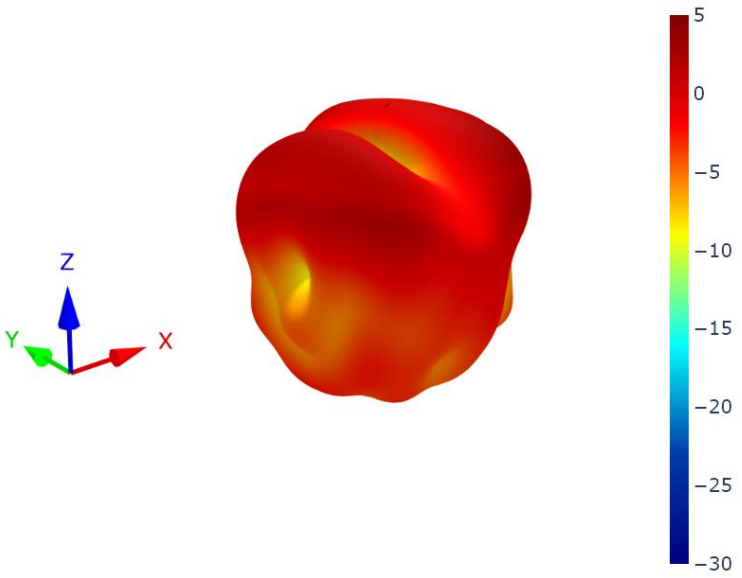
XZ Plane	YZ Plane	XY Plane
		

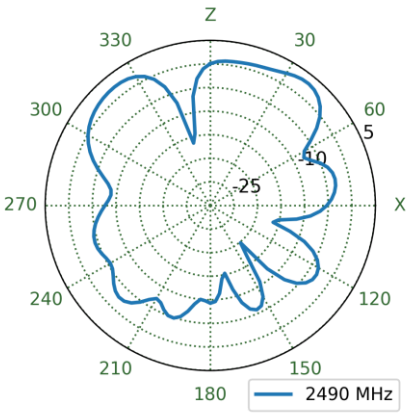
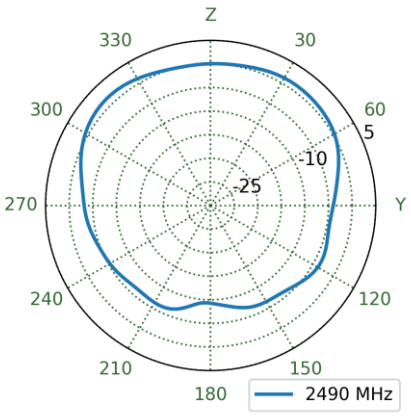
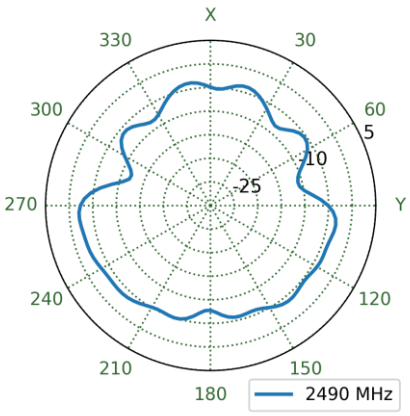
7.31 Straight Free Space Patterns at 1955 MHz



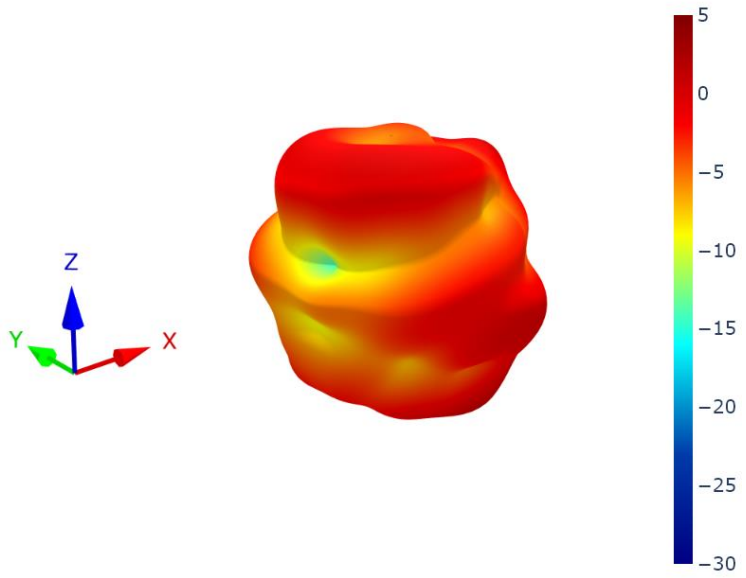
XZ Plane	YZ Plane	XY Plane
		

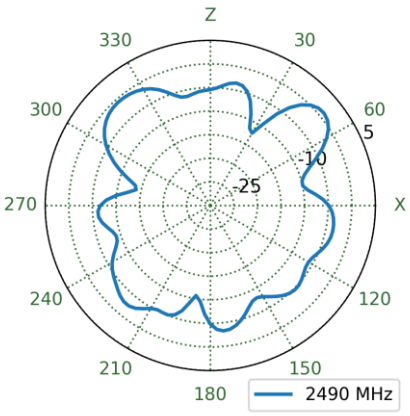
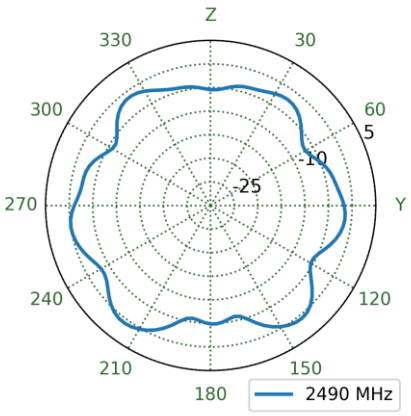
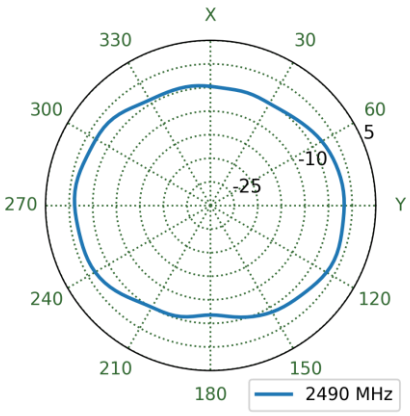
7.32 Bent Centre Ground Plane Patterns at 2495 MHz



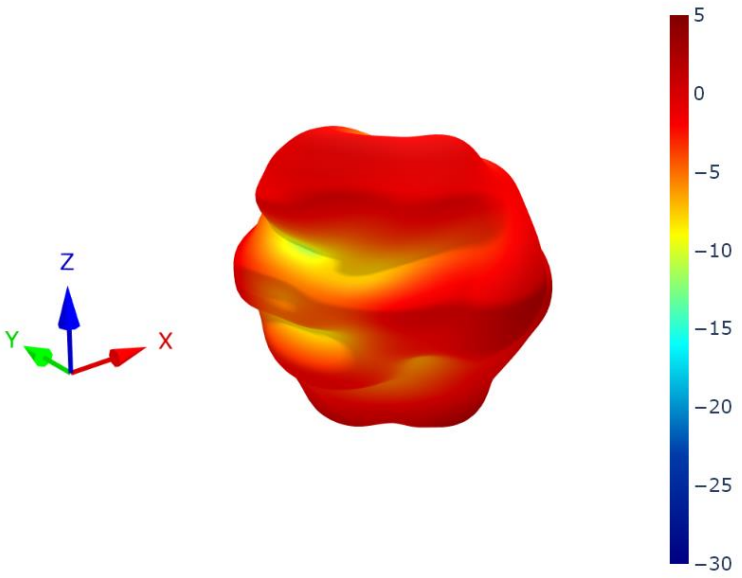
XZ Plane	YZ Plane	XY Plane
		

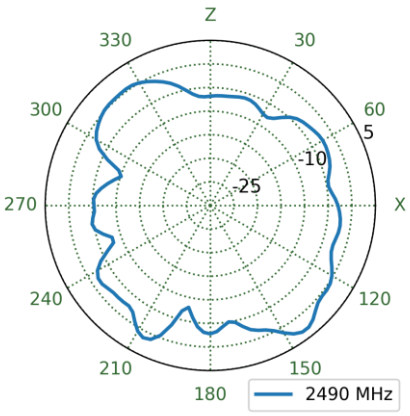
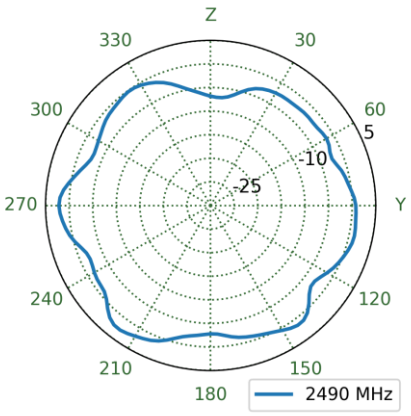
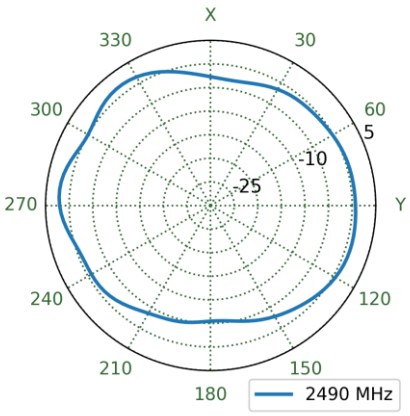
7.33 Bent Edge Ground Plane Patterns at 2495 MHz



