

Datasheet

Synergy 10 in 1 Antenna

Part No:
MA1510.W.AK.001

Description

White/Grey Synergy 10-in-1 GNSS FAKRA C 4 5G/4G FAKRA D 5 Wi-Fi FAKRA I and braided cable assembly 5m TGC-200

Features:

4 x 5G/4G MIMO Antenna
5 x Wi-Fi 2.4GHz/5.8/7.125GHz MIMO Antenna
1 x Active GPS/GLONASS/BeiDou Antenna Front End GNSS SAW Filter
IP67 Rated Waterproof Enclosure
High Efficiency/Peak Gain Outdoor Antenna
Cable: 300mm RG-174 with 4700mm TGC-200
Connectors: GNSS - FAKRA C, 4G/5G - FAKRA D, Wi-Fi - FAKRA I
RoHS & REACH Compliant

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1. Introduction



The Taoglas Synergy MA1510 is an 10-in-1 next-generation permanent mount antenna for vehicle roof applications. It has a fully IP67 rated waterproof robust PC enclosure and base. The 10 antennas inside support 5G/4G, GPS/GLONASS/BeiDou, Wi-Fi (2.4GHz/5.8/7.125GHz). This outstanding patent-pending antenna delivers powerful MIMO antenna technology for 5G/4G, Wi-Fi 2.4/5.8/7.125GHz 802.11n and the emerging 802.11ac, and an optimized GPS/GLONASS/BeiDou patch antenna for location. 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

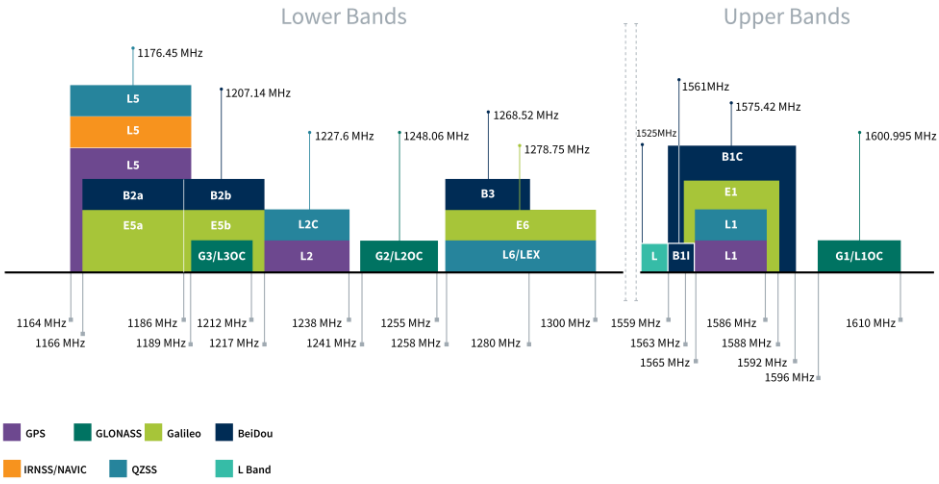
The MA1510 Synergy is ideal for applications that require highly sophisticated antennas for real-time streaming applications that demand high-speed video uplink and downlink into the cabin of the vehicle. These challenges are resolved by the highly efficient, high gain MIMO antennas, with high isolation, all of which is necessary to achieve the required signal to noise ratio and throughput.

The MA1510 can also be customized for your particular wireless application and frequency band, subject to NRE and MOQ. There are 10x 300mm RG-174 cables, terminating in FAKRA C connectors for 5G/4G MIMO 4X4, and FAKRA D for Wi-Fi MIMO 5X5. There is a 300mm RG-174 cable for GNSS terminating in an FAKRA I connector.

All cable lengths and connector types are customizable. The Synergy 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

GNSS Frequency Bands					
GPS	L1 1575.42 MHz	L2 1227.6 MHz	L5 1176.45 MHz		
	■	□	□		
GLONASS	G1 1602 MHz	G2 1248 MHz	G3 1207 MHz		
	■	□	□		
Galileo	E1 1575.24 MHz	E5a 1176.45 MHz	E5b 1201.5 MHz	E6 1278.75 MHz	
	■	□	□	□	
BeiDou	B1C 1575.42 MHz	B1I 1561 MHz	B2a 1176.45 MHz	B2b 1207.14 MHz	B3 1268.52 MHz
	■	■	□	□	□
L-Band	L-Band 1542 MHz				
	□				
QZSS (Regional)	L1 1575.42 MHz	L2C 1227.6 MHz	L5 1176.45 MHz	L6 1278.75e6	
	■	□	□	□	
IRNSS (Regional)	L5 1176.45 MHz				
	□				
SBAS	L1/E1/B1 1575.42 MHz	L5/B2a/E5a 1176.45 MHz	G1 1602 MHz	G2 1248 MHz	G3 1207 MHz
	■	□	■	□	□



GNSS Bands and Constellations

GNSS Electrical			
Frequency (MHz)	**1561**	**1575.42**	**1602**
VSWR (max.)	2.5	2.5	2.5
Passive Antenna Efficiency (%) (Without cable loss)	40.02	48.39	44.29
Passive Antenna Gain at Zenith (dBic) (Without cable loss)	3.75	4.44	4.54
Axial Ratio (dB)	20	11	15
Polarization	RHCP		
Impedance	50Ω		
Cable	RG-174		
Connector	SMA(M)		

LNA and Fir Electrical Properties			
Frequency (MHz)	**1561**	**1575.42**	**1602**
VSWR (max.)	2.0:1	2.0:1	2.0:1
Gain@1.8V	28.8 dB	28.8 dB	28 dB
Gain@3.0V	29 dB	29 dB	28.3 dB
Gain@5.5V	29.6 dB	29.4 dB	28.7 dB
Noise@1.8V	2.8 dB	2.3 dB	2.8 dB
Noise@3.0V	2.8 dB	2.2 dB	2.8 dB
Noise@5.5V	2.9 dB	2.3 dB	2.8 dB
Power consumption@1.8V	8.7 mA		
Power consumption@3.0V	9.0 mA		
Power consumption@5.5V	11 mA		

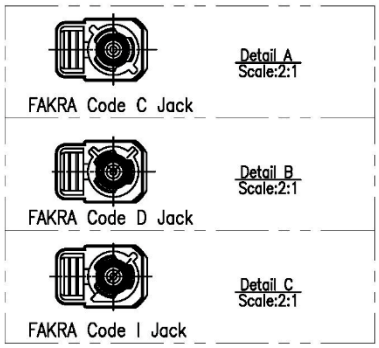
Total Specification (Through Antenna, SAW Fir and LNA)			
Frequency (MHz)	**1561**	**1575.42**	**1602**
Gain@3V (dBic)	31.7 ± 3	32.4 ± 3	32.4 ± 3
Output Impedance	50Ω		

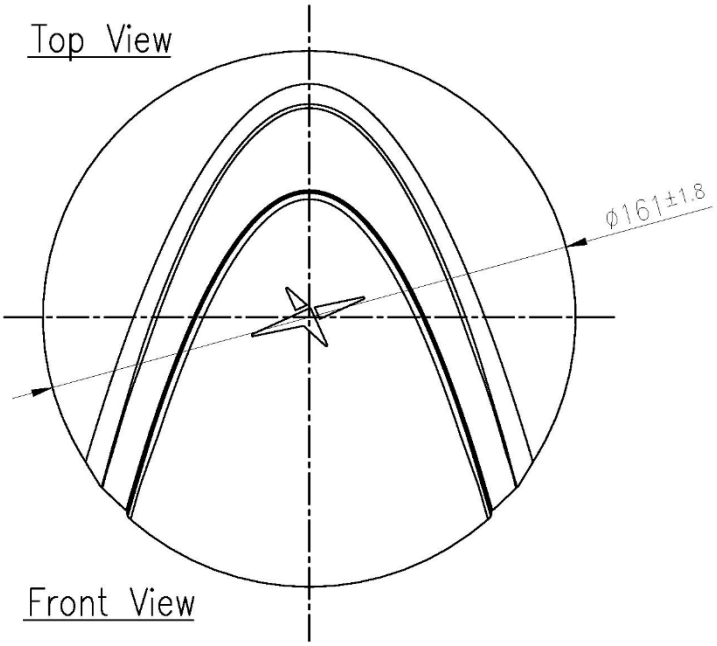
4G-5G Electrical									
Band	Frequency (MHz)	Measurement	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
5GNR/4G Band71	617-698	4G-5G 1	23.6	-6.28	0.16	50 Ω	Linear	Omni directional	10W
		4G-5G 2	29.3	-5.34	0.89				
		4G-5G 3	22.8	-6.43	-1.16				
		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				
5200/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				

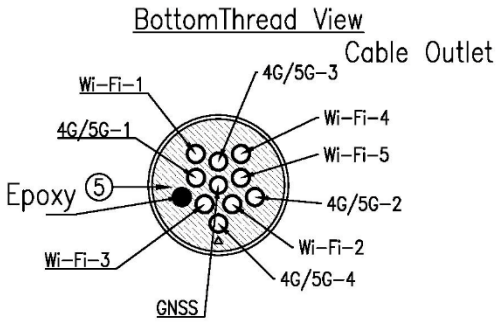
Wi-Fi Electrical									
Band	Frequency (MHz)	Measurement	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
WiFi - 2GHz	2400-2500	Wi-Fi 1	46.3	-3.35	3.38	50 Ω	Linear	Omni directional	10W
		Wi-Fi 2	48.4	-3.15	4.49				
		Wi-Fi 3	39.9	-3.99	3.51				
		Wi-Fi 4	36.7	-4.35	3.06				
		Wi-Fi 5	37.6	-4.25	4.41				
WiFi - 5GHz	5150-5850	Wi-Fi 1	54.5	-2.63	6.52				
		Wi-Fi 2	57.8	-2.38	7.10				
		Wi-Fi 3	52.3	-2.82	6.18				
		Wi-Fi 4	54.4	-2.64	6.64				
		Wi-Fi 5	55.0	-2.59	6.54				
WiFi - 6GHz	5925-7125	Wi-Fi 1	59.9	-2.23	7.73				
		Wi-Fi 2	50.0	-3.01	7.02				
		Wi-Fi 3	39.8	-4.00	5.99				
		Wi-Fi 4	38.9	-4.10	6.42				
		Wi-Fi 5	38.0	-4.20	6.02				

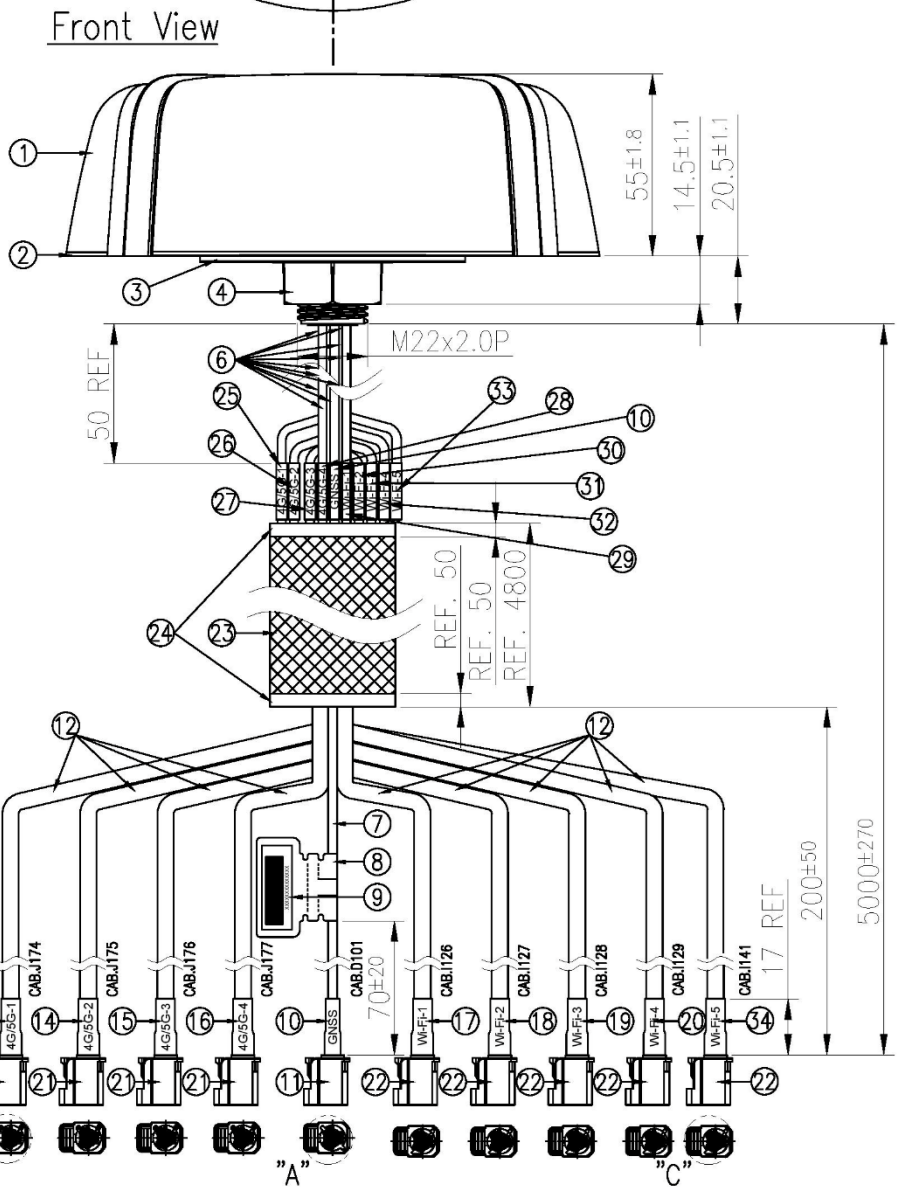
Mechanical	
Height	57.47mm
Planner Dimension	Ø160mm
Casing	PC
Cable	0.3m RG-174 with 4.7m TGC-200 for 5G/4G – Fully Customizable 0.3m RG-174 with 4.7m TGC-200 for Wi-Fi – Fully Customizable 0.3m RG174 with 4.7m TGC-200 for GNSS – Fully Customizable
Connector	5G/4G: FAKRA D – Fully Customizable Wi-Fi: FAKRA I – Fully Customizable GNSS: FAKRA C – Fully Customizable
Thread Diameter	M22
Waterproof	IP67
Sealant	Rubber Stopper and O-Ring
Weight	2.7Kg
Environmental	
Ingress Protection	IP67
Temperature Range	-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	EGS2+X1 0MM 25	Black Foam/White Liner	1
4	Nut_M22	Nylon	Black	1
5	Rubber	Silicone Rubber	Black	1
6	RG174 Coaxial Cable (WA1610A001)	PVC	Black	10
7	RG174 Coaxial Cable (CAB.D101)	PVC	Black	1
8	Empty Label	PEPA	White	1
9	Barcode Label	PET	White	1
10	Heat Shrink Tube (GNSS)	PE	Blue Tube/White Text	2
11	FAKRA Code C SMB(F)ST	PA66	Blue	1
12	TOC-200 Coaxial Cable	PE	Black	8
13	Heat Shrink Tube (4G/5G-1)	PE	Red Tube/White Text	1
14	Heat Shrink Tube (4G/5G-2)	PE	Red Tube/White Text	1
15	Heat Shrink Tube (4G/5G-3)	PE	Red Tube/White Text	1
16	Heat Shrink Tube (4G/5G-4)	PE	Red Tube/White Text	1
17	Heat Shrink Tube (Wi-Fi-1)	PE	Yellow Tube/Black Text	1
18	Heat Shrink Tube (Wi-Fi-2)	PE	Yellow Tube/Black Text	1
19	Heat Shrink Tube (Wi-Fi-3)	PE	Yellow Tube/Black Text	1
20	Heat Shrink Tube (Wi-Fi-4)	PE	Yellow Tube/Black Text	1
21	FAKRA Code D SMB(F)ST	PA66	BORDEAUX-Violet	4
22	FAKRA Code I SMB(F)ST	PA66	Beige	5
23	Centenary Braid	BSPET	Black	1
24	Heat Shrink Tube	PE With Glue	Black	2
25	Heat Shrink Tube (4G/5G-1)	PE	Red Tube/White Text	1
26	Heat Shrink Tube (4G/5G-2)	PE	Red Tube/White Text	1
27	Heat Shrink Tube (4G/5G-3)	PE	Red Tube/White Text	1
28	Heat Shrink Tube (4G/5G-4)	PE	Red Tube/White Text	1
29	Heat Shrink Tube (Wi-Fi-1)	PE	Yellow Tube/Black Text	1
30	Heat Shrink Tube (Wi-Fi-2)	PE	Yellow Tube/Black Text	1
31	Heat Shrink Tube (Wi-Fi-3)	PE	Yellow Tube/Black Text	1
32	Heat Shrink Tube (Wi-Fi-4)	PE	Yellow Tube/Black Text	1
33	Heat Shrink Tube (Wi-Fi-5)	PE	Yellow Tube/Black Text	1
34	Heat Shrink Tube (Wi-Fi-5)	PE	Yellow Tube/Black Text	1

4. Packaging

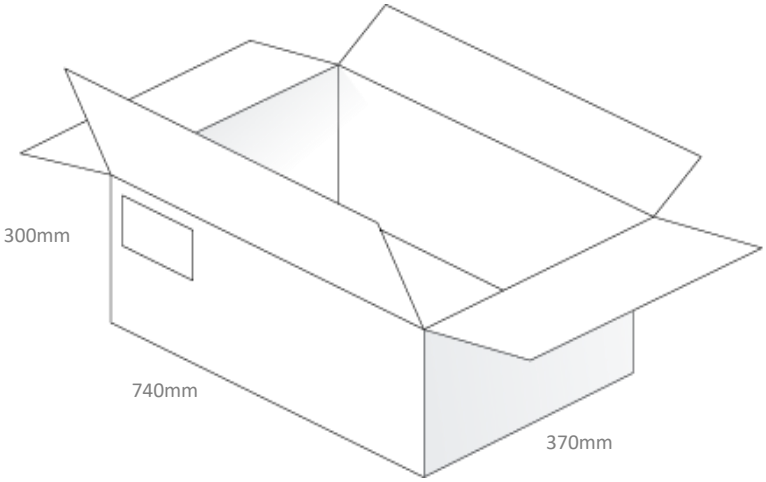


1pc MA1510.W.AK.001 per PE Bag
Weight: 2.9Kg



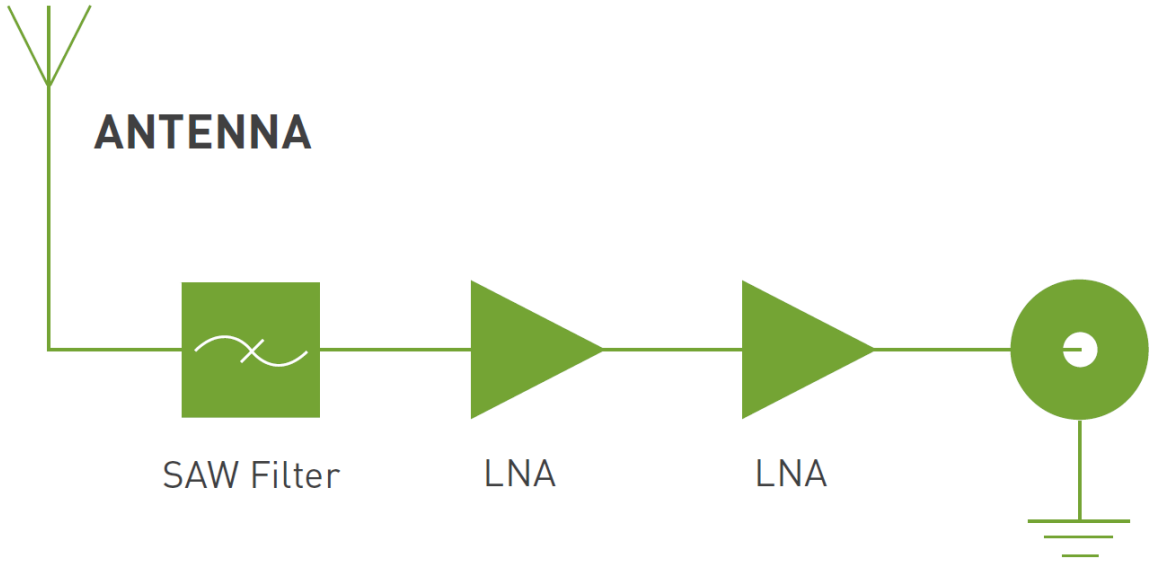


4pcs MA1510.W.AK.001 per Carton
Carton Dimensions: 740*370*300mm
Weight: 12.7Kg

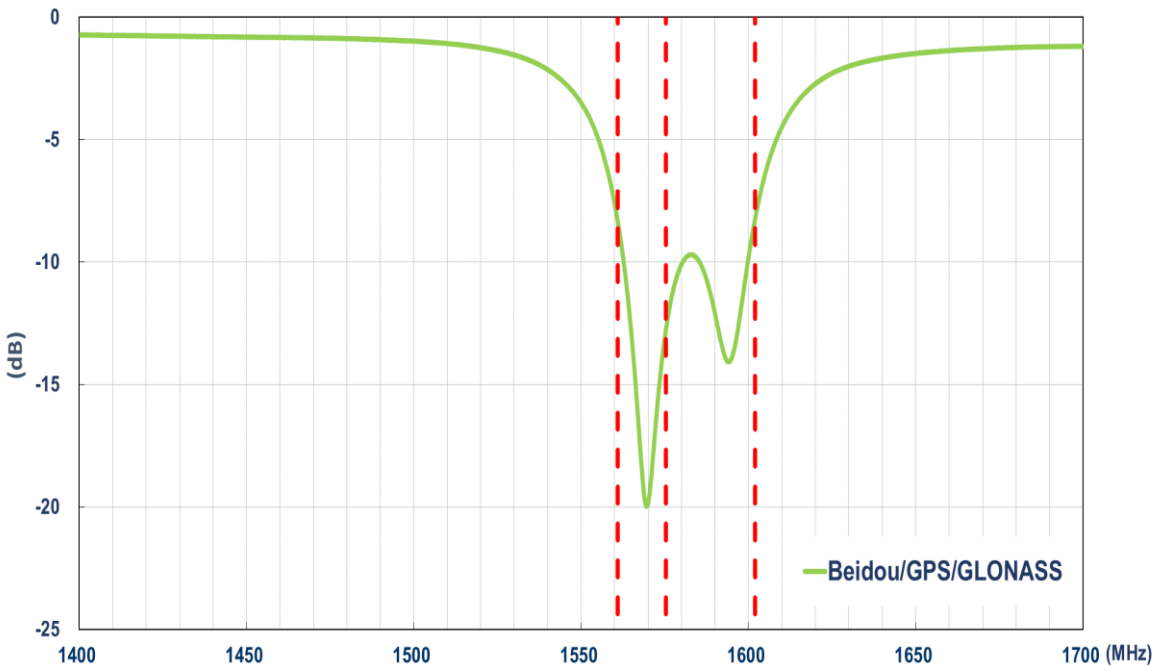


5. Antenna Characteristics

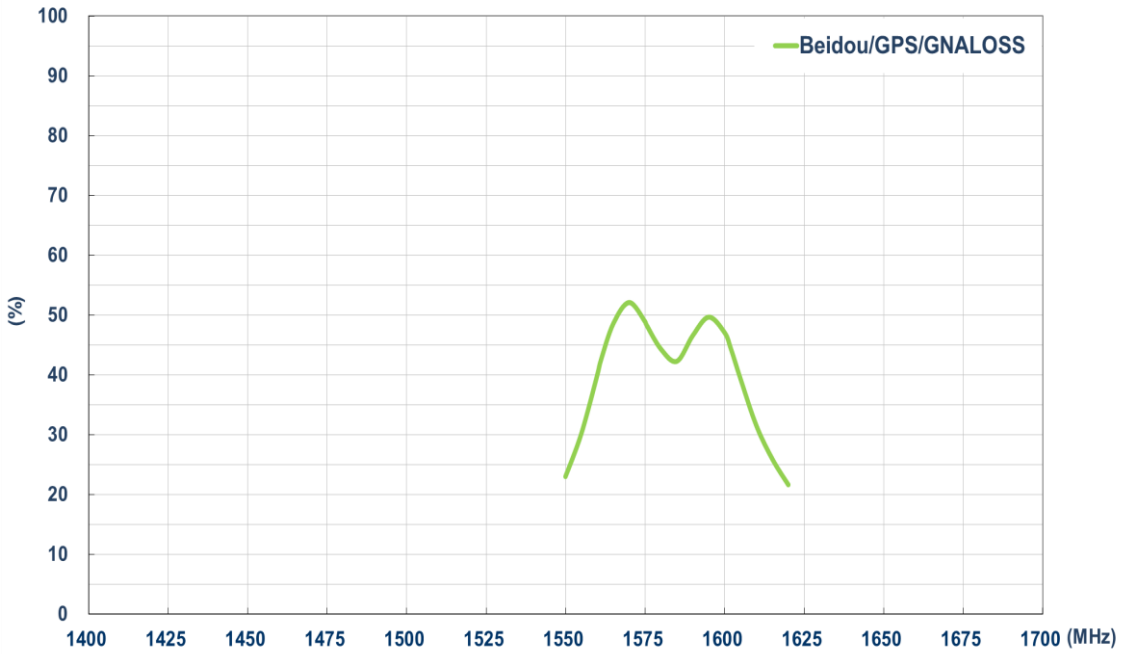
5.1 Block Diagram (Active Antenna)



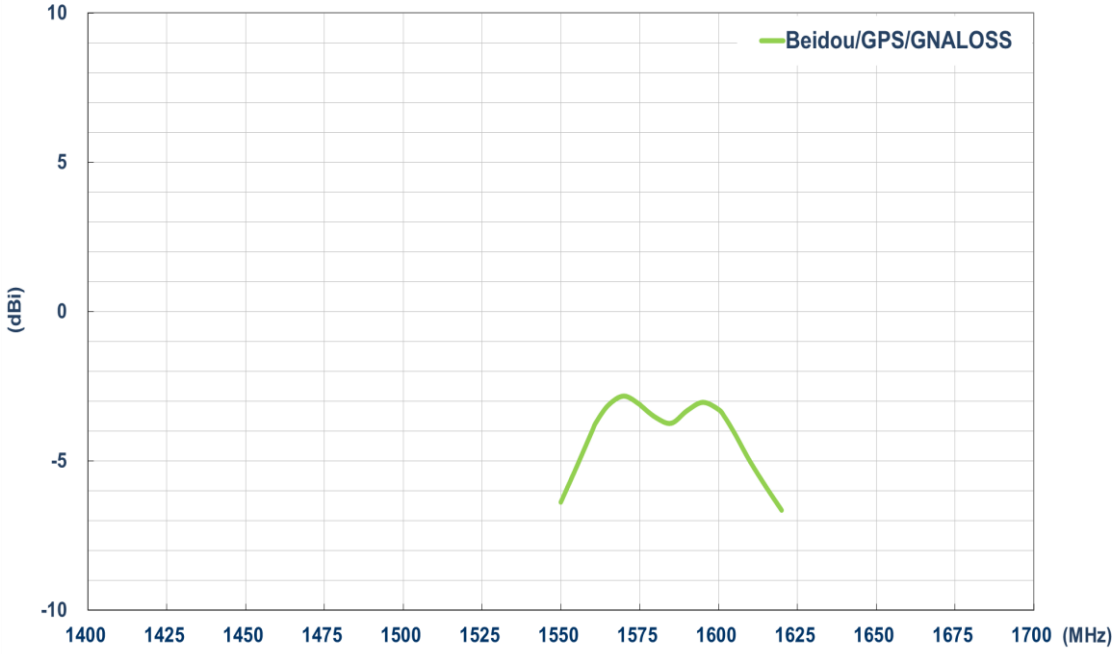
5.2 GNSS – Return Loss (Passive)



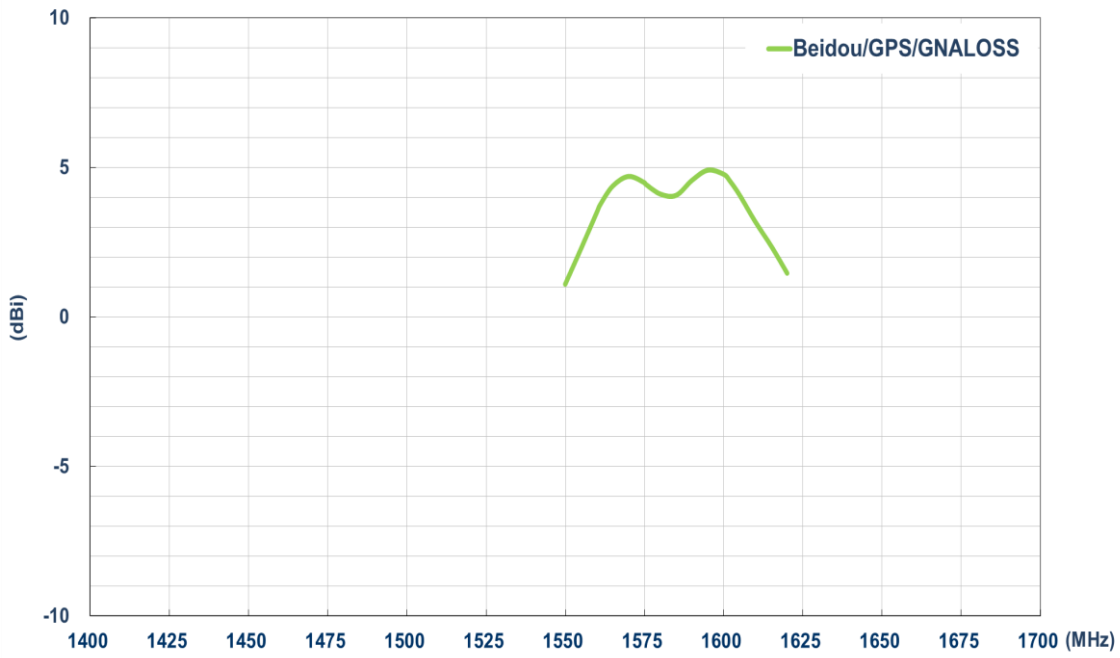
5.3 GNSS – Efficiency (Passive)



