

Logitech

Antenna Under Test (AUT)

Report

Antenna P/N: 420-006520 - Antenna 0 ; 420-006521- Antenna 1

Equipment Type: Antenna

Manufacturer: Novocomms (Suzhou) Limited

Test Location: Novocomms (Suzhou) Limited

No.5 Zhonghong road, SND, Suzhou city, Jiangsu Province, China

Tested by: Duke Huang

Test Date: June, 30, 2023

Report Release History

Report version	Description	Date Issued
V1	Original release	
V2	Updated antenna test site info, added antenna part numbers	
V3	Updated antenna chamber test software asterisk note. Replaced "Model Name" with antenna part number. Added antenna manufacturer address.	12/13/2023

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1. EUT Antenna Information

- 1) Antenna Material : FPC
- 2) Antenna Type : Printed F (connector : IPEX MHF I)
- 3) Antenna Dimension:
- 4) Operating Frequency : 2.4 GHz - 2.4835 GHz; 5.1GHz – 7.125GHz
- 5) Input Impedance : 50 Ω
- 6) Standing-Wave Ratio : < 2.6

2. 3D Radiation Pattern Measurement

2.1 Test Location

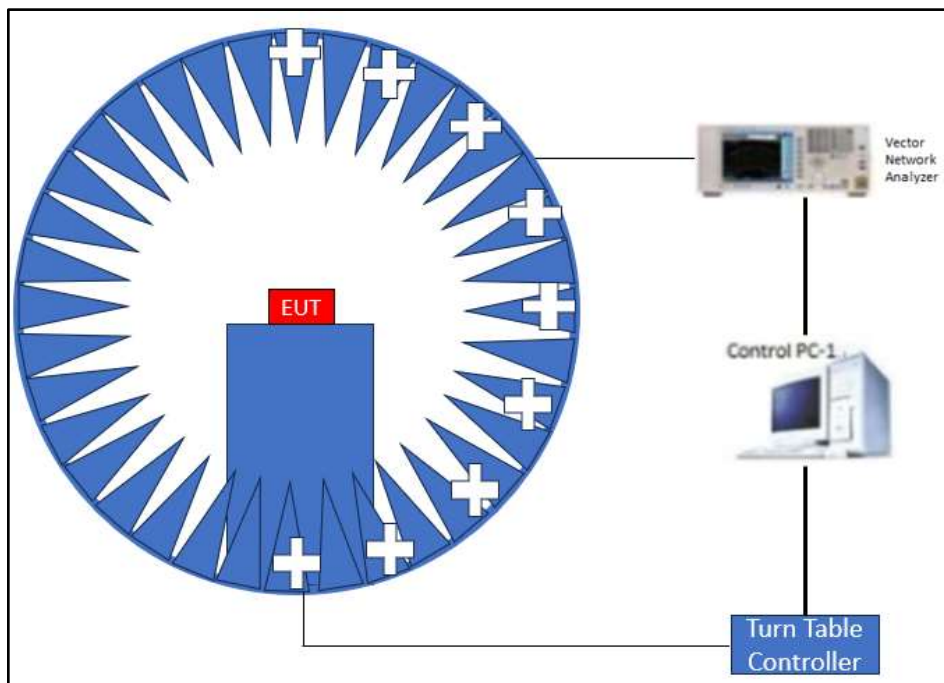
3D radiation pattern measurement in the anechoic chamber