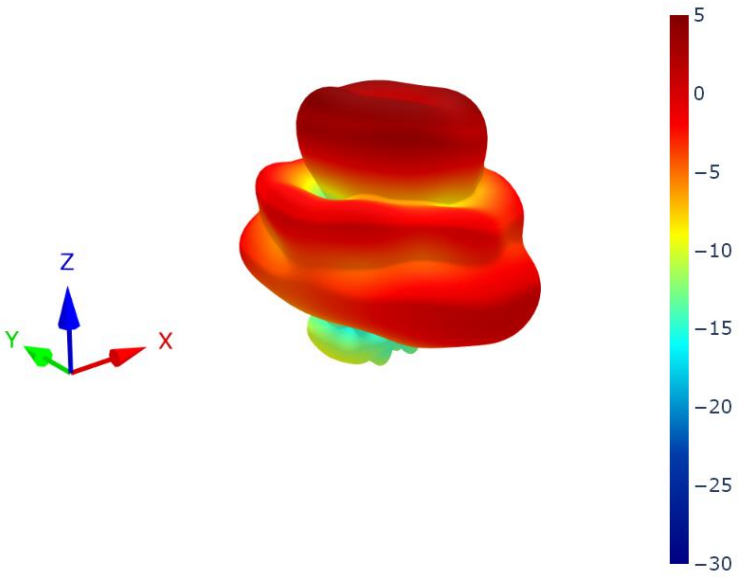
XZ Plane	YZ Plane	XY Plane
		

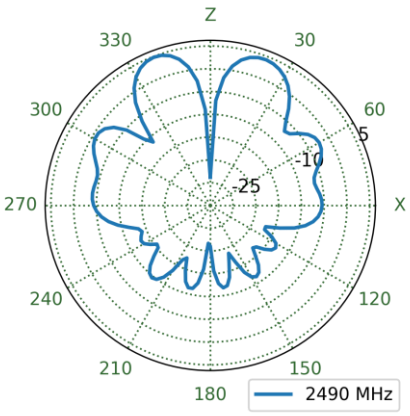
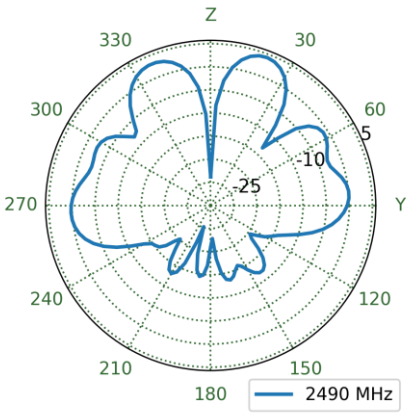
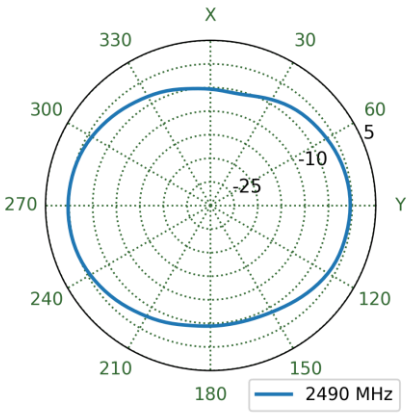
7.34 Bent Free Space Patterns at 2495 MHz



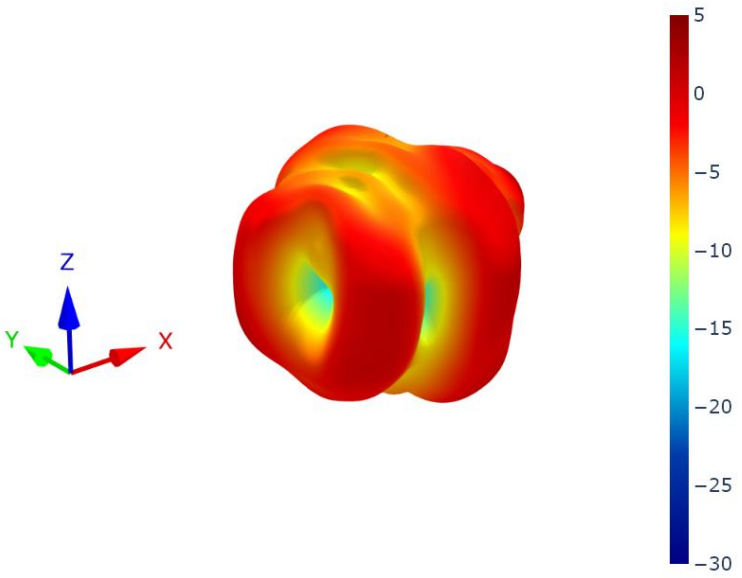
XZ Plane	YZ Plane	XY Plane
		

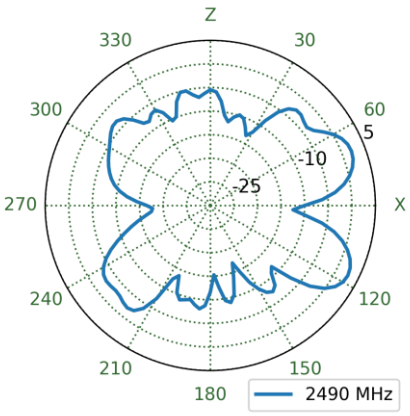
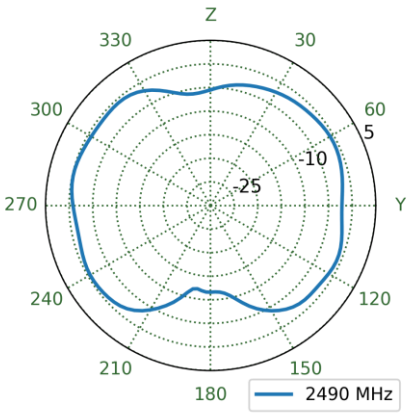
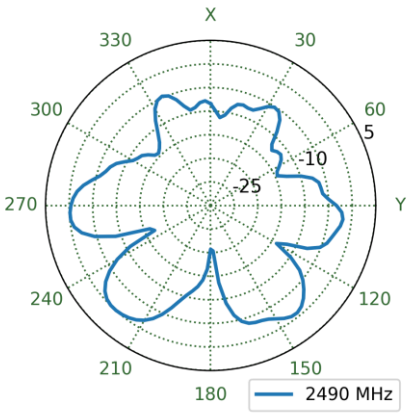
7.35 Straight Centre Ground Plane Patterns at 2495 MHz



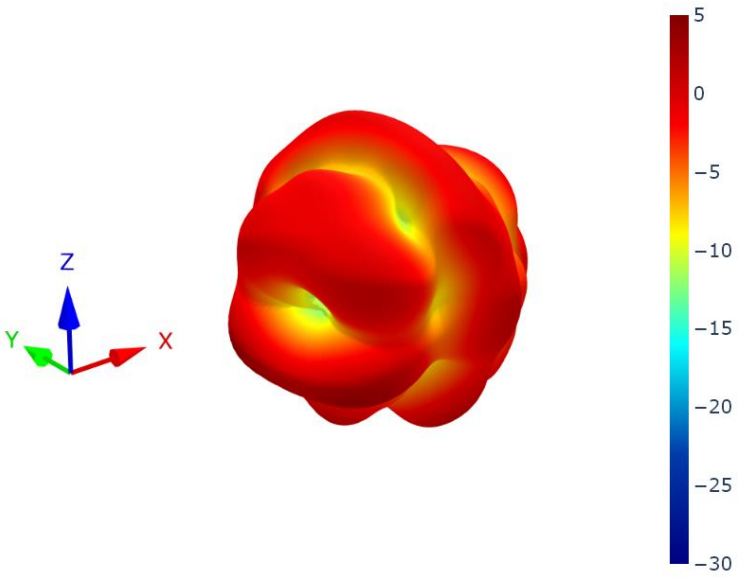
XZ Plane	YZ Plane	XY Plane
		

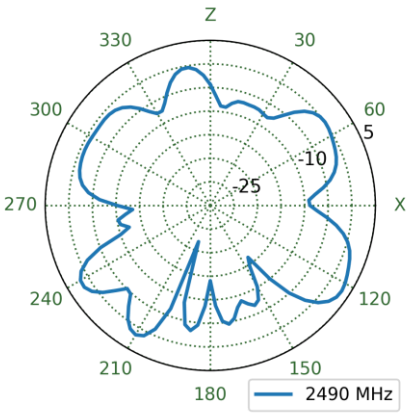
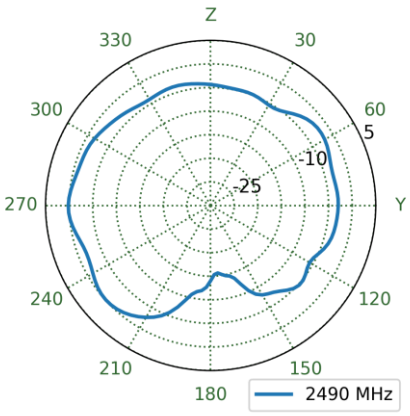
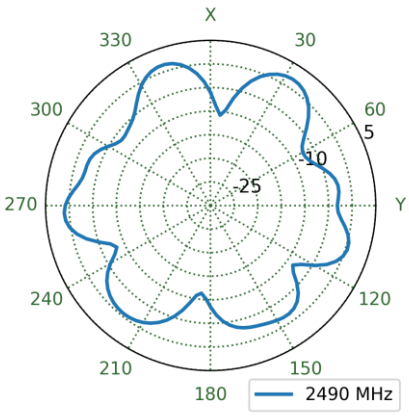
7.36 Straight Edge Ground Plane Patterns at 2495 MHz



