TAOGLAS



Datasheet

Genesis

Part No:
Black - GEN.4.4C.2M.S2.B
White - GEN.4.4C.2M.S2.W

Description

Genesis 4-in-1 Adhesive Mount Antenna

4*Wideband Cellular (617-7125 MHz) with 2m TGC-200 and SMA(M)

Features:

Wideband Coverage: 617-7125MHz
Adhesive Mounted Antenna
IP67 Rated Enclosure
Cables: 2m Low Loss TGC-200
Connectors: SMA(M)
Dimensions: 205 x 68 x 12.5mm
RoHS Compliant

1.	Introduction	3
2.	Specification	4
3.	Mechanical Drawing	6
4.	Packaging	7
5.	Antenna Characteristics	8
6.	Radiation Patterns	12
7.	Application Note	49
	Changelog	51

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1. Introduction



The Taoglas **Genesis Series** of antennas are low-profile, adhesive-mount, wideband external antenna designed for 5G, 4G/LTE, and Wi-Fi 6E applications. The **GEN.4.4C** is a 4-in-1 cellular antenna that provides frequency coverage from 617 to 7125 MHz, enabling both global cellular, and Wi-Fi connectivity, within a single compact housing. The antenna is fully IP67 rated, making it suitable for demanding automotive and industrial environments.

Designed for installation, via a strong double sided adhesive pad, on either glass or plastic surfaces, the Genesis antenna is ideal for in-vehicle and enclosed system applications where robust performance and discrete integration are required. The omni-directional radiation pattern ensures reliable coverage in mobile and fixed installations.

The antenna integrates four high-efficiency radiating elements with good isolation to support MIMO performance, helping to maximize data throughput and link reliability across modern wireless networks. Low-loss TGC-200 cables are used to maintain efficiency over the 2 m cable length supplied.

Typical applications include:

- Telematics and vehicle connectivity
- Public Transportation and automotive systems
- Remote monitoring and industrial equipment
- Smart City applications requiring high-speed 4G/5G and Wi-Fi data links
- Signage, Retail & Payment Terminals

Cable length and connector types can be customized. Please contact your local Taoglas support team for additional configuration options.

2. Specification

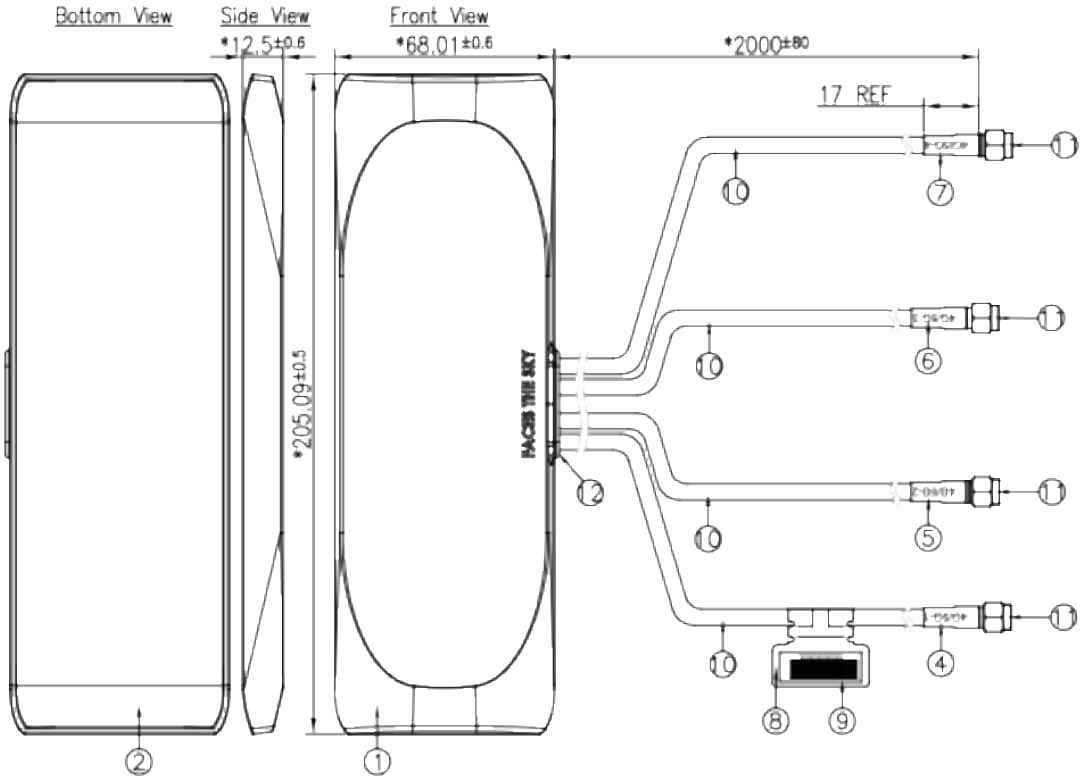
Electrical									
Band	Frequency (MHz)	Measurement	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
5GNR/4G Band71	617-698	4G5G-1	35.6	-4.49	-0.54	50 Ω	Linear	Omni directional	10W
		4G5G-2	30.8	-5.11	-1.33				
		4G5G-3	32.2	-4.93	-0.62				
		4G5G-4	35.2	-4.53	-1.04				
4G/3G Band 12,13,14,17,28,29	698-806	4G5G-1	35.2	-4.53	0.53				
		4G5G-2	33.0	-4.82	-0.04				
		4G5G-3	37.2	-4.30	0.55				
		4G5G-4	37.6	-4.24	0.41				
4G/3G/NB-IoT/Cat M Band 5,8,18,19,20,26,27	824-960	4G5G-1	35.8	-4.46	1.26				
		4G5G-2	37.5	-4.26	1.29				
		4G5G-3	34.5	-4.62	0.35				
		4G5G-4	30.8	-5.11	0.31				
5GNR/4G Band 21,32,74,75,76	1427-1518	4G5G-1	40.3	-3.94	3.63				
		4G5G-2	43.8	-3.59	1.64				
		4G5G-3	52.2	-2.83	2.49				
		4G5G-4	47.3	-3.25	4.47				
4G/3G Band 1,2,3,4,9,23,25,35,39, 66	1710-2200	4G5G-1	61.6	-2.10	4.72				
		4G5G-2	62.2	-2.06	5.10				
		4G5G-3	58.1	-2.36	4.39				
		4G5G-4	55.6	-2.55	3.98				
4G/3G Band 7,30,38,40,41	2300-2690	4G5G-1	48.4	-3.15	3.63				
		4G5G-2	48.8	-3.12	4.27				
		4G5G-3	49.0	-3.10	5.65				
		4G5G-4	59.2	-2.28	4.39				
5GNR/4G Band 22,42,48,77,78,79	3300-5000	4G5G-1	58.1	-2.36	4.78				
		4G5G-2	61.4	-2.12	4.48				
		4G5G-3	63.0	-2.01	4.70				
		4G5G-4	58.0	-2.37	7.95				
LTE5200/Wi-Fi5800	5150-5925	4G5G-1	64.3	-1.92	5.76				
		4G5G-2	63.8	-1.95	3.87				
		4G5G-3	67.1	-1.73	3.79				
		4G5G-4	55.2	-2.58	8.50				
Wi-Fi - 6GHz	5925-7125	4G5G-1	59.7	-2.24	5.15				
		4G5G-2	57.7	-2.39	3.88				
		4G5G-3	59.9	-2.23	3.86				
		4G5G-4	57.4	-2.41	6.85				
Results shown tested with 0.3m of TGC-200 Cable									

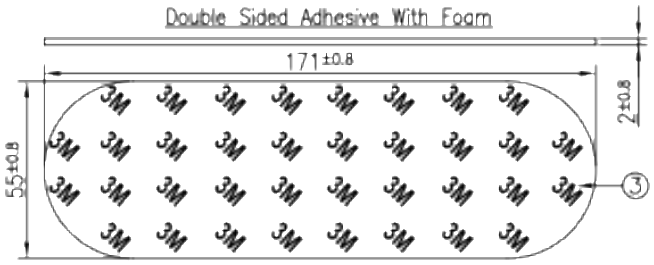
Mechanical	
Dimensions	68 x 205.1 x 12.5mm
Weight	401.5g
Material	ABS + PC / PC345
Connector*	SMA(M)
Cable*	2m of TGC-200

Environmental	
Enclosure Waterproof Rating	IP67 Rated
Operation Temperature	40°C to 85°C
Storage Temperature	40°C to 85°C
Relative Humidity	Non-condensing 65°C 95% RH

*Cable lengths and connectors are customizable upon request

3. Mechanical Drawing





	Name	Material	Finish	QTY
1	Housing Top MA275	ABS+PC/PC345	White/Black	1
2	Housing Bottom MA275	ABS+PC/PC345	White/Black	1
3	Double Sided Adhesive(Black Foam)	3M9448+CR4305	White Liner	1
4	Heat Shrink Tube (4G/5G-1)	PE	Red Tube/White Text	
5	Heat Shrink Tube (4G/5G-2)	PE	Red Tube/White Text	1
6	Heat Shrink Tube (4G/5G-3)	PE	Red Tube/White Text	1
7	Heat Shrink Tube (4G/5G-4)	PE	Red Tube/White Text	1
8	Empty Label	PEPA	White	1
9	Barcode Label	PET	White	1
10	TGC200 Coaxial Cable	PE	White	4
11	SMA(M)ST for TGC200	Brass	Au Plated	4
12	MA275 Rubber 5 Holes	Silicone Rubber	White	1

4. Packaging



☑ 1 PCS / PE bag

☑ PE bag(mm): 280x450 (Ref.)

☑ Weight (g): 417 ±3%

(Without packaging (g): 401.5 ±3%)

