Datasheet

Synergy 4 in 1 Antenna

Part No:
MA1504.AK.001

Description

4*5G/4G MIMO 4-in-1 Antenna with Wideband 600-6000MHz Capabilities

Features:

4 x 5G/4G MIMO Antenna
IP67 Rated Waterproof Enclosure
High Efficiency/Peak Gain Outdoor Antenna
Cable: 300mm RG-174 with 4700mm TGC-200
Connectors: SMA(M)
RoHS & REACH Compliant

1. Introduction

The Taoglas Synergy MA1504 is a 4-in-1 next-generation permanent mount antenna for vehicle roof applications. It has a fully IP67 rated waterproof robust PC enclosure and base. The 4 antennas inside support 600-6000MHz 5G/4G. This outstanding patent-pending antenna delivers powerful MIMO antenna technology for 5G/4G. The 5G/4G antennas also include backward compatibility to work at most worldwide 2G and 3G bands.

Typical Applications:

– Next Generation OEM Automotive Connectivity
– Multimedia, Navigation and Telematics Systems
– V2V, V2X and Fleet Management Applications
– Real-time HD Video Streaming
– First Net Responder Routers

The MA1504 is ideal for applications that require highly sophisticated antennas for real-time streaming applications that demand high-speed video uplink and downlink into the cabin of the vehicle. These challenges are resolved by the highly efficient, high gain MIMO antennas, with high isolation, all of which is necessary to achieve the required signal to noise ratio and throughput.

The MA1504 can also be customized for your particular wireless application and frequency band, subject to NRE and MOQ. All cable lengths and connector types are customizable. The Synergy MA1504 can be supplied with low loss TGC-200 cable extensions for longer cable runs. Contact your regional Taoglas customer services team for details and support.

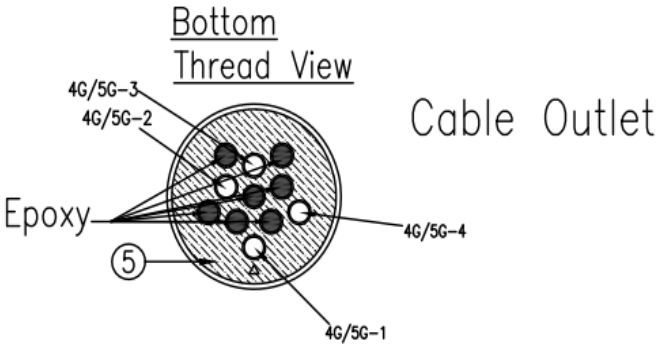
2. Specification

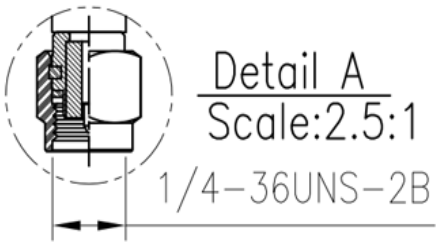
4G-5G Electrical									
Band	Frequency (MHz)	Measurement	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
5GNR/4G Band71	617-698	4G-5G 1	23.6	-6.28	0.16	50 Ω	Linear	Omni directional	10W
		4G-5G 2	29.3	-5.34	0.89				
		4G-5G 3	22.8	-6.43	-1.16				
		4G-5G 4	25.6	-5.92	0.64				
4G/3G Band 12,13,14,17,28,29	698-824	4G-5G 1	34.7	-4.59	1.90				
		4G-5G 2	39.8	-4.00	2.37				
		4G-5G 3	41.2	-3.85	2.70				
		4G-5G 4	34.7	-4.60	1.57				
4G/3G/NB-IoT/Cat M Band 5,8,18,19,20,26,27	824-960	4G-5G 1	37.3	-4.28	3.18				
		4G-5G 2	41.3	-3.84	3.11				
		4G-5G 3	44.7	-3.49	4.26				
		4G-5G 4	33.1	-4.80	3.50				
5GNR/4G Band 21,32,74,75,76	1427-1518	4G-5G 1	43.4	-3.62	3.53				
		4G-5G 2	44.6	-3.51	4.11				
		4G-5G 3	40.3	-3.95	3.13				
		4G-5G 4	43.3	-3.64	3.57				
4G/3G Band 1,2,3,4,9,23,25,35,39, 66	1710-2200	4G-5G 1	33.5	-4.75	4.37				
		4G-5G 2	32.6	-4.87	3.01				
		4G-5G 3	38.4	-4.16	6.24				
		4G-5G 4	35.6	-4.48	4.73				
4G/3G Band 7,30,38,40,41	2300-2690	4G-5G 1	45.9	-3.39	4.86				
		4G-5G 2	40.6	-3.92	4.28				
		4G-5G 3	48.2	-3.17	5.75				
		4G-5G 4	42.5	-3.72	5.07				
LTE5200/Wi-Fi5800	5150-5925	4G-5G 1	53.1	-2.75	7.14				
		4G-5G 2	62.5	-2.04	7.47				
		4G-5G 3	62.4	-2.05	8.57				
		4G-5G 4	57.6	-2.40	8.79				
5GNR/4G Band 22,42,48,77,78,79	3300-5000	4G-5G 1	44.3	-3.53	7.07				
		4G-5G 2	51.6	-2.87	7.88				
		4G-5G 3	43.6	-3.61	6.04				
		4G-5G 4	40.8	-3.89	6.35				

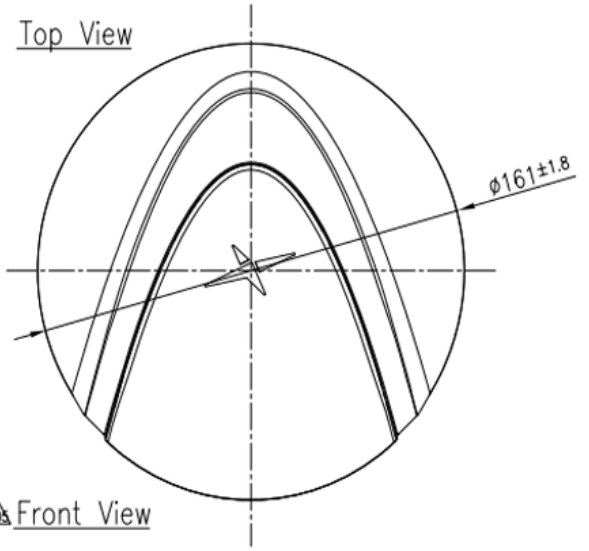
5G/4G Bands						
Band Number	5GNR / FR1 / / -Advanced / WCDMA / HSPA / HSPA+ / TD-SCDMA / NTN					
	Uplink	Downlink	4G-5G 1	4G-5G 2	4G-5G 3	4G-5G 4
B1	1920 to 1980	2110 to 2170	✓	✓	✓	✓
B2	1850 to 1910	1930 to 1990	✓	✓	✓	✓
B3	1710 to 1785	1805 to 1880	✓	✓	✓	✓
B4	1710 to 1755	2110 to 2155	✓	✓	✓	✓
B5	824 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 / n23	2000 to 2020	2180 to 2200	✓	✓	✓	✓
B24 / n255	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	✗	✗	✗	✗
n256	1980 to 2010	2170 to 2200	✓	✓	✓	✓

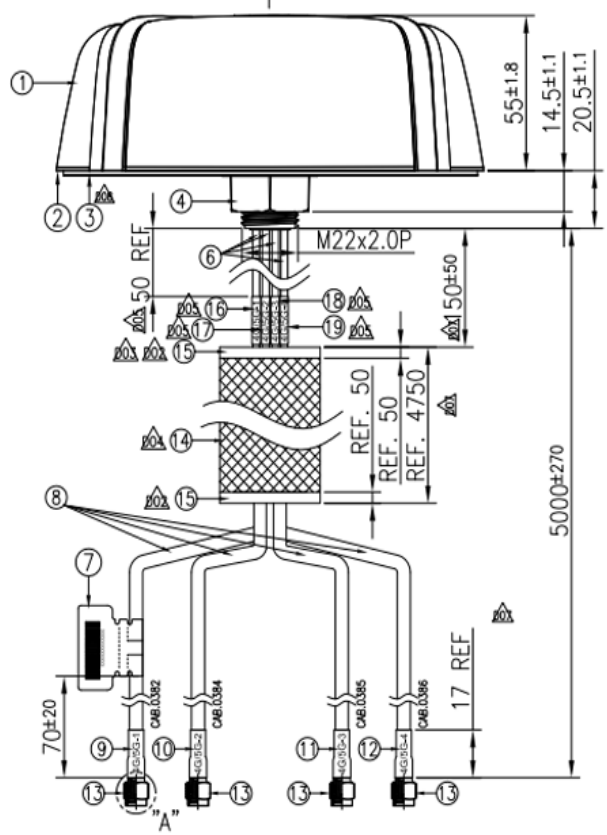
Mechanical	
Height	57.47mm
Planner Dimension	Ø160mm
Casing	PC
Cable	0.3m RG-174 with 4.7m TGC-200 for 5G/4G – Fully Customizable
Connector	5G/4G_SMA-Plug – Fully Customizable
Thread	18.23mm
Thread Diameter	M22
Waterproof	IP67
Sealant	Rubber Stopper and O-Ring
Environmental	
Ingress Protection	IP67
Operation Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Humidity	Non-condensing 65°C 95% RH
Cable Pull	RG-174 4 Kg

3. Mechanical Drawing









	Name	Material	Finish	QTY
1	Top Plastic Shell	PC	Black / Grey	1
2	Bottom Plastic	PC	Black	1
3	Double Sided Adhesive	E4308+3M 9448 2.5T	Black Foam/White Liner	1
4	Nut_M22	Nylon	Black	1
5	Rubber	Silicone Rubber	Black	1
6	RG174 Coaxial Cable(MA1504.A.001)	PVC	Black	4
7	Empty Label	PEPA	White	1
8	TGC-200 Coaxial Cable	PE	Black	4
9	Heat Shrink Tube (4G/5G-1)	PE	Red Tube/White Text	1
10	Heat Shrink Tube (4G/5G-2)	PE	Red Tube/White Text	1
11	Heat Shrink Tube (4G/5G-3)	PE	Red Tube/White Text	1
12	Heat Shrink Tube (4G/5G-4)	PE	Red Tube/White Text	1
13	SMA(M)ST	Brass	Au Plated	4
14	Centenary Braid	BSPET-FR4	Black	1
15	Heat Shrink Tube (Braid)	PE With Glue	Black	2
16	Heat Shrink Tube (4G/5G-1)	PE	Red Tube/White Text	1
17	Heat Shrink Tube (4G/5G-2)	PE	Red Tube/White Text	1
18	Heat Shrink Tube (4G/5G-3)	PE	Red Tube/White Text	1
19	Heat Shrink Tube (4G/5G-4)	PE	Red Tube/White Text	1

4. Installation Guidelines

A Introduction

The Taoglas Synergy is an external permanent mount combination antenna that can be provided with combinations of 5G/4G, active GNSS with front end saw and dual-band Wi-Fi. The Synergy is available with two versions of the enclosure, one designed specifically for the Ford Interceptor, both supplied with 3M adhesive, along with an M22 threaded boss for surface attachment. The Synergy is ideal for vehicle panels of up to 6mm(0.23") thick with a threaded boss length of 20.5mm(0.81"). The Synergy is IP67 rated and includes an O-Ring to seal from any water ingress.

Electrical Safety
The Synergy contains an active GPS/GNSS antenna.
Rated voltage: 3-5VDC Rated current: 20mA maximum
The supply to this device must be provided with overcurrent protection of 1A maximum.

Power consumption@1.8V (mA) 8.7 mA
Power consumption@3.0V (mA) 9.0 mA
Power consumption@5.5V (mA) 11 mA

B Mounting & Location

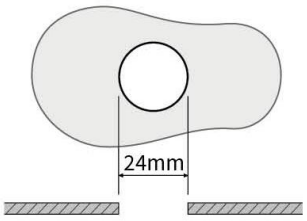
For prime performance, the Synergy is recommended to be fitted on a conductive metal panel. When fitting on a non-metallic panel, a conductive metal ground plane of suitable size should be fitted underneath the mounting panel to achieve a better level of performance. Optimum ground plane size is 300mm x 300mm(11.8" x 11.8"). When mounting on a vehicle roof panel ensure to mount on a flat surface, and measure for central position. Care should be taken to mount the Synergy antenna as far as possible from other roof-mounted features such as the aircon unit, light bar etc.

Sealing
In order to ensure that the installation is properly sealed against the mounting surface care must be taken regarding curvature of the mounting panel. It is highly recommended to install the antenna on a clean, flat and level surface. After installation the compression of the rubber boot against the mounting panel should be checked and a small bead of neutral cure silicone sealant can be applied around the periphery of the mounting boot if required.

C Surface Preparation

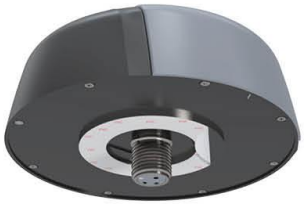
When preparing to drill the hole, mask the area around the hole position to protect the surface. Drill a pilot hole and increase the hole size to ø24mm (⅞"). Ensure the drill bit does not contact the headliner. Deburr and clean the area around the hole carefully removing all waste.

Remove paint and primer from under panel surface to ensure adequate contact with washer and nut. Apply petroleum jelly or paint around cut edge of the hole to prevent corrosion



D Adhesive Patch

On the underside of the antenna there is a 3M adhesive patch. Peel away the 3M adhesive protection and feed the cables through the hole. Position the antenna over the hole and press down onto the panel with pressure. This adhesion will make ensure will be securely mounted and will also allow for extremely minimal curvature on the roof of a vehicle.



E Securing the Mount

A split nut is used to easily fit onto the thread through the cables. The nut is attached from the underside of the panel, it should easily twist onto the thread and then secured in place with a final tighten with a spanner. After tightening, double check the antenna to make sure that it is properly secured but take care not to over tighten, damaging the threads on the screw.

F Cable Routing and Connection

The Cables supplied are RG-174 for the GNSS feed and TGC-200 for the other feeds. The heatshrink will denote which cable is which for ease of installation. Connect each individual connector to the correct port of the router, if any cable is unused please fit a 50Ω terminator to the individual connection.

G Notices

Caution
To comply with FCC RF Exposure requirements in section 1.1310 of the FCC Rules, antennas used with this device must be installed to provide a separation distance of at least 20 cm from all persons to satisfy RF exposure compliance.

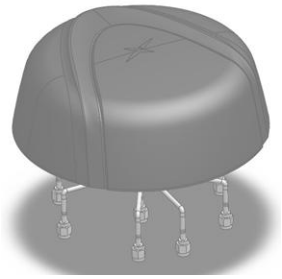
Warning
Do not operate the equipment in an explosive atmosphere.

European Waste Electronic Equipment Directive 2012/19/EU
Please ensure that your old Waste Electricals and Electronics are recycled do not throw them away into standard waste.

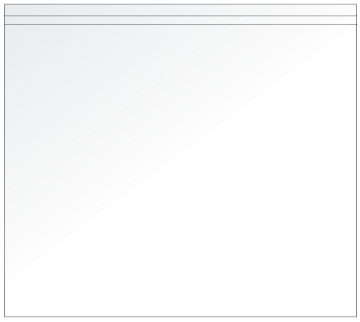
Hazardous Substances Directive (RoHS) 2011/65/EU / 2015/863/EU
Radio Equipment Directive (RED) 2014/53/EU

Harmonised Standards and References:
EN 301 489-1 (V2.2.3): ElectroMagnetic Compatibility (EMC) standard for radio equipment and services;
Part 1: Common technical requirements; Harmonised Standard for ElectroMagnetic Compatibility