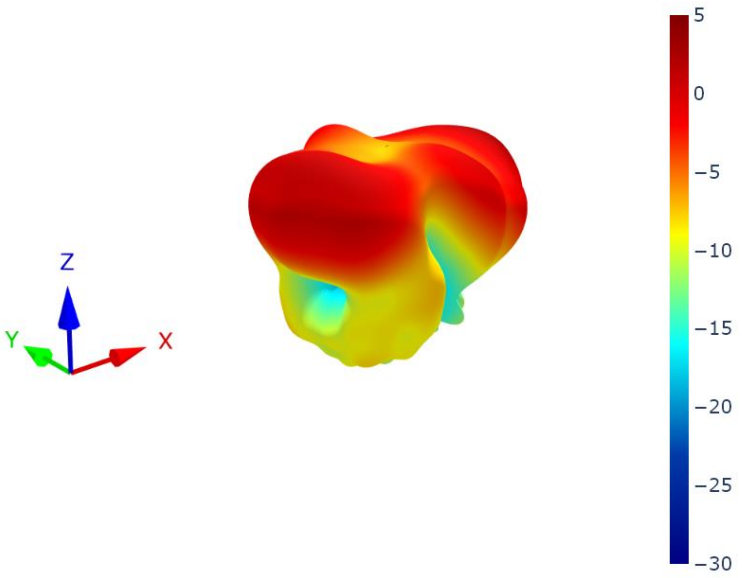
XZ Plane	YZ Plane	XY Plane
		

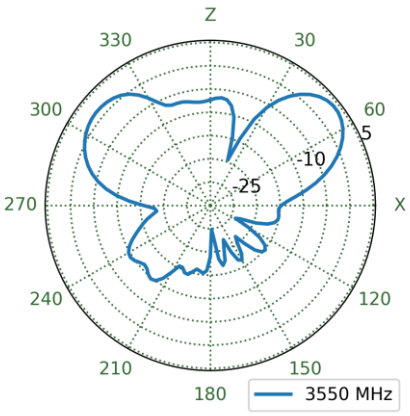
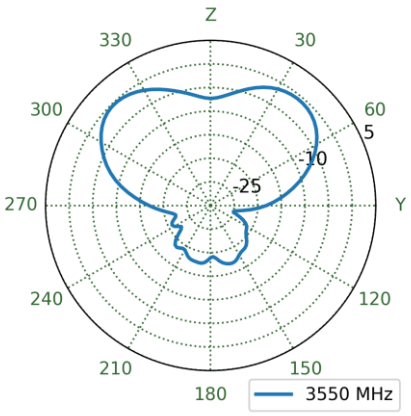
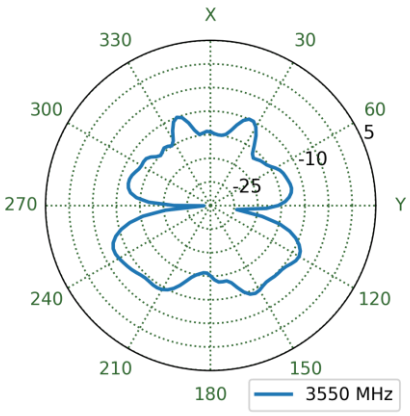
7.37 Straight Free Space Patterns at 2495 MHz



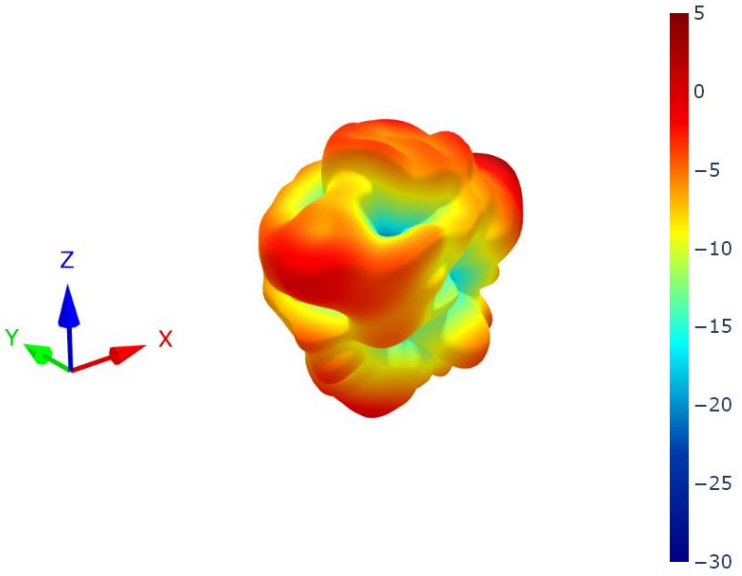
XZ Plane	YZ Plane	XY Plane
		

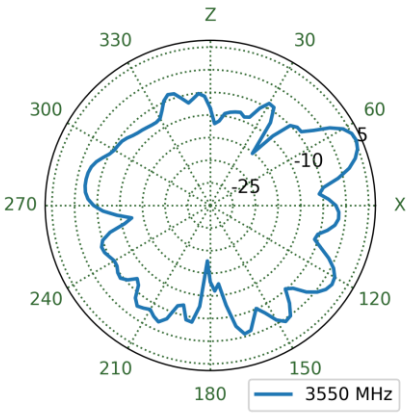
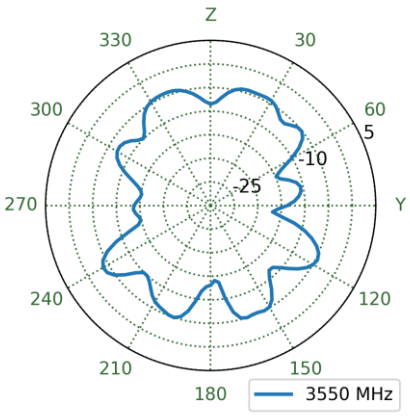
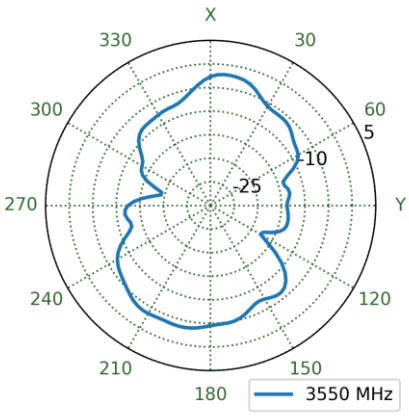
7.38 Bent Centre Ground Plane Patterns at 3550 MHz



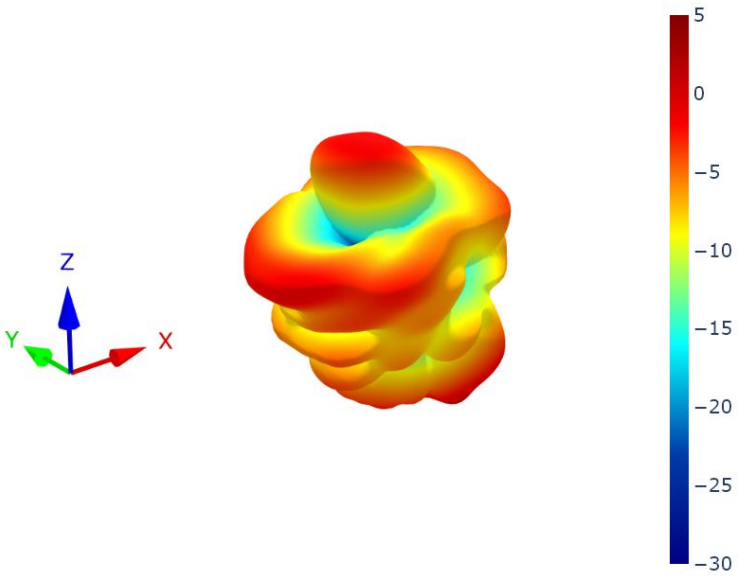
XZ Plane	YZ Plane	XY Plane
		

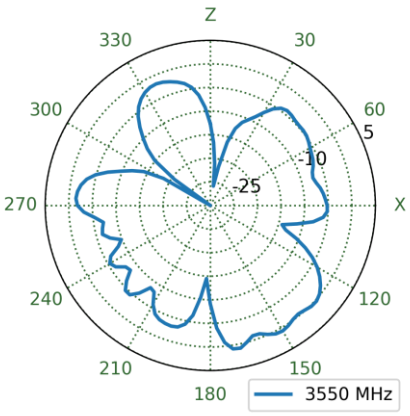
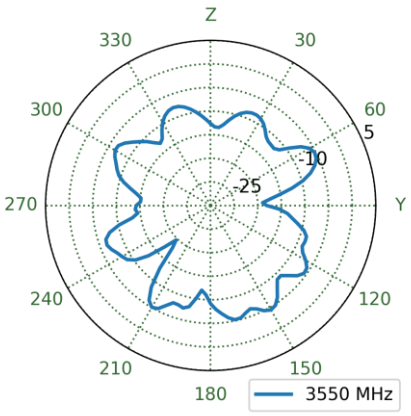
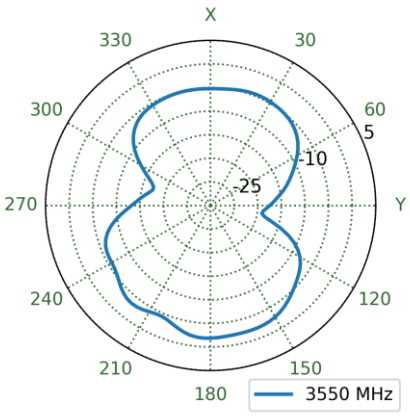
7.39 Bent Edge Ground Plane Patterns at 3550 MHz