☑ SPQ Label



☑ 20 PCS / Carton

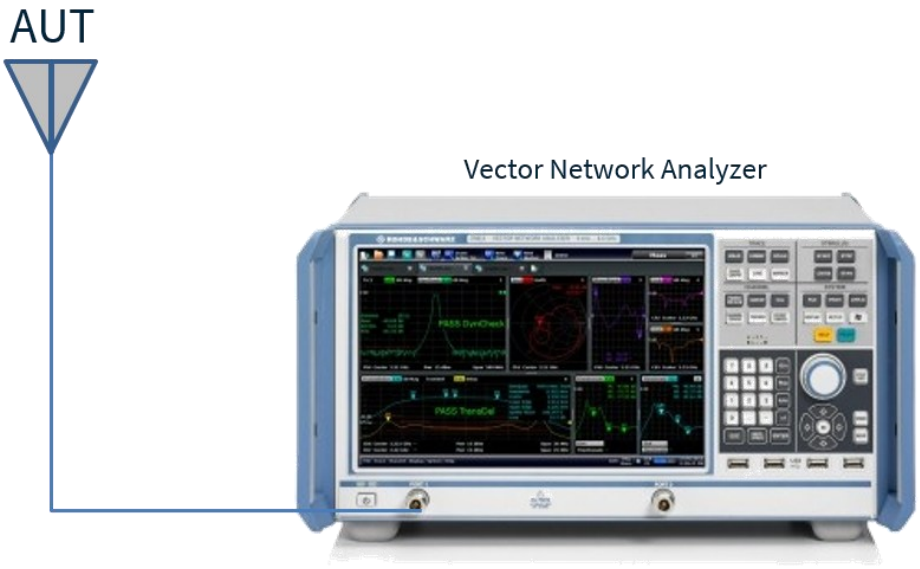
☑ Carton(mm): 360x360x400

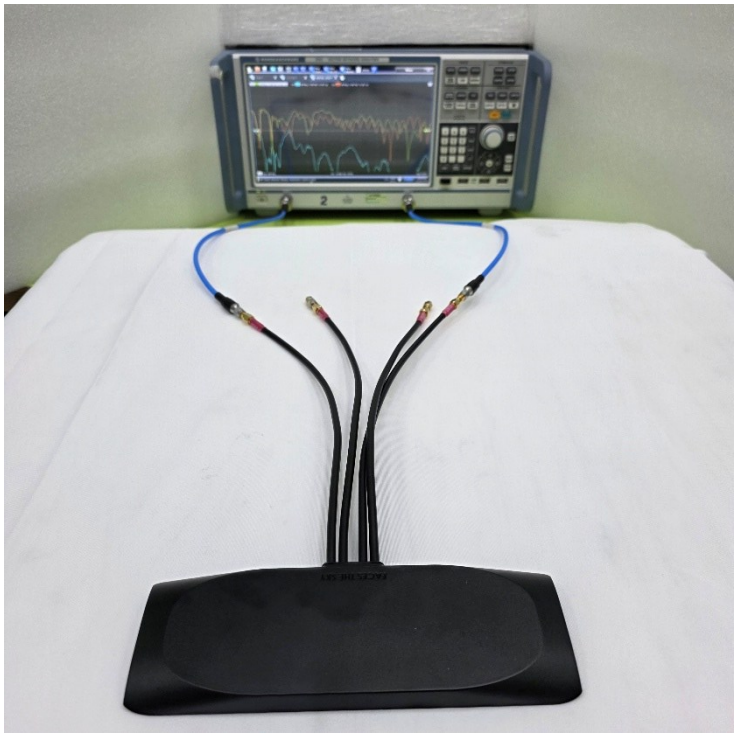
☑ Weight (Kg): 9.24 ±3%

☑ Carton Label

5. Antenna Characteristics

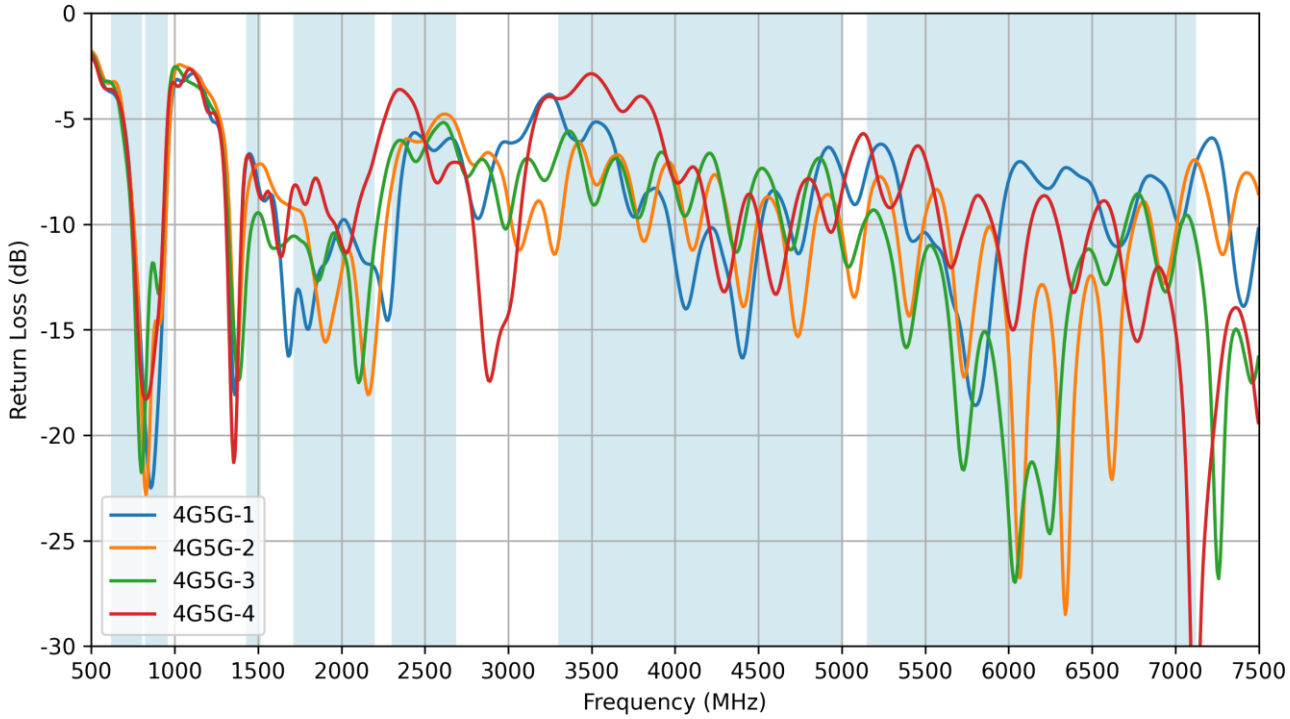
5.1 Test Setup



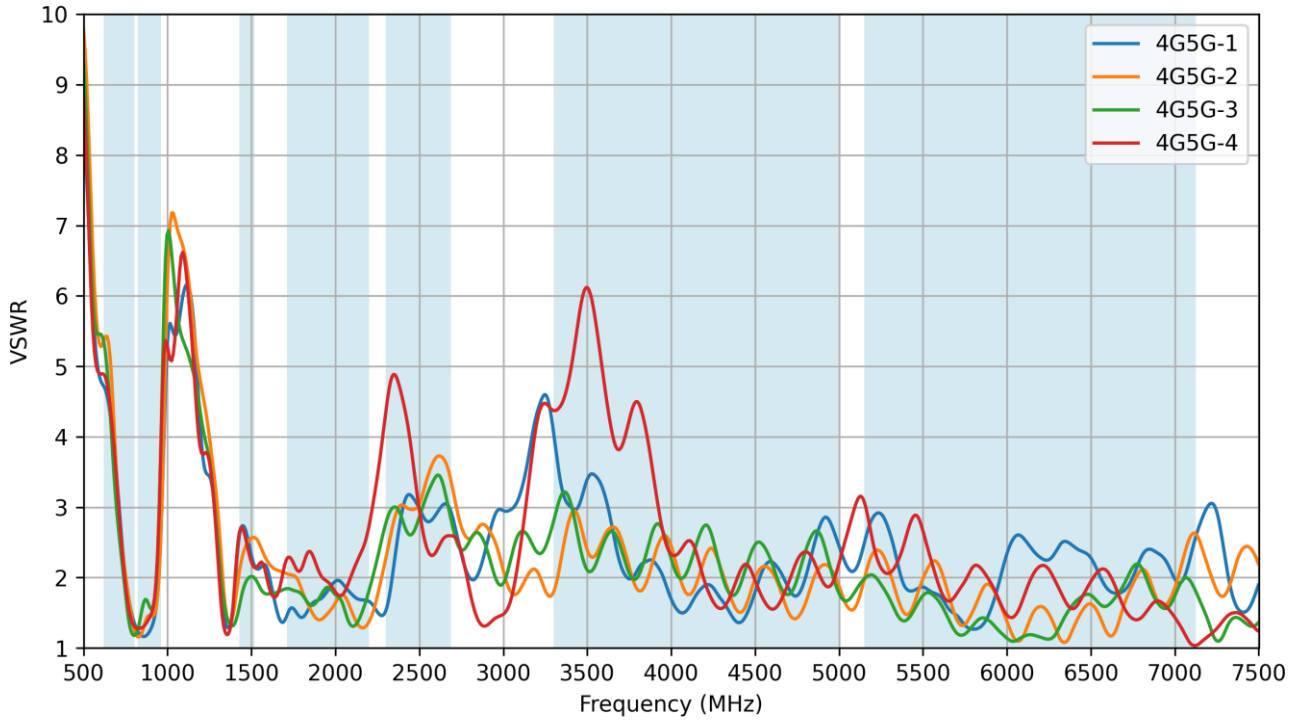


VNA Test Set-up

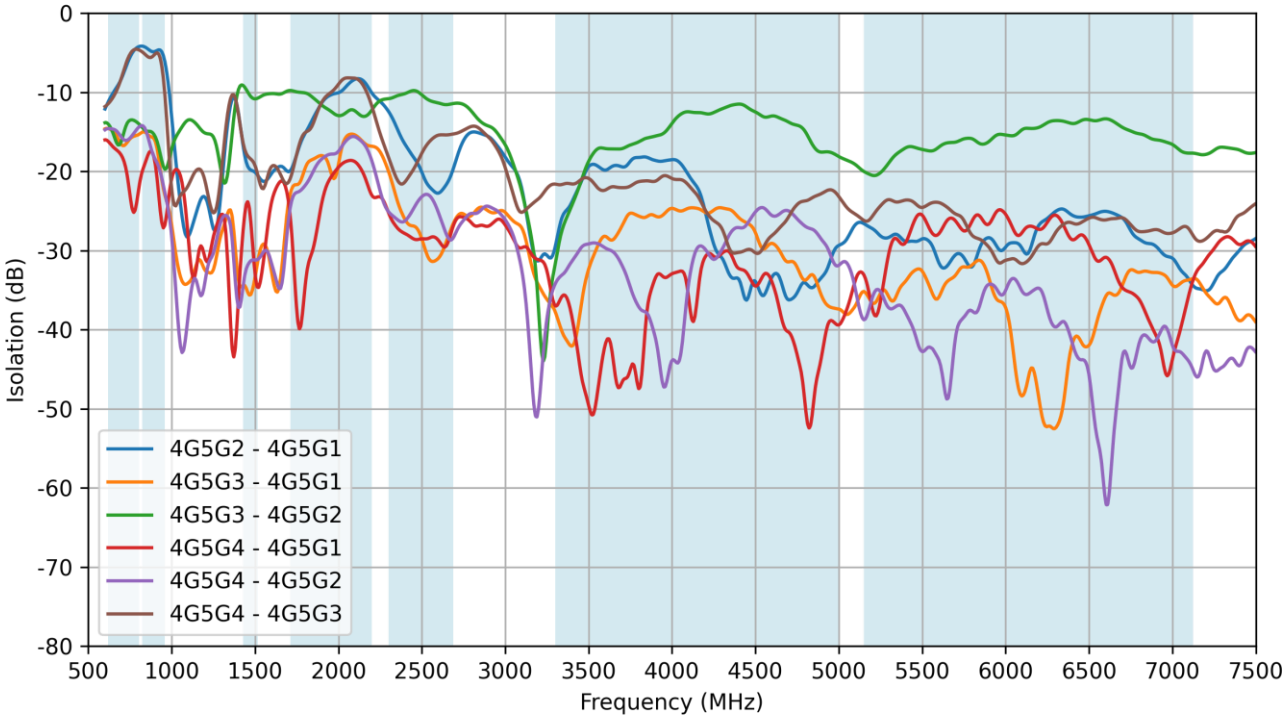
5.2 Return Loss



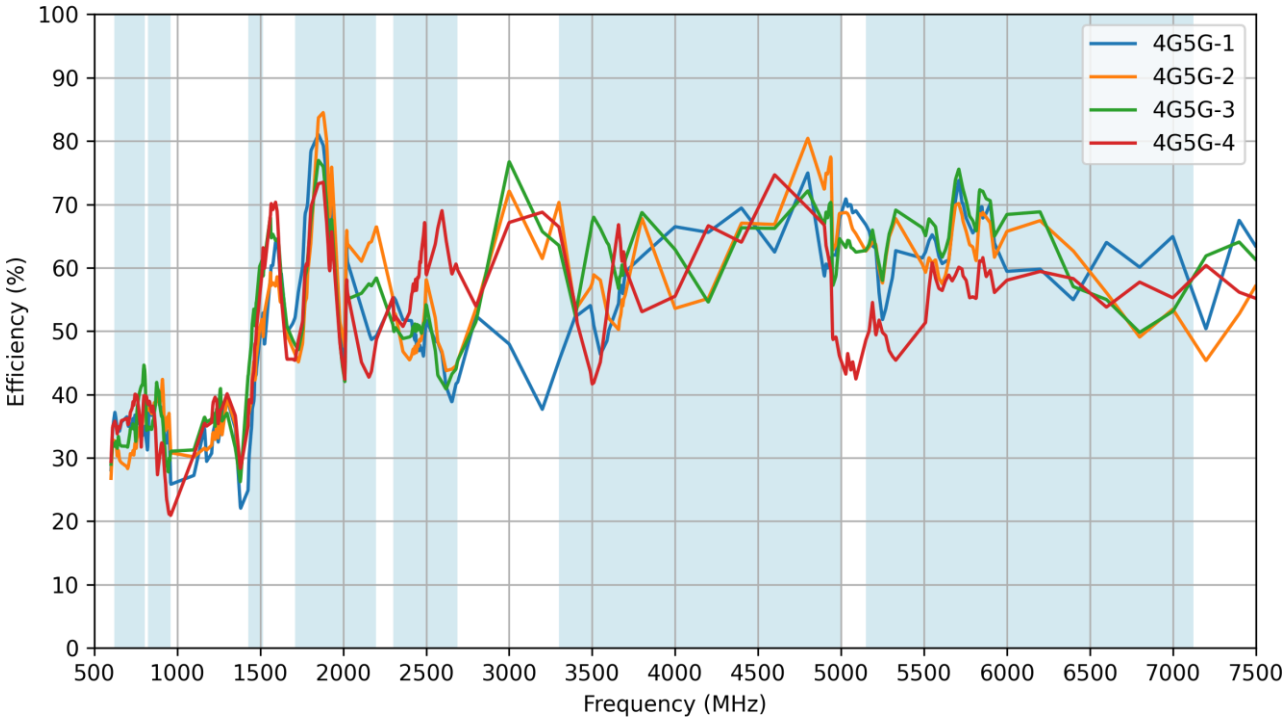
5.3 VSWR



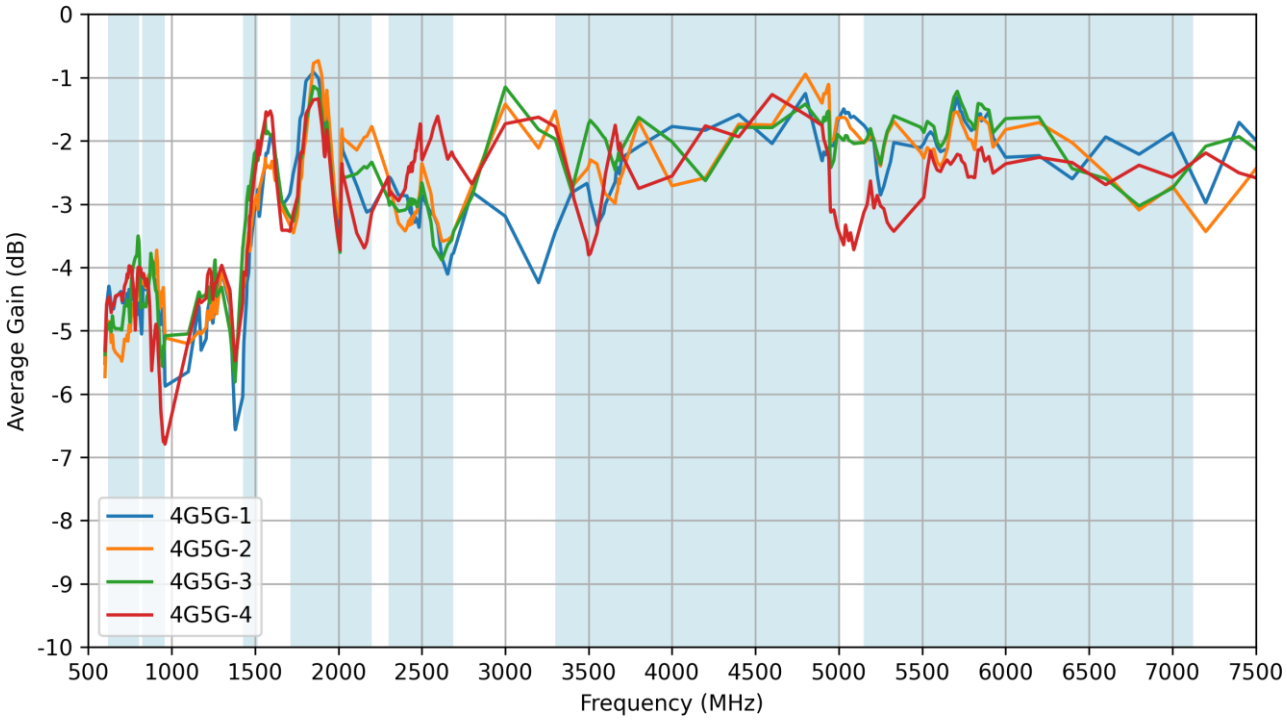
5.4 Isolation



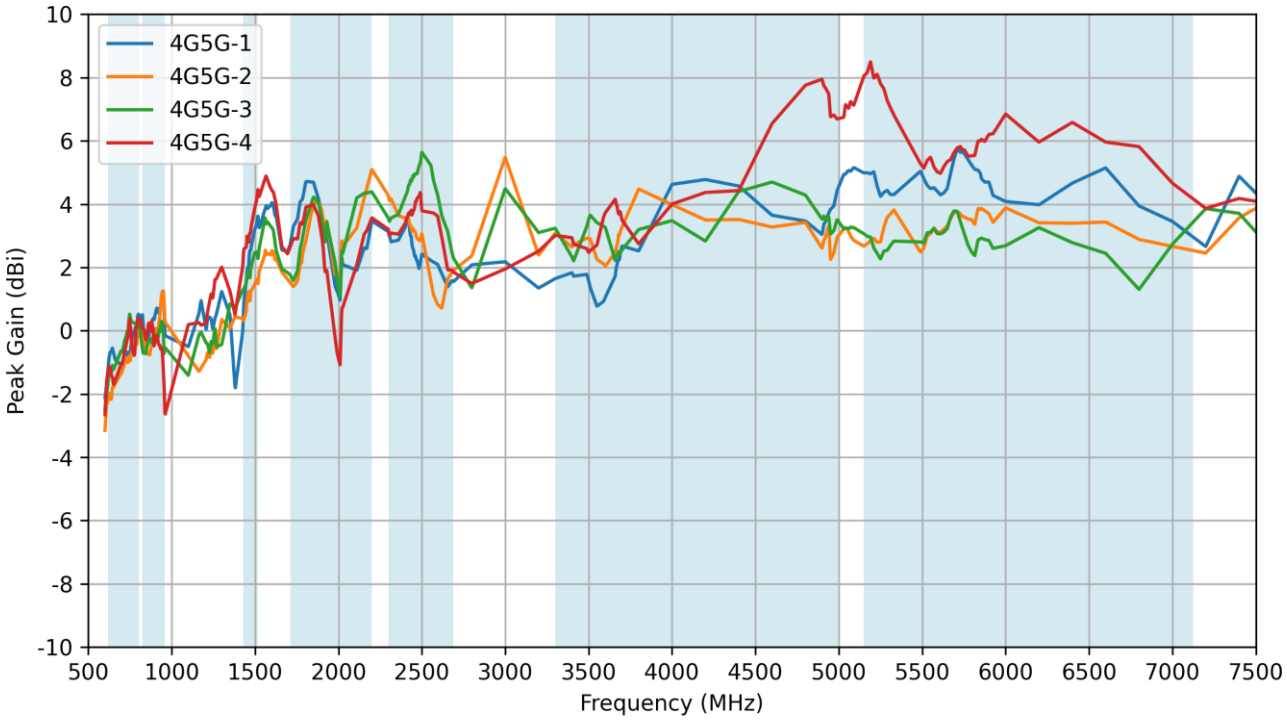
5.5 Efficiency



5.6 Average Gain

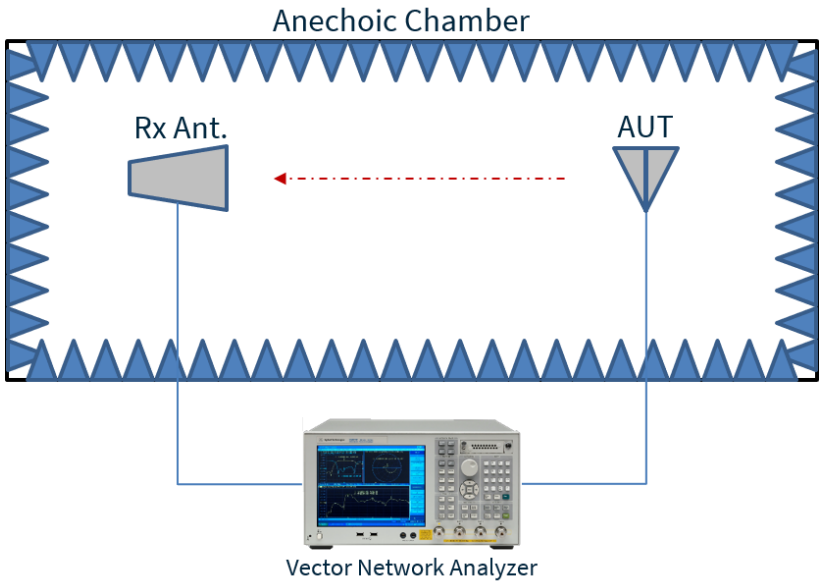


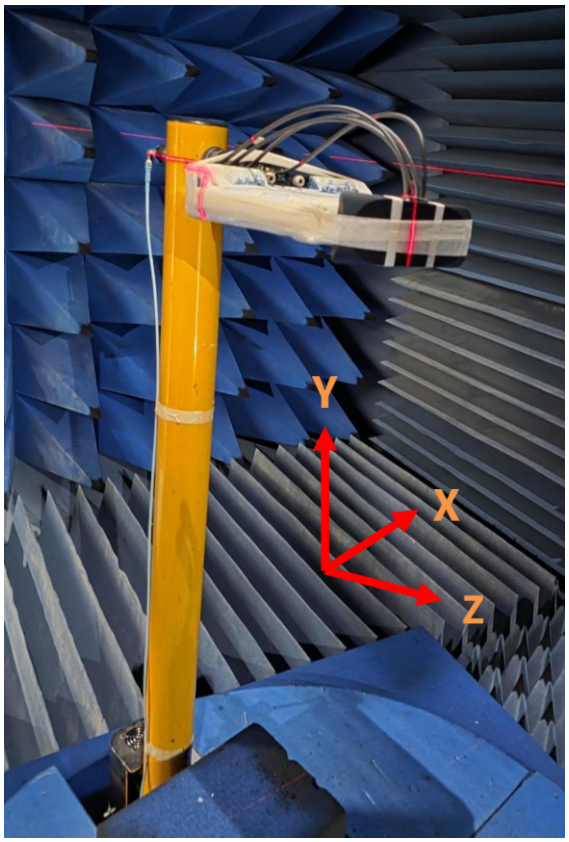
5.7 Peak Gain



6. Radiation Patterns

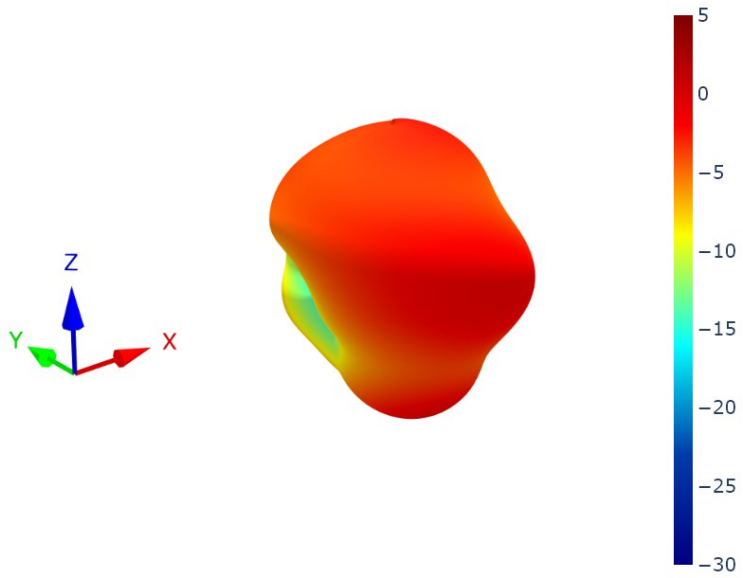
6.1 Test Setup

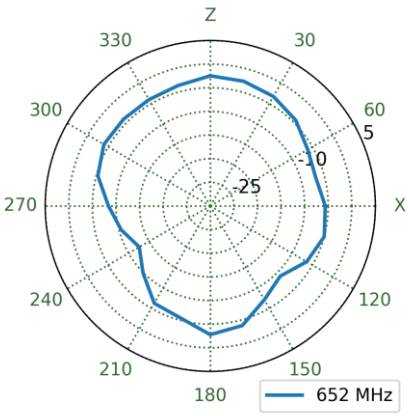
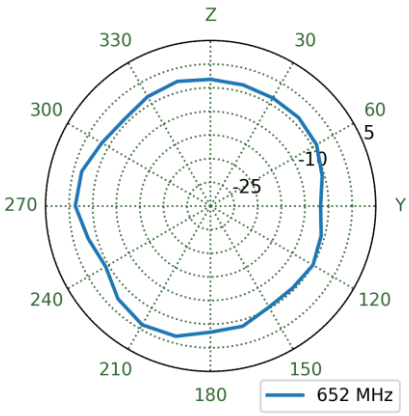
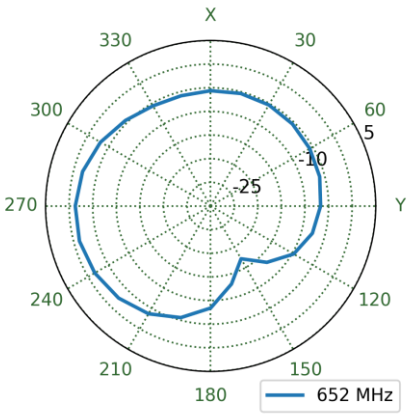