2.2 Description of the anechoic chamber

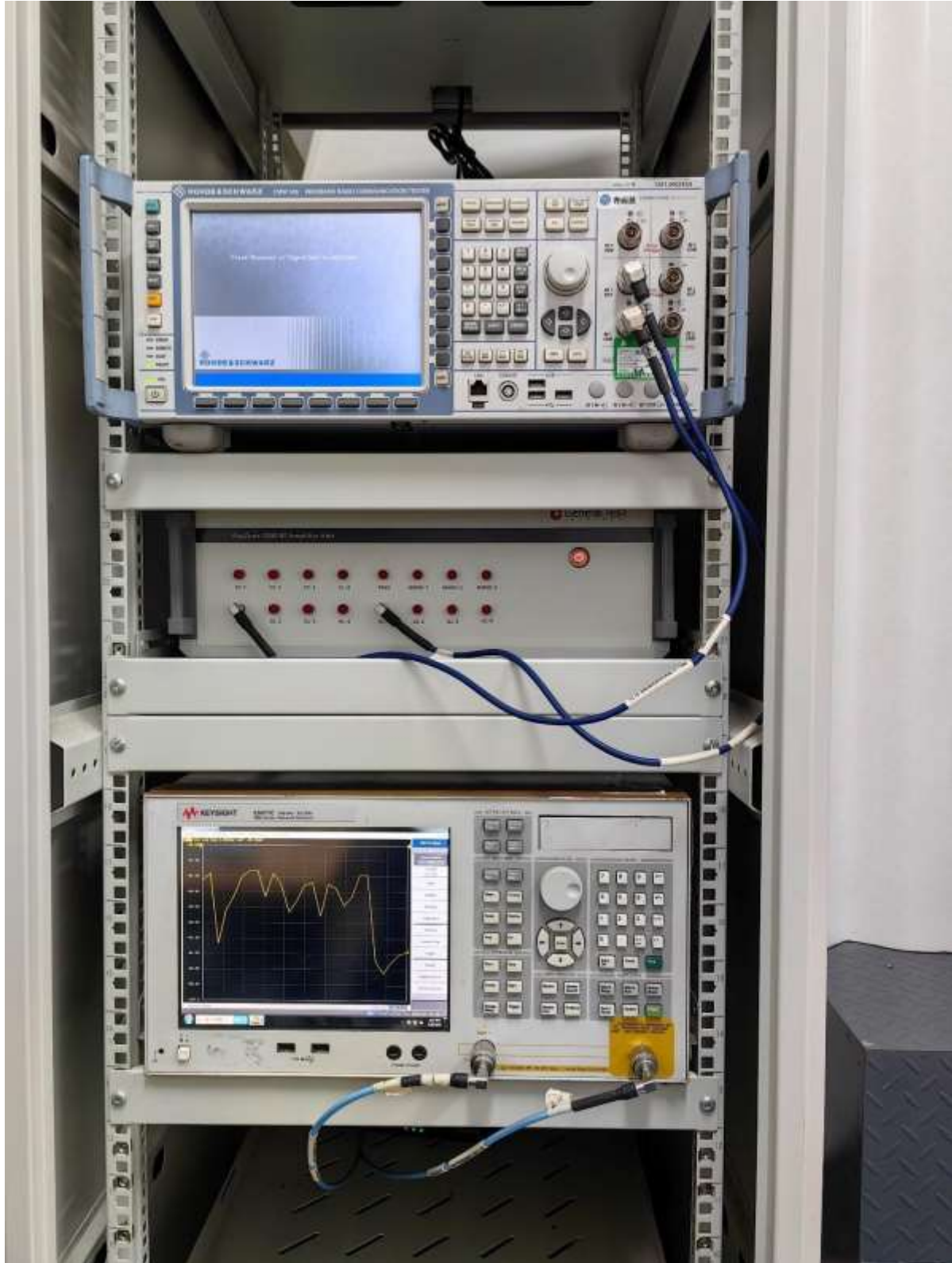
Length: 3.062m

Width: 3.120m

Height: 2.932m



2.3 Test Instruments



Description	Model No.	Last Calibration [^]
Vector Network Analyzer Keysight	E5071C	Feb/2023
Chamber	GTS Rayzone 2800*	March/2023

Notes: [^]The calibration interval of the above test instruments is 12 months

* Test software used is GTS MaxSign Libra version 1.1.8

2.4 Test Procedure

- i. Measure loss of the RF test cable.
- ii. Solder the test RF cable to the Antenna.
- iii. Mount the DUT on the mast of the chamber, record the coordinates and take pictures.
- iv. Calibrate the chamber where the connection to source from the VNA Port 1.
- v. Compensate for the loss from the test cable from item 2.4.i.
- vi. Read the channel power level on the Network analyzer and record in the following positions.
 1. The mast is then stepped between 0 to 360 degrees along the horizontal plane in 15-degree increments.
 2. Data is recorded using the VNA for both theta (Port2) and phi (Port3) polarizations at each position.

2.7 Antenna Gain

Ant0			
Frequency	Efficiency (dB)	Efficiency%	Gain
2412	-3.64	43.29	4.18
2437	-3.44	45.32	4.49
2462	-2.71	53.64	4.50
5180	-2.41	57.39	5.92
5210	-2.18	60.58	6.08
5240	-1.97	63.49	6.4
5260	-2.09	61.87	6.31
5290	-1.86	65.19	6.40
5320	-1.74	66.99	6.3
5500	-2.70	53.7	6.91

5600	-3.12	48.75	6.93
5720	-3.89	40.81	6.43
5745	-3.8	41.67	6.53
5775	-3.97	40.05	6.25
5825	-3.73	42.40	6.15
6115	-3.72	42.43	4.33
6275	-3.83	41.40	2.80
6415	-1.89	64.75	5.31
6435	-1.54	70.11	5.64
6475	-1.98	63.35	5.47
6515	-1.46	71.52	6.38
6535	-0.85	82.16	7.03
6695	-1.49	70.88	6.03
6855	-3.47	44.98	4.55
6895	-5.24	29.91	2.81
7015	-3.92	40.56	2.89
7095	-3.90	40.79	2.83

ANT1			
Frequency	Efficiency (dB)	Efficiency%	Gain
2412	-3.77	41.99	2.88
2437	-3.81	41.64	3.41
2462	-3.82	41.50	3.36
5180	-2.2	60.28	4.93
5210	-1.79	66.29	5.10
5240	-1.33	73.64	5.65
5260	-1.33	73.59	5.72
5290	-0.70	85.15	6.43
5320	-0.31	93.17	6.69
5500	-0.81	83.06	6.44
5600	-1.19	76.08	6.09
5720	-3.39	45.83	3.81
5745	-3.64	43.29	3.69
5775	-4.30	37.19	3.11

