TAOGLAS®

Datasheet

Phoenix II

Part No:
GSA.8835.A.101111

Description:

5G/4G I-Bar Adhesive Mount Fully Waterproof Rated
Low Profile Wideband Antenna

Features:

Wideband Cellular Adhesive Mount Antenna
600-6000MHz Wideband Operation
Covers all Global 5G/4G bands with 3G/2G Fallback
Covers NTN Bands B23, n256 and n255
Robust, IP68 Rated Enclosure
Dimensions: 105 x 30 x 7.9mm
Connector: SMA Male Straight
Cable: 1m of RG-174
RoHS & REACH Compliant

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ISO 9001:2015
Certified

Taiwan
ISO 9001:2015
Certified

1. Introduction

The Taoglas Phoenix II GSA.8835 is a fully waterproof 5G/4G external adhesive mount antenna designed for use with all cellular IoT devices, modules and routers worldwide, including global 5G and NTN bands. The GSA.8835 has been engineered with a robust, IP68 waterproof rated enclosure and can be used in demanding environments. With extended wideband cellular frequency coverage ranging from 600-6000MHz, it is ready for use at all cellular 5G/4G LTE bands with fallback to 3G/2G. With coverage at bands n256 and n255, the GSA.8835 is also perfect for future proofing your device for use with 5G Non-Terrestrial Networks.

Typical Applications Include:

- Transportation
- Agriculture
- Autonomous Vehicles/Robotics
- Devices operating on Non-Terrestrial Networks (NTN)

Providing excellent efficiency and gain, this low profile (7.9mm) antenna is ideal in areas where space is at a premium. The GSA.8835 can be mounted on glass or plastic and comes with a strong 3M 1600T adhesive pre-adhered to the underside of the antenna with a peel off backing for ease of installation.

The GSA.8835.A.101111 comes with 1m RG-174 cable and SMA(M) connector but as per all Taoglas external antennas, the cable length and connector type are fully customizable. For more information or installation instructions, please contact your regional Taoglas Customer Support Team.

2. Specifications

Electrical								
Band	**Frequency (MHz)**	**Efficiency (%)**	**Average Gain (dB)**	**Peak Gain (dBi)**	**Impedance**	**Polarization**	**Radiation Pattern**	**Max. input power**
5GNR/4G Band 71	617-698	37.8	-4.22	0.95	50 Ω	Linear	Omni	2W
4G/3G Band 12,13,14,17,28,29	698-806	52.2	-2.82	2.44				
4G/3G Band 5,8,18,19,20,26,27	824-960	64.1	-1.93	2.59				
5GNR/4G Band 21,32,74,75,76	1427-1518	82.6	-0.83	3.25				
4G/3G Band 1,2,3,4,9,23,25,35,39,66	1710-2200	76.9	-1.14	4.12				
4G/3G Band 7,38,41	2490-2690	65.8	-1.82	3.78				
5GNR/4G Band 22,42,48,77,78	3300-3500	62.9	-2.01	3.79				
5GNR/4G Band 43,48,77,78	3500-4200	39.3	-4.06	3.70				
LTE5200/ Wi-Fi 5800	5150-5925	51.8	-2.86	2.81				

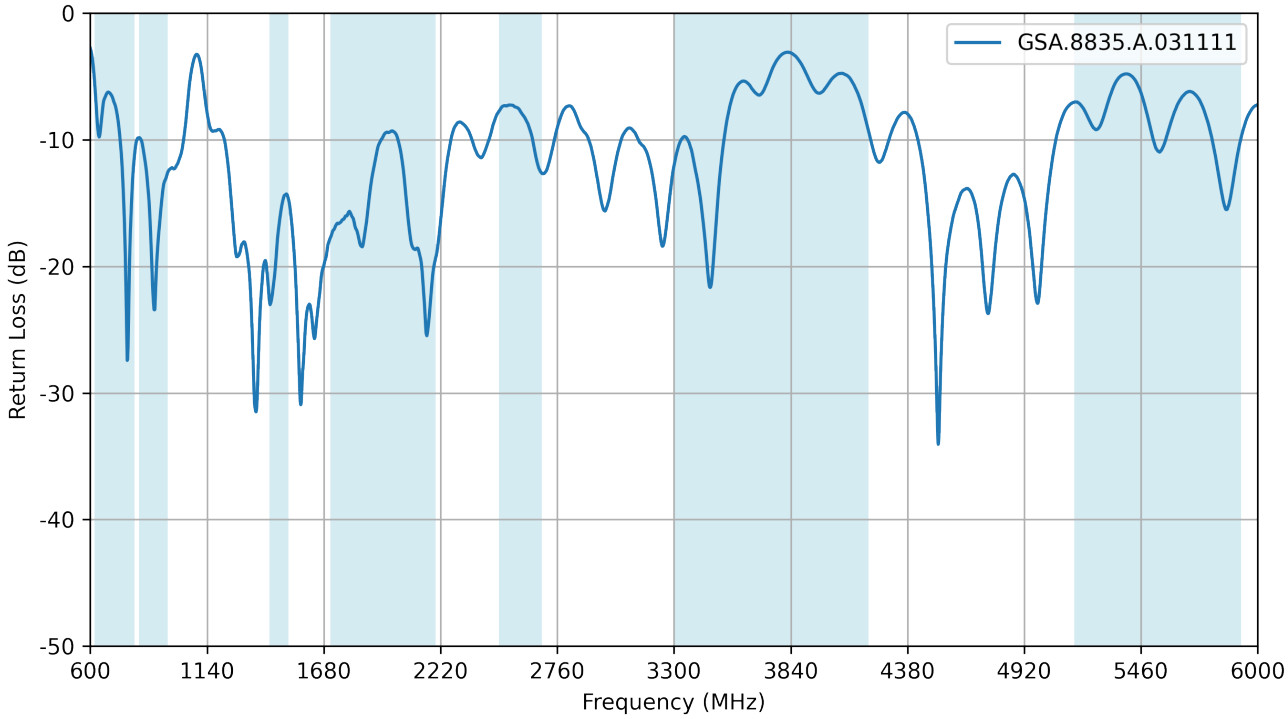
Mechanical	
Dimensions	30*105*7.9mm
Casing	PC+ABS
Cable	RG-174, 1000mm
Connector	SMA Male Straight
Adhesive	3M 1600T
Weight	35g
Environmental	
Ingress Protection	IP67 & IP68 (Test: Submerged at 1m depth for 1 hour)
Temperature Range	-40°C to 85°C
Humidity	Non-condensing 65°C 95% RH
Shock (Drop Test)	1m drop on concrete 6 axes
Cable Pull	8kgf

5G/4G Bands			
Band Number	**5GNR / FR1 / LTE / LTE-Advanced / WCDMA / HSPA / HSPA+ / TD-SCDMA**		
	Uplink	**Downlink**	**Covered**
B1	1920 to 1980	2110 to 2170	✓
B2	1850 to 1910	1930 to 1990	✓
B3	1710 to 1785	1805 to 1880	✓
B4	1710 to 1755	2110 to 2155	✓
N256	1980 to 2010	2170 – 2200	✓
B5	824 to 849	869 to 894	✓
B7	2500 to 2570	2620 to 2690	✓
B8	880 to 915	925 to 960	✓
B9*	1749.9 to 1784.9	1844.9 to 1879.9	✓
B11	1427.9 to 1447.9	1475.9 to 1495.9	✓
B12	699 to 716	729 to 746	✓
B13	777 to 787	746 to 756	✓
B14	788 to 798	758 to 768	✓
B17	704 to 716	734 to 746	✓
B18	815 to 830	860 to 875	✓
B19	830 to 845	875 to 890	✓
B20	832 to 862	791 to 821	✓
B21	1447.9 to 1462.9	1495.9 to 1510.9	✓
B22*	3410 to 3490	3510 to 3590	✓
B23*	2000 to 2020	2180 to 2200	✓
B24 / n255	1626.5 to 1660.5	1525 to 1559	✓
B25	1850 to 1915	1930 to 1995	✓
B26	814 to 849	859 to 894	✓
B27*	807 to 824	852 to 869	✓
B28	703 to 748	758 to 803	✓
B29	717 to 728		✓
B30	2305 to 2315	2350 to 2360	✓
B31	452.5 to 457.5	462.5 to 467.5	✗
B32	1452 to 1496		✓
B34	2010 to 2025		✓
B35	1850 to 1910		✓
B36	1930 to 1990		✓
B37	1910 to 1930		✓
B38	2570 to 2620		✓
B39	1880 to 1920		✓
B40	2300 to 2400		✓
B41	2496 to 2690		✓
B42	3400 to 3600		✓
B43	3600 to 3800		✓
B45	1447 to 1467		✓
B46	5150 to 5925		✓
B47	5855 to 5925		✓
B48	3550 to 3700		✓
B49	3550 to 3700		✓
B50	1432 to 1517		✓
B51	1427 to 1432		✓
B52	3300 to 3400		✓
B53	2483.5 to 2495		✓
B65	1920 to 2010	2110 to 2200	✓
B66	1710 to 1780	2110 to 2200	✓
B68	698 to 728	753 to 783	✓
B69	2570 to 2620		✓
B70	1695 to 1710	1995 to 2020	✓
B71	663 to 698	617 to 652	✓
B72	451 to 456	461 to 466	✗
B73	450 to 455	460 to 465	✗
B74	1427 to 1470	1475 to 1518	✓
B75	1432 to 1517		✓
B76	1427 to 1432		✓
B77	3300 to 4200		✓
B78	3300 to 3800		✓
B79	4400 to 5000		✓
B85	698 to 716	728 to 746	✓
B87	410 to 415	420 to 425	✗
B88	412 to 417	422 to 427	✗