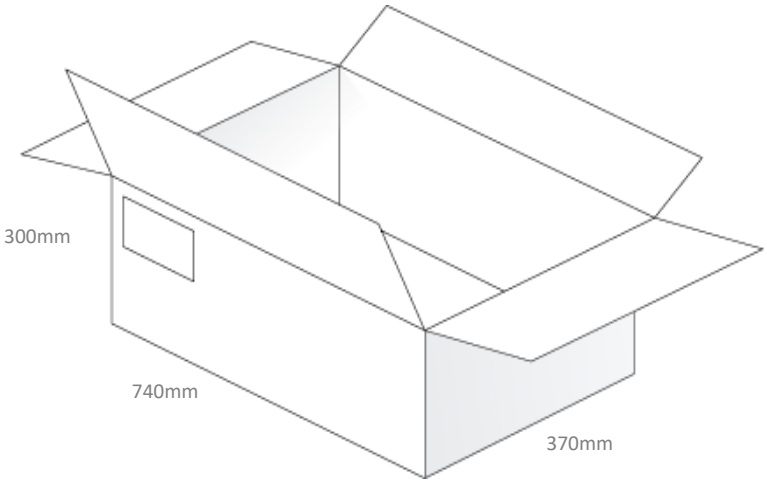
5. Packaging



1pc MA1504.AK.001 per PE Bag
Weight: 2Kg

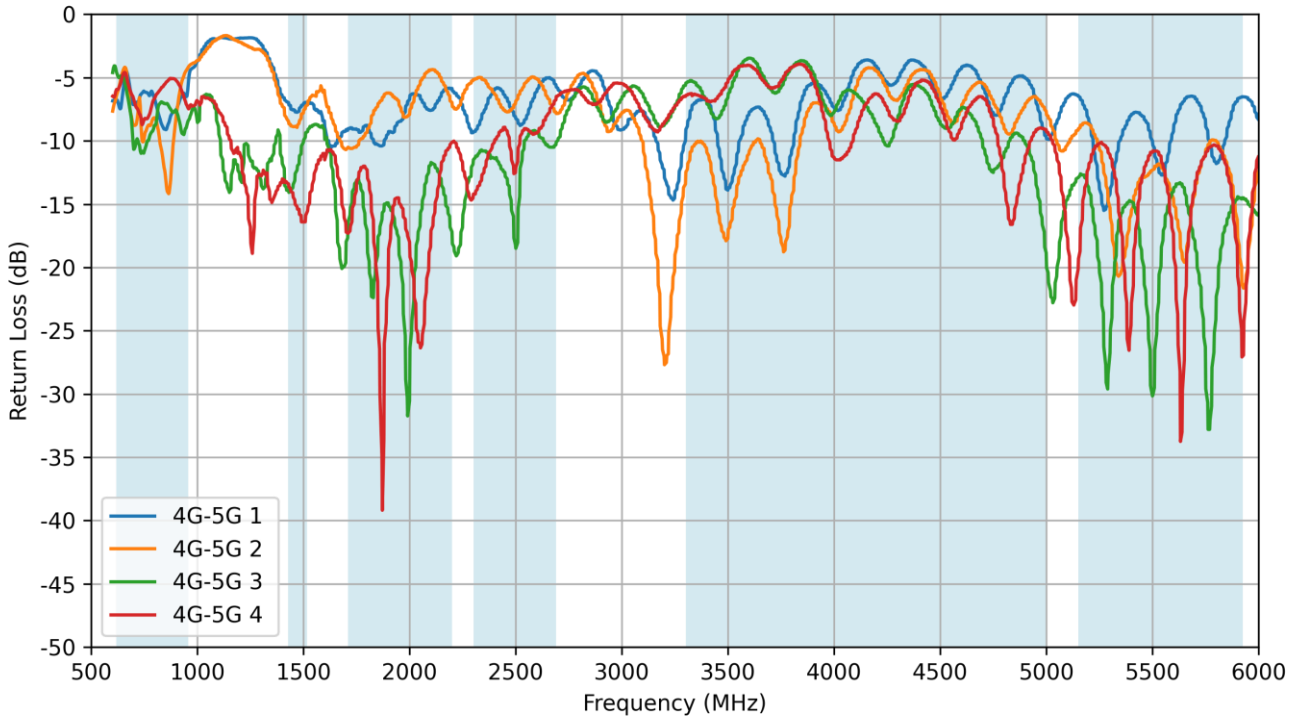


4pcs MA1504.AK.001 per Carton
Carton Dimensions: 740 x 370 x 300mm
Weight: 8.4Kg

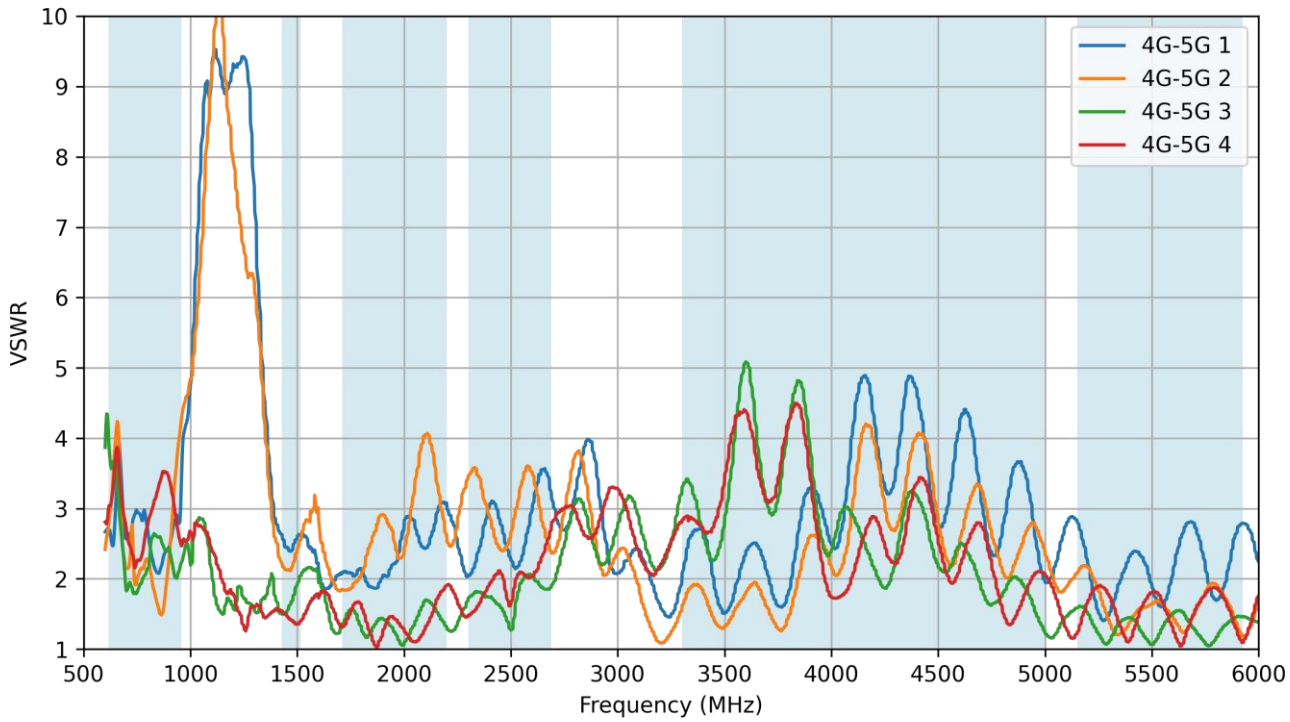


6. Antenna Characteristics

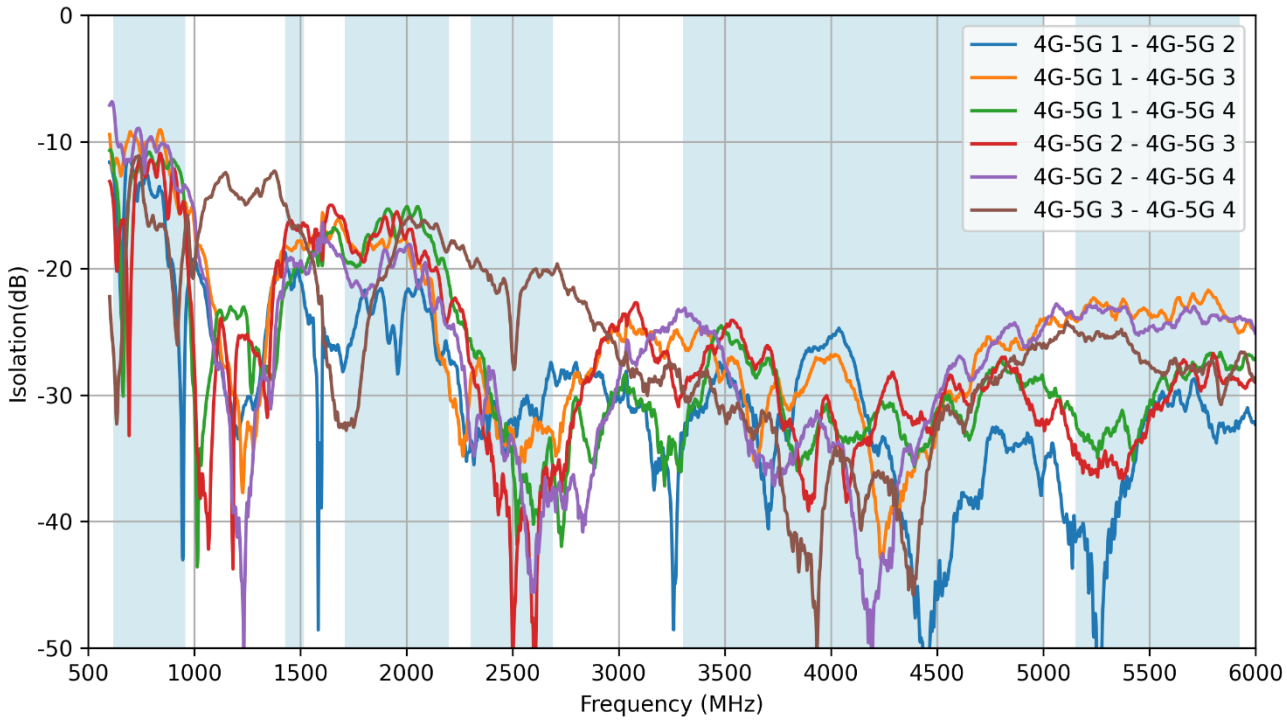
6.1 4G-5G - Return Loss



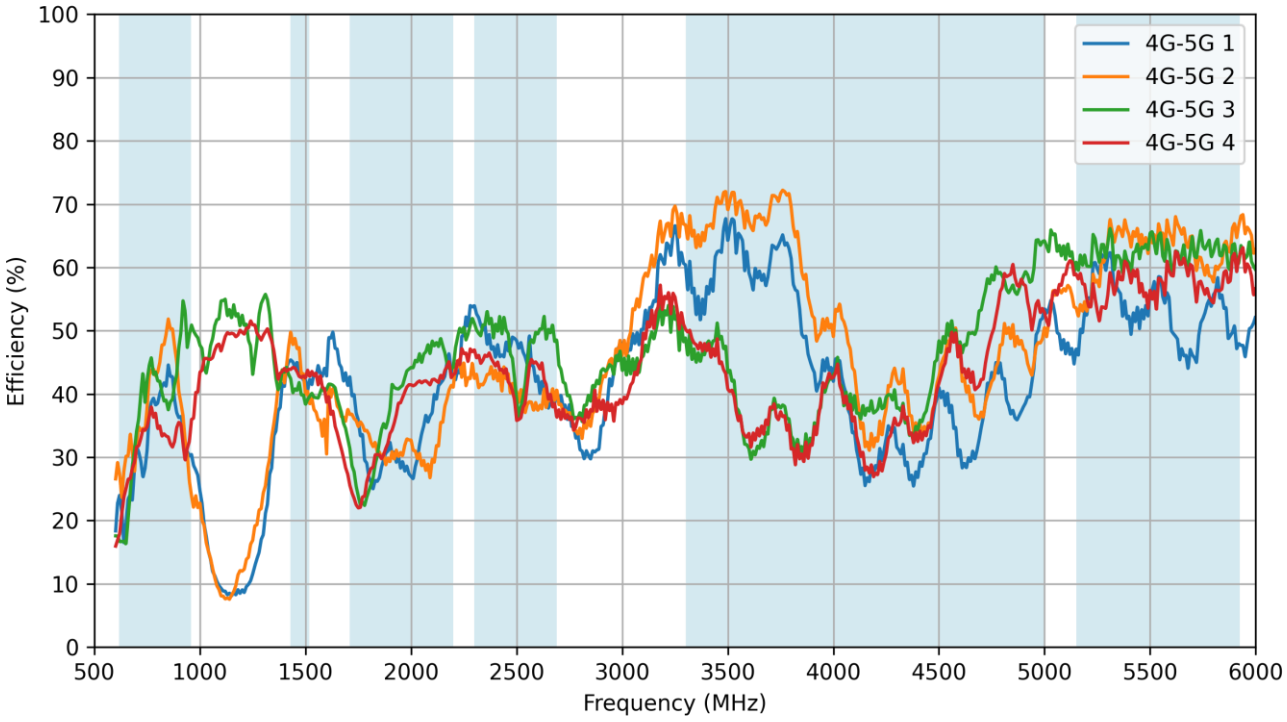
6.2 4G-5G - VSWR



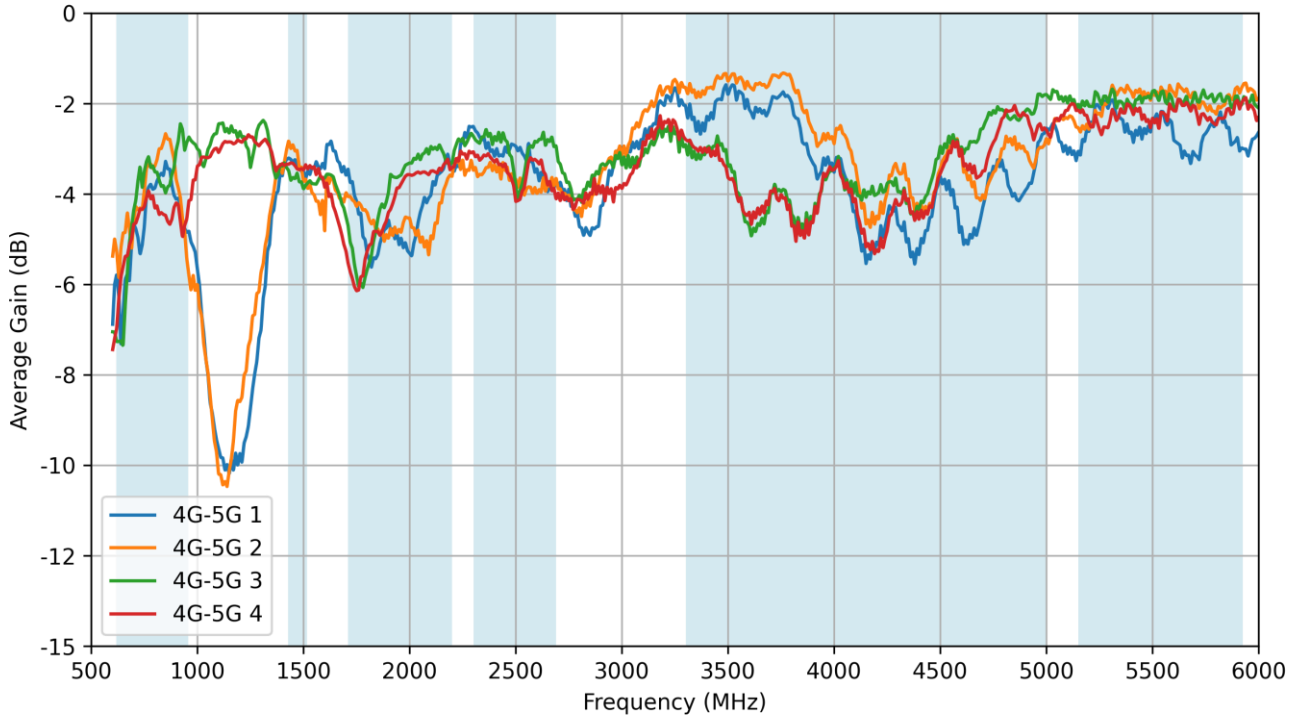
6.3 4G-5G - Isolation



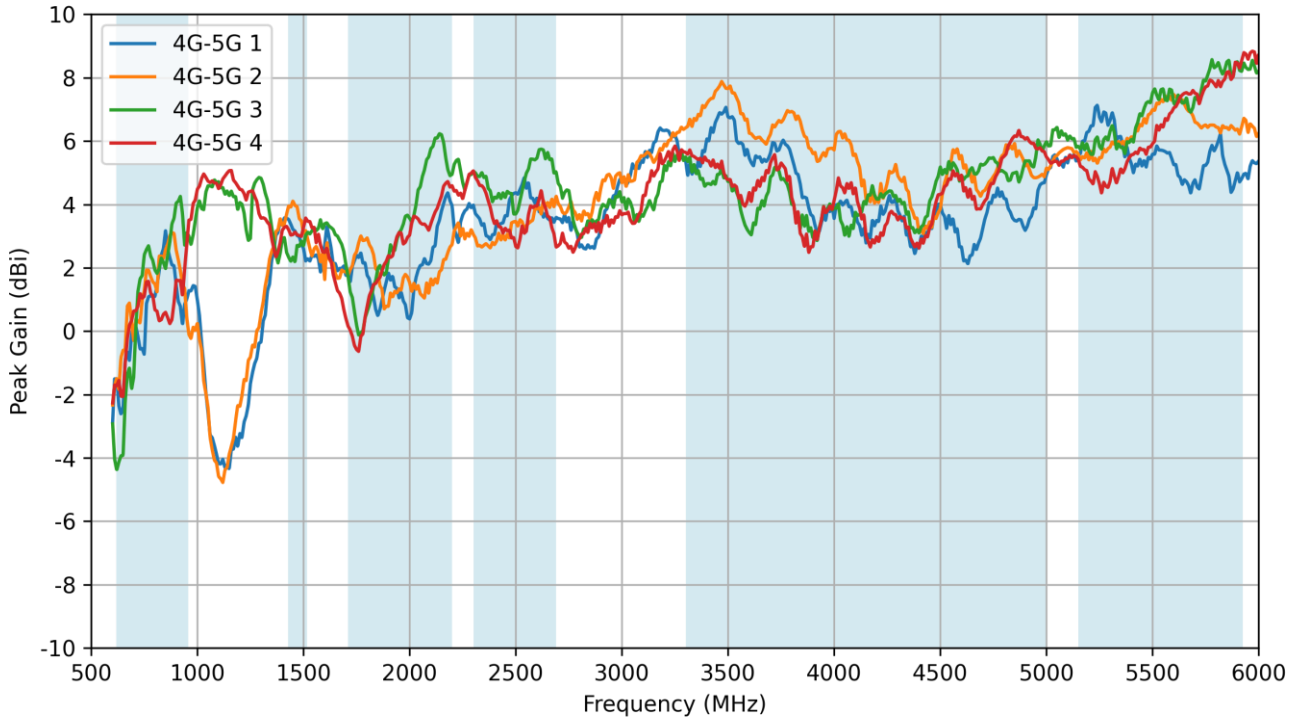
6.4 4G-5G - Efficiency



6.5 4G-5G - Average Gain

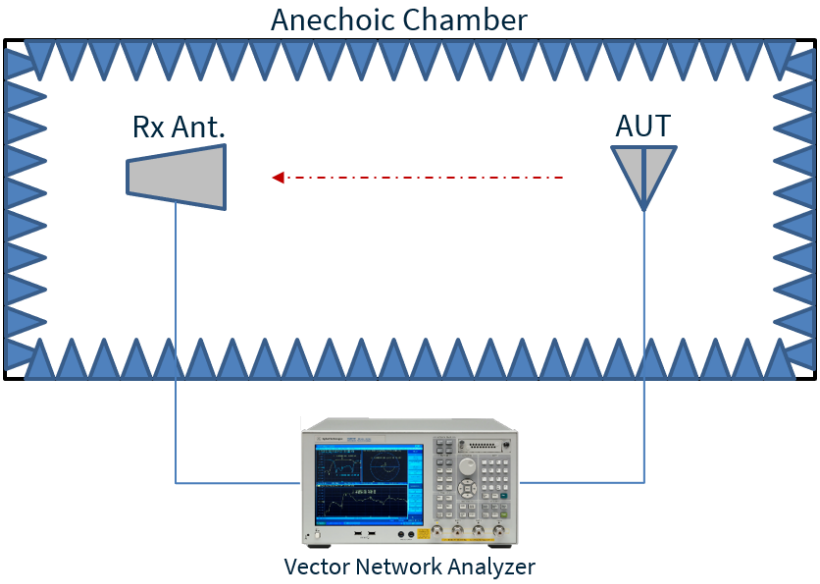


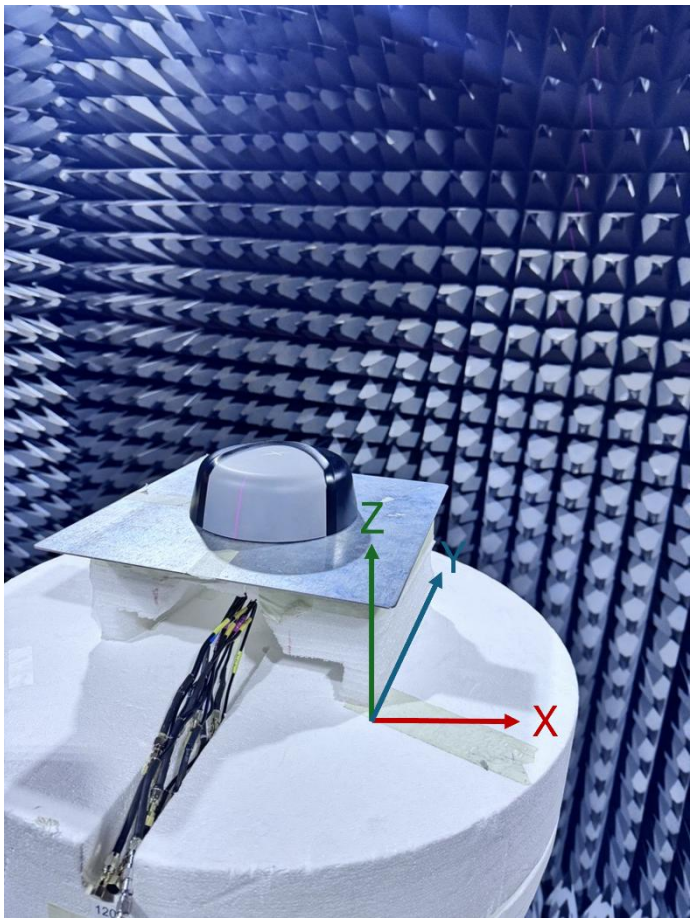
6.6 4G-5G - Peak Gain



7. Radiation Patterns

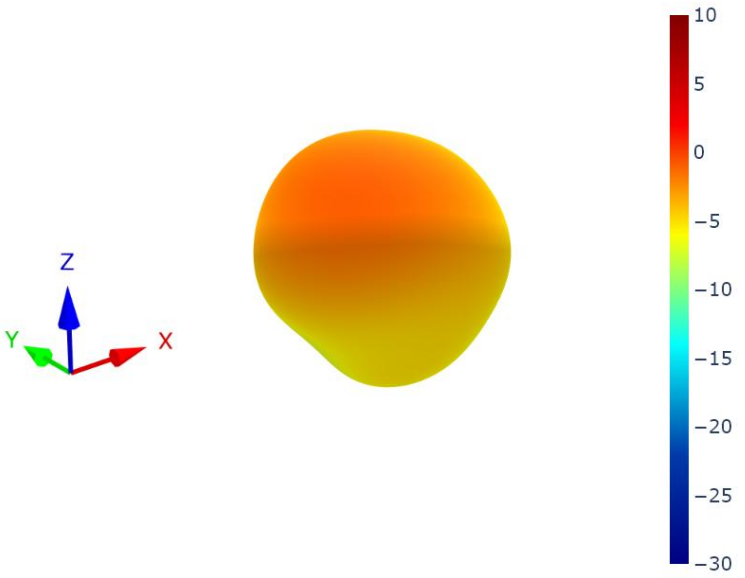
7.1 Test Setup

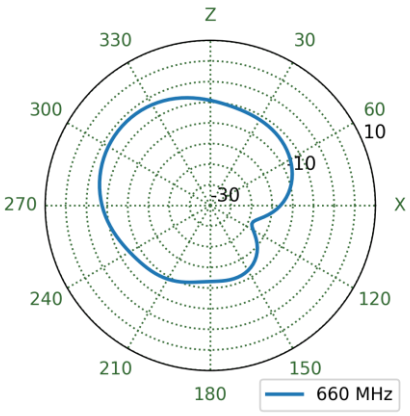
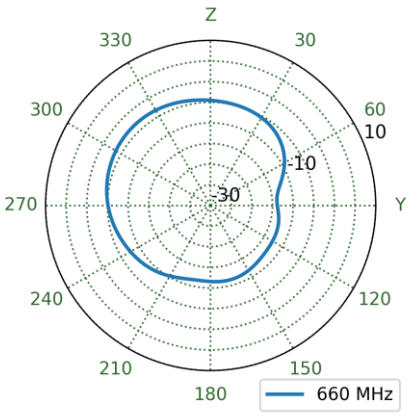
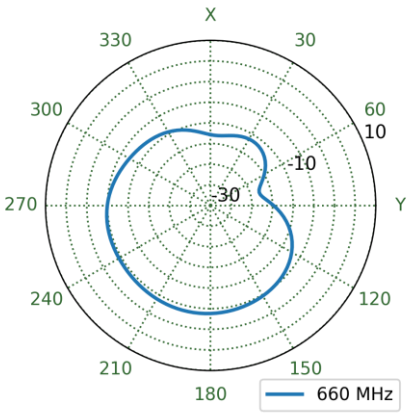




