TAOGLAS



Datasheet

Stream II

Part No:
STRM2.3.1G2C.3M.S105.B

Description

Stream II 3-in-1 Adhesive mount Antenna GNSS L1 3m RG-174 SMA(M)ST, 5G-4G 3m TGC-200 SMA(M)ST, Wi-Fi 3m TGC-200 RP-SMA(M)ST

Features:

Low-profile Housing
2* 4G-5G/Wi-Fi (Including Wi-Fi 6) 600-8000MHz
1* GPS-GLONASS- Antenna
IP67 Waterproof Enclosure
Dims: 202.2 x 68.2 x 12.9mm
Cable: 3m RG-174 & TGC-200
Connector: SMA(M) & RP-SMA(M)
RoHS & Reach Compliant

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1. Introduction



The Taoglas **Stream II** is a high-performance 3-in-1 adhesive mount antenna designed to provide reliable GNSS, cellular, and Wi-Fi® connectivity for connected devices operating in demanding indoor and outdoor environments. Combining a high-efficiency active GNSS L1 antenna with two ultra-wideband cellular and Wi-Fi® antenna elements, the Stream II delivers dependable positioning and high-speed wireless communications from a single compact enclosure.

Supporting GNSS constellations including GPS L1, GLONASS G1, Galileo E1, BeiDou B1I/B1C, QZSS L1, SBAS, and L-Band, the integrated low-noise amplifier provides excellent satellite reception for accurate positioning even in challenging signal conditions. The two wideband antenna elements cover 600–8000MHz, enabling support for global 4G LTE, 5G NR, LTE-M, NB-IoT, Cat M, private LTE networks, Wi-Fi® 6/6E, and other emerging wireless technologies.

The low-profile IP67-rated enclosure is designed for adhesive mounting to walls, cabinets, kiosks, industrial equipment, smart infrastructure, and transportation assets where external drilling is undesirable. With pre-terminated low-loss cables and robust construction, the Stream II provides a simple, reliable antenna solution for industrial IoT, smart city, telematics, networking, security, and enterprise gateway applications requiring simultaneous high-performance positioning and wireless connectivity.

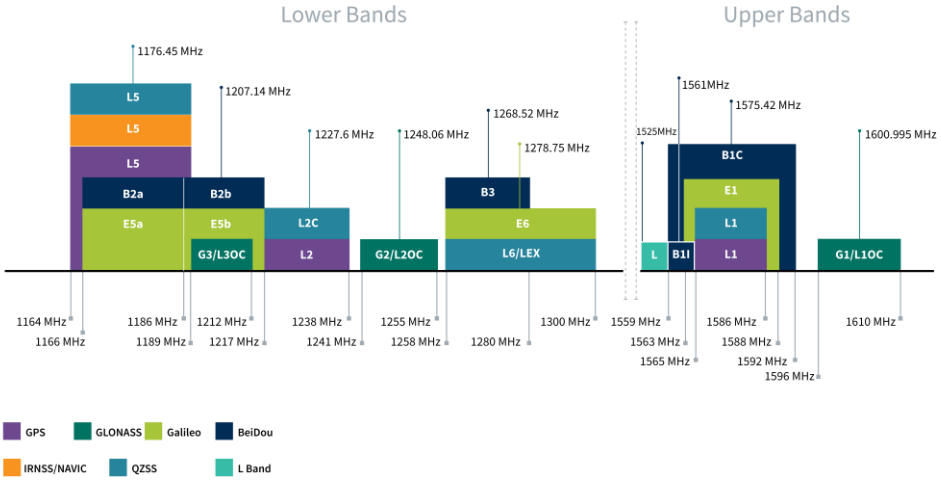
Typical applications include:

- Industrial IoT & Automation
- Transportation & Telematics
- Smart Infrastructure
- Energy & Utilities
- Security & Surveillance
- Retail & Commercial

Cable lengths, connector types, and antenna configurations can be customized to meet specific customer requirements. A wall mount bracket is also available for this product, WMB.STRM2.A. For further information or installation guidance, please contact your regional Taoglas customer support team.

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.)	2:1	2:1	3:1
Efficiency (%)	74.2	72.3	71.6
Average Gain(dB)	-1.29	-1.41	-1.45
Peak Gain (dBi)	4.40	5.11	5.11
Polarization	RHCP		
Impedance	50 Ω		

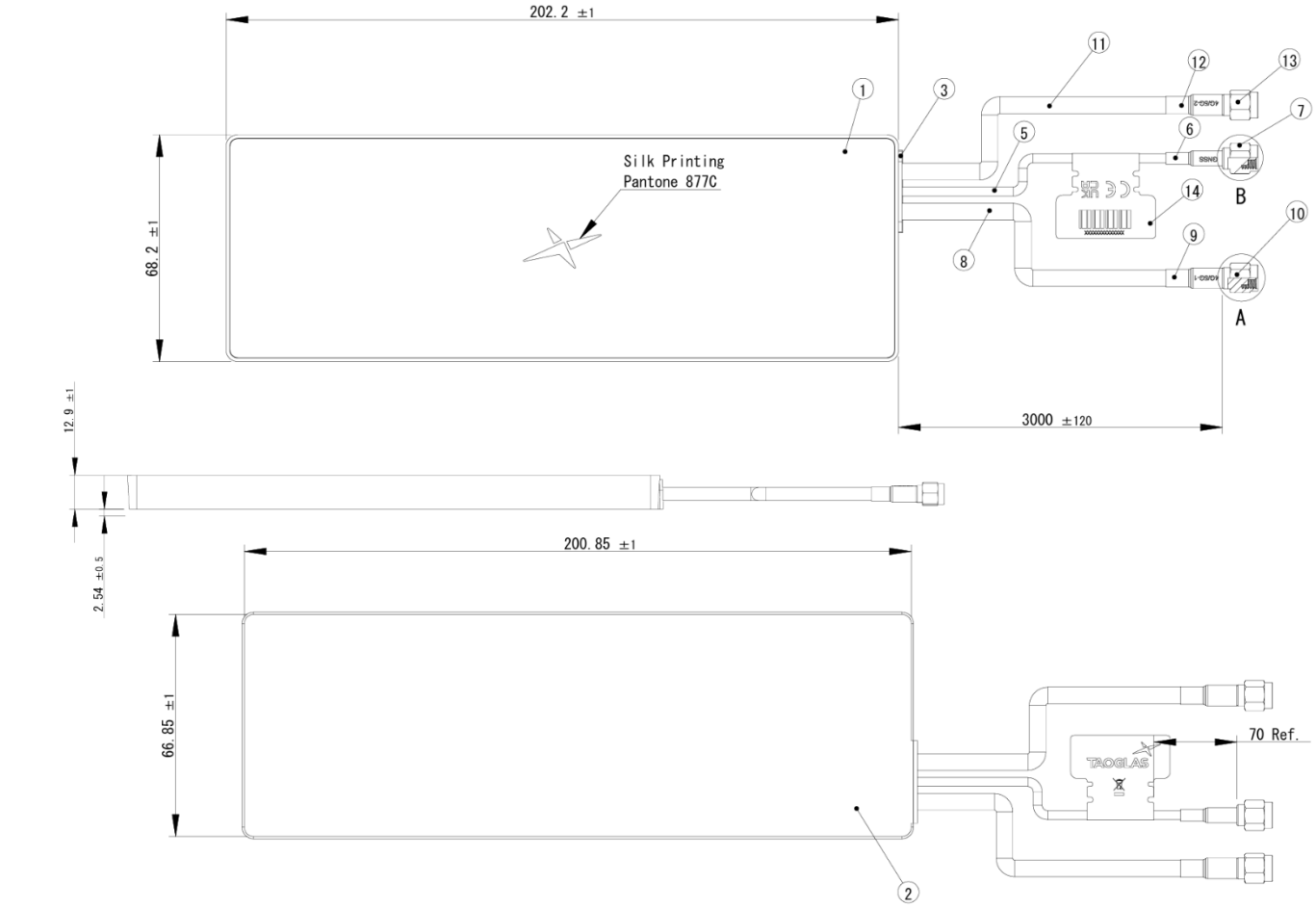
LNA and Filter Electrical Properties			
Frequency (MHz)	**1561**	**1575.42**	**1602**
Gain (dB)	32.7	31.3	30.1
Noise (dB)	2.1	2.0	2.4
Group Delay (ns)	40.6	27.2	32.9
Power consumption (mA)	18±3		
ESD Protection	Contact:15kV, Air:15kV		
Voltage Input (V)	1.8 – 3.0		
Out Of Band Attenuation (dB)	> 70 dB @ 700–960 MHz; > 60 dB @ 1710–3000 MHz		

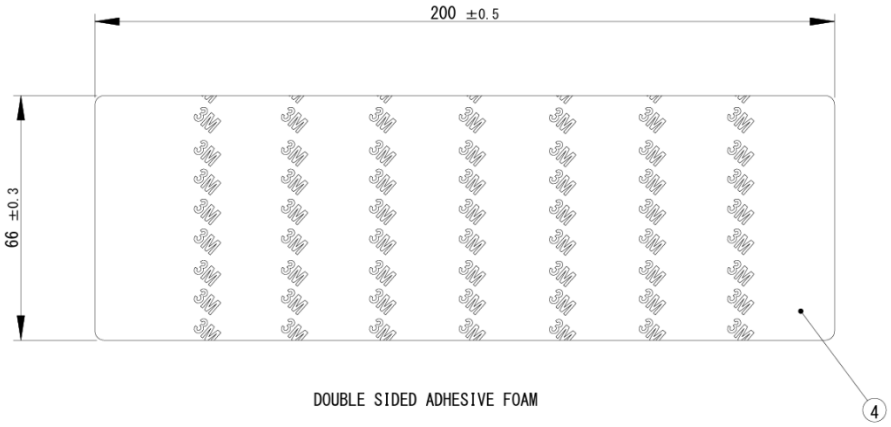
4G-5G Electrical									
Band	Frequency (MHz)	Measurement	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
5GNR/4G Band71	617-698	4G-5G1	60.4	-2.19	2.81	50 Ω	Linear	Omni directional	10W
		4G-5G2	46.1	-3.36	3.09				
4G/3G Band 12,13,14,17,28,29	698-806	4G-5G1	65.4	-1.84	3.72				
		4G-5G2	59.7	-2.24	4.73				
4G/3G/NB-IoT/Cat M Band 5,8,18,19,20,26,27	824-960	4G-5G1	71.9	-1.43	4.64				
		4G-5G2	68.8	-1.62	5.08				
5GNR/4G Band 21,32,74,75,76	1427-1518	4G-5G1	23.6	-6.27	-0.36				
		4G-5G2	22.2	-6.54	-1.30				
Downlink Band 24	1525-1559	4G-5G1	33.9	-4.70	1.29				
		4G-5G2	19.8	-7.03	-1.45				
Uplink Band 24	1626-1660	4G-5G1	70.0	-1.55	6.01				
		4G-5G2	53.9	-2.69	5.30				
4G/3G Band 1,2,3,4,9,23,25,35,39, 66	1710-2200	4G-5G1	74.0	-1.31	6.12				
		4G-5G2	78.0	-1.08	5.77				
4G/3G Band 7,30,38,40,41	2300-2690	4G-5G1	76.3	-1.17	4.69				
		4G-5G2	70.5	-1.52	4.30				
5GNR/4G Band 22,42,48,77,78,79	3300-5000	4G-5G1	65.2	-1.85	6.56				
		4G-5G2	61.4	-2.12	4.10				
LTE5200/Wi-Fi5800	5150-5925	4G-5G1	61.3	-2.13	5.14				
		4G-5G2	56.9	-2.45	5.09				
Wi-Fi - 6GHz	5925-7125	4G-5G1	56.5	-2.48	7.04				
		4G-5G2	56.0	-2.52	5.12				

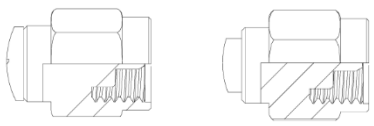
Mechanical	
Dimensions	202.2 x 68.2 x 12.9mm
Weight	385g
Material	PC
Connector	GNSS & 5G-4G: SMA(M) Wi-Fi: RP-SMA(M)
Cable	GNSS: RG-174 5G-4G & Wi-Fi: TGC200
Mounting Style	Adhesive Wall mount (bracket required)

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

3. Mechanical Drawing

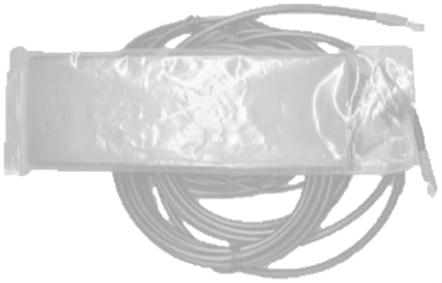






	Name	Material	Finish	QTY.
1	Top housing	PC	Black	1
2	Bottom housing	PC	Black	1
3	Grommet	Silicone Rubber	Black	1
4	Double Sided Adhesive	CR4305 2t + 3M 9448HK	Black foam/white liner	1
5	RG174 DS(low loss) Coaxial Cable	PVC	Black	1
6	Heat Shrink Tube(GNSS)	PE	Blue Tube/White Text	1
7	SMA(M)ST Plug _for RG-174	Brass	Au Plated	1
8	TGC-200 Coaxial Cable	PE	Black	1
9	Heat Shrink Tube(4G/5G-1)	PE	Red Tube/White Text	1
10	SMA(M)ST Plug for TGC-200	Brass	Au Plated	1
11	TGC200 Coaxial Cable	PE	Black	1
12	Heat Shrink Tube(4G/5G-2)	PE	Red Tube/White Text	1
13	SMA(M)ST Plug for TGC-200	Brass	Au Plated	1
14	CE,WEEE and UKCA mark Label	PEPA	White	1

4. Packaging



☑ 1 PCS / Small PE bag

☑ Small PE bag (mm): 80x250 (Ref.)



☑ 1 PCS / PE bag

☑ PE bag (mm): 200x300 (Ref.)