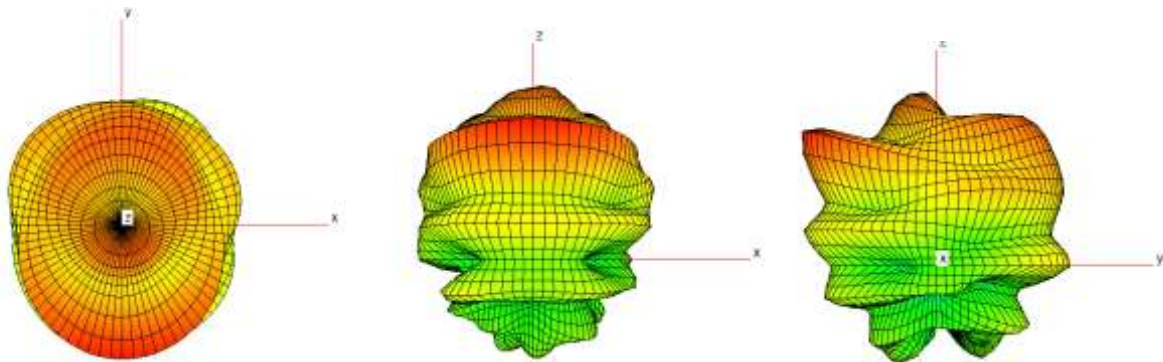
5825	-4.97	31.84	2.61
6115	-3.18	48.12	4.69
6275	-2.79	52.61	5.44
6415	-2.04	62.54	5.75
6435	-1.85	65.29	5.78
6475	-2.53	55.88	4.78
6515	-1.99	63.31	5.44
6535	-1.38	72.76	6.00
6695	-1.38	72.86	6.81
6855	-4.49	35.59	3.46
6895	-6.72	21.28	1.09
7015	-7.24	18.87	0.51
7095	-8.59	13.83	-1.11

3D Pattern Test Plot
Antenna 0

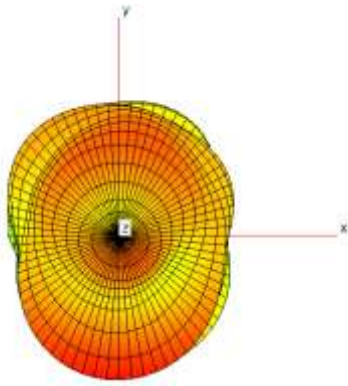
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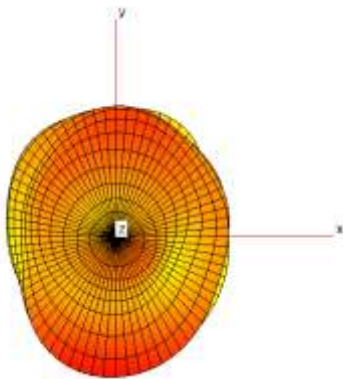
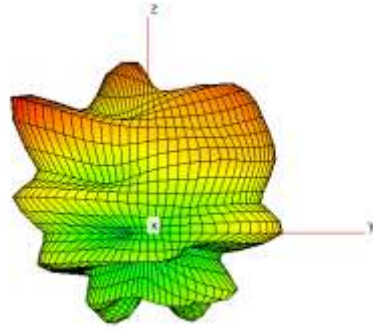
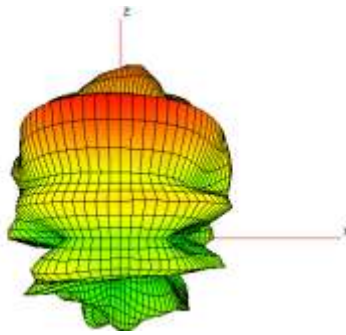
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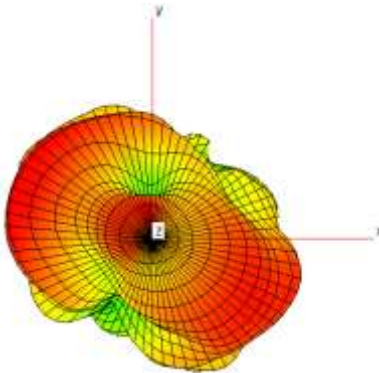
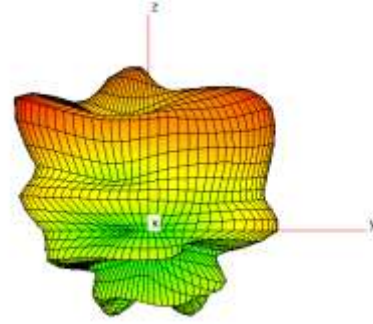
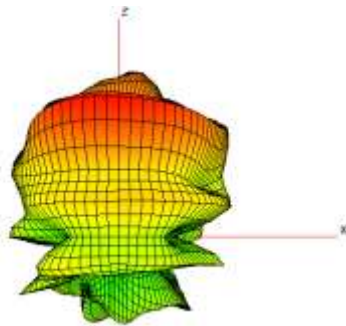
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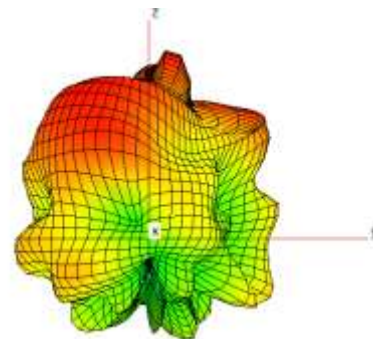
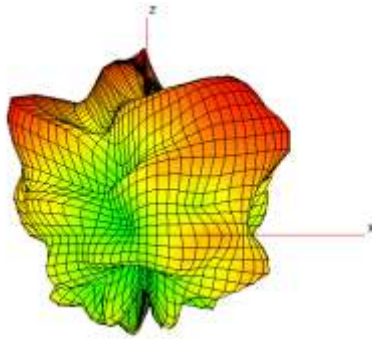
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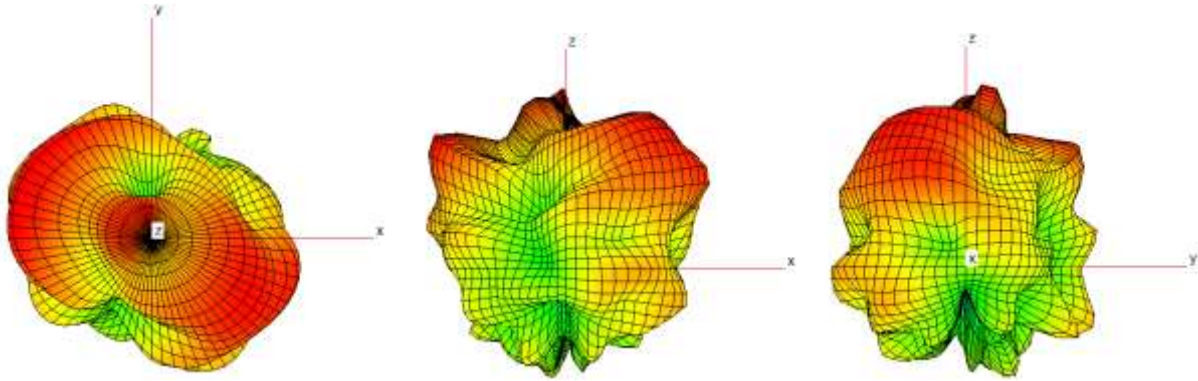