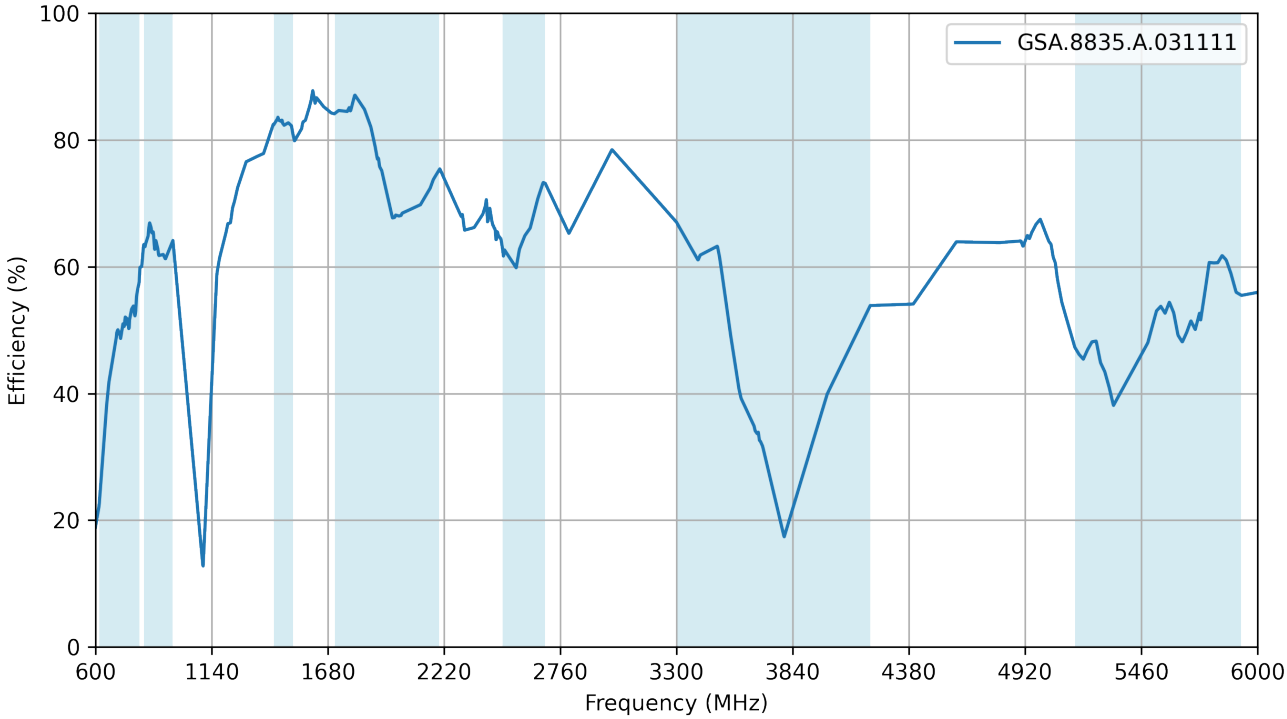
* To be marked as covered, bands must achieve at least 20% efficiency