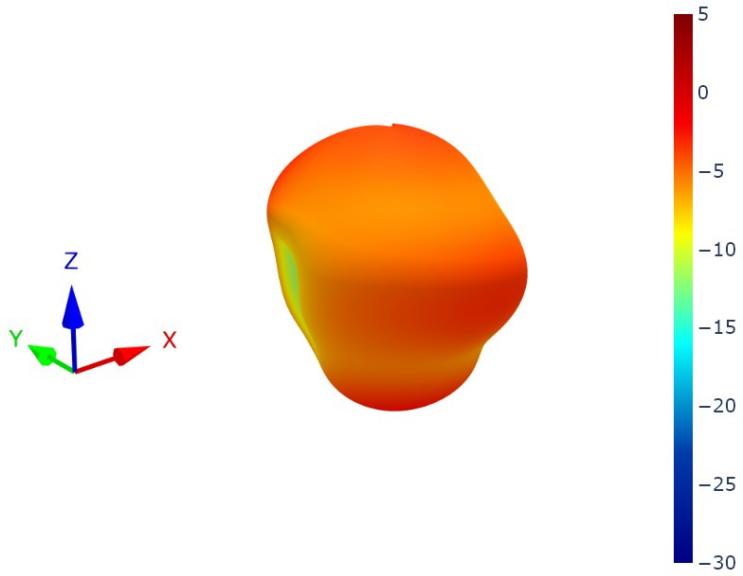
Chamber Test Set-up

6.2 4G5G-1 Patterns at 652 MHz

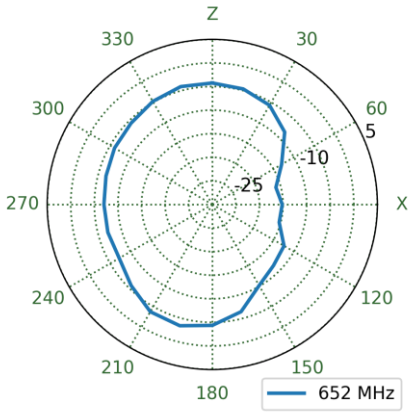


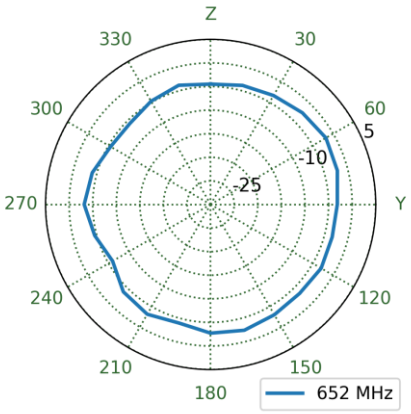
XZ Plane	YZ Plane	XY Plane
		

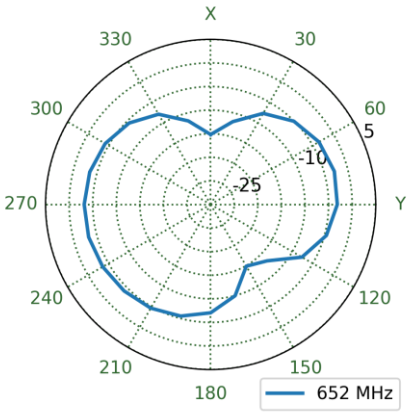
6.3 4G5G-2 Patterns at 652 MHz



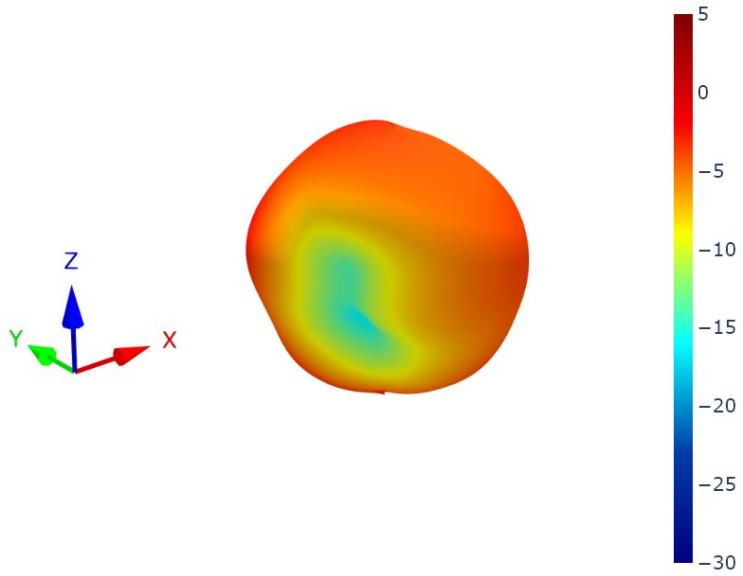
XZ Plane	YZ Plane	XY Plane



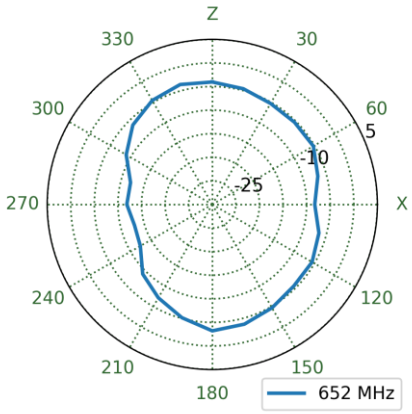


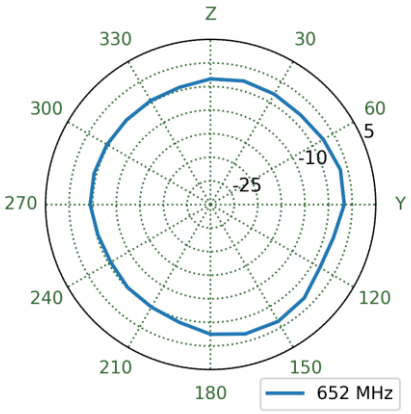


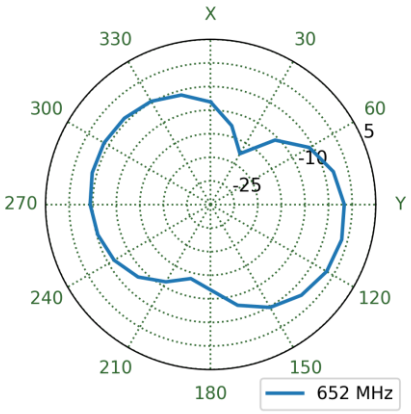
6.4 4G5G-3 Patterns at 652 MHz



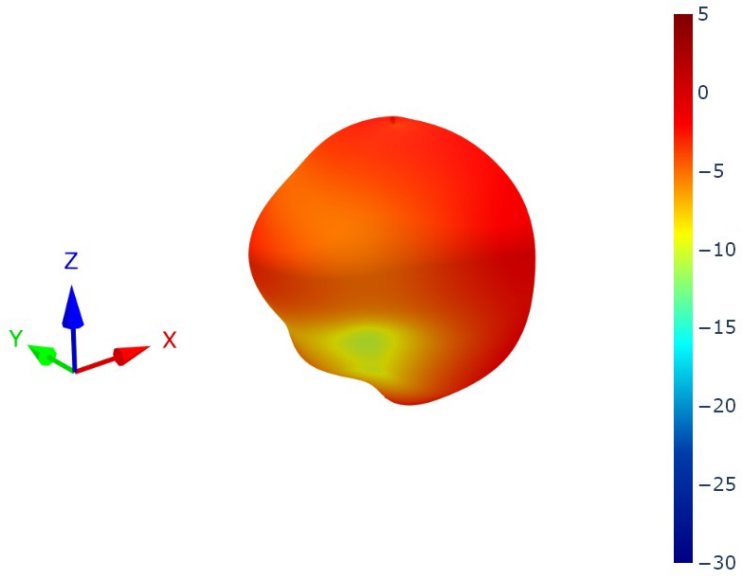
XZ Plane	YZ Plane	XY Plane



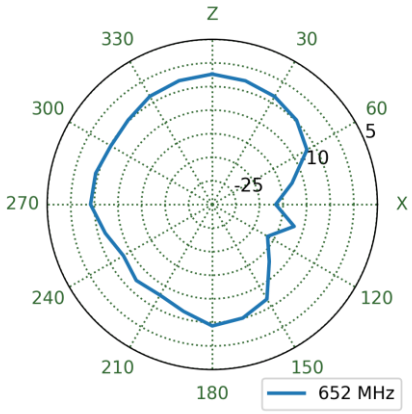


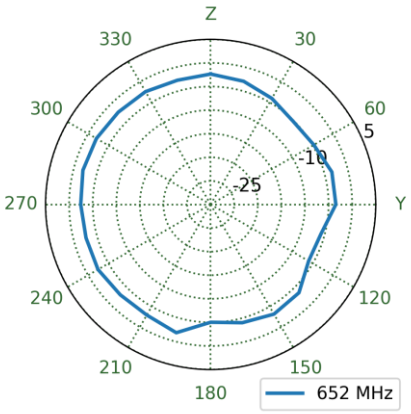


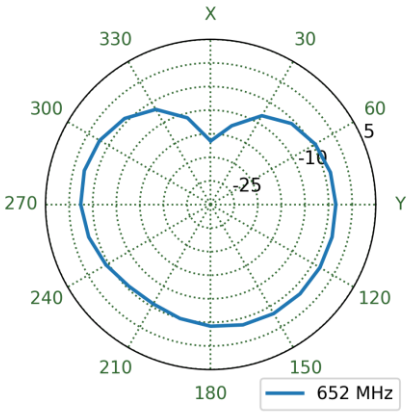
6.5 4G5G-4 Patterns at 652 MHz



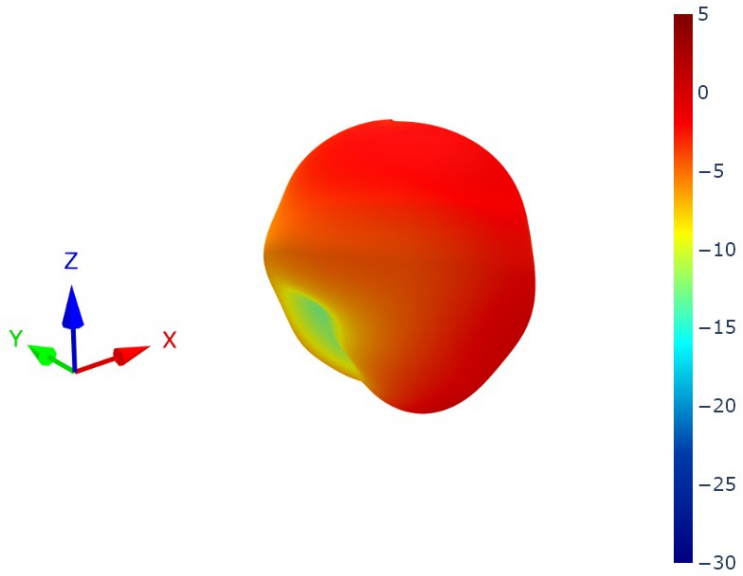
XZ Plane	YZ Plane	XY Plane



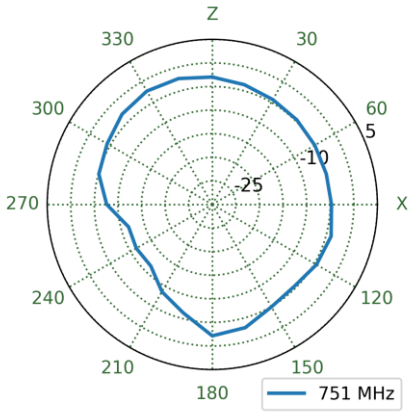


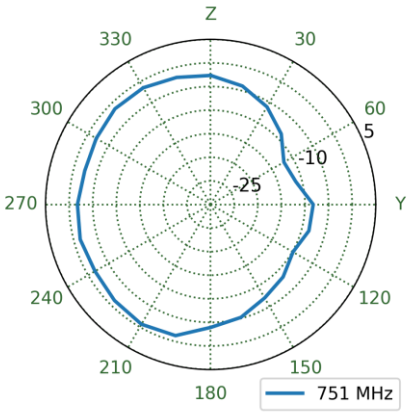


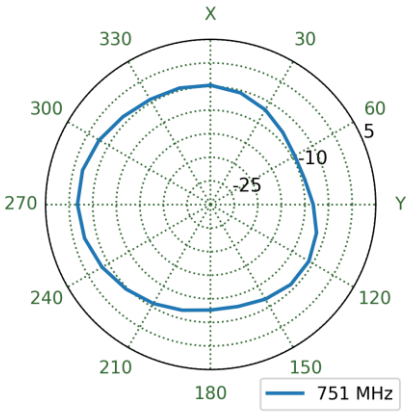
6.6 4G5G-1 Patterns at 751 MHz



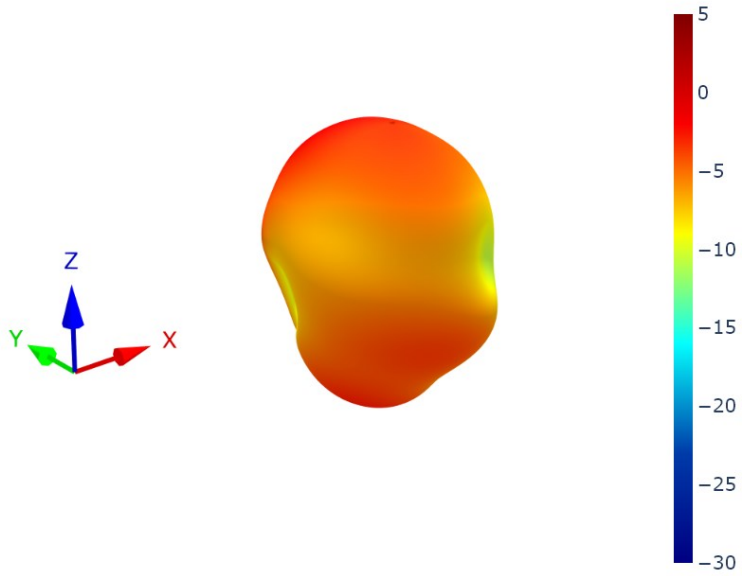
XZ Plane	YZ Plane	XY Plane



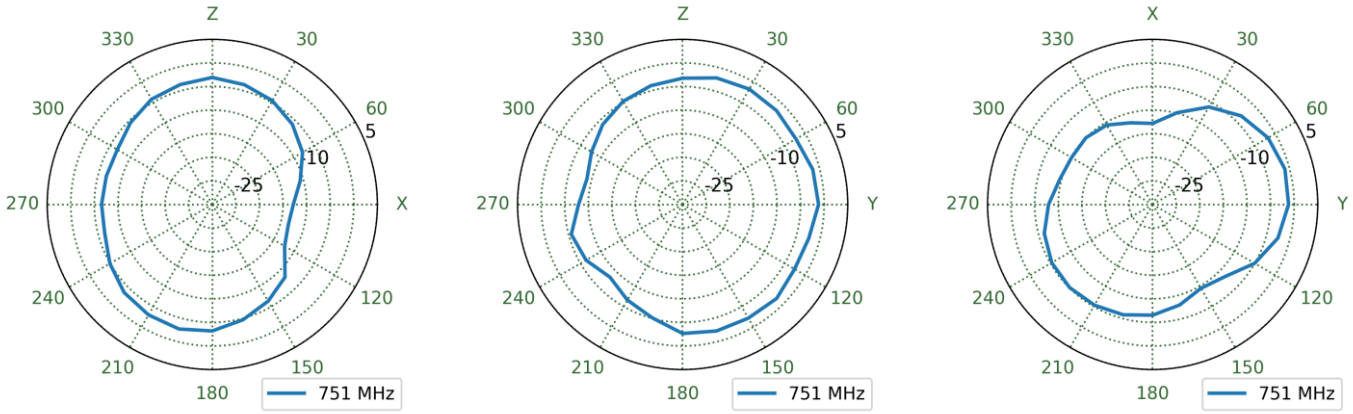




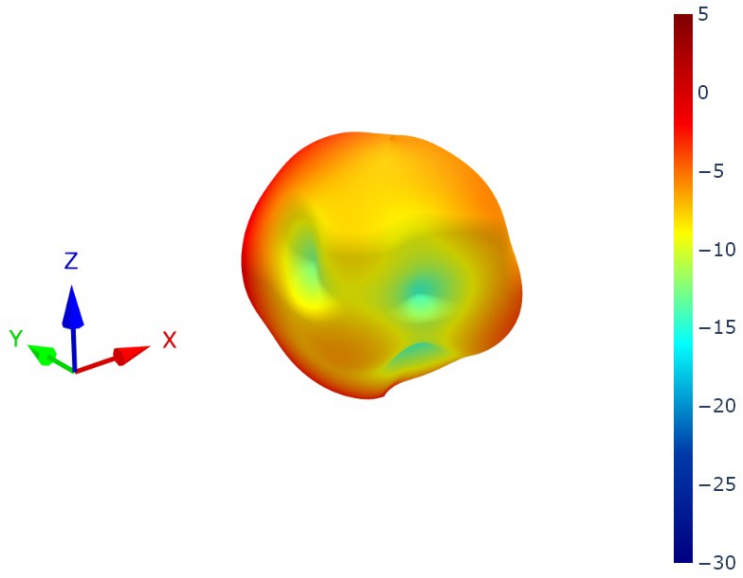
6.7 4G5G-2 Patterns at 751 MHz



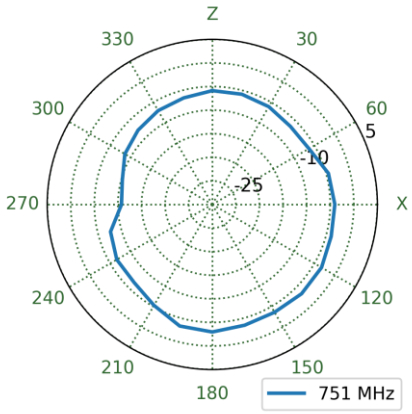
XZ Plane	YZ Plane	XY Plane

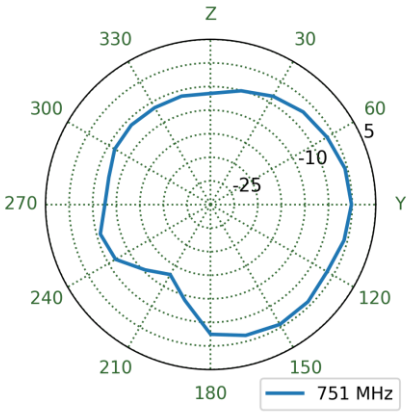


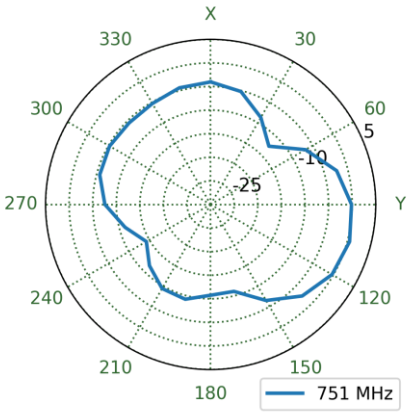
6.8 4G5G-3 Patterns at 751 MHz



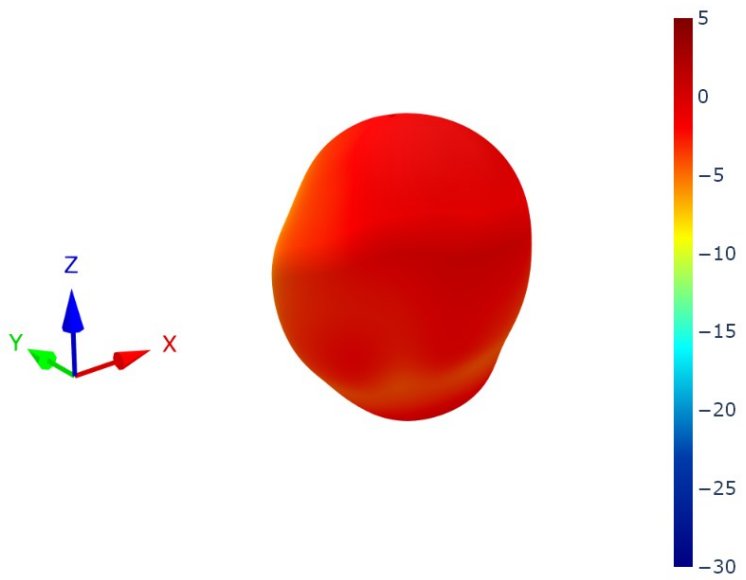
XZ Plane	YZ Plane	XY Plane



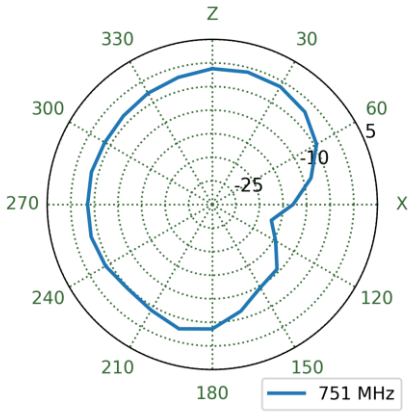


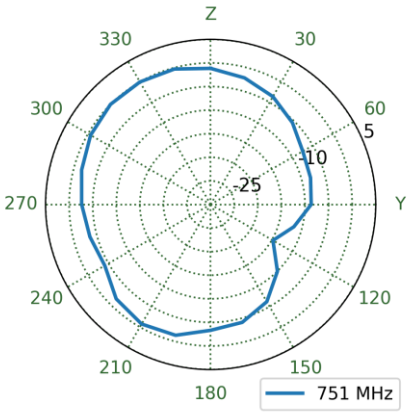