5.4 GNSS – Average Gain (Passive)

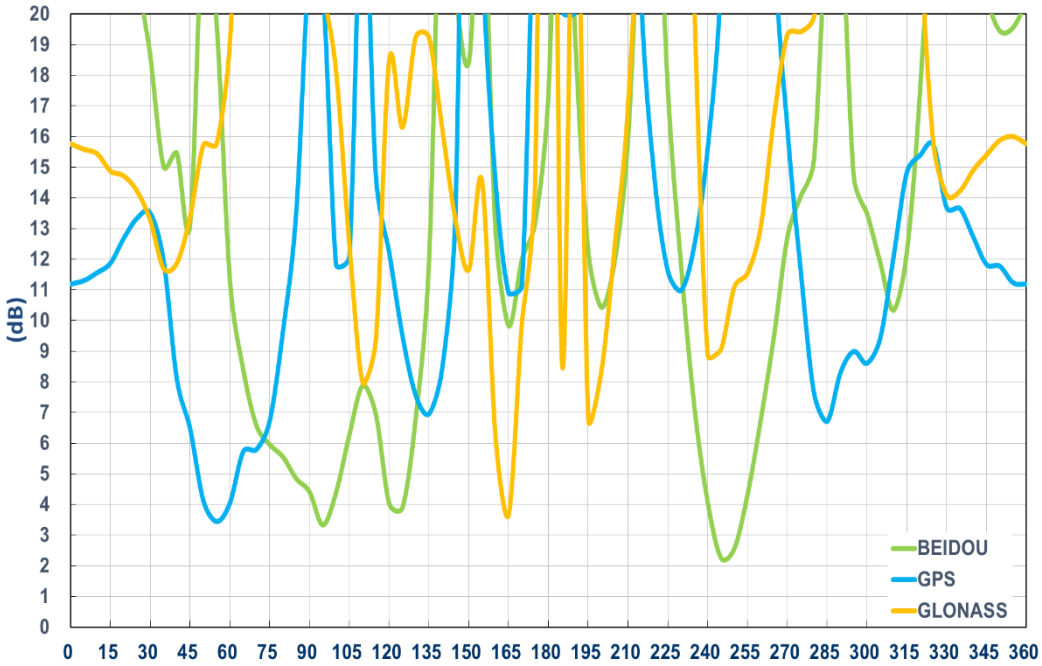


5.5 GNSS – Peak Gain (Passive)



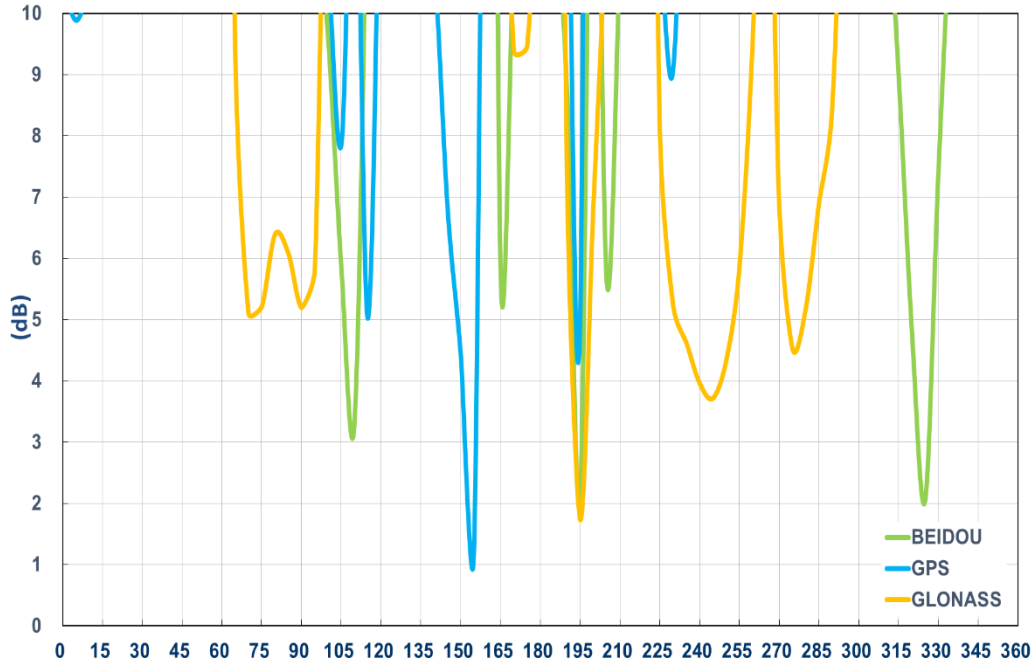
5.6 GNSS – Axial Ratio

XZ- Plane

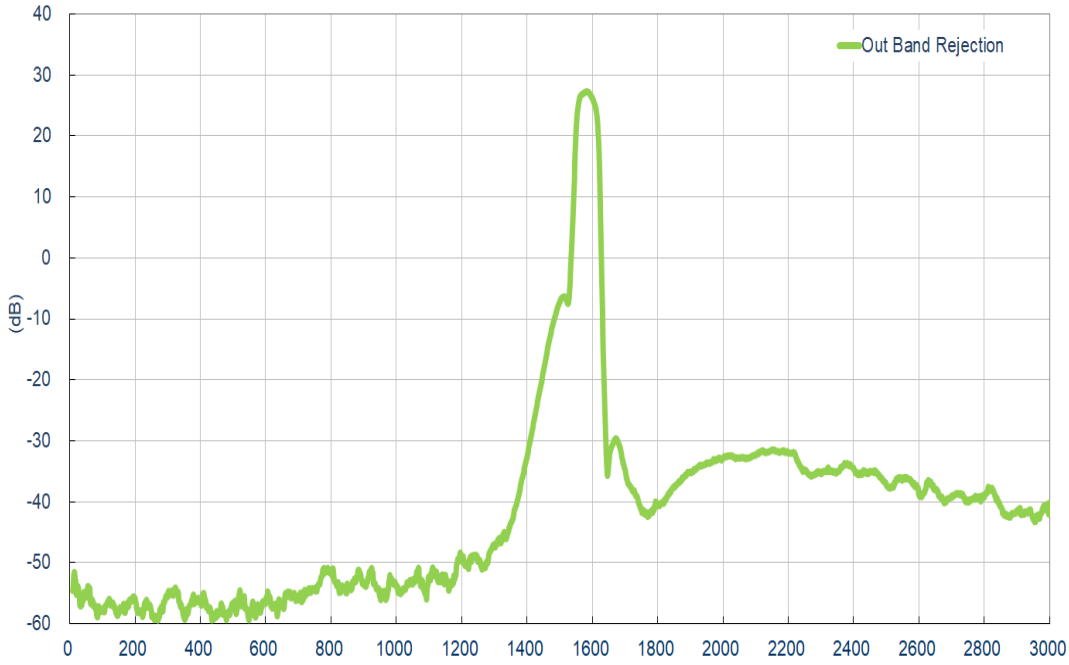


5.7 GNSS – Axial Ratio

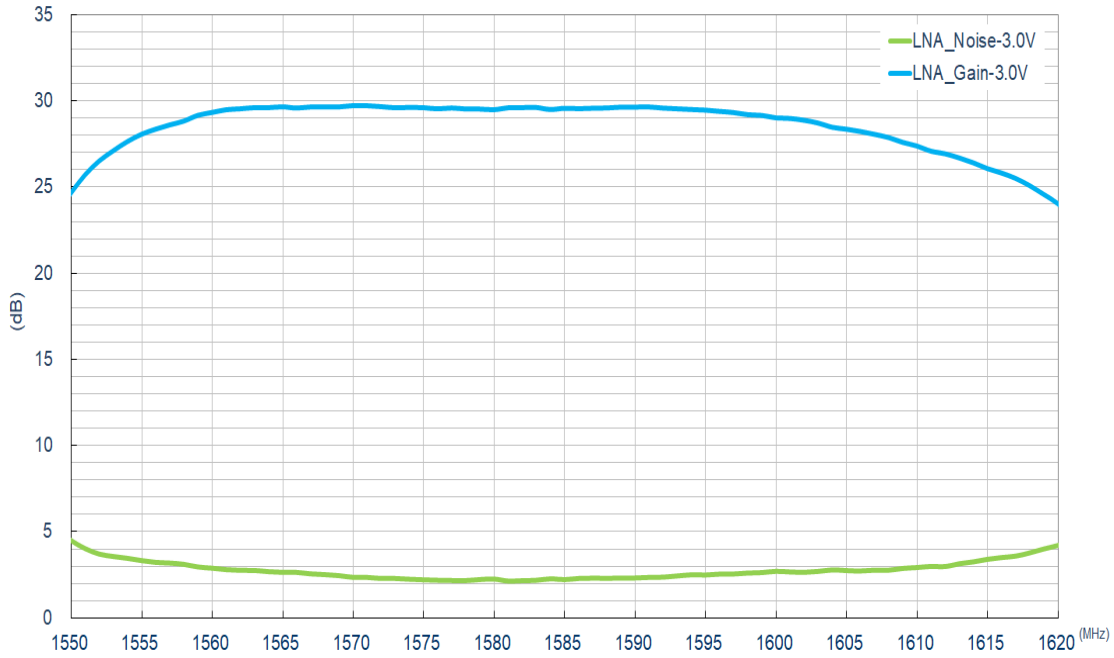
YZ- Plane



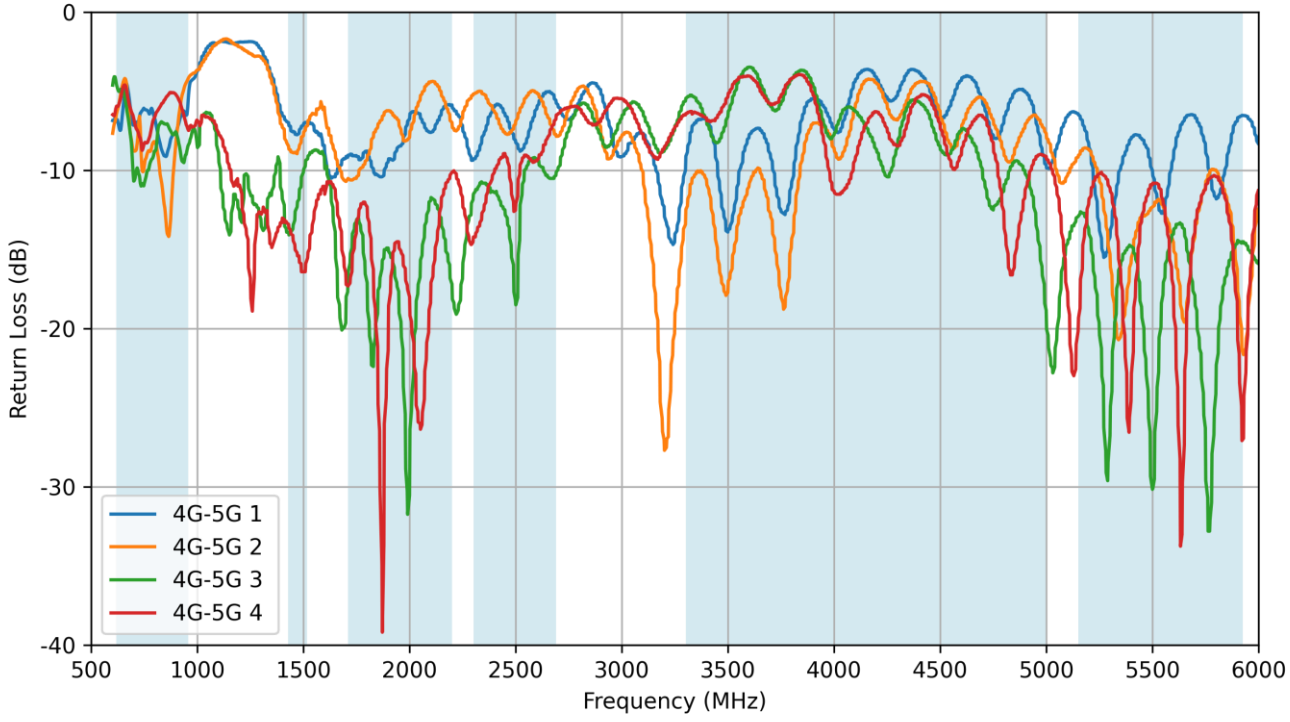
5.8 GNSS – LNA Gain @ 3.0V



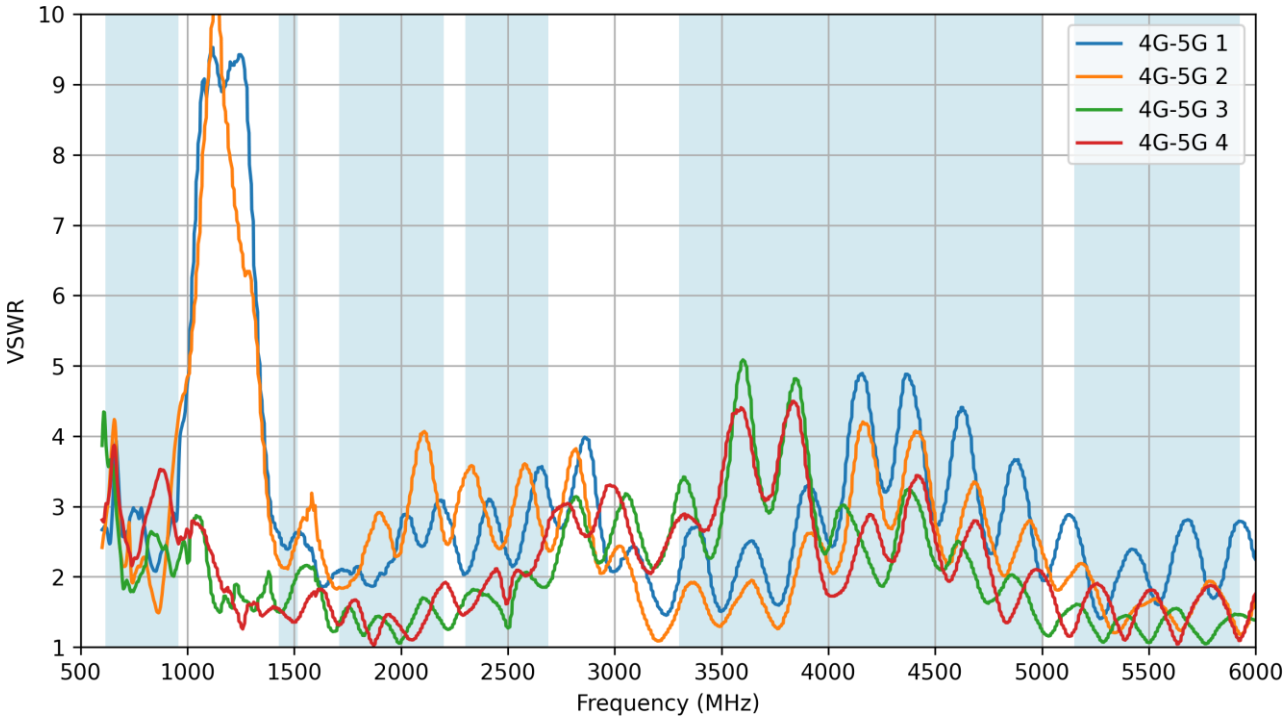
5.9 Noise Figure @ 3.0V



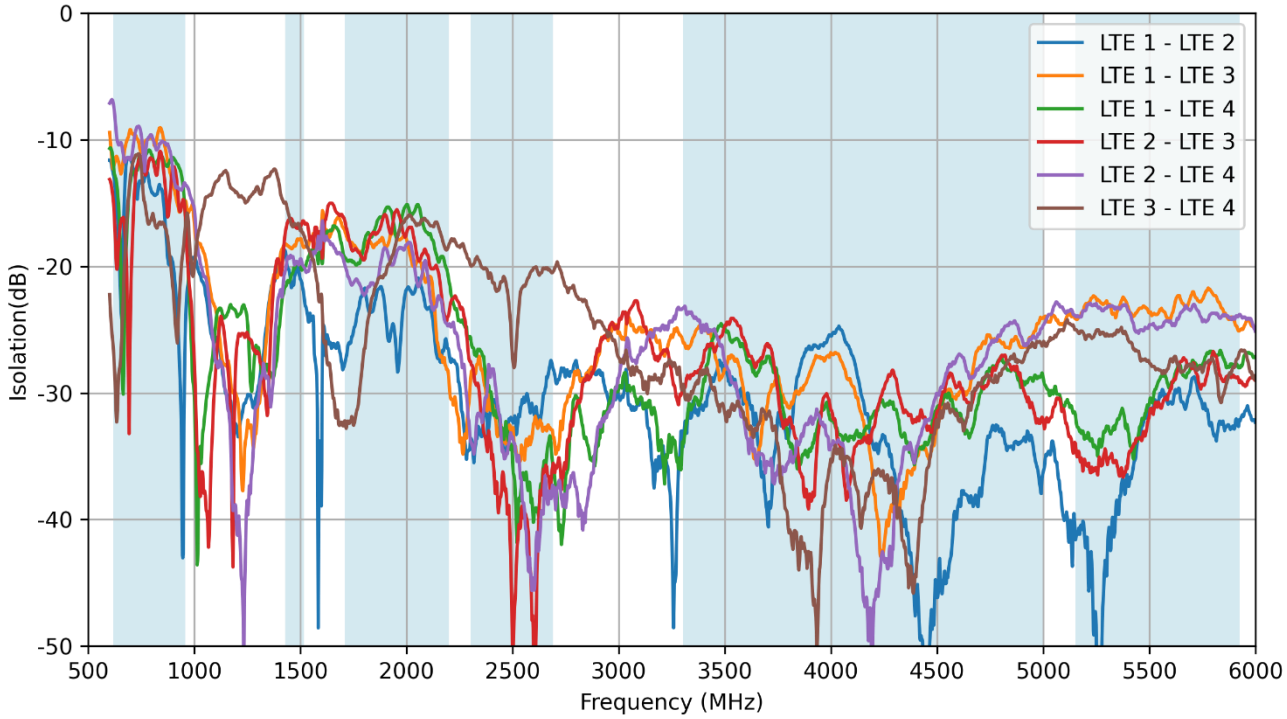
5.10 4G-5G - Return Loss



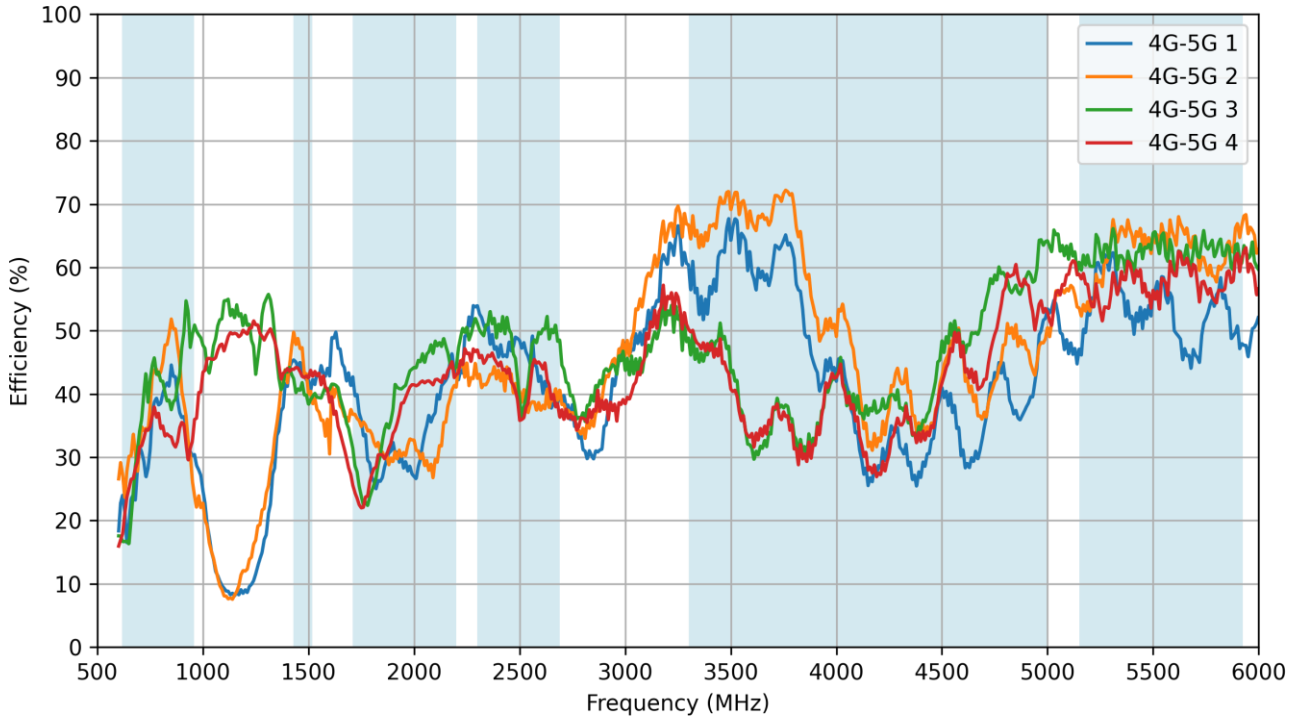
5.11 4G-5G - VSWR



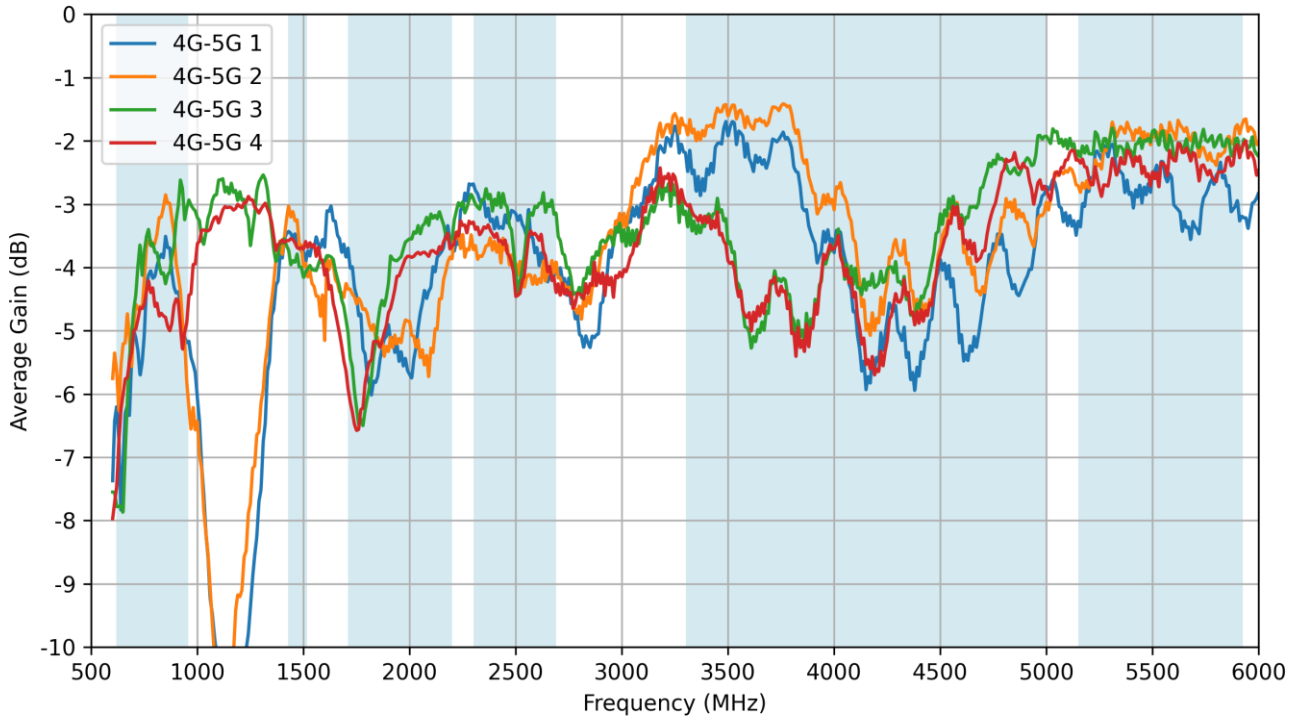
5.12 4G-5G - Isolation



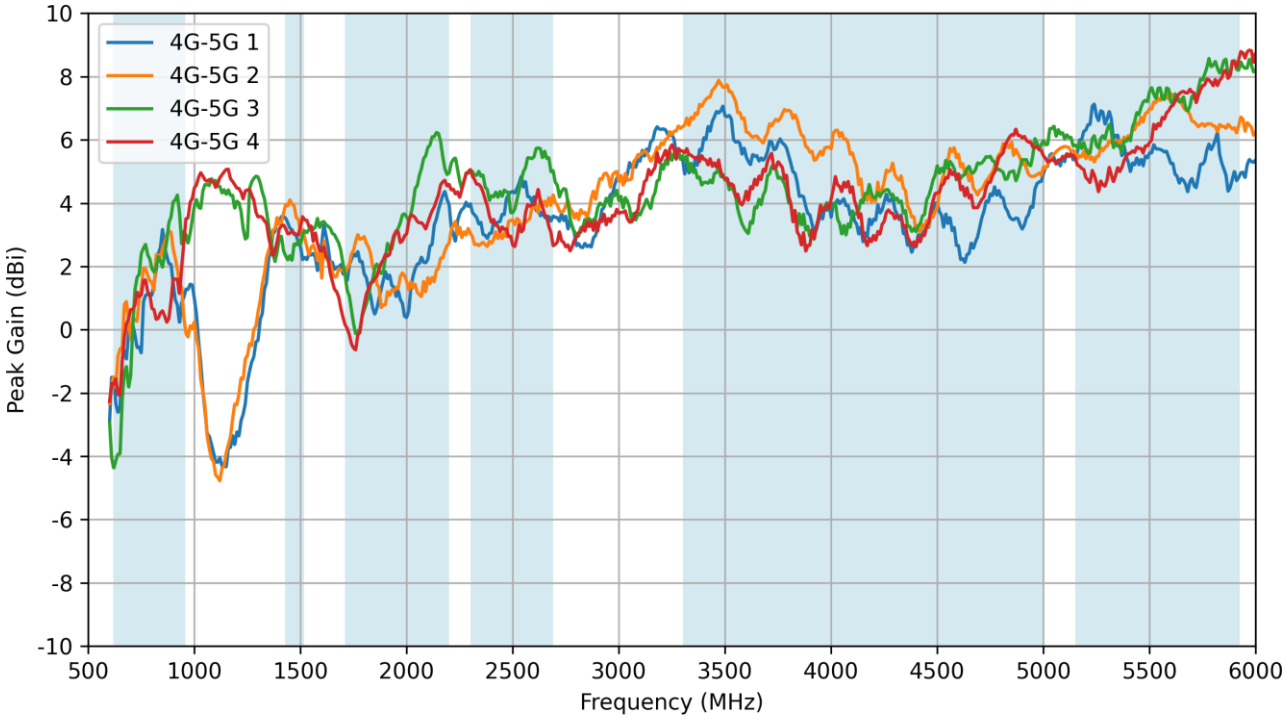
5.13 4G-5G - Efficiency



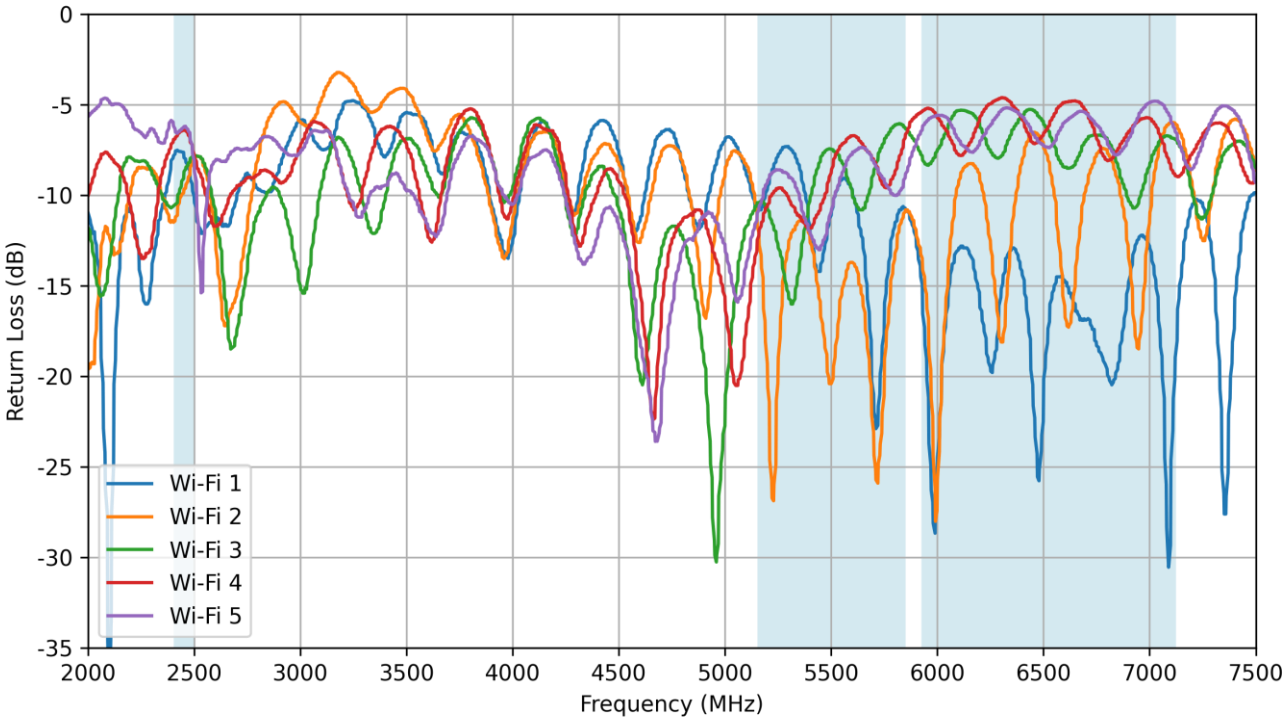
5.14 4G-5G - Average Gain



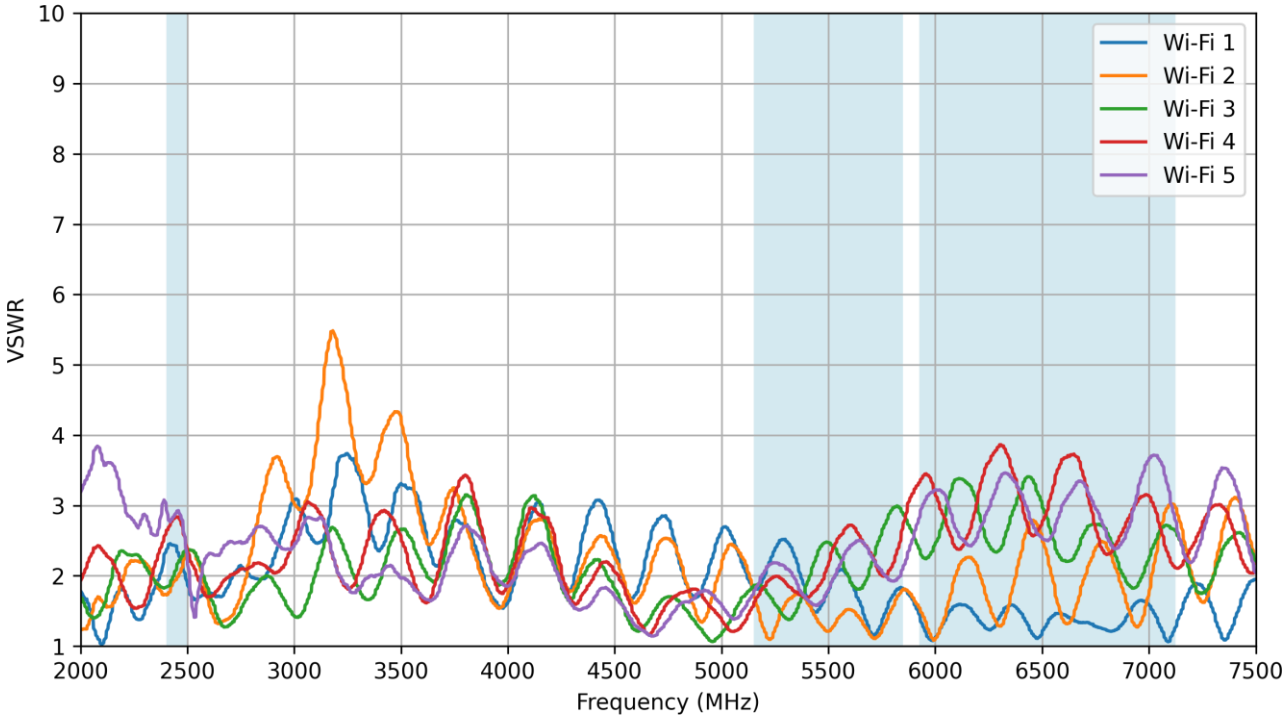
5.15 4G-5G - Peak Gain



5.16 Wi-Fi - Return Loss

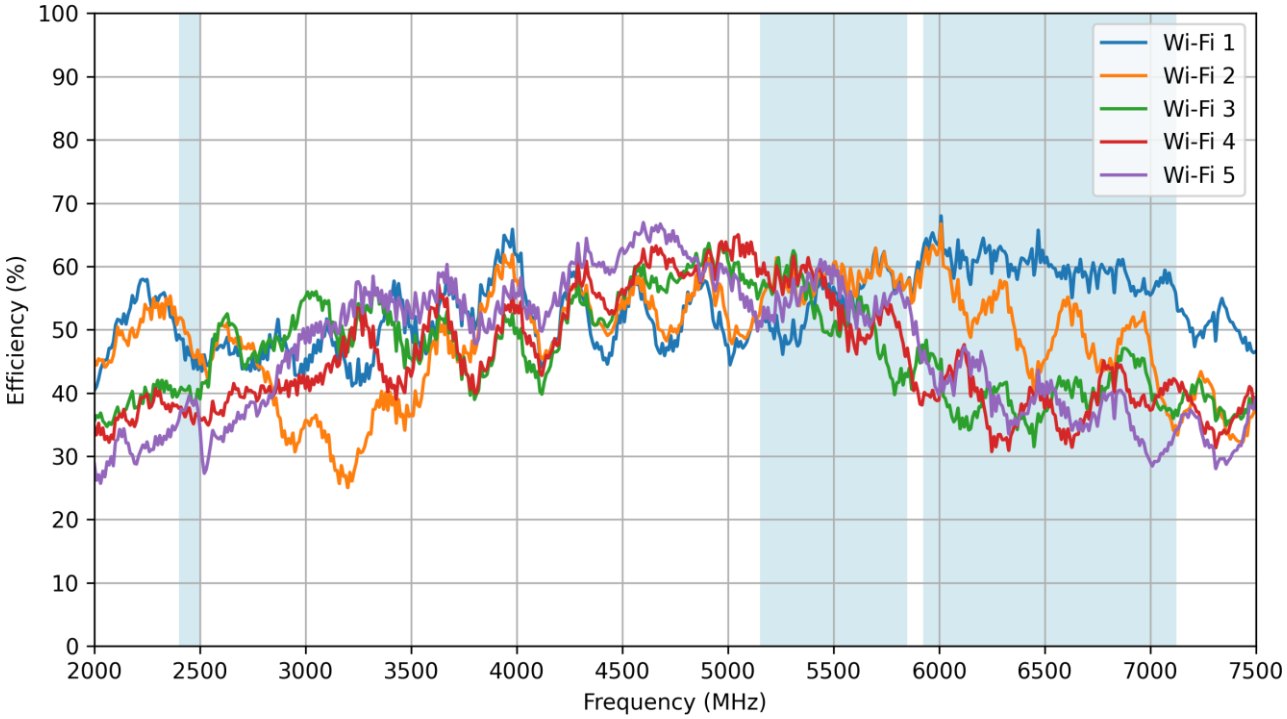


5.17 Wi-Fi - VSWR

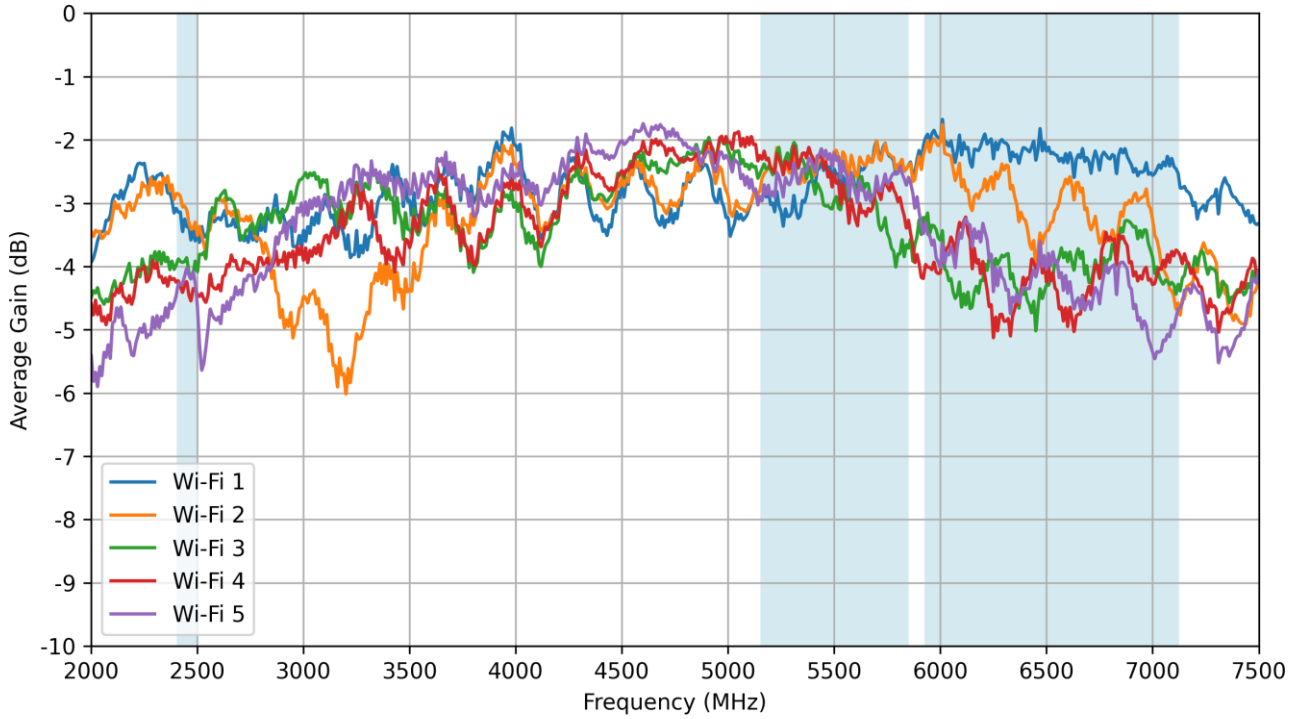


5.18 Wi-Fi - Isolation

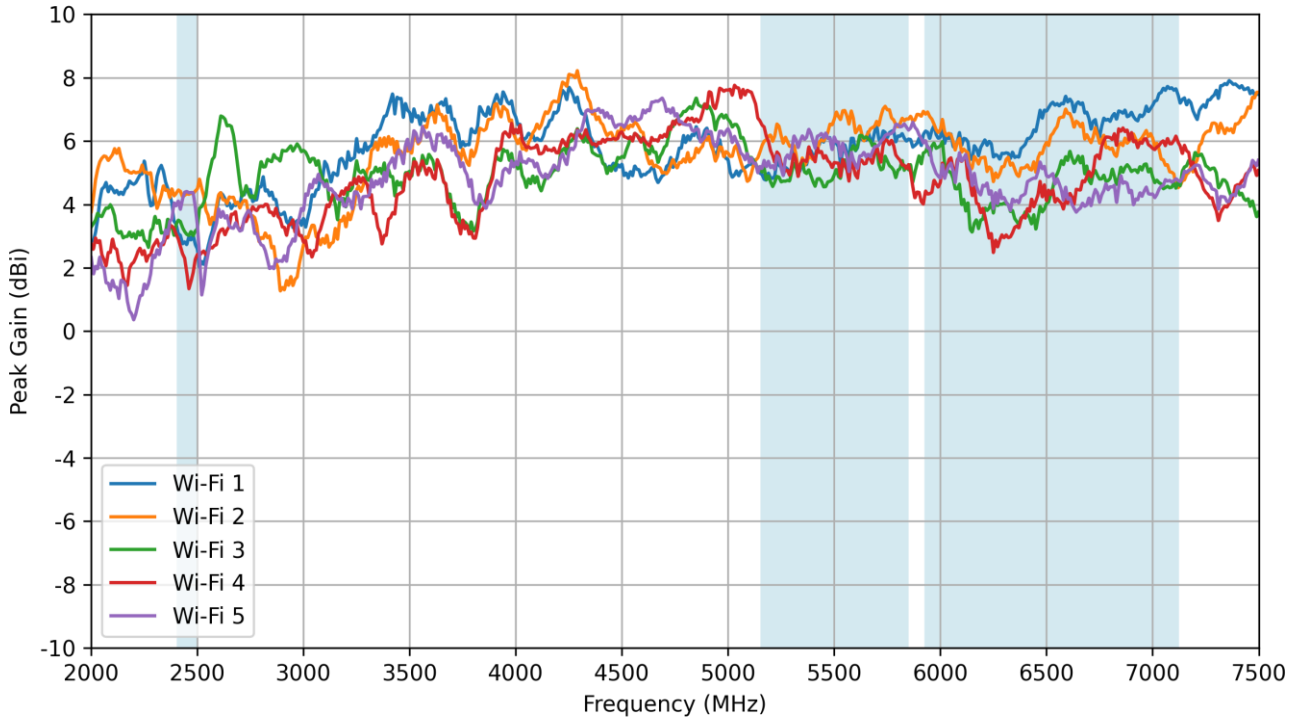