3. Antenna Characteristics

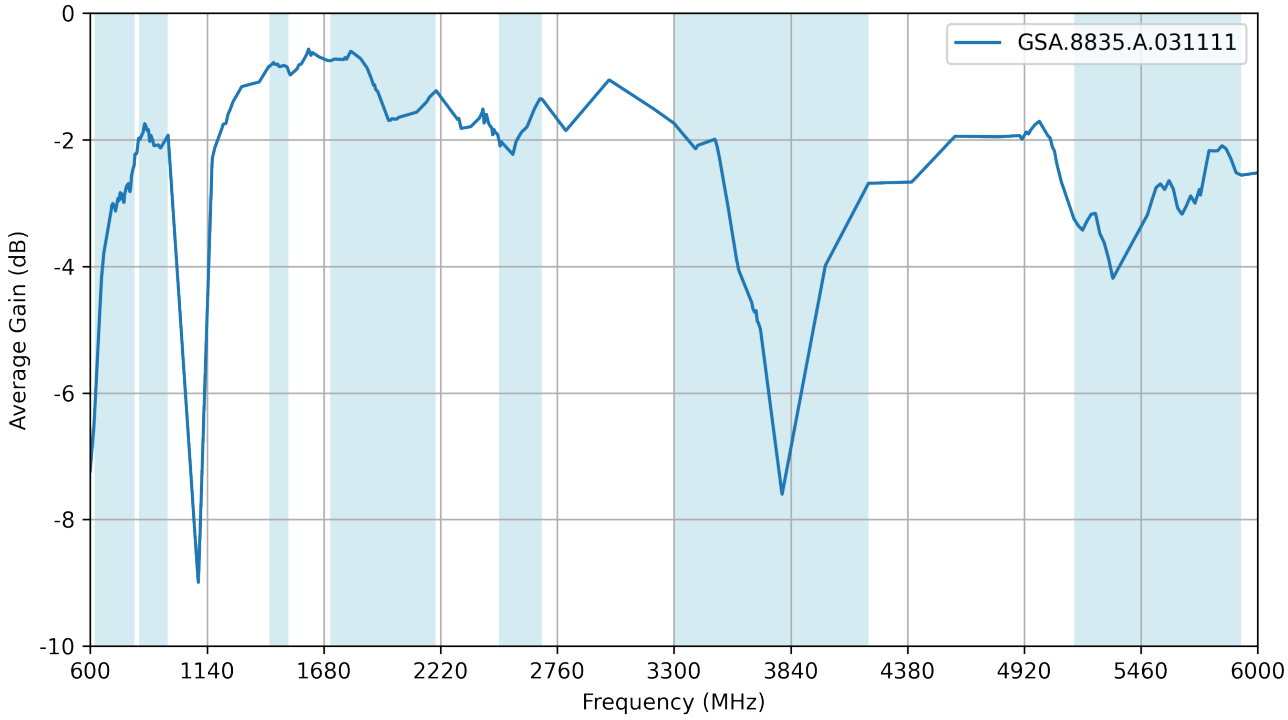
3.1 Return Loss



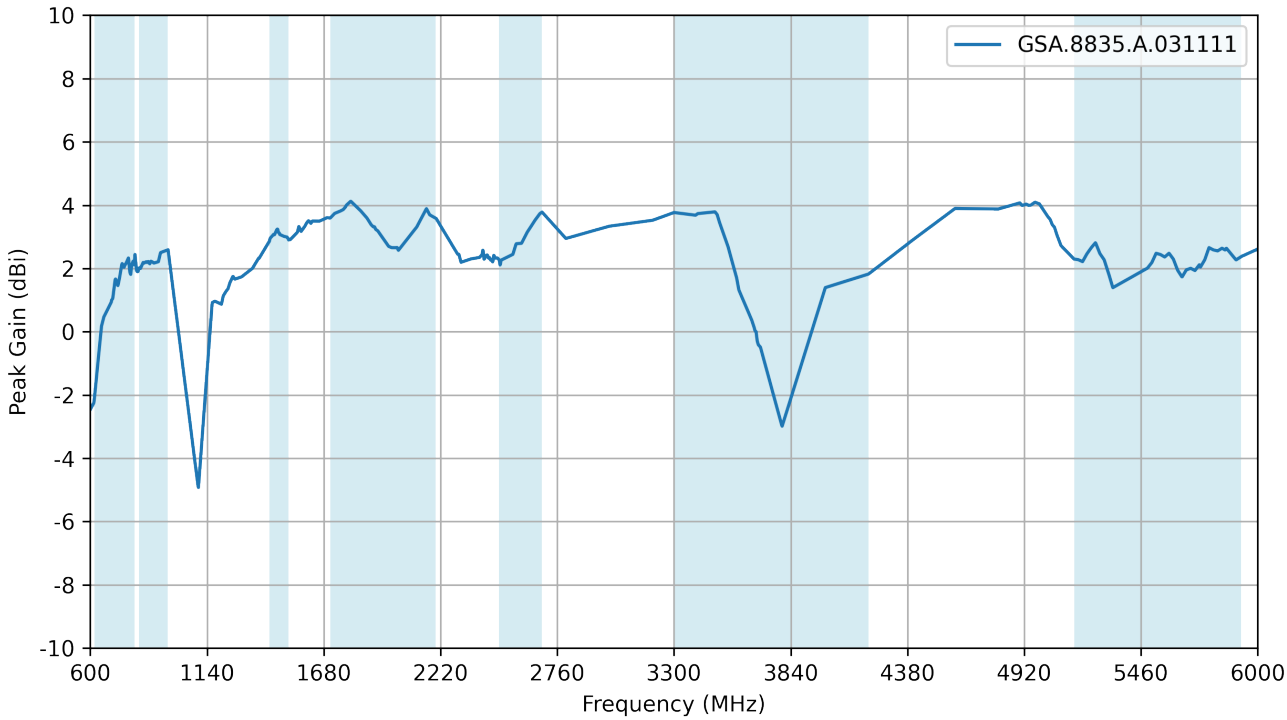
3.2 Efficiency



3.3 Average Gain

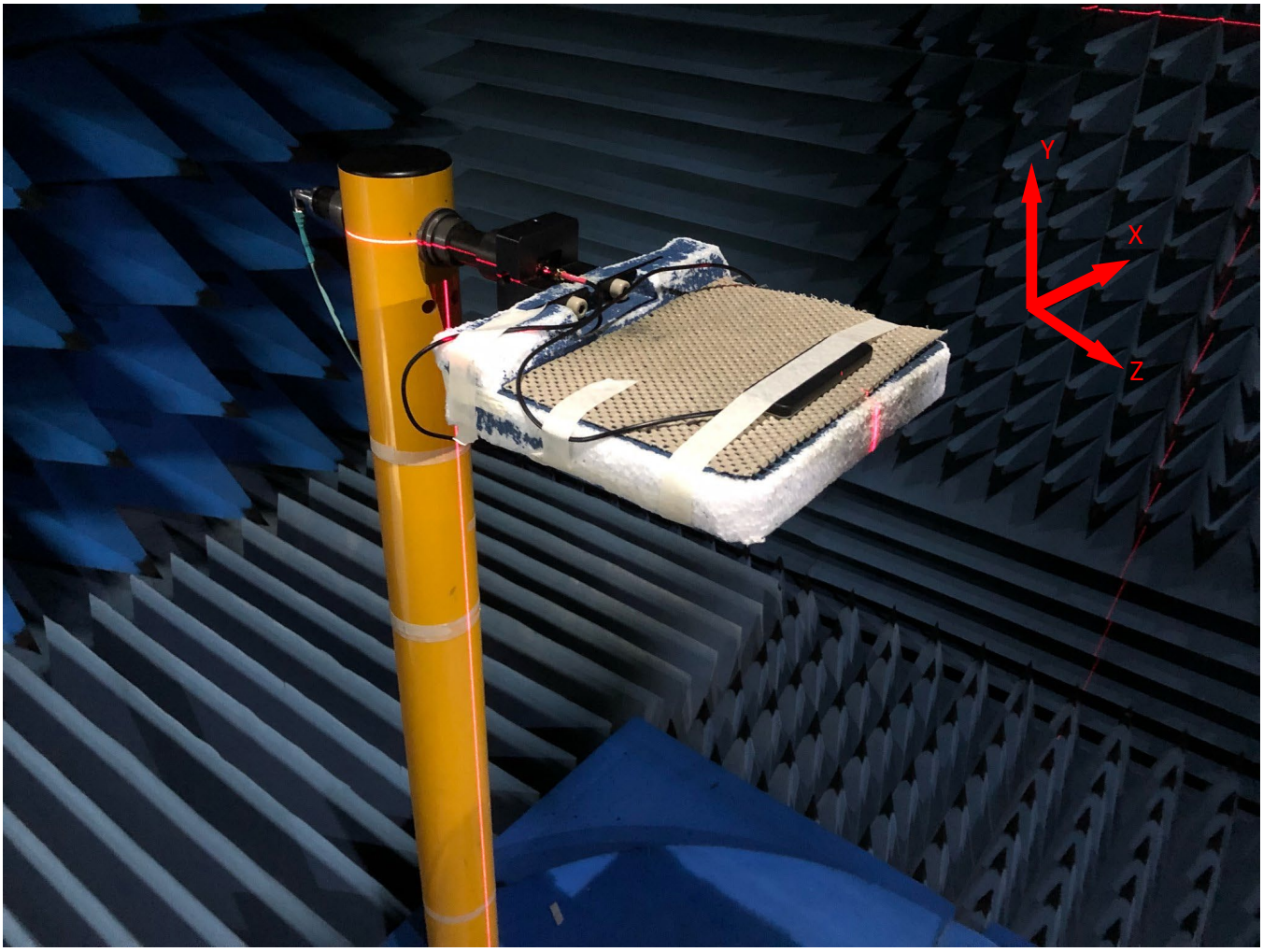


3.4 Peak Gain



4. Radiation Patterns

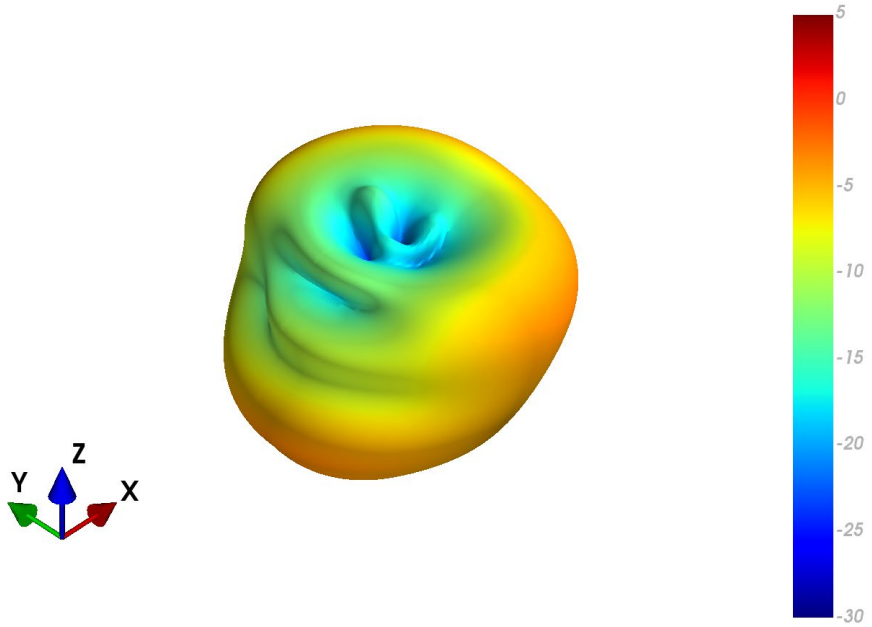
4.1 Test Setup



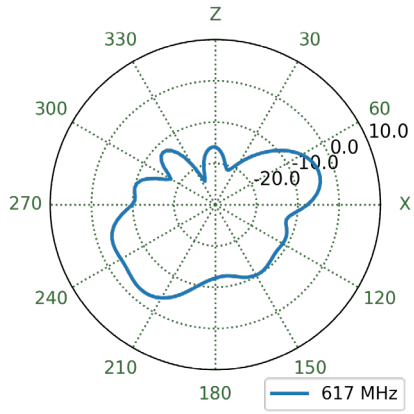
Free space

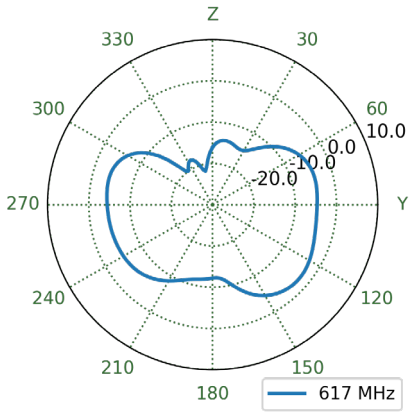
4.2 3D and 2D Radiation Patterns

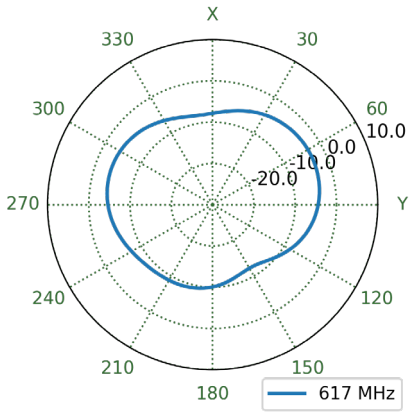
617MHz



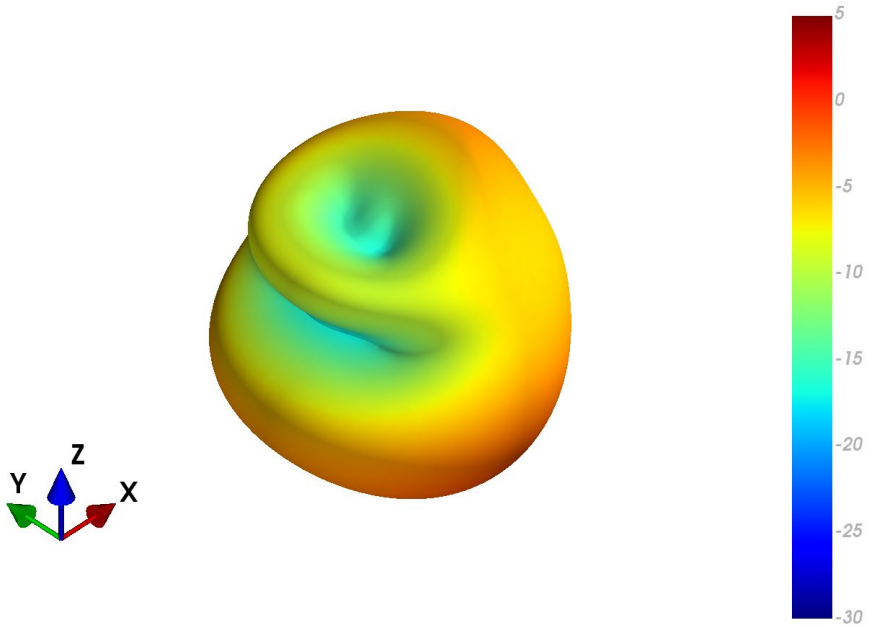
XZ Plane	YZ Plane	XY Plane



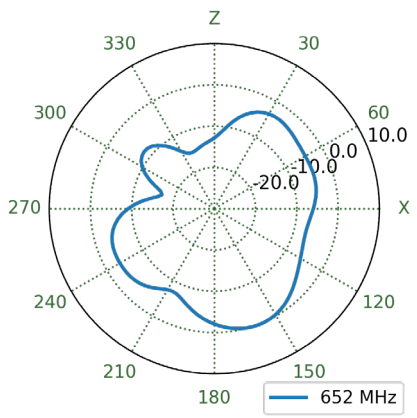


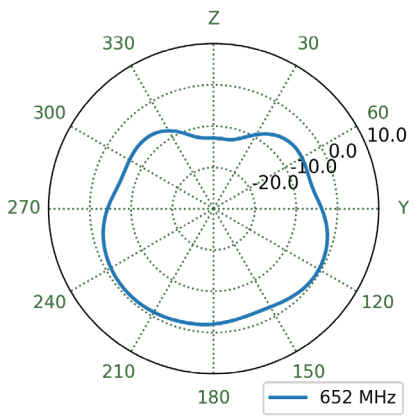


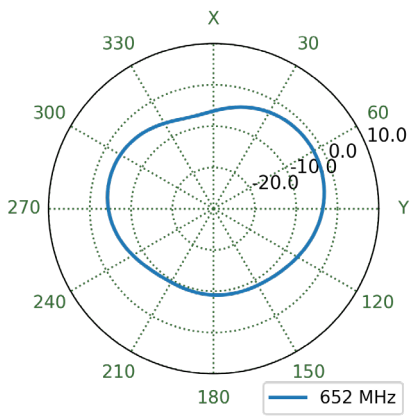
650MHz



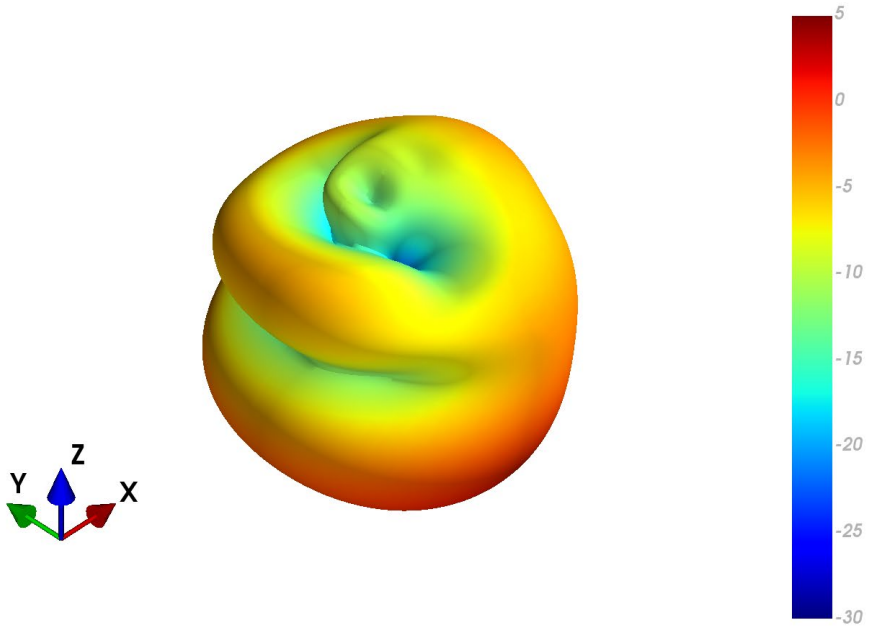