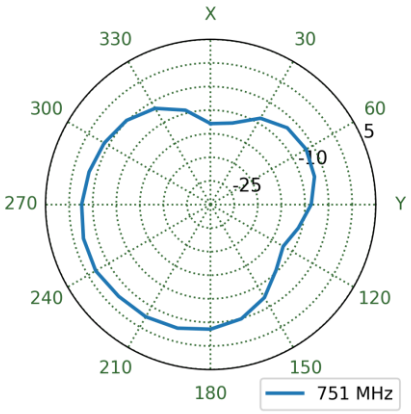
6.9 4G5G-4 Patterns at 751 MHz



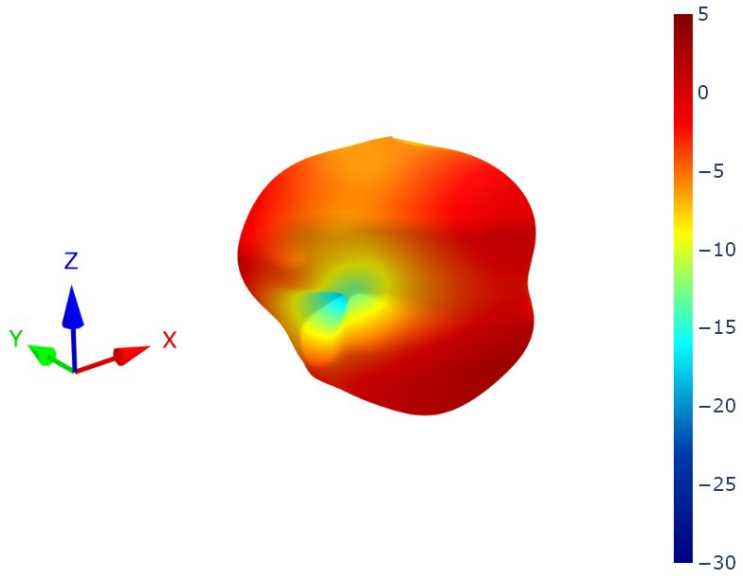
XZ Plane	YZ Plane	XY Plane



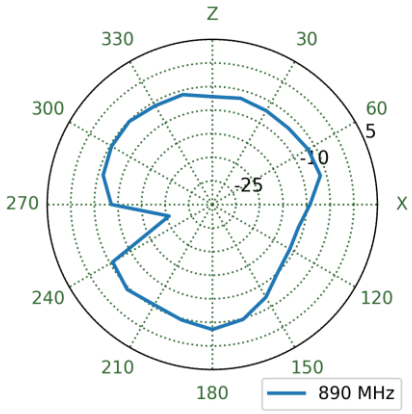


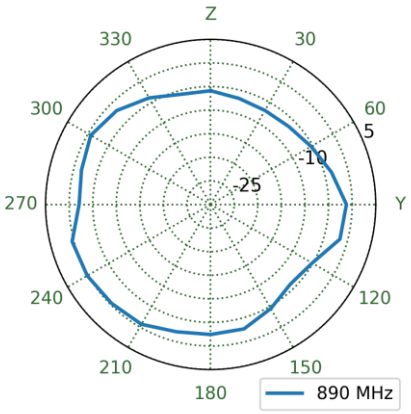


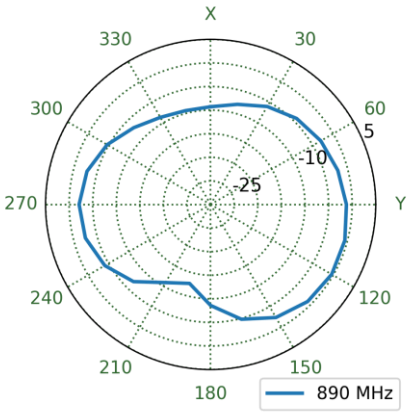
6.10 4G5G-1 Patterns at 890 MHz



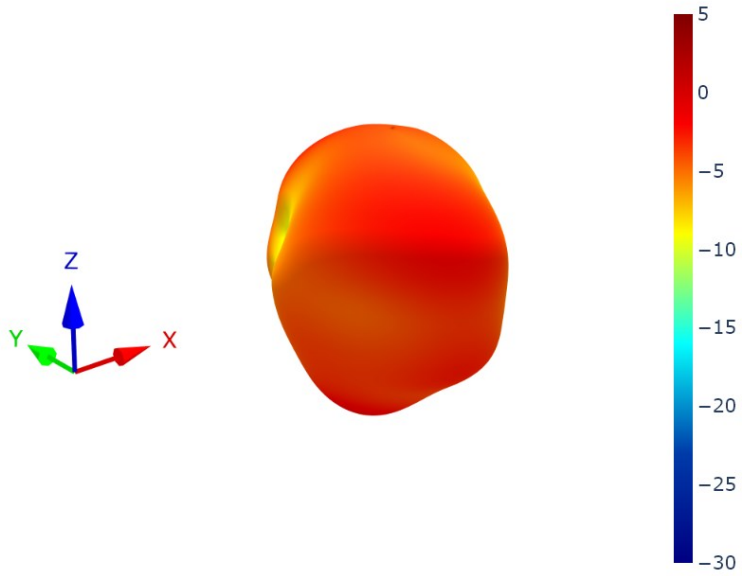
XZ Plane	YZ Plane	XY Plane



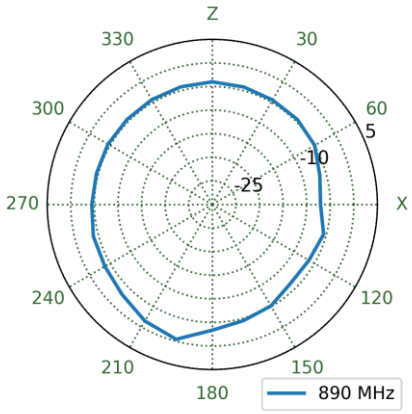


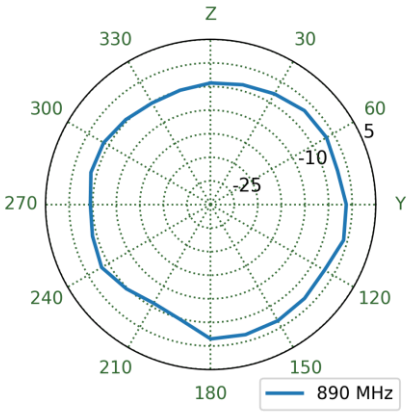


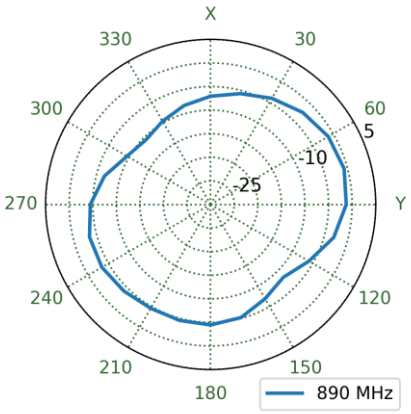
6.11 4G5G-2 Patterns at 890 MHz



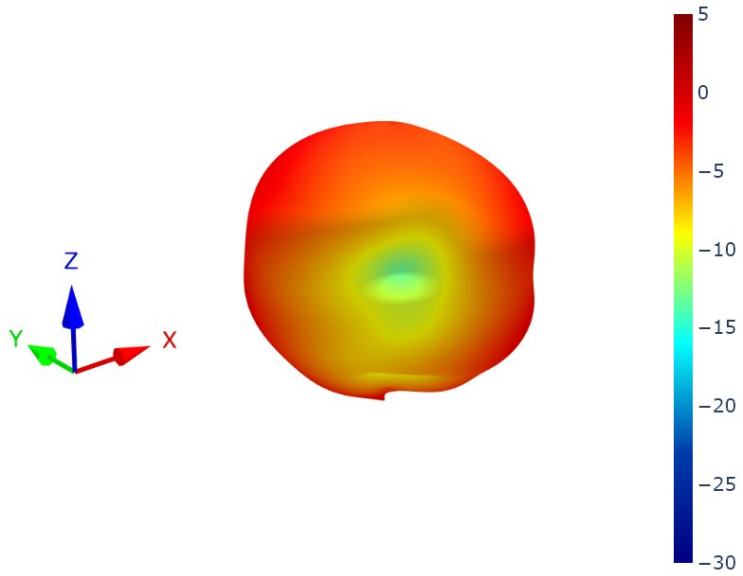
XZ Plane	YZ Plane	XY Plane



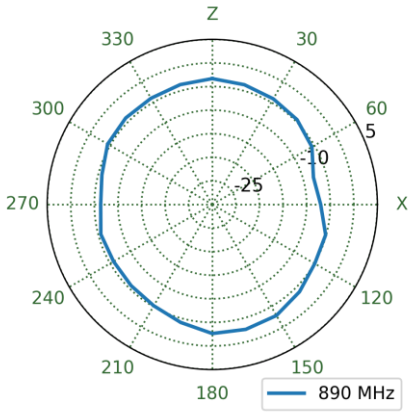


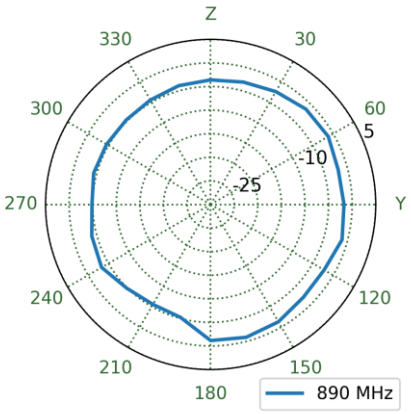


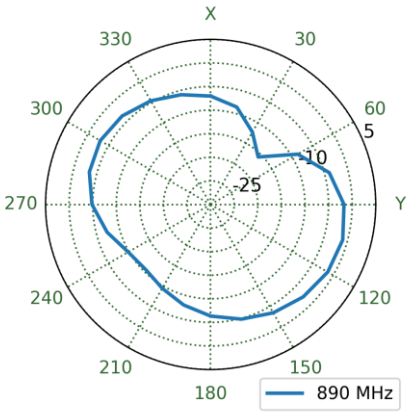
6.12 4G5G-3 Patterns at 890 MHz



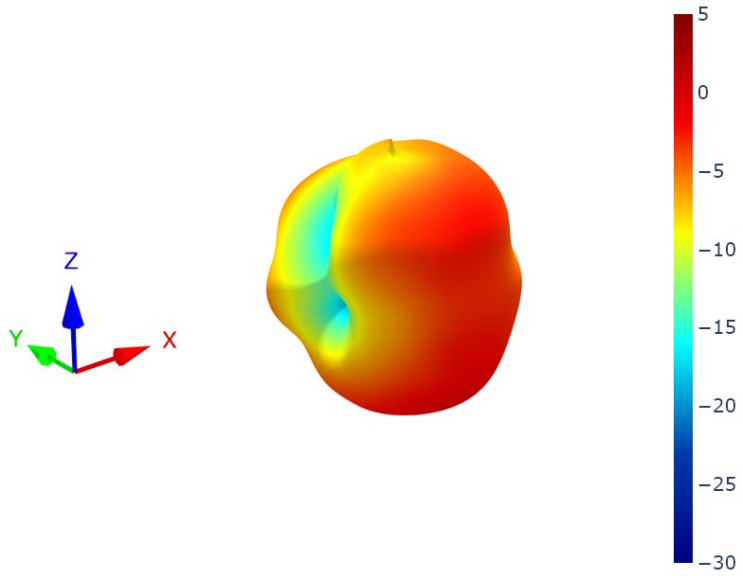
XZ Plane	YZ Plane	XY Plane



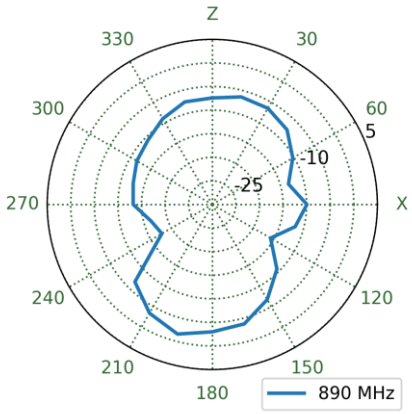


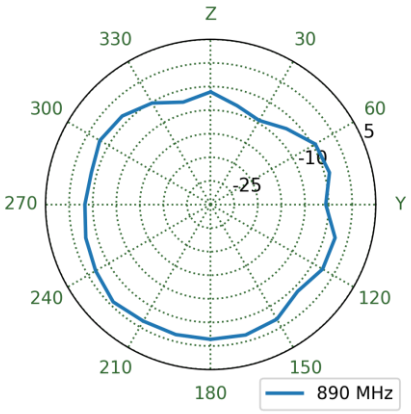


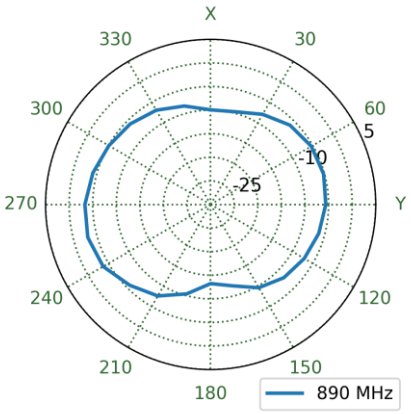
6.13 4G5G-4 Patterns at 890 MHz



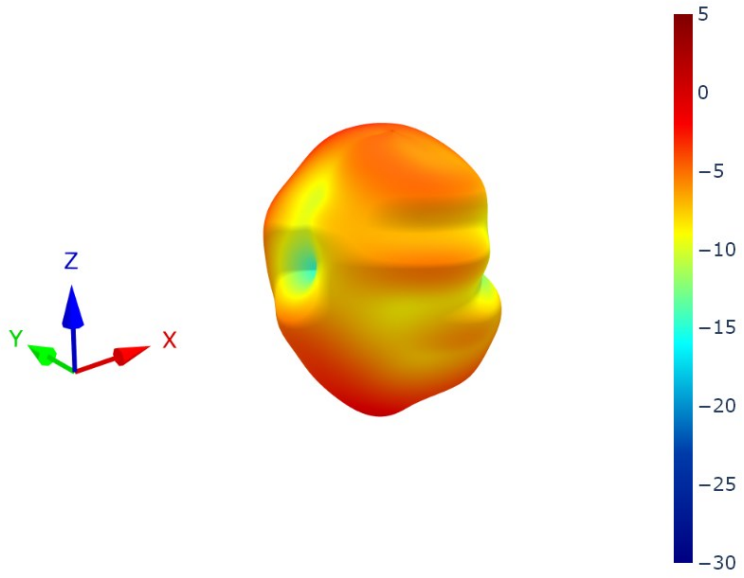
XZ Plane	YZ Plane	XY Plane



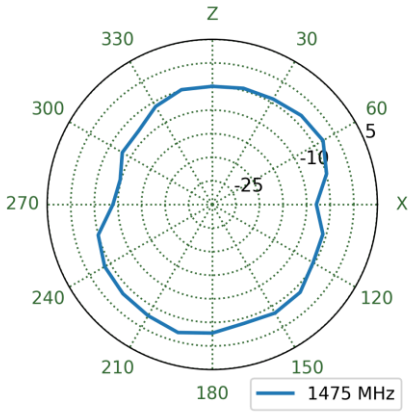


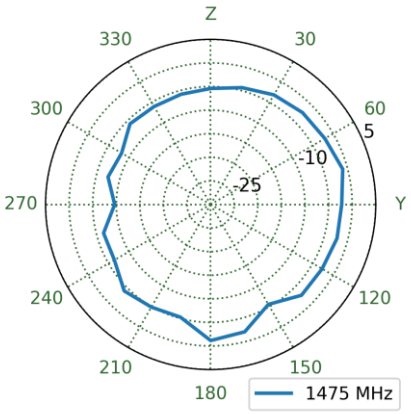


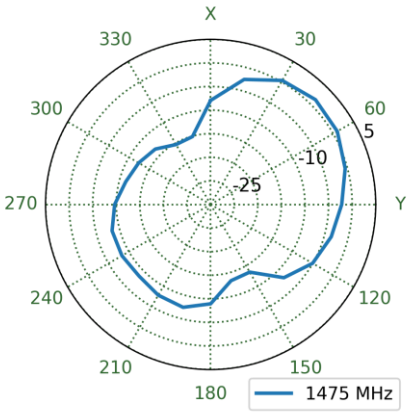
6.14 4G5G-1 Patterns at 1475 MHz



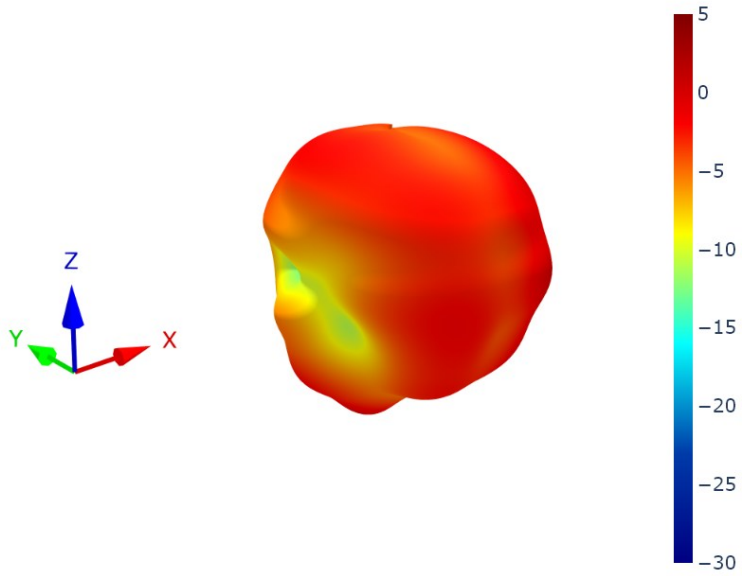
XZ Plane	YZ Plane	XY Plane



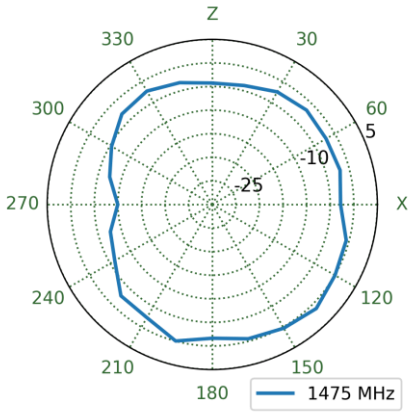


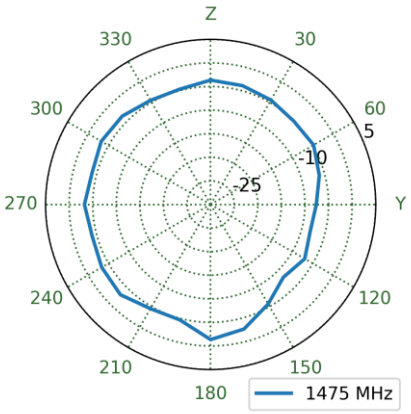


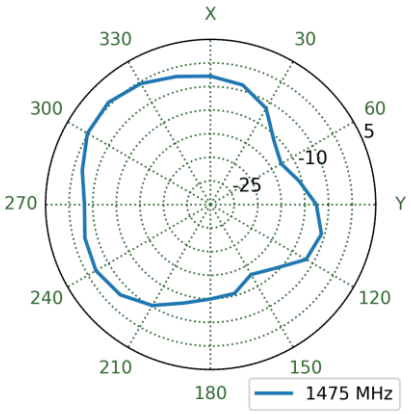
6.15 4G5G-2 Patterns at 1475 MHz



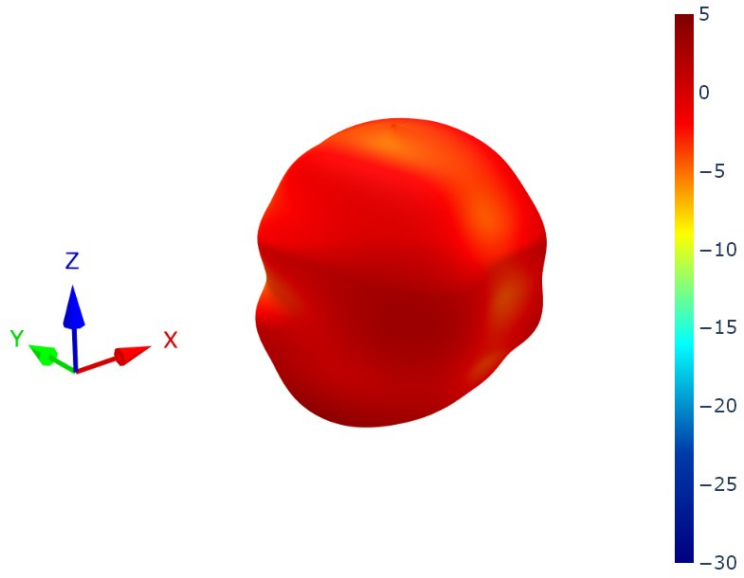
XZ Plane	YZ Plane	XY Plane