☑ Weight (g): 396 ±3%

weight without packaging (g): 385 ±3%

☑ SPQ Label



☑ 30 PCS / Carton

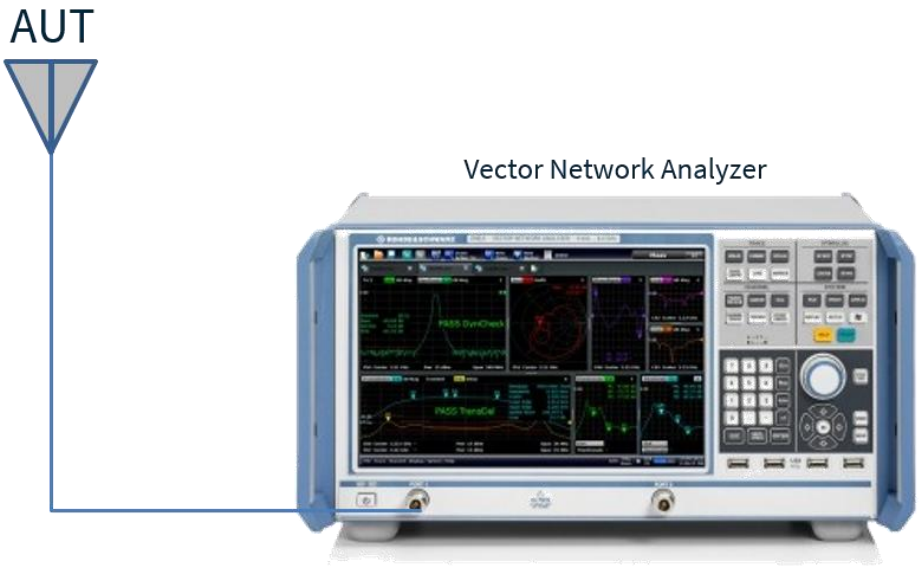
☑ Carton(mm): 740x370x300

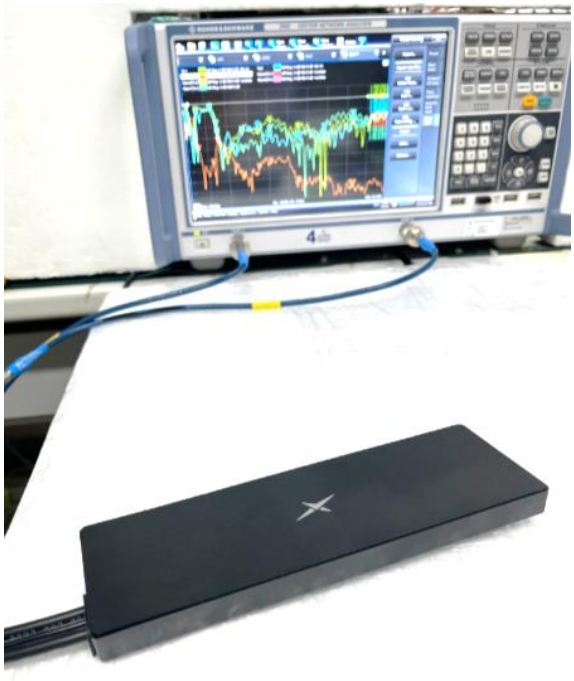
☑ Weight (Kg): 14 ±3%

☑ Carton Label

5. Antenna Characteristics

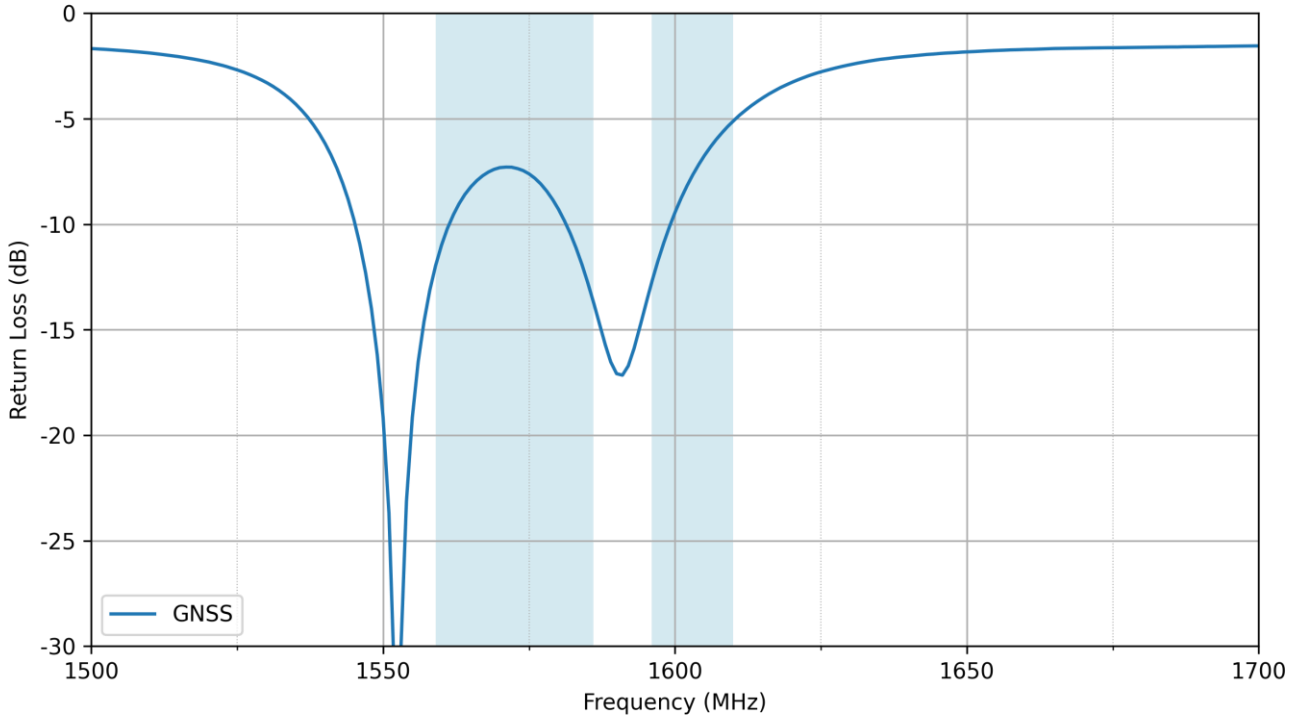
5.1 Test Setup



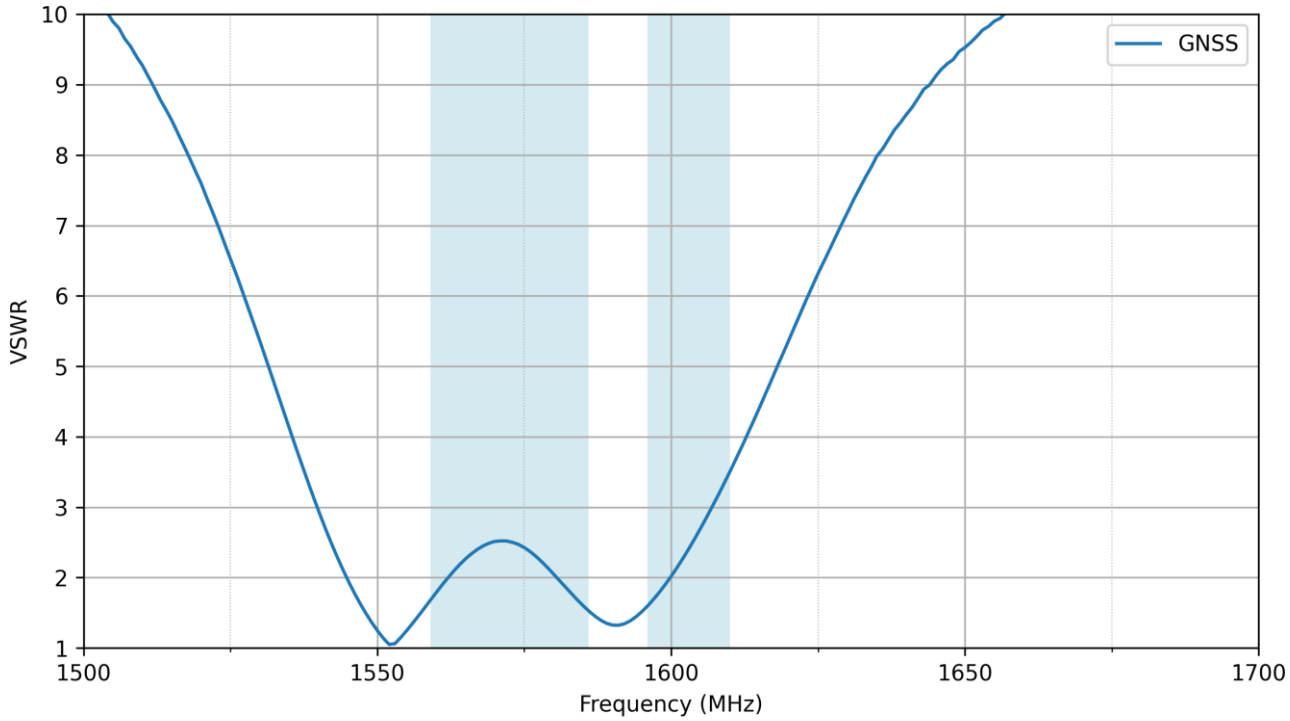


VNA Test Set-up

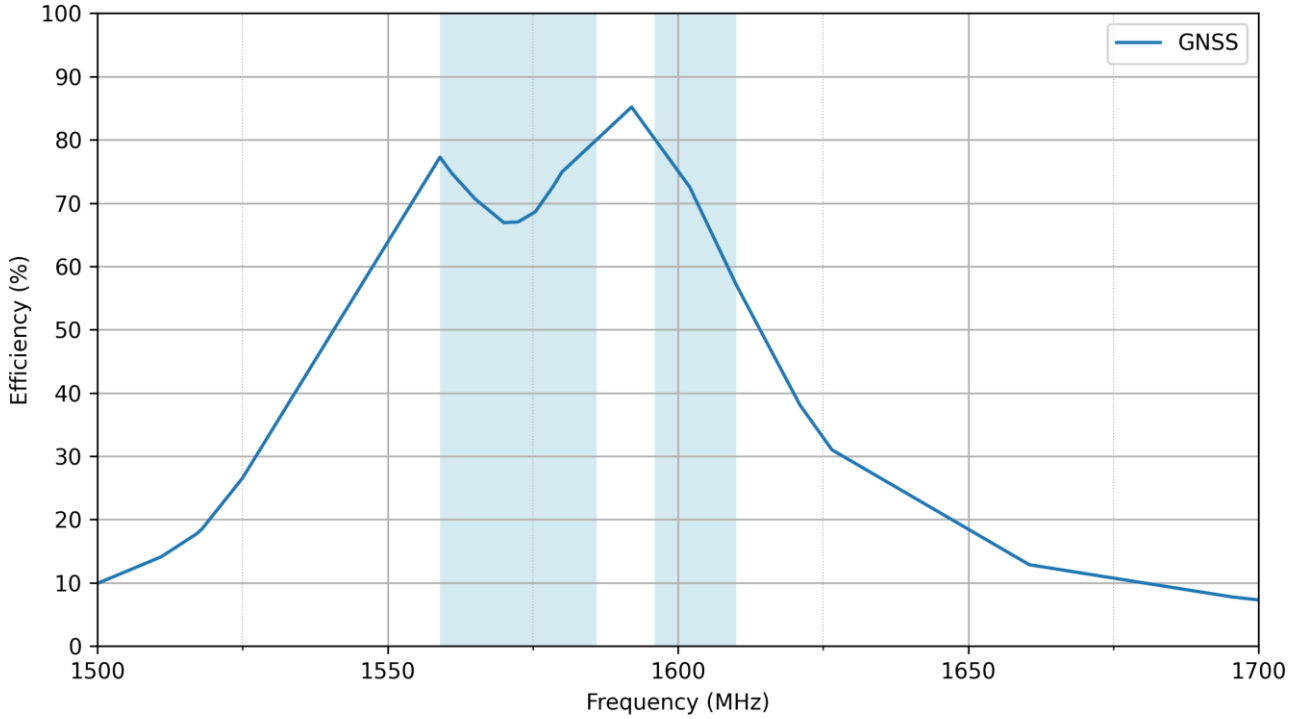
5.2 GNSS - Return Loss



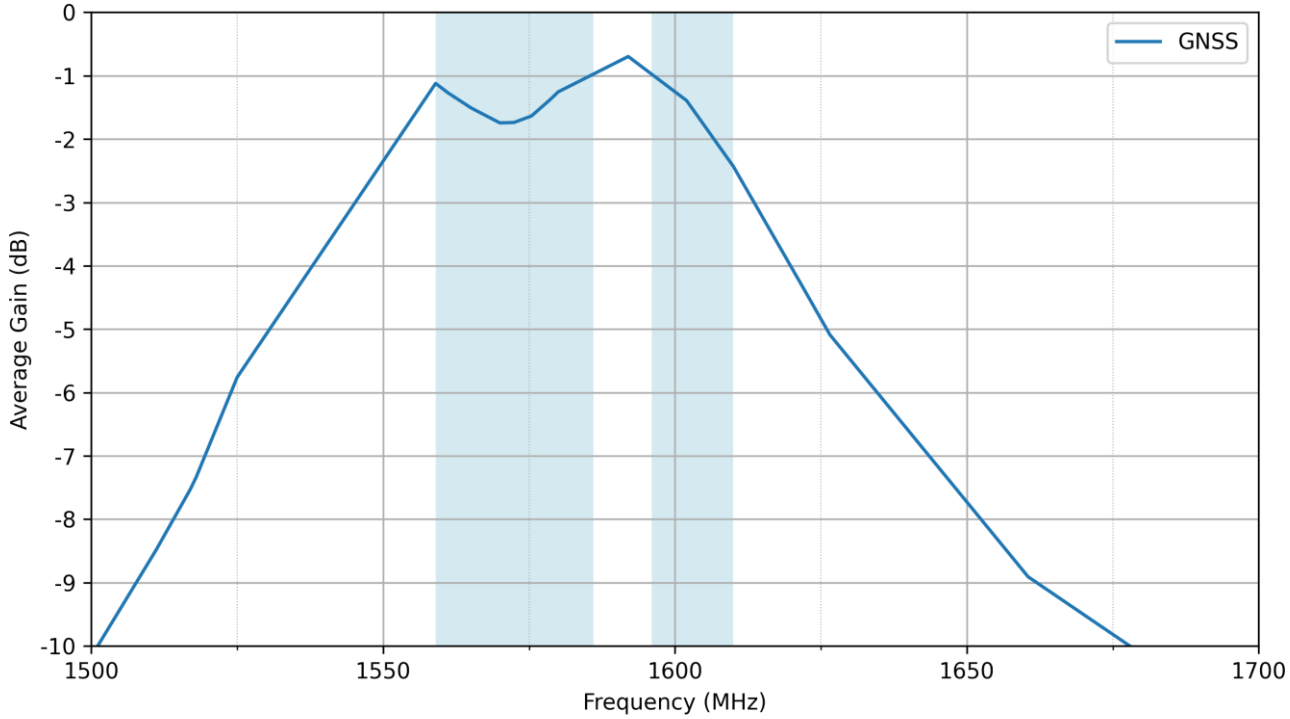
5.3 GNSS - VSWR