XZ Plane	YZ Plane	XY Plane



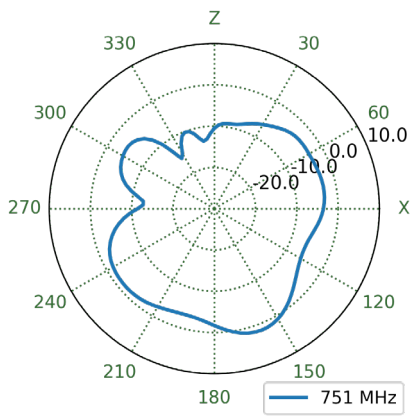


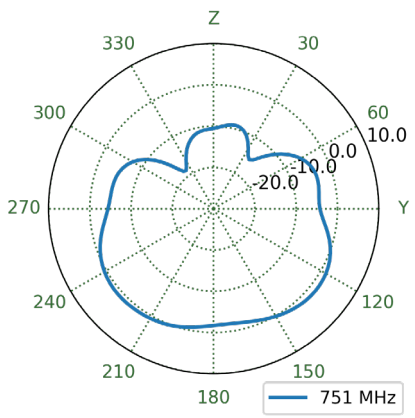


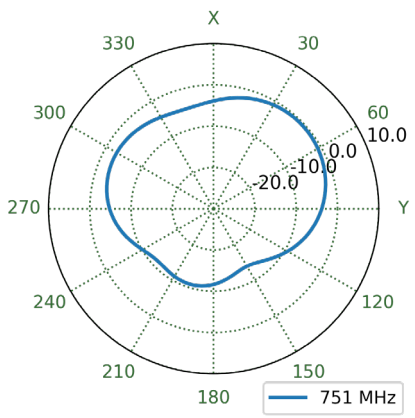
750MHz



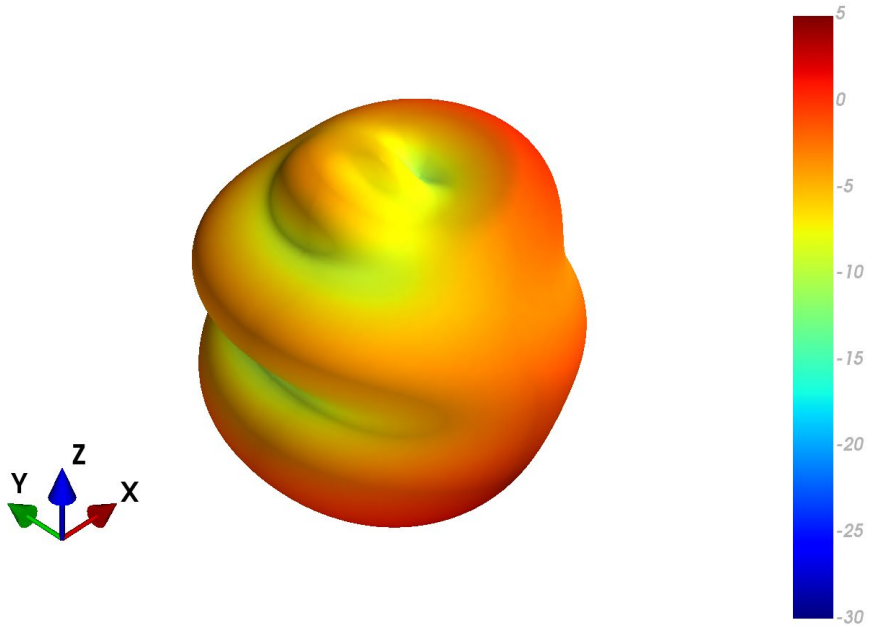
XZ Plane	YZ Plane	XY Plane



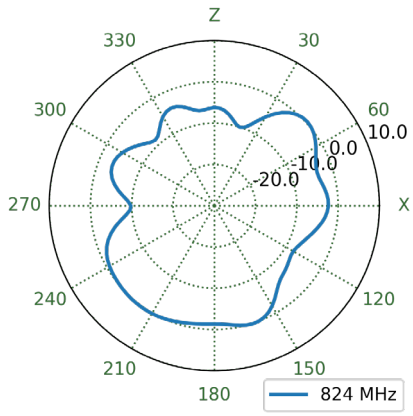


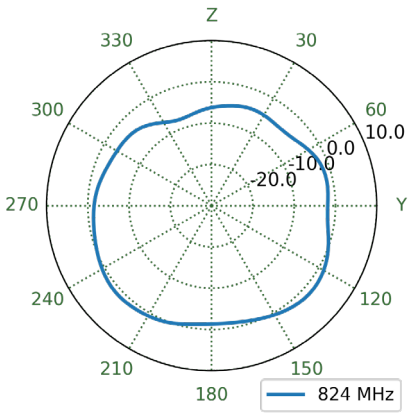


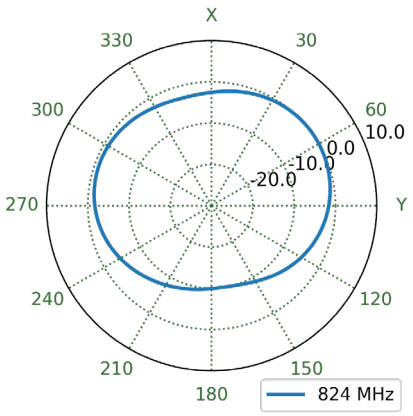
824MHz



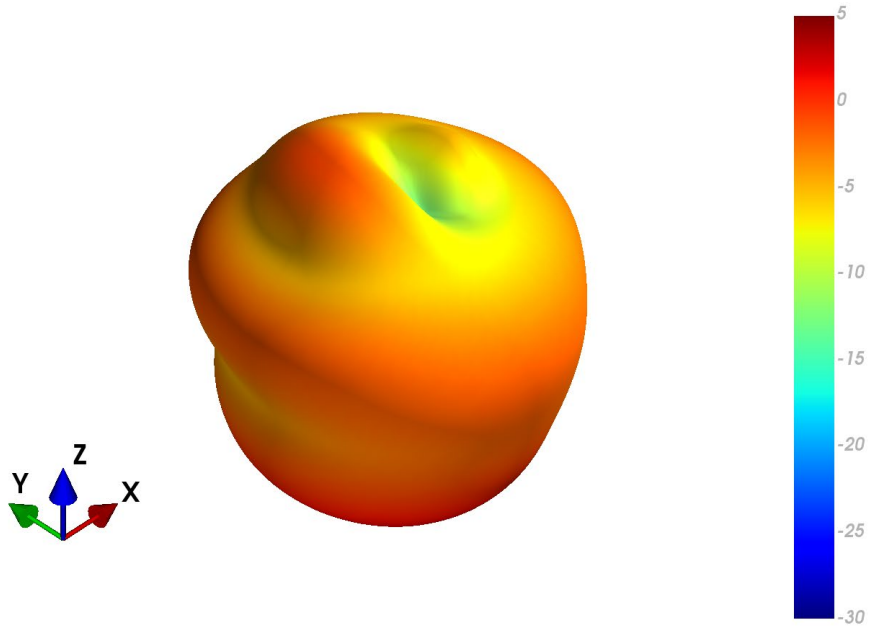
XZ Plane	YZ Plane	XY Plane



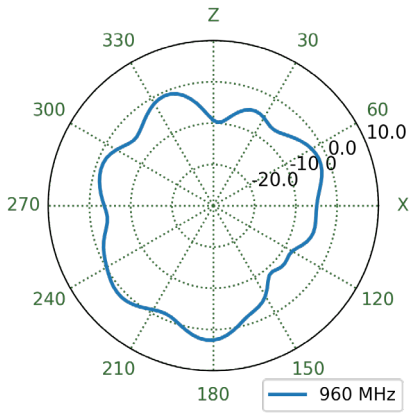


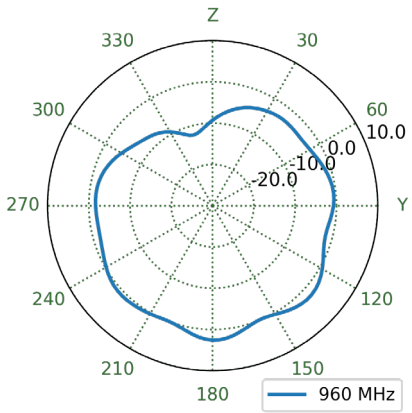


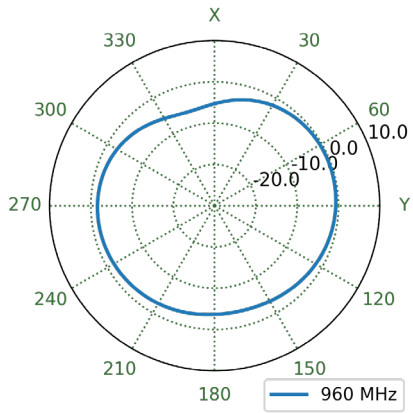
960MHz



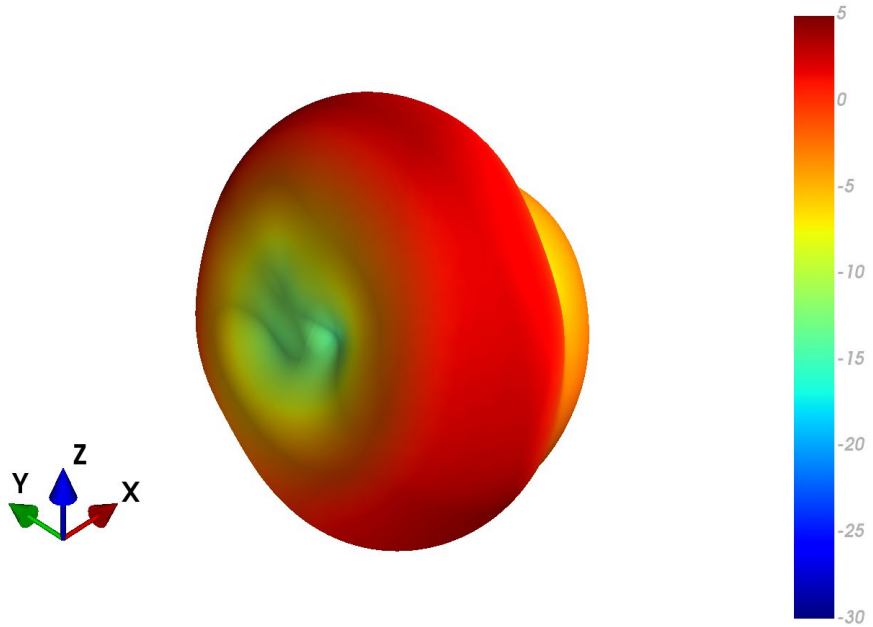
XZ Plane	YZ Plane	XY Plane



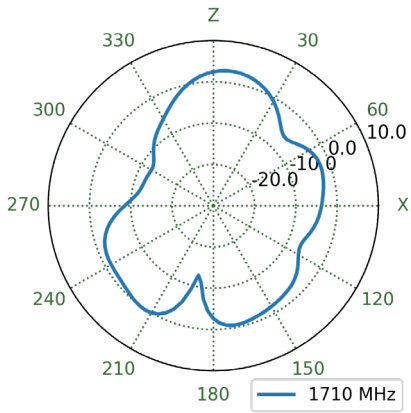


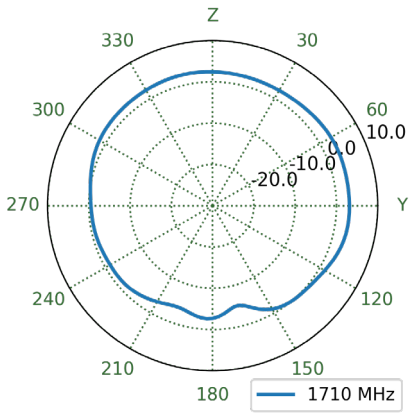