5.19 Wi-Fi - Efficiency



5.20 Wi-Fi - Average Gain

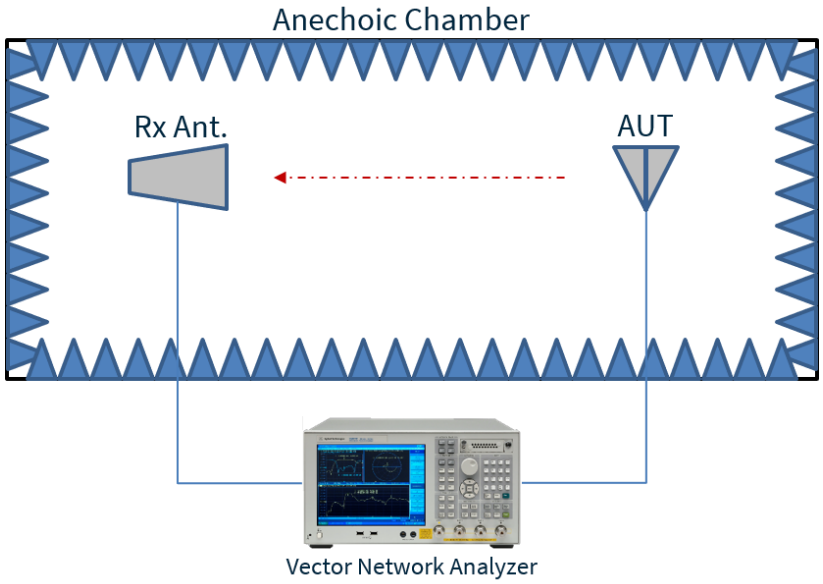


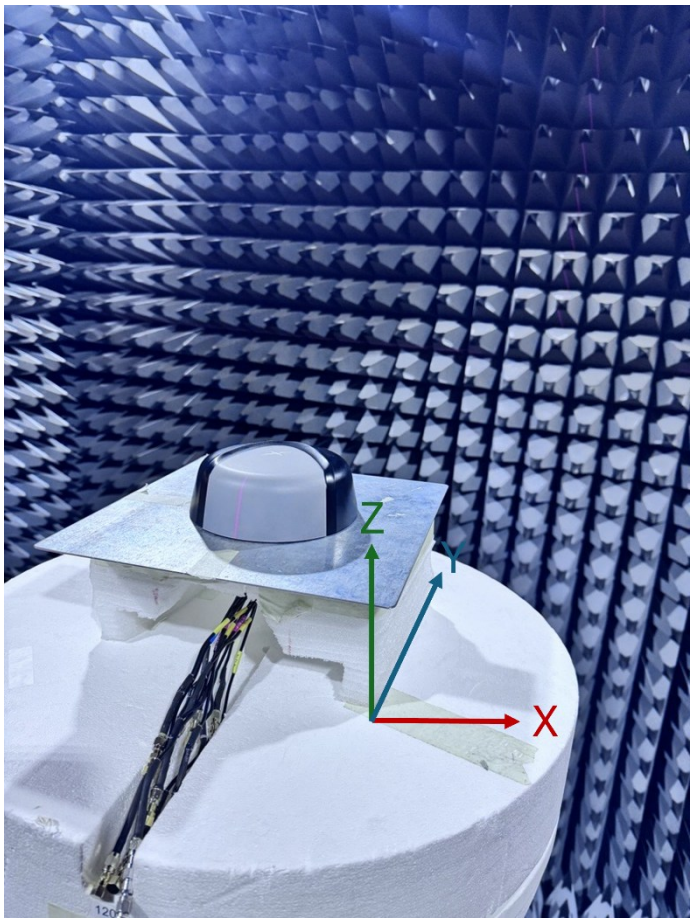
5.21 Wi-Fi - Peak Gain



6. Radiation Patterns

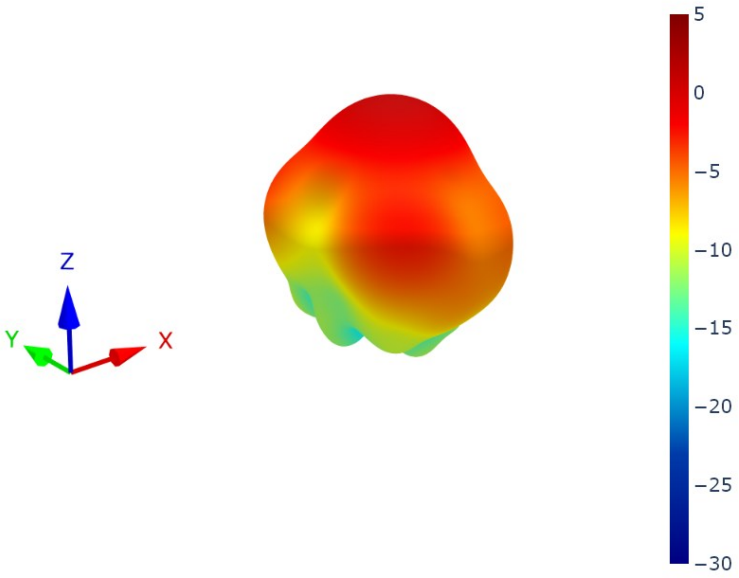
6.1 Test Setup

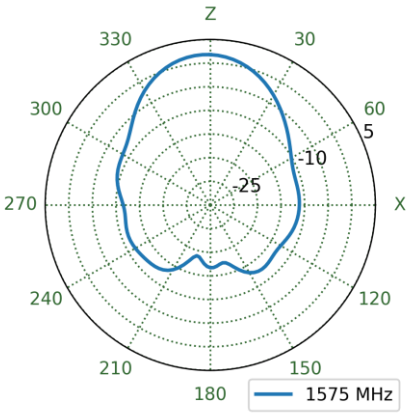
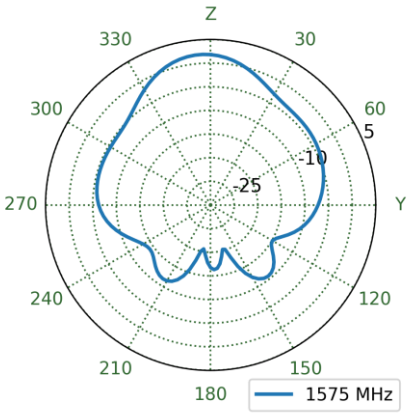
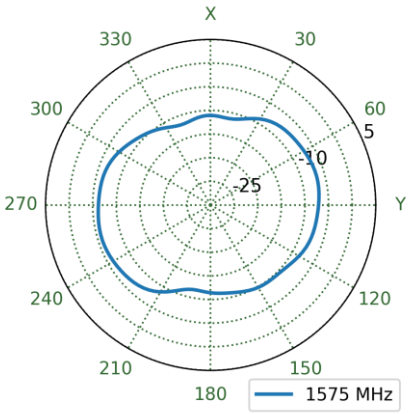




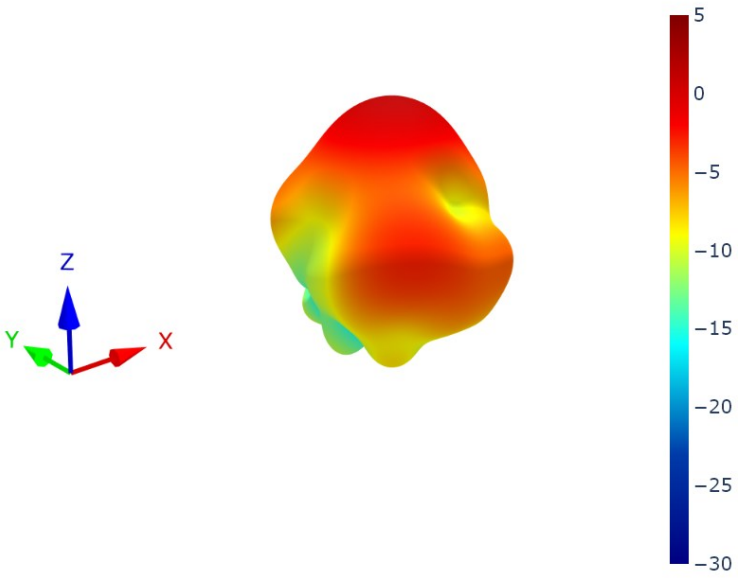
Chamber Test Set-up

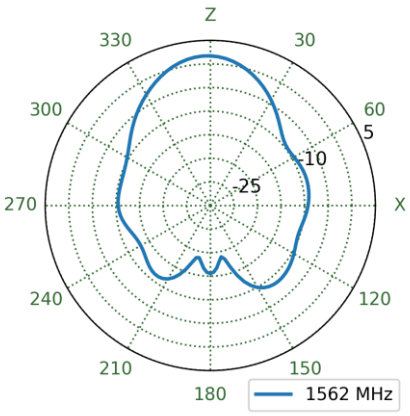
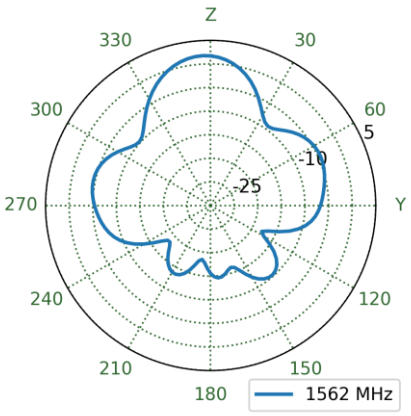
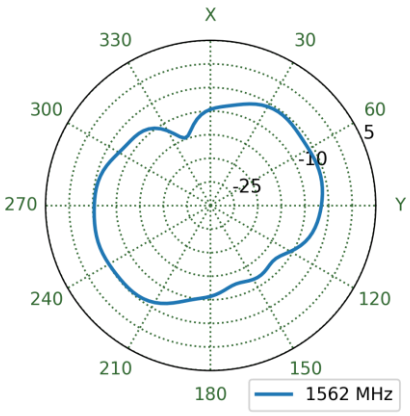
6.2 GNSS Patterns at 1575 MHz



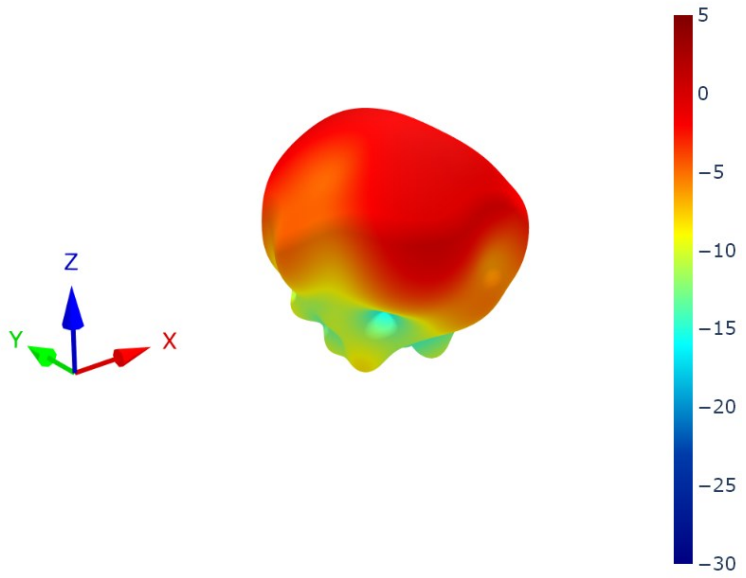
XZ Plane	YZ Plane	XY Plane
		

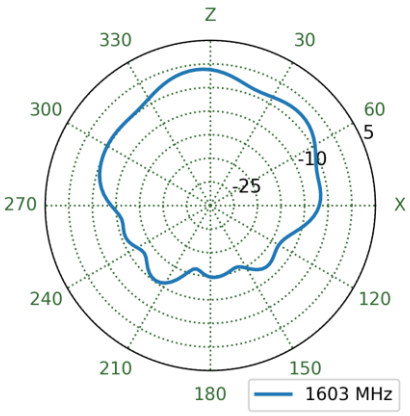
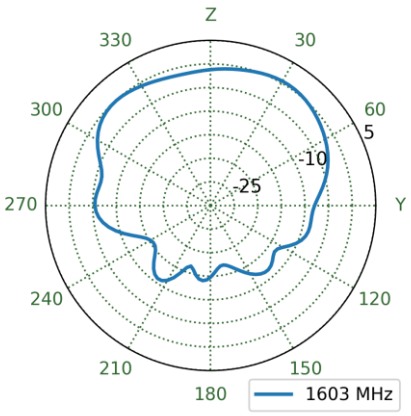
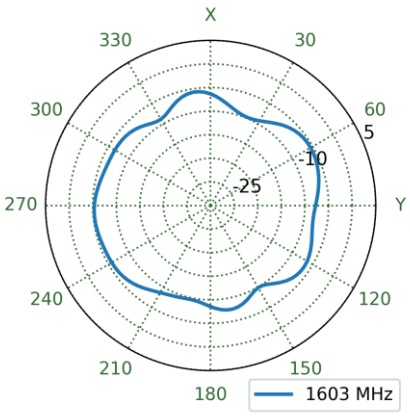
6.3 GNSS Patterns at 1562 MHz



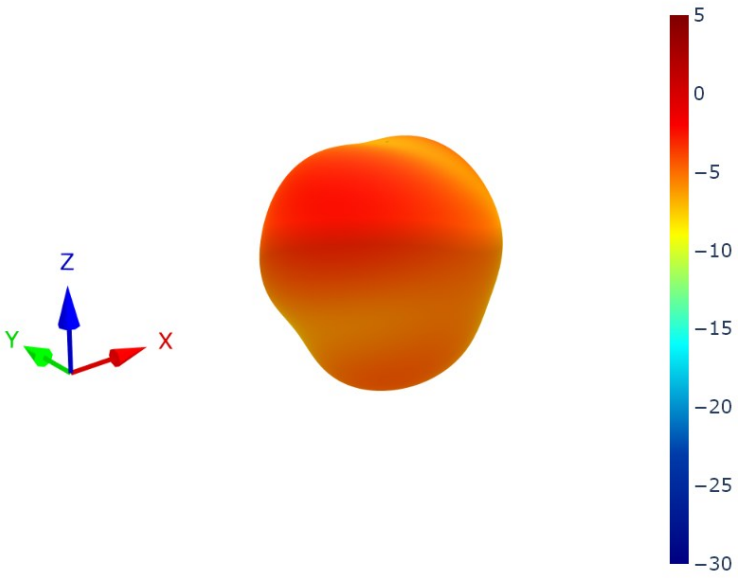
XZ Plane	YZ Plane	XY Plane
		

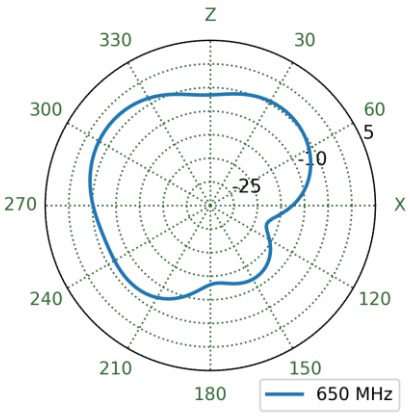
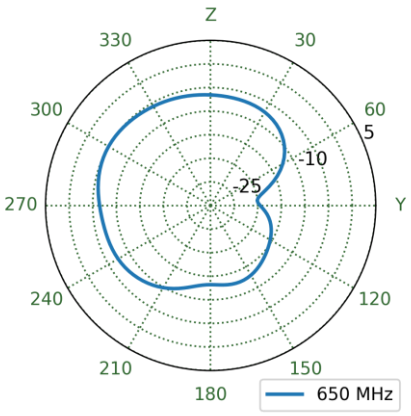
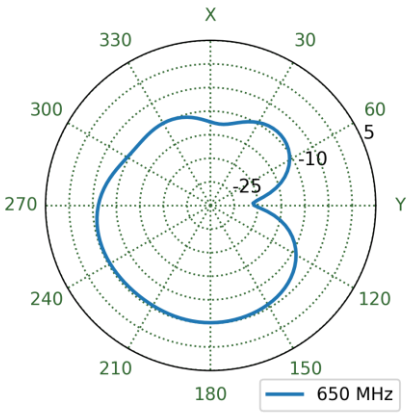
6.4 GNSS Patterns at 1603 MHz