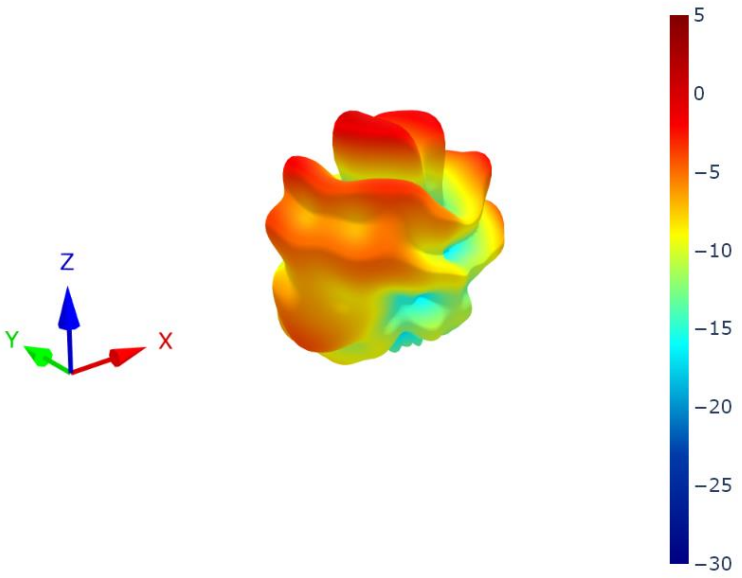
XZ Plane	YZ Plane	XY Plane
		

7.40 Bent Free Space Patterns at 3550 MHz

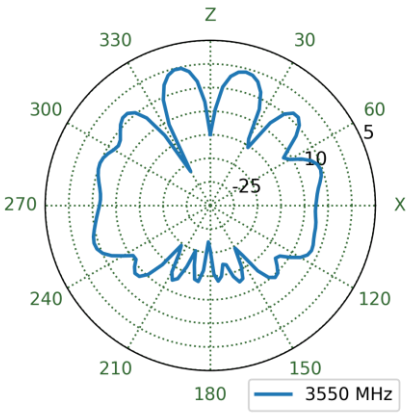


XZ Plane	YZ Plane	XY Plane
		

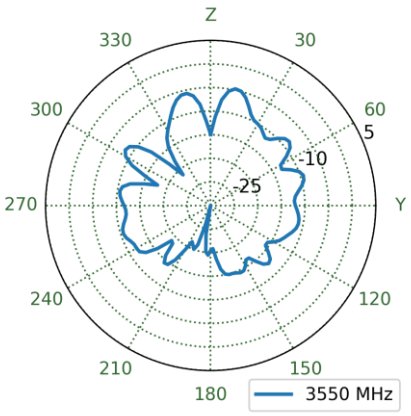
7.41 Straight Centre Ground Plane Patterns at 3550 MHz



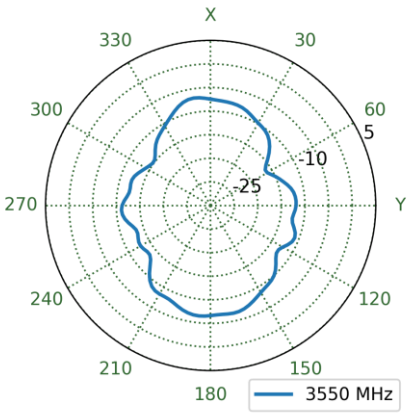
XZ Plane



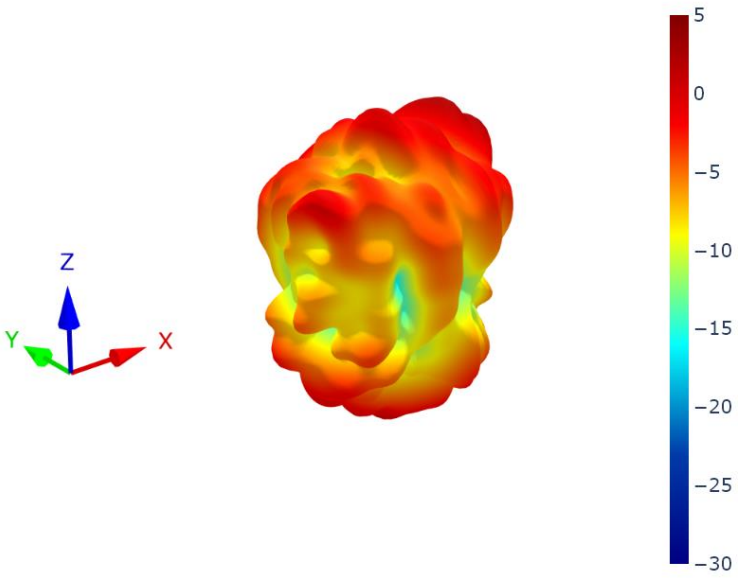
YZ Plane

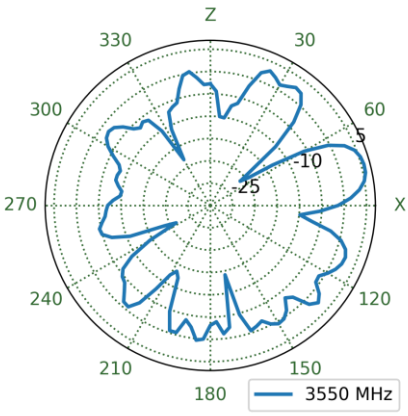
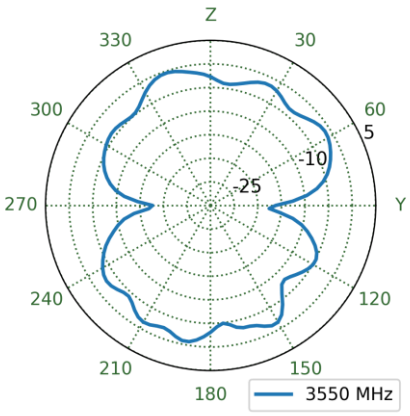
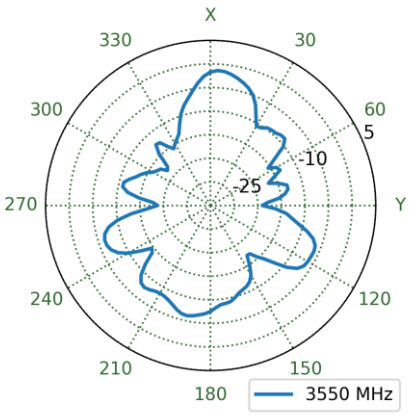


XY Plane

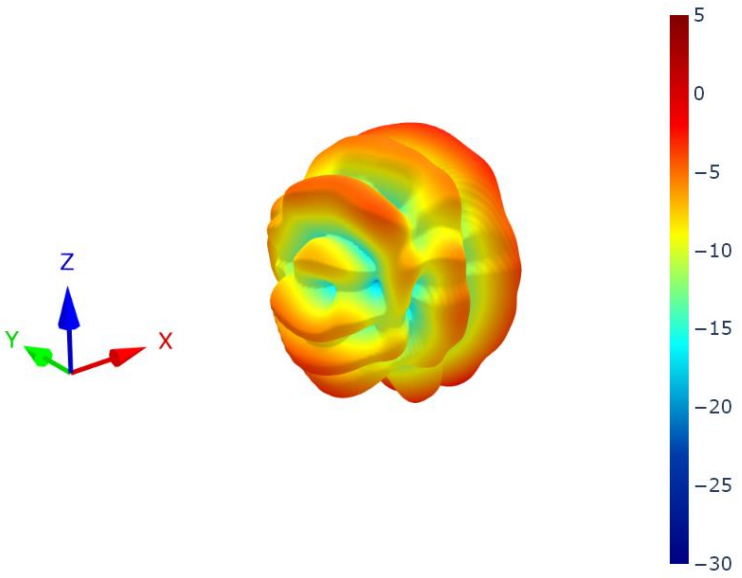


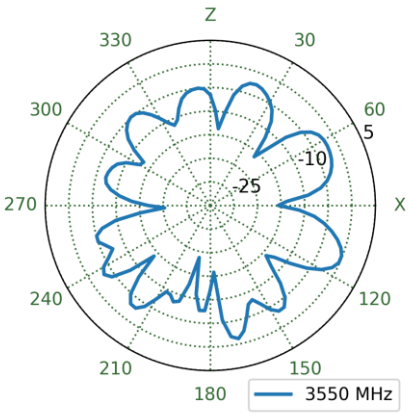
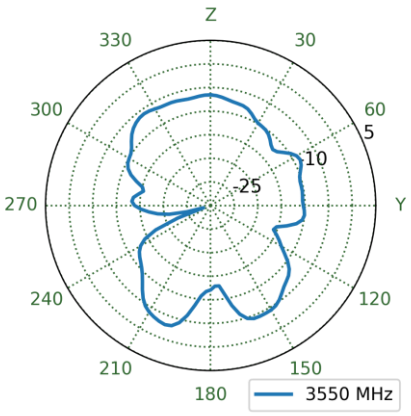
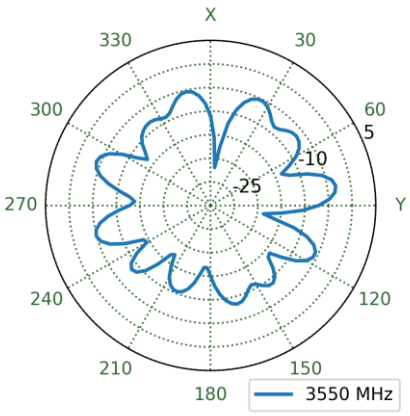
7.42 Straight Edge Ground Plane Patterns at 3550 MHz