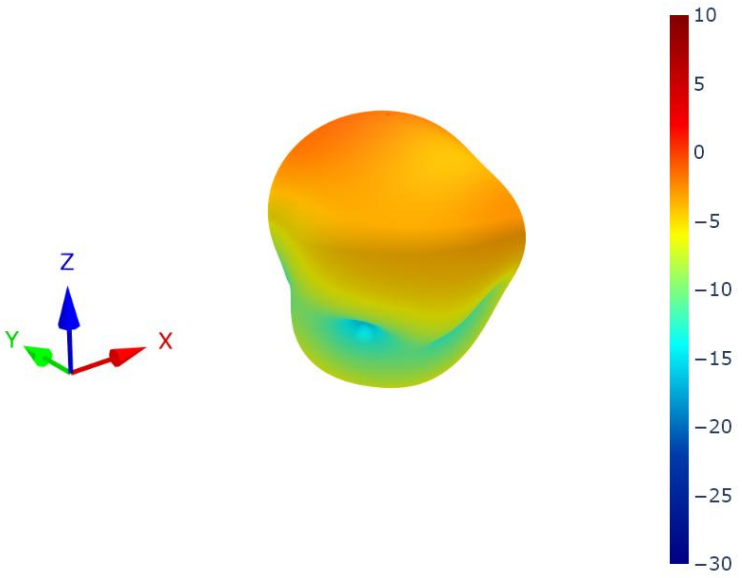
Chamber Test Set-up

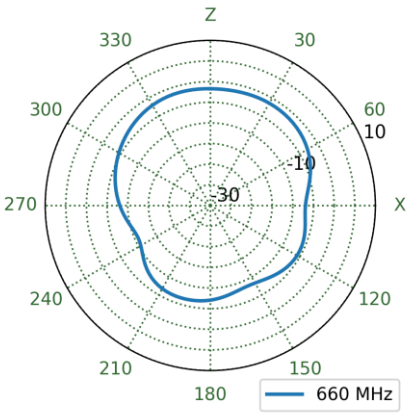
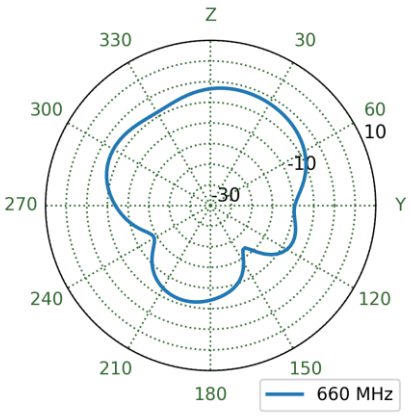
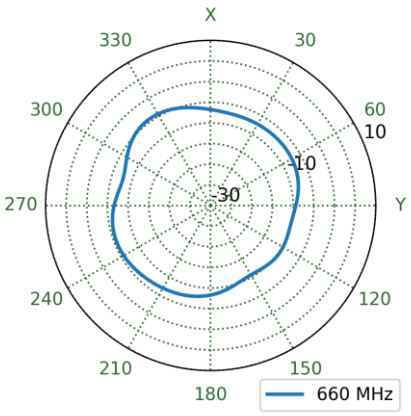
7.2 4G-5G 1 Patterns at 660 MHz



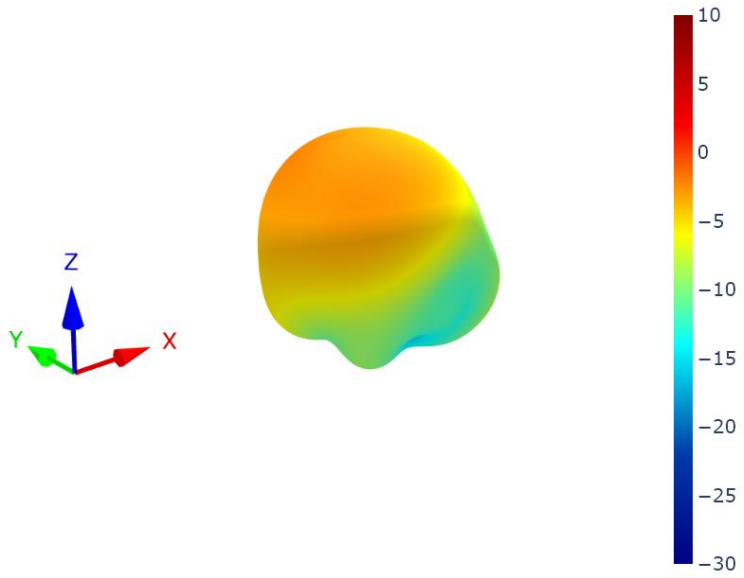
XZ Plane	YZ Plane	XY Plane
		

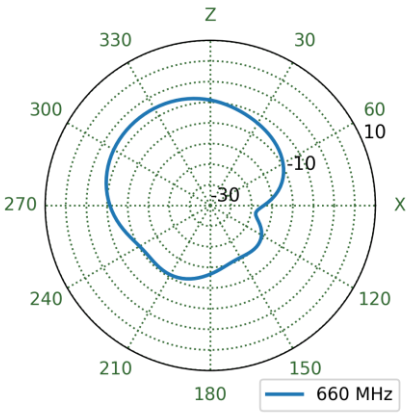
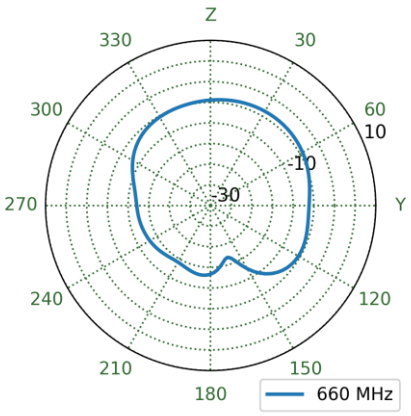
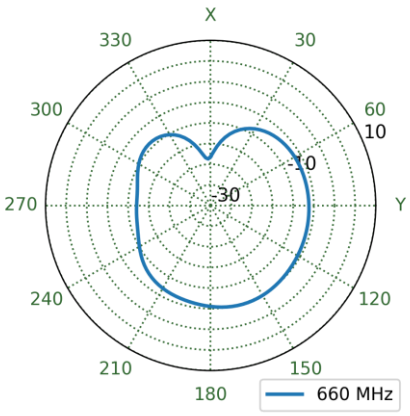
7.3 4G-5G 2 Patterns at 660 MHz



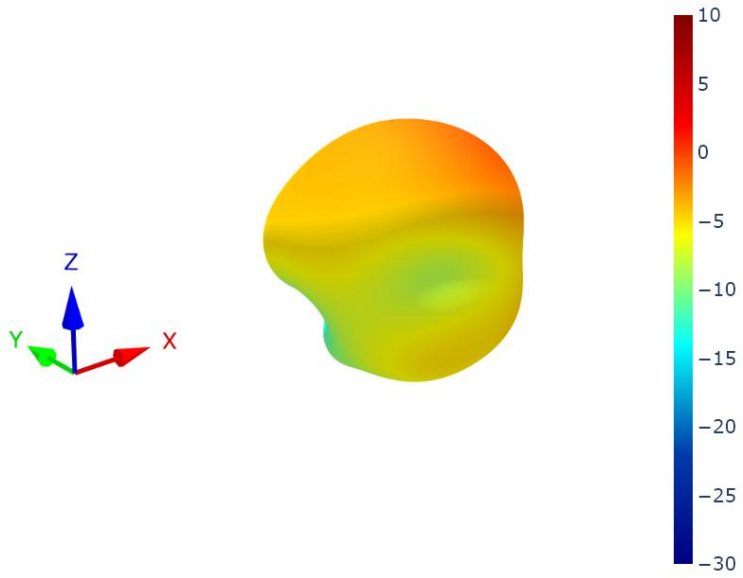
XZ Plane	YZ Plane	XY Plane
		

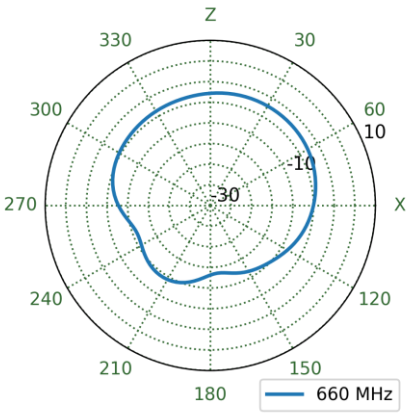
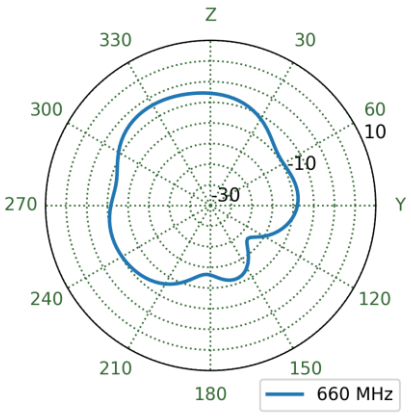
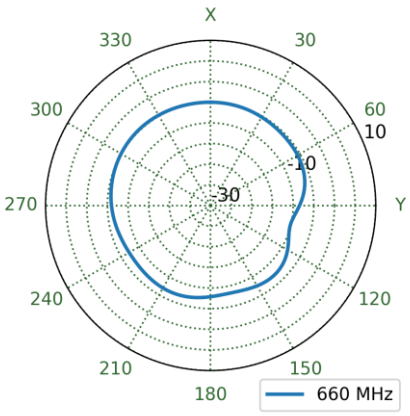
7.4 4G-5G 3 Patterns at 660 MHz



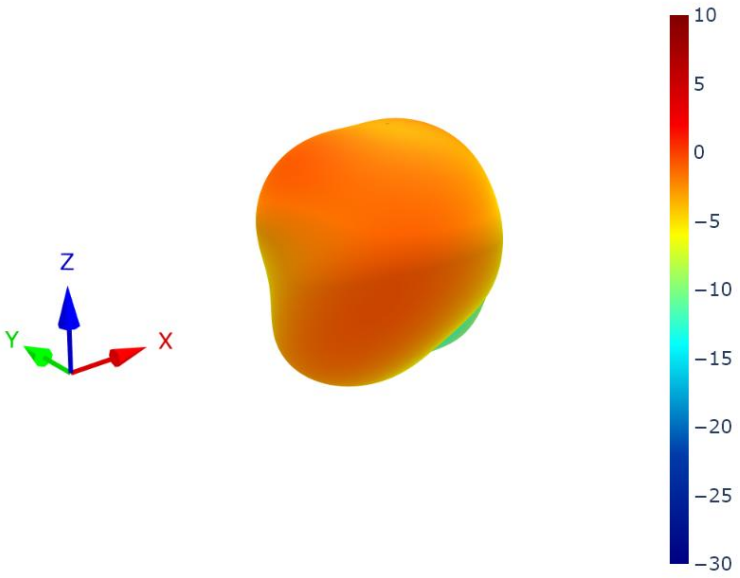
XZ Plane	YZ Plane	XY Plane
		

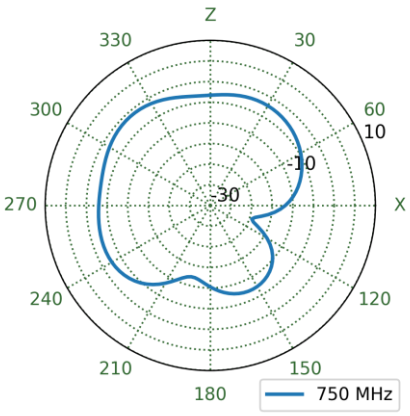
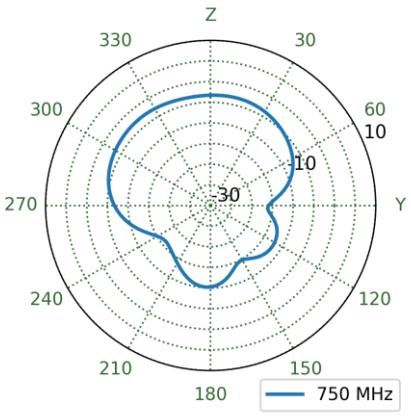
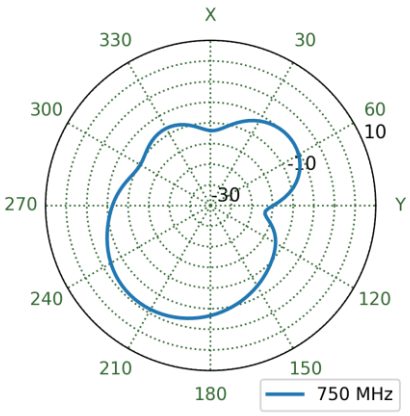
7.5 4G-5G 4 Patterns at 660 MHz



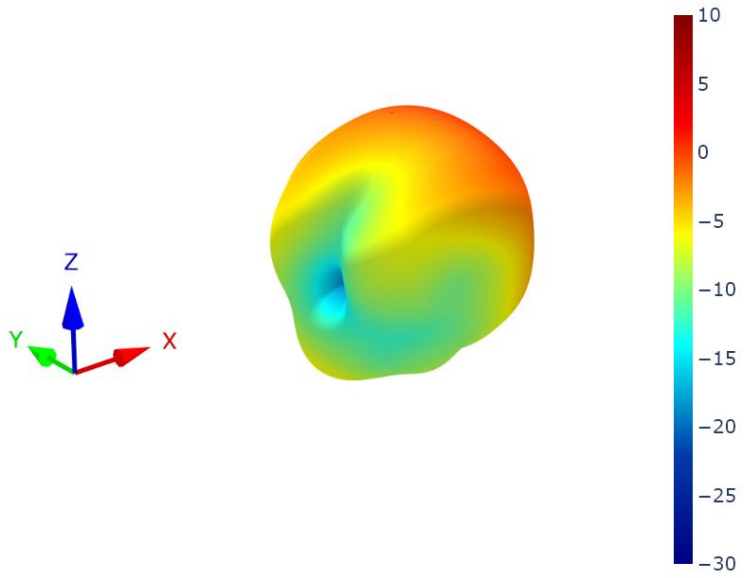
XZ Plane	YZ Plane	XY Plane
		

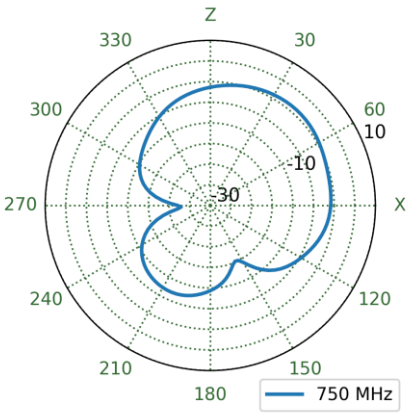
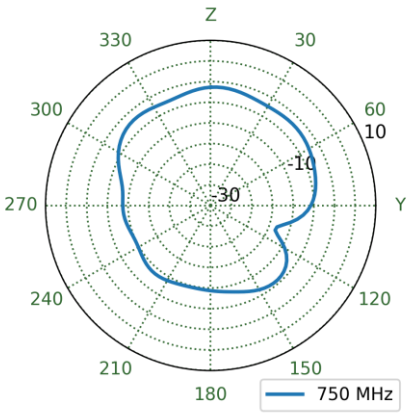
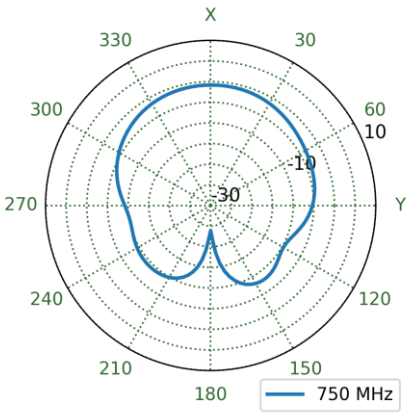
7.6 4G-5G 1 Patterns at 750 MHz



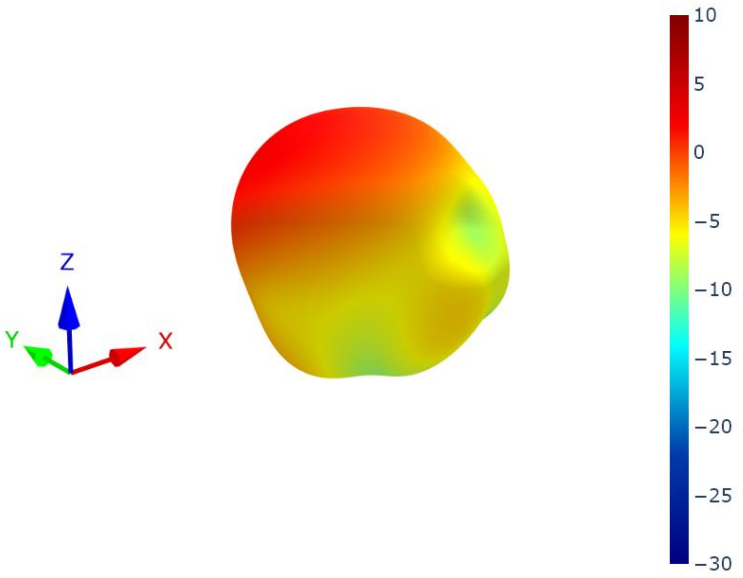
XZ Plane	YZ Plane	XY Plane
		

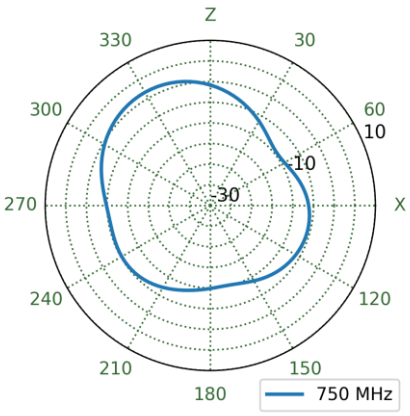
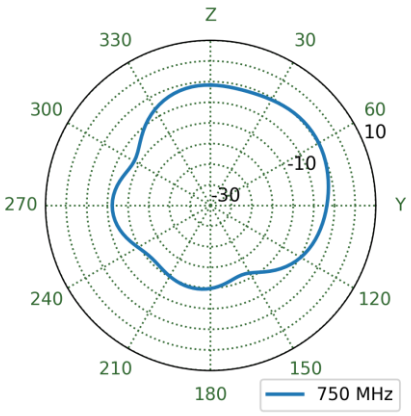
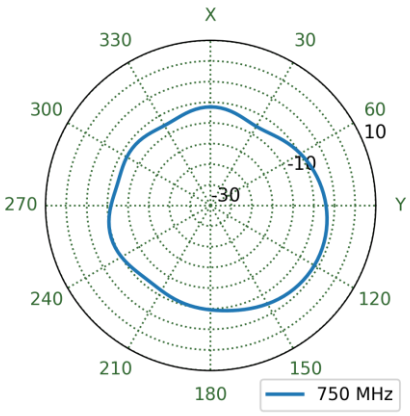
7.7 4G-5G 2 Patterns at 750 MHz