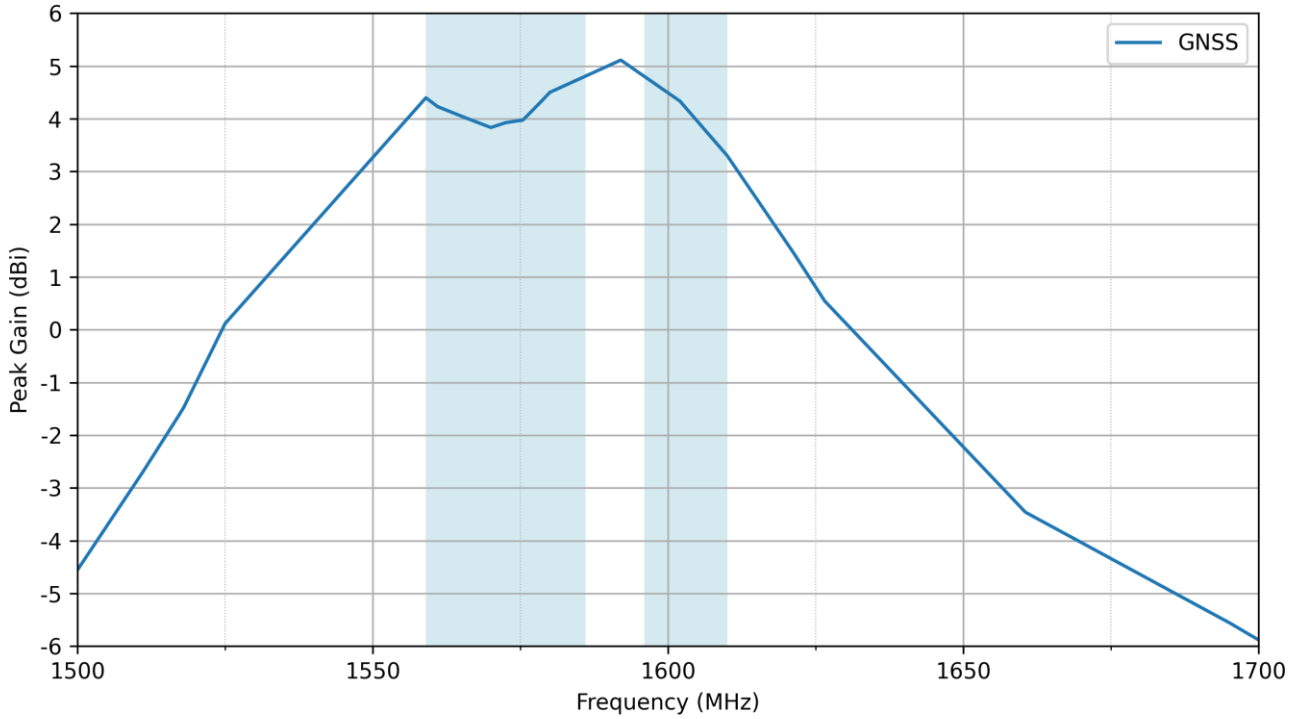
5.4 GNSS - Efficiency



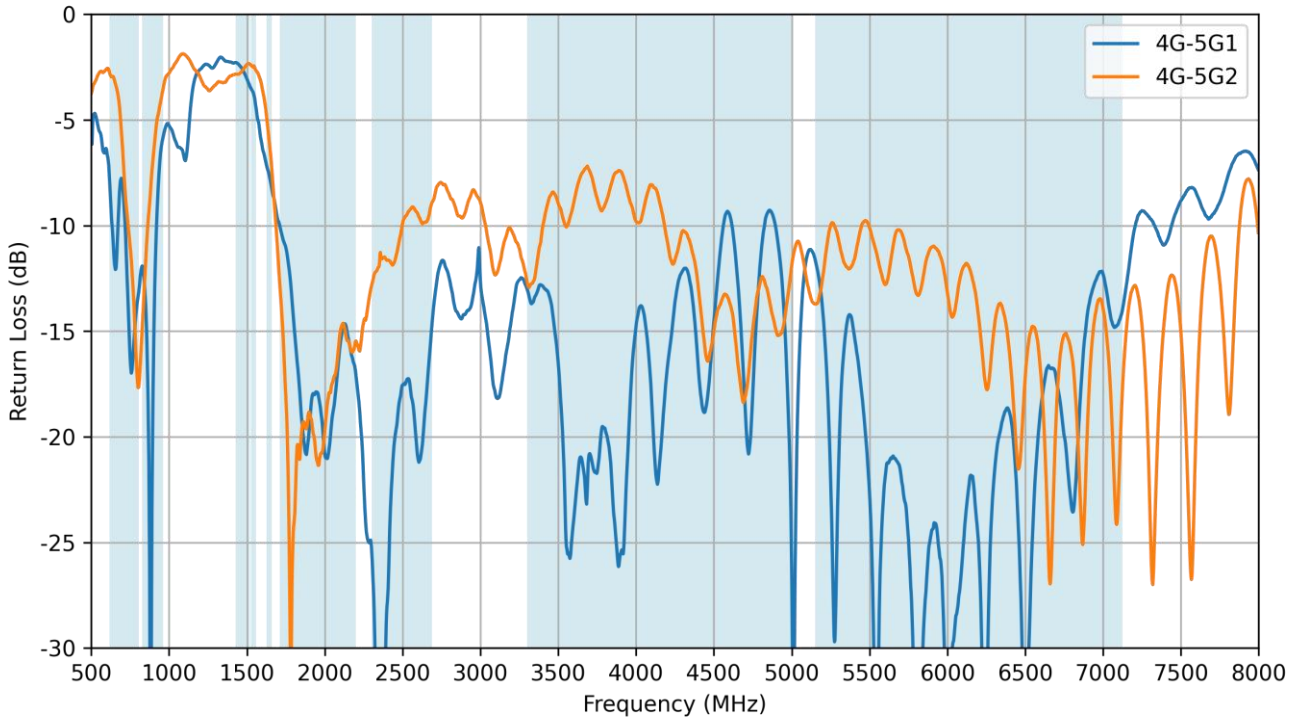
5.5 GNSS - Average Gain



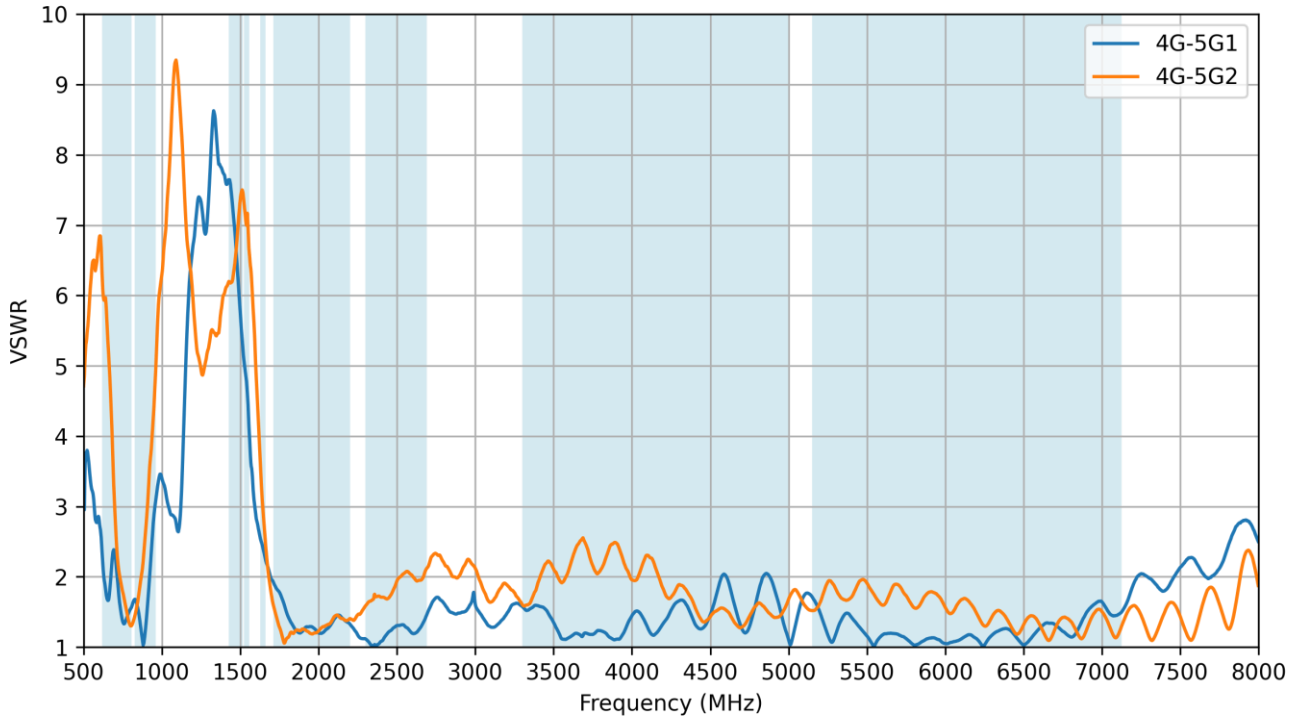
5.6 GNSS - Peak Gain



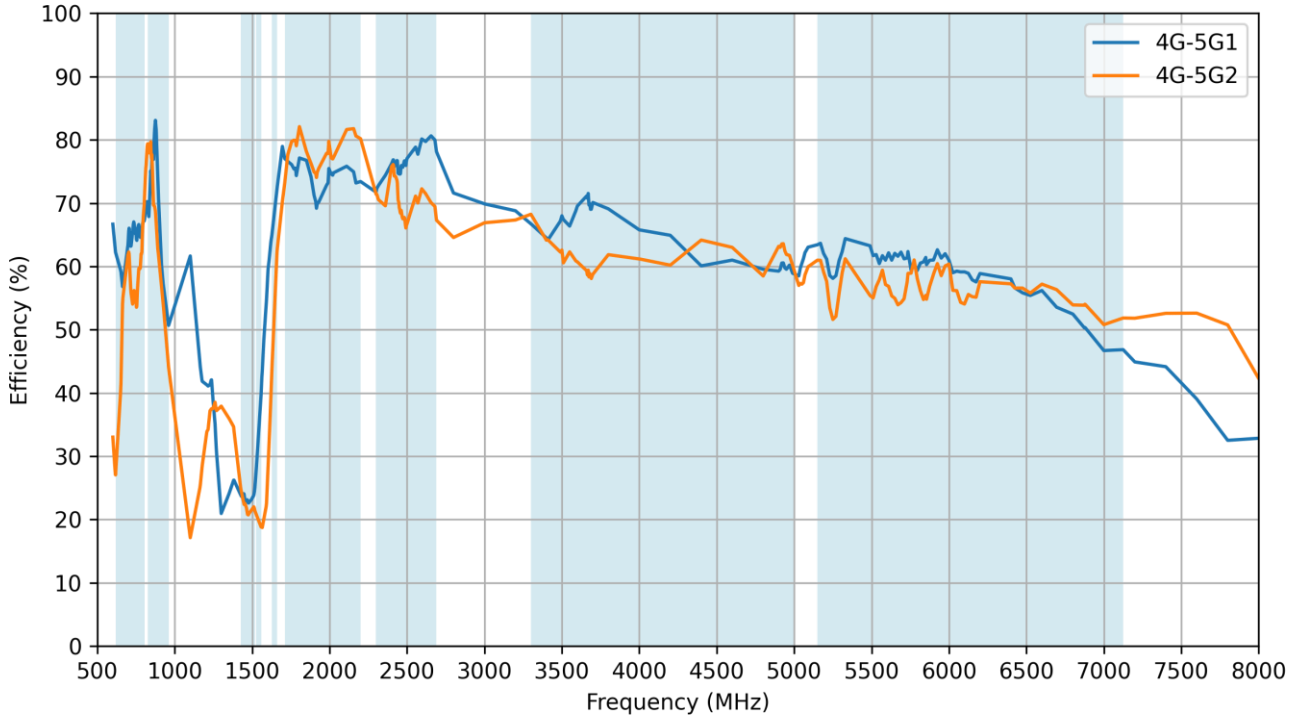
5.7 4G-5G - Return Loss



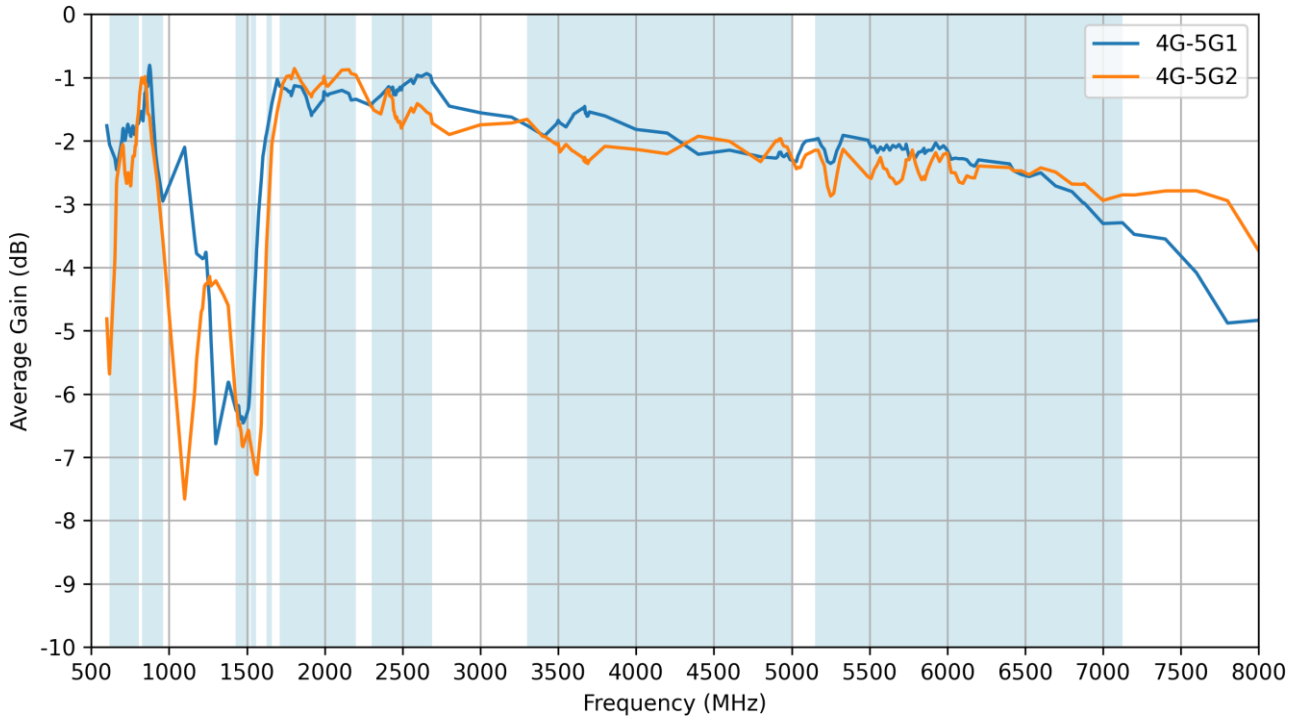
5.8 4G-5G - VSWR



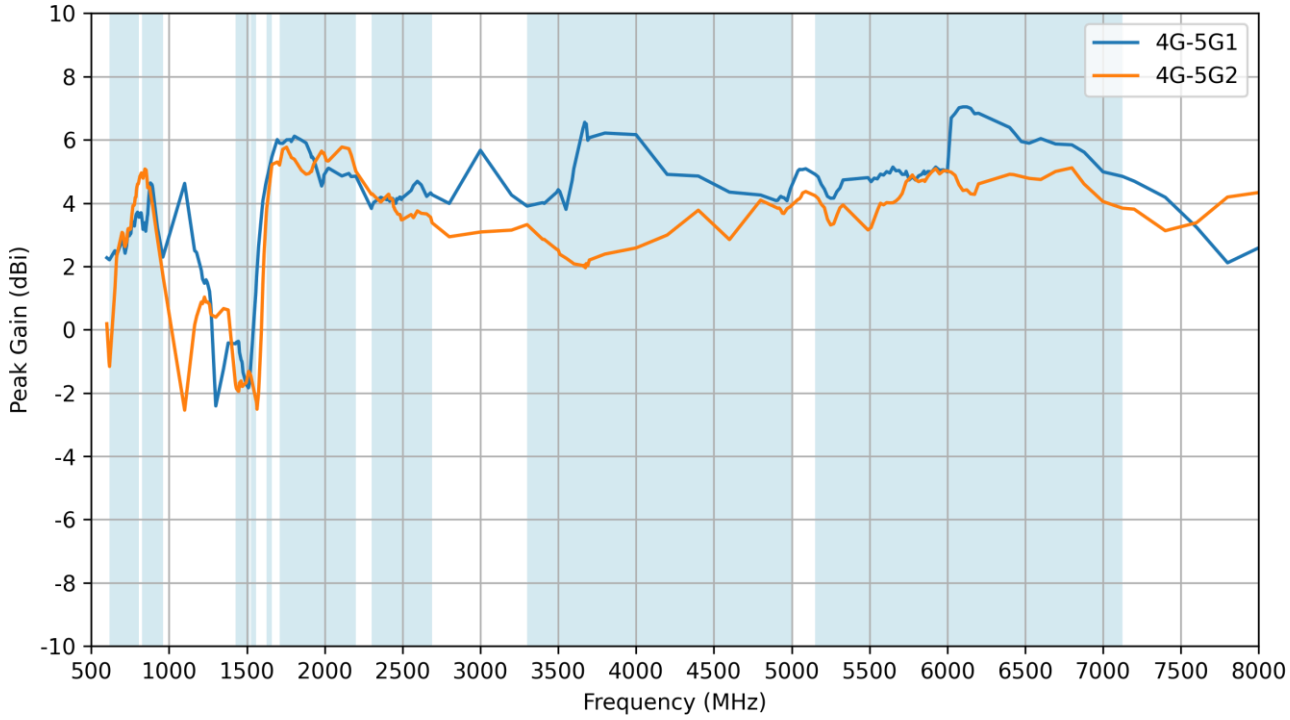
5.9 4G-5G - Efficiency



5.10 4G-5G - Average Gain

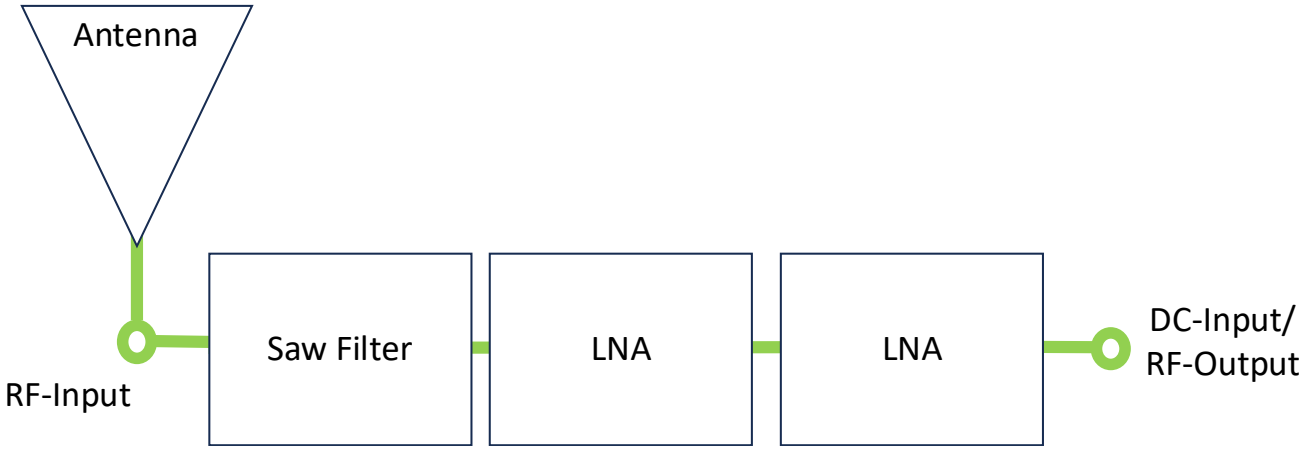


5.11 4G-5G - Peak Gain

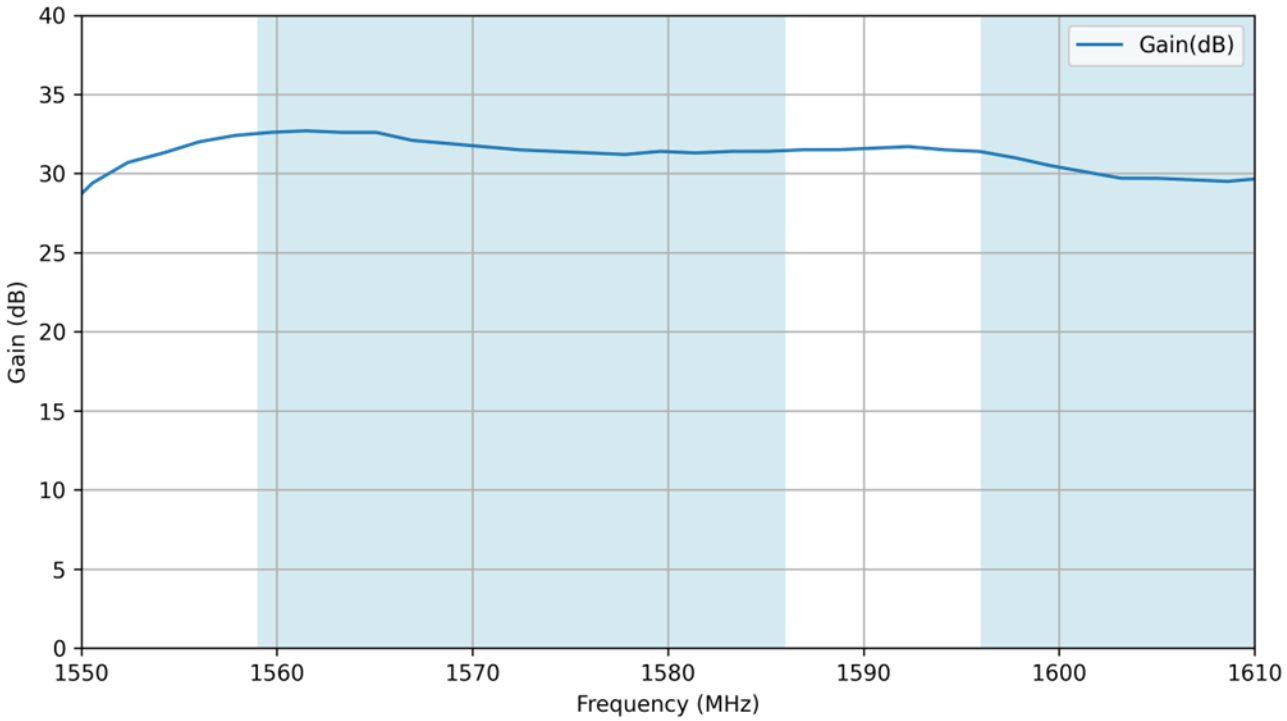