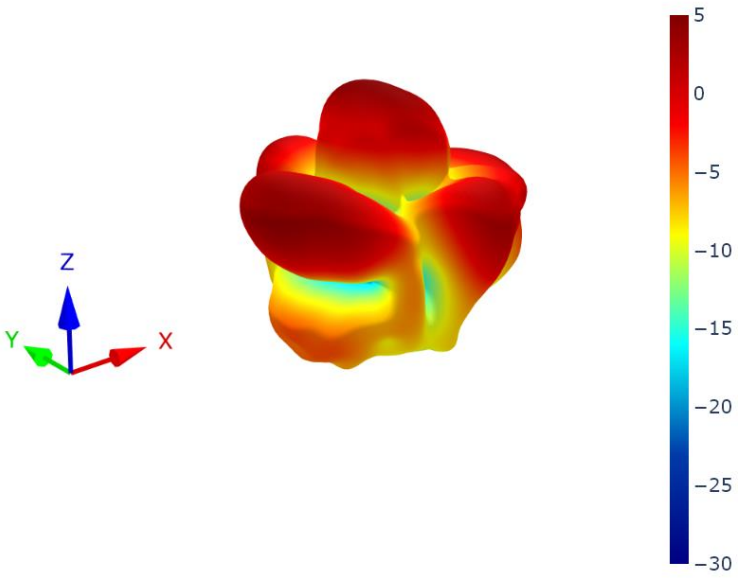
XZ Plane	YZ Plane	XY Plane
		

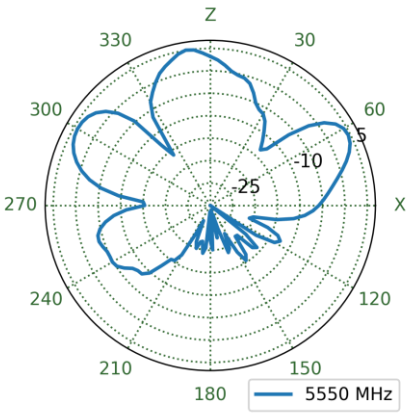
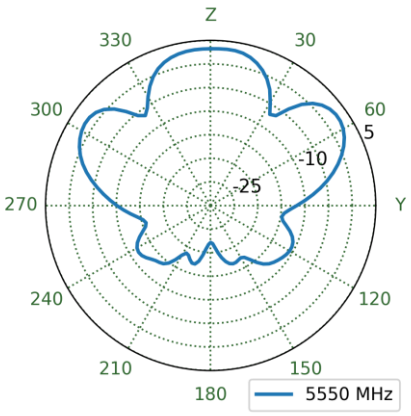
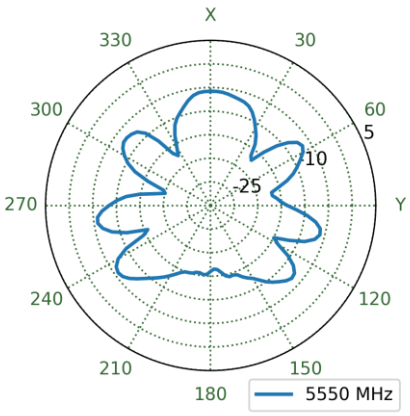
7.43 Straight Free Space Patterns at 3550 MHz



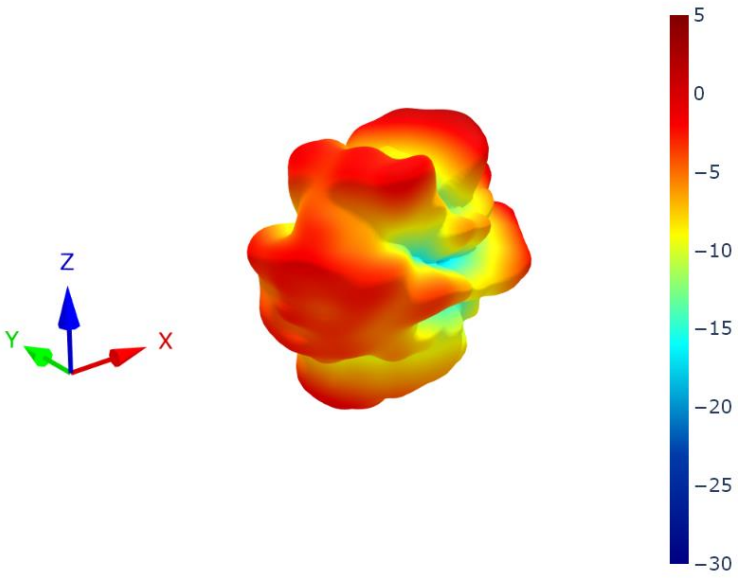
XZ Plane	YZ Plane	XY Plane
		

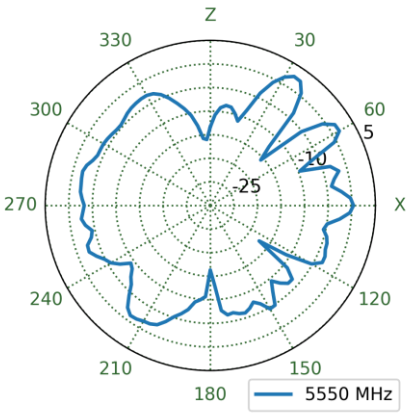
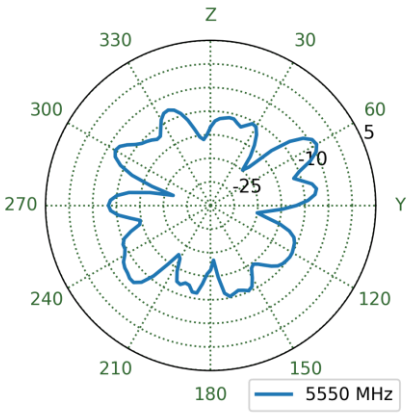
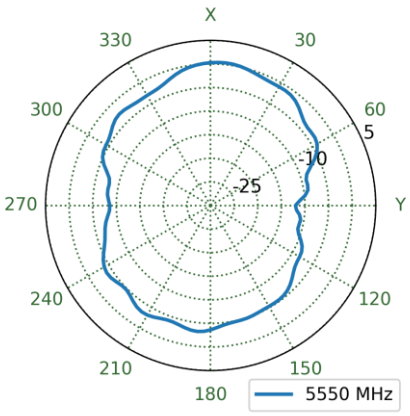
7.44 Bent Centre Ground Plane Patterns at 5550 MHz



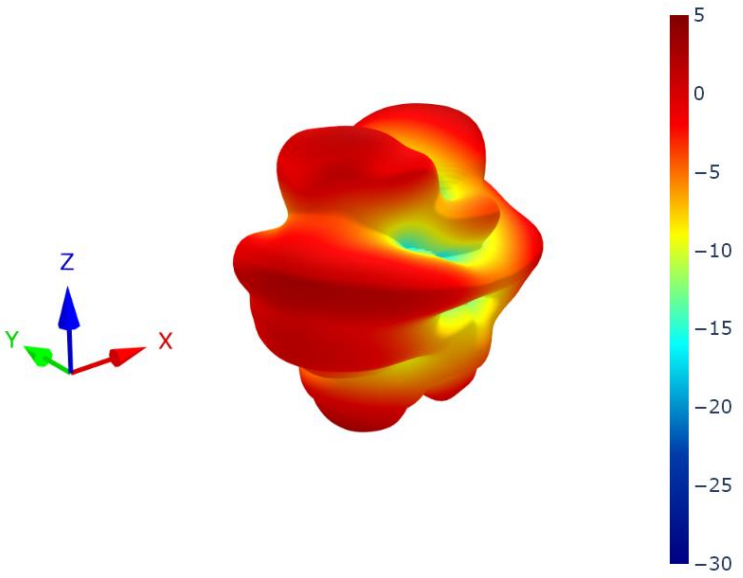
XZ Plane	YZ Plane	XY Plane
		

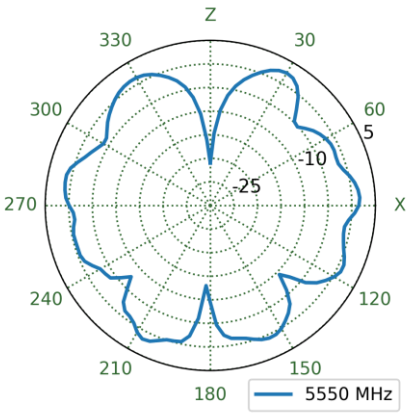
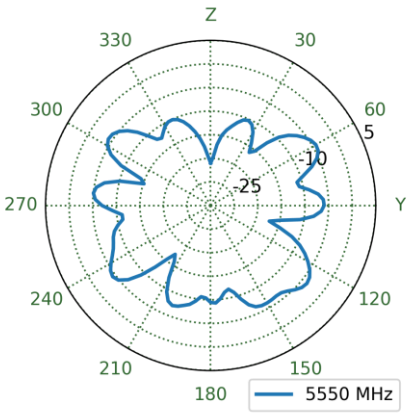
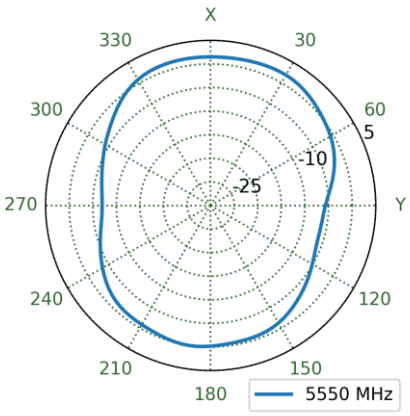
7.45 Bent Edge Ground Plane Patterns at 5550 MHz