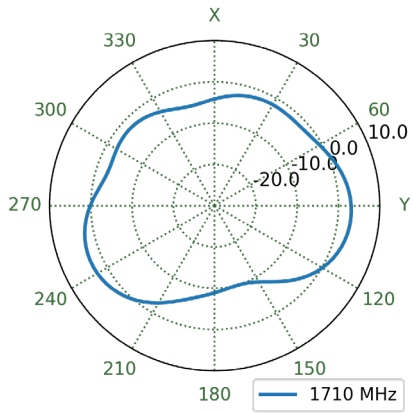
1710MHz



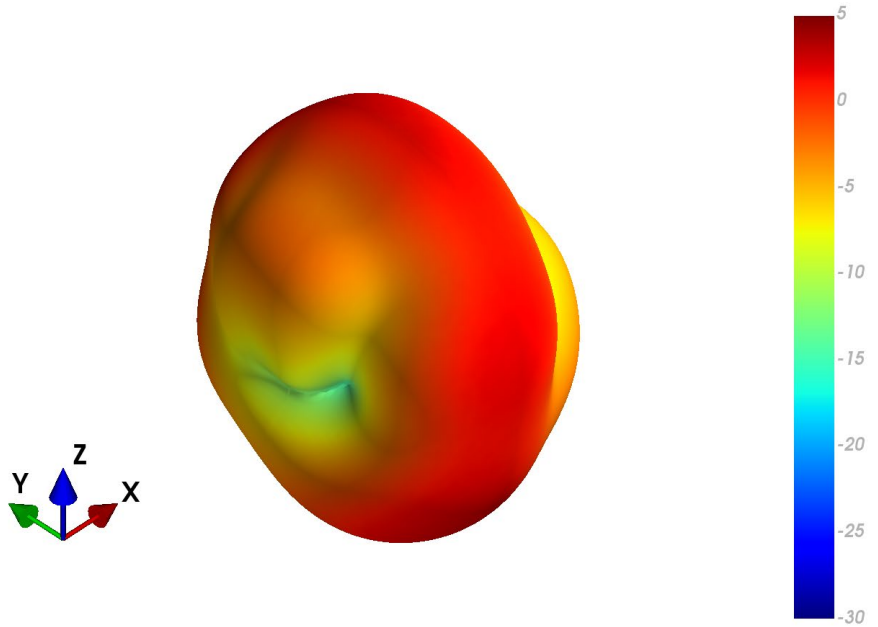
XZ Plane	YZ Plane	XY Plane



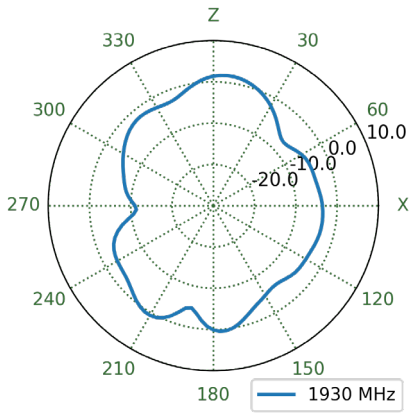


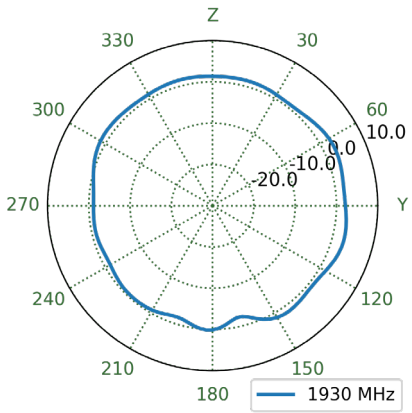


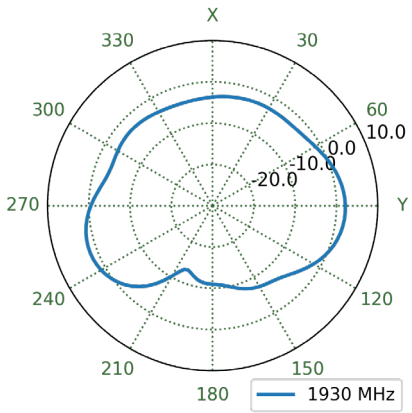
1950MHz



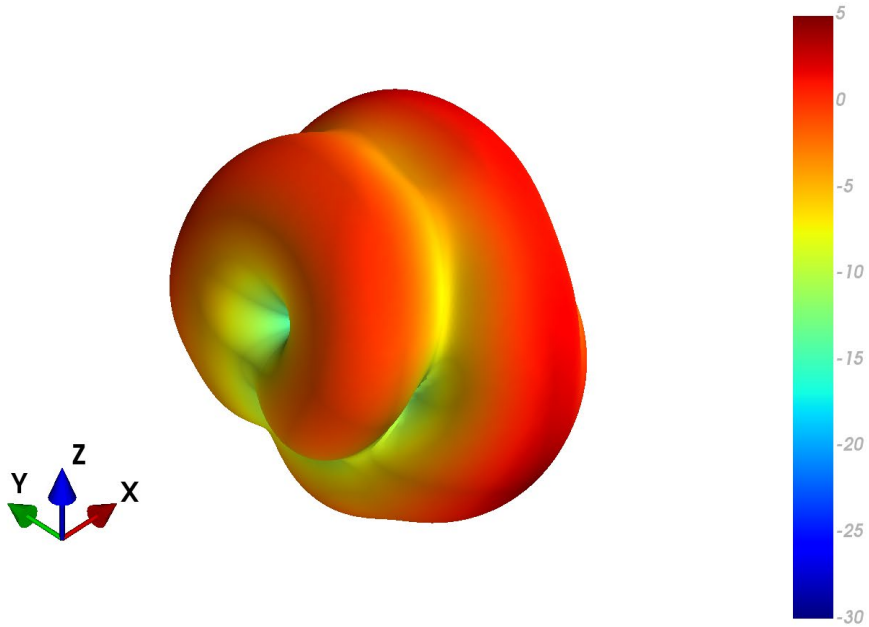
XZ Plane	YZ Plane	XY Plane



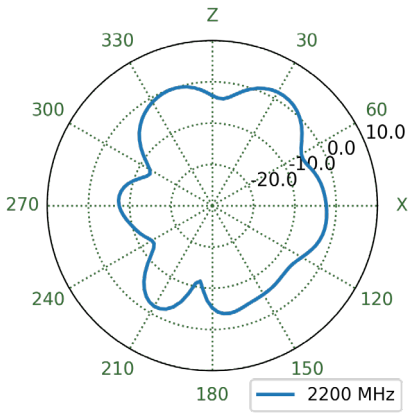


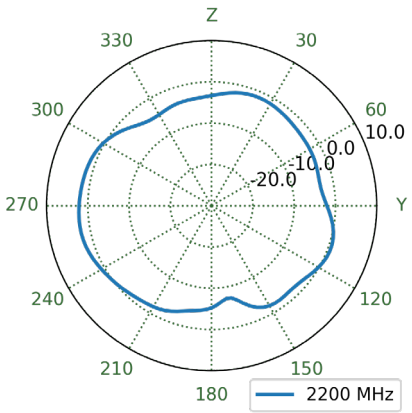


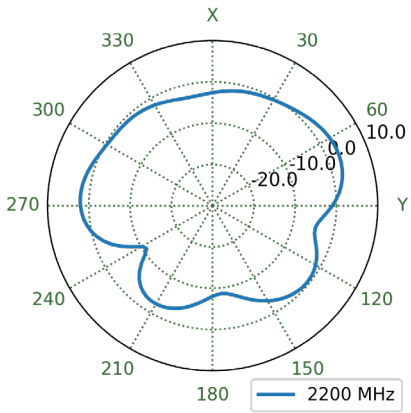
2200MHz



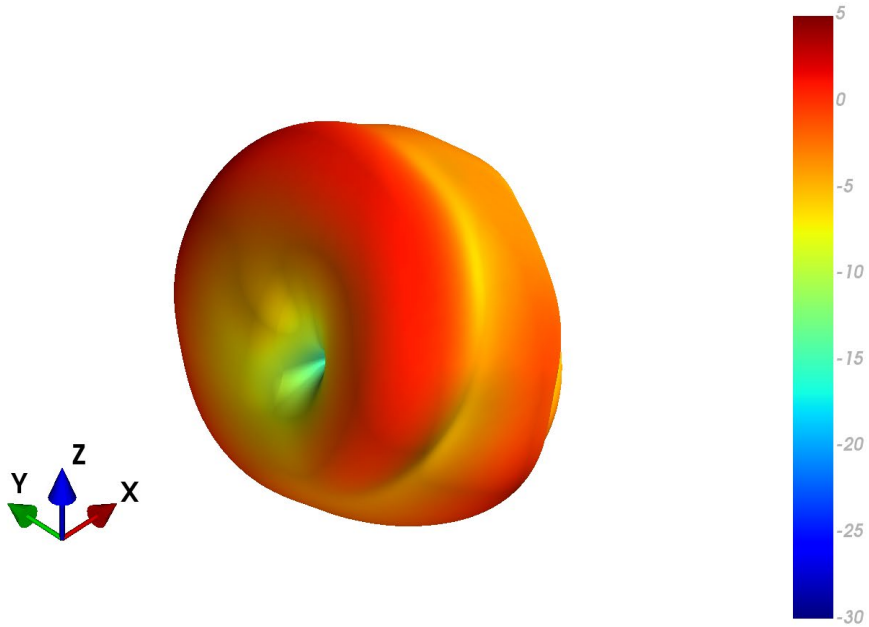
XZ Plane	YZ Plane	XY Plane



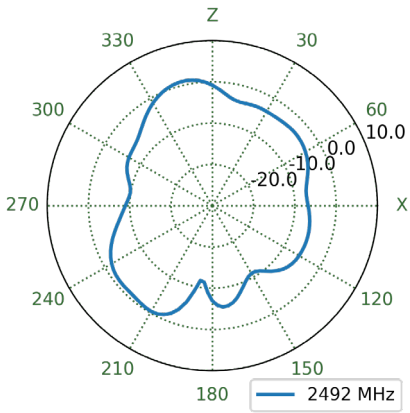


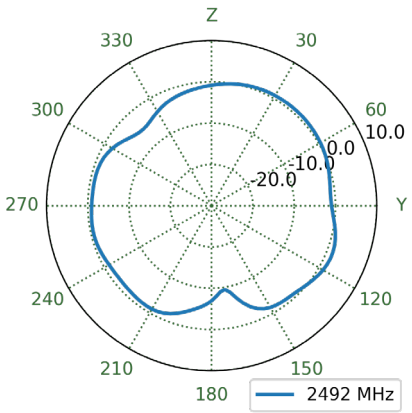


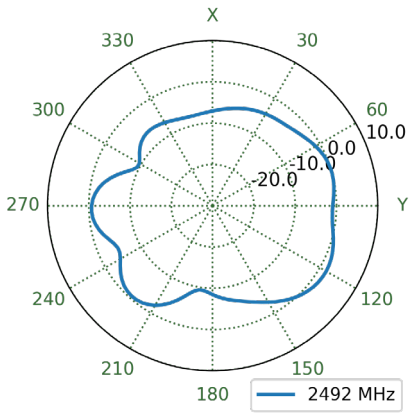
2500MHz



XZ Plane	YZ Plane	XY Plane