6. LNA Characteristics

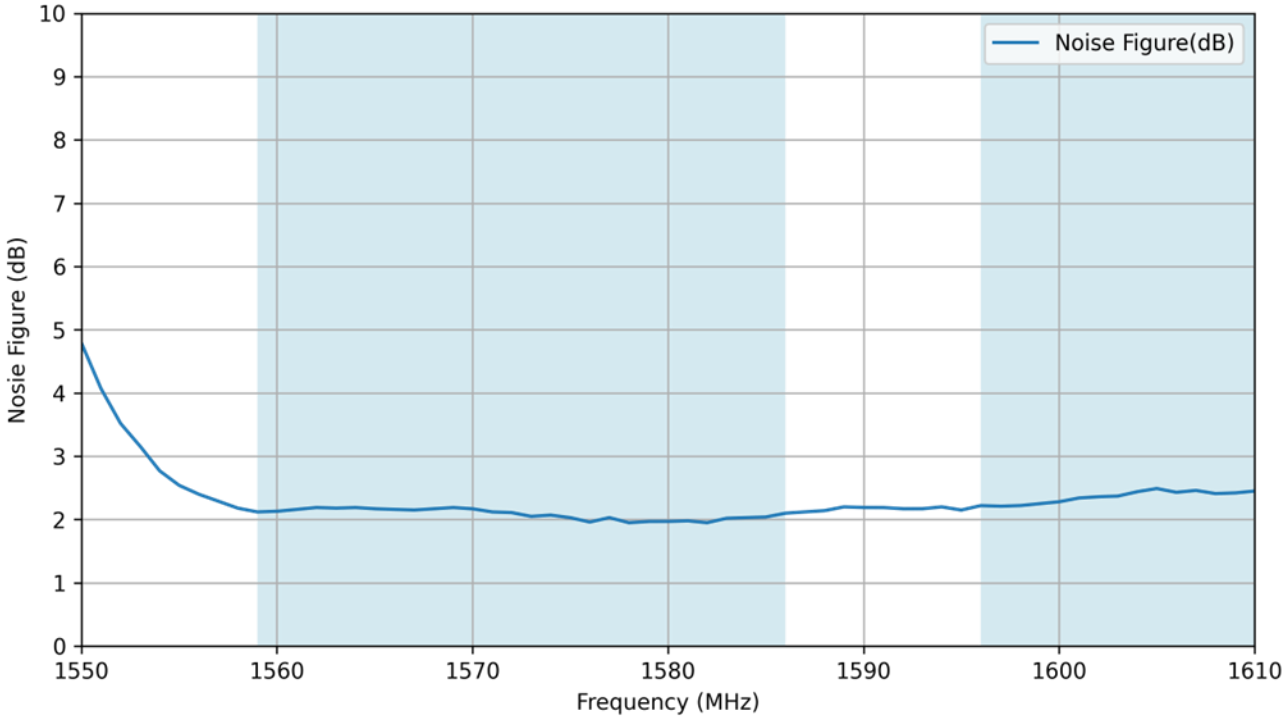
6.1 Block Diagram



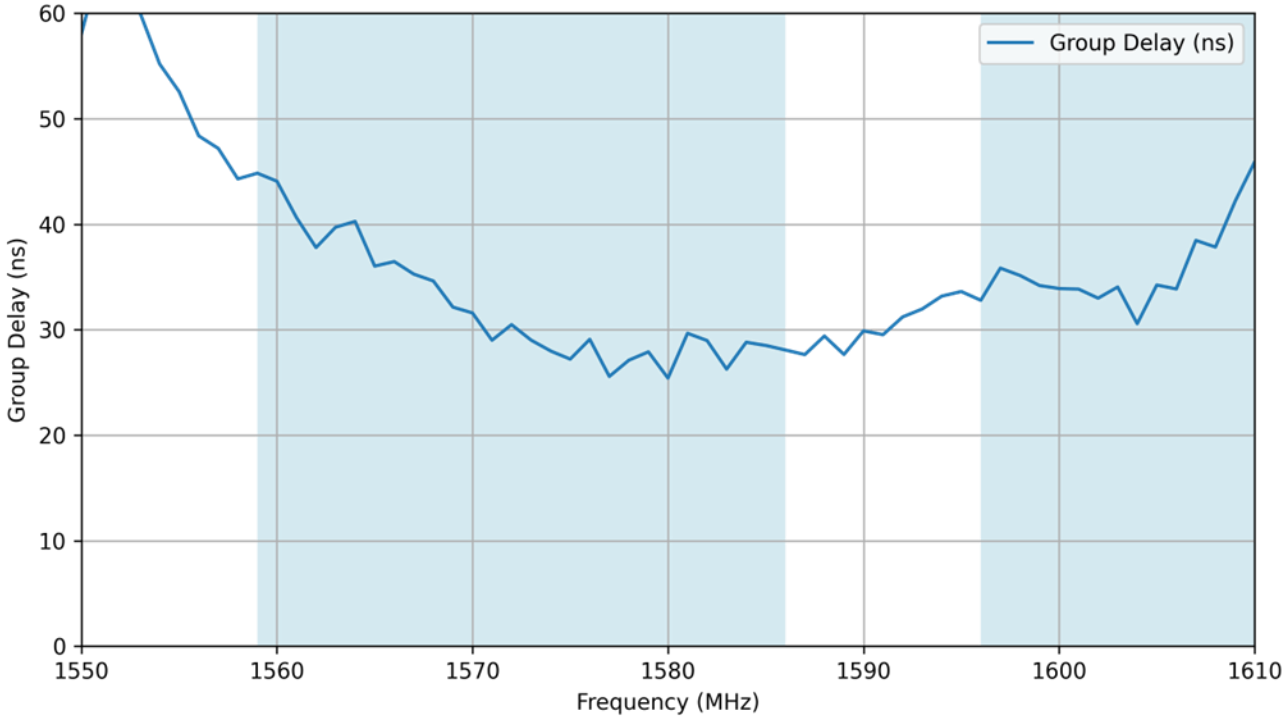
6.2 Gain



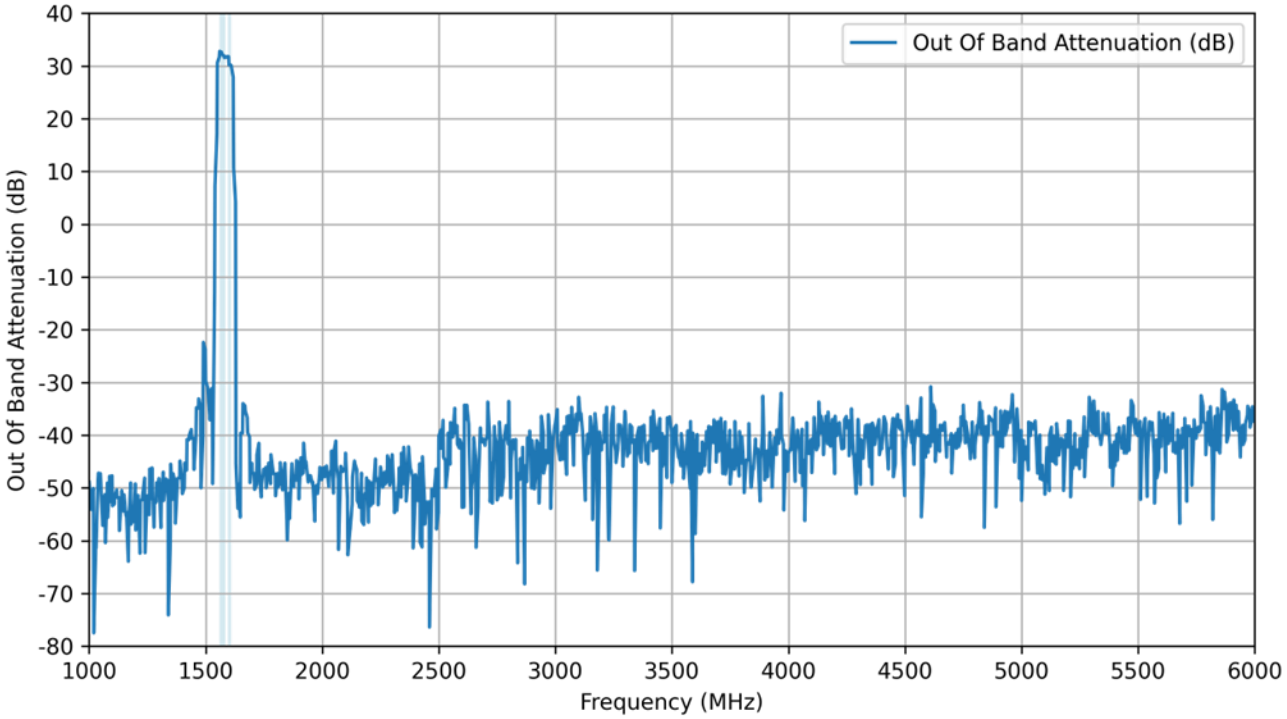
6.3 Noise Figure



6.4 Group Delay

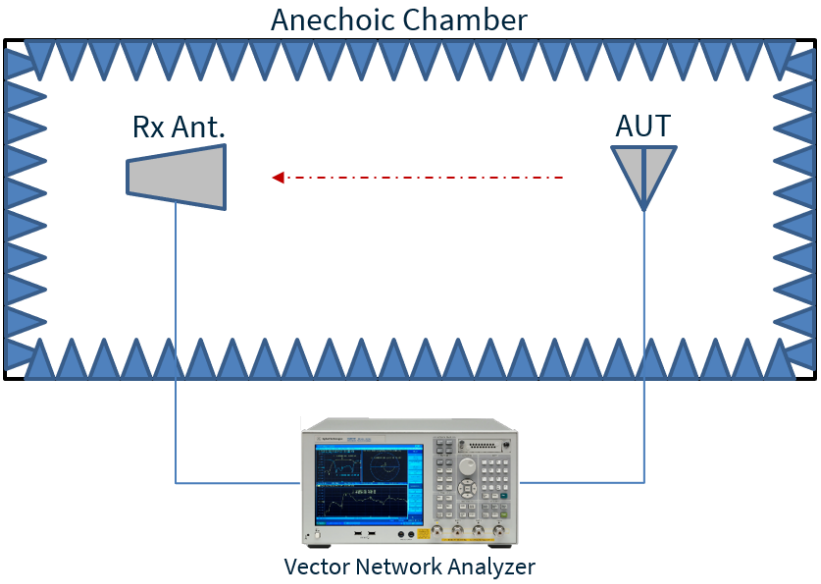


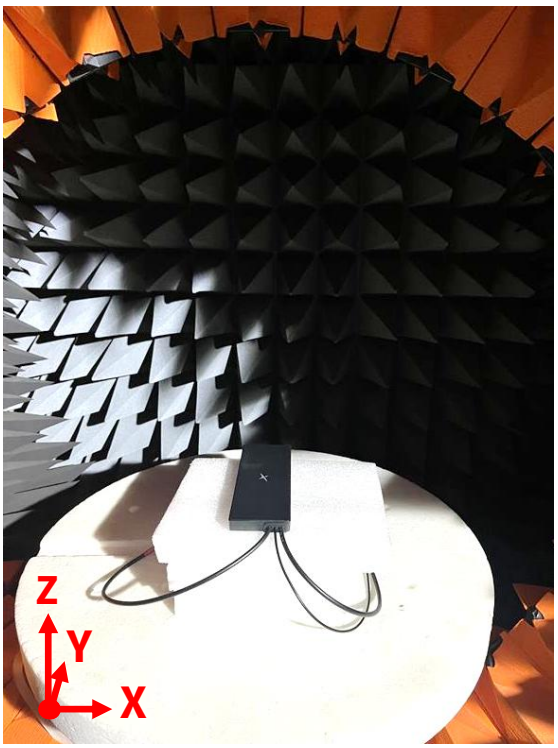
6.5 Out Of Band Rejection



7. Radiation Patterns

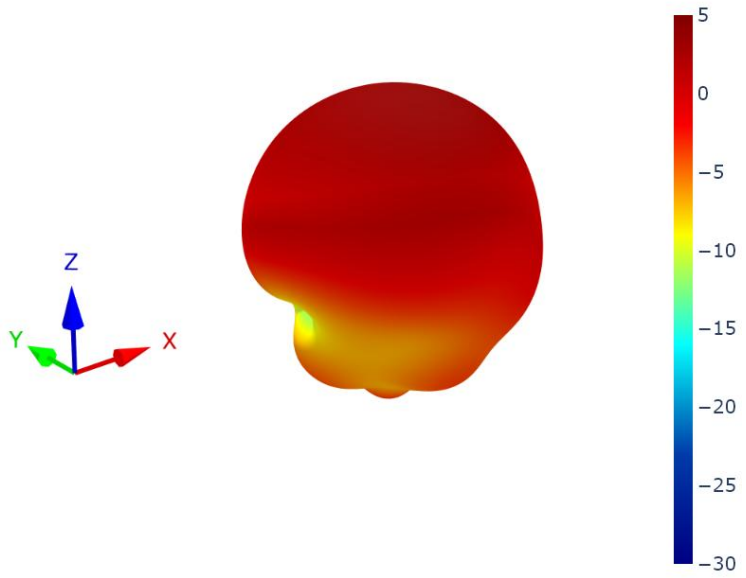
7.1 Test Setup

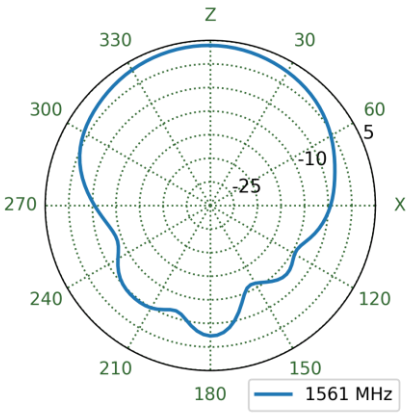
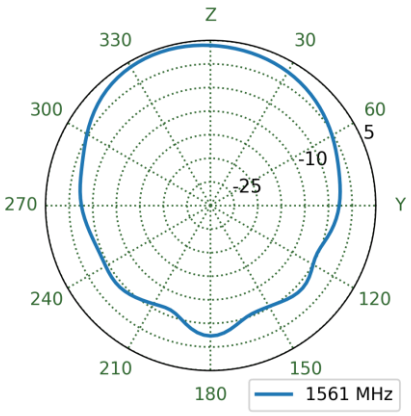
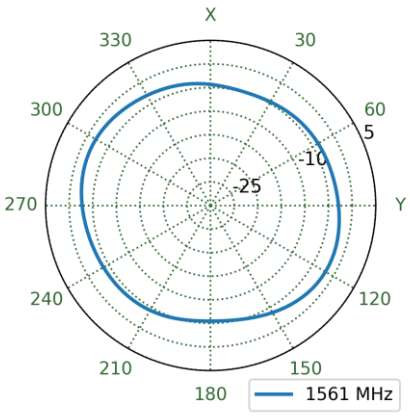