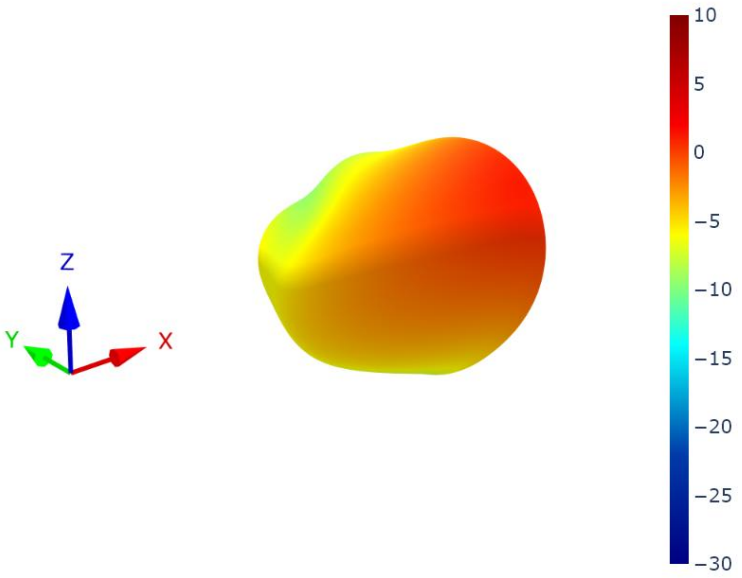
XZ Plane	YZ Plane	XY Plane
		

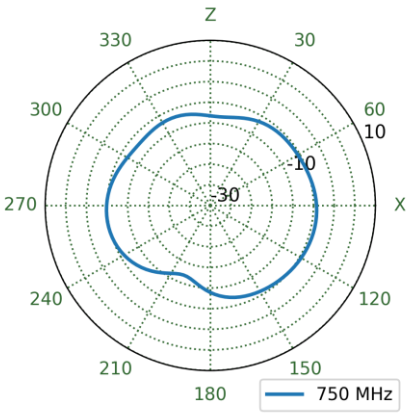
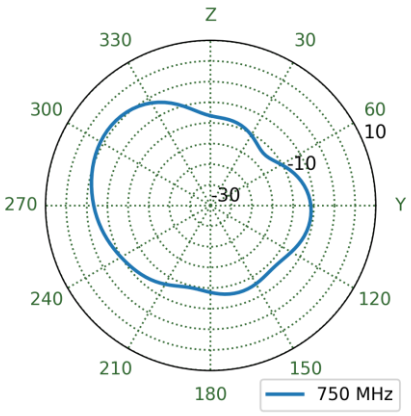
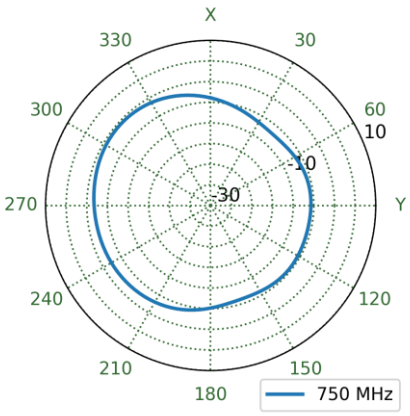
7.8 4G-5G 3 Patterns at 750 MHz



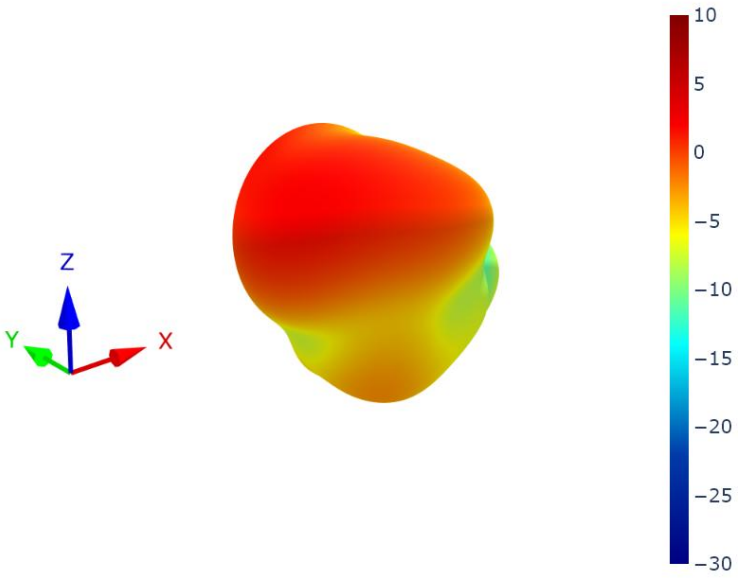
XZ Plane	YZ Plane	XY Plane
		

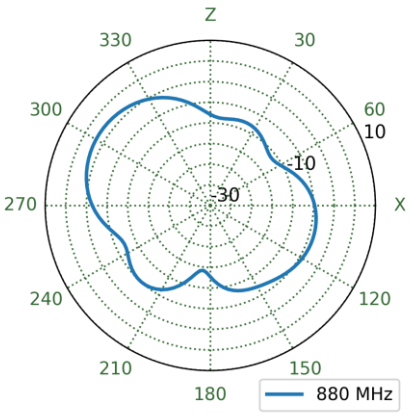
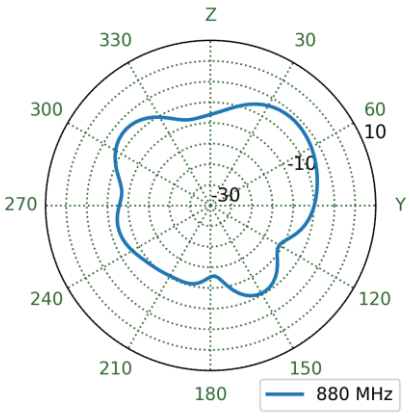
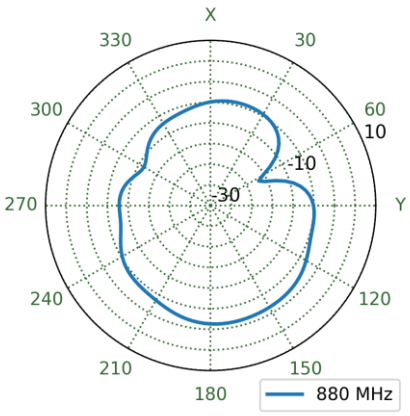
7.9 4G-5G 4 Patterns at 750 MHz



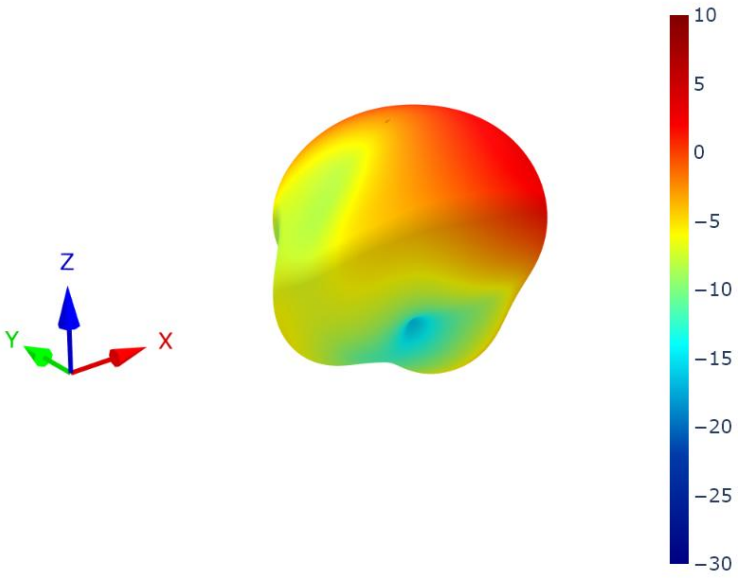
XZ Plane	YZ Plane	XY Plane
		

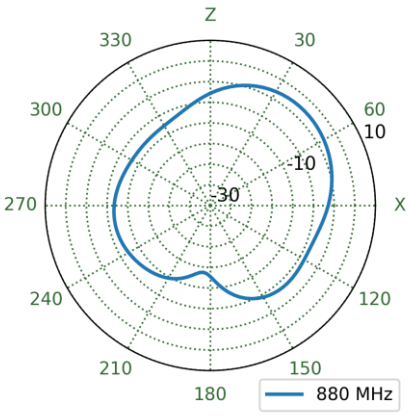
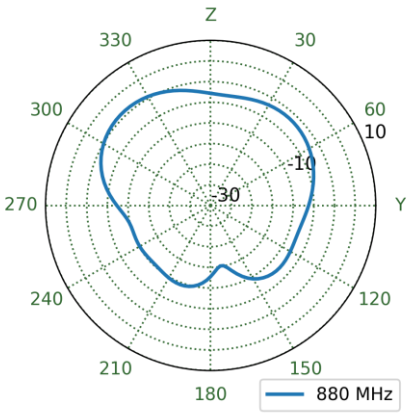
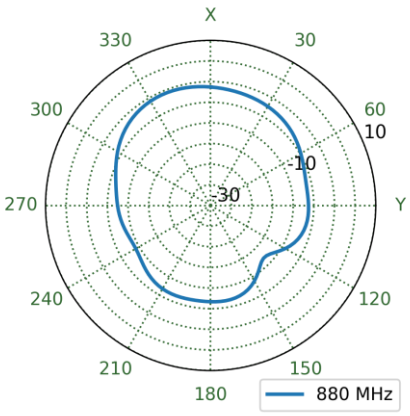
7.10 4G-5G 1 Patterns at 880 MHz



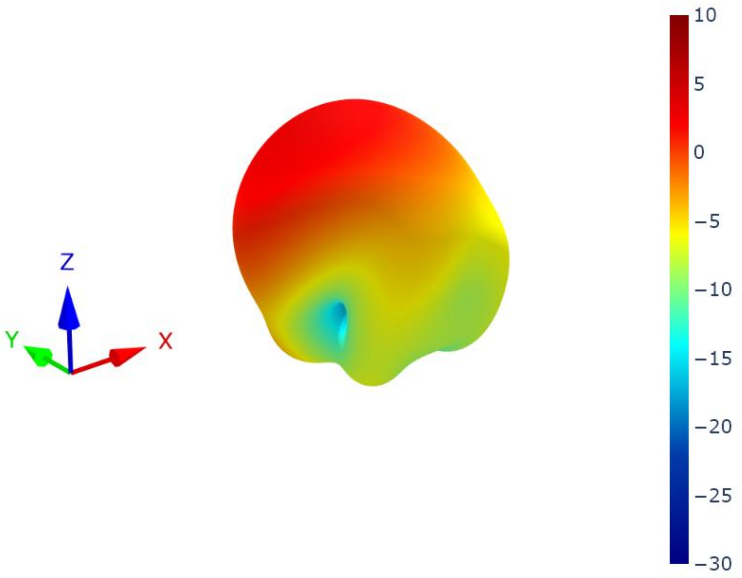
XZ Plane	YZ Plane	XY Plane
		

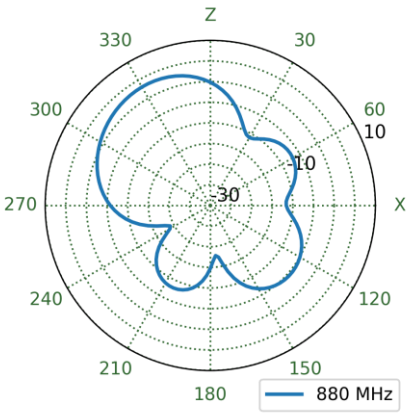
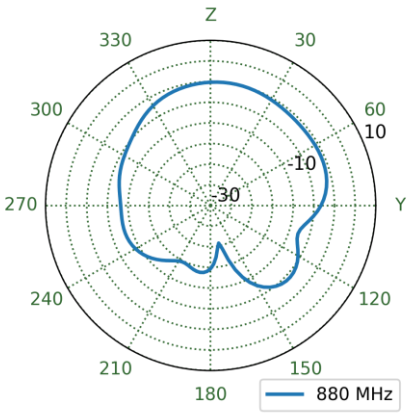
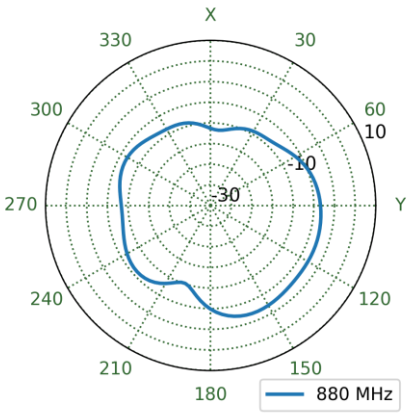
7.11 4G-5G 2 Patterns at 880 MHz



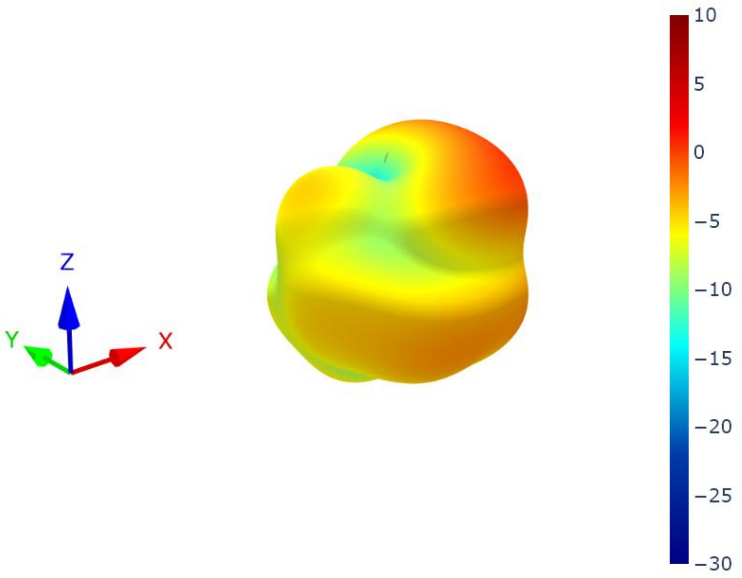
XZ Plane	YZ Plane	XY Plane
		

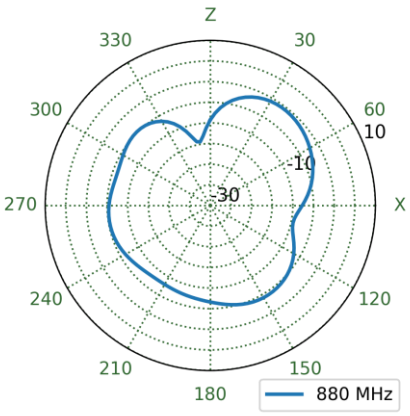
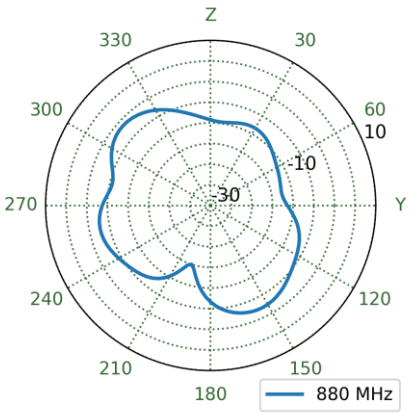
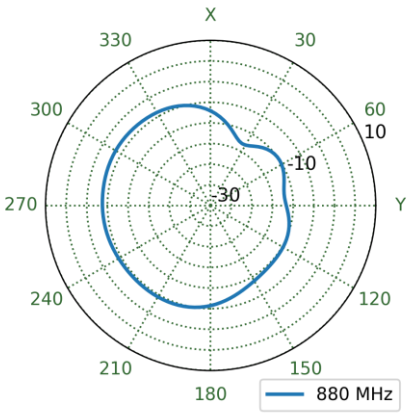
7.12 4G-5G 3 Patterns at 880 MHz



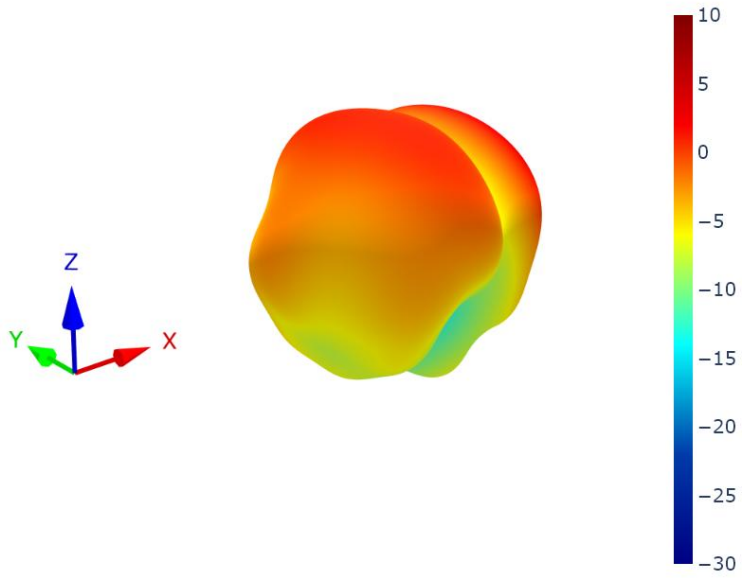
XZ Plane	YZ Plane	XY Plane
		

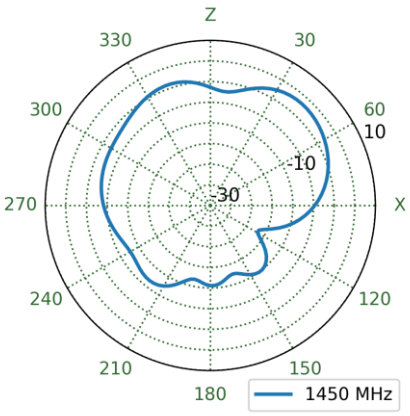
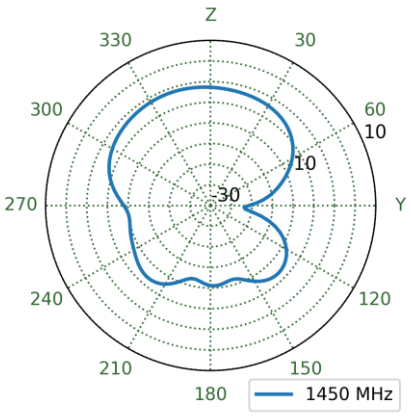
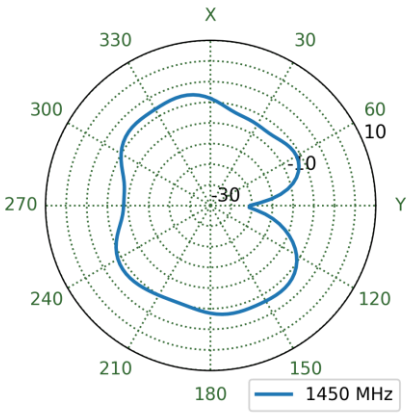
7.13 4G-5G 4 Patterns at 880 MHz



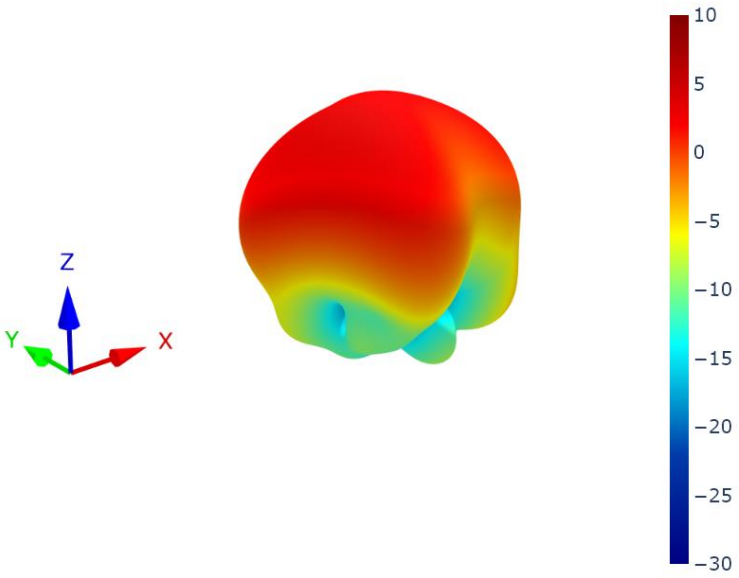
XZ Plane	YZ Plane	XY Plane
		

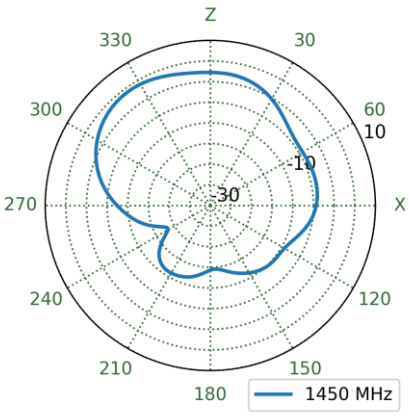
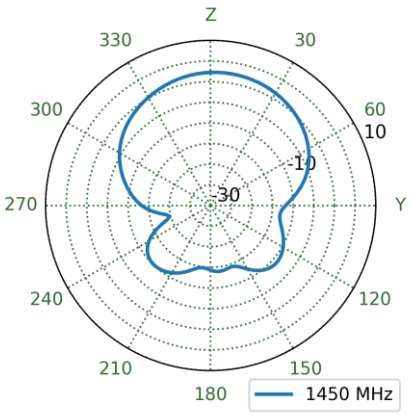
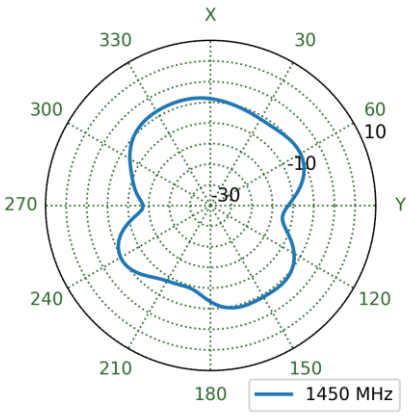
7.14 4G-5G 1 Patterns at 1450 MHz