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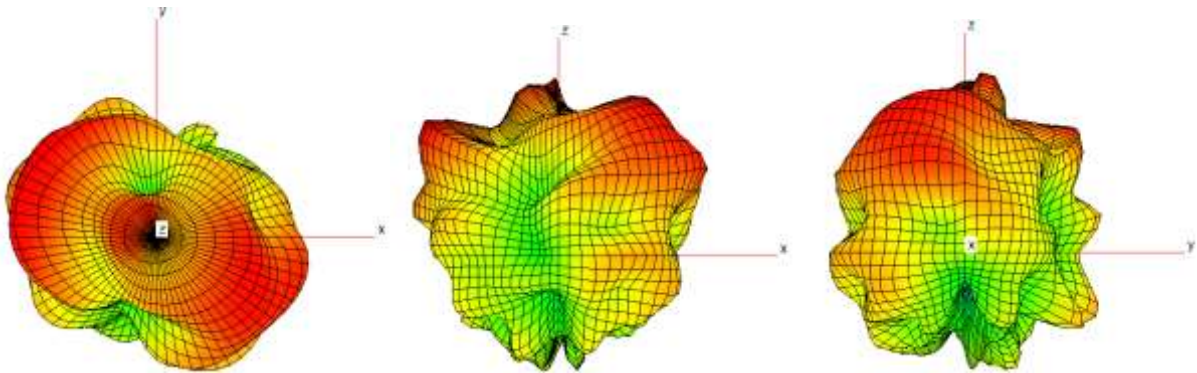


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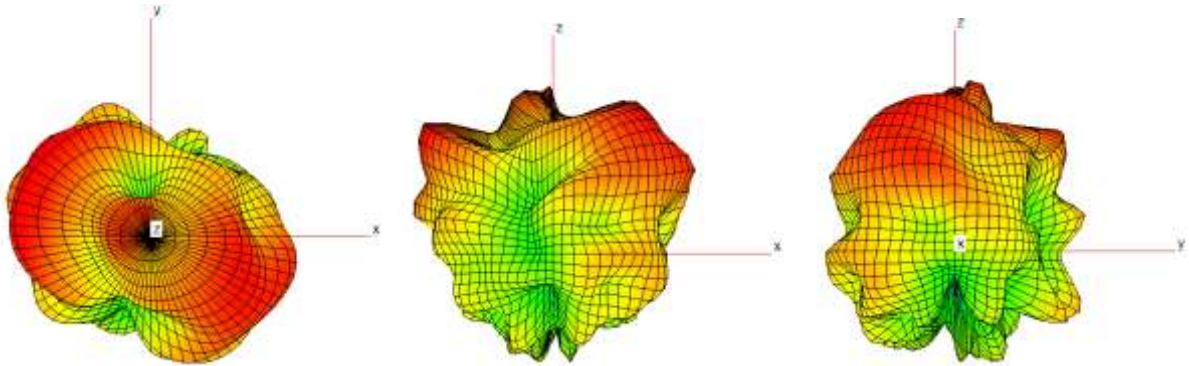