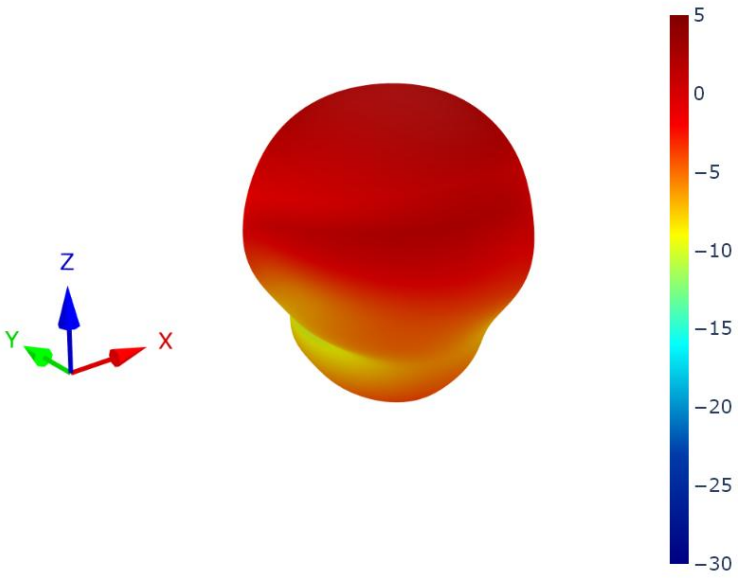
Chamber Test Set-up

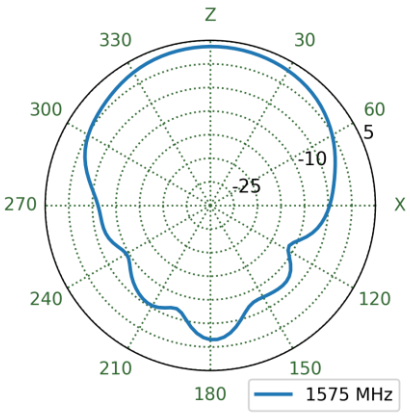
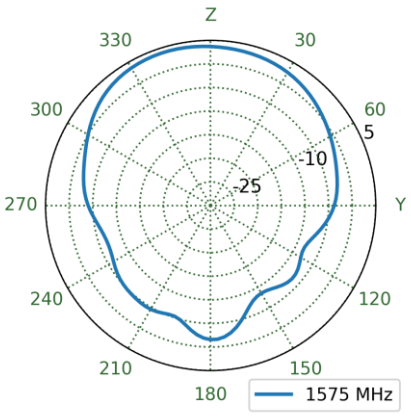
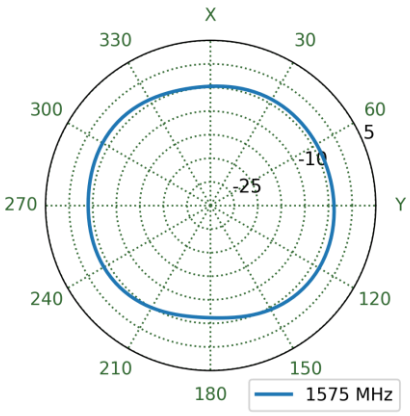
7.2 GNSS Patterns at 1561 MHz



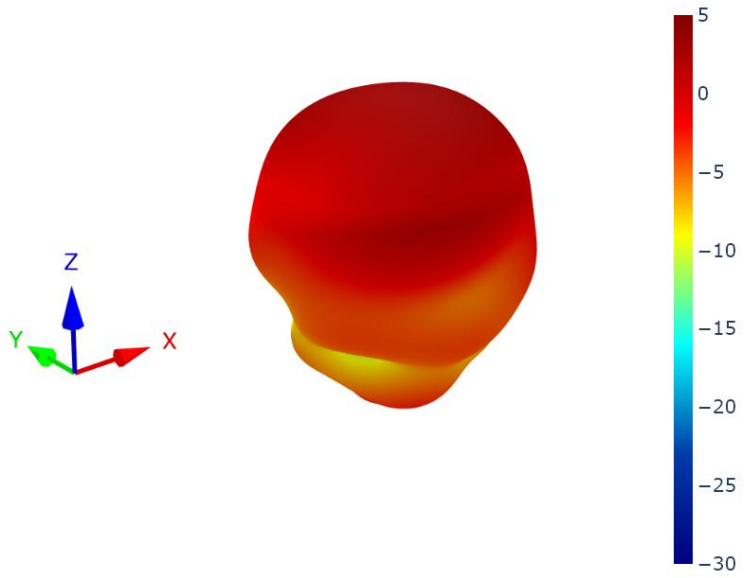
XZ Plane	YZ Plane	XY Plane
		

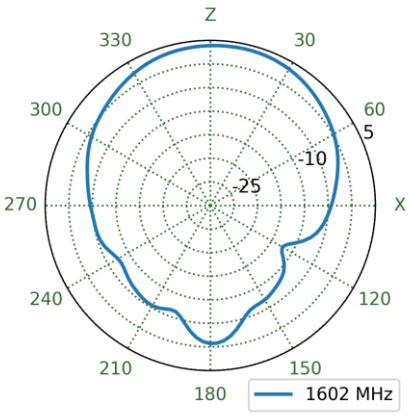
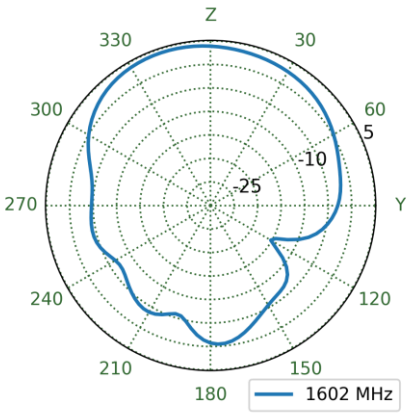
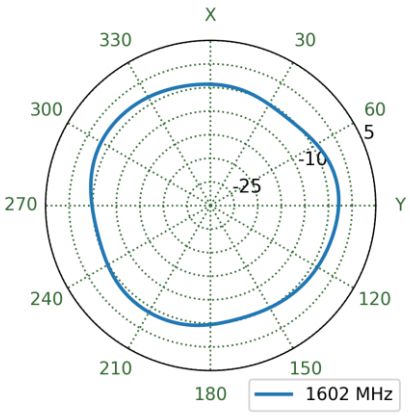
7.3 GNSS Patterns at 1575 MHz



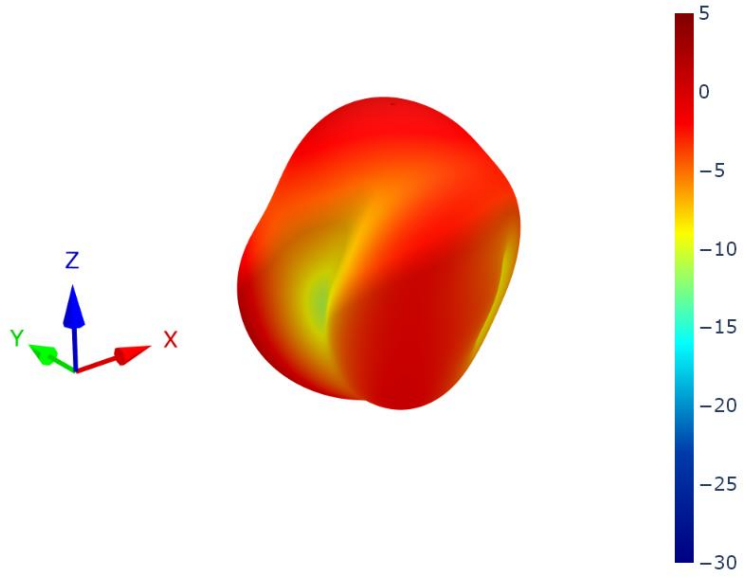
XZ Plane	YZ Plane	XY Plane
		

7.4 GNSS Patterns at 1602 MHz

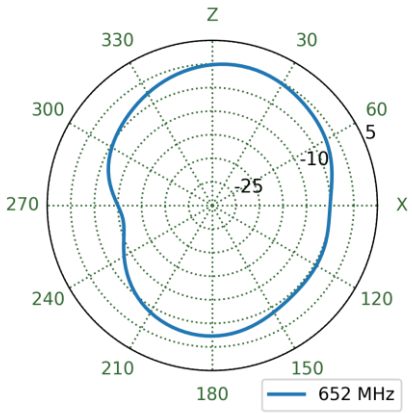


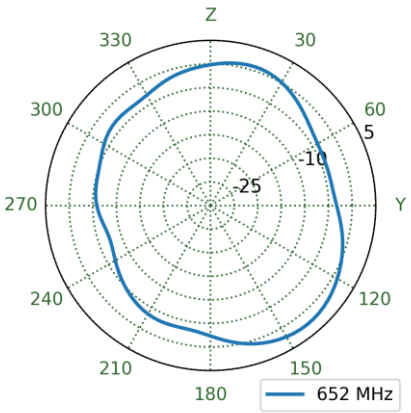
XZ Plane	YZ Plane	XY Plane
		

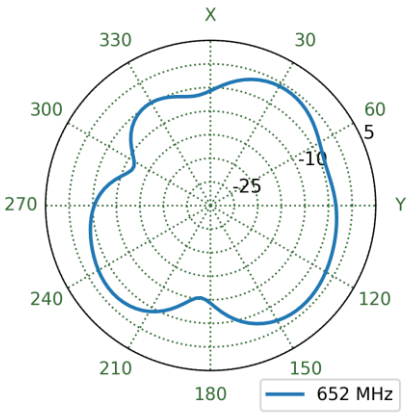
7.5 4G-5G1 Patterns at 652 MHz



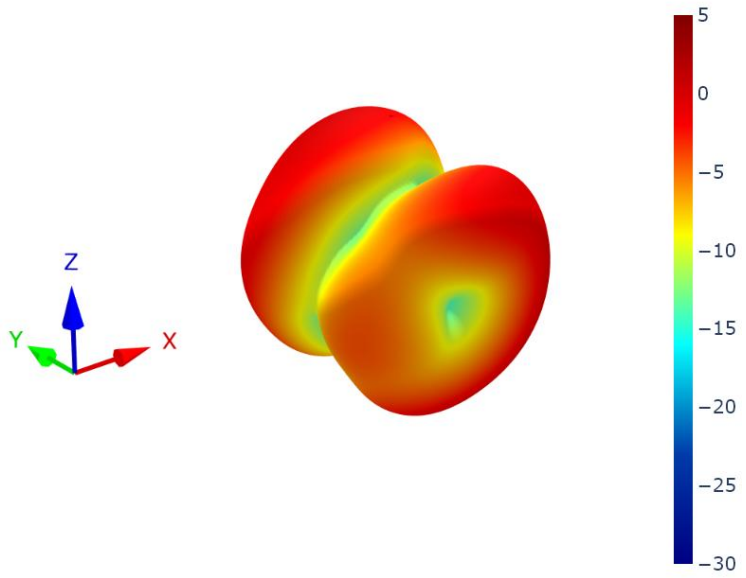
XZ Plane	YZ Plane	XY Plane

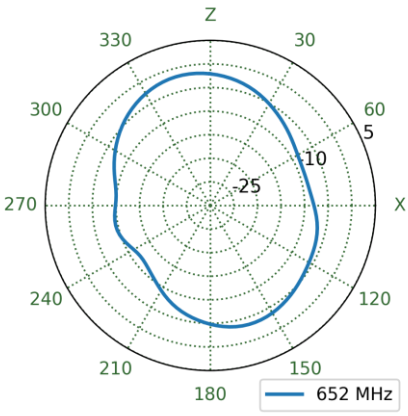
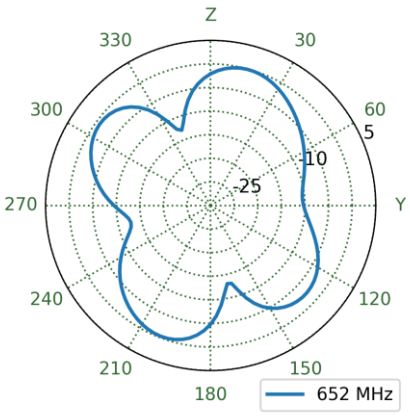
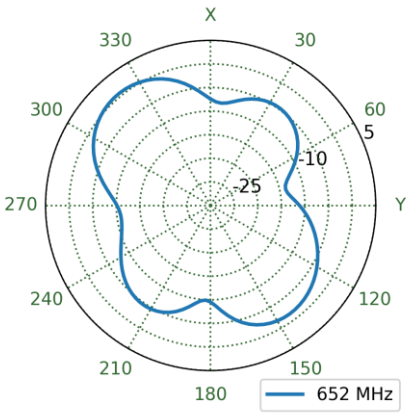




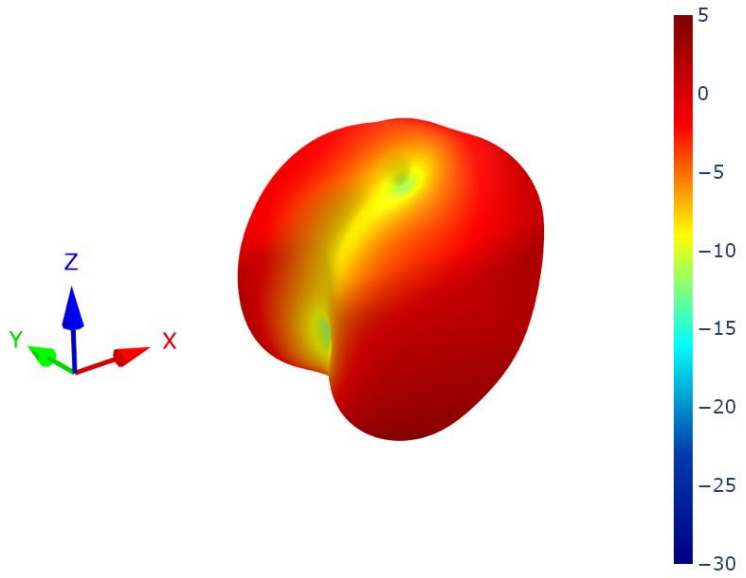


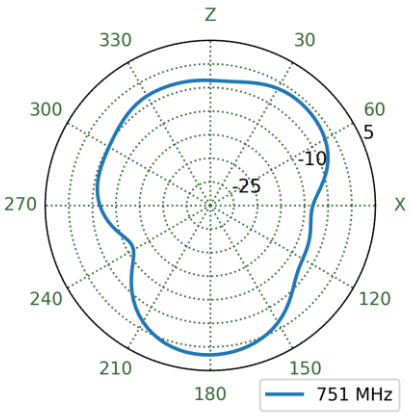
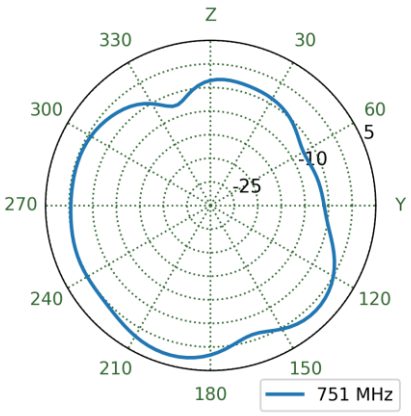
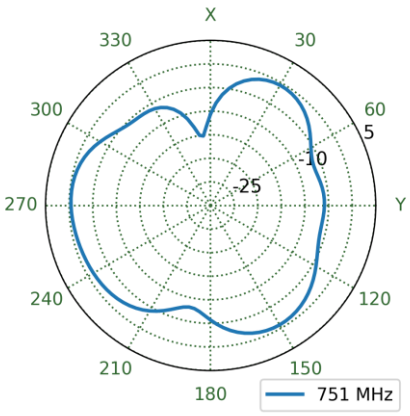
7.6 4G-5G2 Patterns at 652 MHz