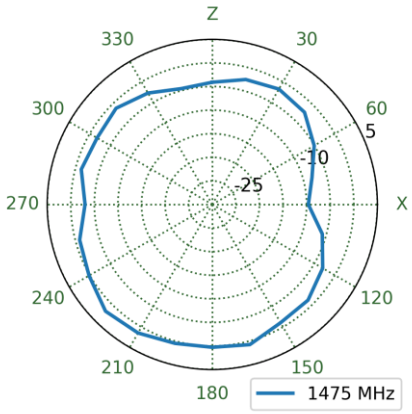


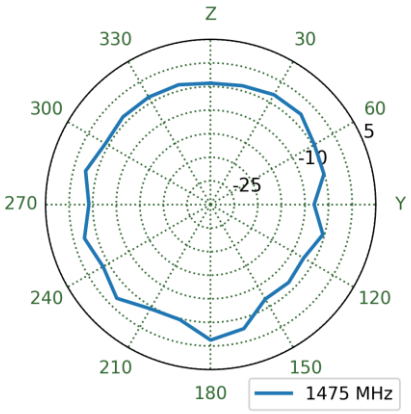


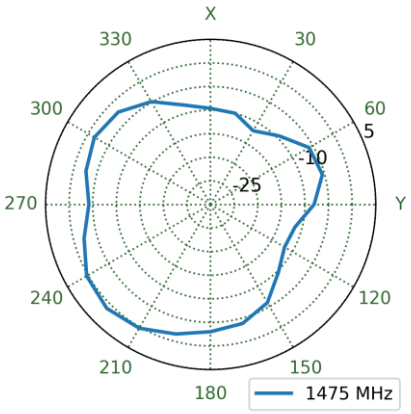
6.16 4G5G-3 Patterns at 1475 MHz



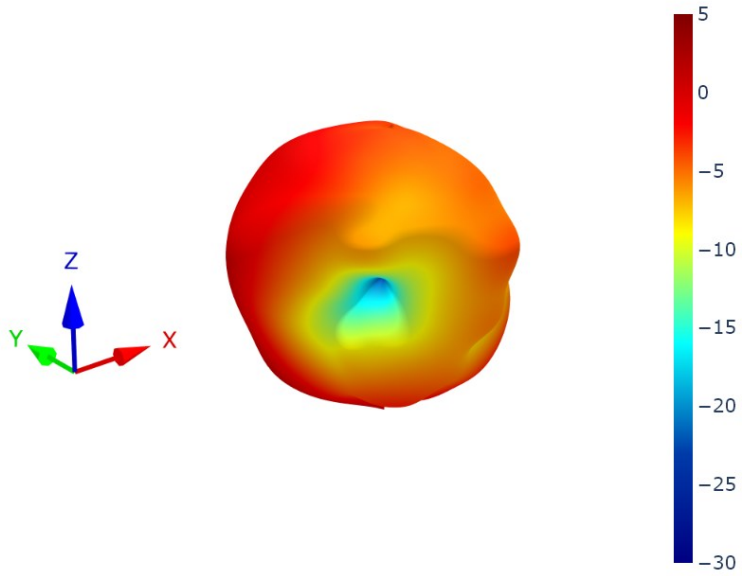
XZ Plane	YZ Plane	XY Plane



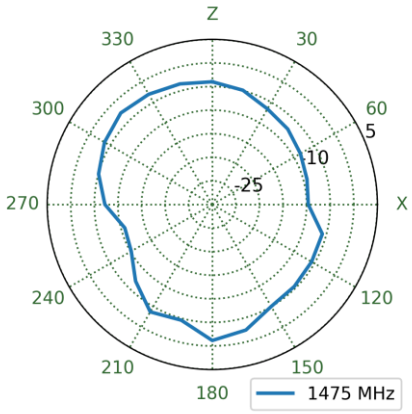


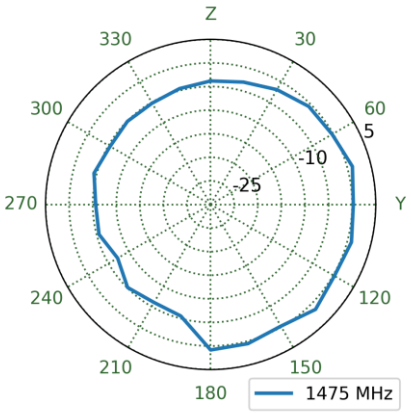


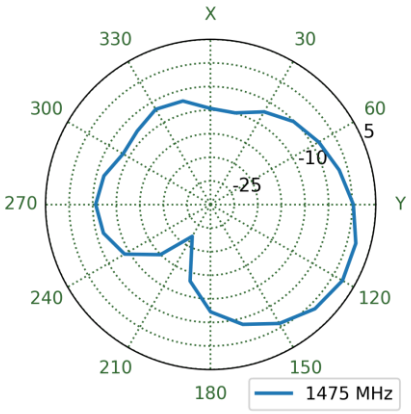
6.17 4G5G-4 Patterns at 1475 MHz



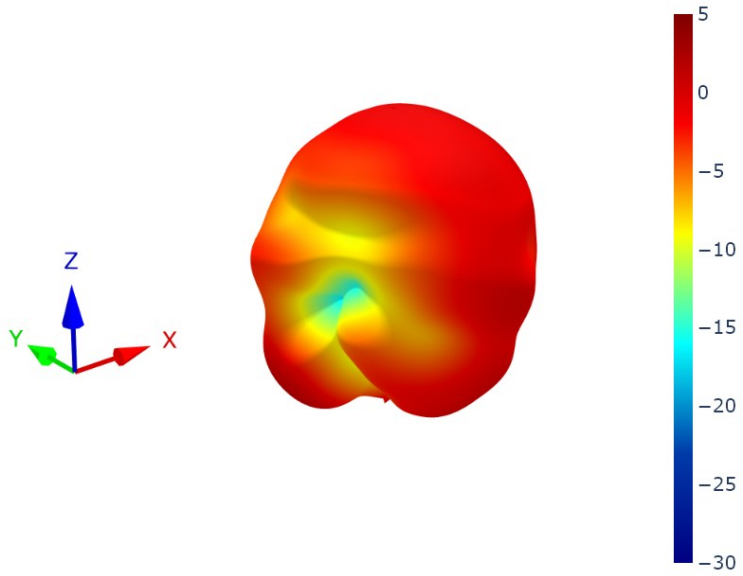
XZ Plane	YZ Plane	XY Plane



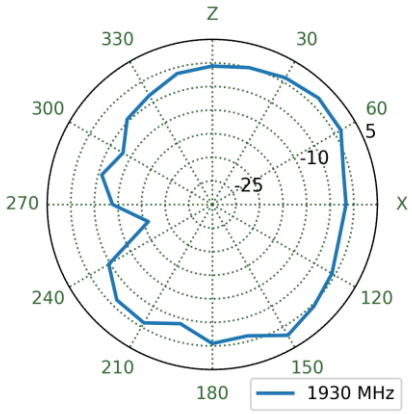


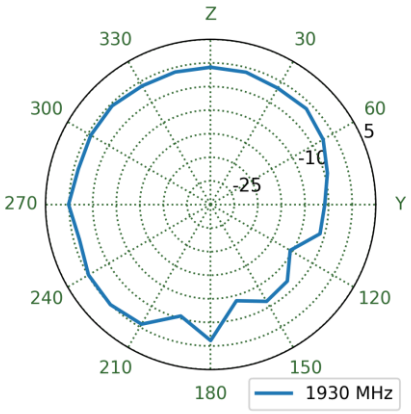


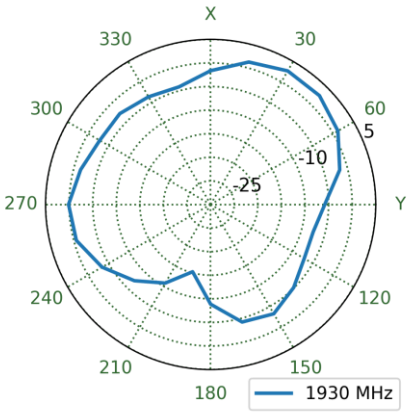
6.18 4G5G-1 Patterns at 1950 MHz



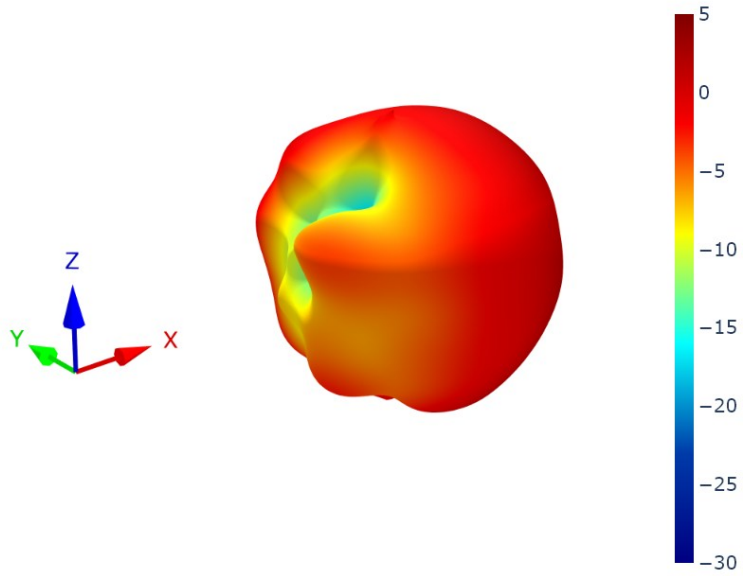
XZ Plane	YZ Plane	XY Plane



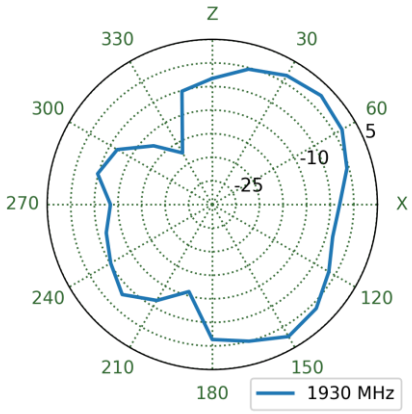


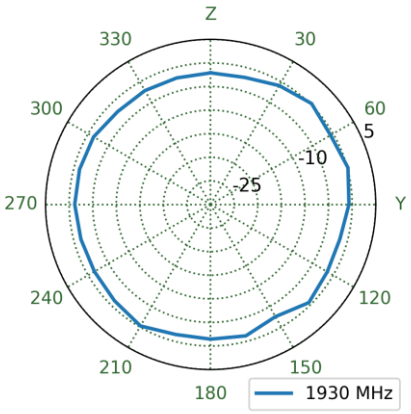


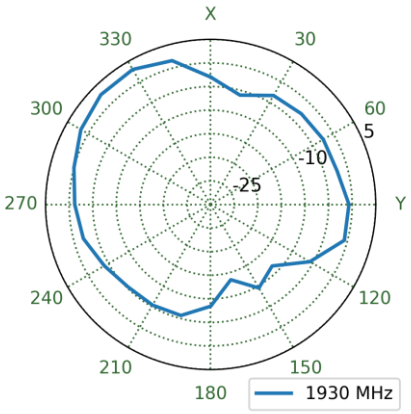
6.19 4G5G-2 Patterns at 1950 MHz



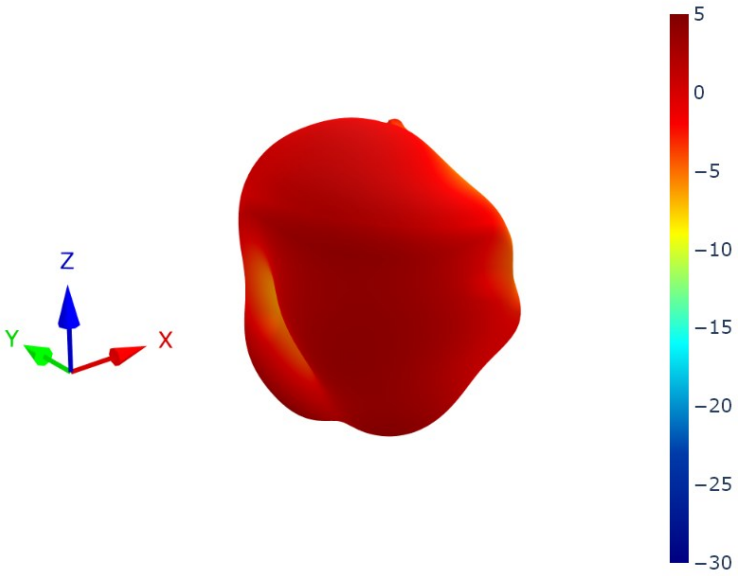
XZ Plane	YZ Plane	XY Plane



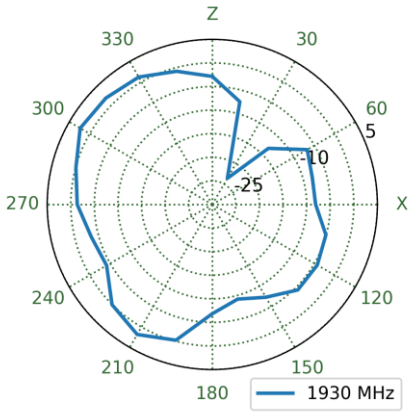


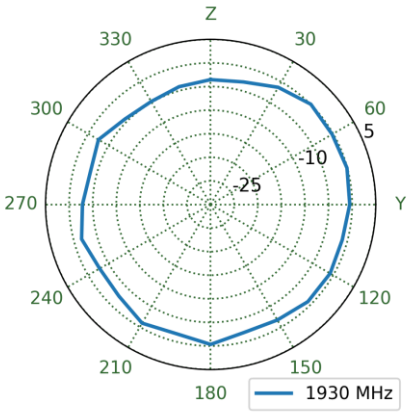


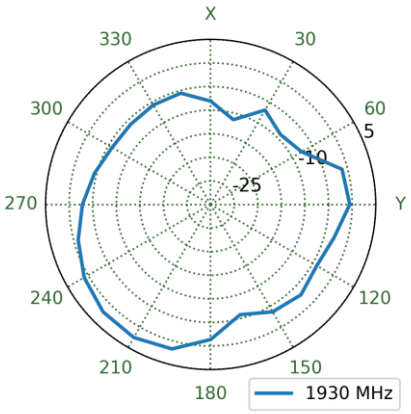
6.20 4G5G-3 Patterns at 1950 MHz



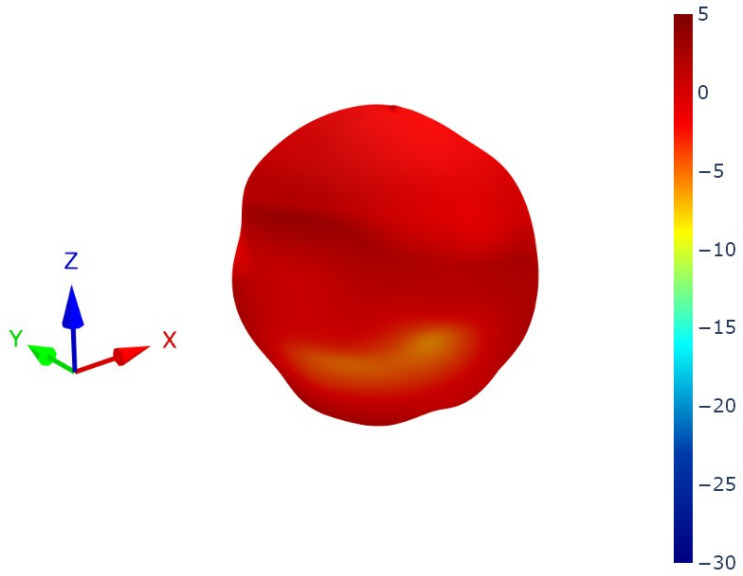
XZ Plane	YZ Plane	XY Plane



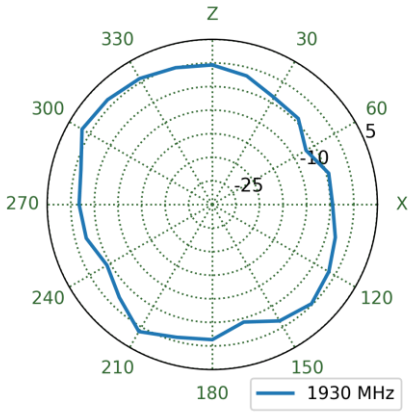


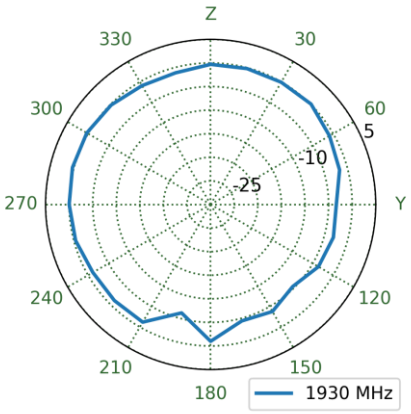


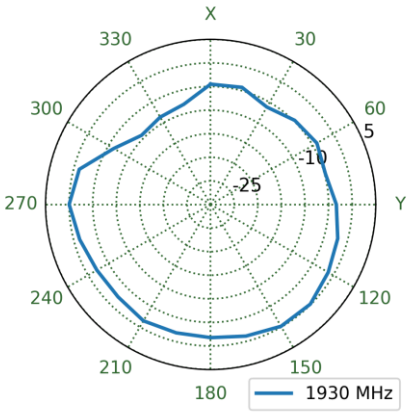
6.21 4G5G-4 Patterns at 1950 MHz



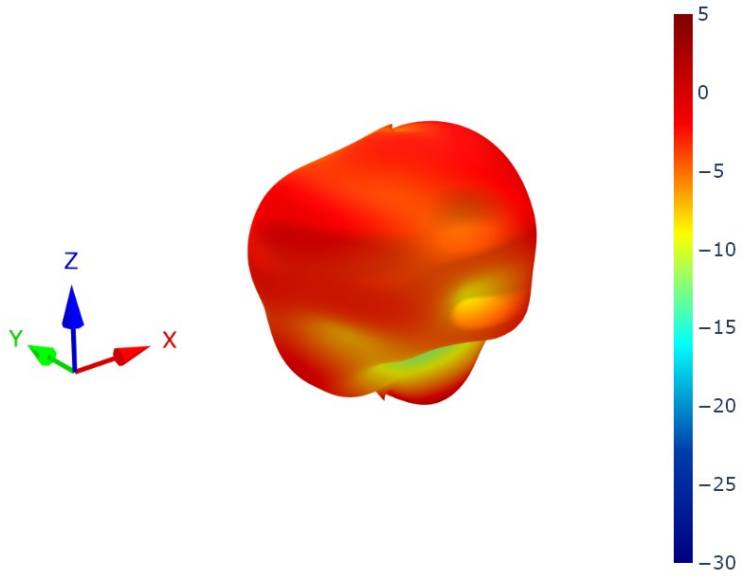
XZ Plane	YZ Plane	XY Plane

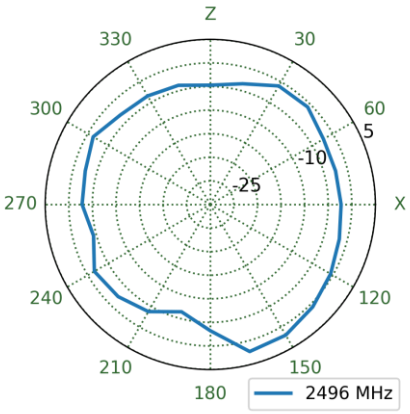
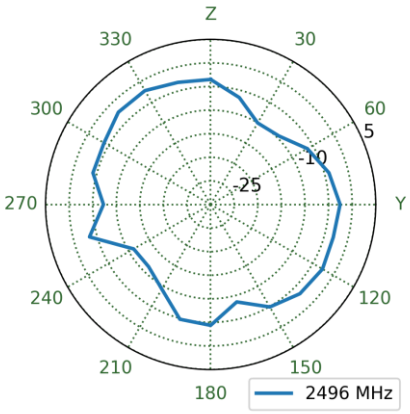
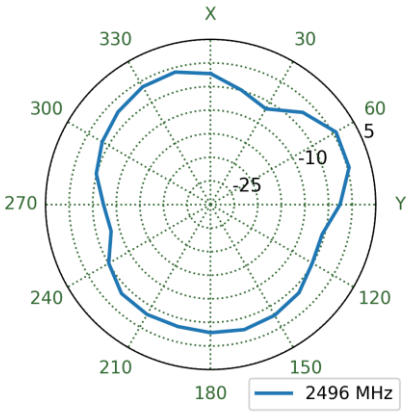