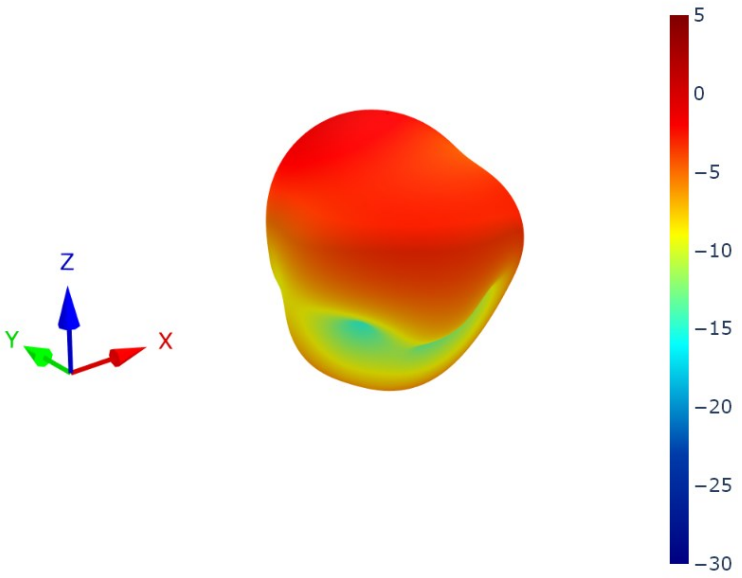
XZ Plane	YZ Plane	XY Plane
		

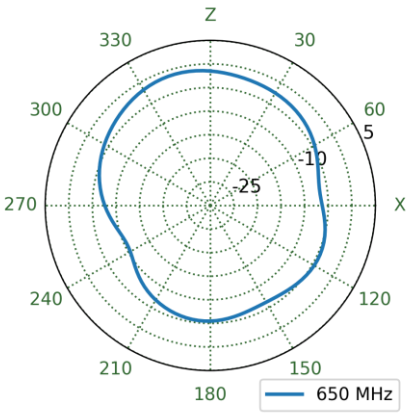
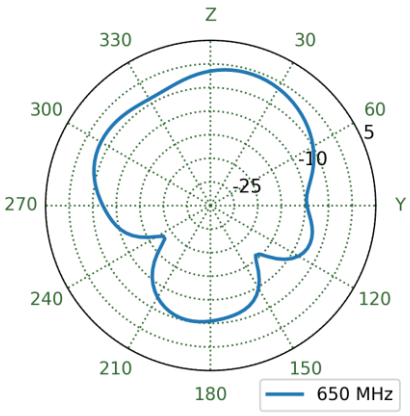
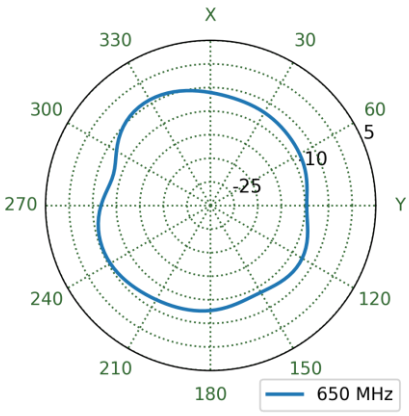
6.5 4G-5G 1 Patterns at 650 MHz



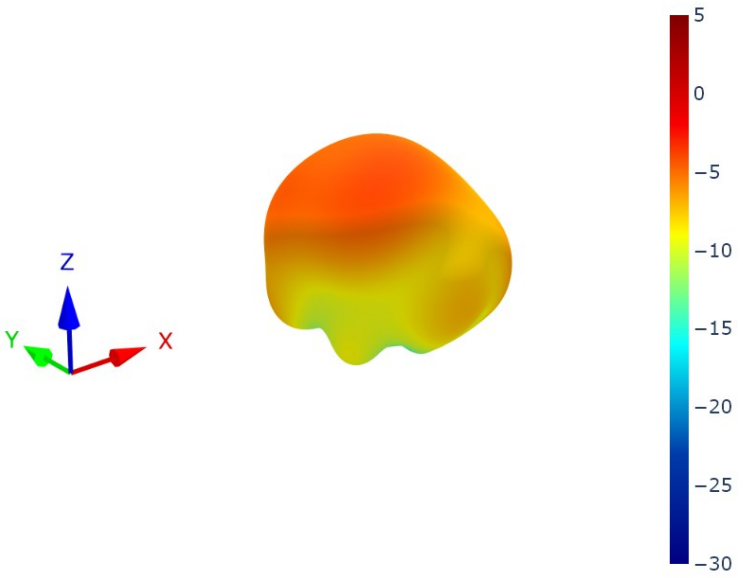
XZ Plane	YZ Plane	XY Plane
		

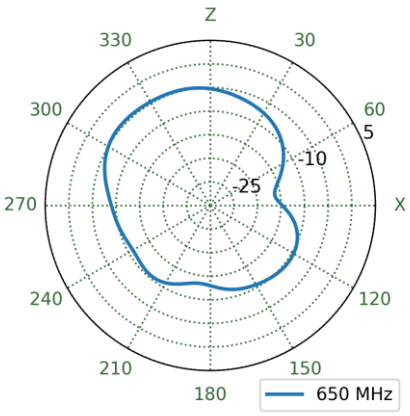
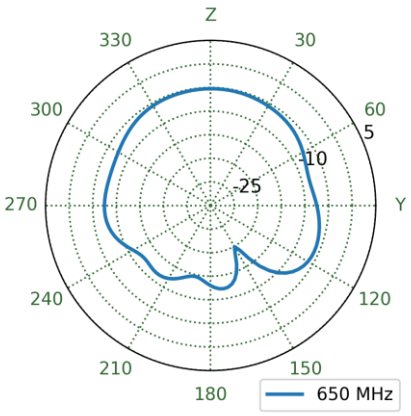
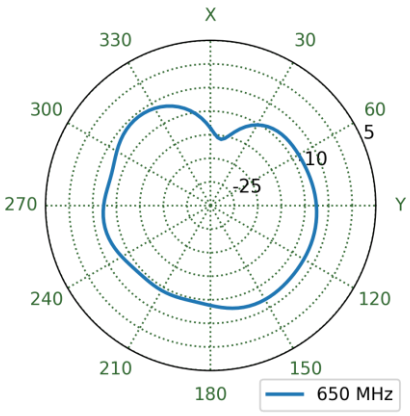
6.6 4G-5G 2 Patterns at 650 MHz



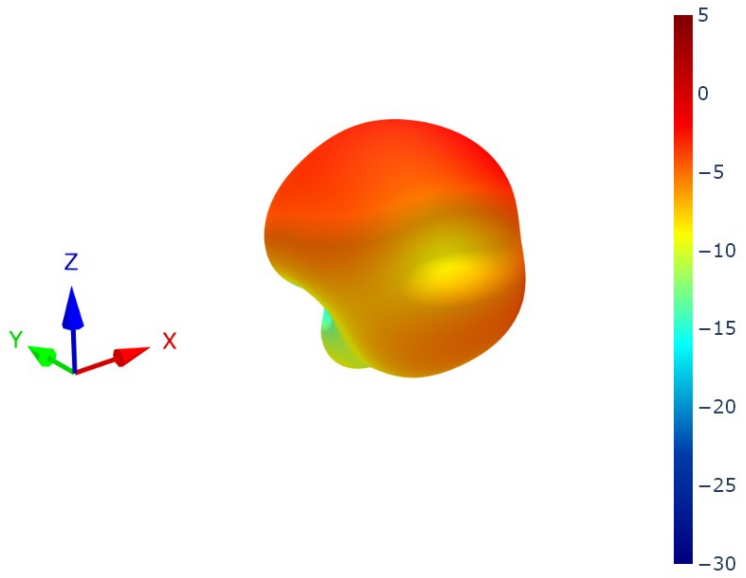
XZ Plane	YZ Plane	XY Plane
		

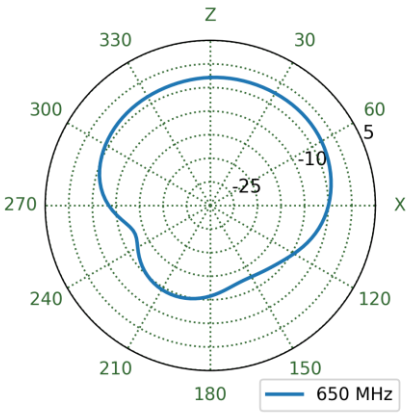
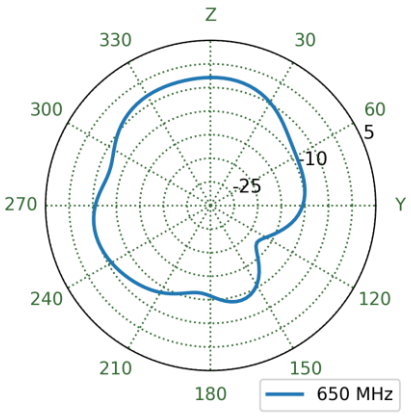
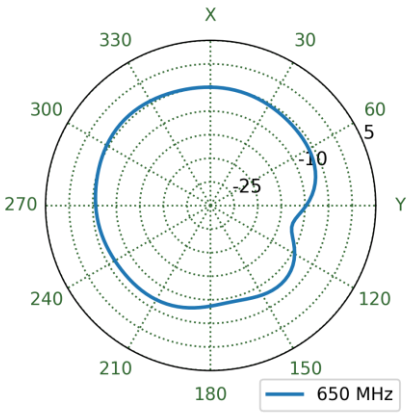
6.7 4G-5G 3 Patterns at 650 MHz



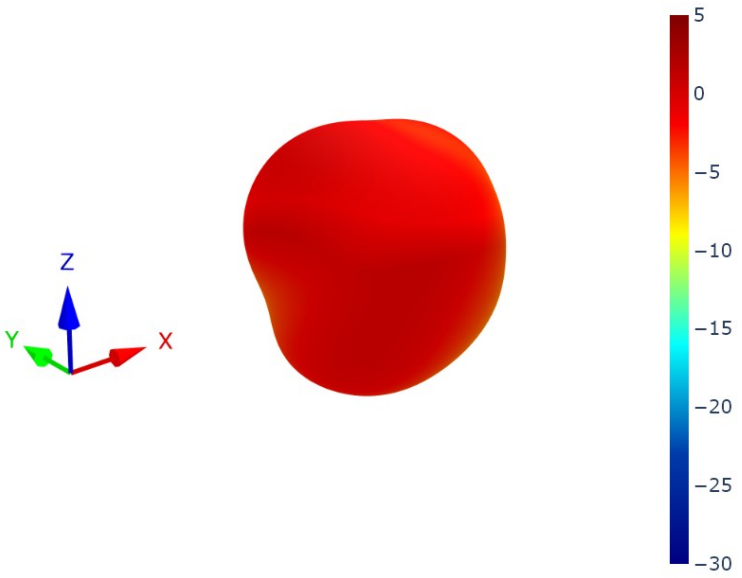
XZ Plane	YZ Plane	XY Plane
		

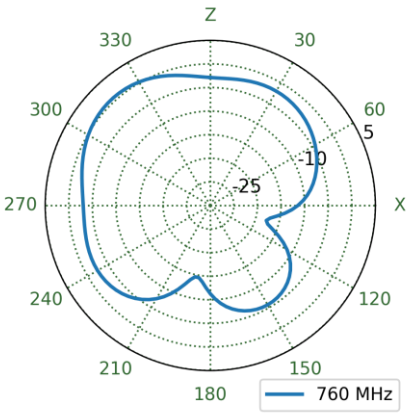
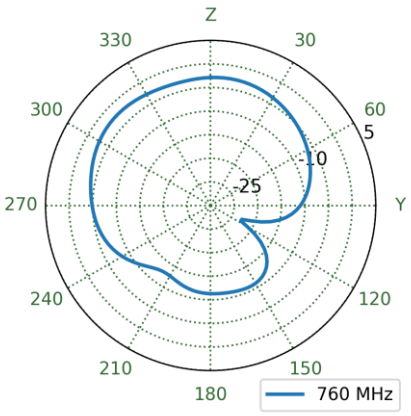
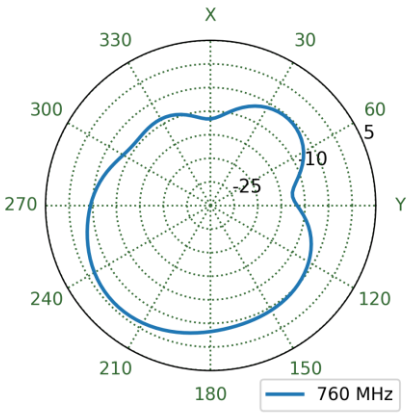
6.8 4G-5G 4 Patterns at 650 MHz



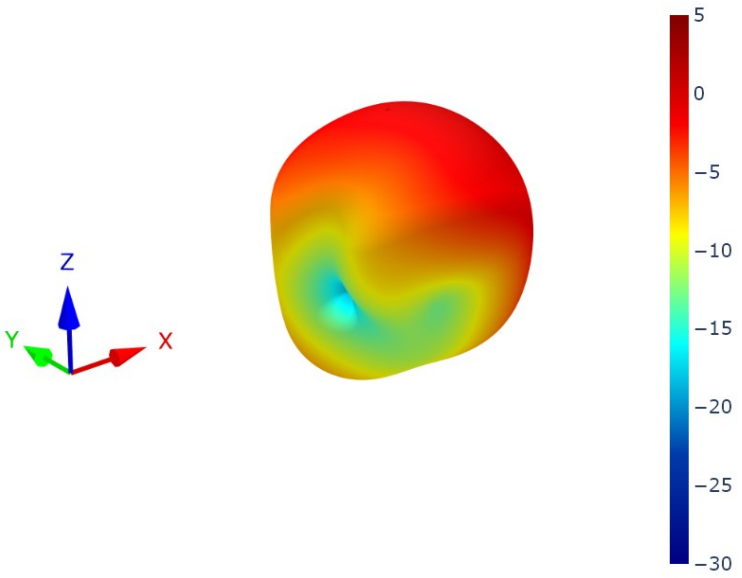
XZ Plane	YZ Plane	XY Plane
		

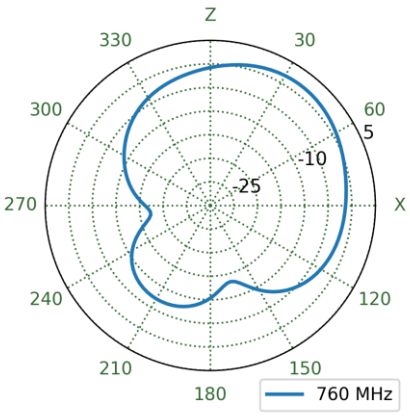
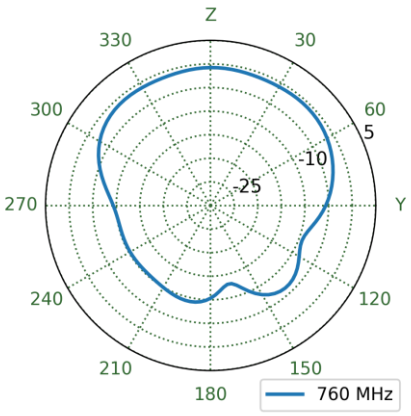
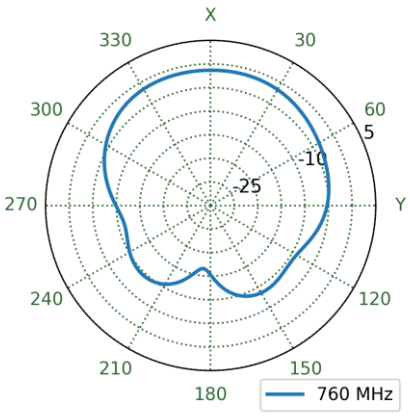
6.9 4G-5G 1 Patterns at 760 MHz



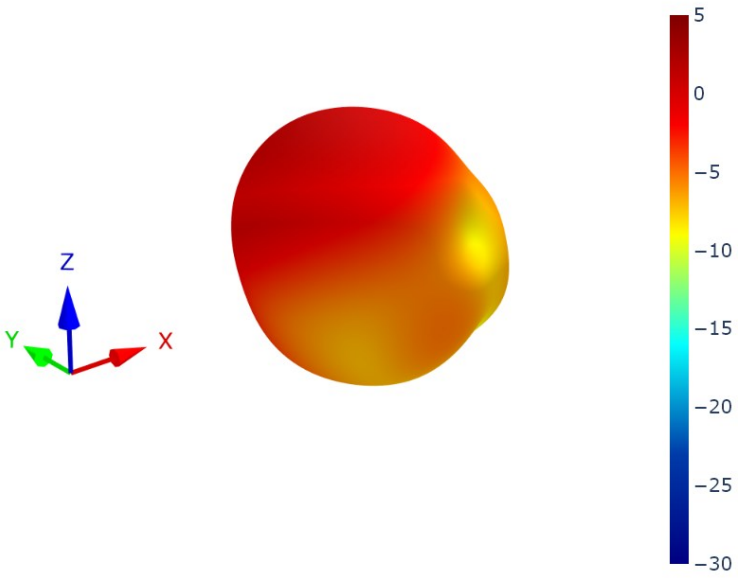
XZ Plane	YZ Plane	XY Plane
		

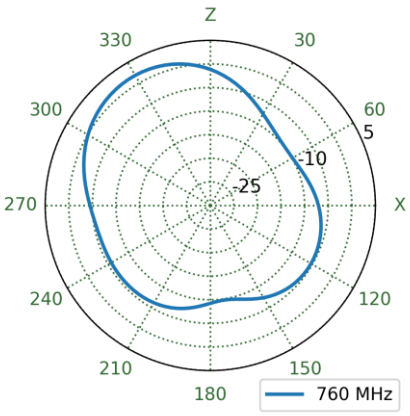
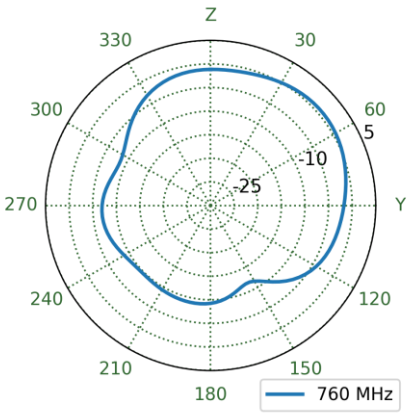
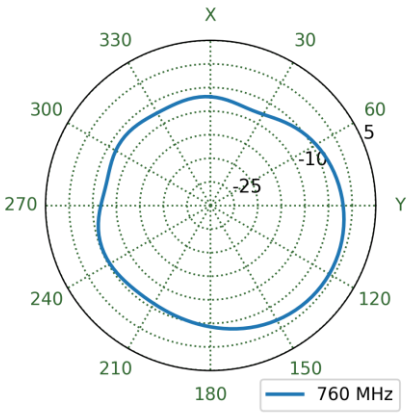
6.10 4G-5G 2 Patterns at 760 MHz



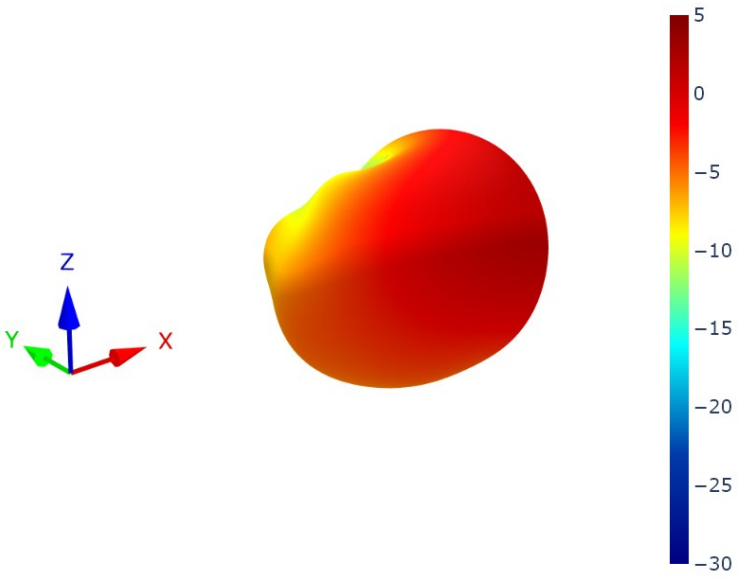
XZ Plane	YZ Plane	XY Plane
		

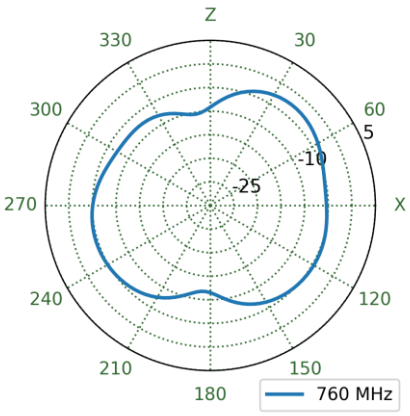
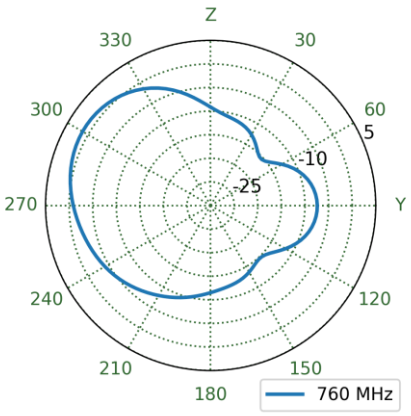
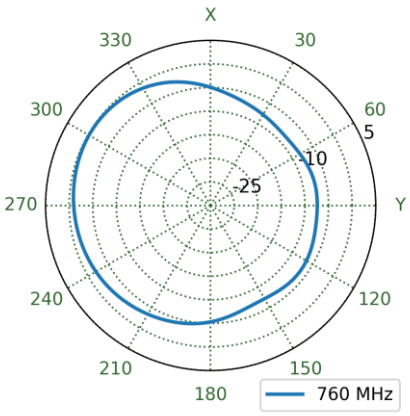
6.11 4G-5G 3 Patterns at 760 MHz



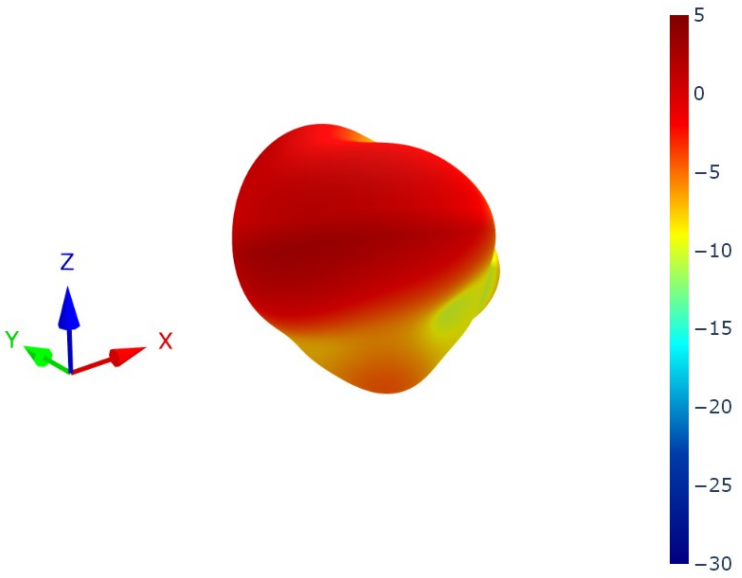
XZ Plane	YZ Plane	XY Plane
		

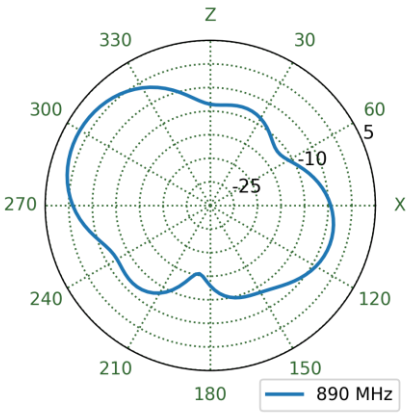
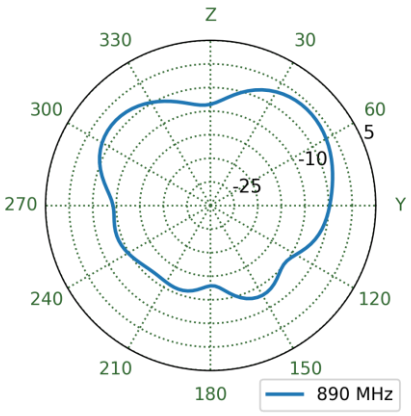
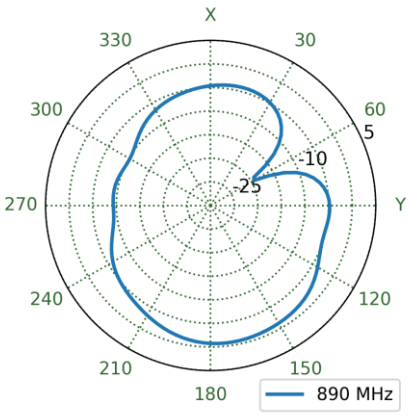
6.12 4G-5G 4 Patterns at 760 MHz



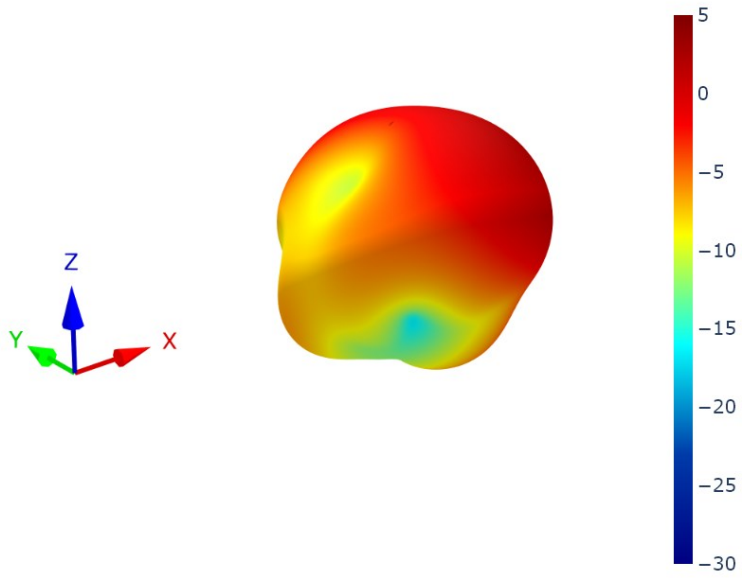
XZ Plane	YZ Plane	XY Plane
		

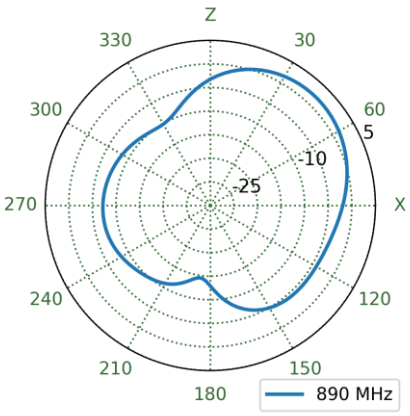
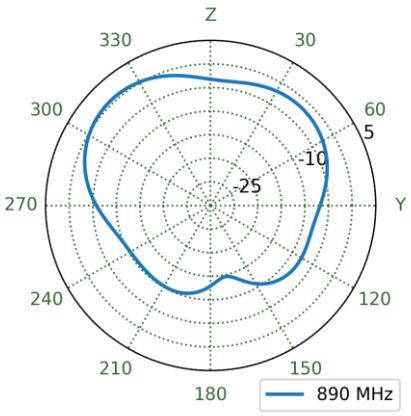
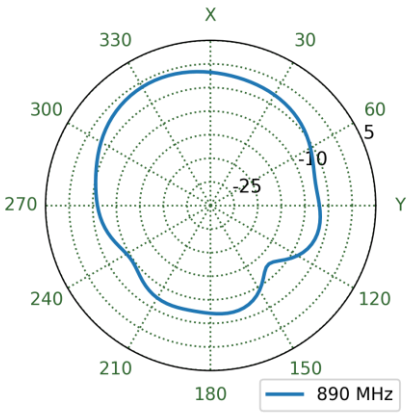
6.13 4G-5G 1 Patterns at 890 MHz