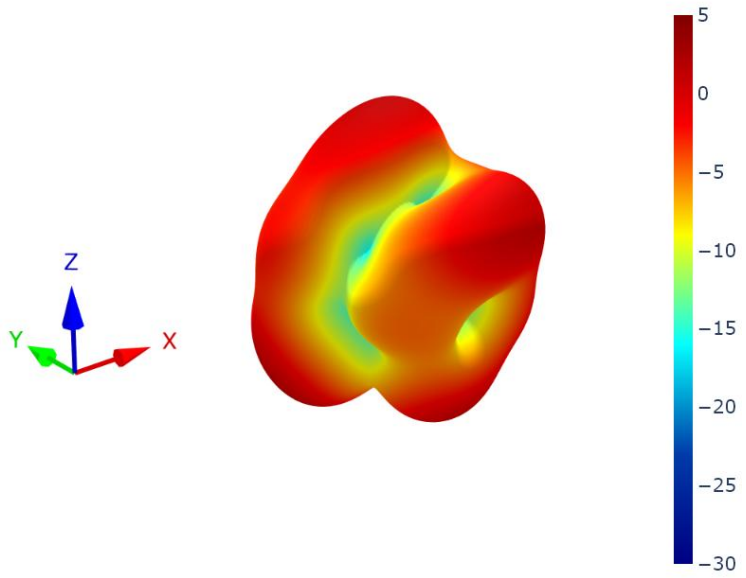
XZ Plane	YZ Plane	XY Plane
		

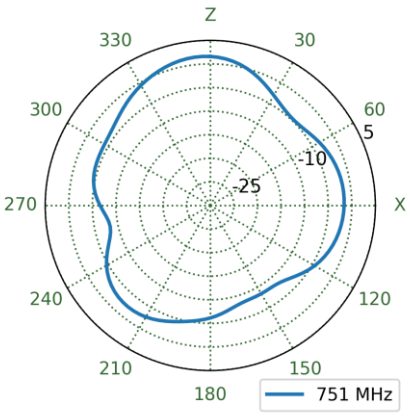
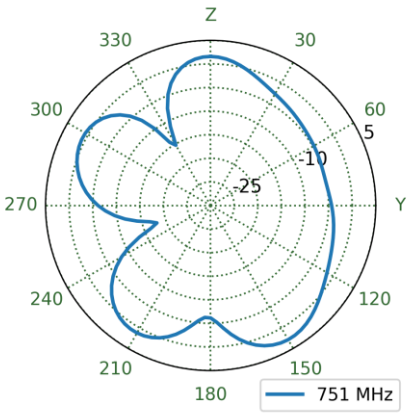
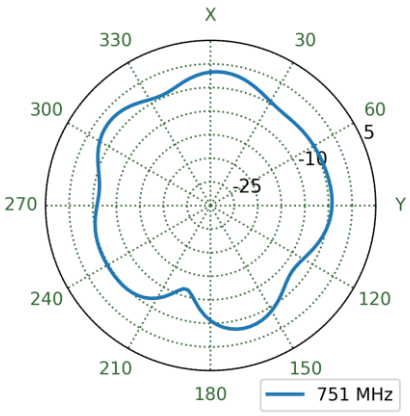
7.7 4G-5G1 Patterns at 751 MHz



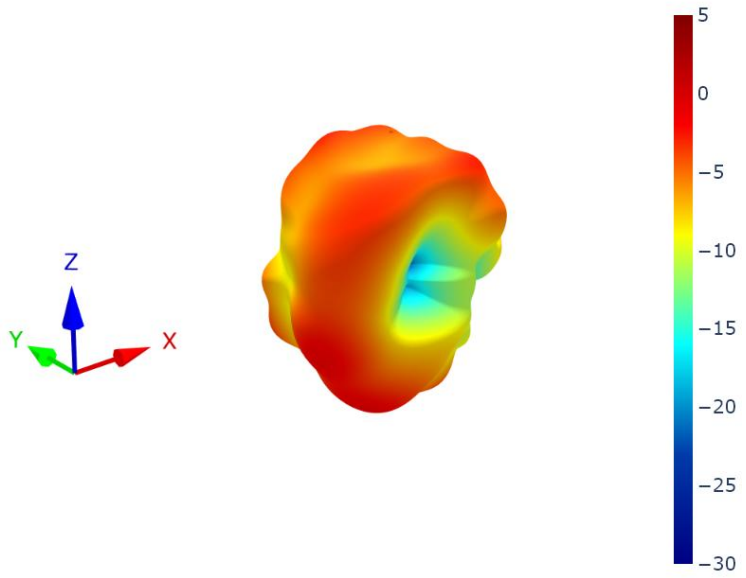
XZ Plane	YZ Plane	XY Plane
		

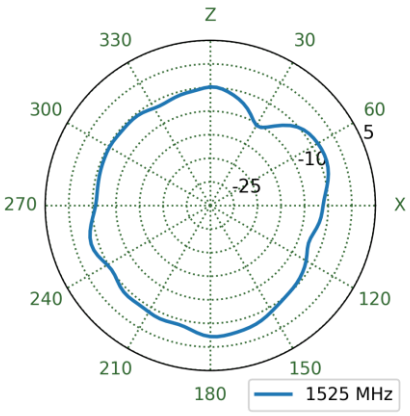
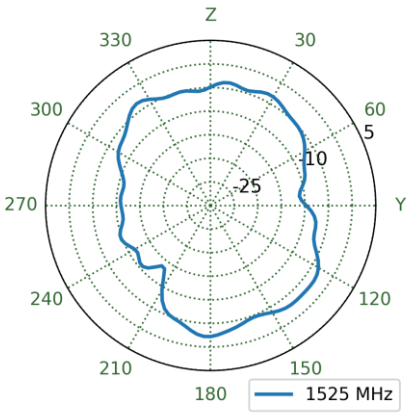
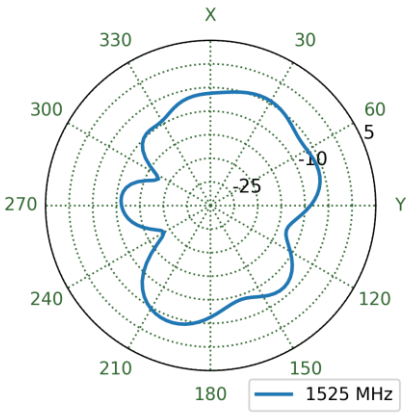
7.8 4G-5G2 Patterns at 751 MHz



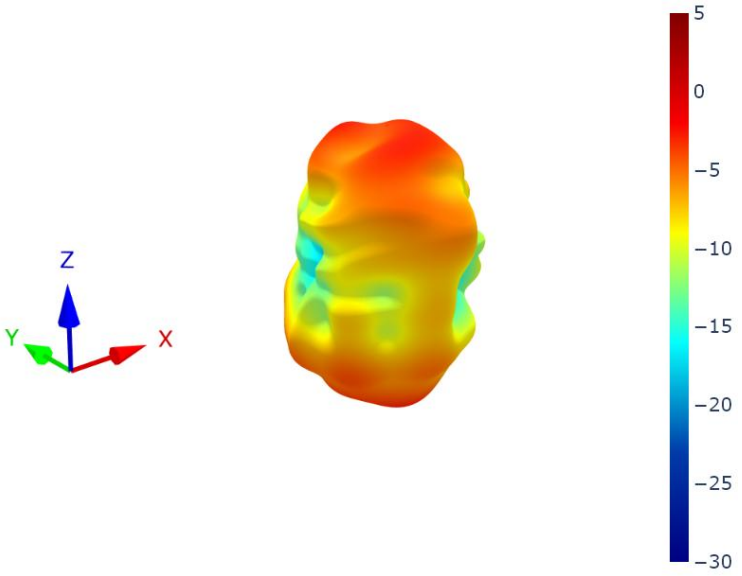
XZ Plane	YZ Plane	XY Plane
		

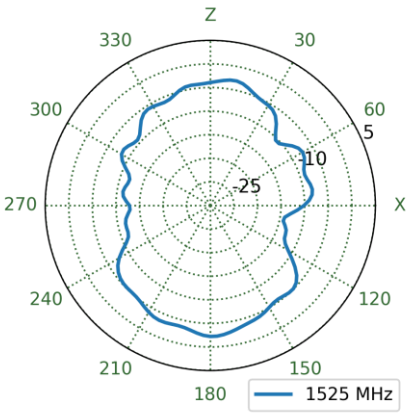
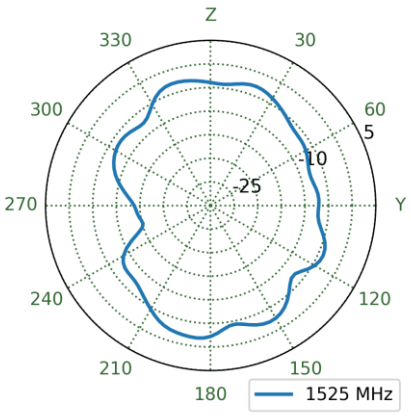
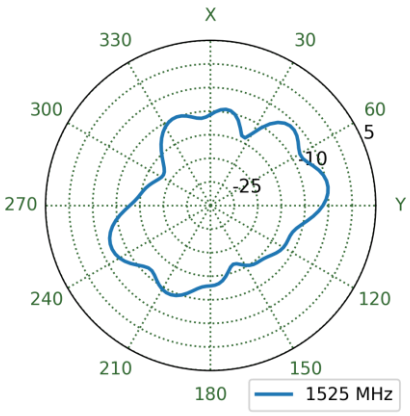
7.9 4G-5G1 Patterns at 1525 MHz



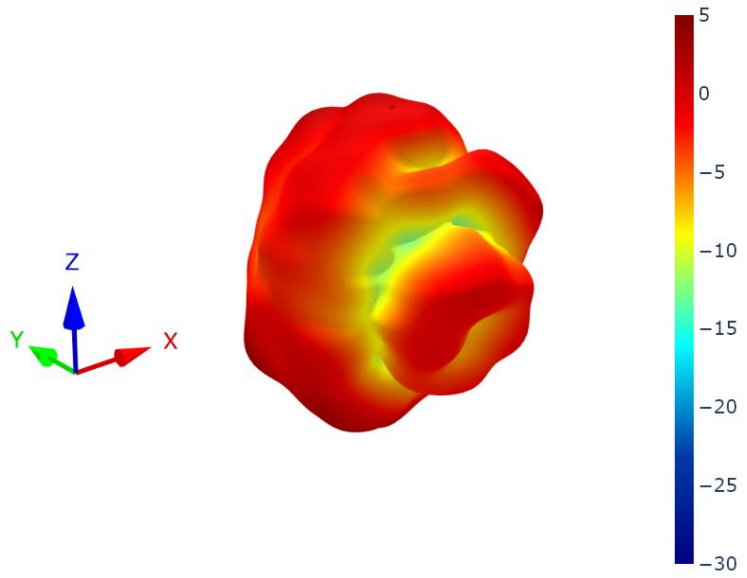
XZ Plane	YZ Plane	XY Plane
		

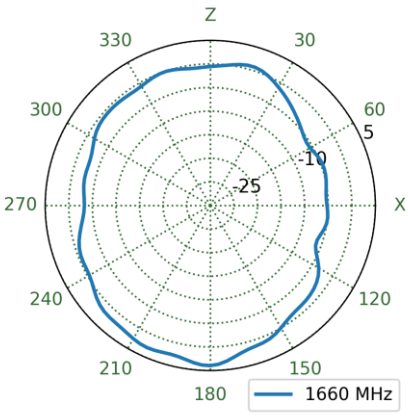
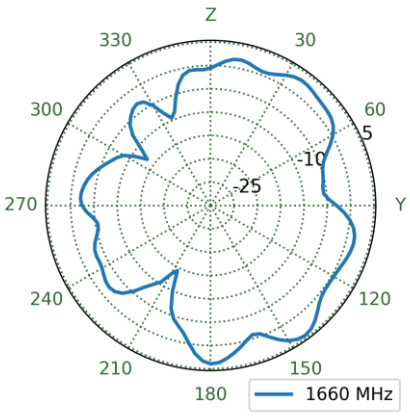
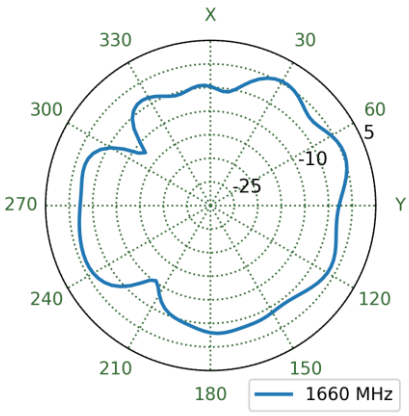
7.10 4G-5G2 Patterns at 1525 MHz



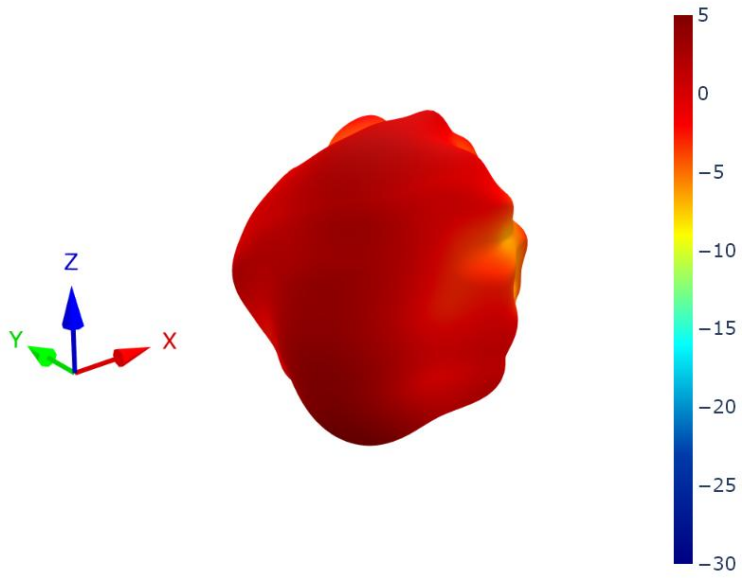
XZ Plane	YZ Plane	XY Plane
		

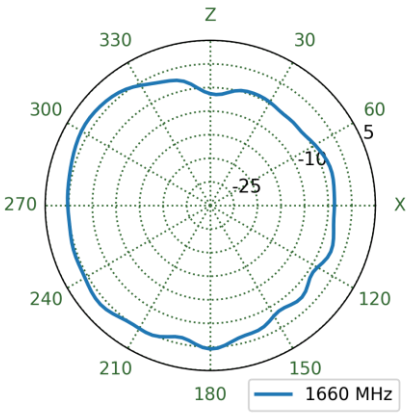
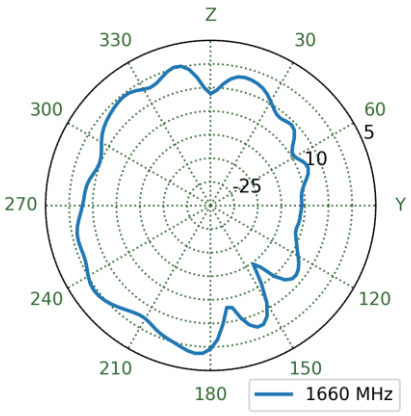
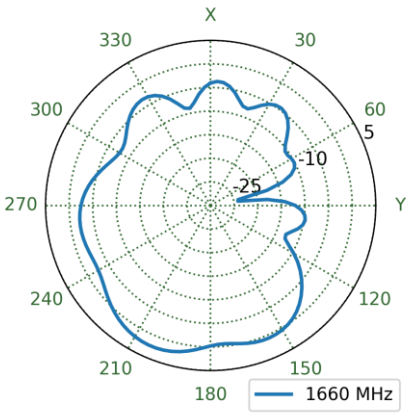
7.11 4G-5G1 Patterns at 1660 MHz