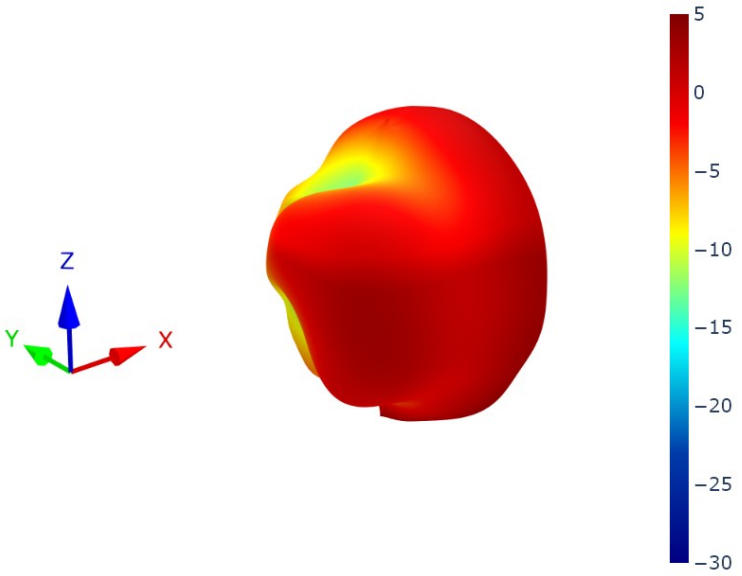


6.22 4G5G-1 Patterns at 2496 MHz

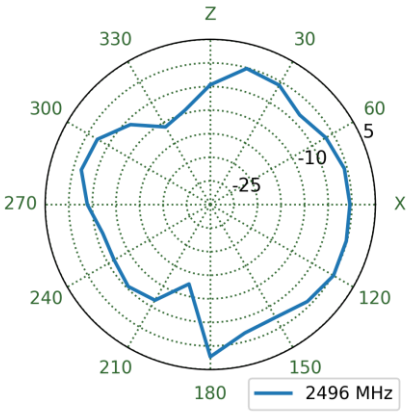


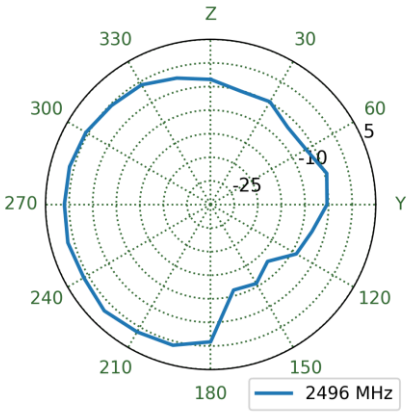
XZ Plane	YZ Plane	XY Plane
		

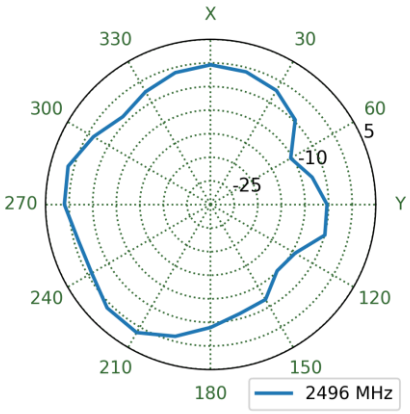
6.23 4G5G-2 Patterns at 2496 MHz



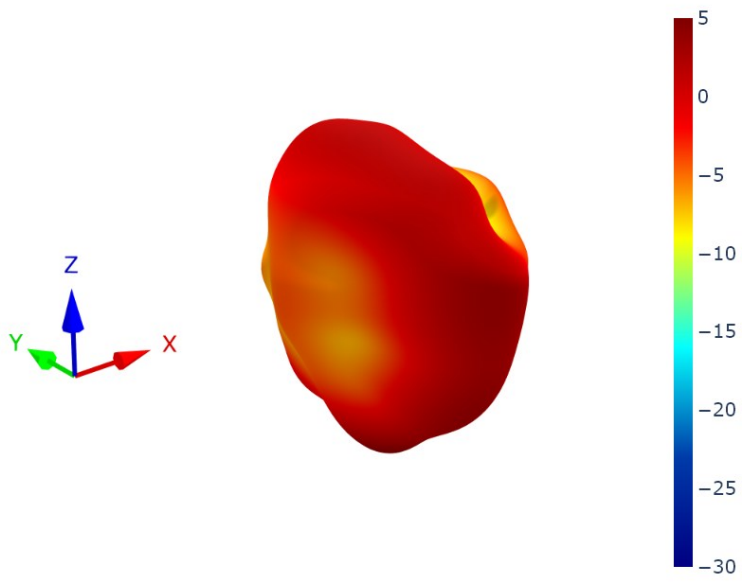
XZ Plane	YZ Plane	XY Plane

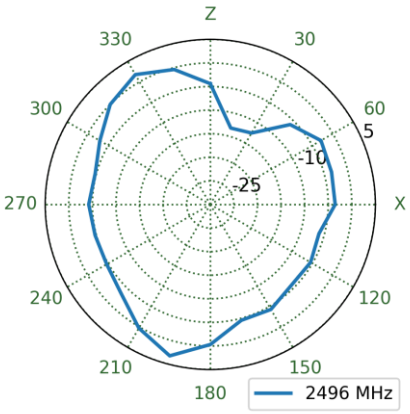
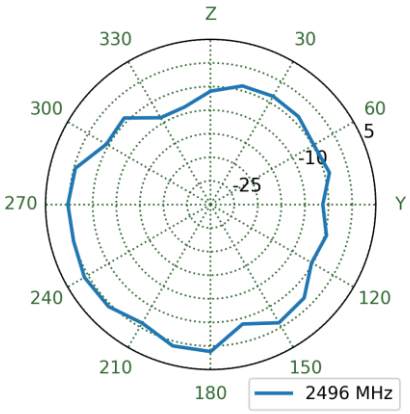
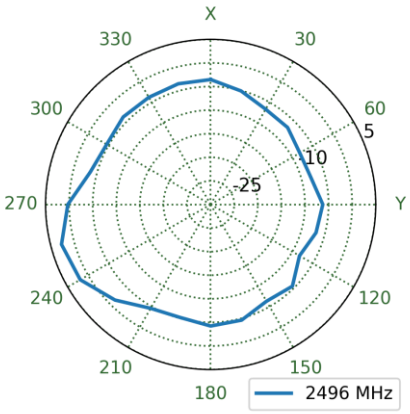




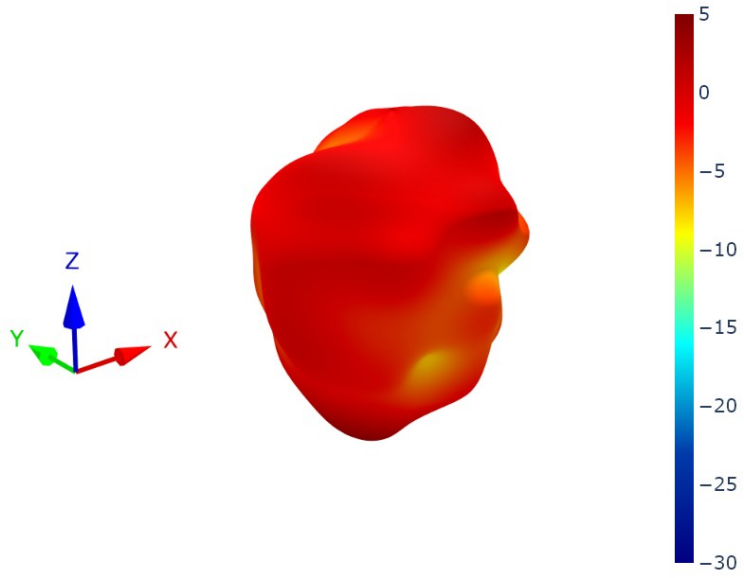


6.24 4G5G-3 Patterns at 2496 MHz

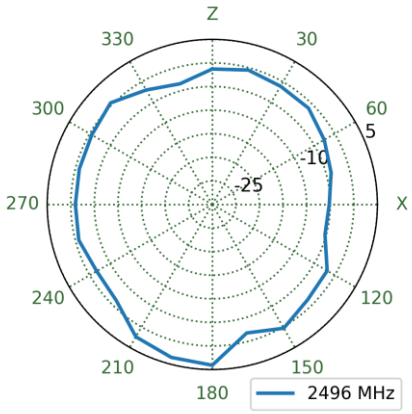


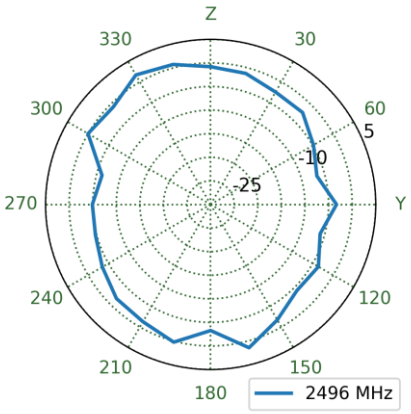
XZ Plane	YZ Plane	XY Plane
		

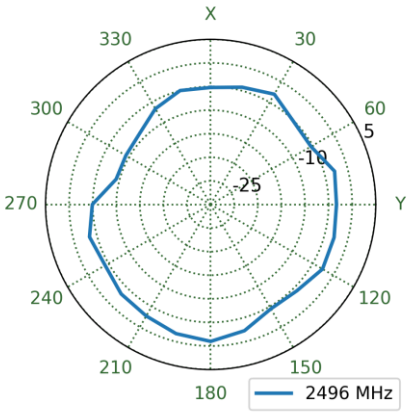
6.25 4G5G-4 Patterns at 2496 MHz



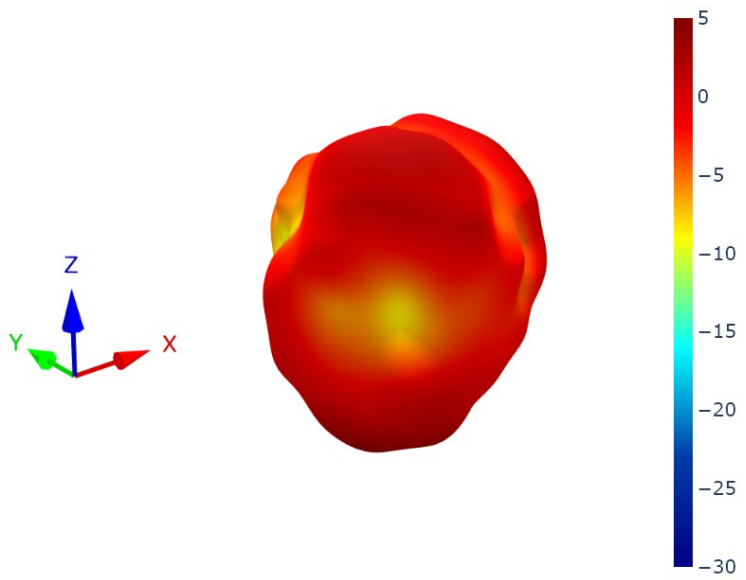
XZ Plane	YZ Plane	XY Plane

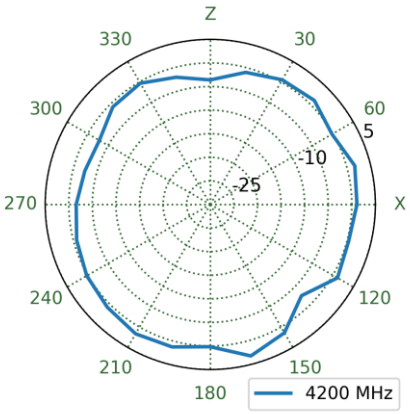
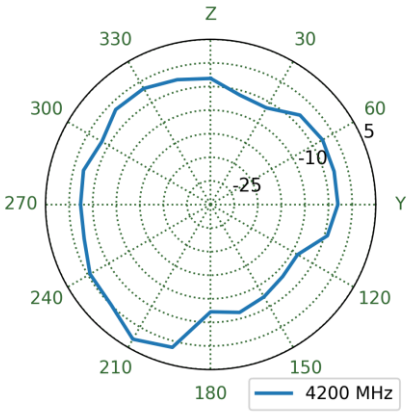
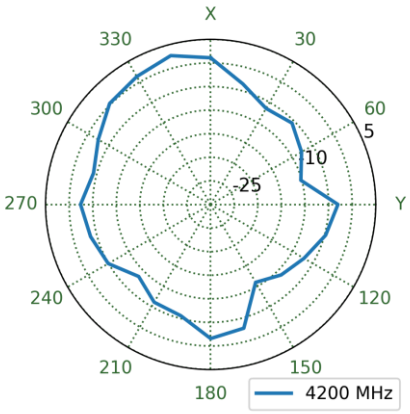