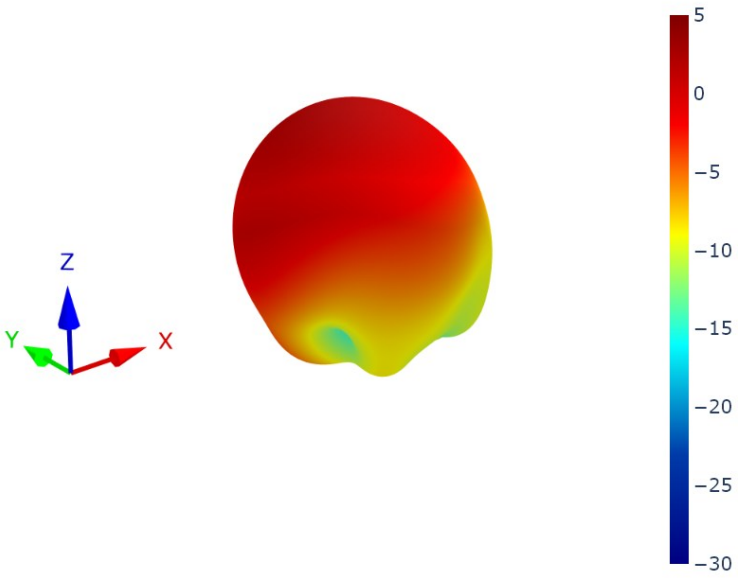
XZ Plane	YZ Plane	XY Plane
		

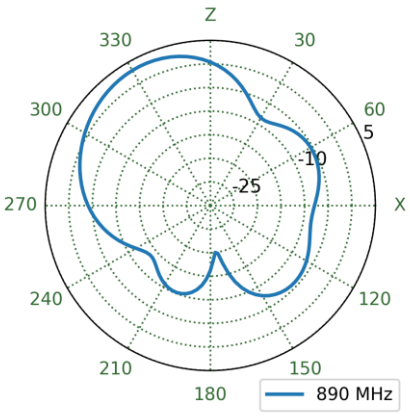
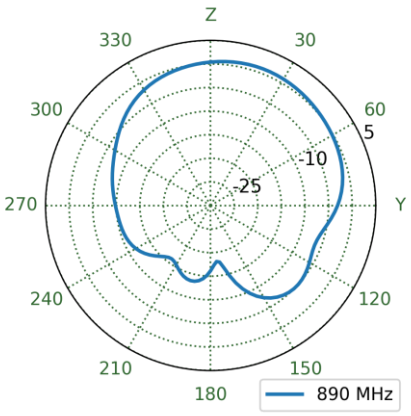
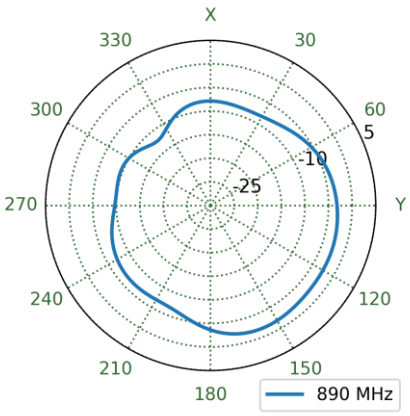
6.14 4G-5G 2 Patterns at 890 MHz



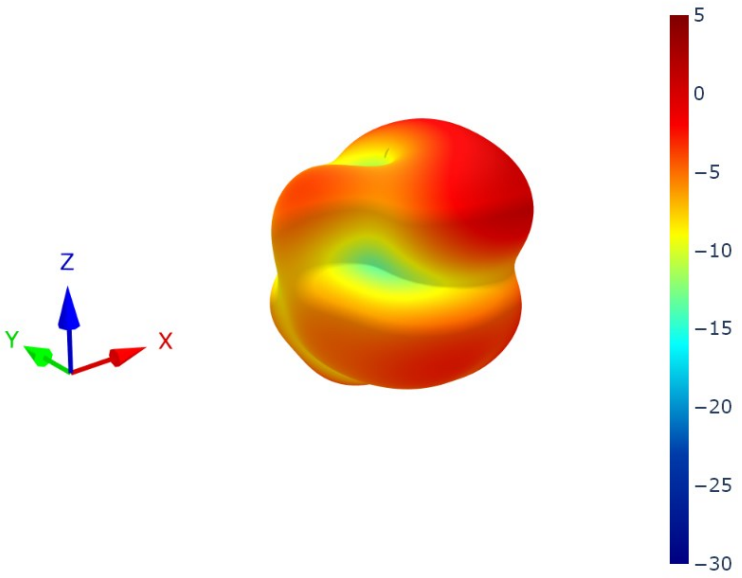
XZ Plane	YZ Plane	XY Plane
		

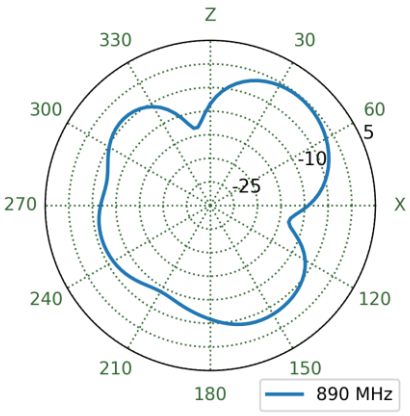
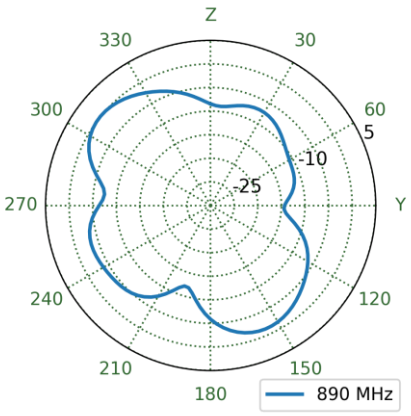
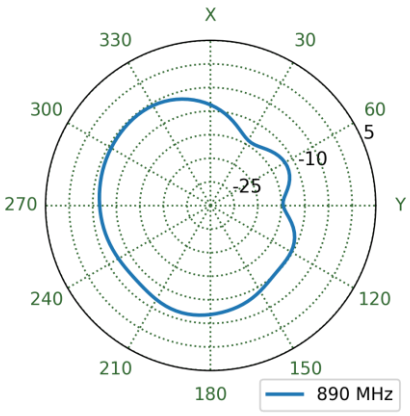
6.15 4G-5G 3 Patterns at 890 MHz



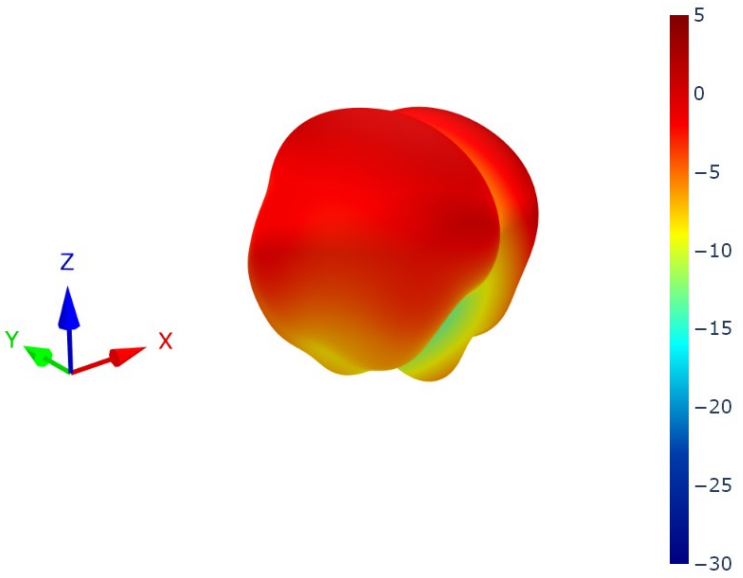
XZ Plane	YZ Plane	XY Plane
		

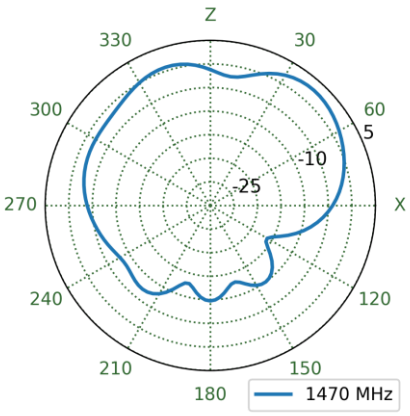
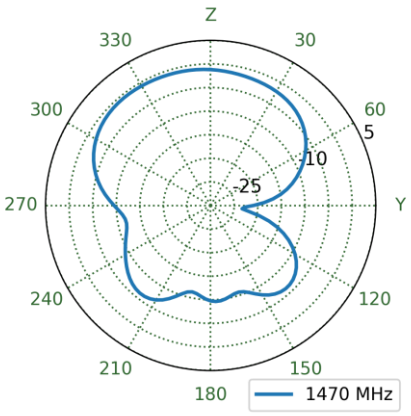
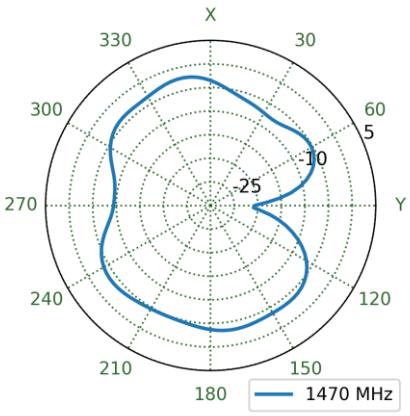
6.16 4G-5G 4 Patterns at 890 MHz



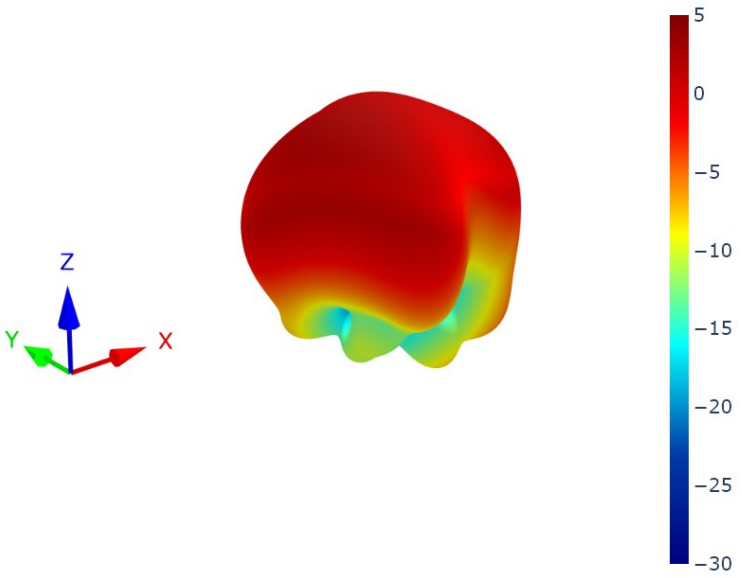
XZ Plane	YZ Plane	XY Plane
		

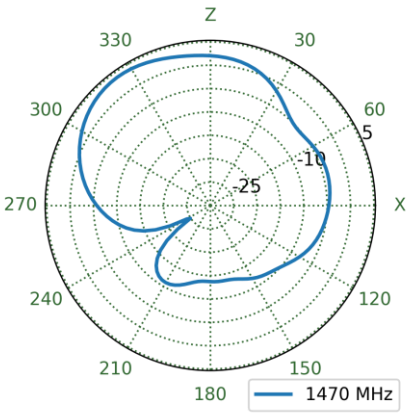
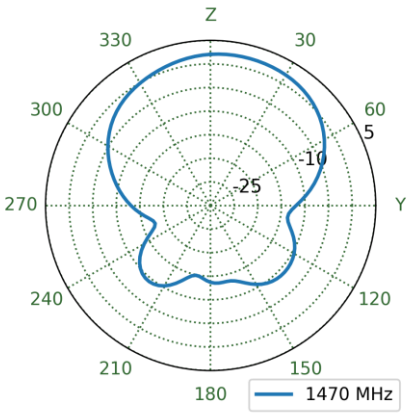
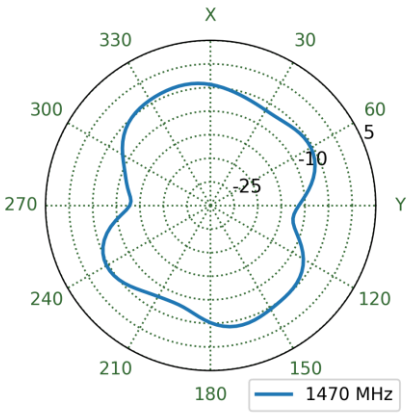
6.17 4G-5G 1 Patterns at 1475 MHz



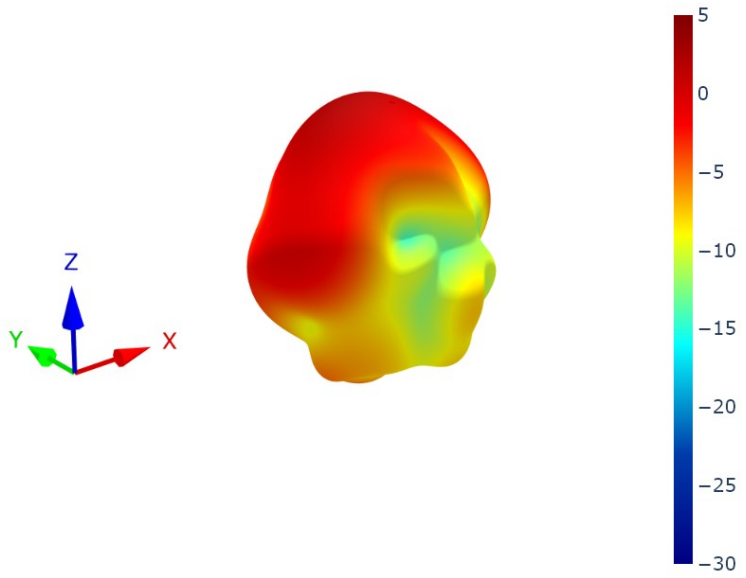
XZ Plane	YZ Plane	XY Plane
		

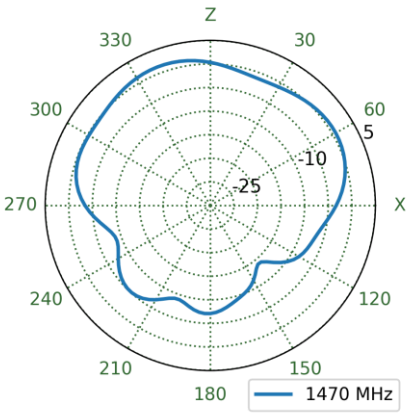
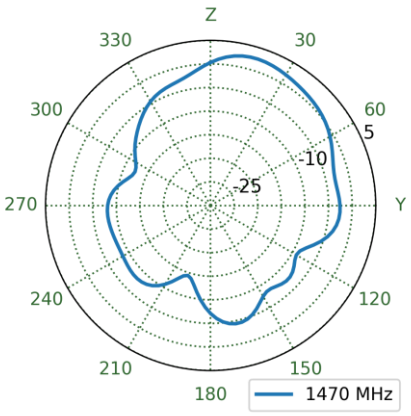
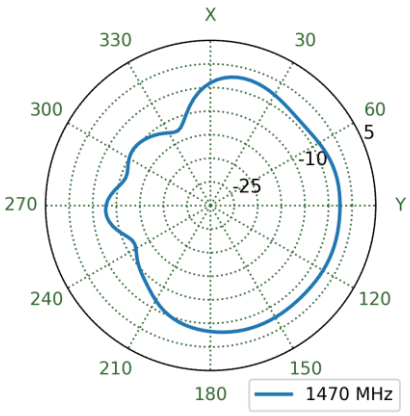
6.18 4G-5G 2 Patterns at 1475 MHz



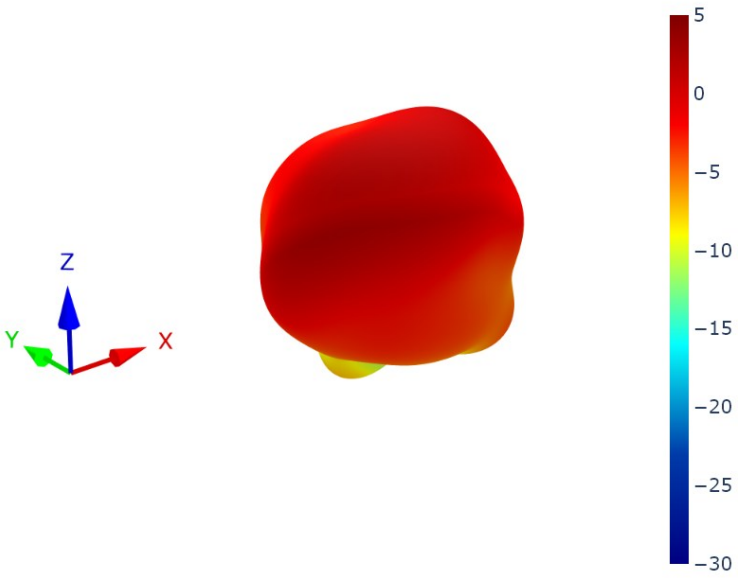
XZ Plane	YZ Plane	XY Plane
		

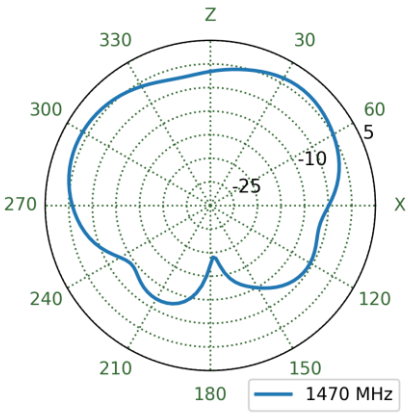
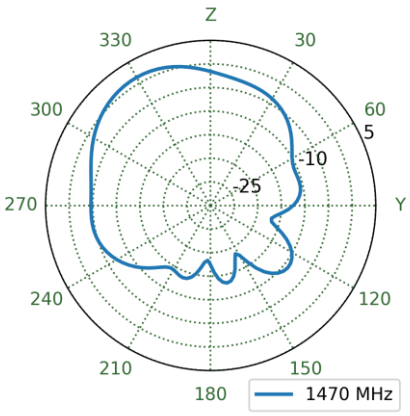
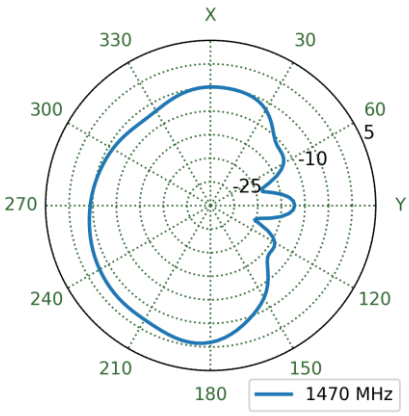
6.19 4G-5G 3 Patterns at 1475 MHz



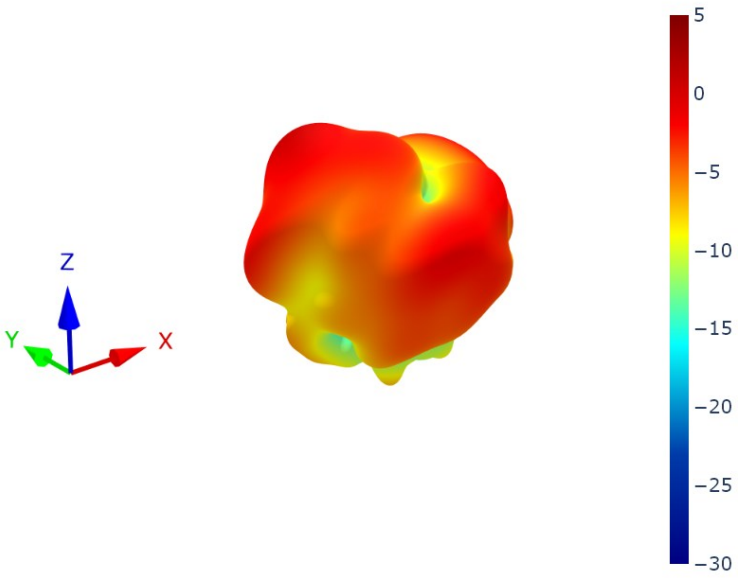
XZ Plane	YZ Plane	XY Plane
		

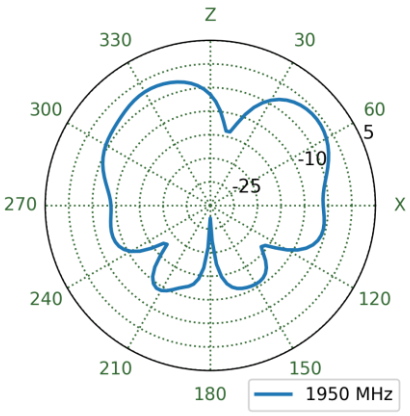
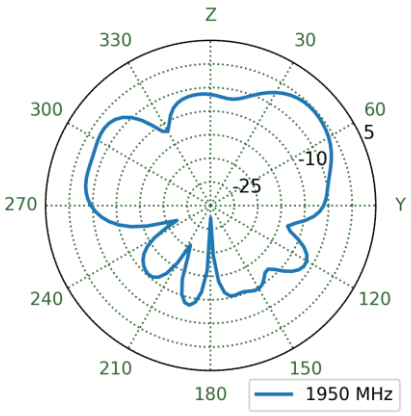
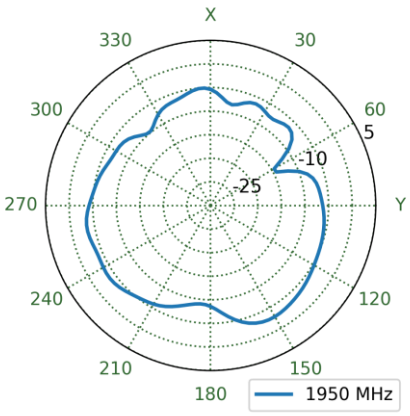
6.20 4G-5G 4 Patterns at 1475 MHz



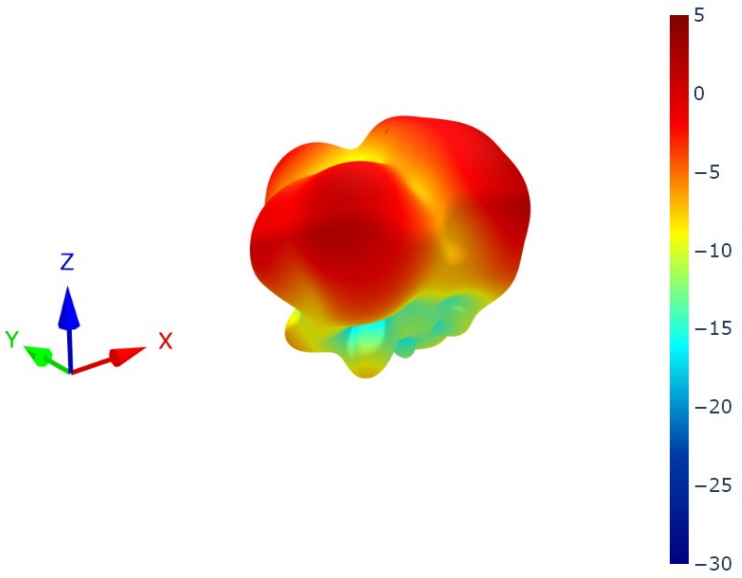
XZ Plane	YZ Plane	XY Plane
		

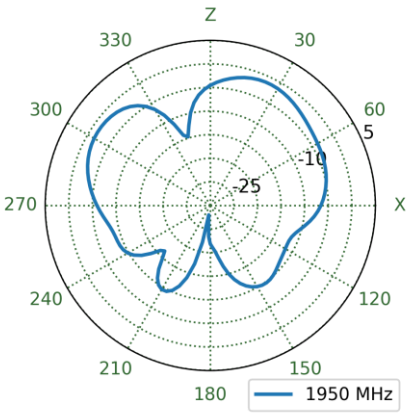
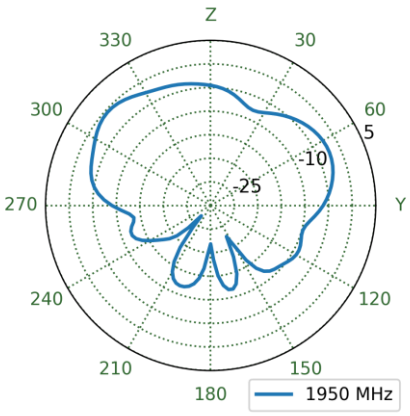
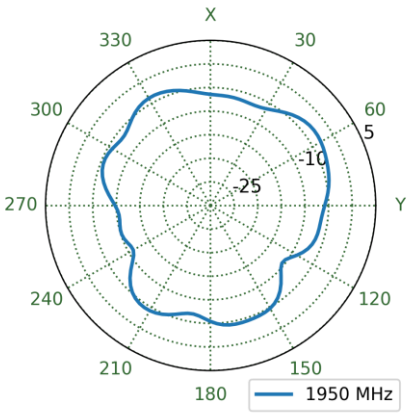
6.21 4G-5G 1 Patterns at 1950 MHz



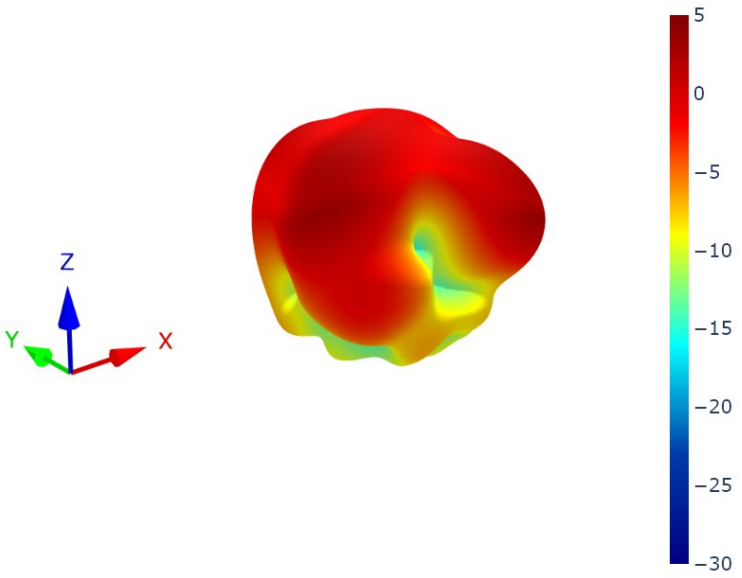
XZ Plane	YZ Plane	XY Plane
		

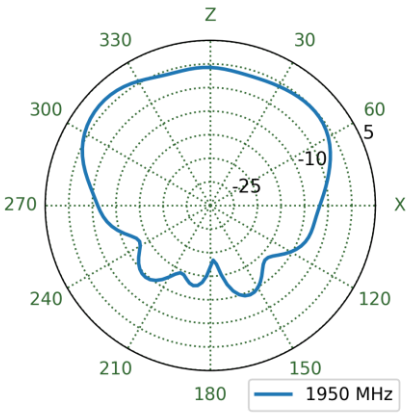
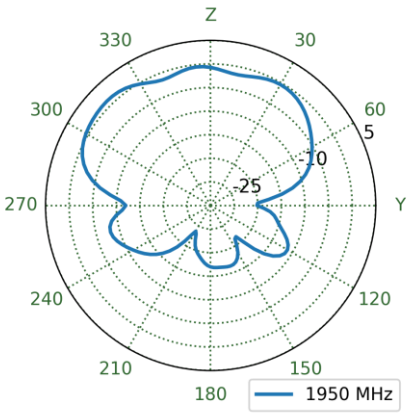
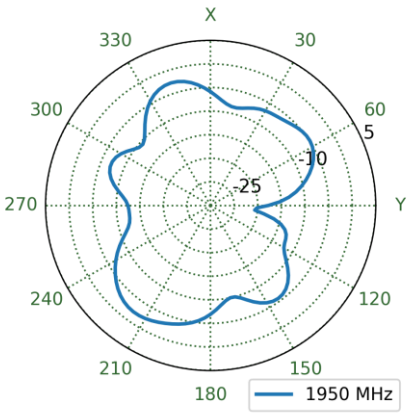
6.22 4G-5G 2 Patterns at 1950 MHz