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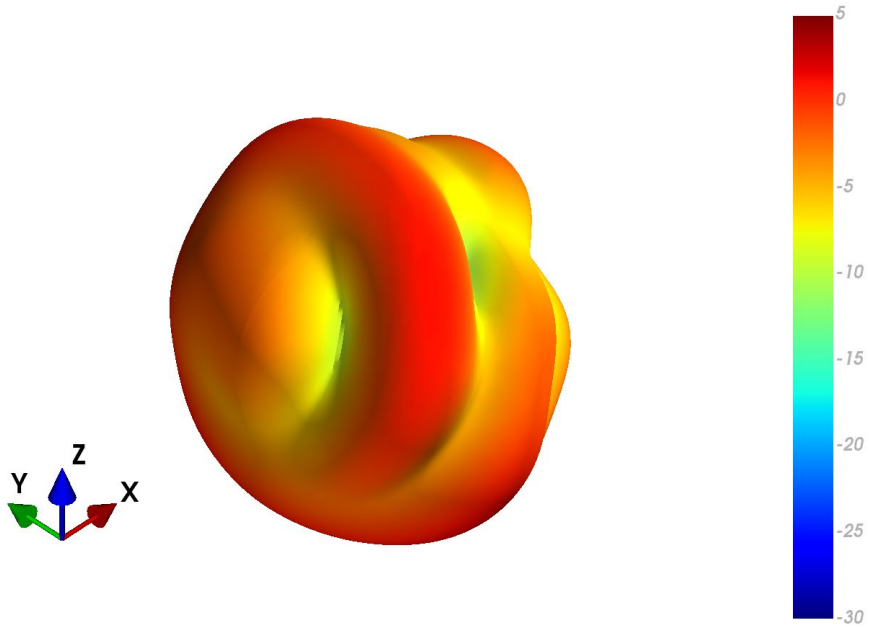
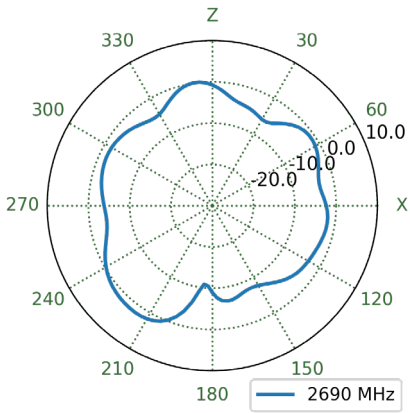
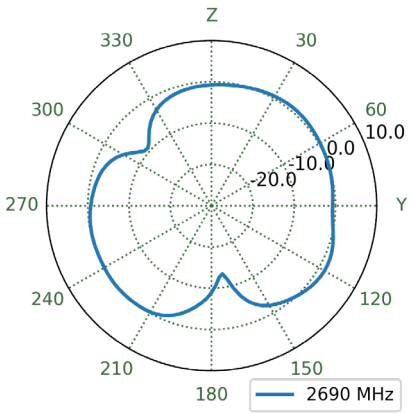
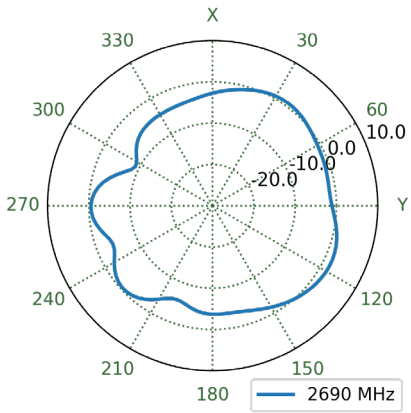


XZ Plane	YZ Plane	XY Plane







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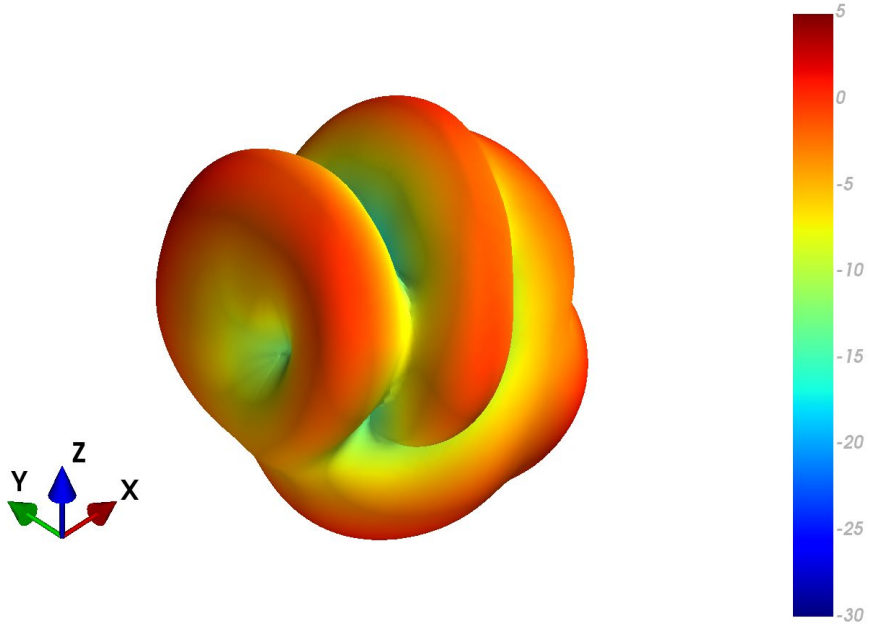
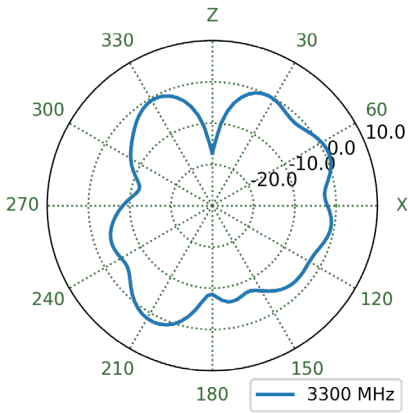
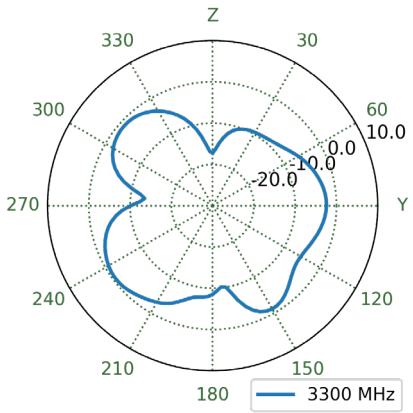
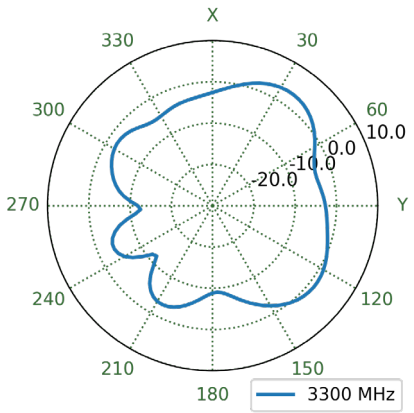


XZ Plane	YZ Plane	XY Plane







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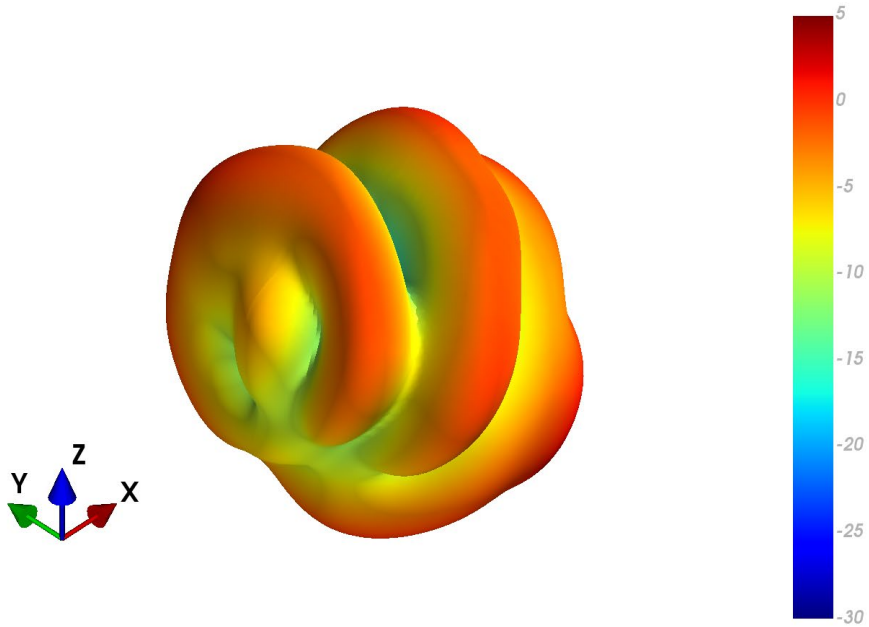
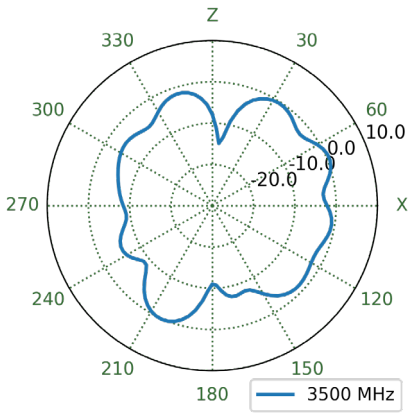
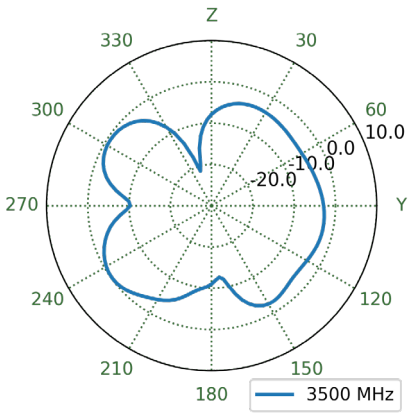
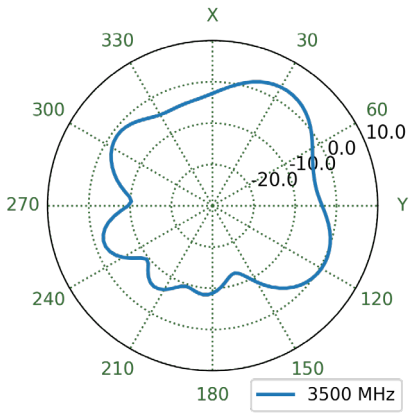