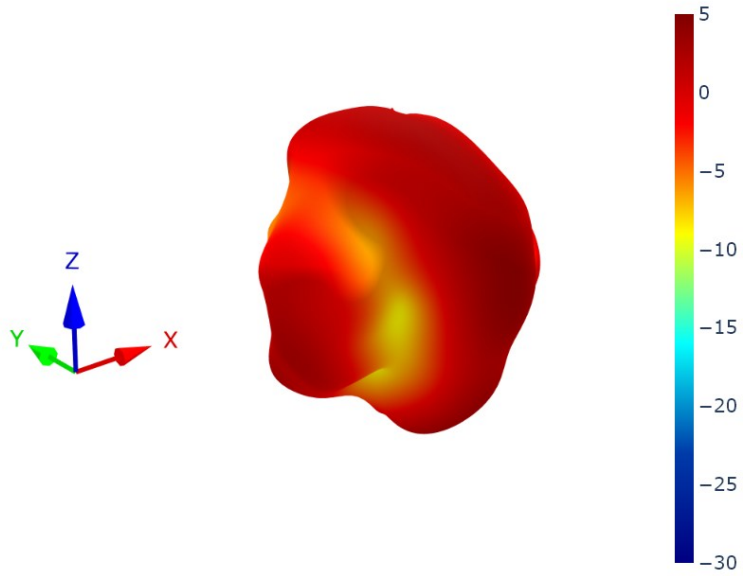


6.26 4G5G-1 Patterns at 4200 MHz

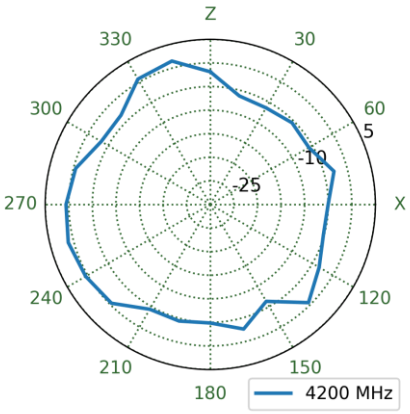


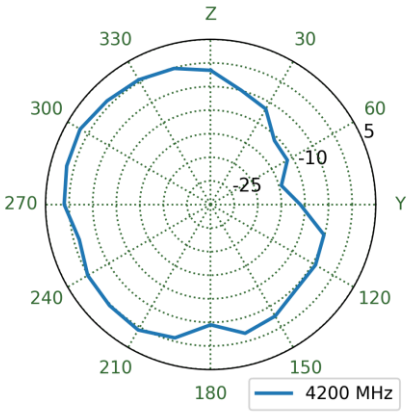
XZ Plane	YZ Plane	XY Plane
		

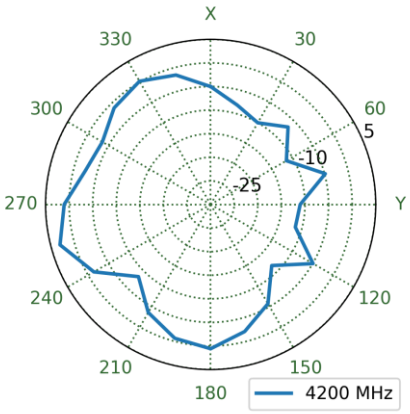
6.27 4G5G-2 Patterns at 4200 MHz



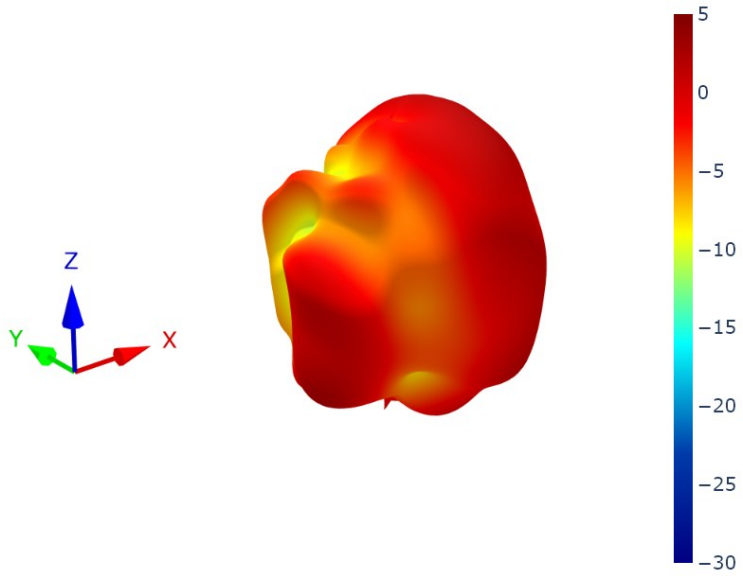
XZ Plane	YZ Plane	XY Plane



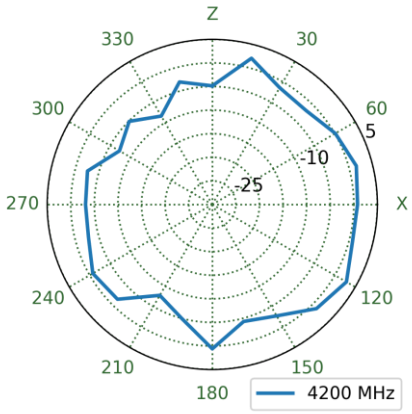


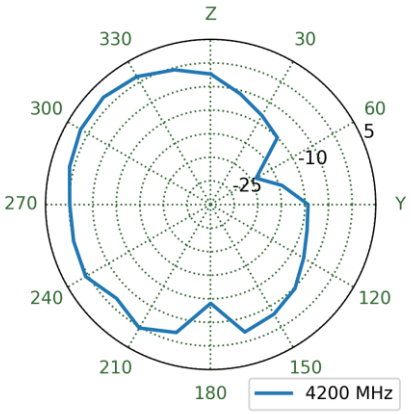


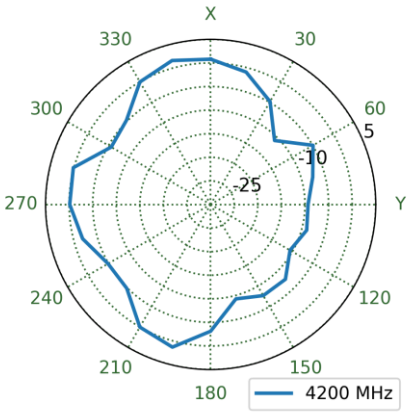
6.28 4G5G-3 Patterns at 4200 MHz



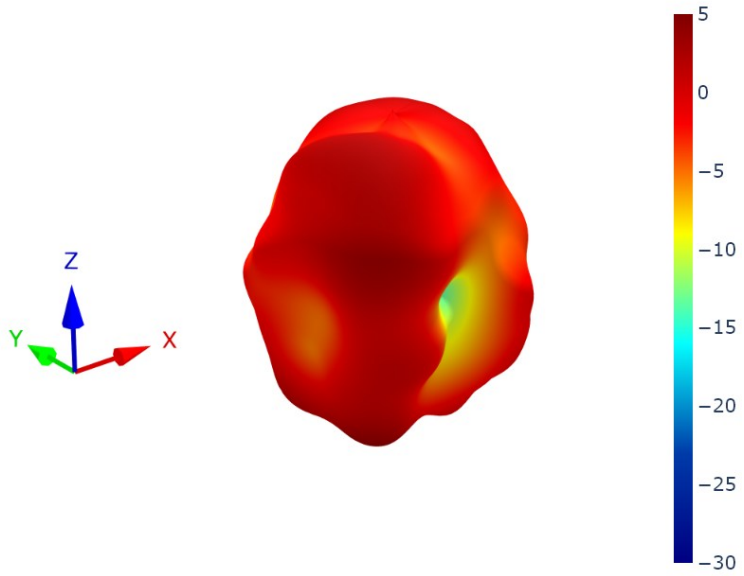
XZ Plane	YZ Plane	XY Plane



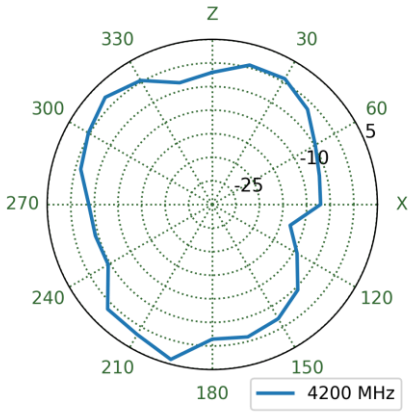


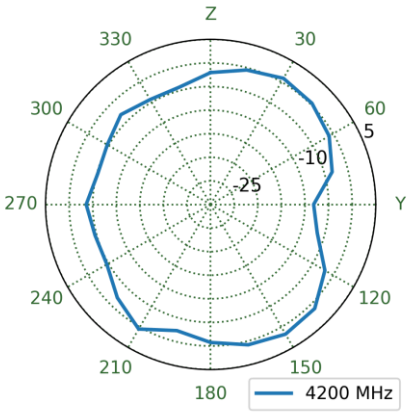


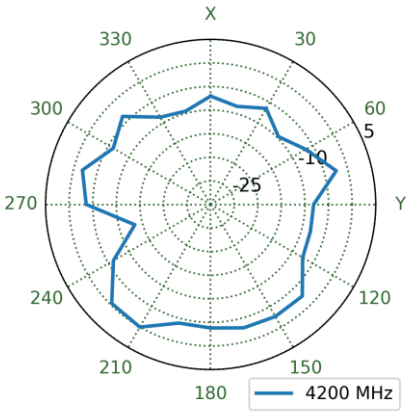
6.29 4G5G-4 Patterns at 4200 MHz



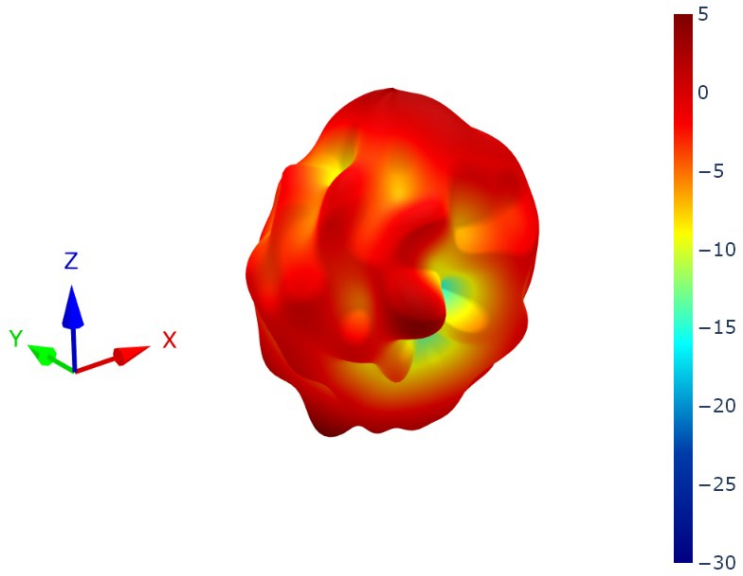
XZ Plane	YZ Plane	XY Plane



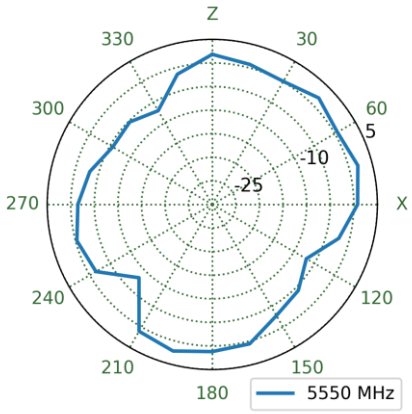


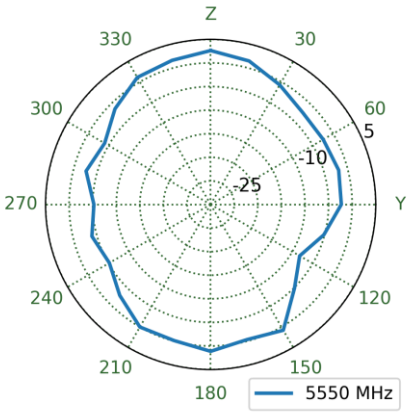


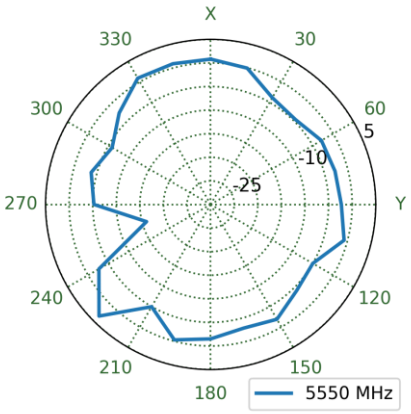
6.30 4G5G-1 Patterns at 5550 MHz



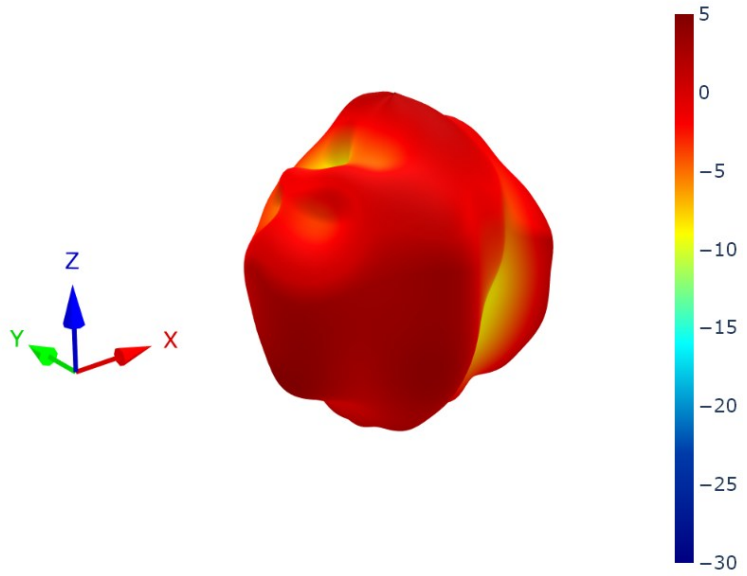
XZ Plane	YZ Plane	XY Plane



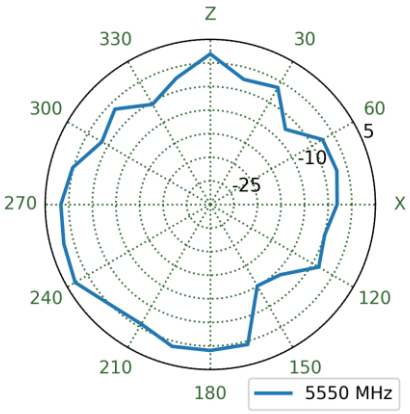


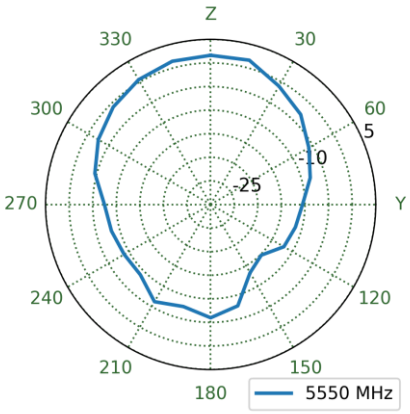


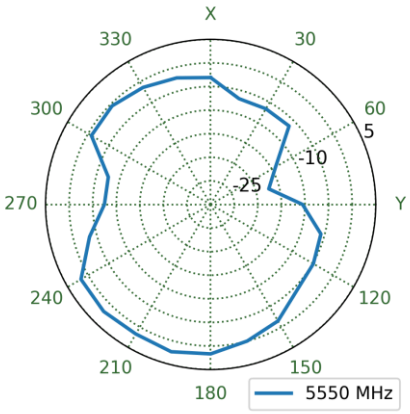
6.31 4G5G-2 Patterns at 5550 MHz



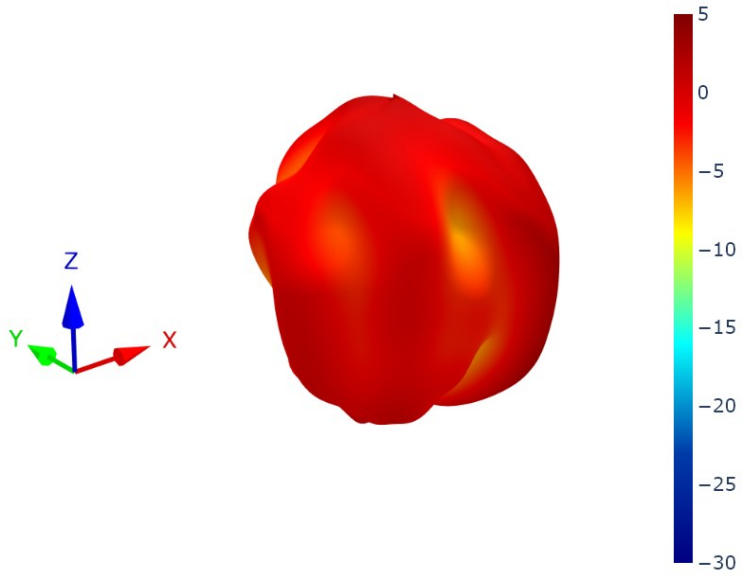
XZ Plane	YZ Plane	XY Plane



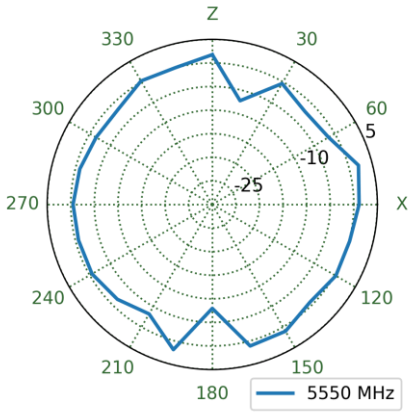


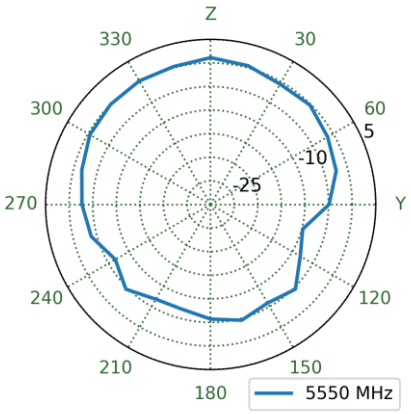


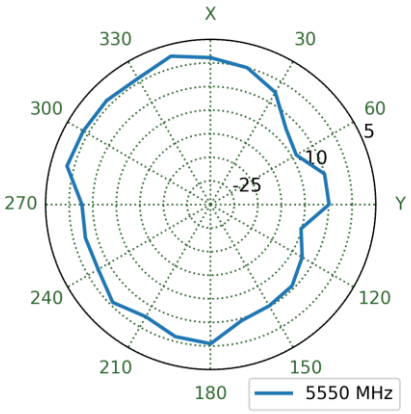
6.32 4G5G-3 Patterns at 5550 MHz



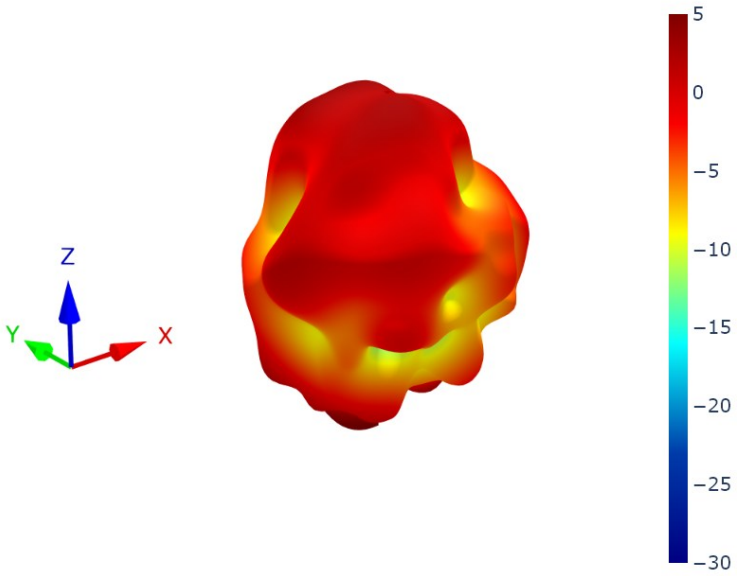
XZ Plane	YZ Plane	XY Plane

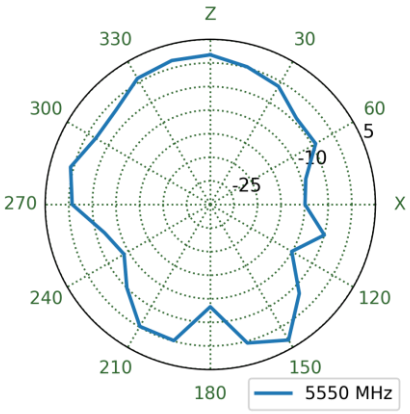
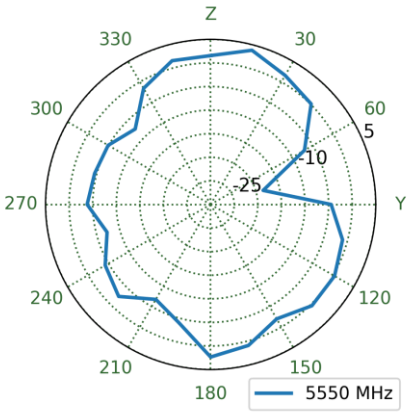
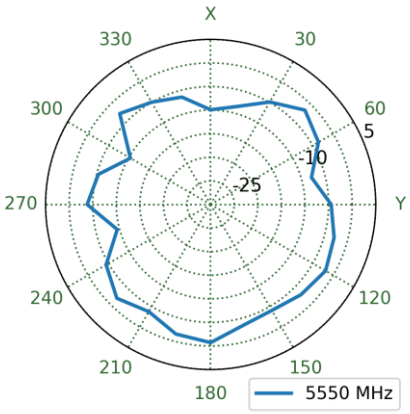




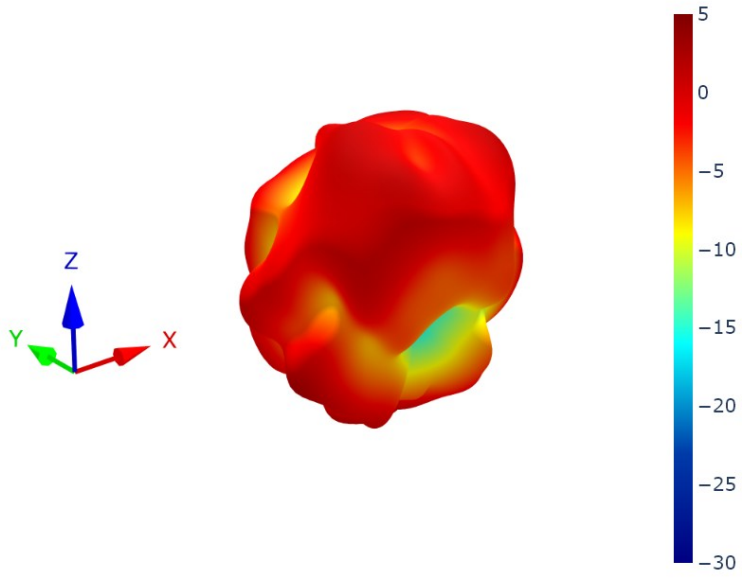


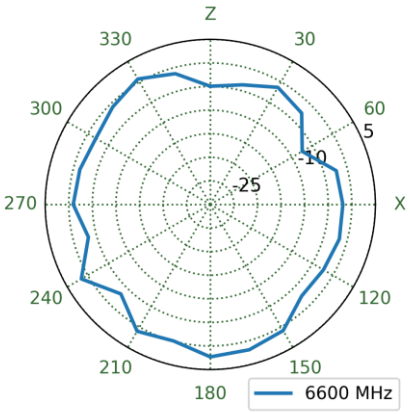
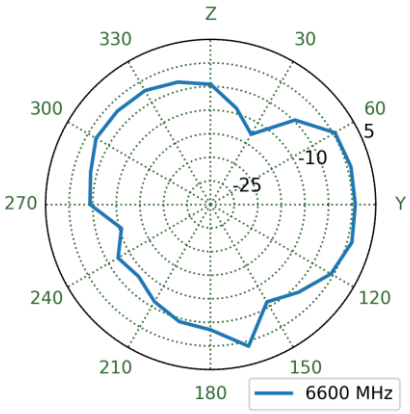
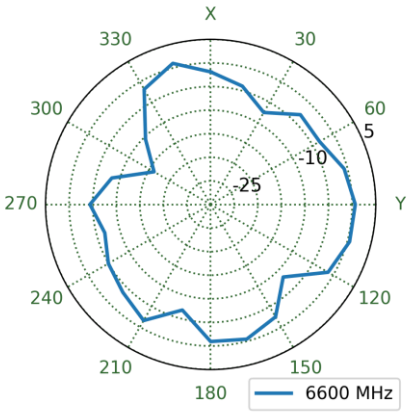
6.33 4G5G-4 Patterns at 5550 MHz