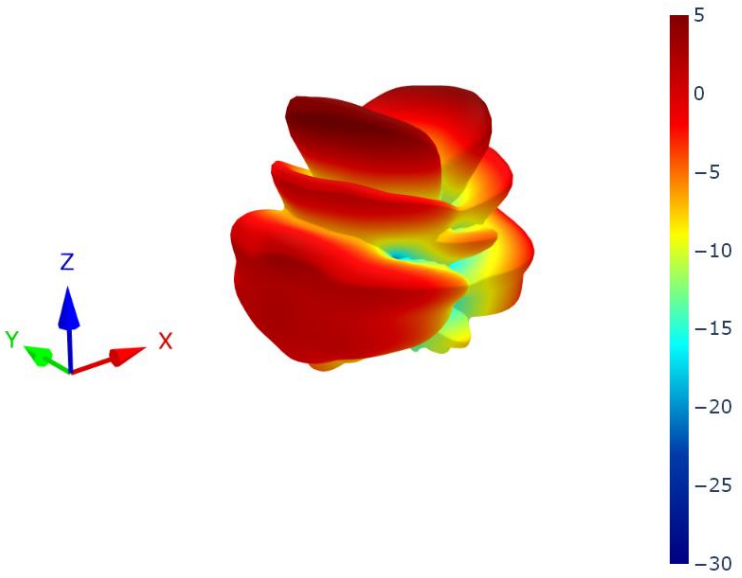
XZ Plane	YZ Plane	XY Plane
		

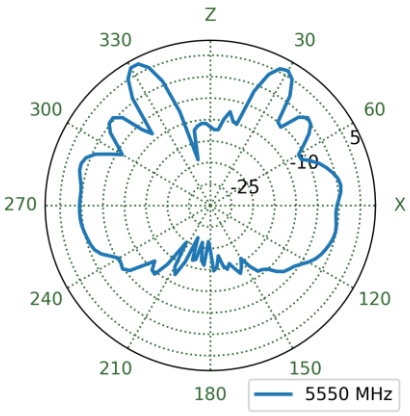
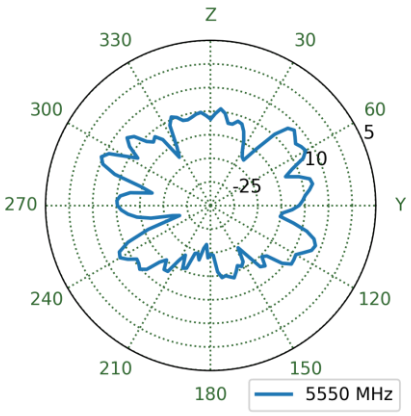
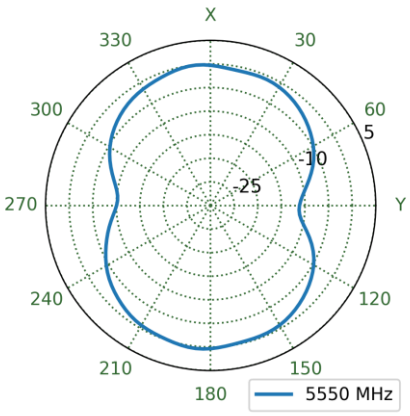
7.46 Bent Free Space Patterns at 5550 MHz



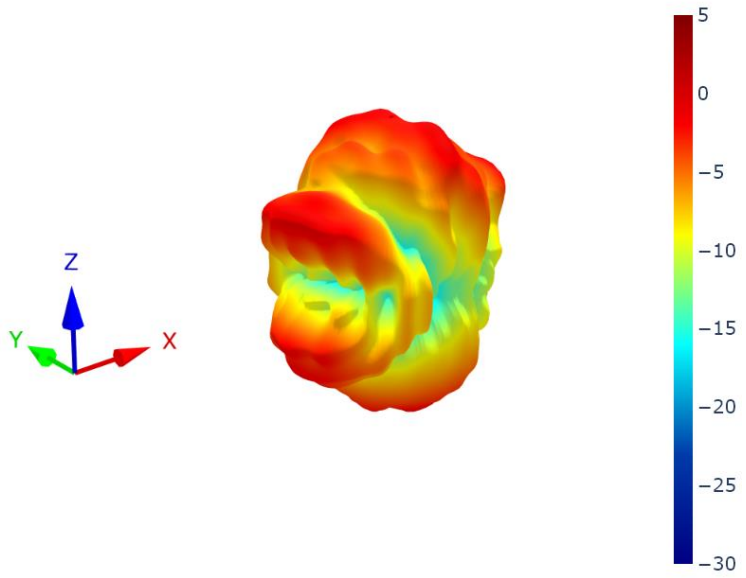
XZ Plane	YZ Plane	XY Plane
		

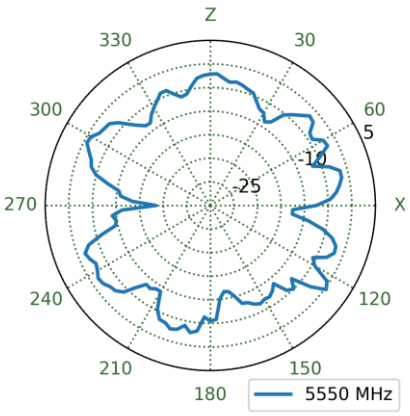
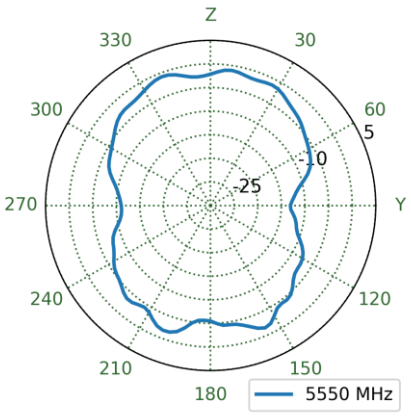
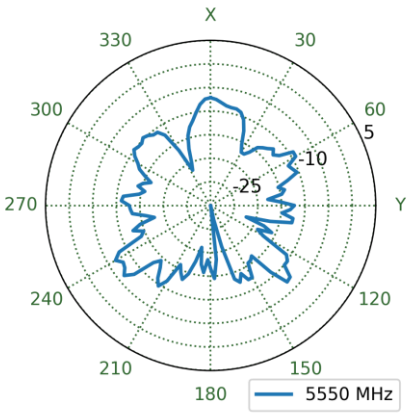
7.47 Straight Centre Ground Plane Patterns at 5550 MHz



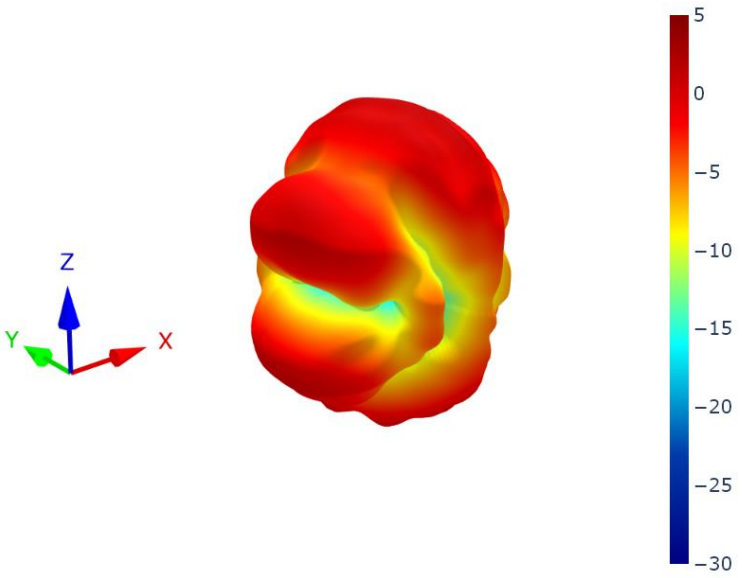
XZ Plane	YZ Plane	XY Plane
		

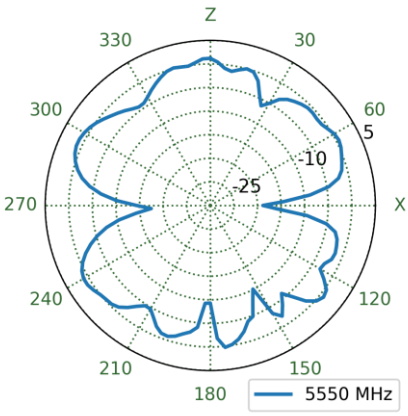
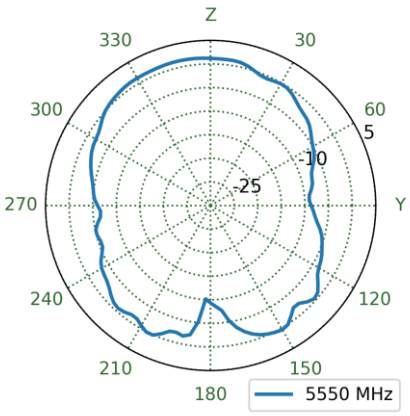
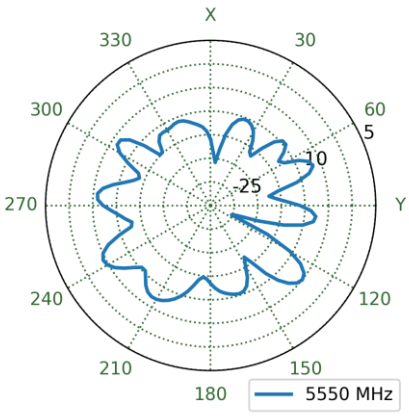
7.48 Straight Edge Ground Plane Patterns at 5550 MHz