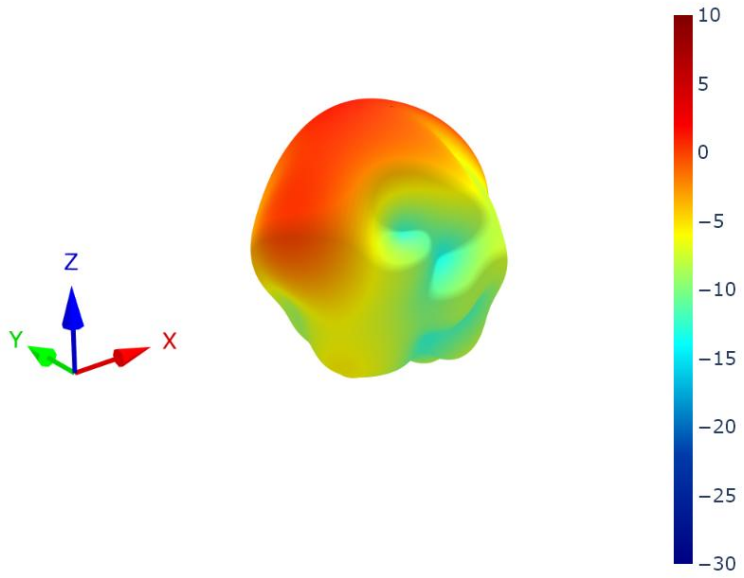
XZ Plane	YZ Plane	XY Plane
		

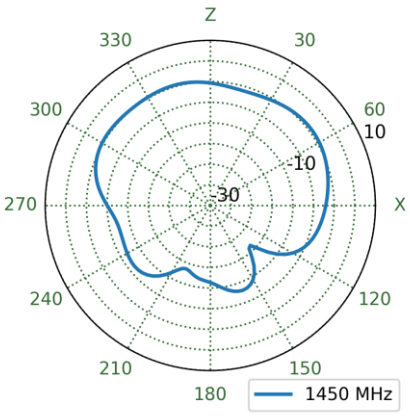
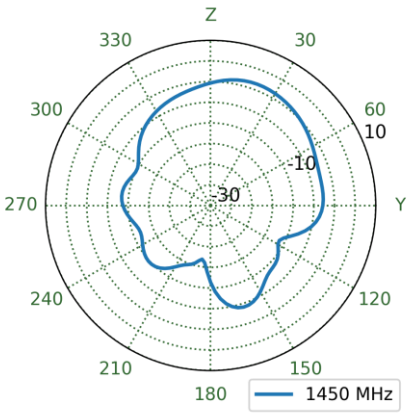
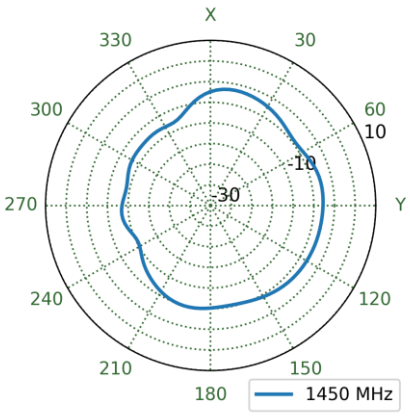
7.15 4G-5G 2 Patterns at 1450 MHz



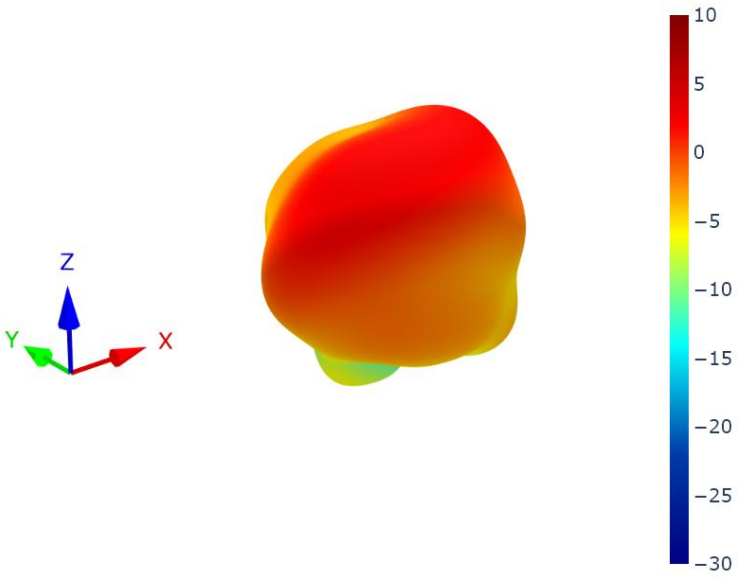
XZ Plane	YZ Plane	XY Plane
		

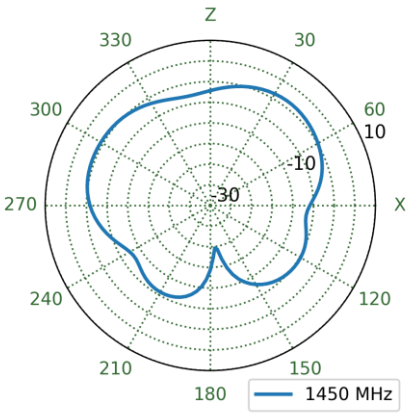
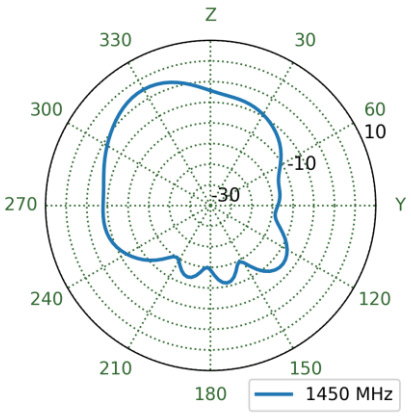
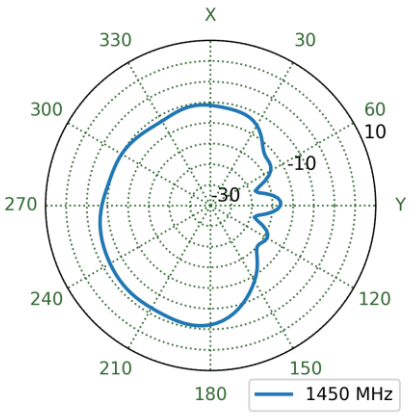
7.16 4G-5G 3 Patterns at 1450 MHz



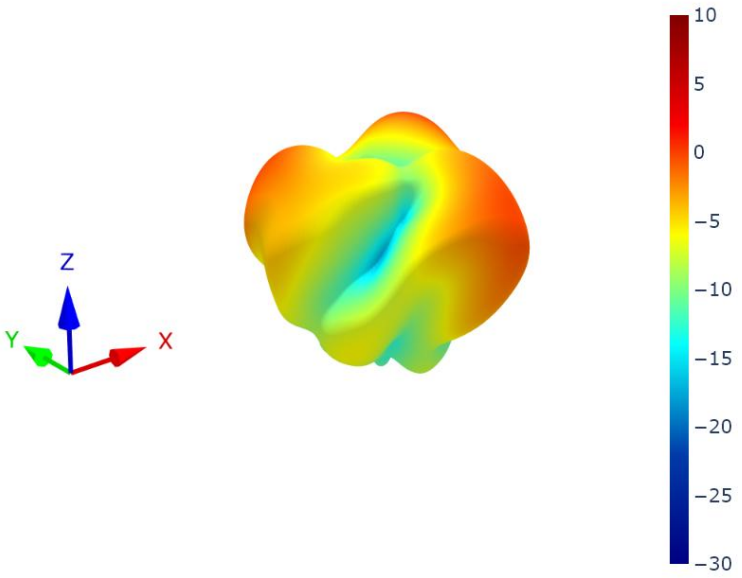
XZ Plane	YZ Plane	XY Plane
		

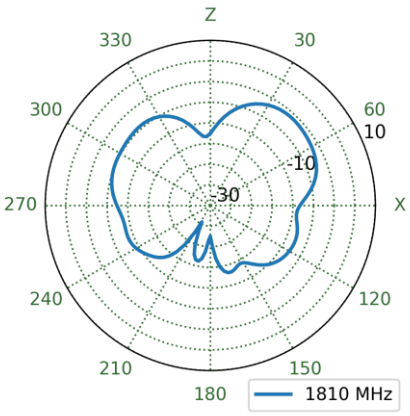
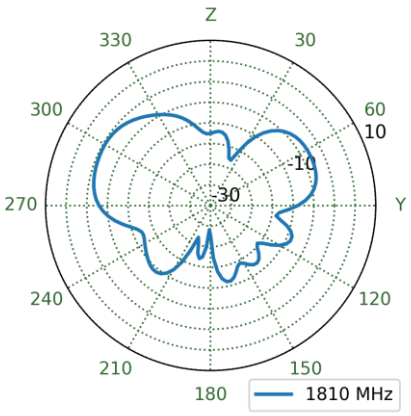
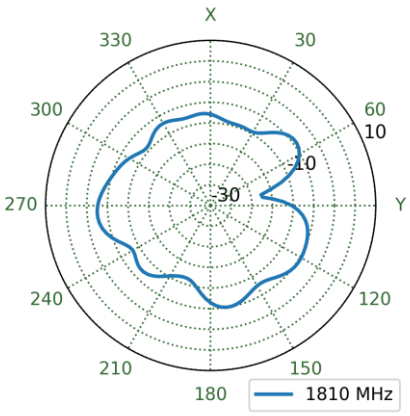
7.17 4G-5G 4 Patterns at 1450 MHz



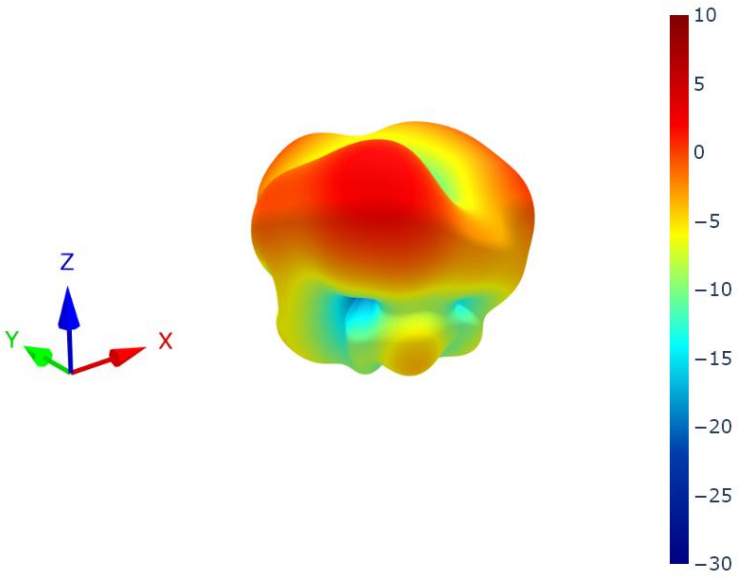
XZ Plane	YZ Plane	XY Plane
		

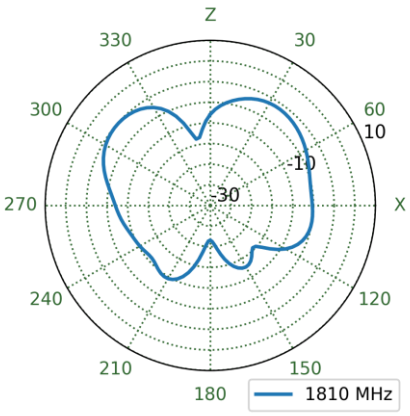
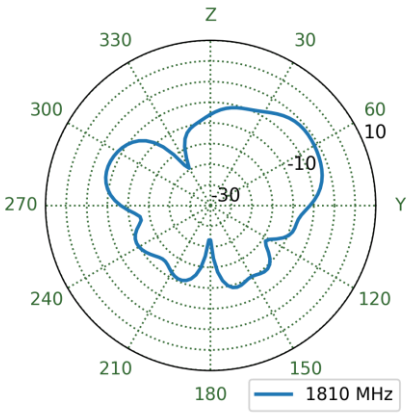
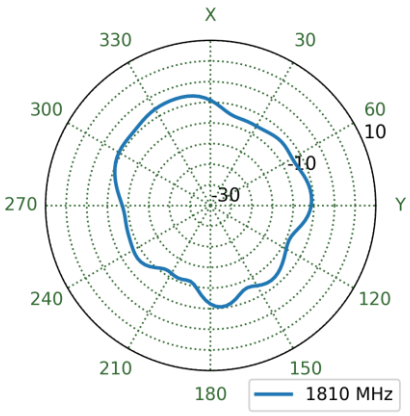
7.18 4G-5G 1 Patterns at 1810 MHz



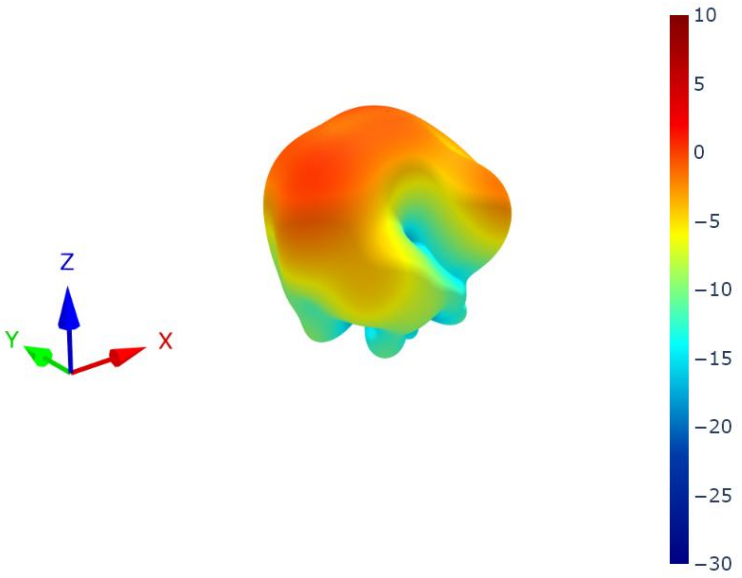
XZ Plane	YZ Plane	XY Plane
		

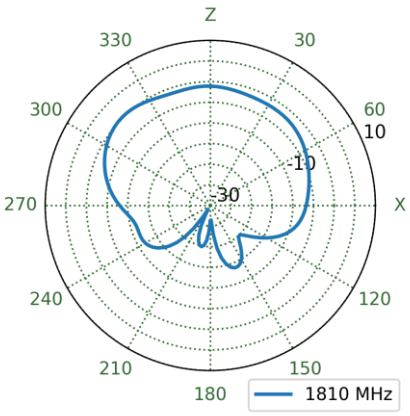
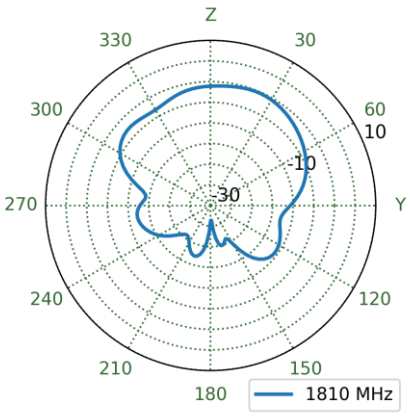
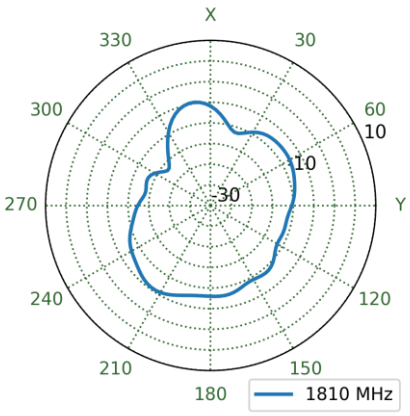
7.19 4G-5G 2 Patterns at 1810 MHz



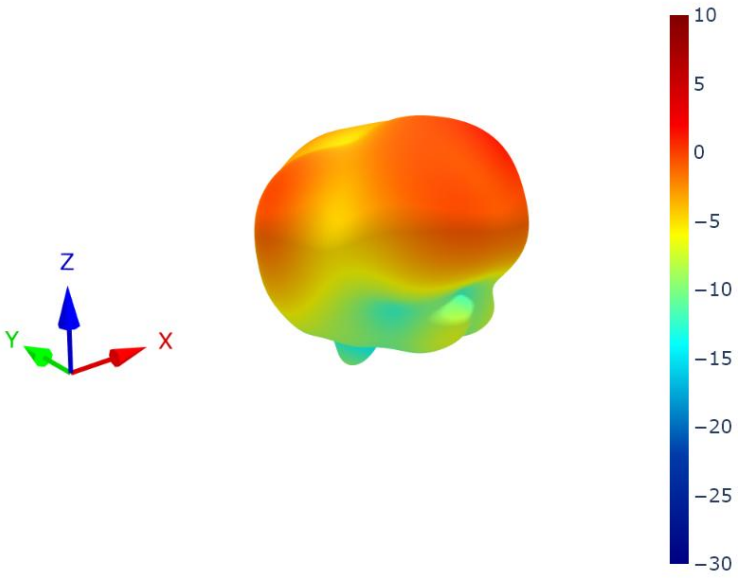
XZ Plane	YZ Plane	XY Plane
		

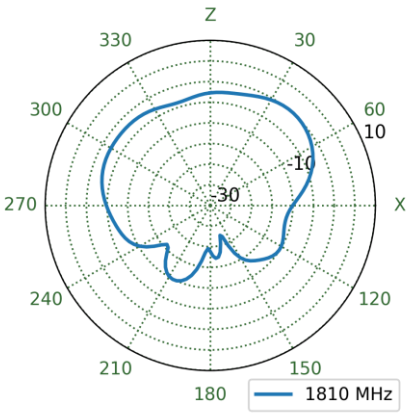
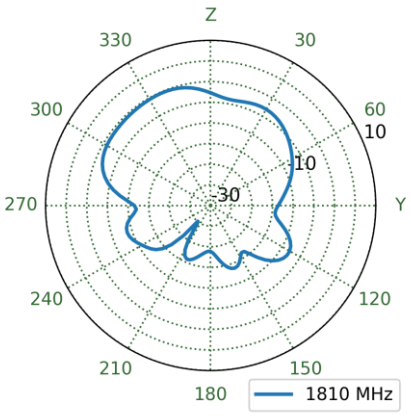
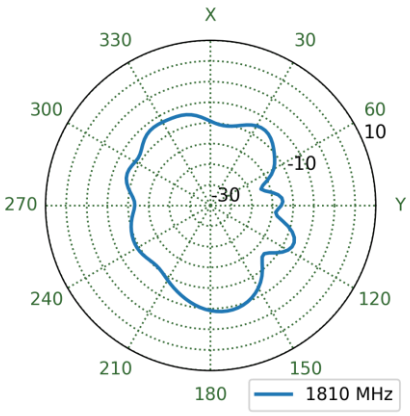
7.20 4G-5G 3 Patterns at 1810 MHz



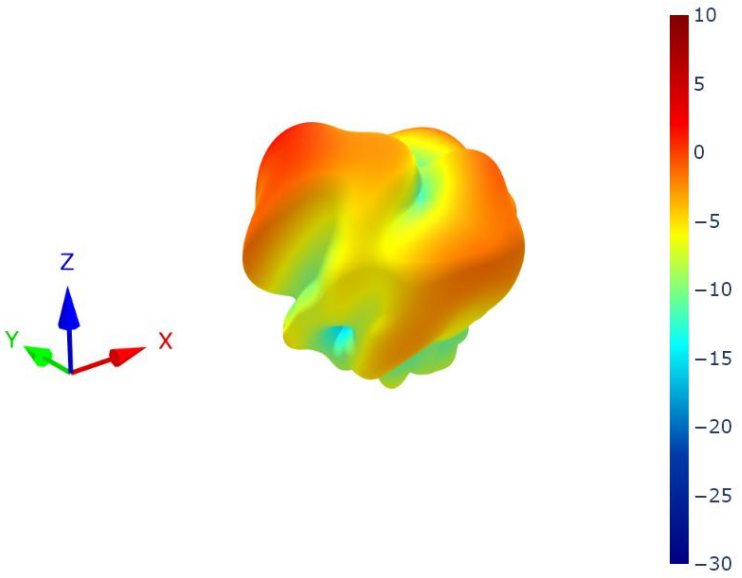
XZ Plane	YZ Plane	XY Plane
		

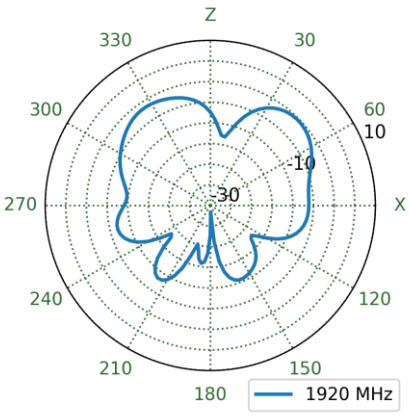
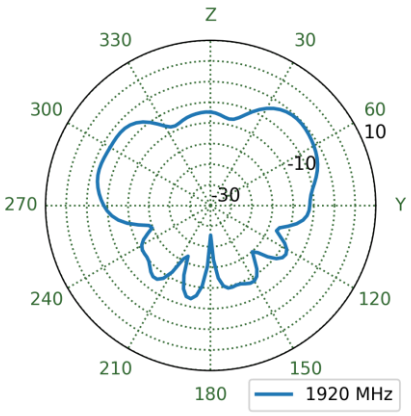
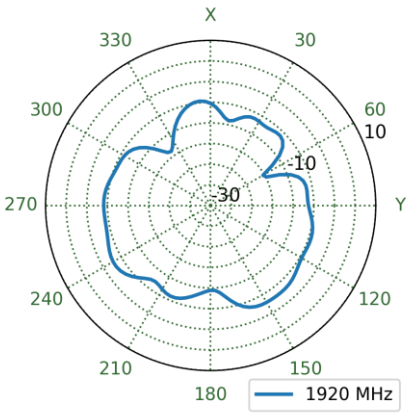
7.21 4G-5G 4 Patterns at 1810 MHz