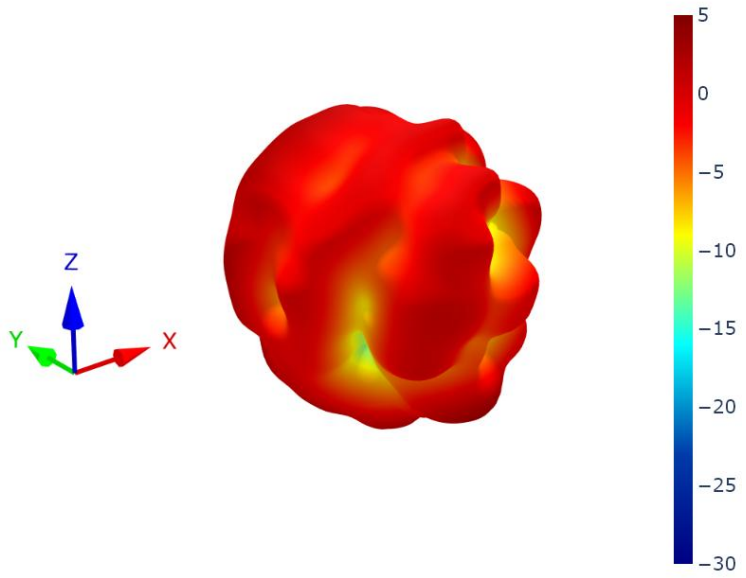
XZ Plane	YZ Plane	XY Plane
		

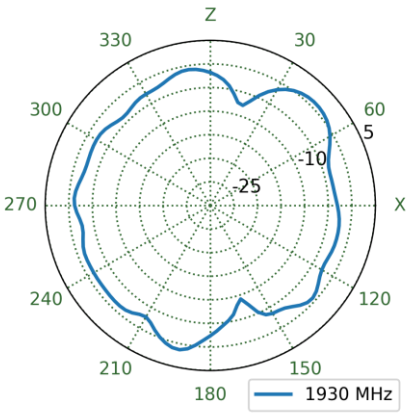
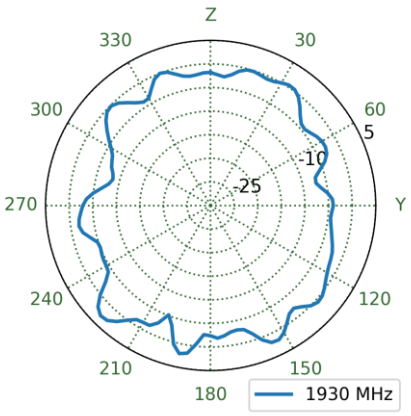
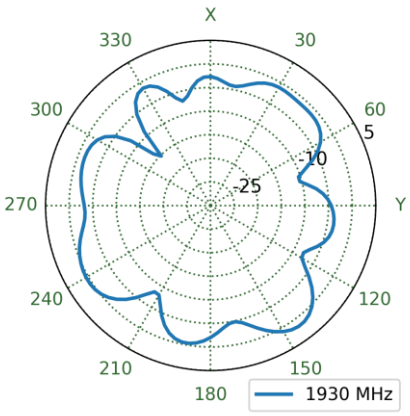
7.12 4G-5G2 Patterns at 1660 MHz



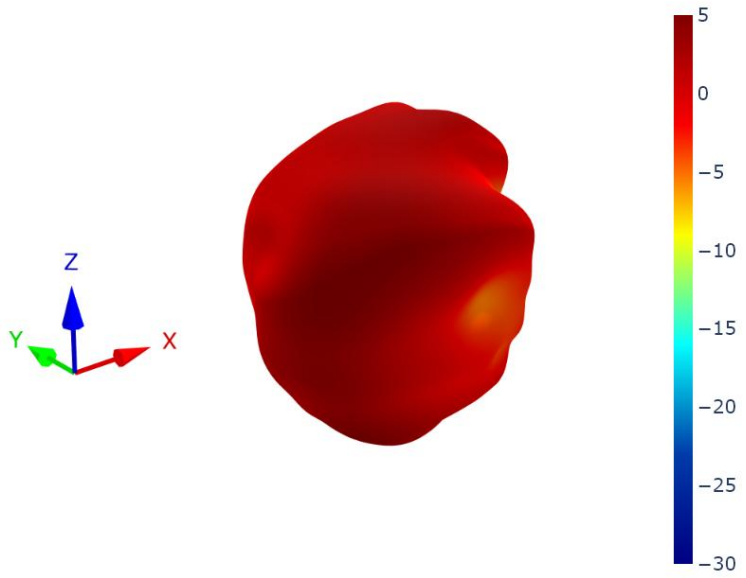
XZ Plane	YZ Plane	XY Plane
		

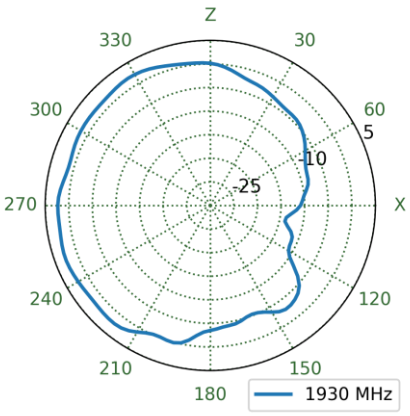
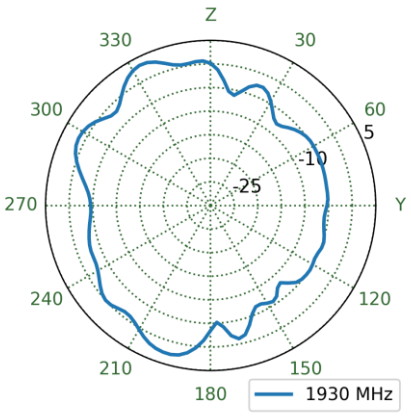
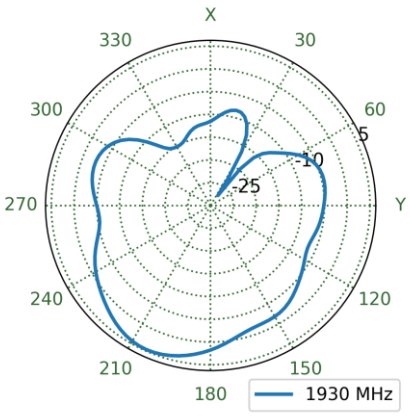
7.13 4G-5G1 Patterns at 1930 MHz



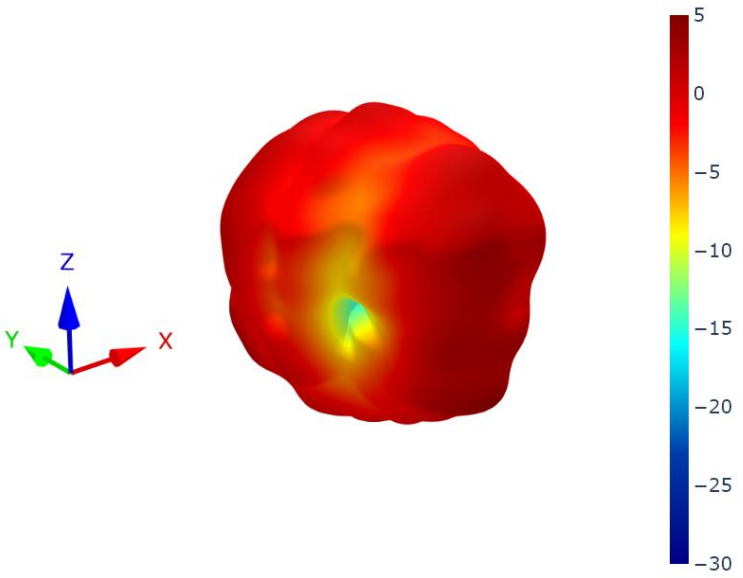
XZ Plane	YZ Plane	XY Plane
		

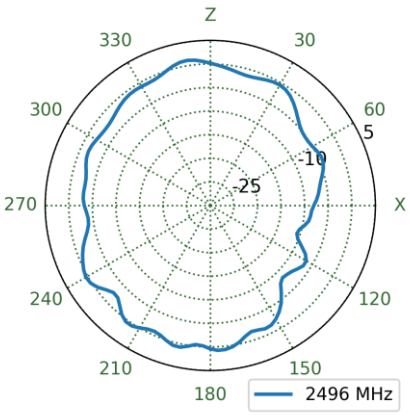
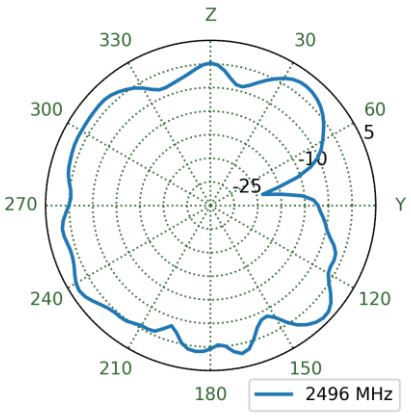
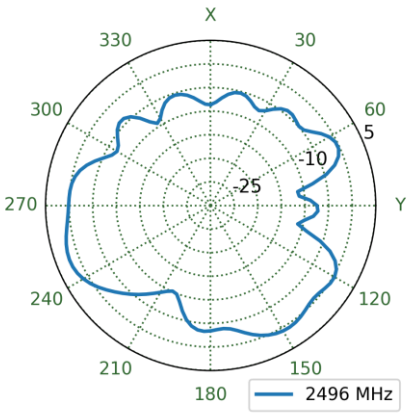
7.14 4G-5G2 Patterns at 1930 MHz



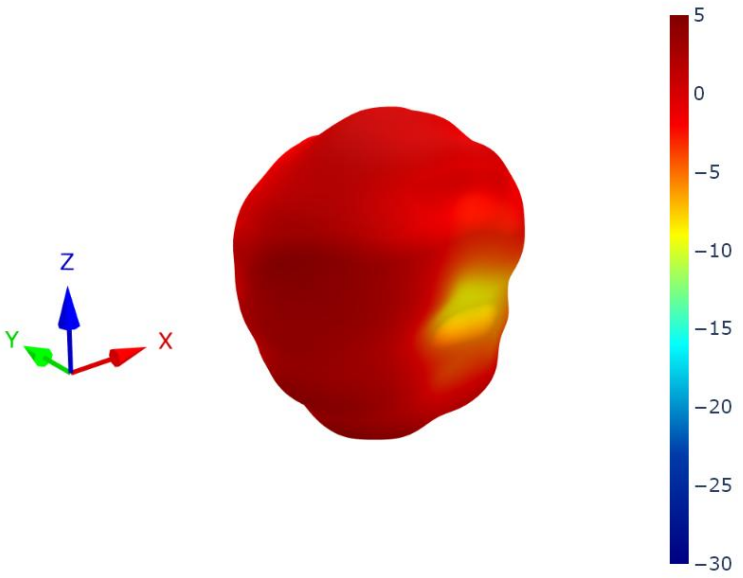
XZ Plane	YZ Plane	XY Plane
		

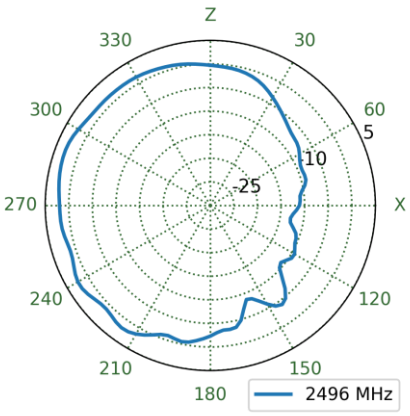
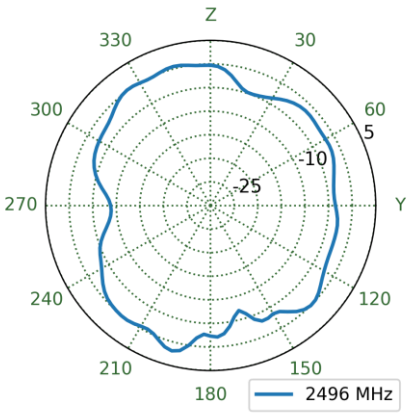
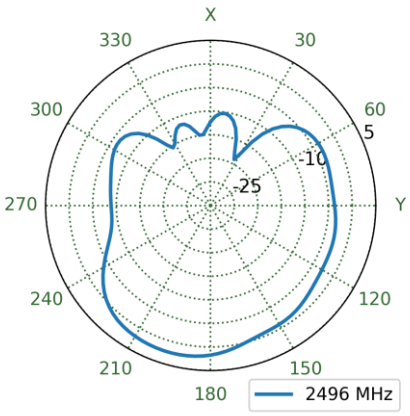
7.15 4G-5G1 Patterns at 2496 MHz



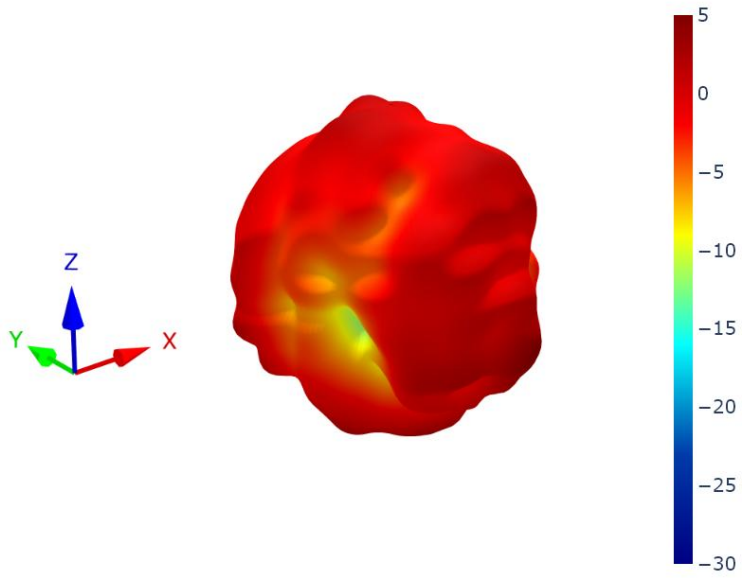
XZ Plane	YZ Plane	XY Plane
		

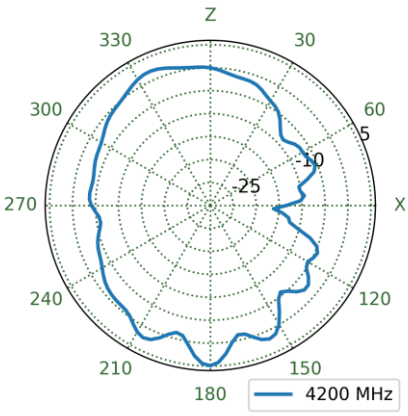
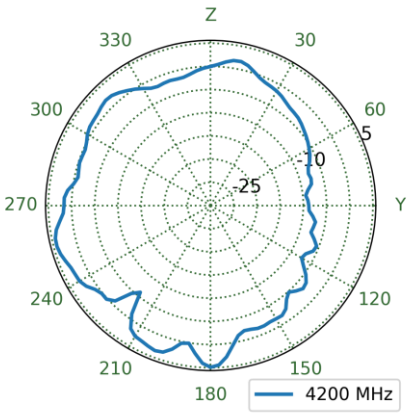
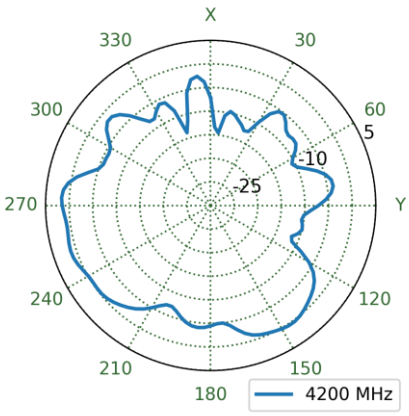
7.16 4G-5G2 Patterns at 2496 MHz