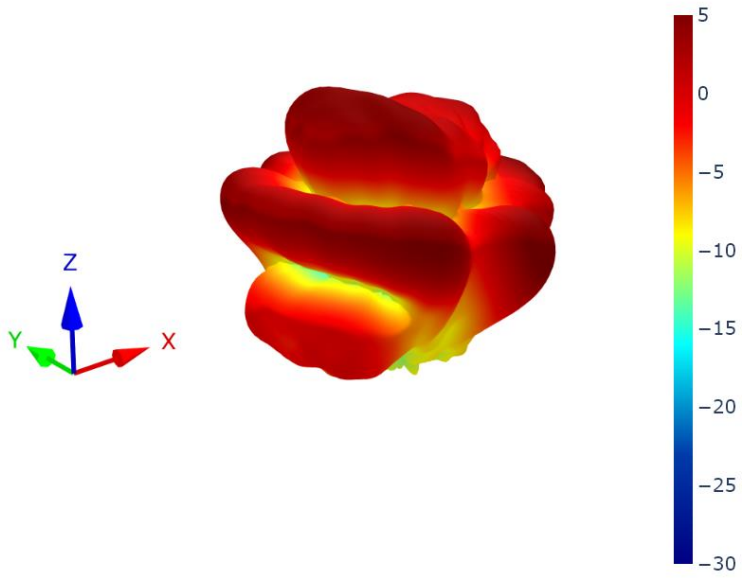
XZ Plane	YZ Plane	XY Plane
		

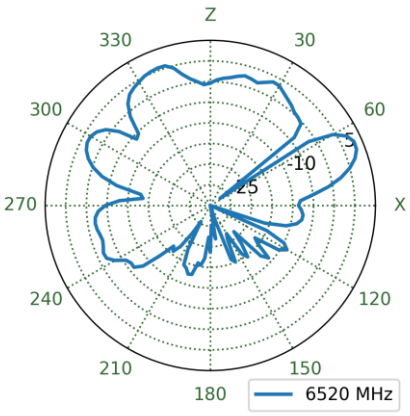
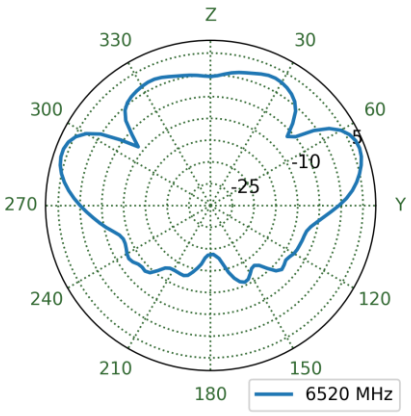
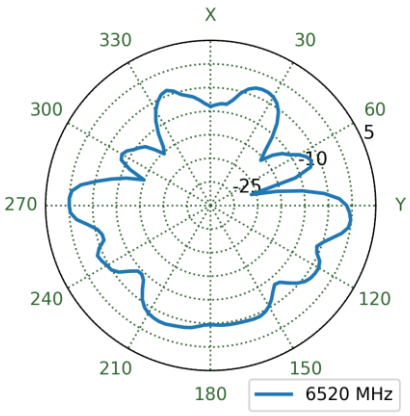
7.49 Straight Free Space Patterns at 5550 MHz



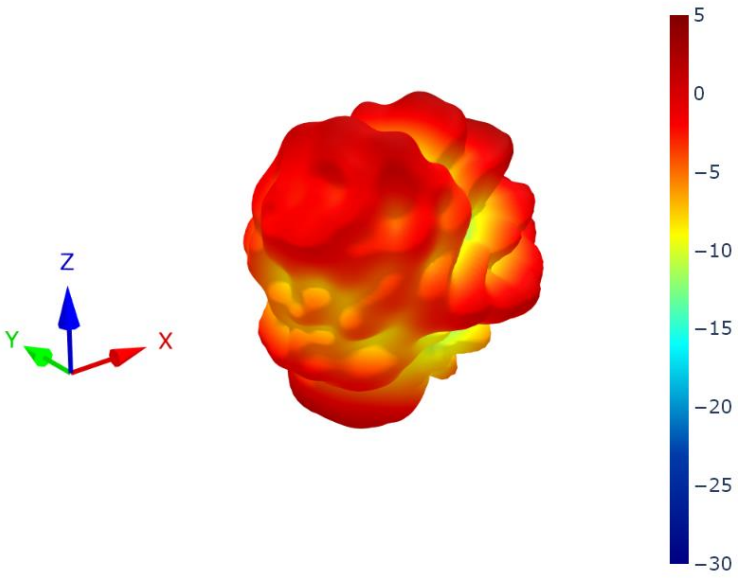
XZ Plane	YZ Plane	XY Plane
		

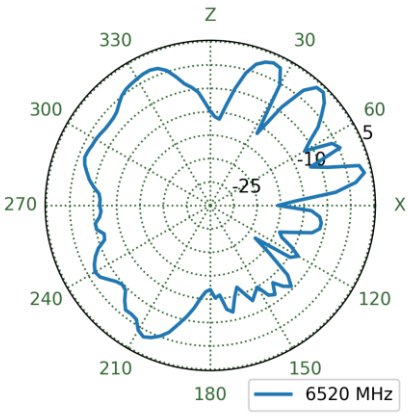
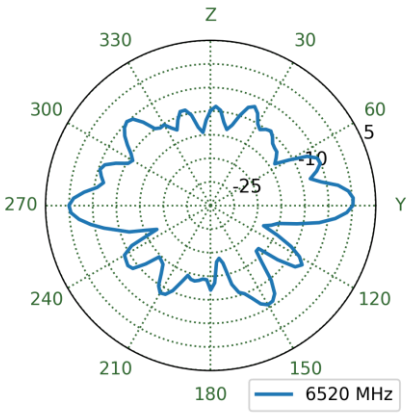
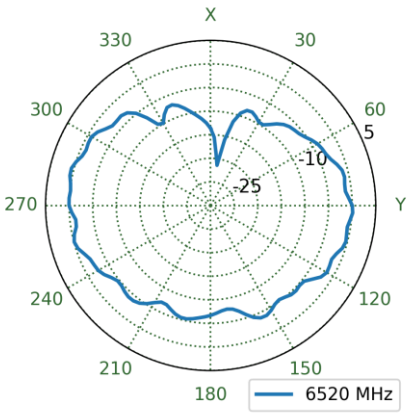
7.50 Bent Centre Ground Plane Patterns at 6525 MHz



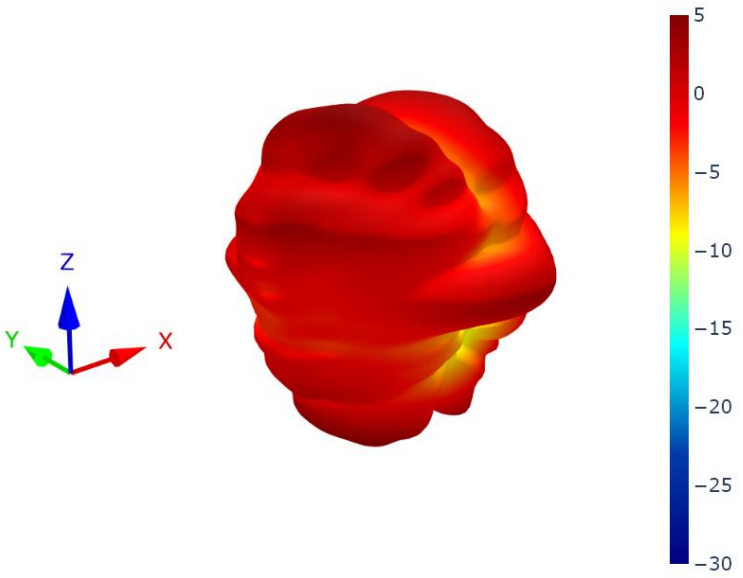
XZ Plane	YZ Plane	XY Plane
		

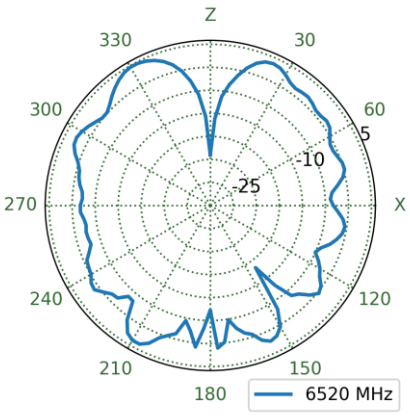
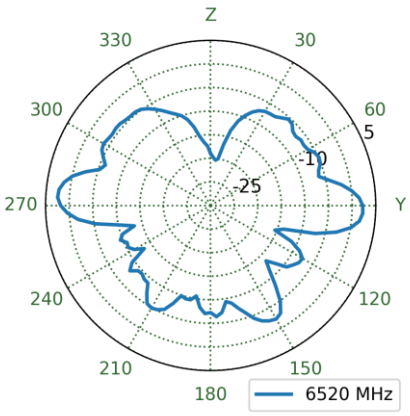
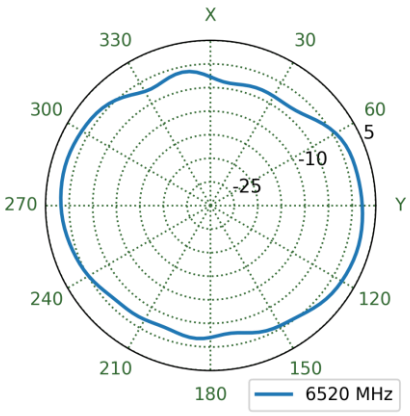
7.51 Bent Edge Ground Plane Patterns at 6525 MHz