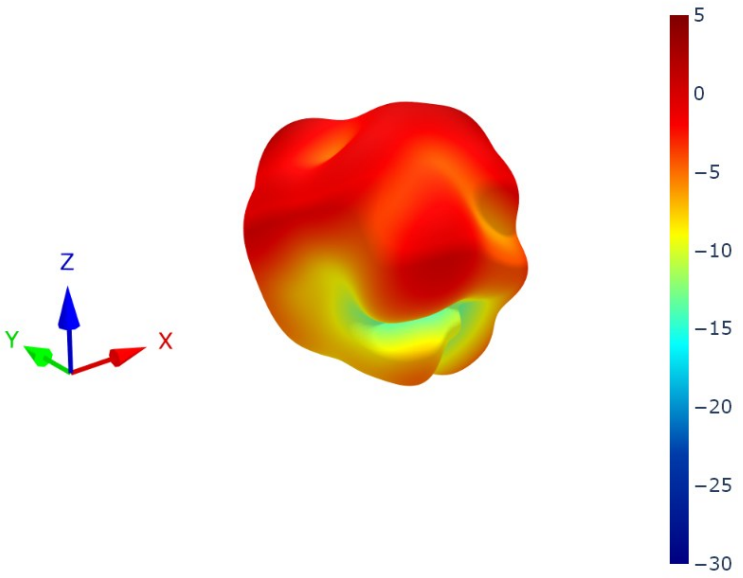
XZ Plane	YZ Plane	XY Plane
		

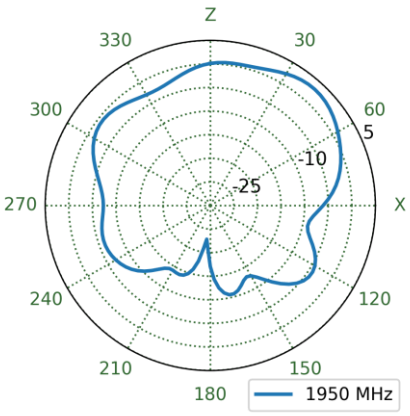
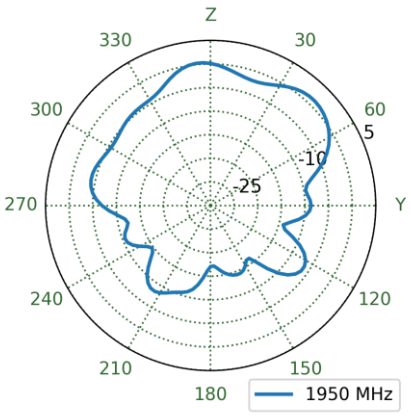
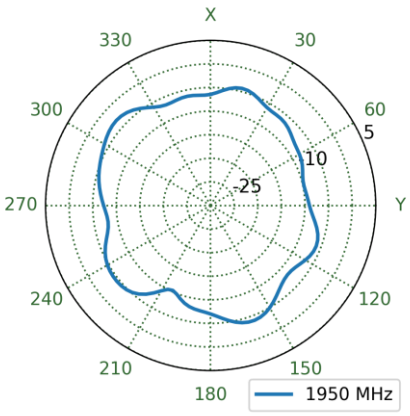
6.23 4G-5G 3 Patterns at 1950 MHz



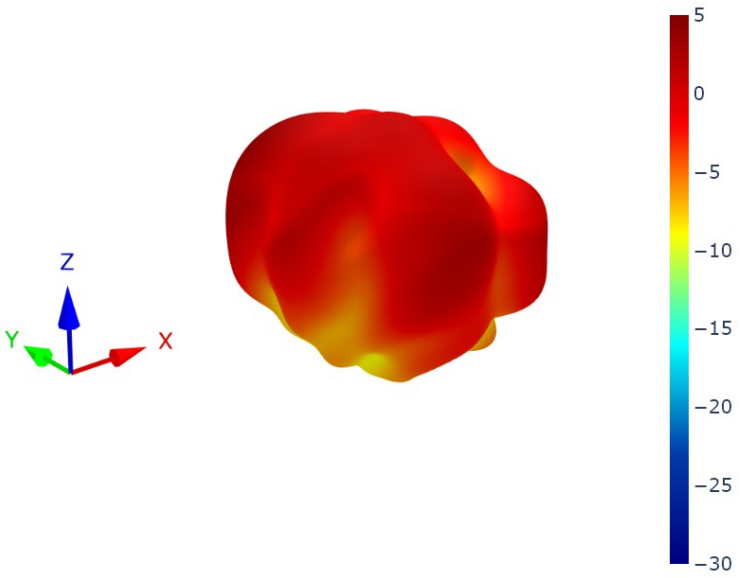
XZ Plane	YZ Plane	XY Plane
		

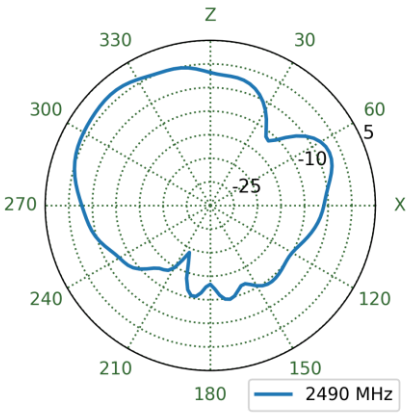
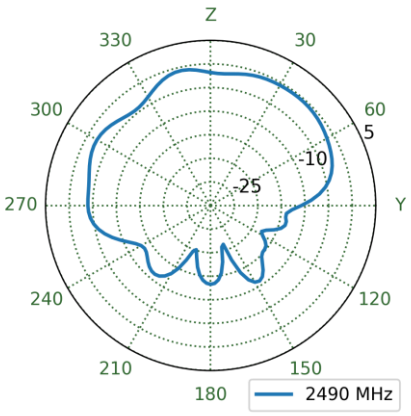
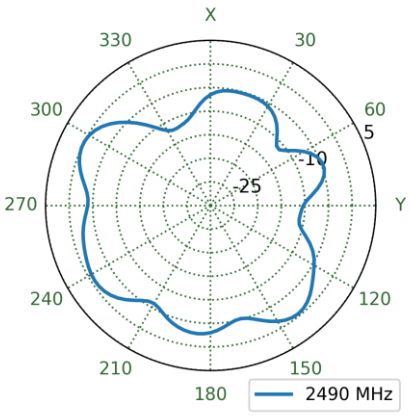
6.24 4G-5G 4 Patterns at 1950 MHz



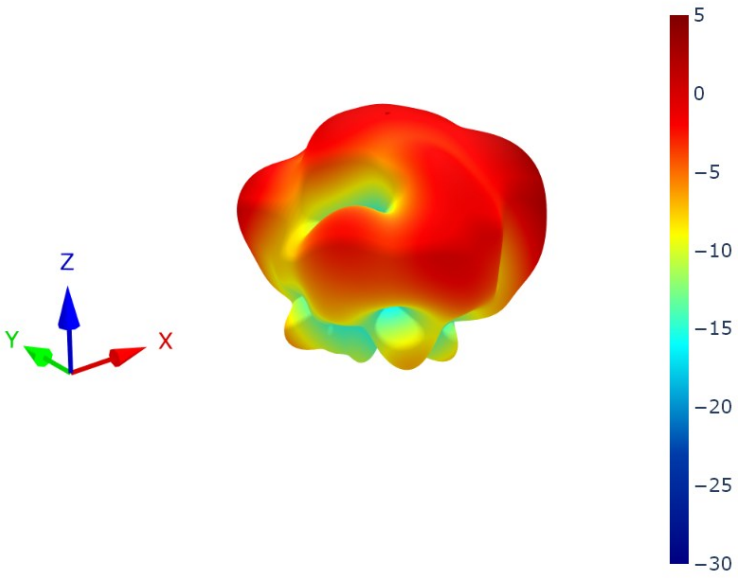
XZ Plane	YZ Plane	XY Plane
		

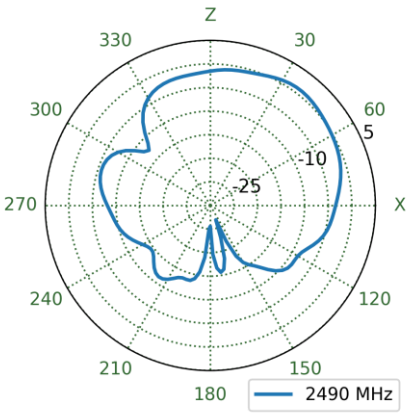
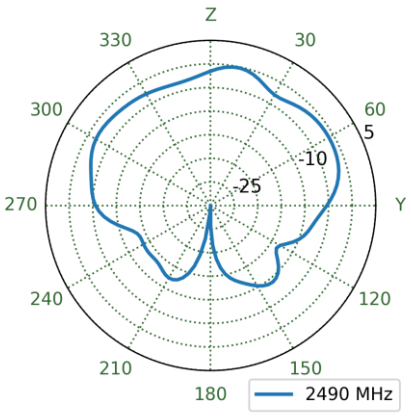
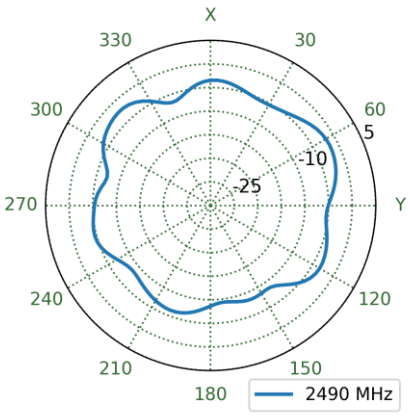
6.25 4G-5G 1 Patterns at 2490 MHz



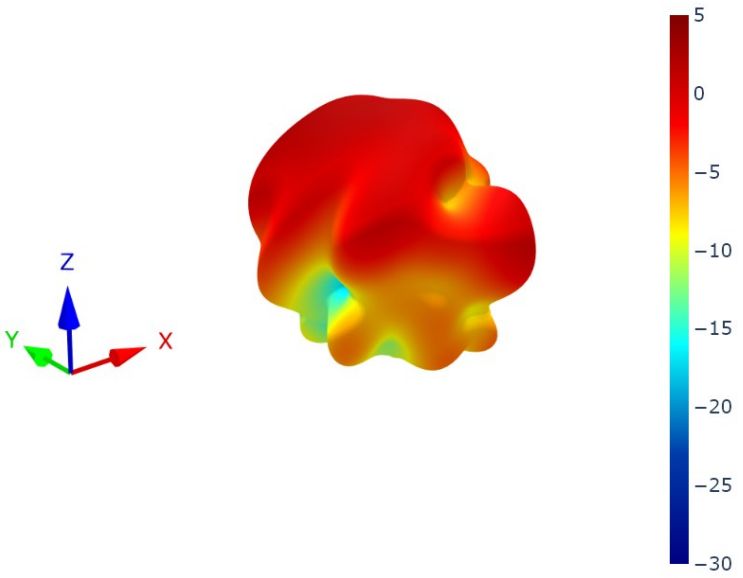
XZ Plane	YZ Plane	XY Plane
		

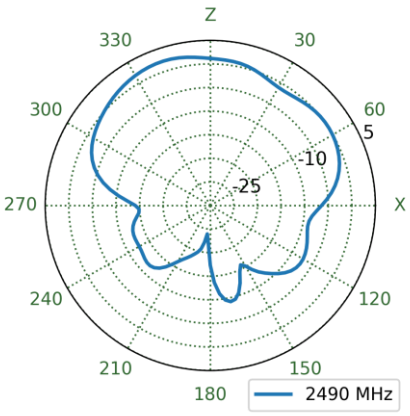
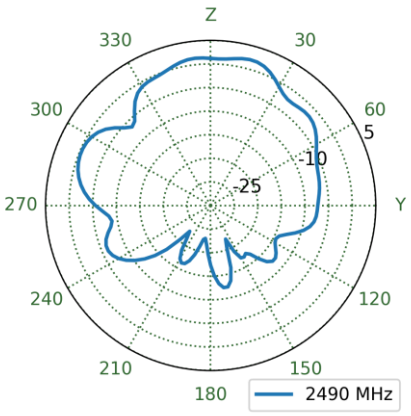
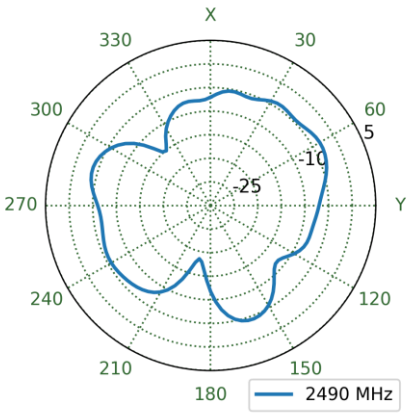
6.26 4G-5G 2 Patterns at 2490 MHz



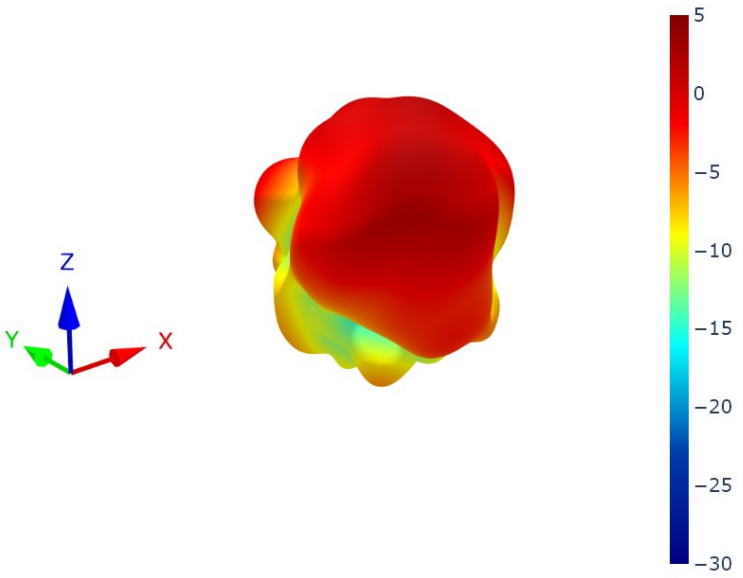
XZ Plane	YZ Plane	XY Plane
		

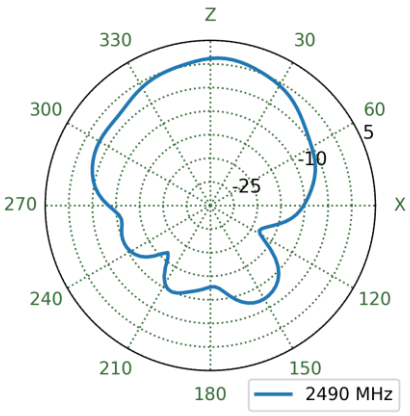
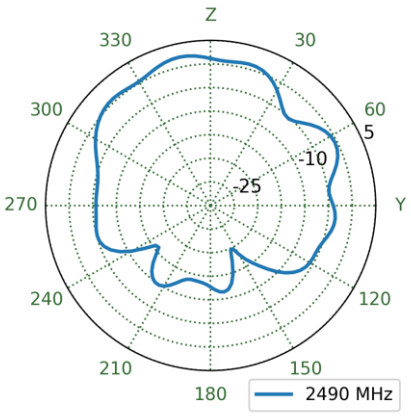
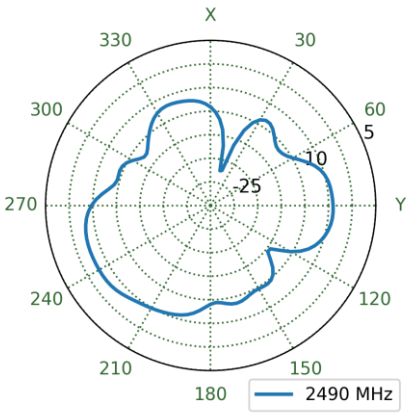
6.27 4G-5G 3 Patterns at 2490 MHz



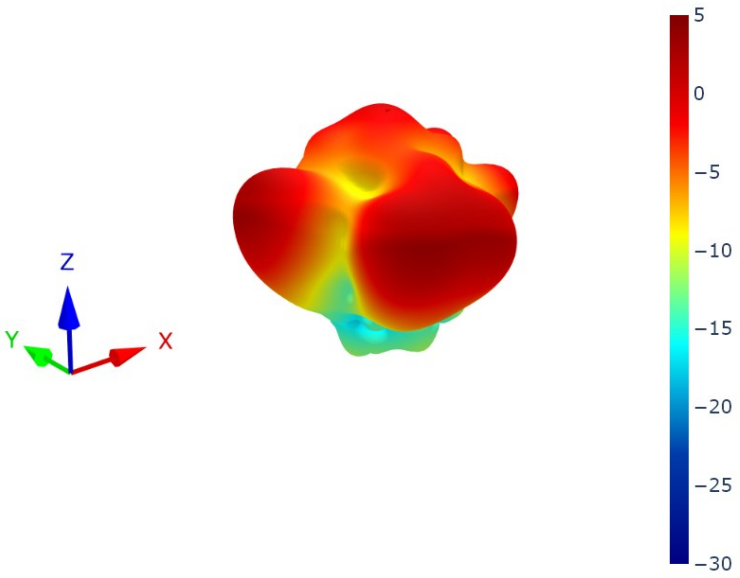
XZ Plane	YZ Plane	XY Plane
		

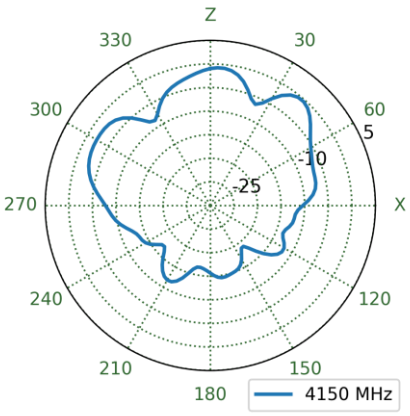
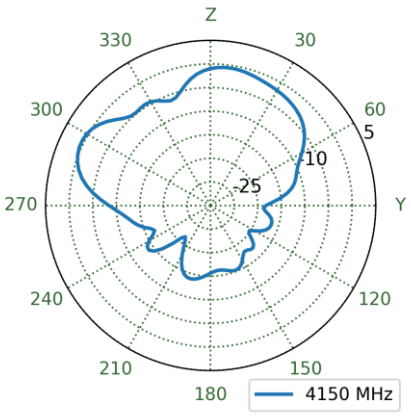
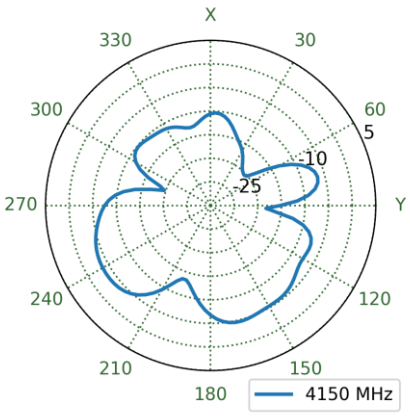
6.28 4G-5G 4 Patterns at 2490 MHz



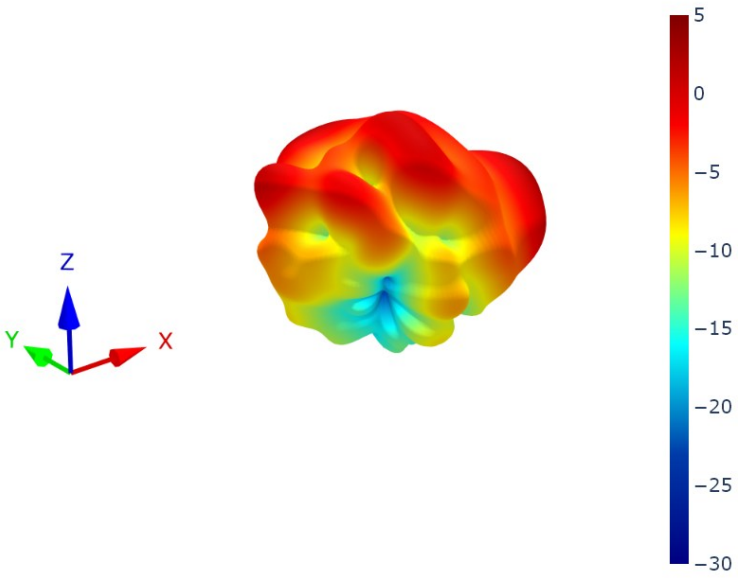
XZ Plane	YZ Plane	XY Plane
		

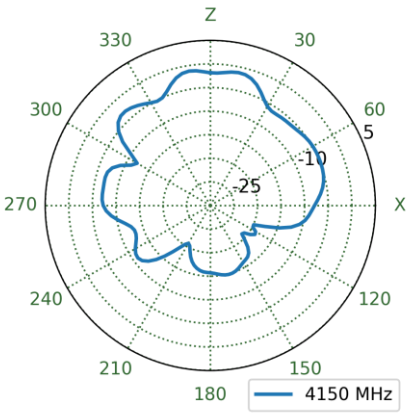
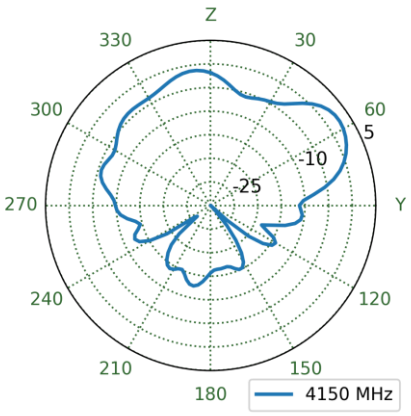
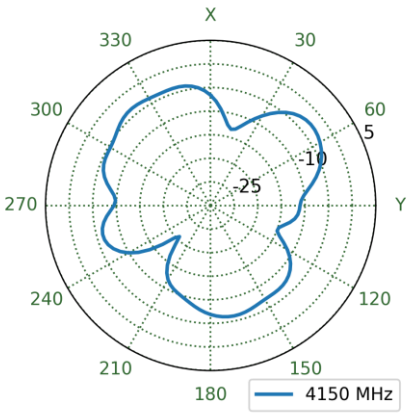
6.29 4G-5G 1 Patterns at 4150 MHz



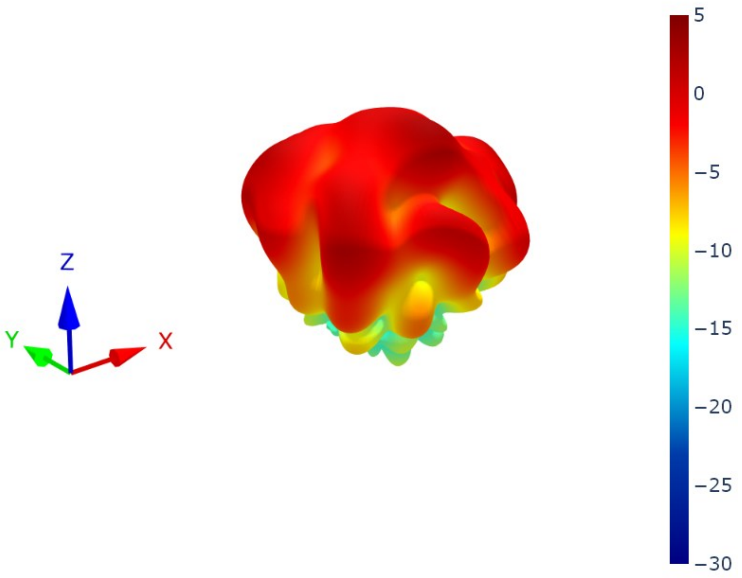
XZ Plane	YZ Plane	XY Plane
		

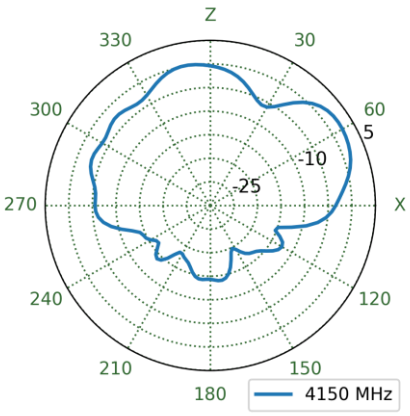
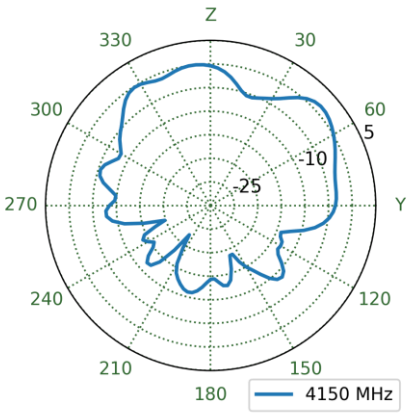
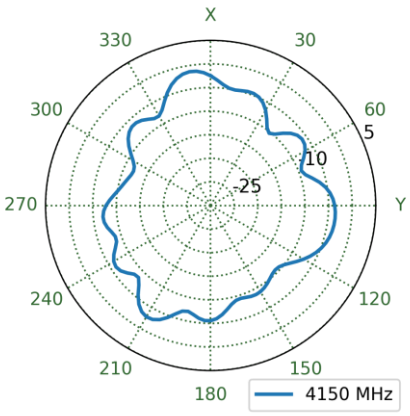
6.30 4G-5G 2 Patterns at 4150 MHz



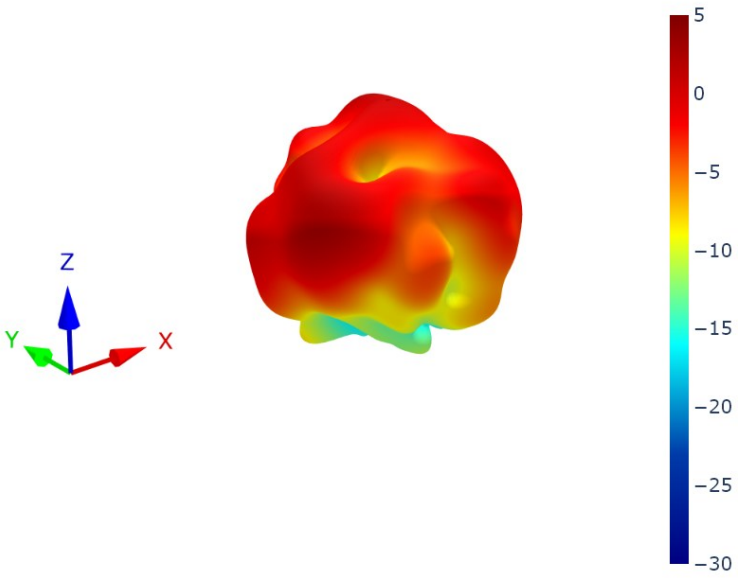
XZ Plane	YZ Plane	XY Plane
		

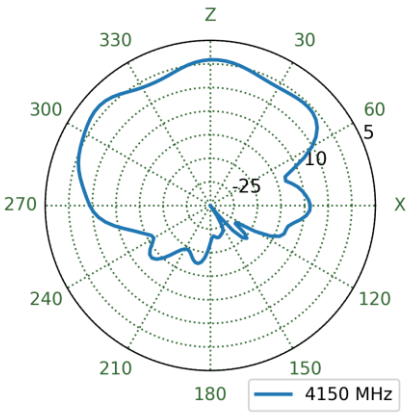
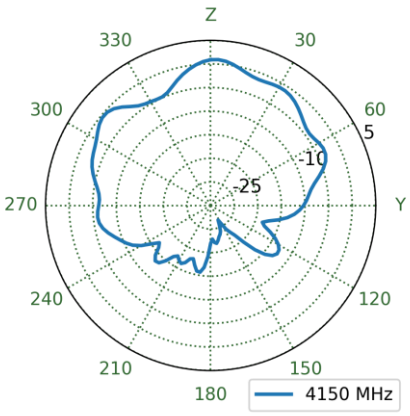
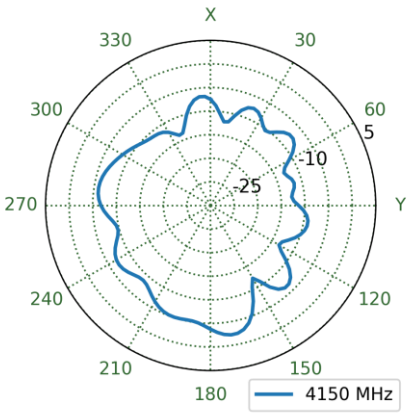
6.31 4G-5G 3 Patterns at 4150 MHz



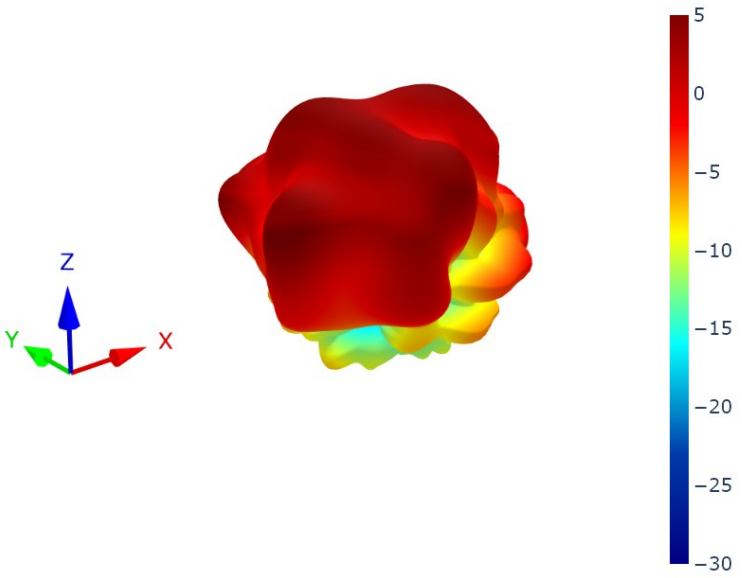
XZ Plane	YZ Plane	XY Plane
		

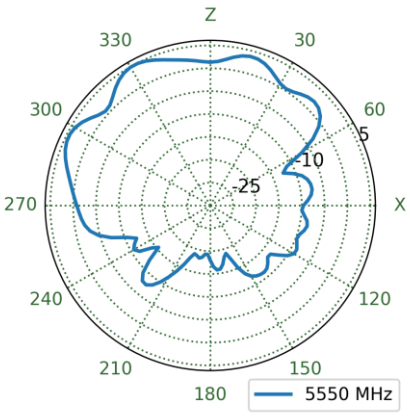
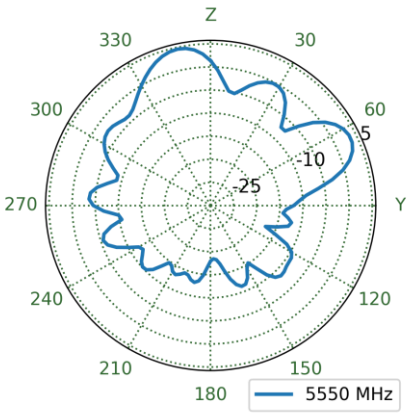
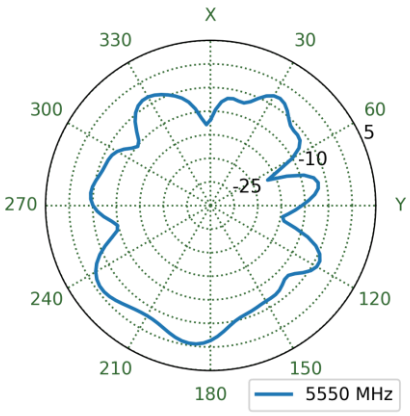
6.32 4G-5G 4 Patterns at 4150 MHz