XZ Plane	YZ Plane	XY Plane







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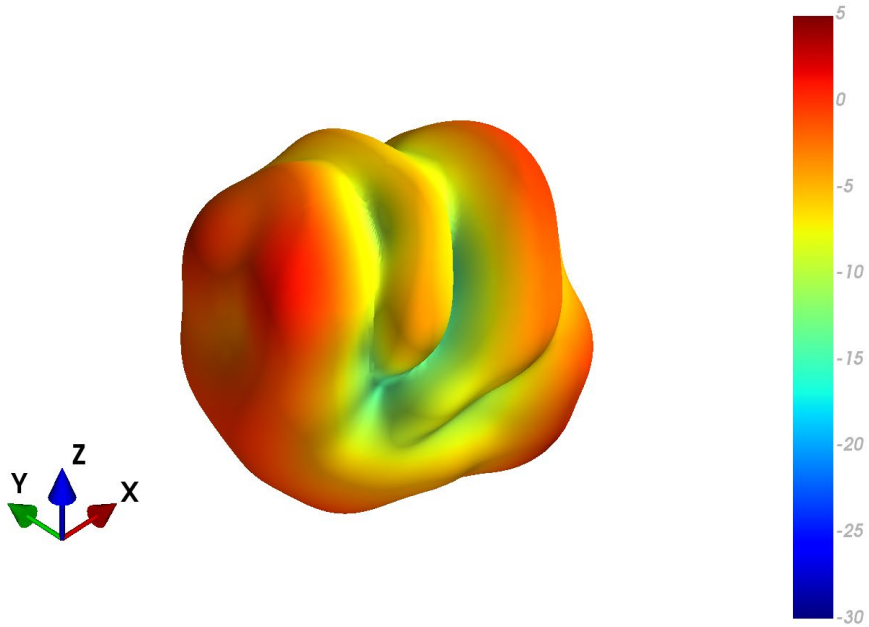
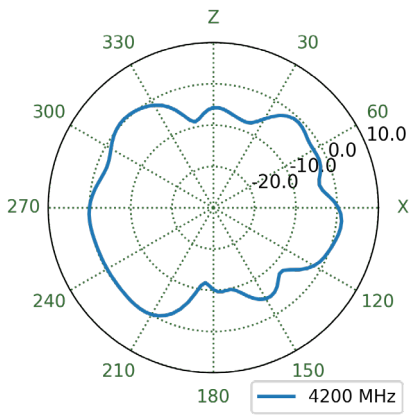
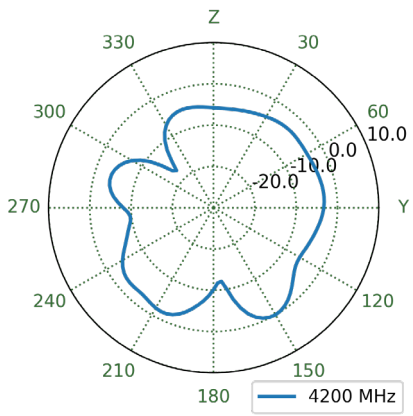
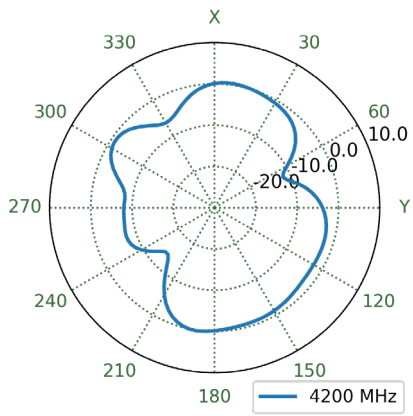


XZ Plane	YZ Plane	XY Plane







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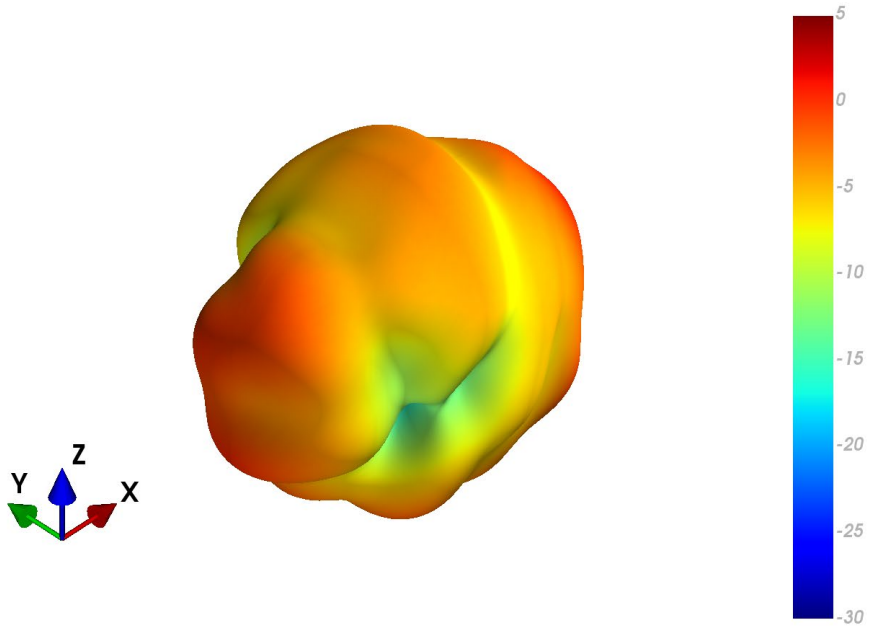
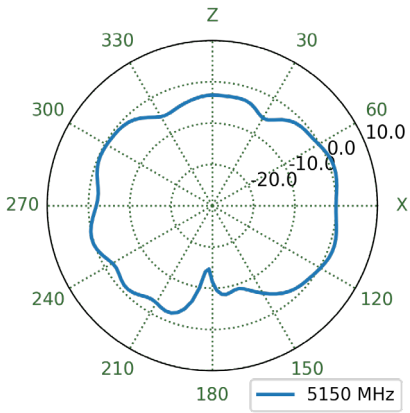
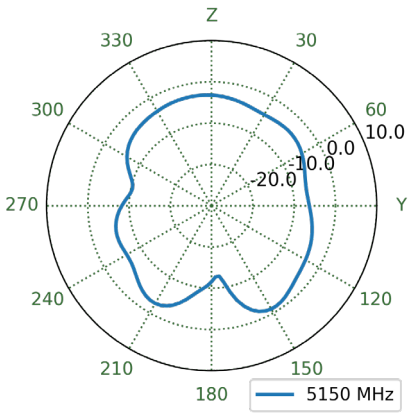
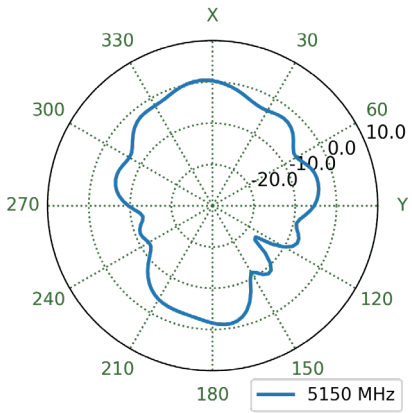


XZ Plane	YZ Plane	XY Plane







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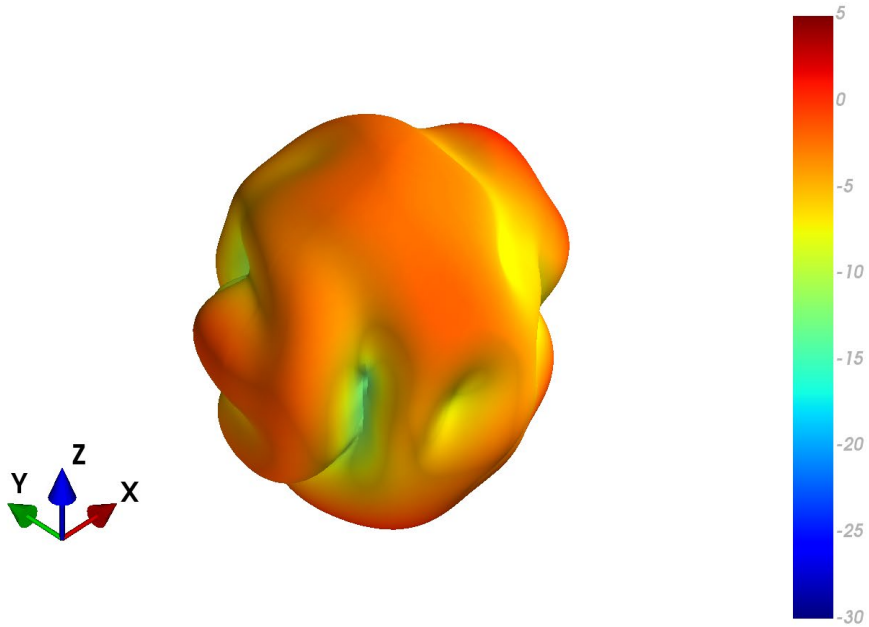
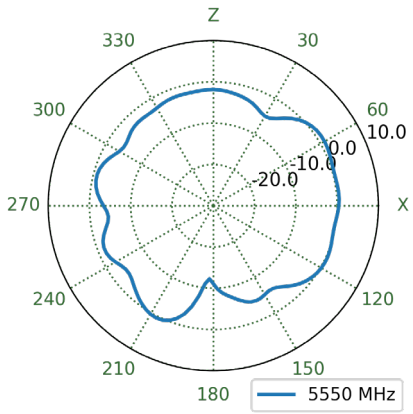
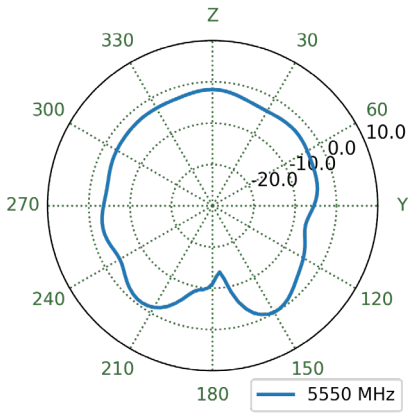
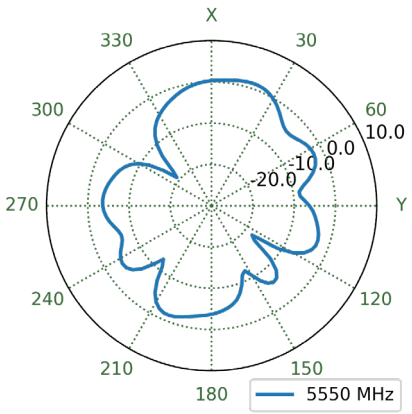