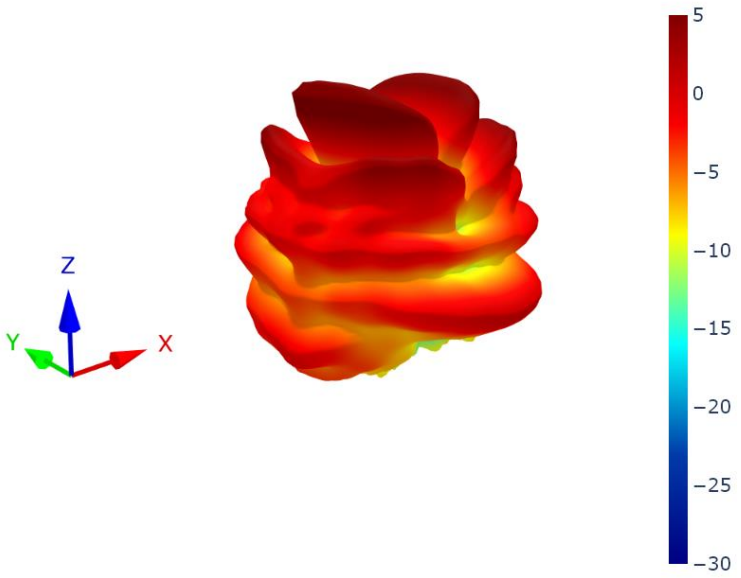
XZ Plane	YZ Plane	XY Plane
		

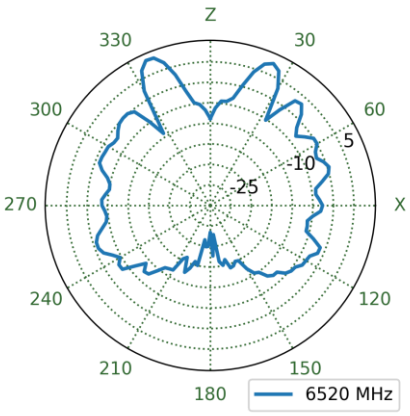
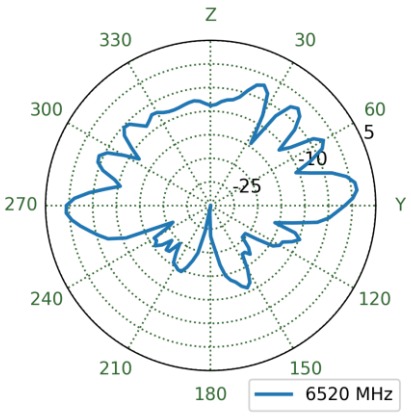
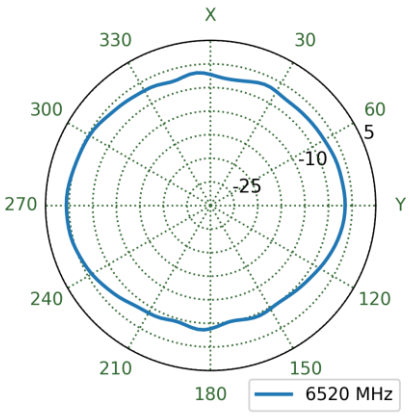
7.52 Bent Free Space Patterns at 6525 MHz



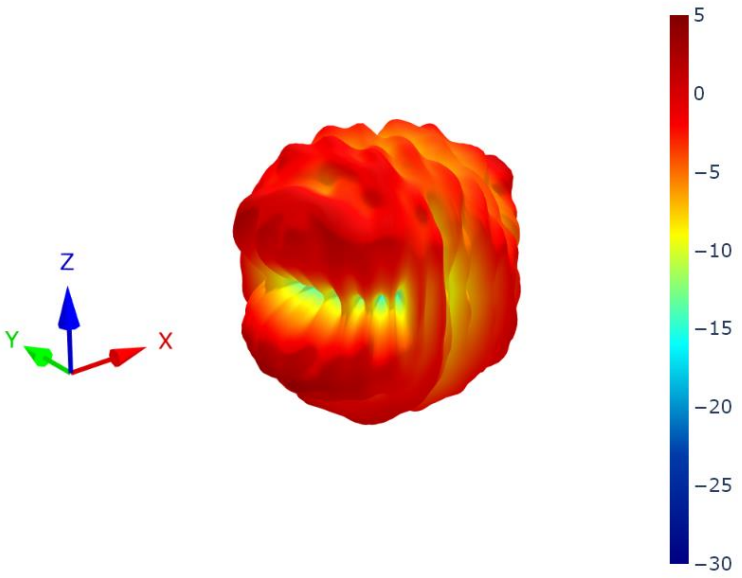
XZ Plane	YZ Plane	XY Plane
		

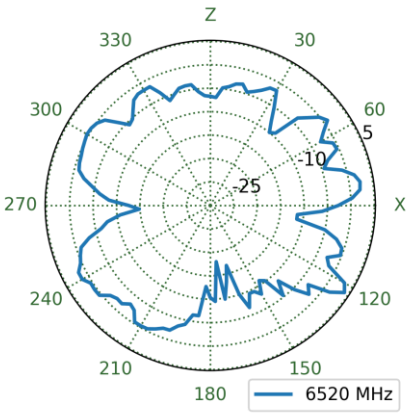
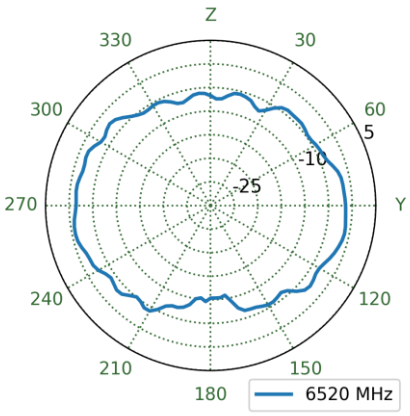
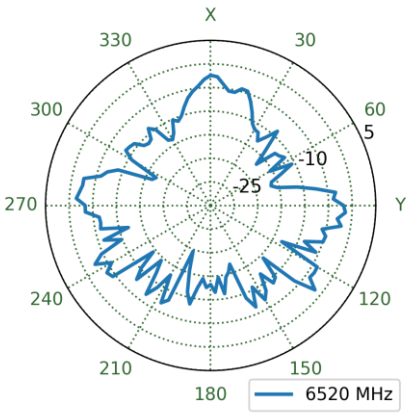
7.53 Straight Centre Ground Plane Patterns at 6525 MHz



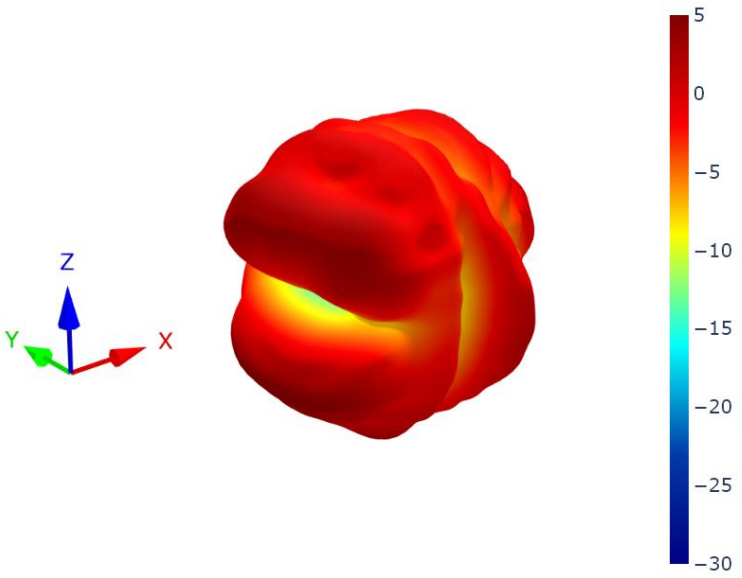
XZ Plane	YZ Plane	XY Plane
		

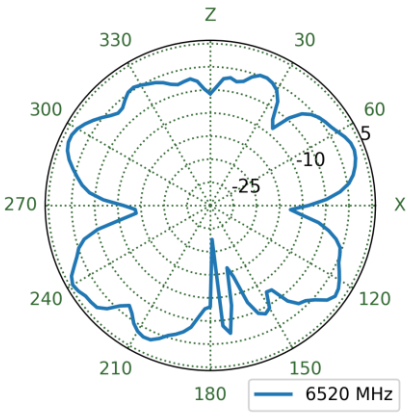
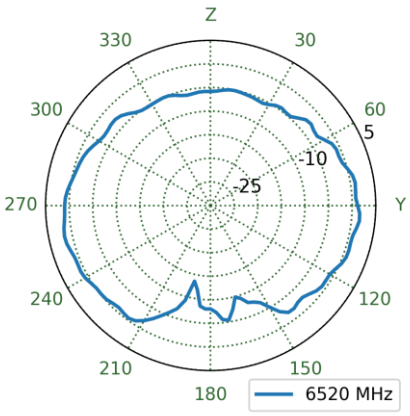
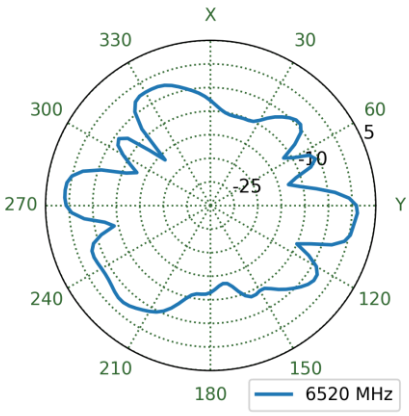
7.54 Straight Edge Ground Plane Patterns at 6525 MHz



XZ Plane	YZ Plane	XY Plane
		

7.55 Straight Free Space Patterns at 6525 MHz



XZ Plane	YZ Plane	XY Plane
		

Changelog for the datasheet

SPE-23-8-016 – TG.31.8113W

Revision: B (Current Version)	
Date:	20204-09-03
Notes:	Retested and updated to include Wi-Fi6.
Author:	Gary West

Previous Revisions

Revision: A (Original First Release)	
Date:	2023-01-23
Notes:	
Author:	Jack Conroy

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