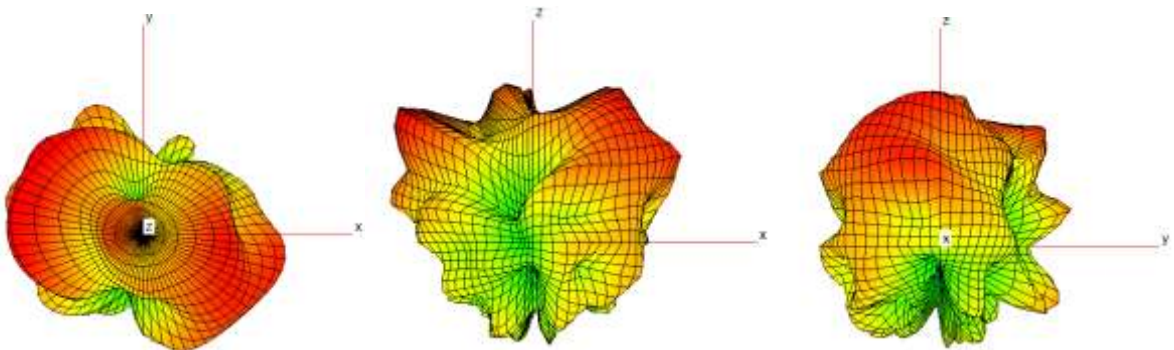
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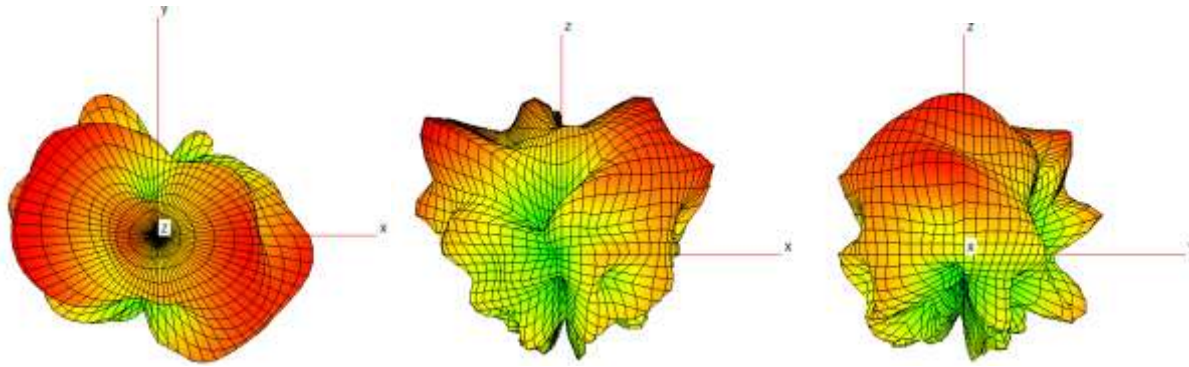


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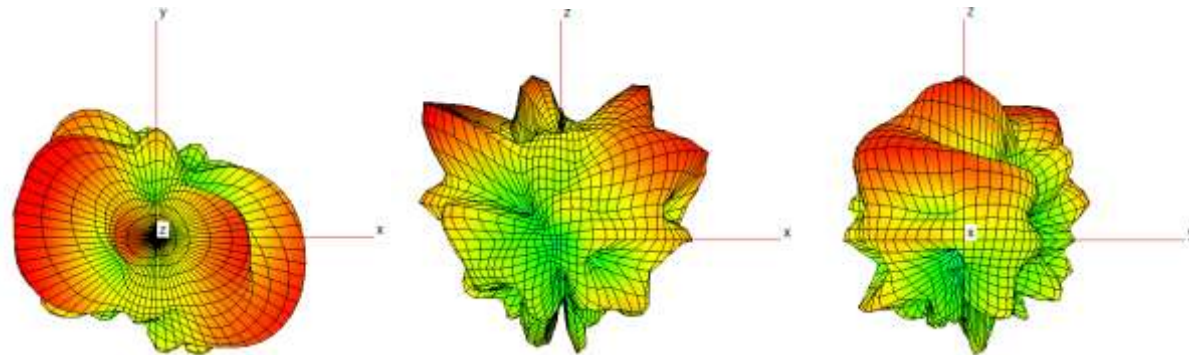