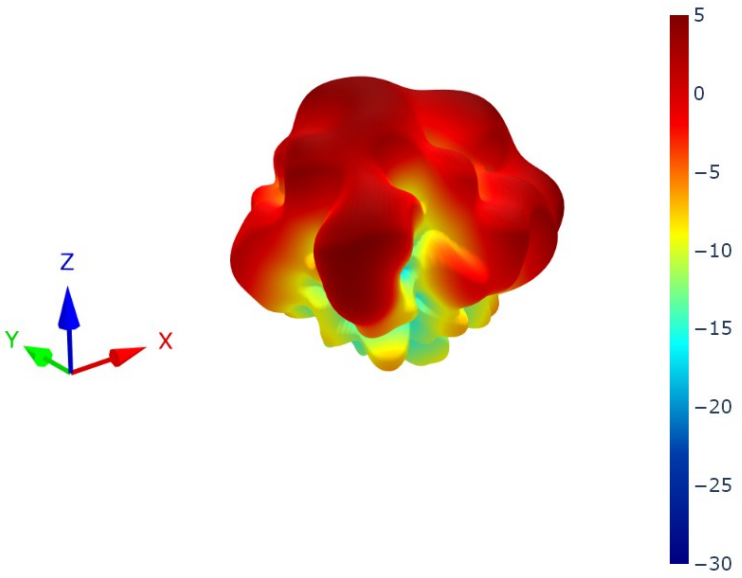
XZ Plane	YZ Plane	XY Plane
		

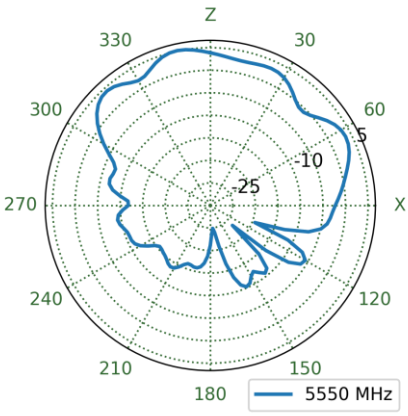
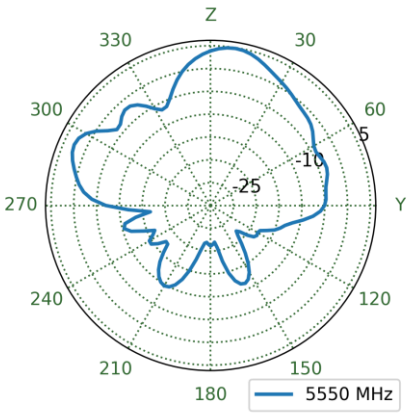
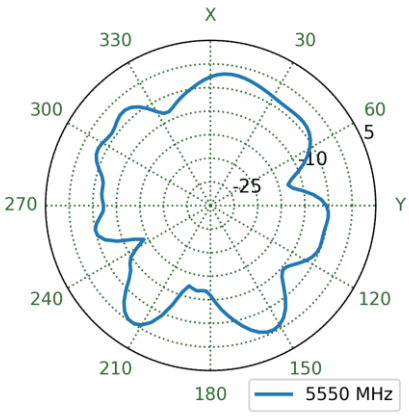
6.33 4G-5G 1 Patterns at 5550 MHz



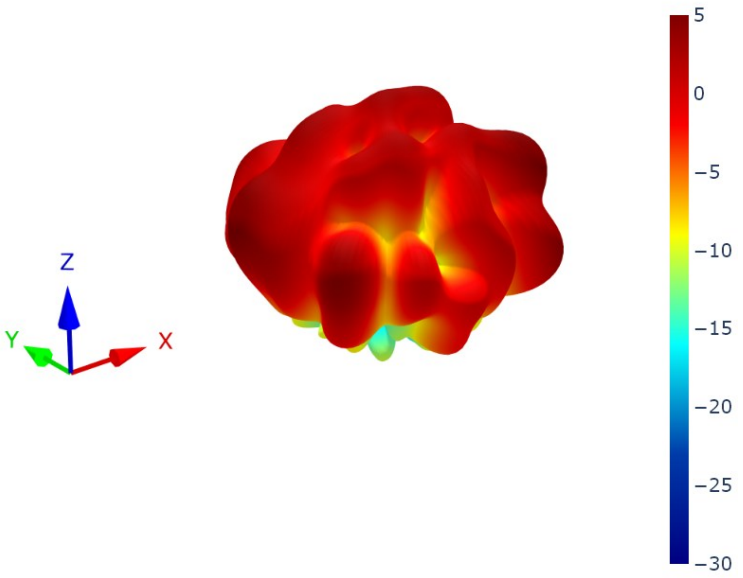
XZ Plane	YZ Plane	XY Plane
		

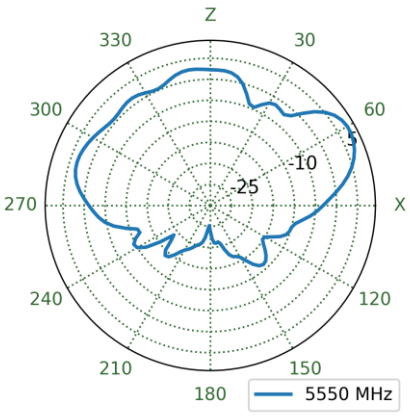
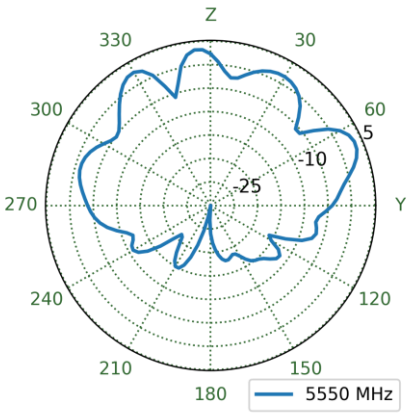
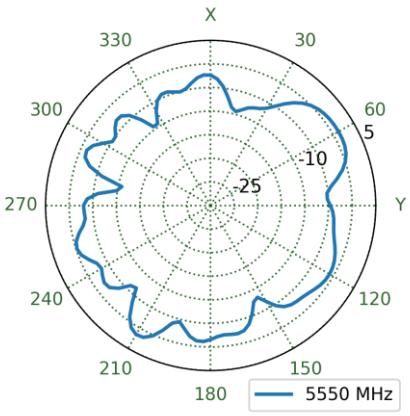
6.34 4G-5G 2 Patterns at 5550 MHz



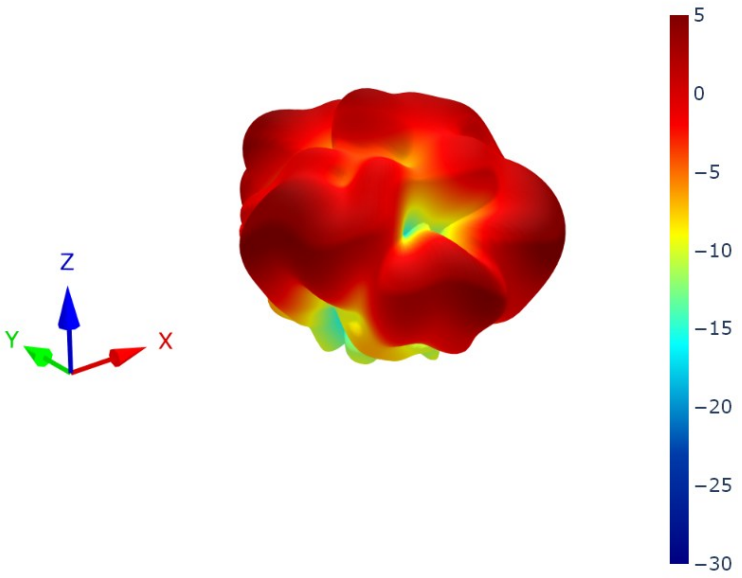
XZ Plane	YZ Plane	XY Plane
		

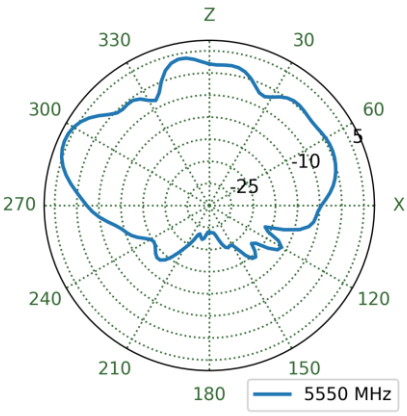
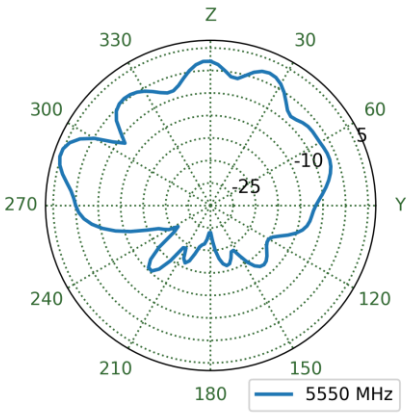
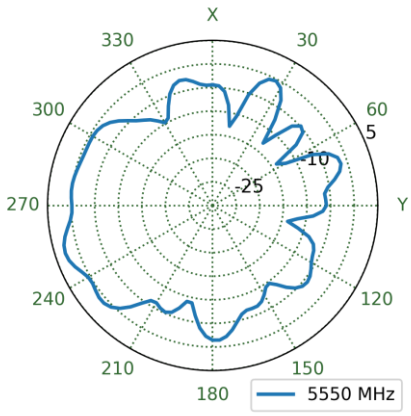
6.35 4G-5G 3 Patterns at 5550 MHz



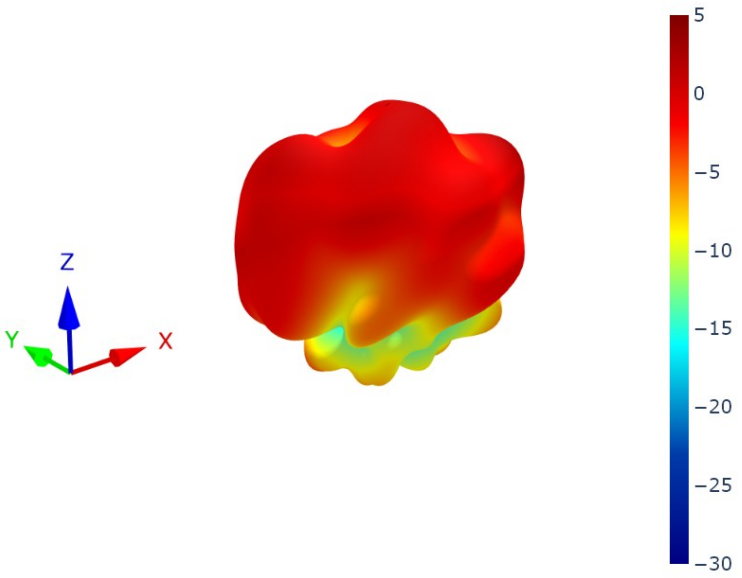
XZ Plane	YZ Plane	XY Plane
		

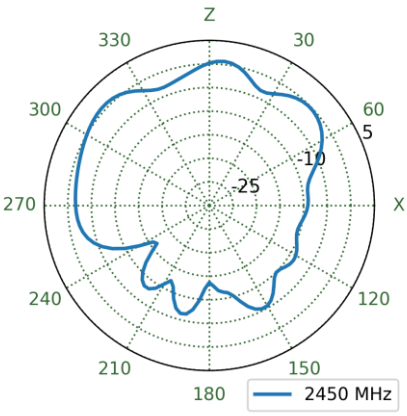
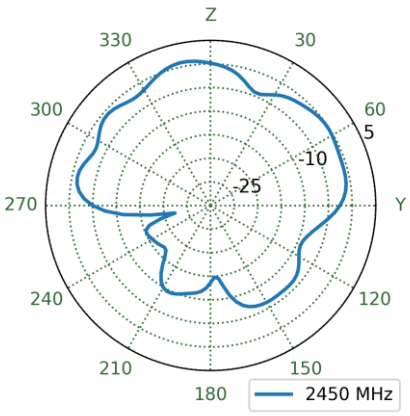
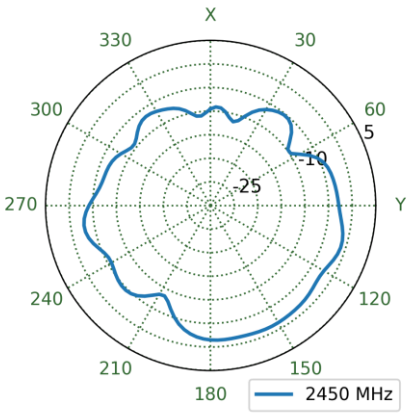
6.36 4G-5G 4 Patterns at 5550 MHz



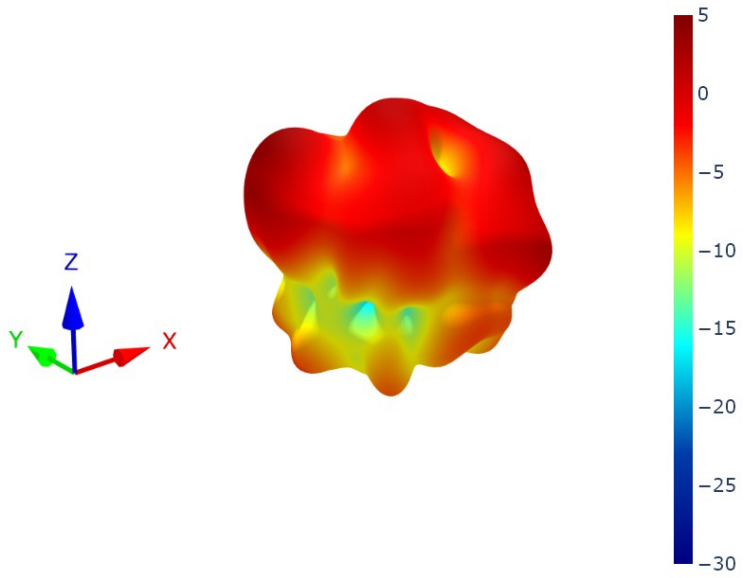
XZ Plane	YZ Plane	XY Plane
		

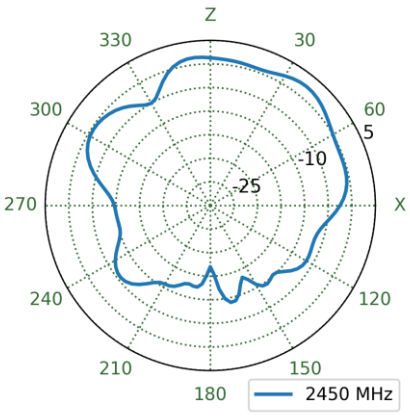
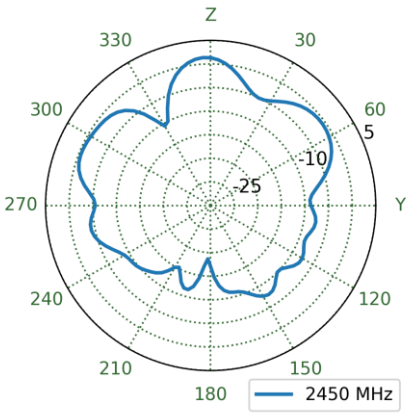
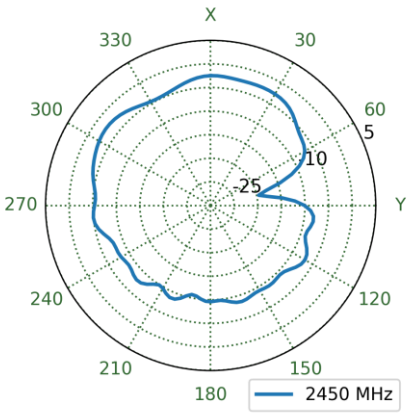
6.37 Wi-Fi 1 Patterns at 2450 MHz



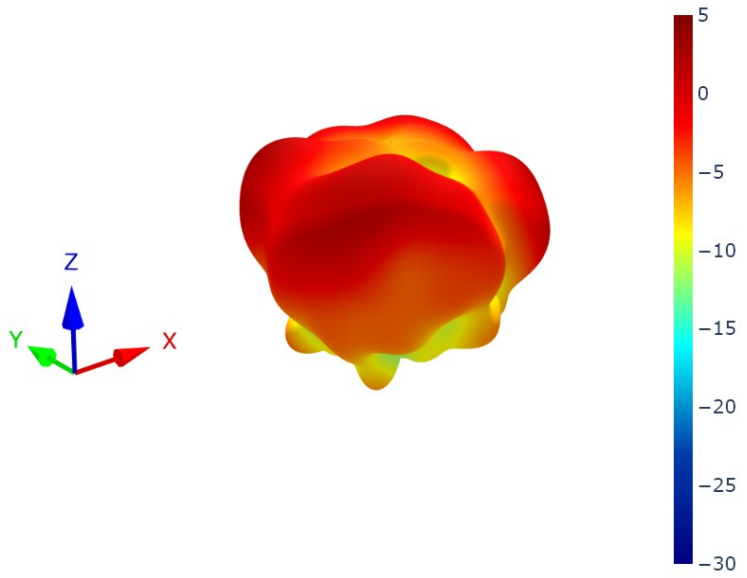
XZ Plane	YZ Plane	XY Plane
		

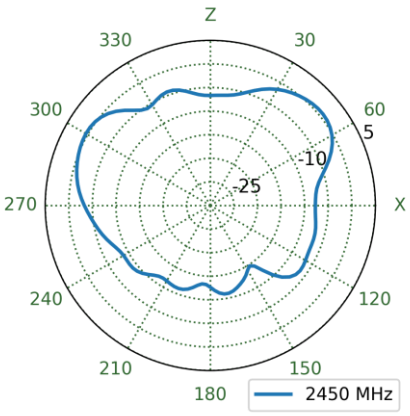
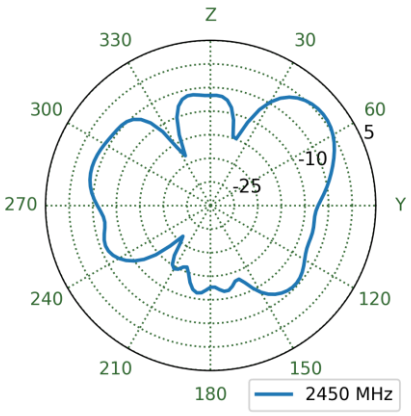
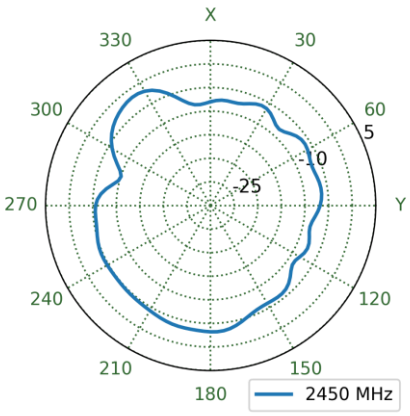
6.38 Wi-Fi 2 Patterns at 2450 MHz



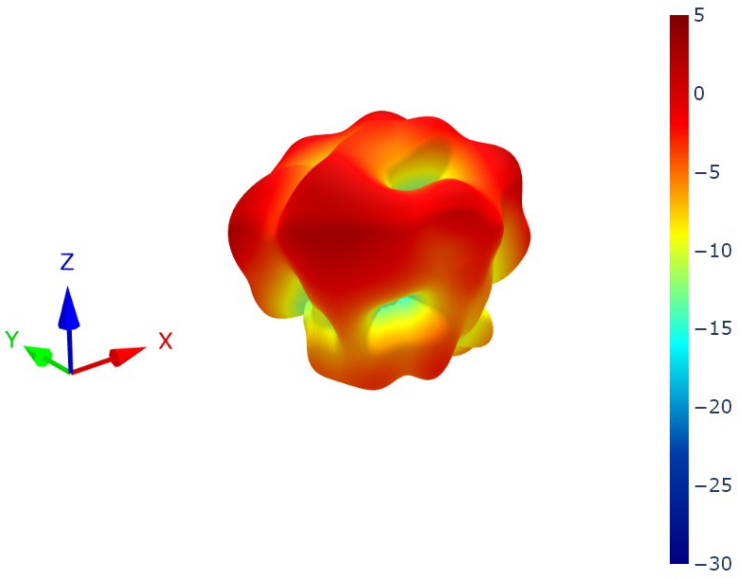
XZ Plane	YZ Plane	XY Plane
		

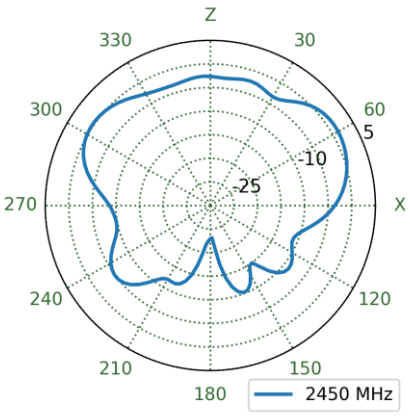
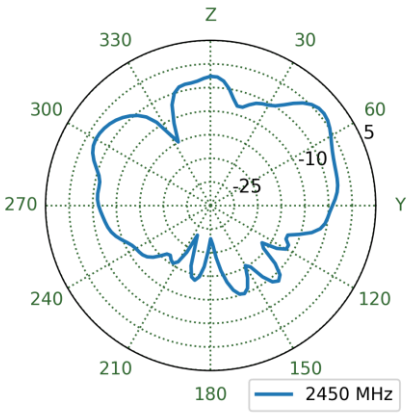
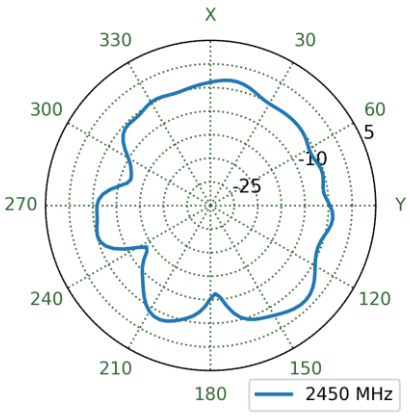
6.39 Wi-Fi 3 Patterns at 2450 MHz



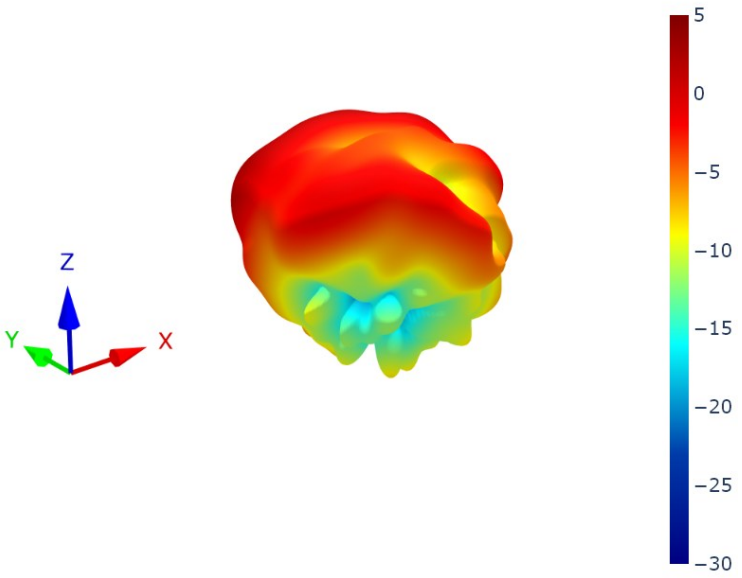
XZ Plane	YZ Plane	XY Plane
		

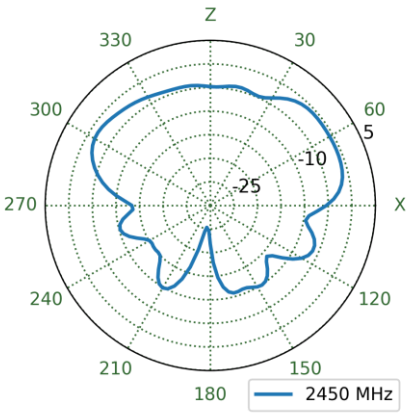
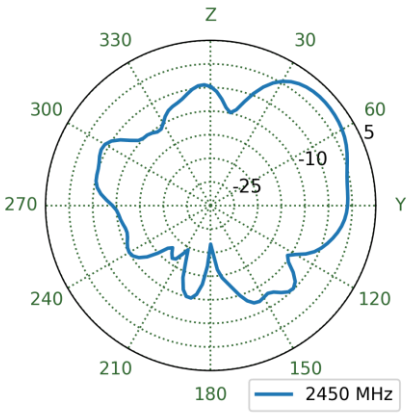
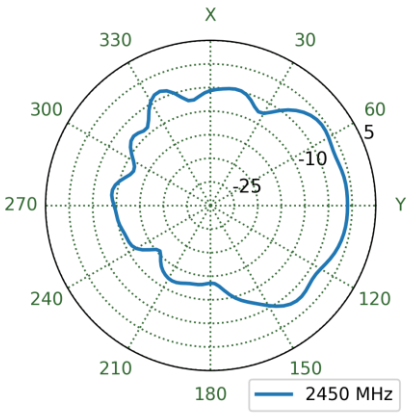
6.40 Wi-Fi 4 Patterns at 2450 MHz



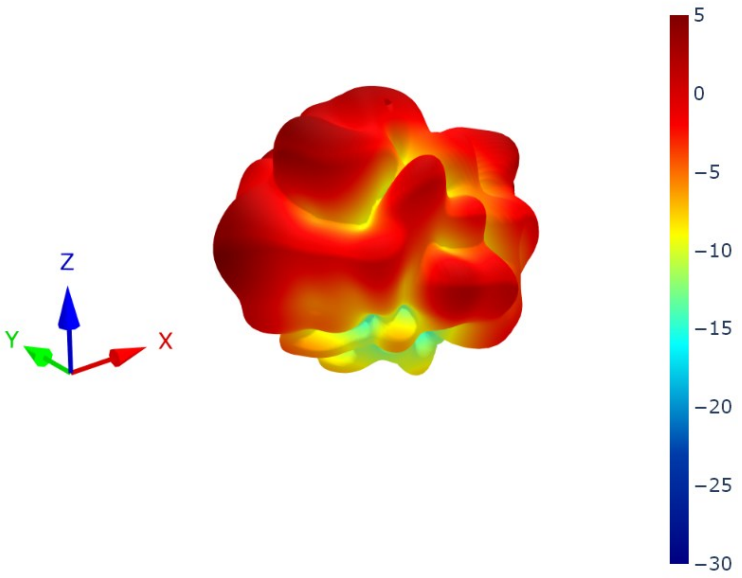
XZ Plane	YZ Plane	XY Plane
		

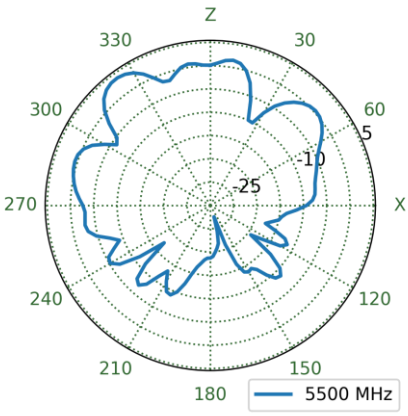
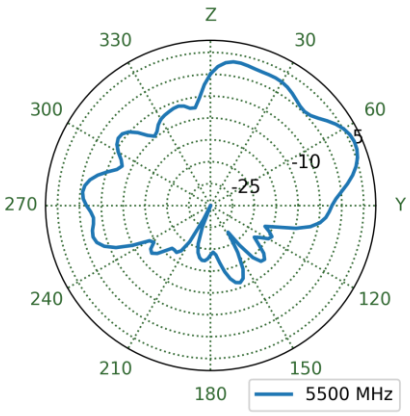
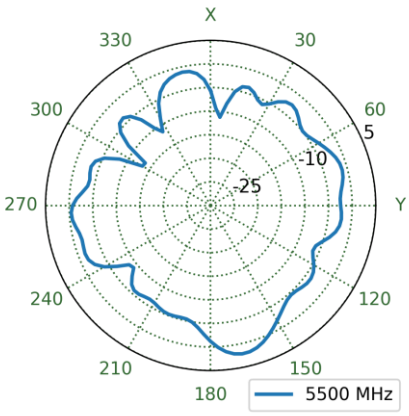
6.41 Wi-Fi 5 Patterns at 2450 MHz