XZ Plane	YZ Plane	XY Plane







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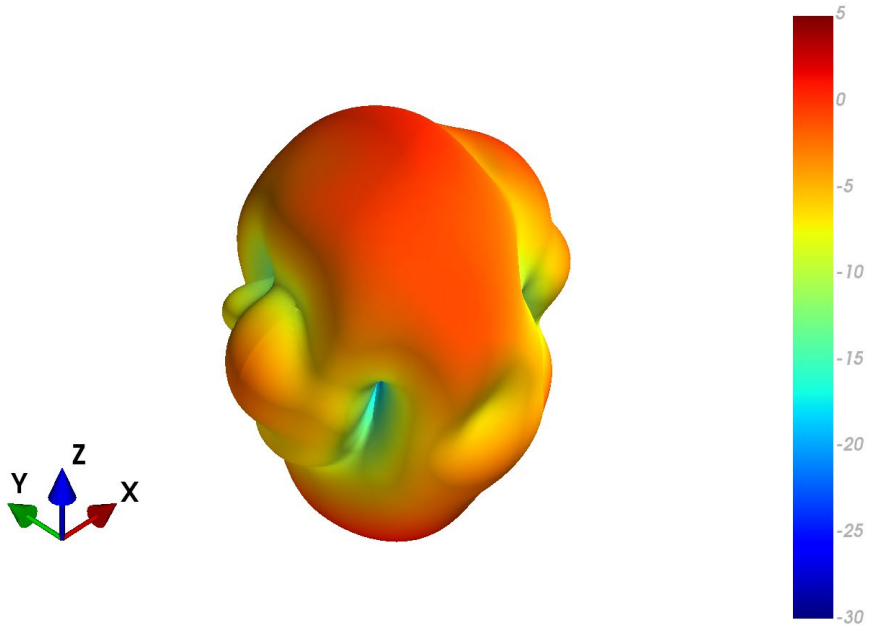
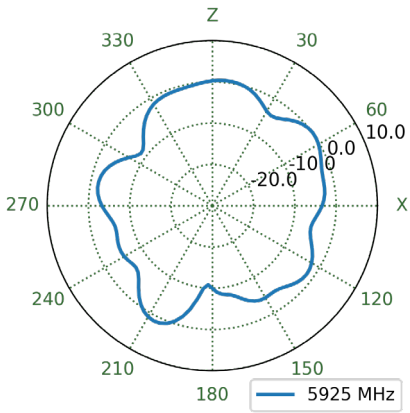
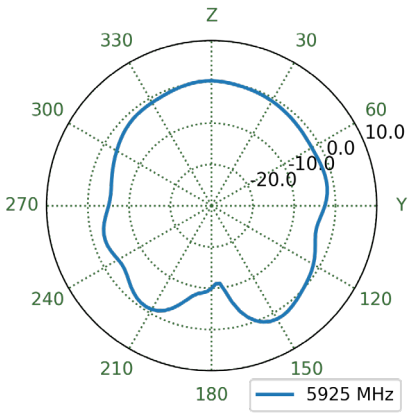
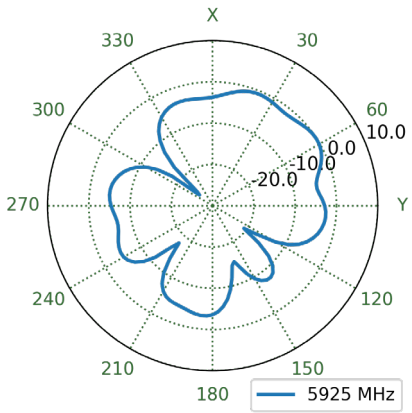


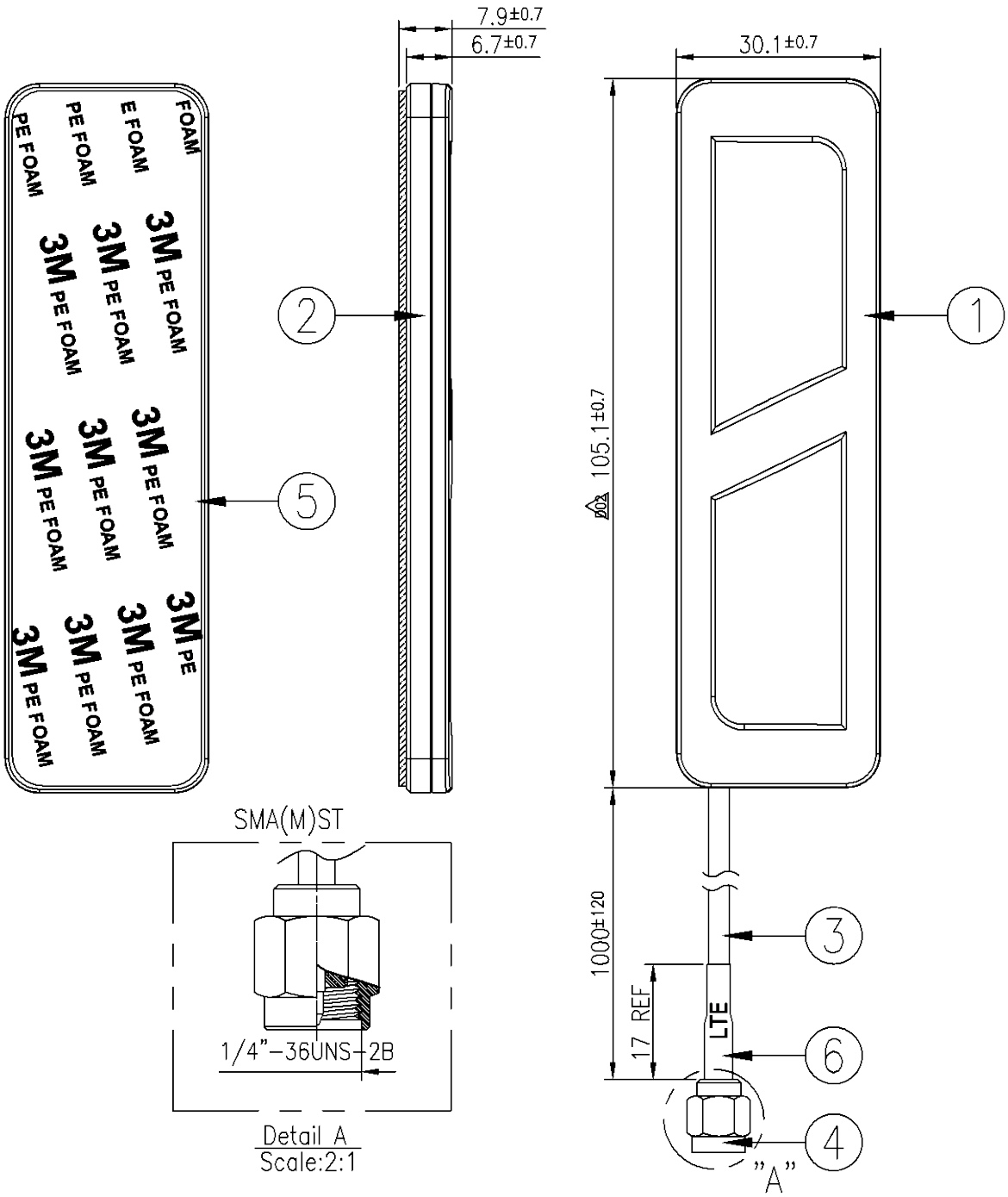
XZ Plane	YZ Plane	XY Plane







5. Mechanical Drawing (Units: mm)

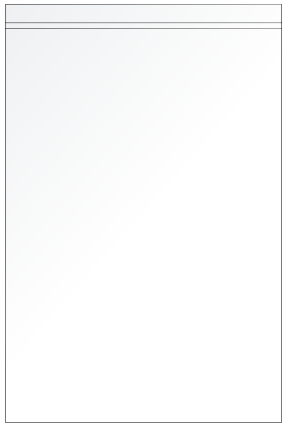


	Name	Material	Finish	QTY
1	Top Housing	PC+ABS	Black	1
2	Bottom Housing	PC+ABS	Black	1
3	RG174 Coaxial Cable	PVC	Black	1
4	SMA(M)ST	Brass	Au Plated	1
5	Double Sided Adhesive With White Foam	3M 1600T	Blue Liner	1
6	Heat Shrink Tube(LTE)	PE	Red Tube/White Text	1

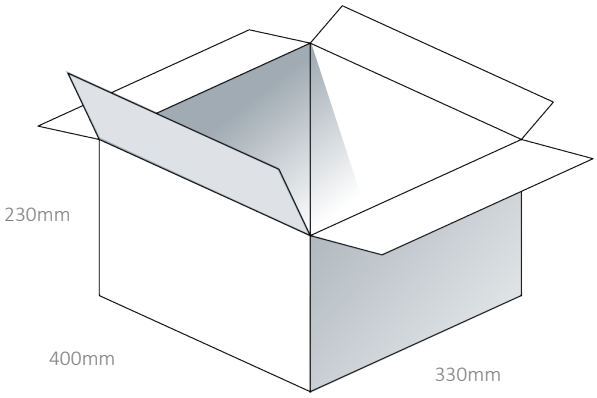
6. Packaging

1pcs GSA.8835.A.101111 per Small PE Bag
Dimensions - 200*80mm
Weight - 39g

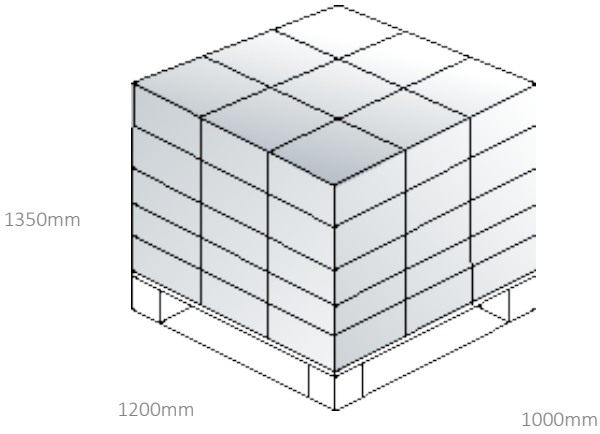
10pcs GSA.8835.A.101111 per Large PE Bag
Dimensions - 460*250mm
Weight - 440g



200pcs GSA.8835.A.101111 per carton
Dimensions - 400*330*230mm
Weight – 9.75Kg



Pallet Dimensions:
1200*1000*1350mm
45 Cartons Per Pallet
9 Cartons Per Layer, 5 Layers



Changelog for the datasheet

SPE-19-8-112 – GSA.8835.A.101111

Revision: F (Current Version)	
Date:	2024-12-02
Notes:	Added IP68 test info to mechanical data table - (Test: Submerged at 1m depth for 1 hour)
Author:	Conor McGrath

Previous Revisions

Revision: E	
Date:	2024-11-13
Notes:	Updated Drawing and Added NTN References
Author:	David Connolly

Revision: D	
Date:	2023-07-12
Notes:	Updated Specifications
Author:	Jack Conroy

Revision: C	
Date:	2022-10-27
Notes:	Updated Specifications
Author:	Cesar Sousa

Revision: B	
Date:	2021-03-08
Notes:	Updated Antenna Weight.
Author:	Gary West

Revision: A (Original First Release)	
Date:	2019-08-21
Notes:	
Author:	Jack Conroy

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