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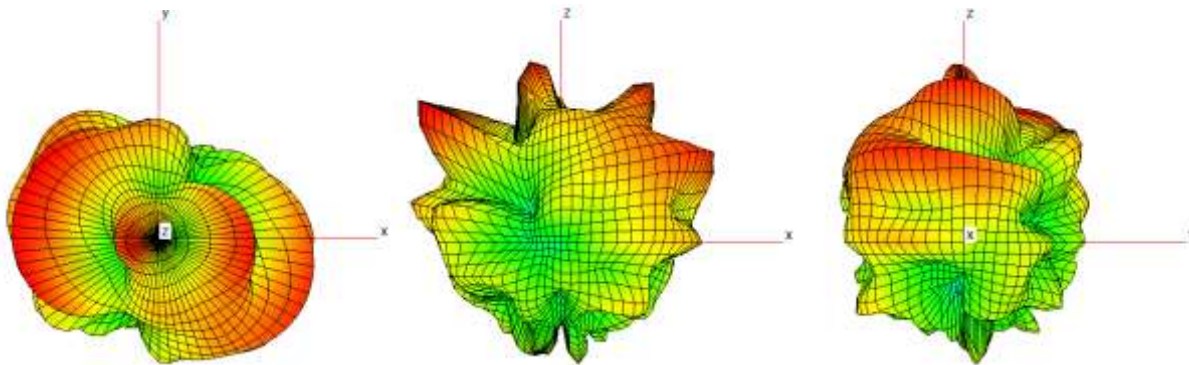
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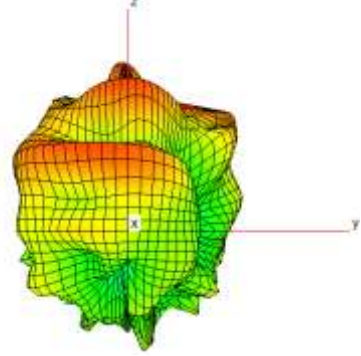
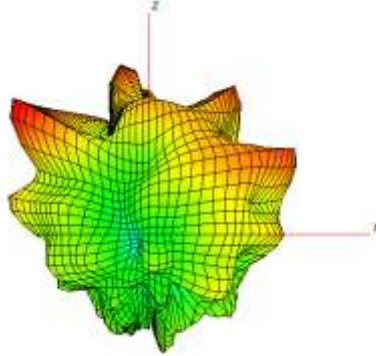
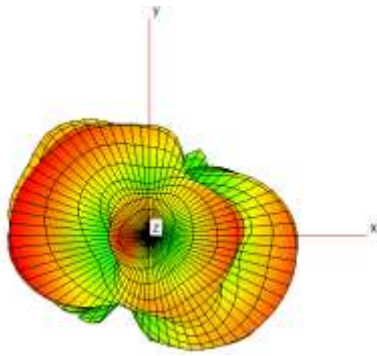
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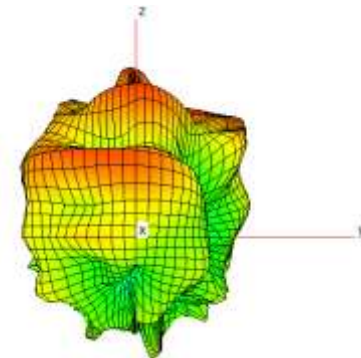
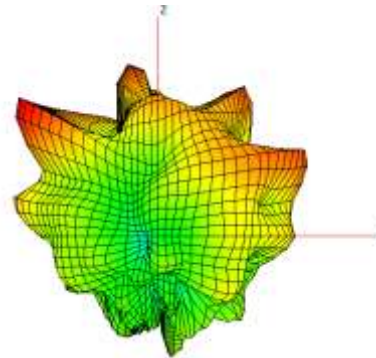
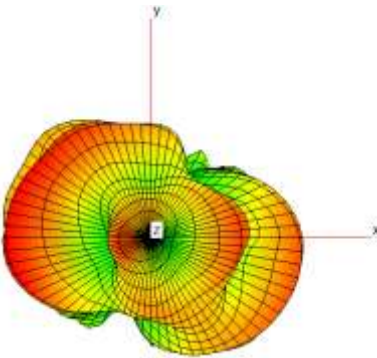
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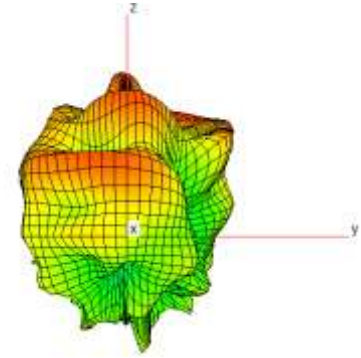