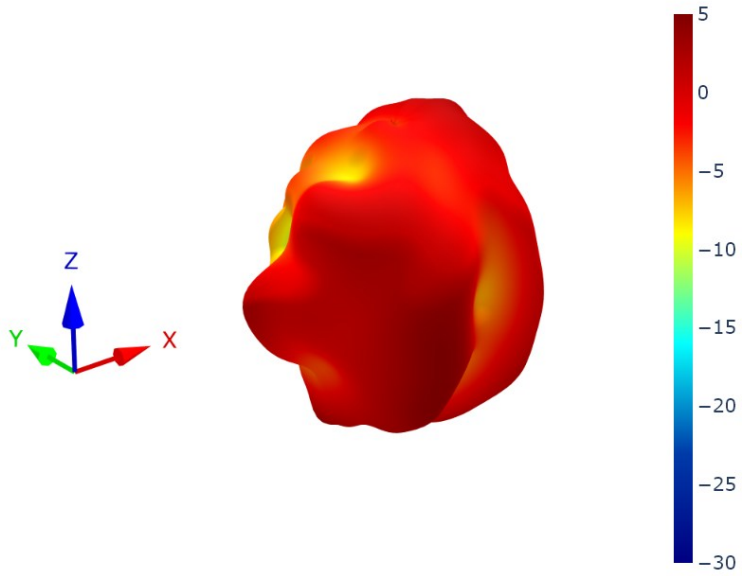
XZ Plane	YZ Plane	XY Plane
		

6.34 4G5G-1 Patterns at 6600 MHz

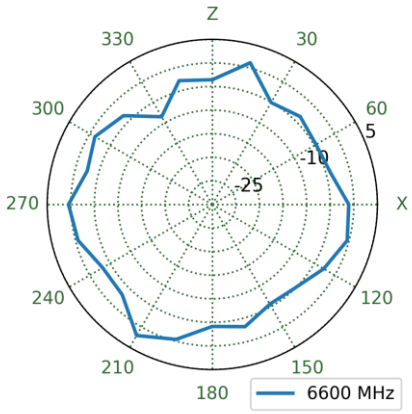


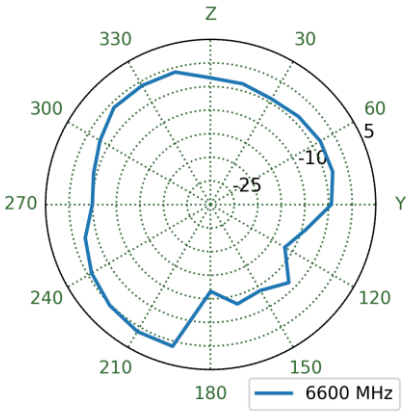
XZ Plane	YZ Plane	XY Plane
		

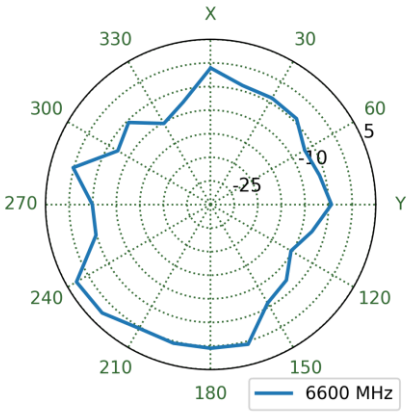
6.35 4G5G-2 Patterns at 6600 MHz



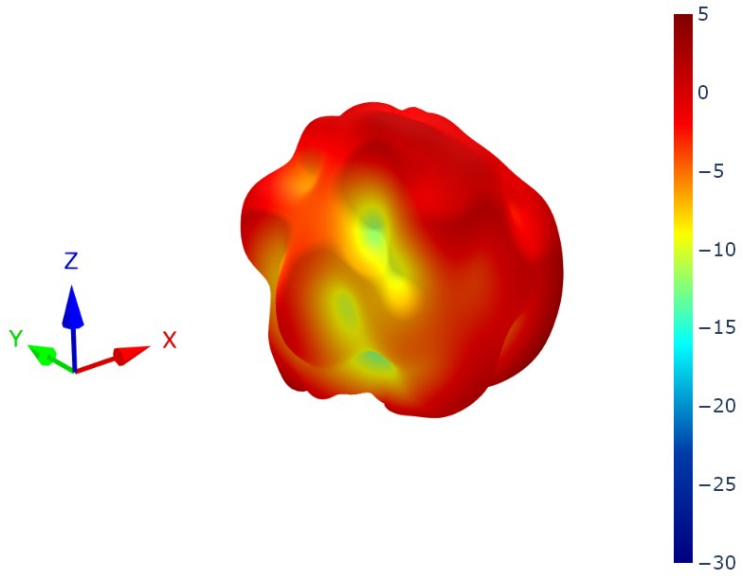
XZ Plane	YZ Plane	XY Plane



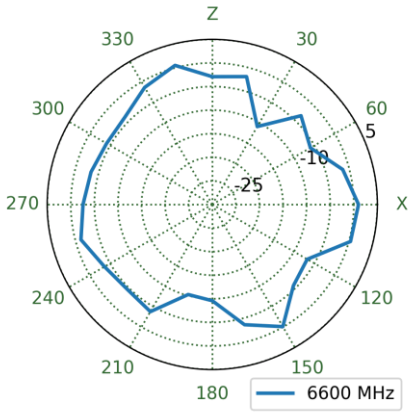


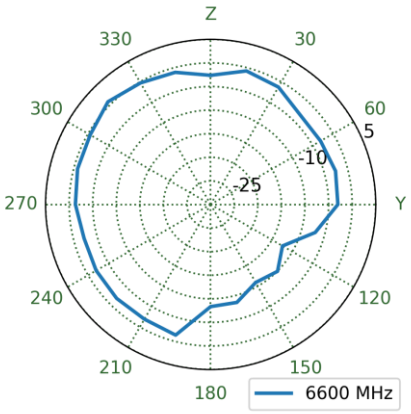


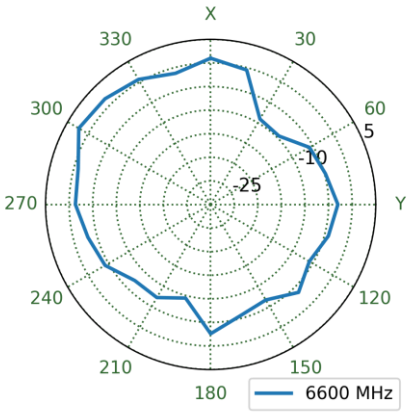
6.36 4G5G-3 Patterns at 6600 MHz



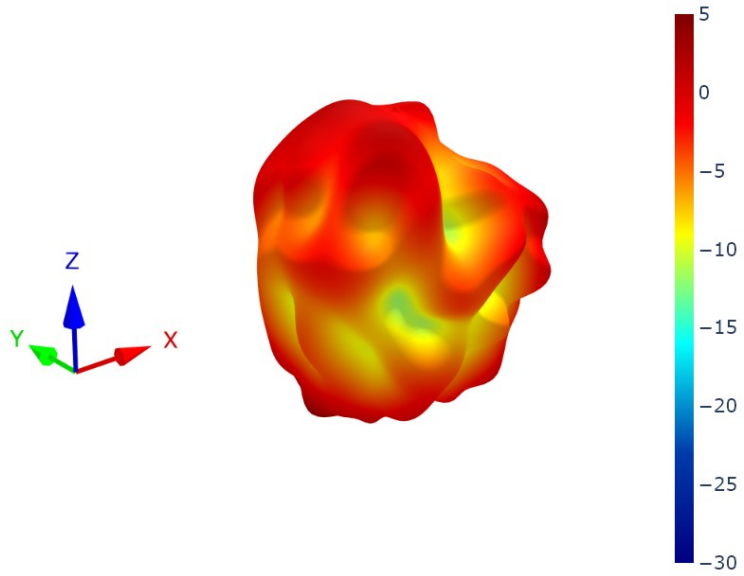
XZ Plane	YZ Plane	XY Plane



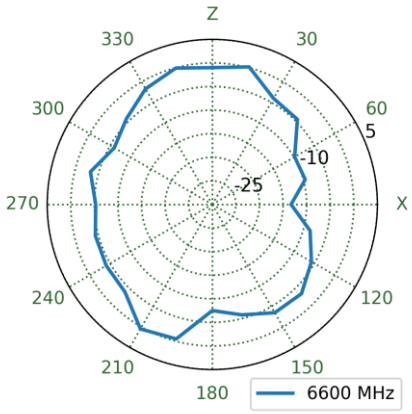


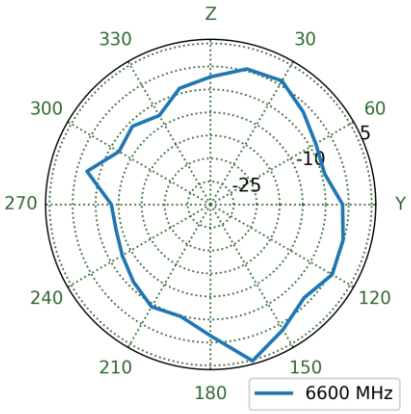


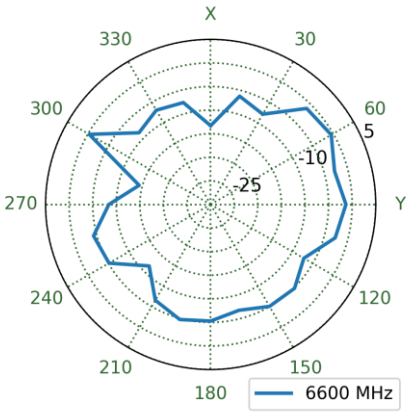
6.37 4G5G-4 Patterns at 6600 MHz



XZ Plane	YZ Plane	XY Plane



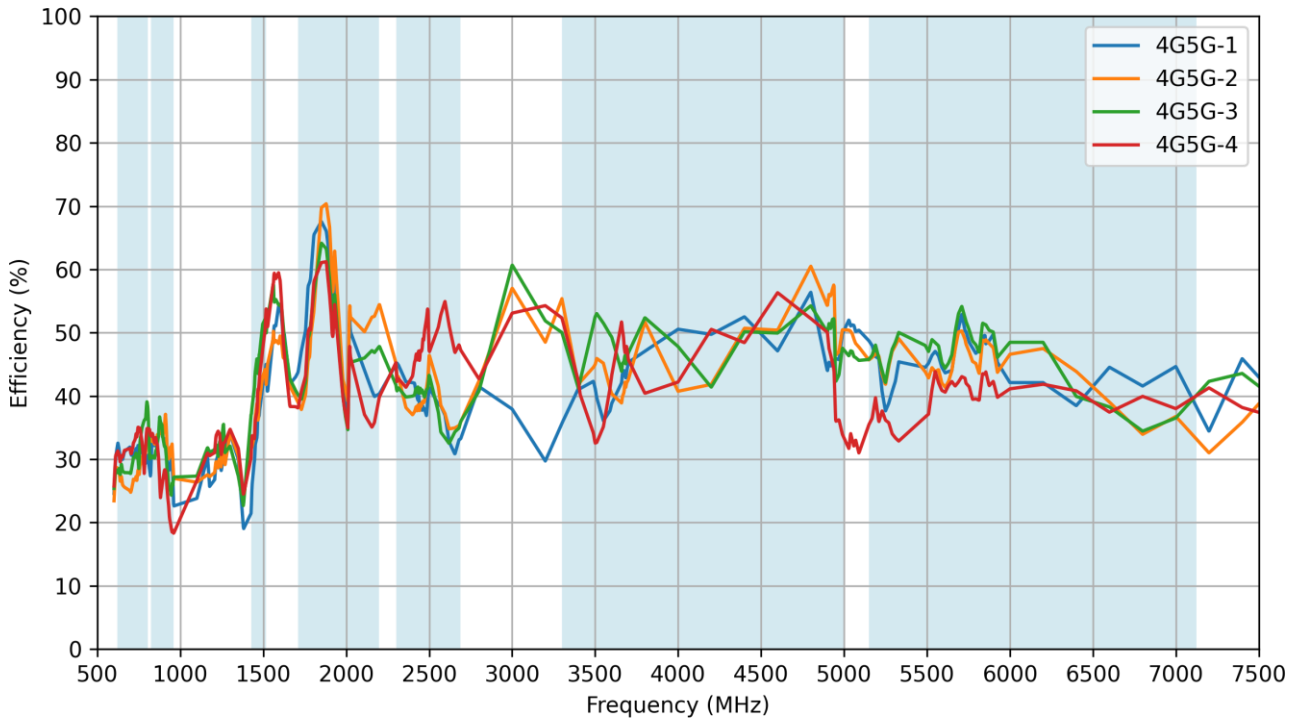




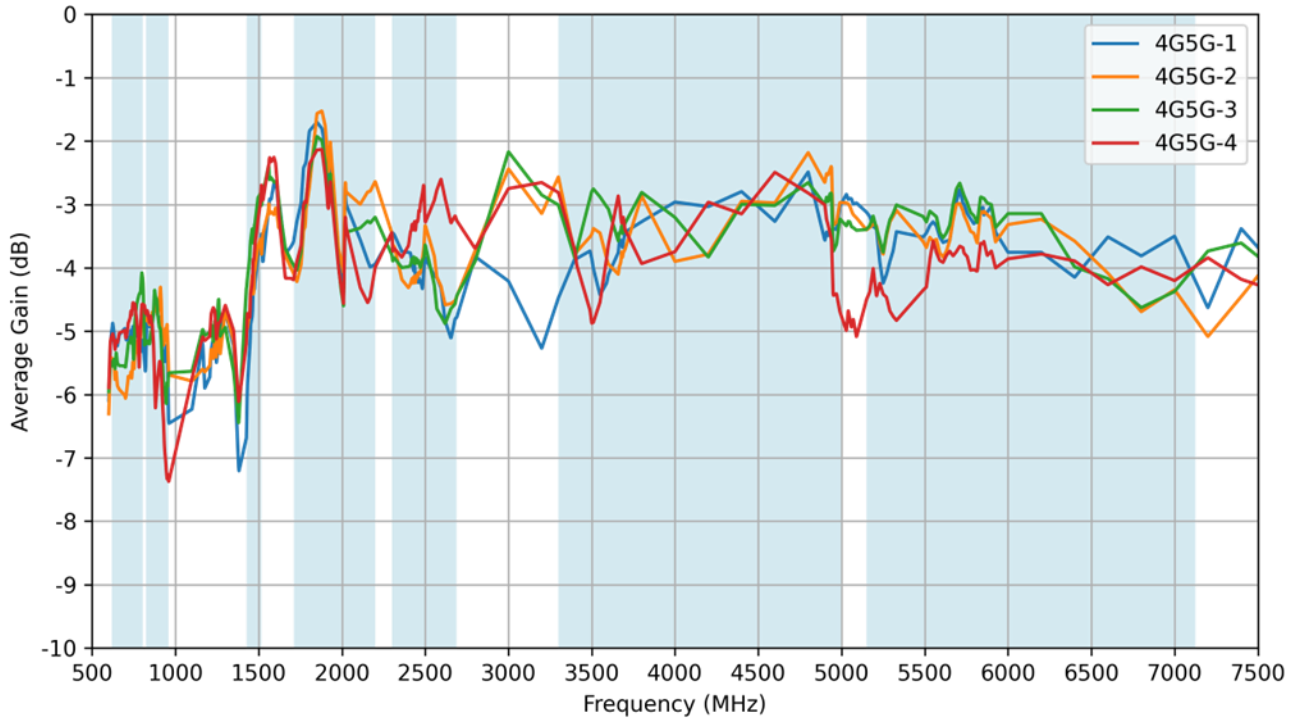
7. Application Note

This application note shows the calculated antenna performance of the antenna with 2m of TGC-200 cable.

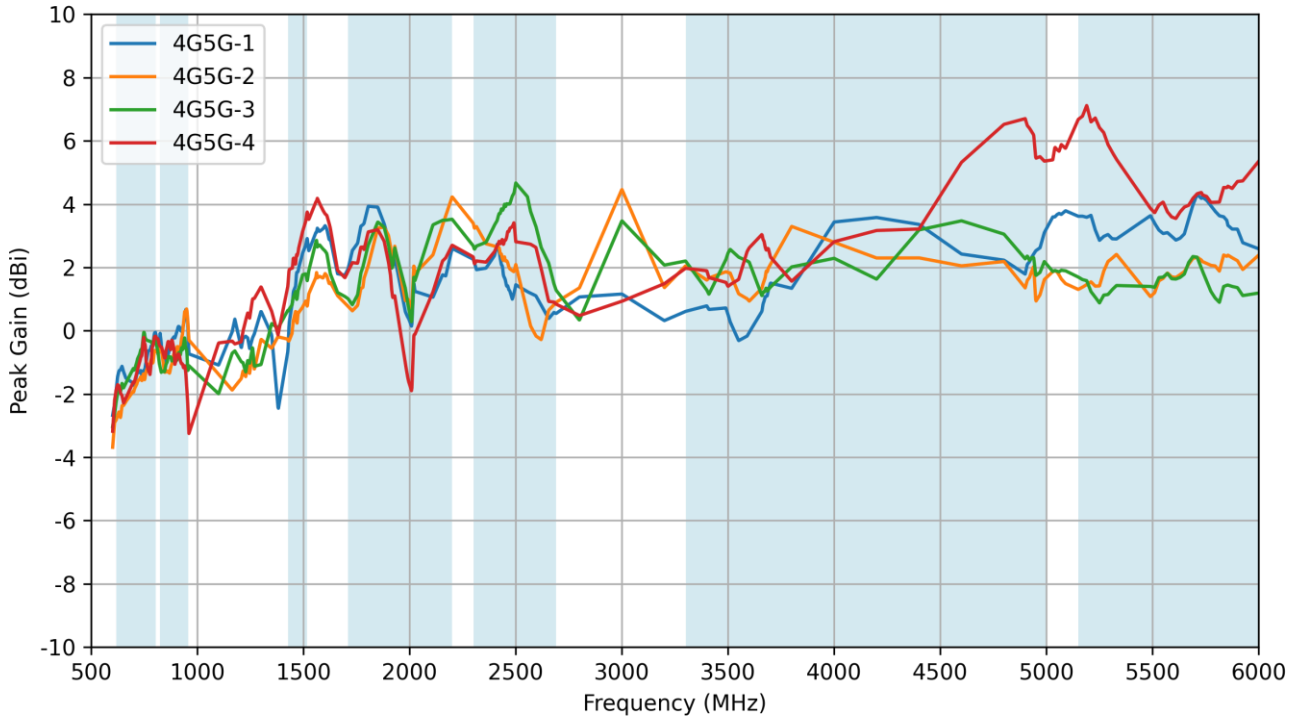
7.1 Efficiency



7.2 Average Gain



7.3 Peak Gain


4G5G-1
4G5G-2
4G5G-3
4G5G-4
Peak Gain (dBi)
Frequency (MHz)
10
8
6
4
2
0
-2
-4
-6
-8
-10
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000

Changelog for the datasheet

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Previous Revisions

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