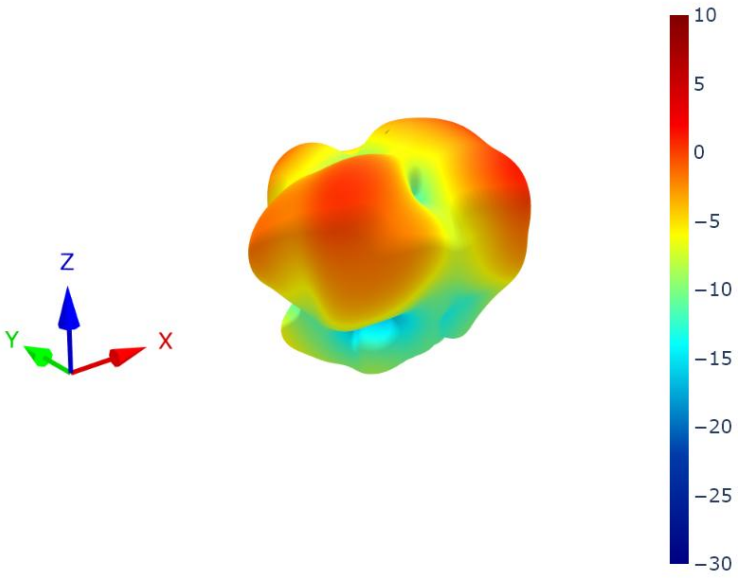
XZ Plane	YZ Plane	XY Plane
		

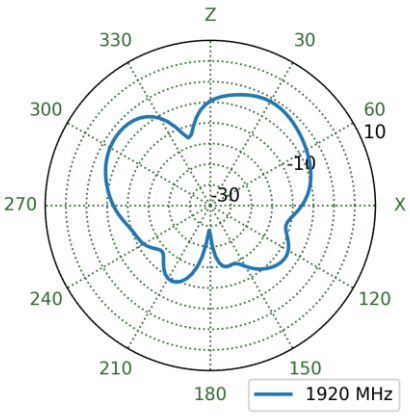
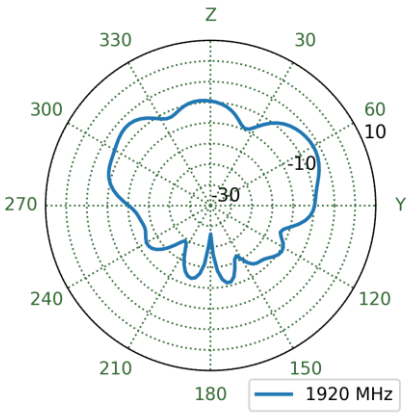
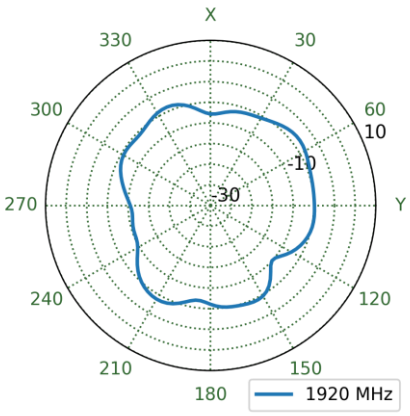
7.22 4G-5G 1 Patterns at 1920 MHz



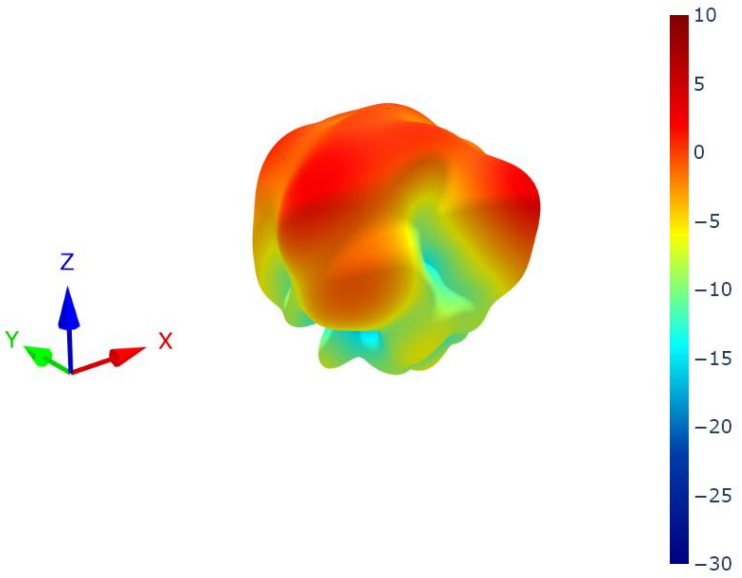
XZ Plane	YZ Plane	XY Plane
		

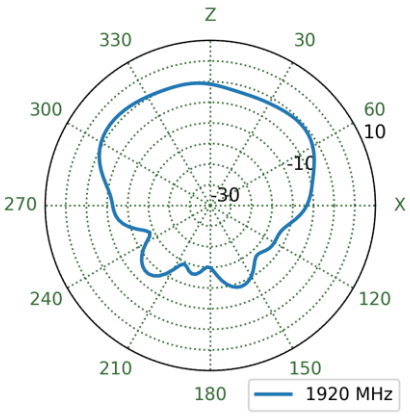
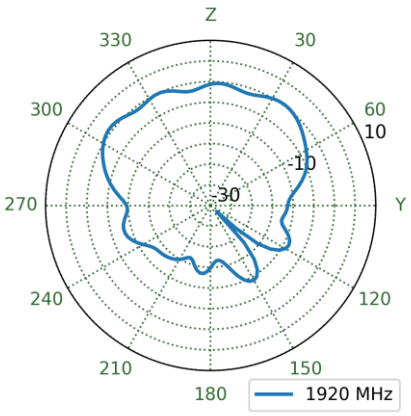
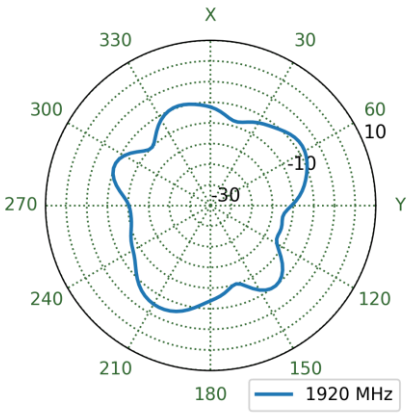
7.23 4G-5G 2 Patterns at 1920 MHz



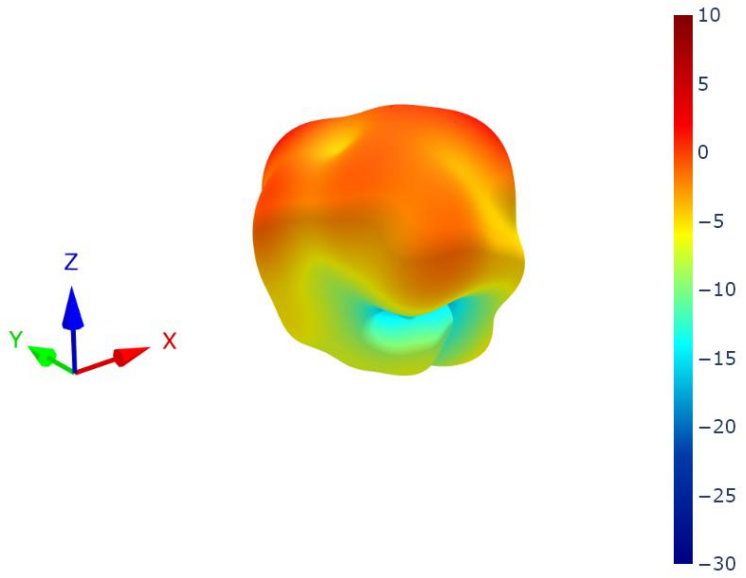
XZ Plane	YZ Plane	XY Plane
		

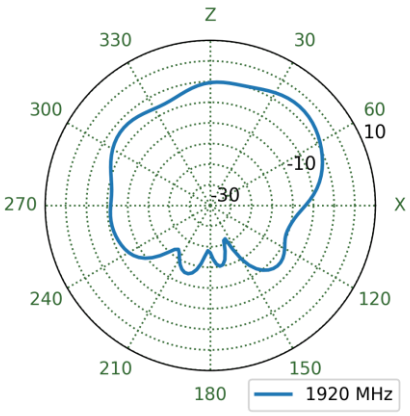
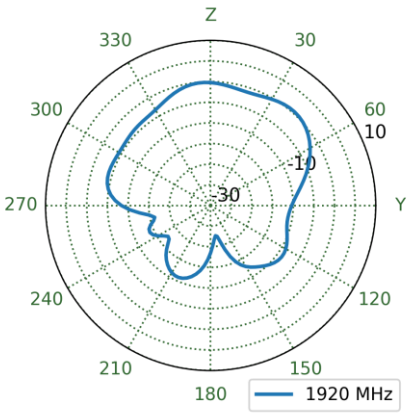
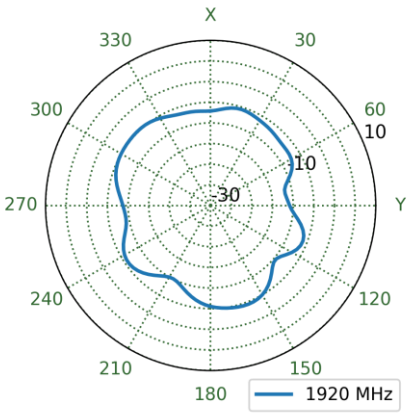
7.24 4G-5G 3 Patterns at 1920 MHz



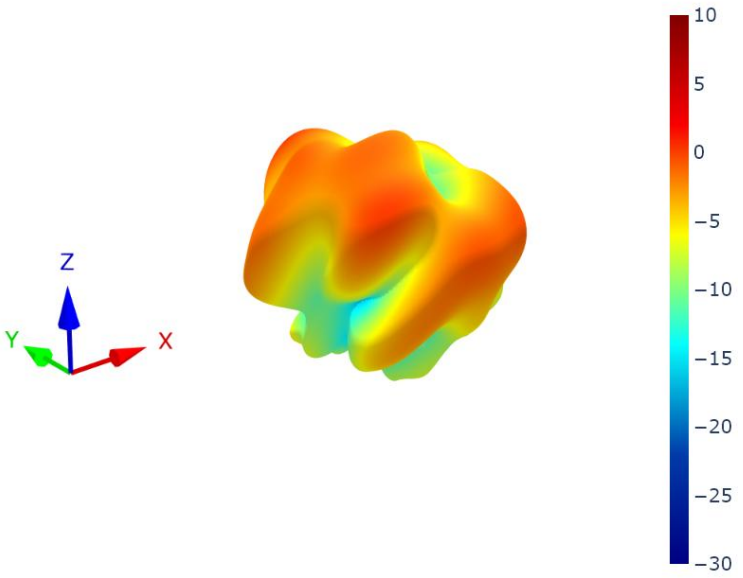
XZ Plane	YZ Plane	XY Plane
		

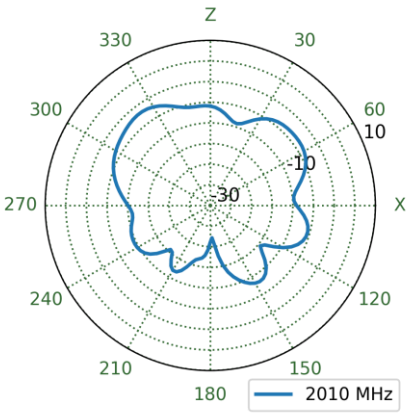
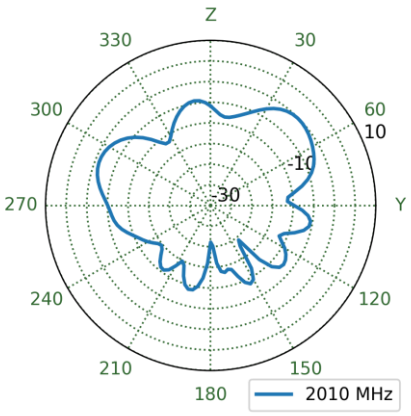
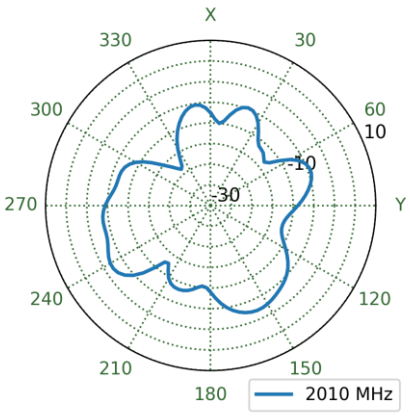
7.25 4G-5G 4 Patterns at 1920 MHz



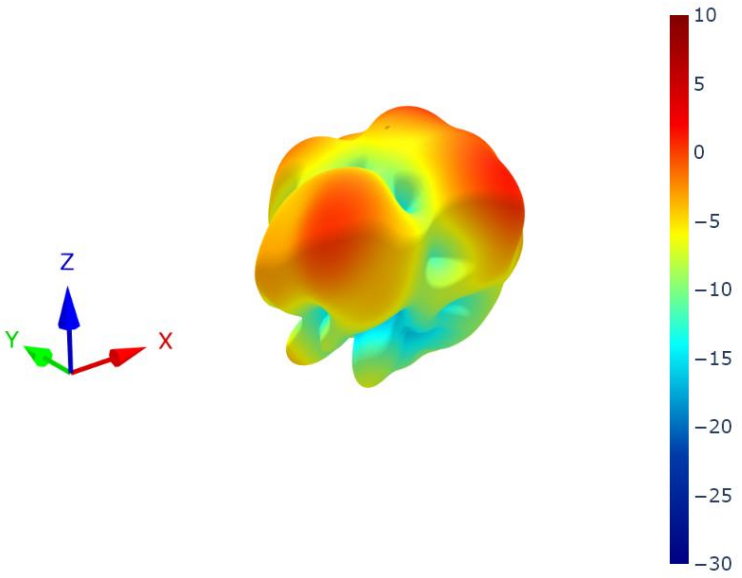
XZ Plane	YZ Plane	XY Plane
		

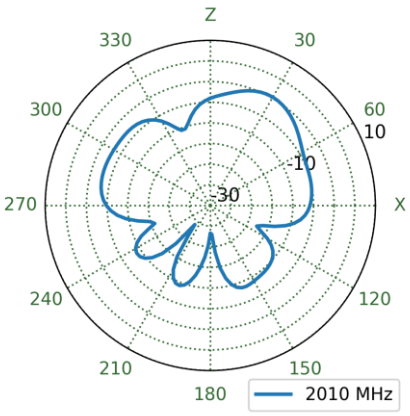
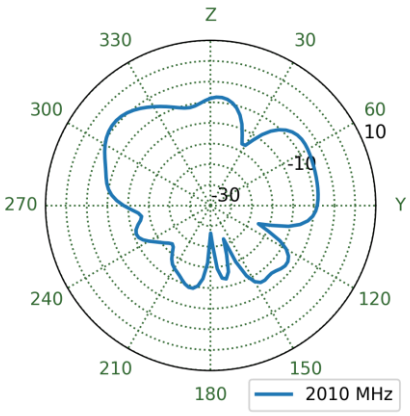
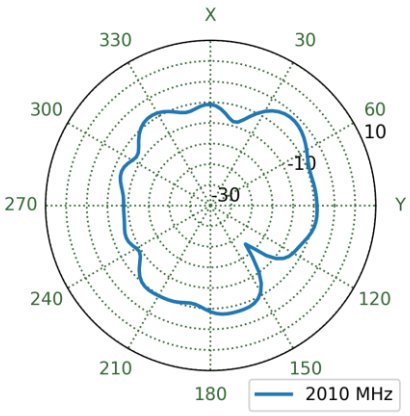
7.26 4G-5G 1 Patterns at 2010 MHz



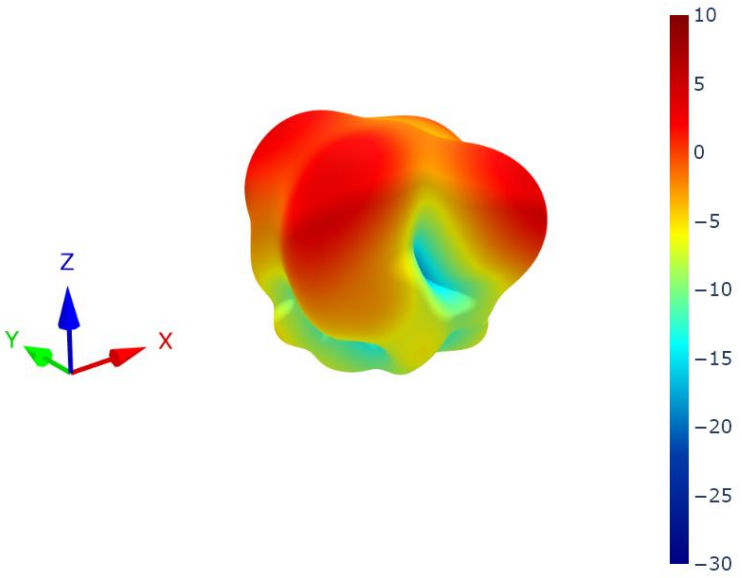
XZ Plane	YZ Plane	XY Plane
		

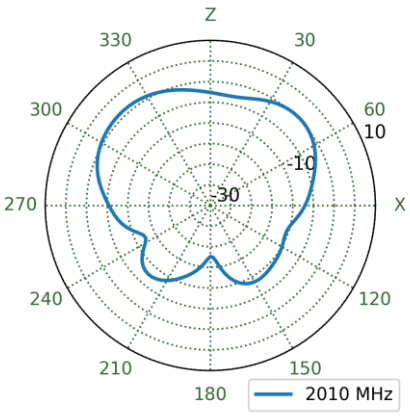
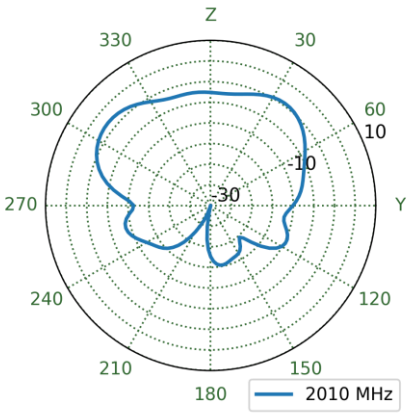
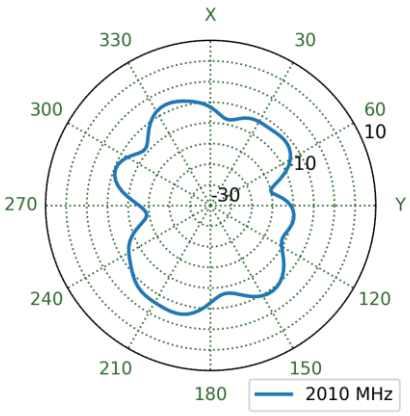
7.27 4G-5G 2 Patterns at 2010 MHz