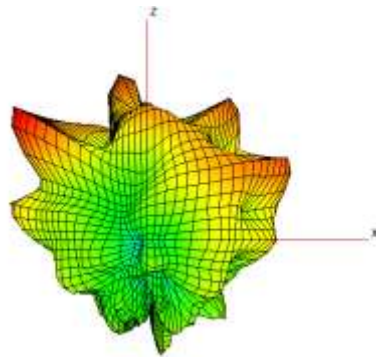
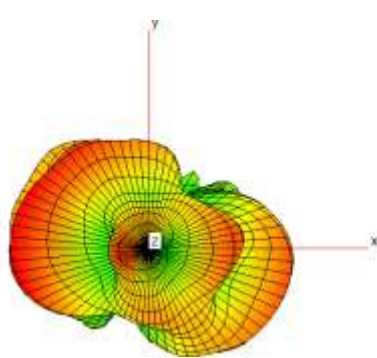
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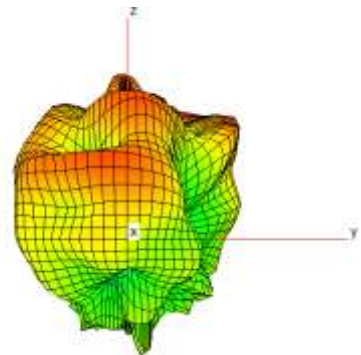
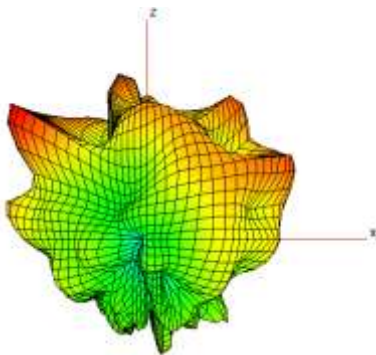
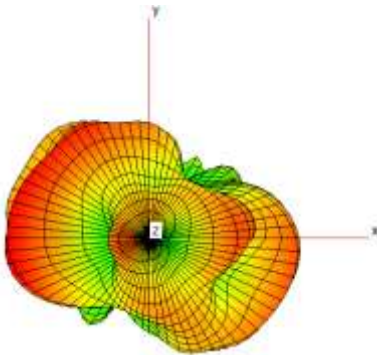
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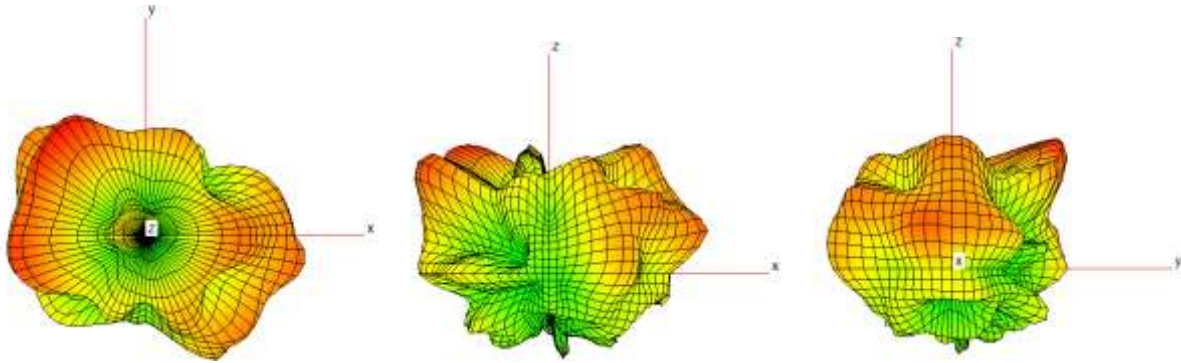
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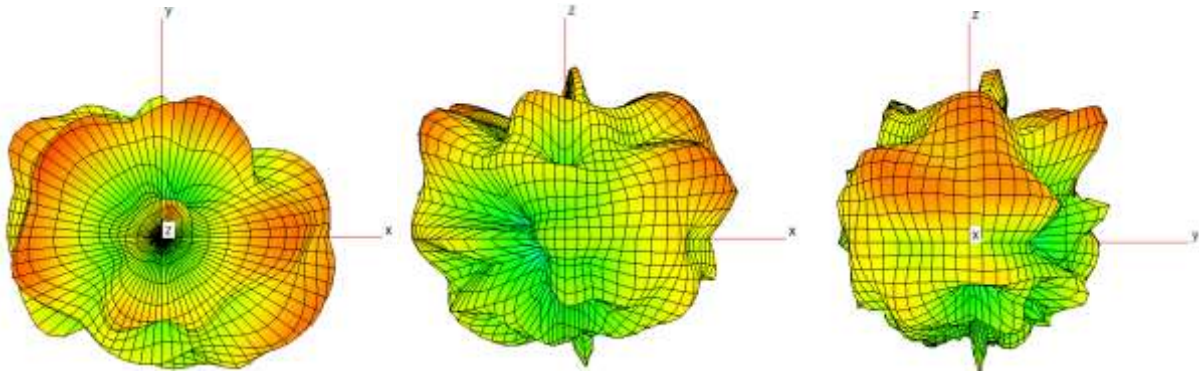
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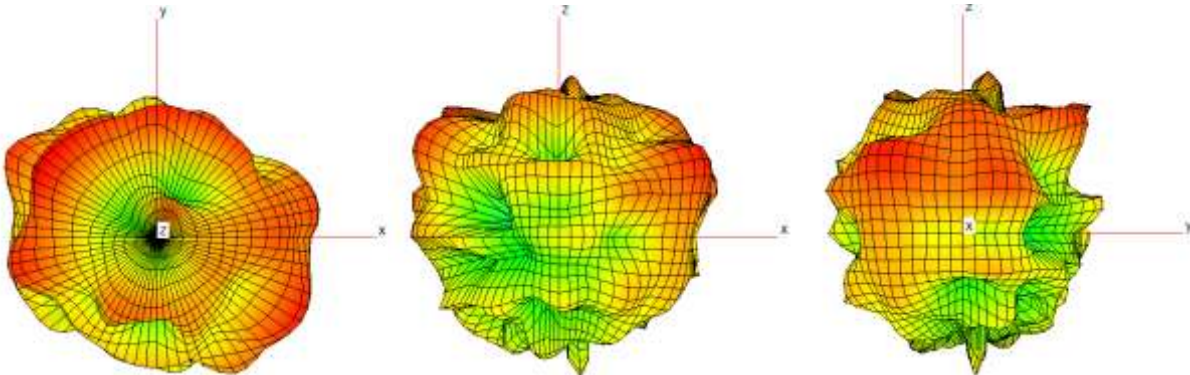