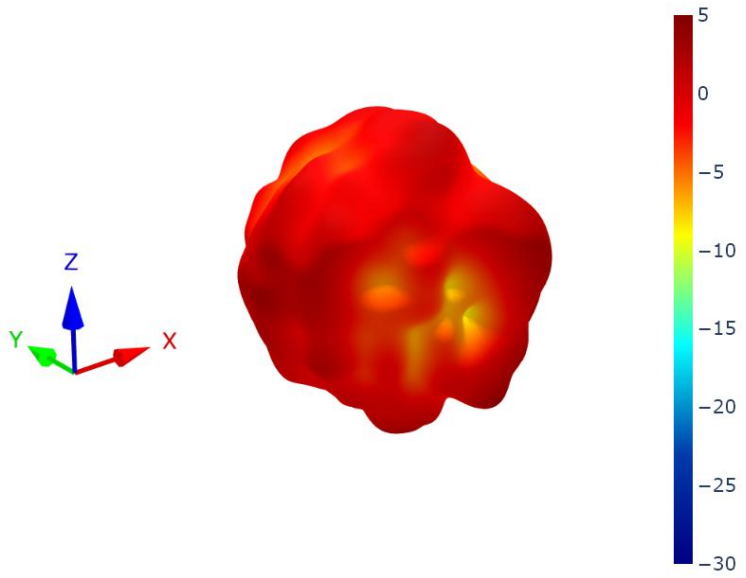
XZ Plane	YZ Plane	XY Plane
		

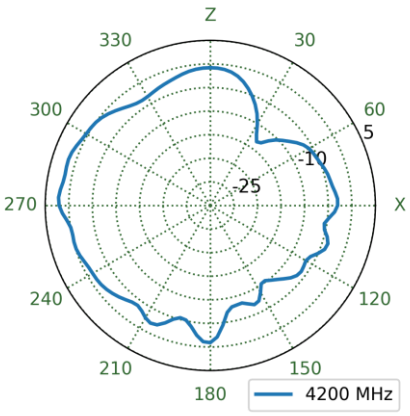
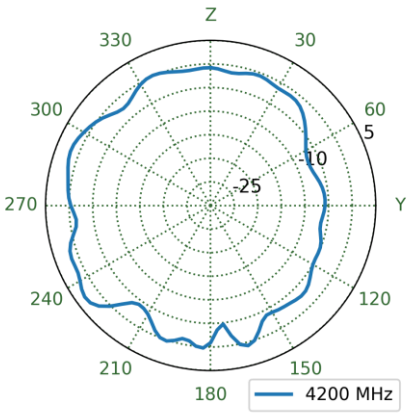
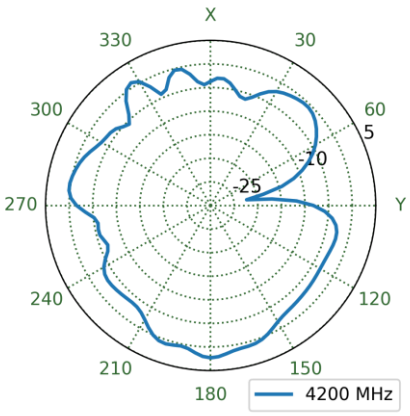
7.17 4G-5G1 Patterns at 4200 MHz



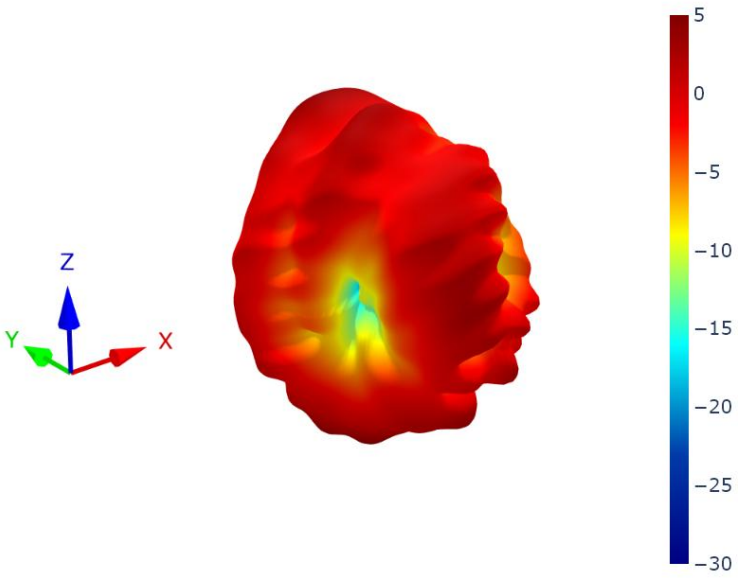
XZ Plane	YZ Plane	XY Plane
		

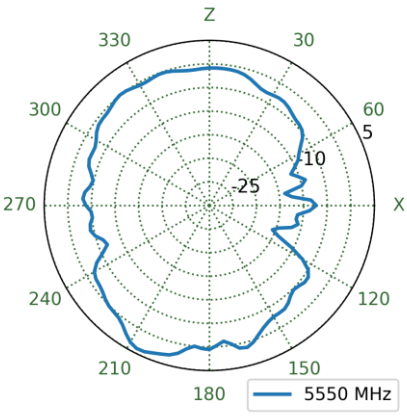
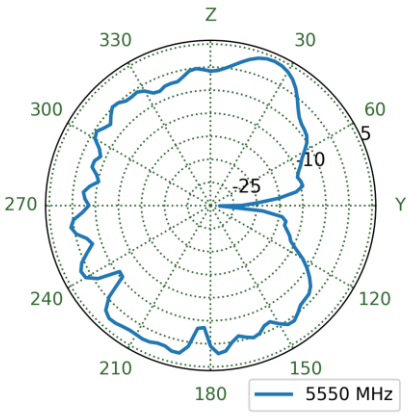
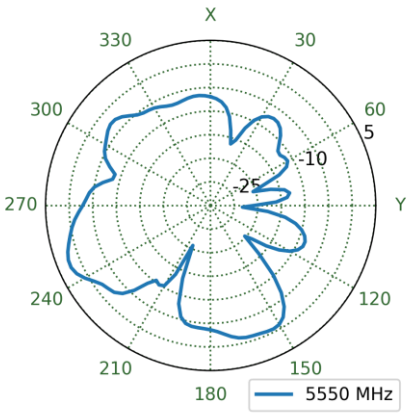
7.18 4G-5G2 Patterns at 4200 MHz



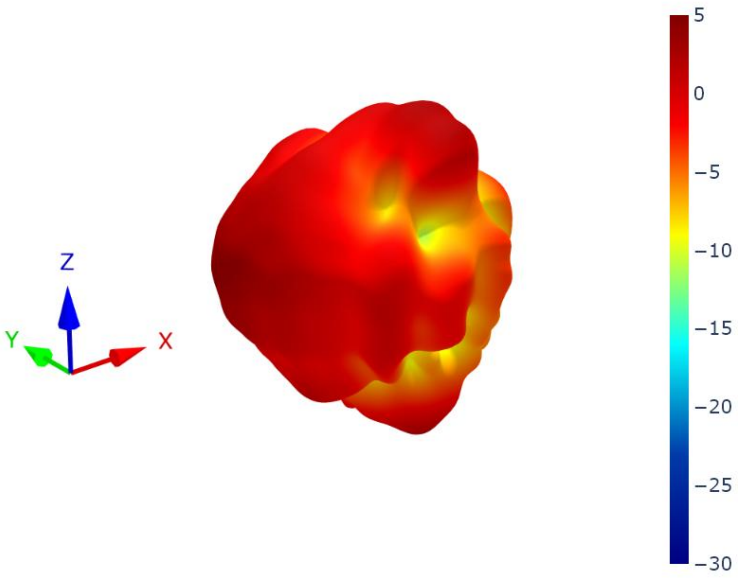
XZ Plane	YZ Plane	XY Plane
		

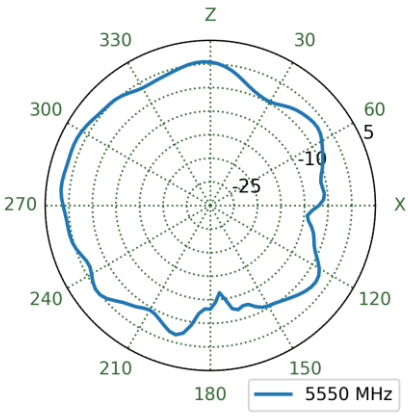
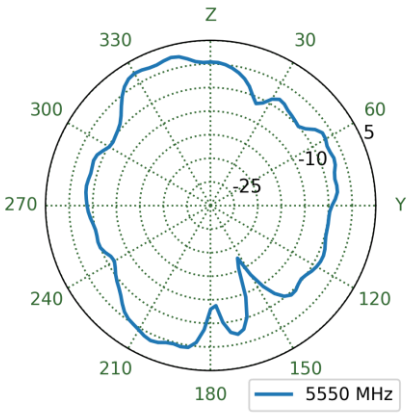
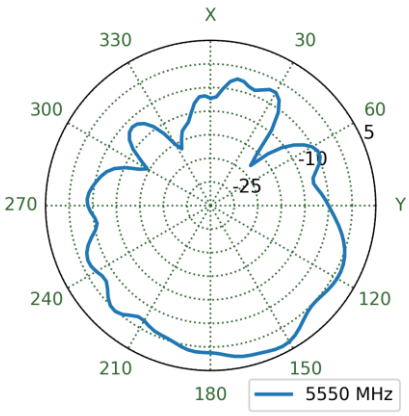
7.19 4G-5G1 Patterns at 5550 MHz



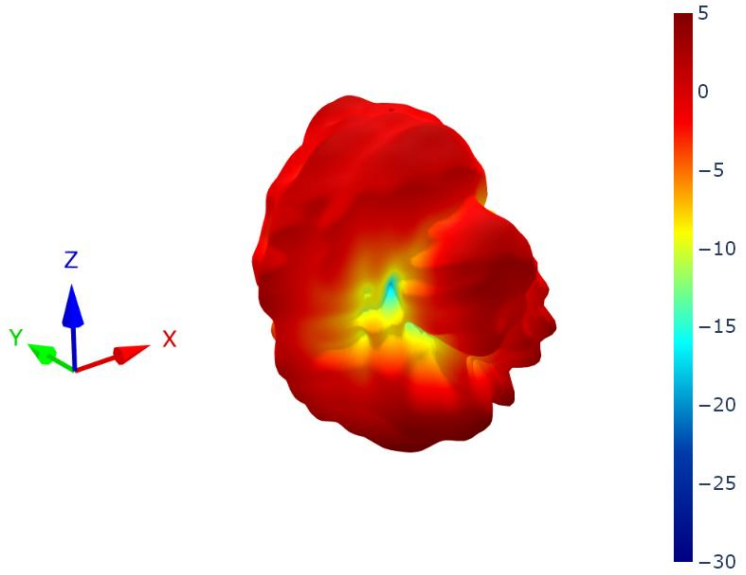
XZ Plane	YZ Plane	XY Plane
		

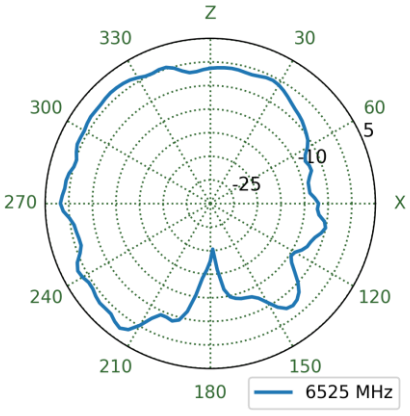
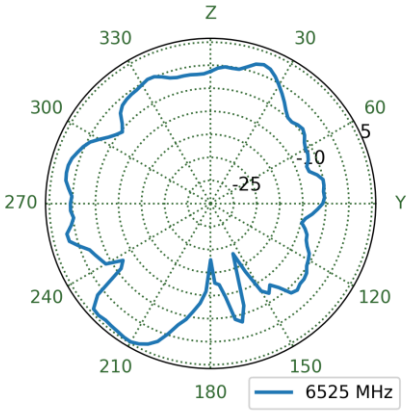
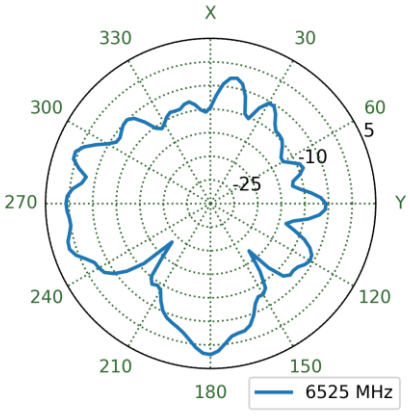
7.20 4G-5G2 Patterns at 5550 MHz



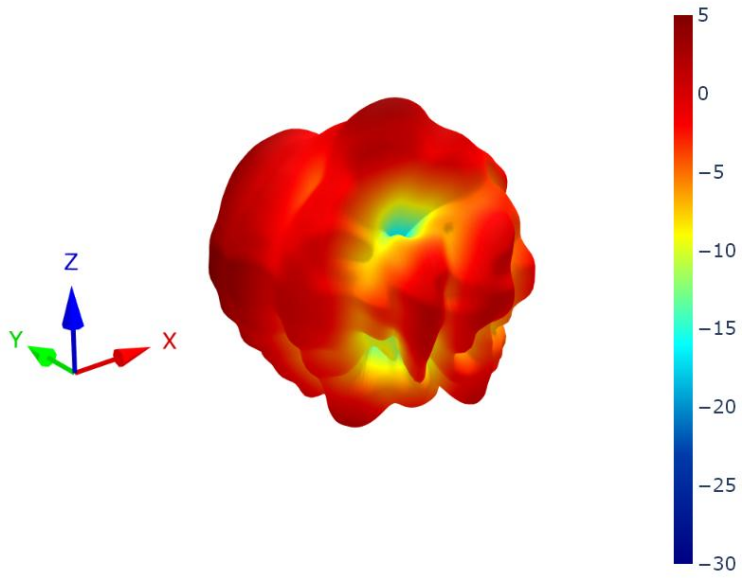
XZ Plane	YZ Plane	XY Plane
		

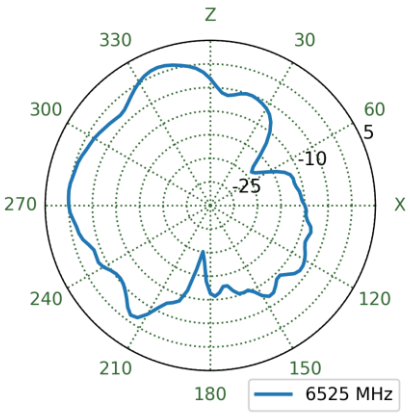
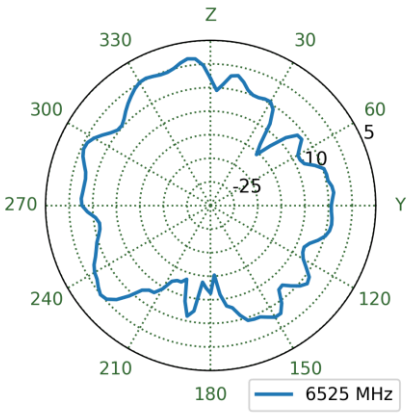
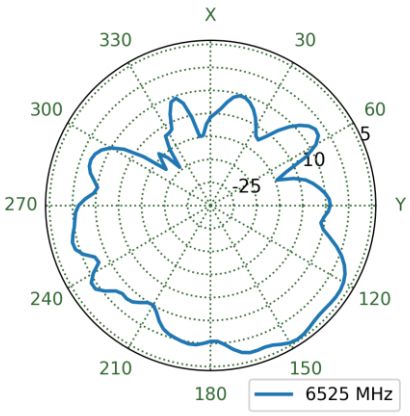
7.21 4G-5G1 Patterns at 6525 MHz



XZ Plane	YZ Plane	XY Plane
		

7.22 4G-5G2 Patterns at 6525 MHz



XZ Plane	YZ Plane	XY Plane
		

Changelog for the datasheet

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