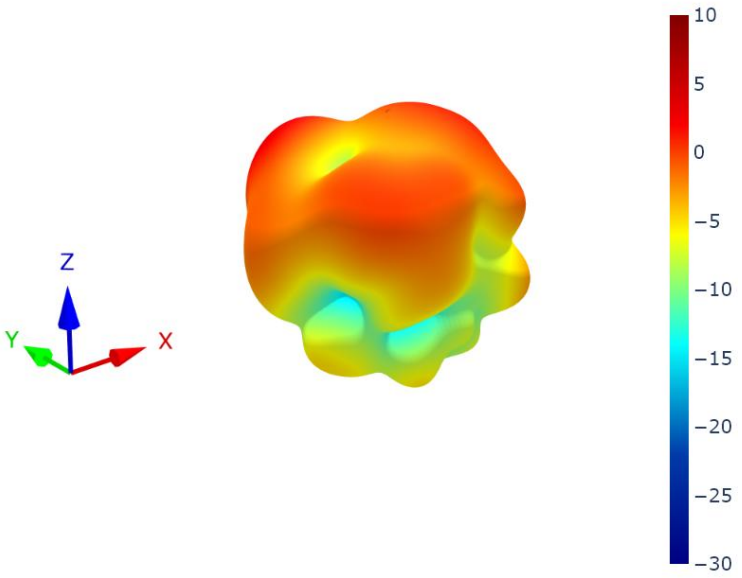
XZ Plane	YZ Plane	XY Plane
		

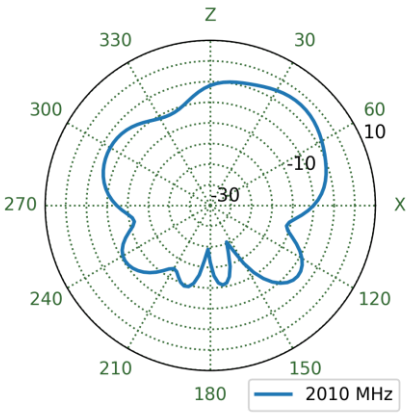
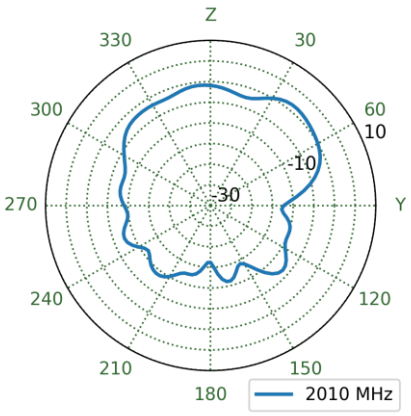
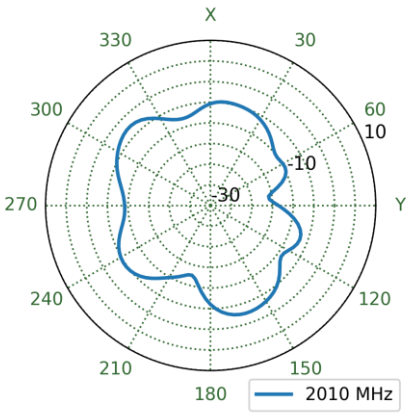
7.28 4G-5G 3 Patterns at 2010 MHz



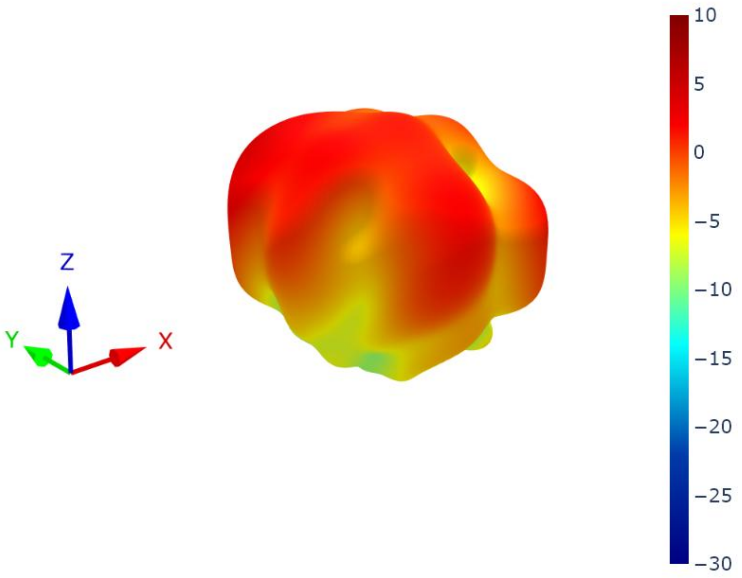
XZ Plane	YZ Plane	XY Plane
		

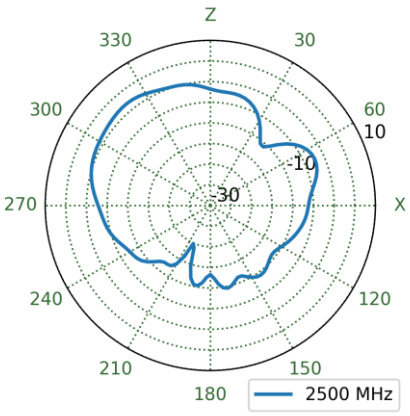
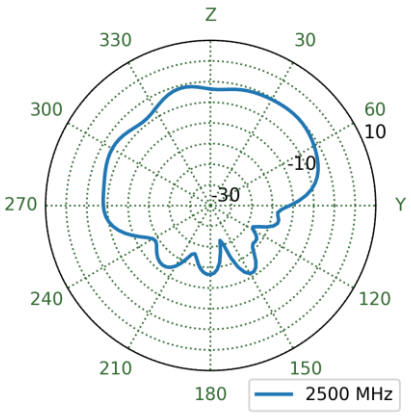
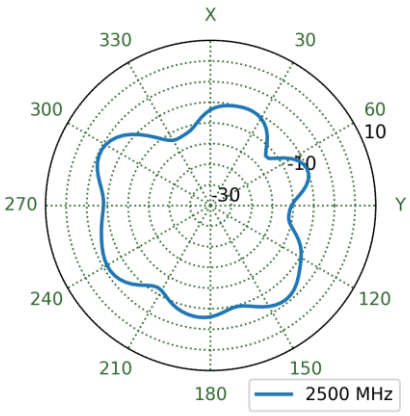
7.29 4G-5G 4 Patterns at 2010 MHz



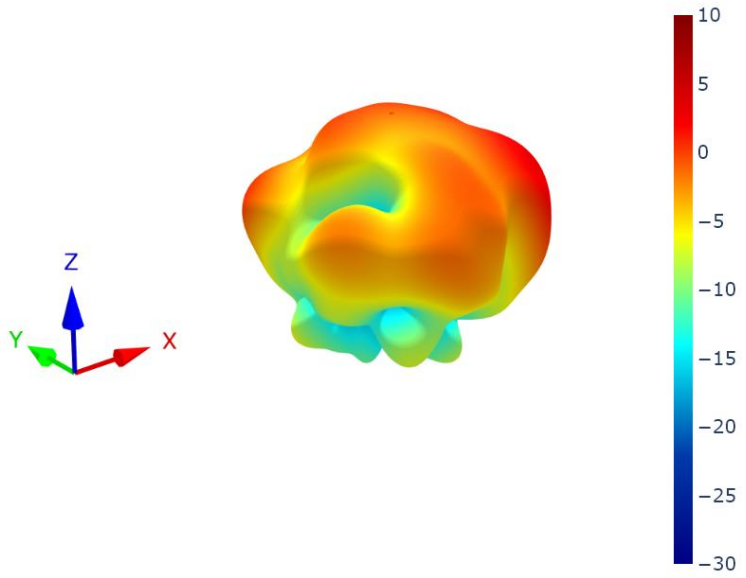
XZ Plane	YZ Plane	XY Plane
		

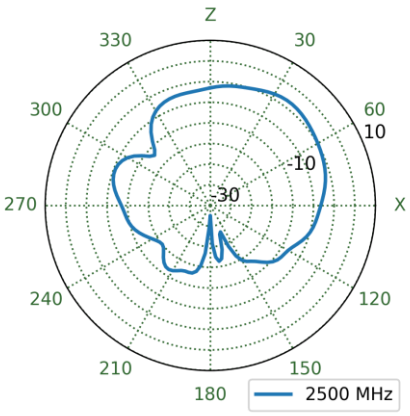
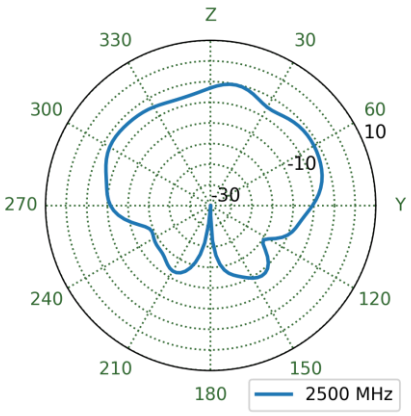
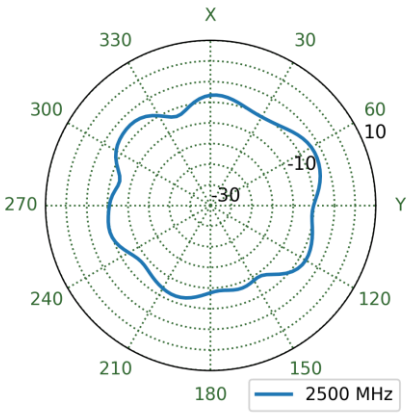
7.30 4G-5G 1 Patterns at 2500 MHz



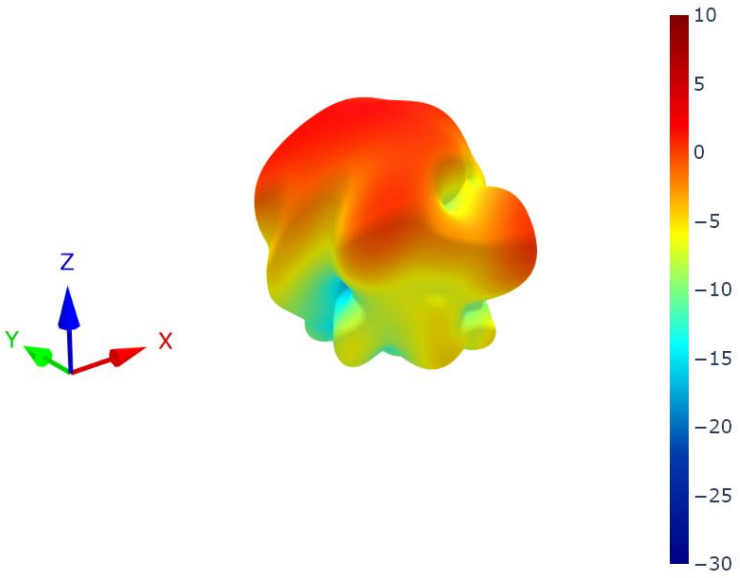
XZ Plane	YZ Plane	XY Plane
		

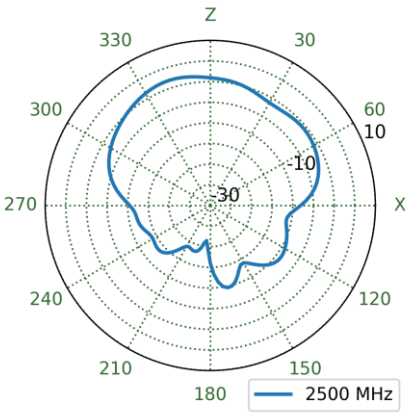
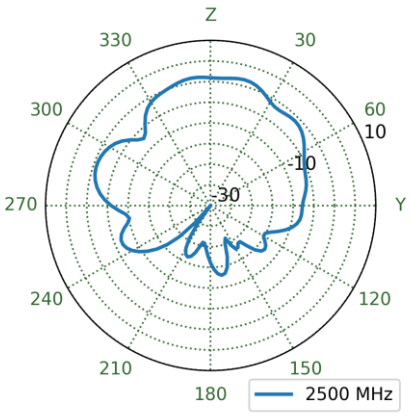
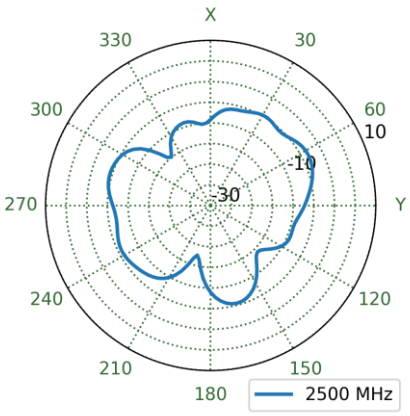
7.31 4G-5G 2 Patterns at 2500 MHz



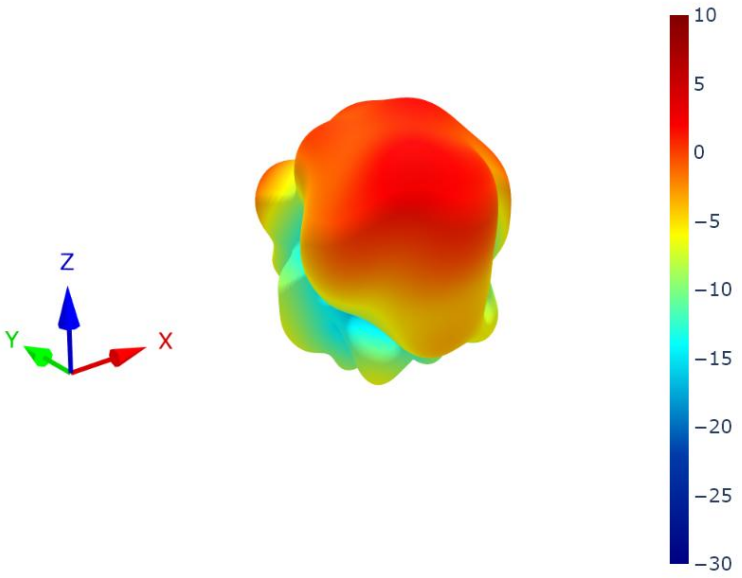
XZ Plane	YZ Plane	XY Plane
		

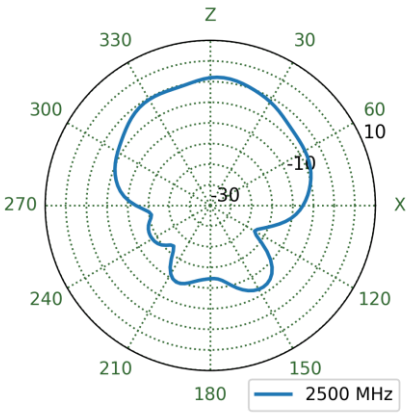
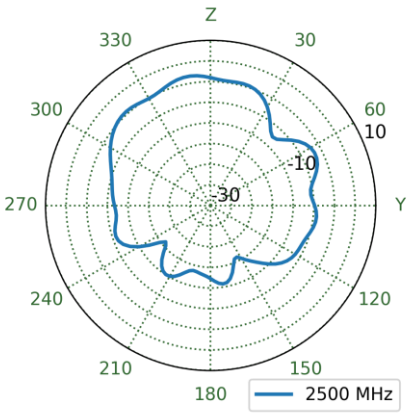
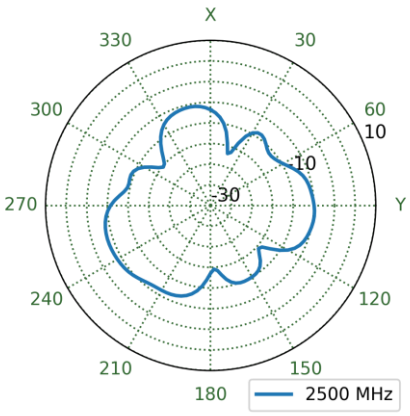
7.32 4G-5G 3 Patterns at 2500 MHz



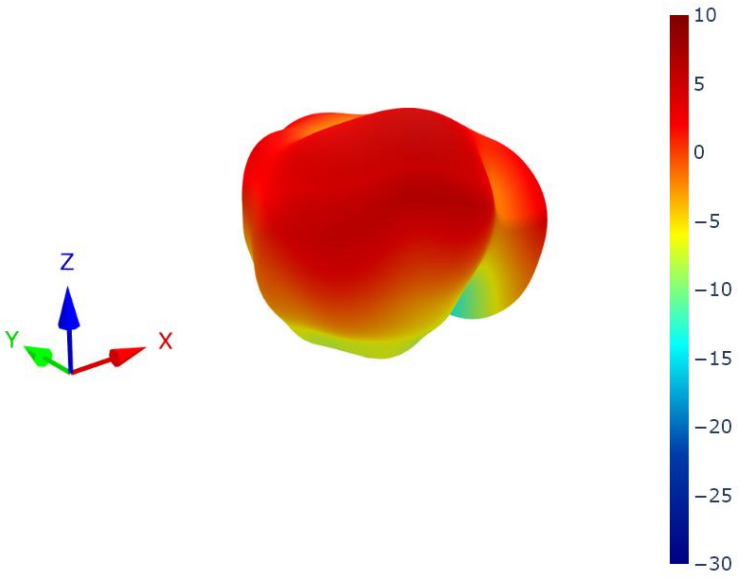
XZ Plane	YZ Plane	XY Plane
		

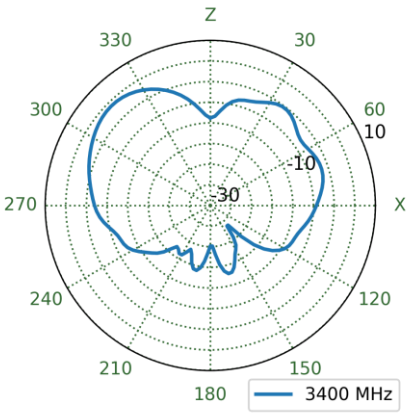
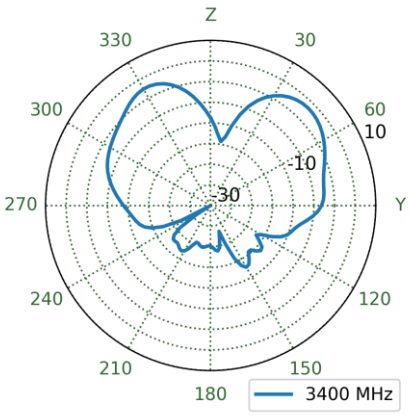
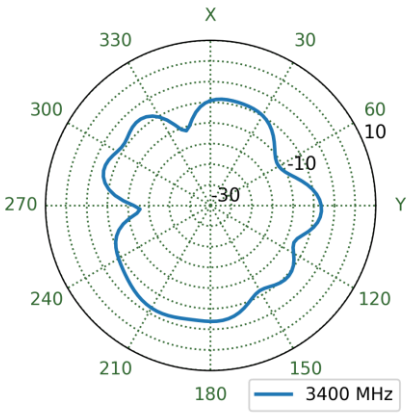
7.33 4G-5G 4 Patterns at 2500 MHz



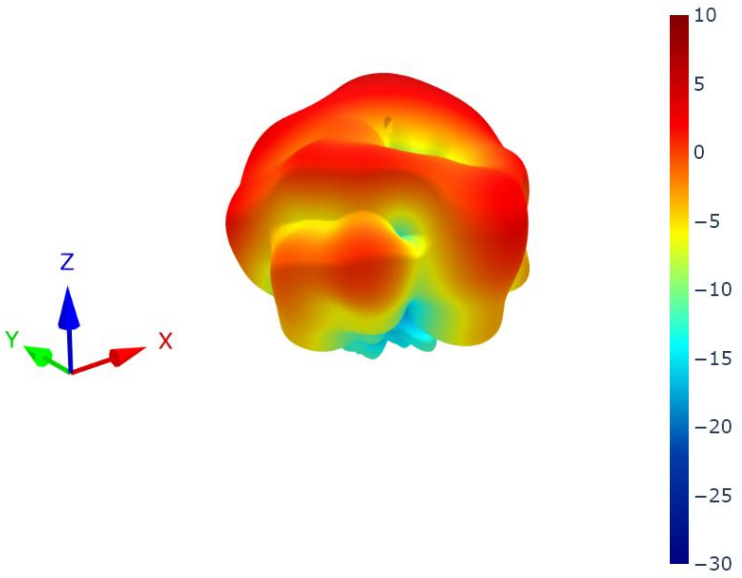
XZ Plane	YZ Plane	XY Plane
		

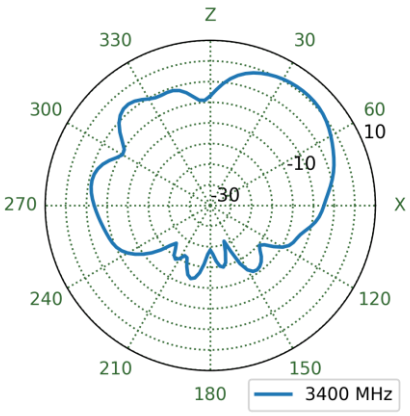
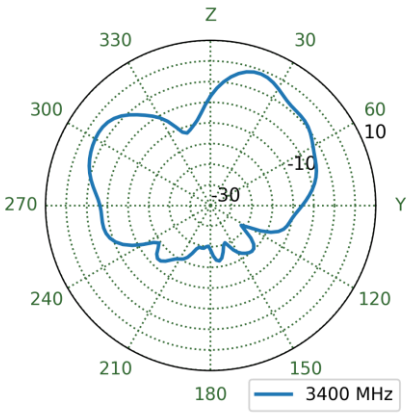
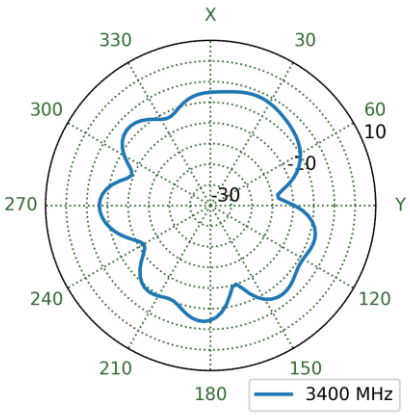
7.34 4G-5G 1 Patterns at 3400 MHz