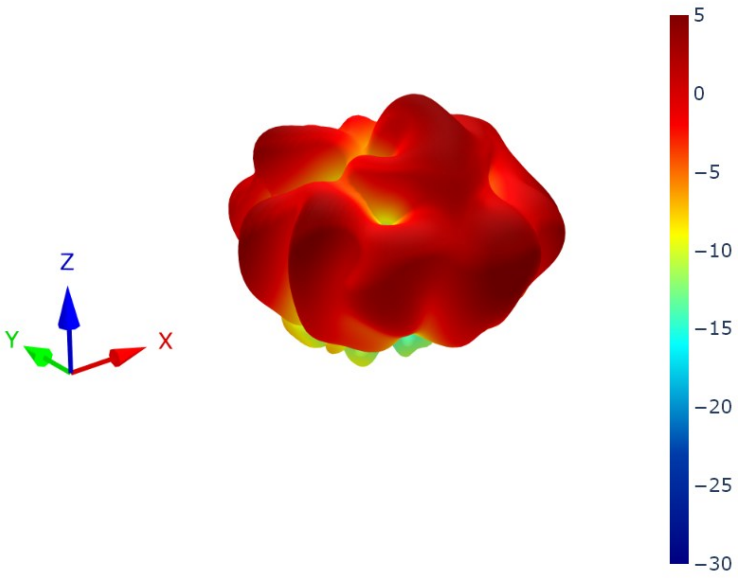
XZ Plane	YZ Plane	XY Plane
		

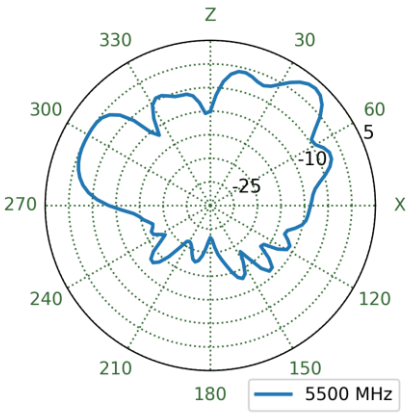
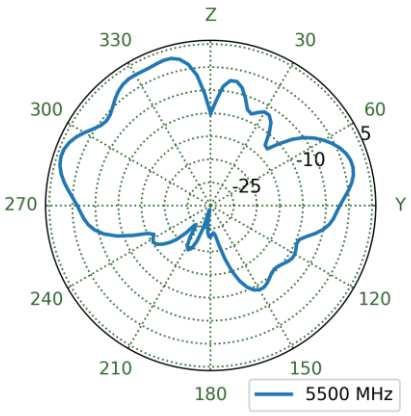
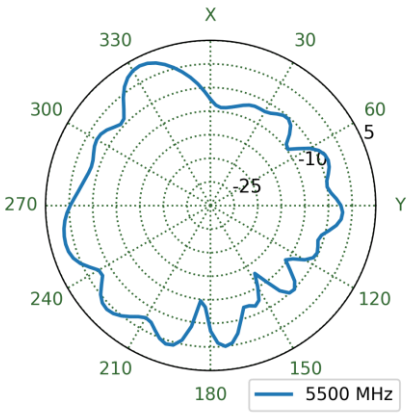
6.42 Wi-Fi 1 Patterns at 5500 MHz



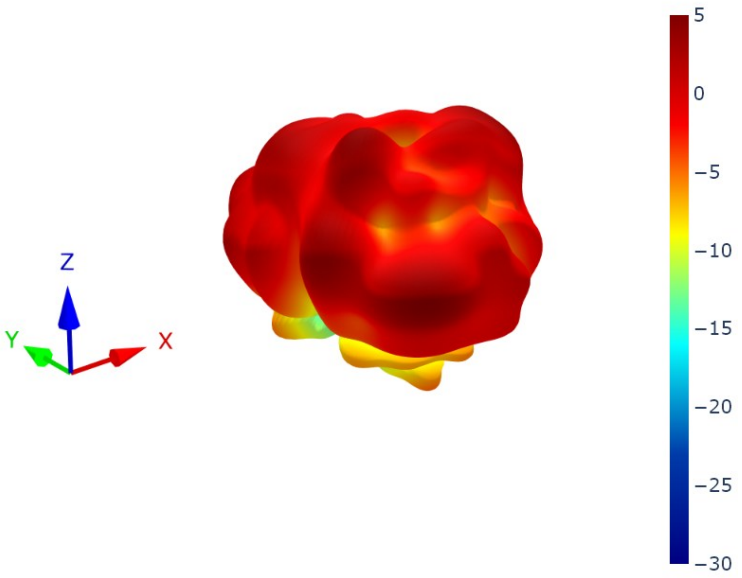
XZ Plane	YZ Plane	XY Plane
		

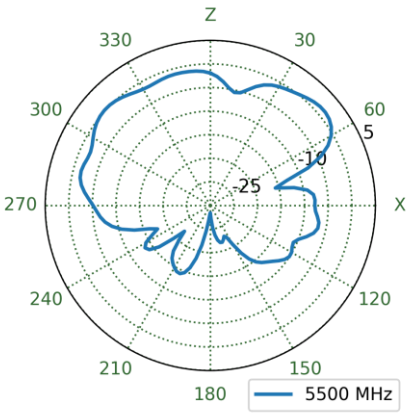
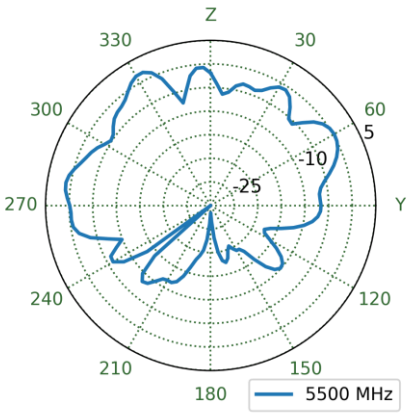
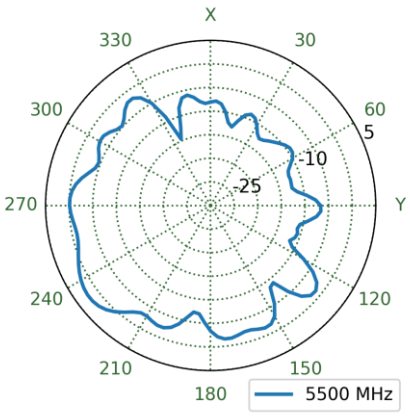
6.43 Wi-Fi 2 Patterns at 5500 MHz



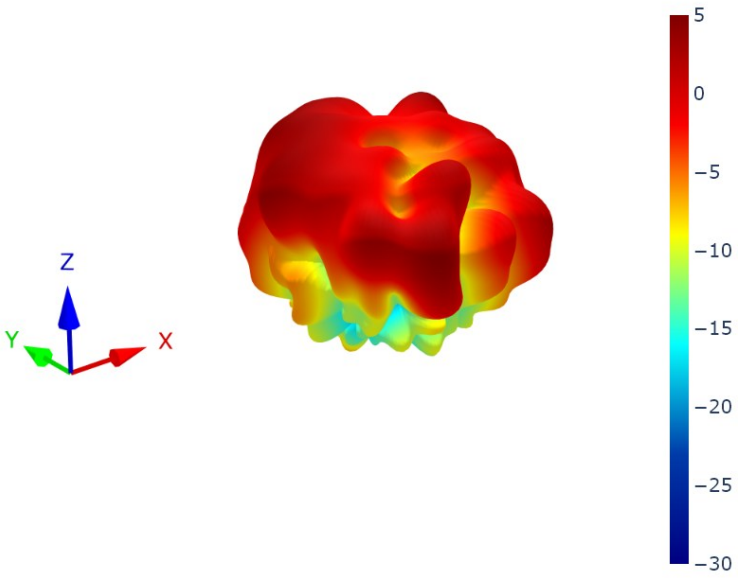
XZ Plane	YZ Plane	XY Plane
		

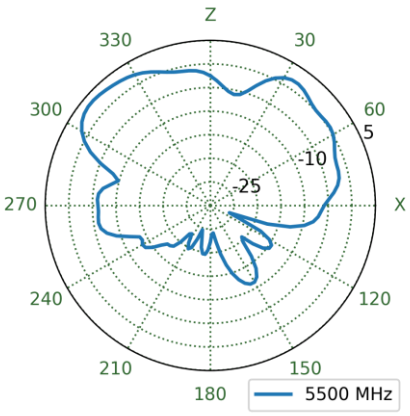
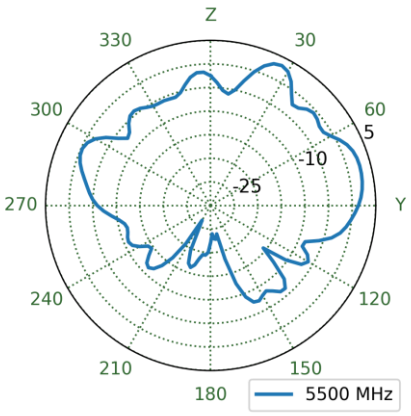
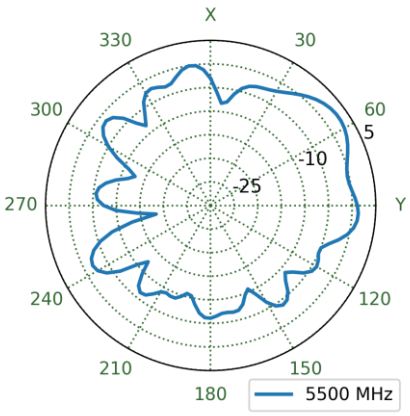
6.44 Wi-Fi 3 Patterns at 5500 MHz



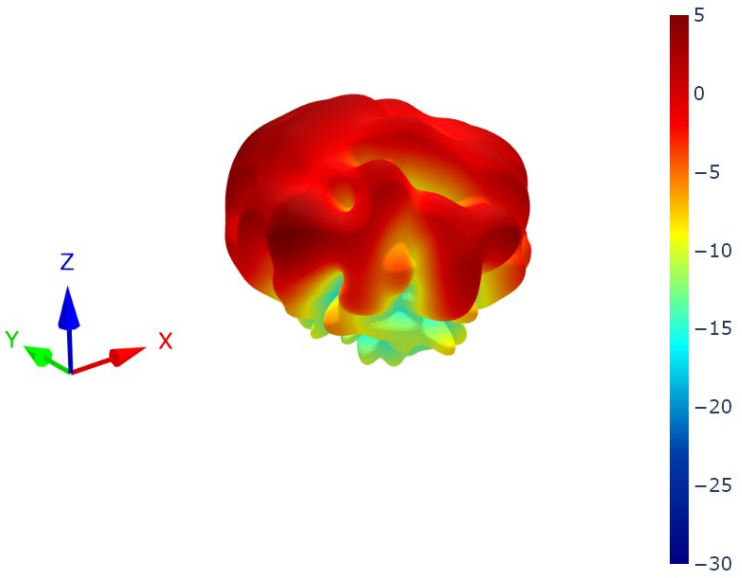
XZ Plane	YZ Plane	XY Plane
		

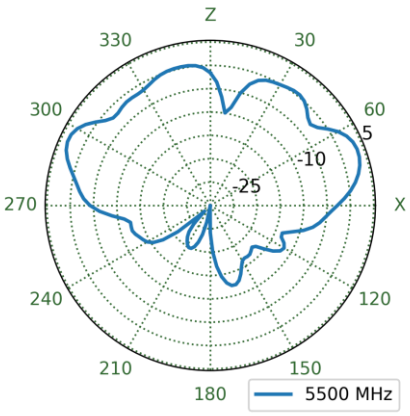
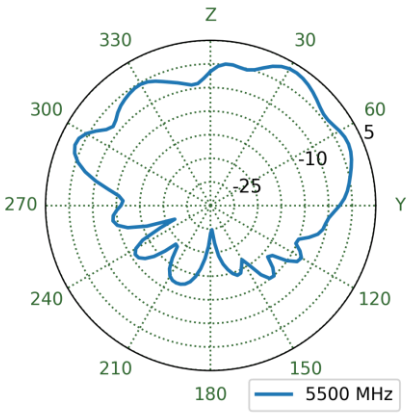
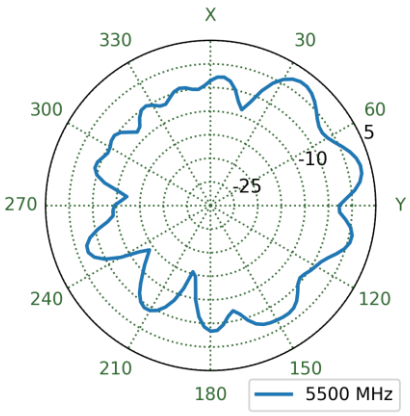
6.45 Wi-Fi 4 Patterns at 5500 MHz



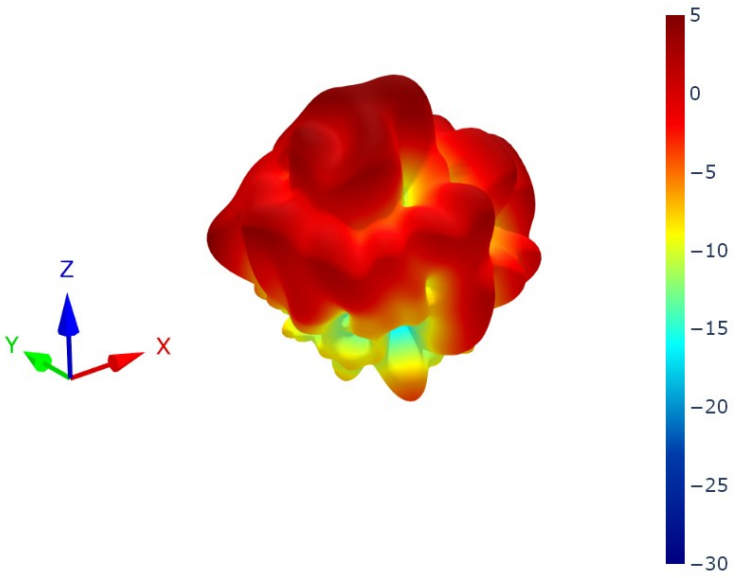
XZ Plane	YZ Plane	XY Plane
		

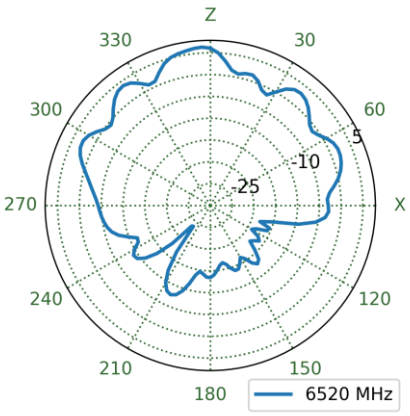
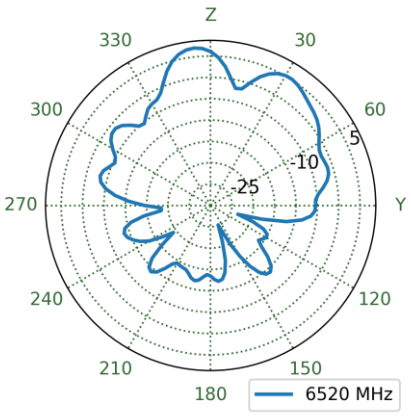
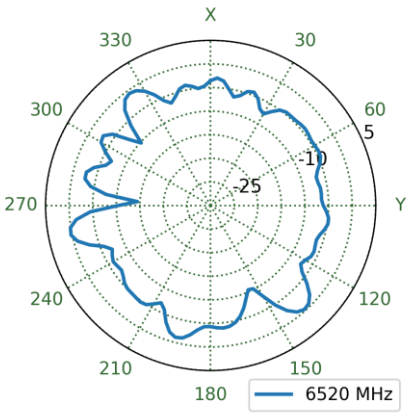
6.46 Wi-Fi 5 Patterns at 5500 MHz



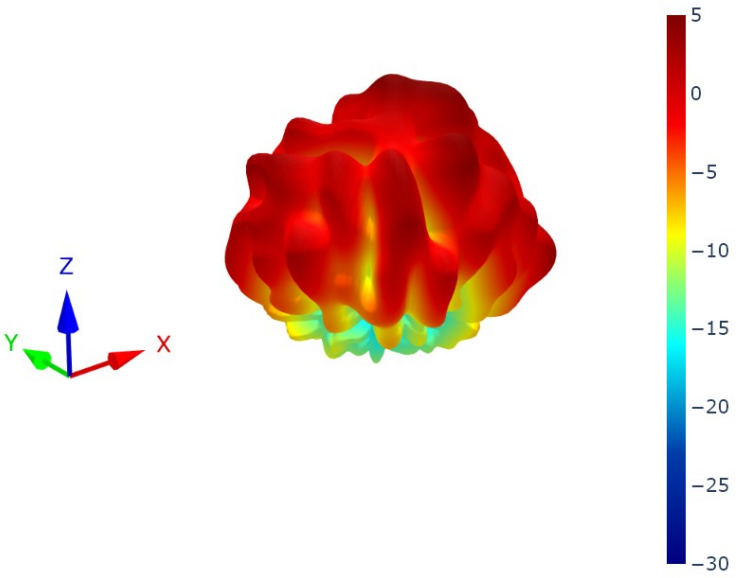
XZ Plane	YZ Plane	XY Plane
		

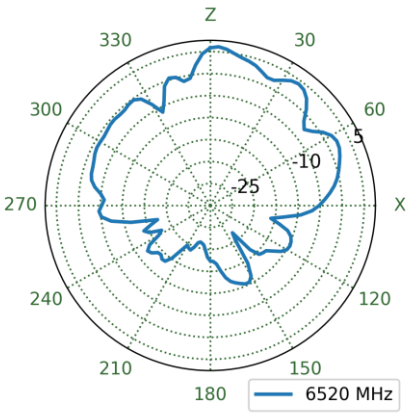
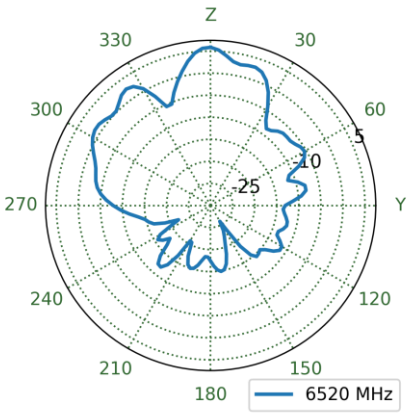
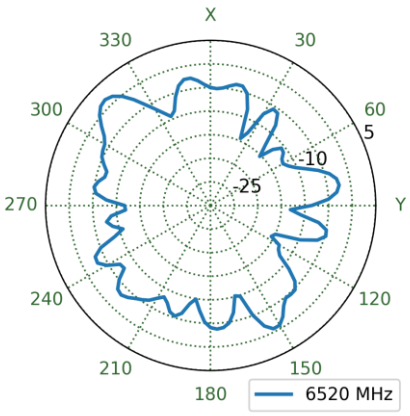
6.47 Wi-Fi 1 Patterns at 6520 MHz



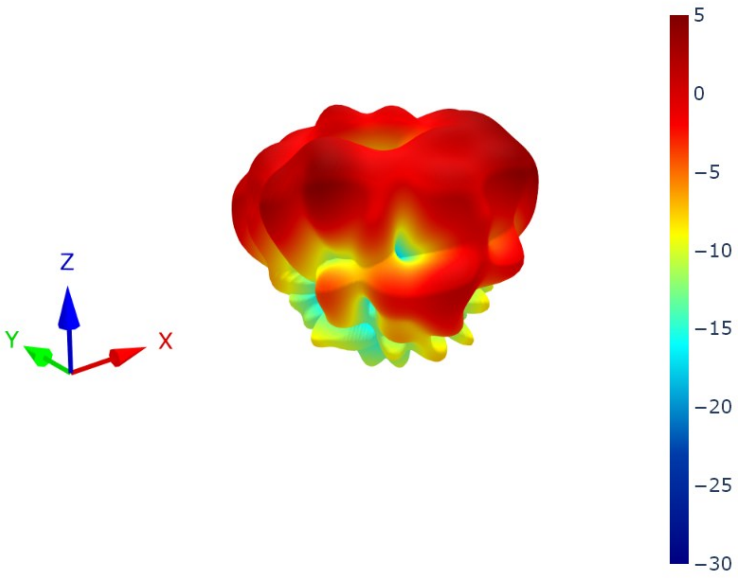
XZ Plane	YZ Plane	XY Plane
		

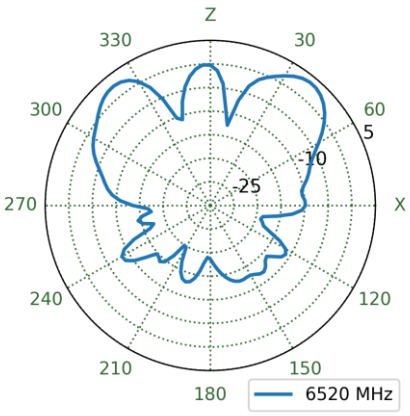
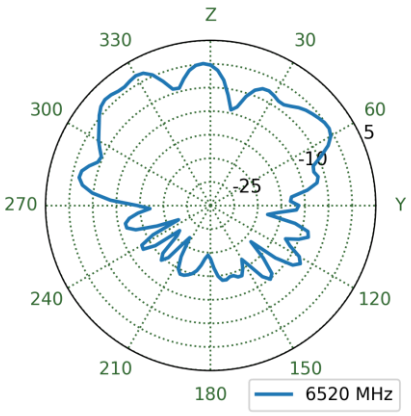
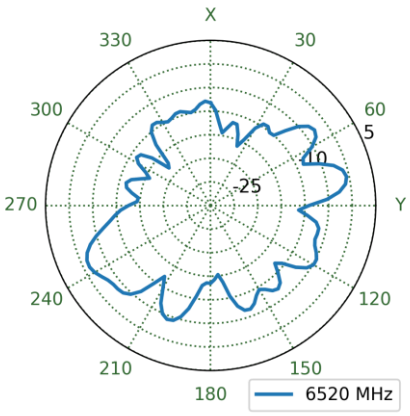
6.48 Wi-Fi 2 Patterns at 6520 MHz



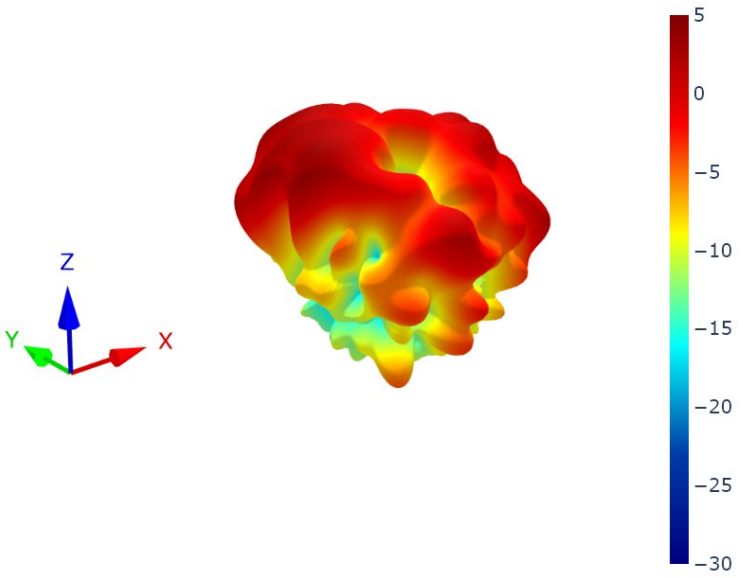
XZ Plane	YZ Plane	XY Plane
		

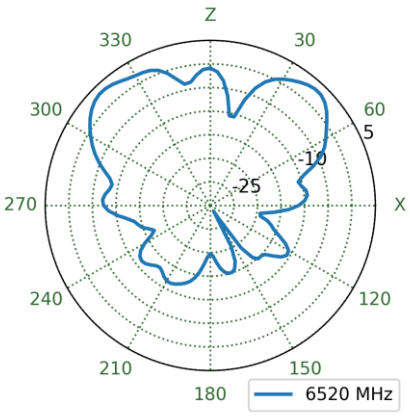
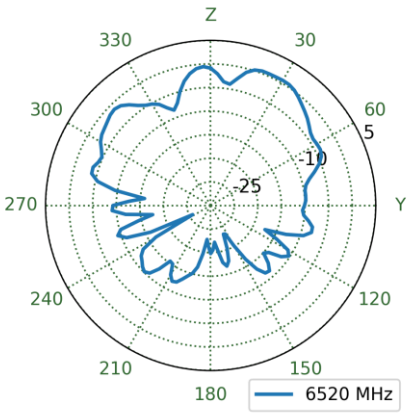
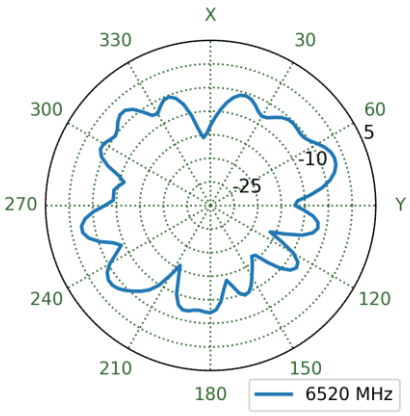
6.49 Wi-Fi 3 Patterns at 6520 MHz



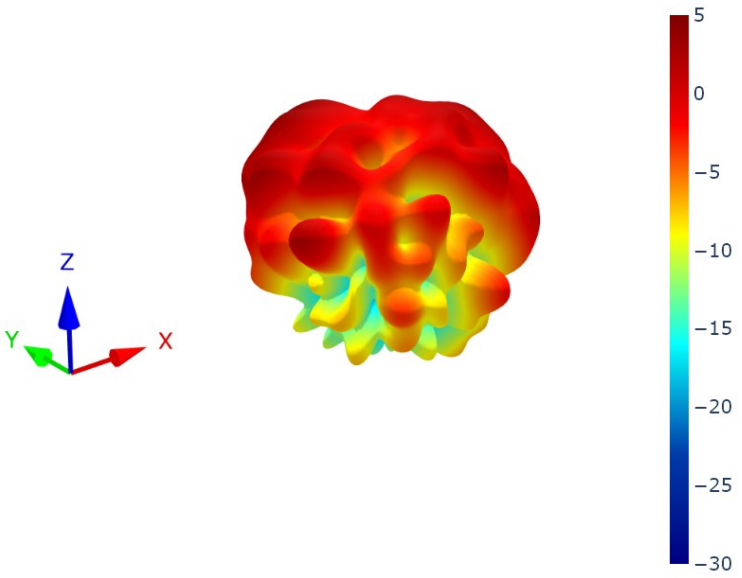
XZ Plane	YZ Plane	XY Plane
		

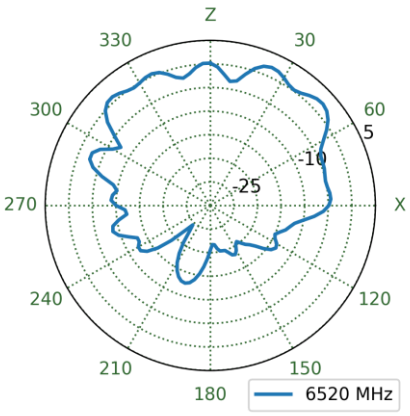
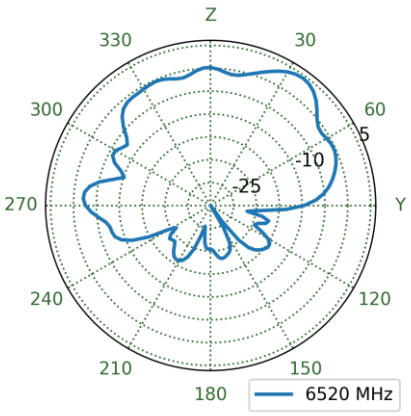
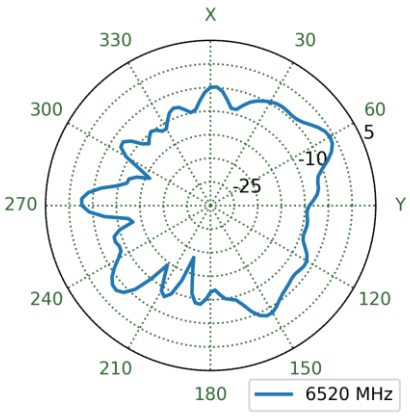
6.50 Wi-Fi 4 Patterns at 6520 MHz



XZ Plane	YZ Plane	XY Plane
		

6.51 Wi-Fi 5 Patterns at 6520 MHz



XZ Plane	YZ Plane	XY Plane
		

Changelog for the datasheet

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Date:	2025-10-01
Notes:	Initial Release
Author:	Cesar Sousa

Previous Revisions

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