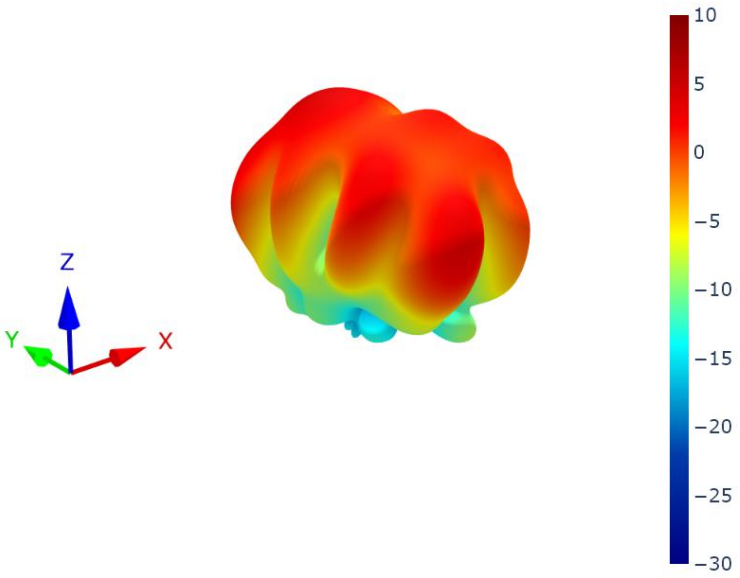
XZ Plane	YZ Plane	XY Plane
		

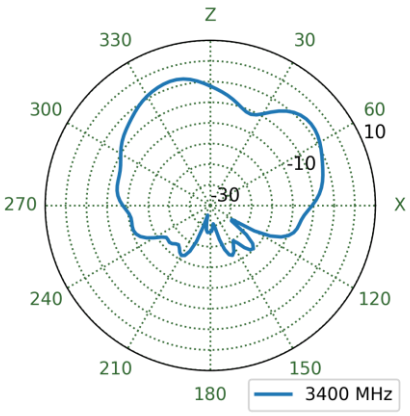
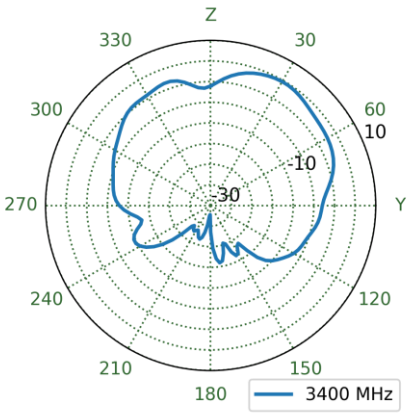
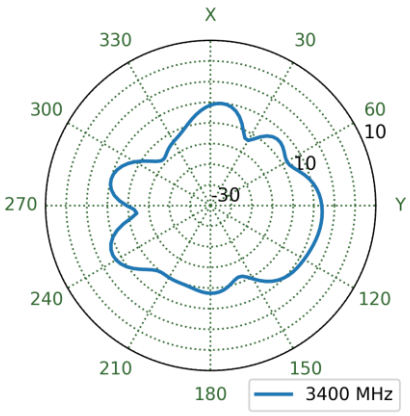
7.35 4G-5G 2 Patterns at 3400 MHz



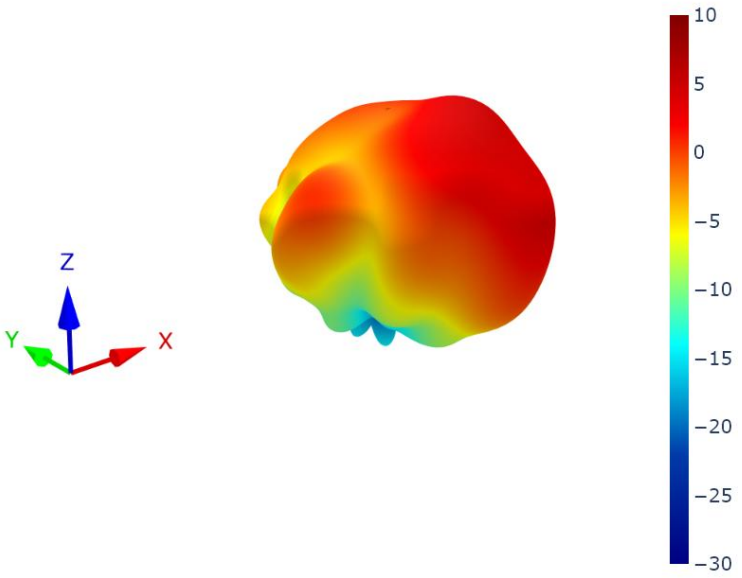
XZ Plane	YZ Plane	XY Plane
		

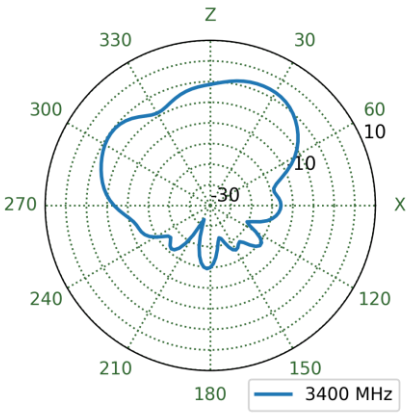
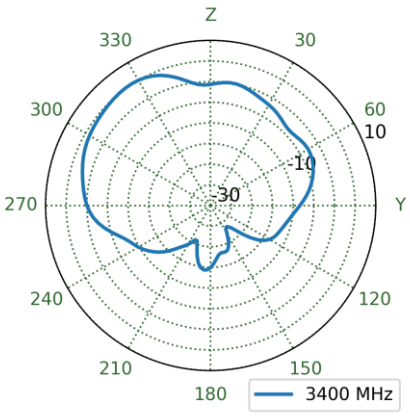
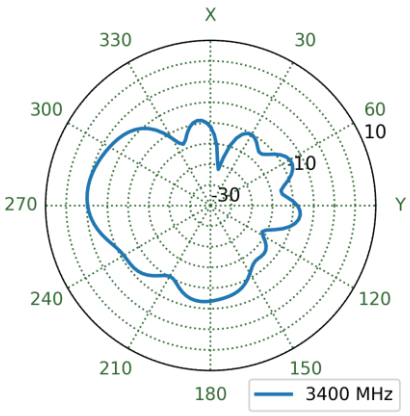
7.36 4G-5G 3 Patterns at 3400 MHz



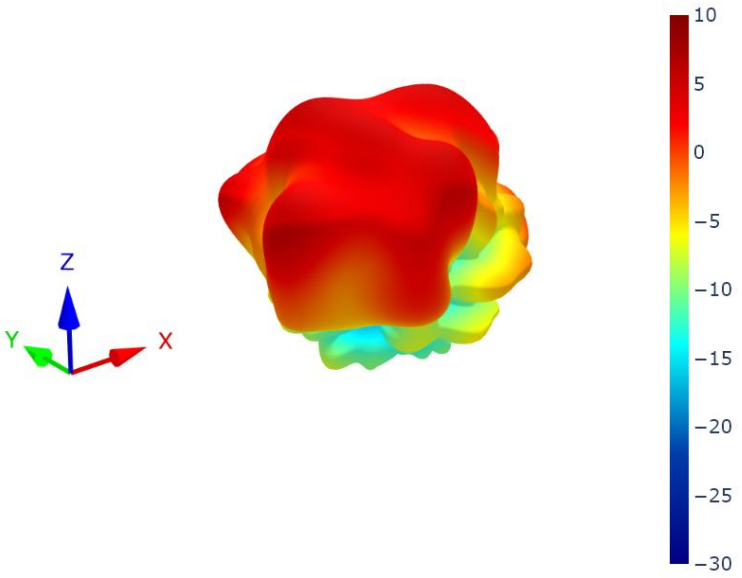
XZ Plane	YZ Plane	XY Plane
		

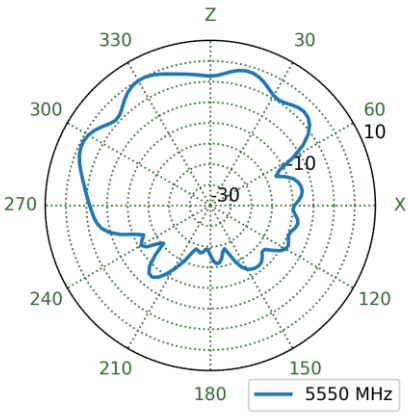
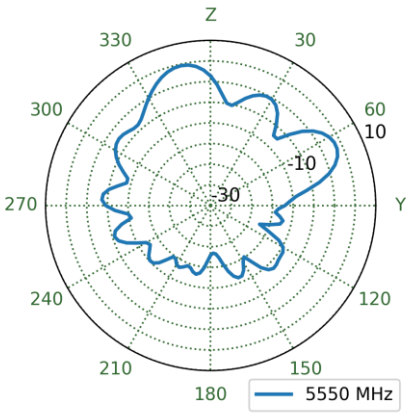
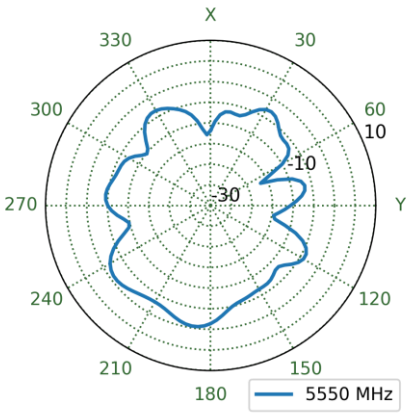
7.37 4G-5G 4 Patterns at 3400 MHz



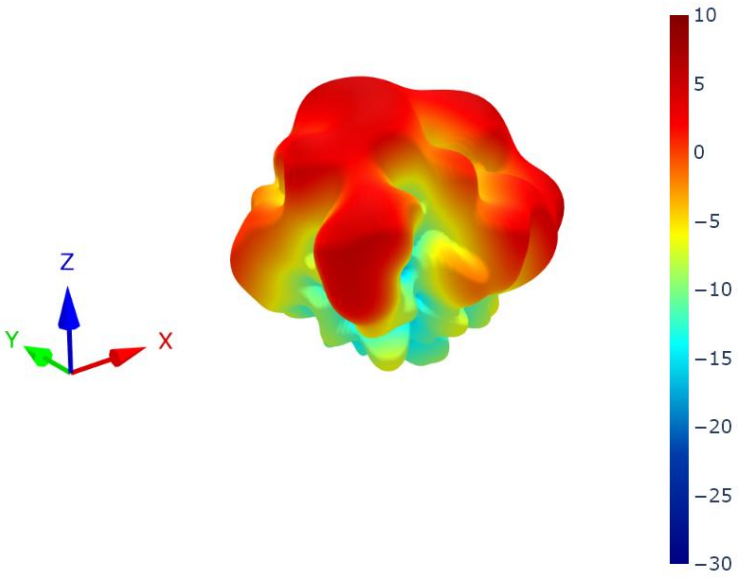
XZ Plane	YZ Plane	XY Plane
		

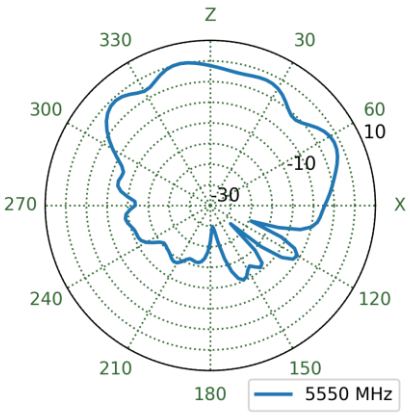
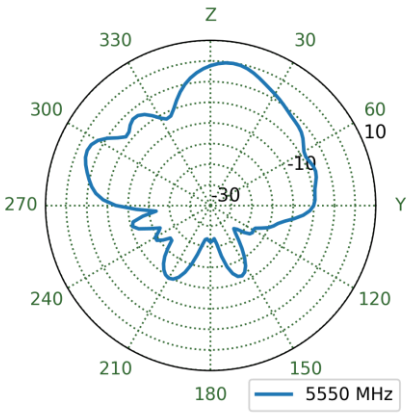
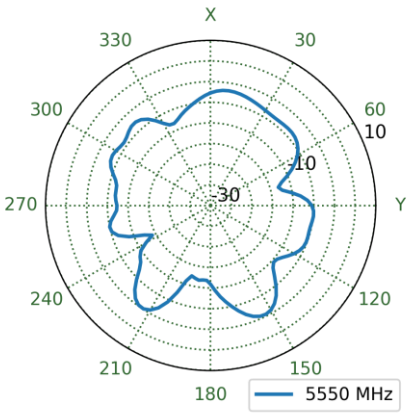
7.38 4G-5G 1 Patterns at 5550 MHz



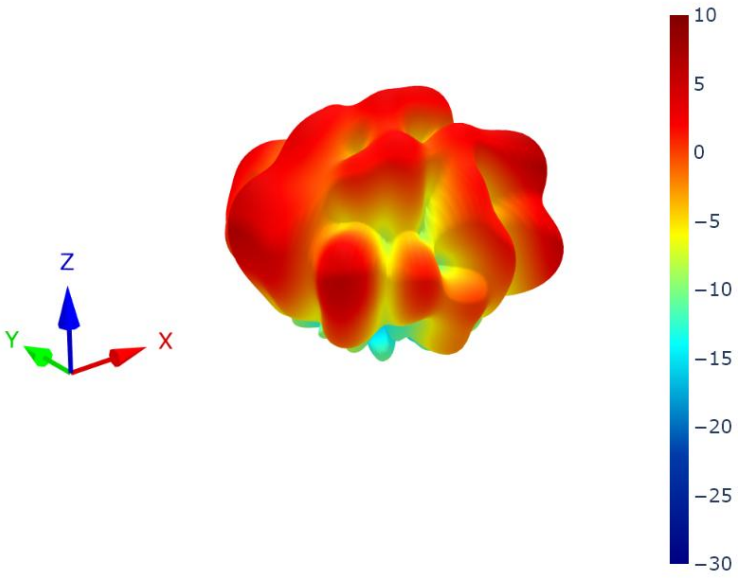
XZ Plane	YZ Plane	XY Plane
		

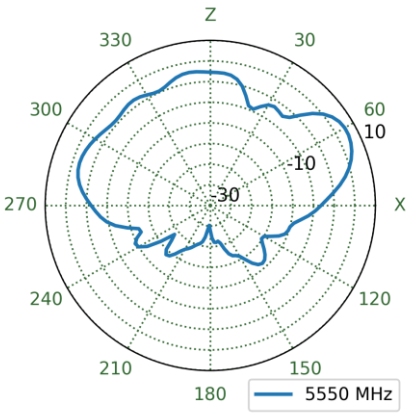
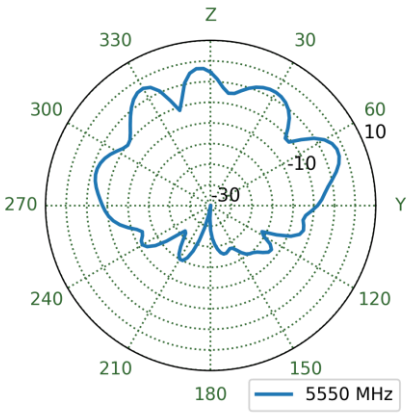
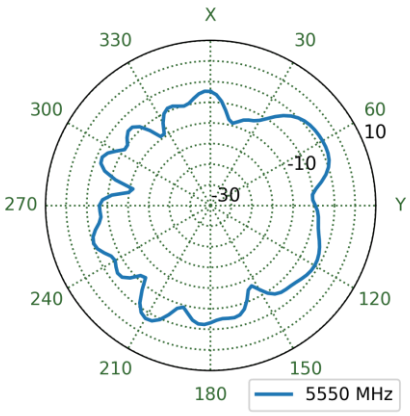
7.39 4G-5G 2 Patterns at 5550 MHz



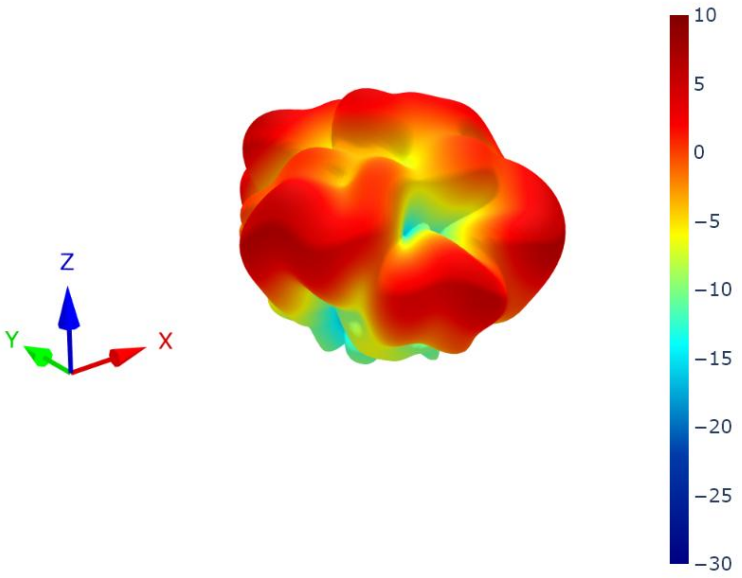
XZ Plane	YZ Plane	XY Plane
		

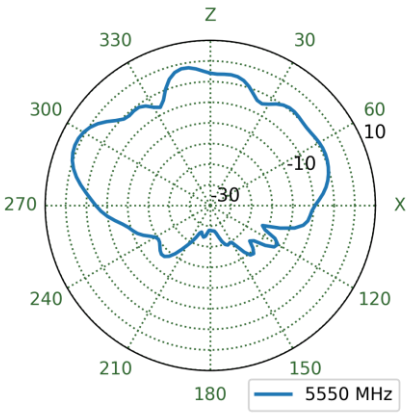
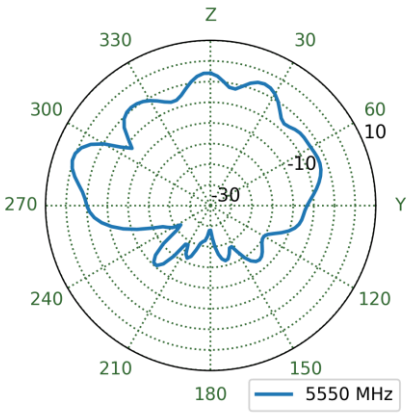
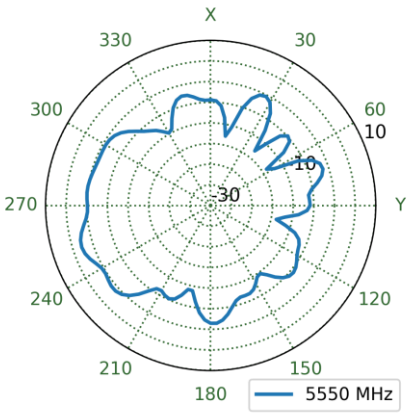
7.40 4G-5G 3 Patterns at 5550 MHz



XZ Plane	YZ Plane	XY Plane
		

7.41 4G-5G 4 Patterns at 5550 MHz



XZ Plane	YZ Plane	XY Plane
		

Changelog for the datasheet

SPE-20-8-005 - MA1504.AK.001

Revision: E (Current Version)	
Date:	2025-02-05
Notes:	Full datasheet update
Author:	Gary West

Previous Revisions

Revision: D	
Date:	2025-02-05
Notes:	Updated Installation Guidelines
Author:	Cesar Sousa

Revision: C	
Date:	2024-07-22
Notes:	Updated drawing
Author:	Conor McGrath

Revision: B	
Date:	2022-08-16
Notes:	Updated data
Author:	Gary West

Revision: A (Original First Release)	
Date:	2020-01-14
Notes:	Initial Release
Author:	Jack Conroy

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