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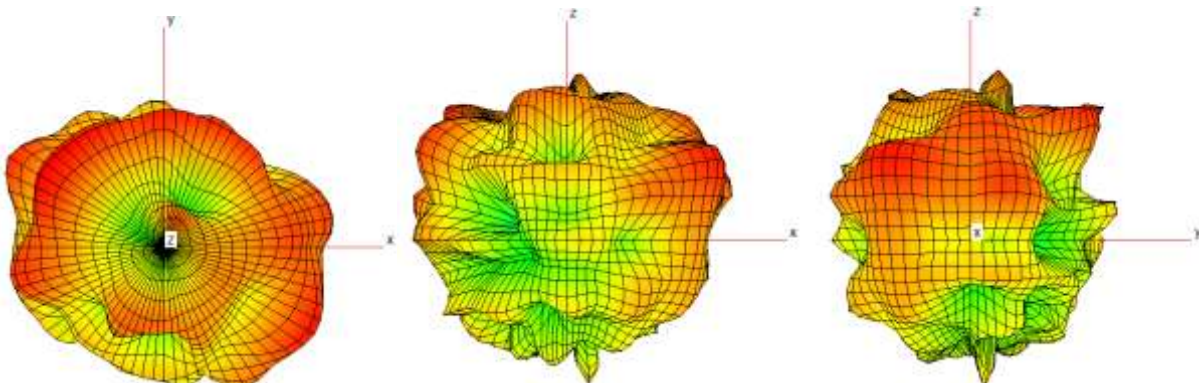
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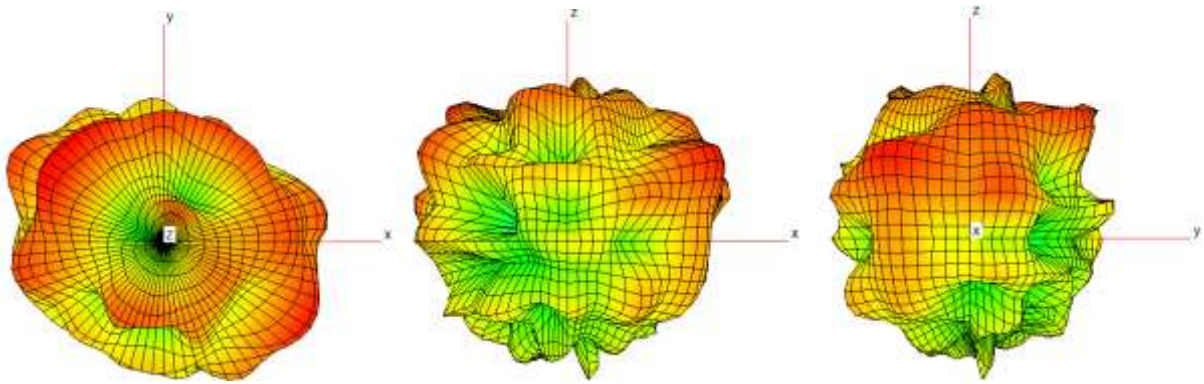
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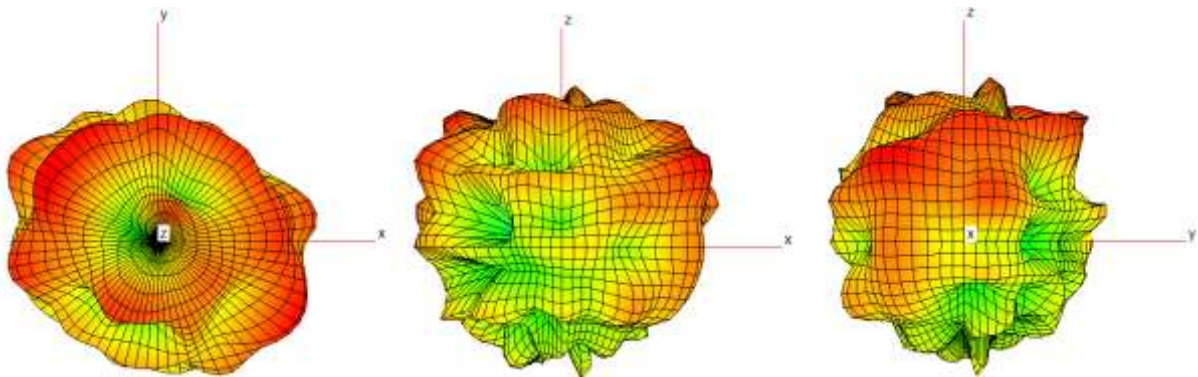
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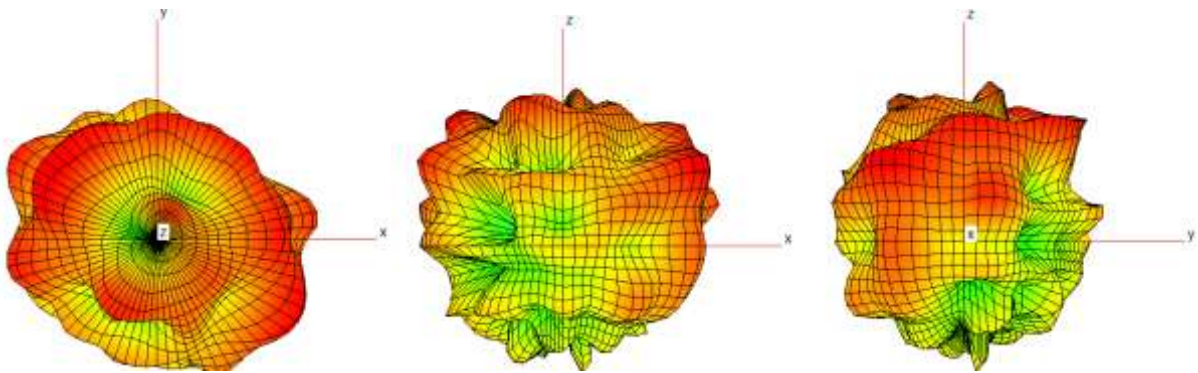
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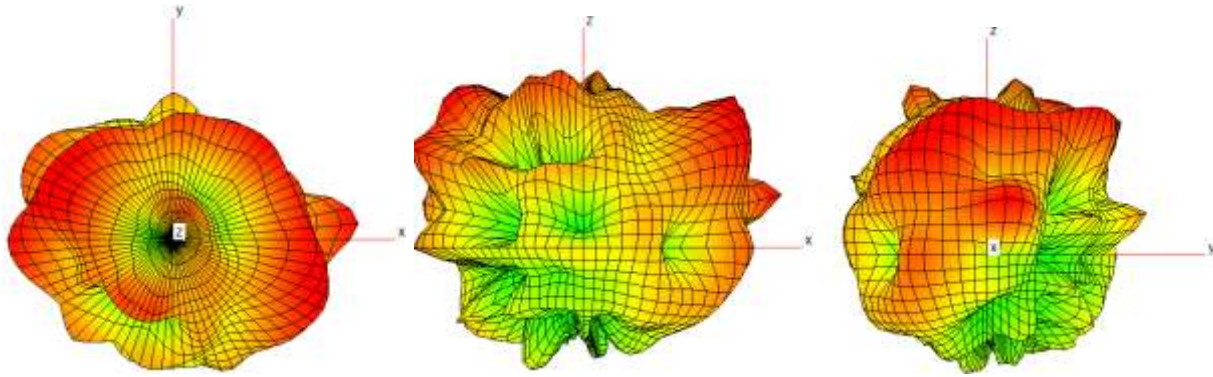
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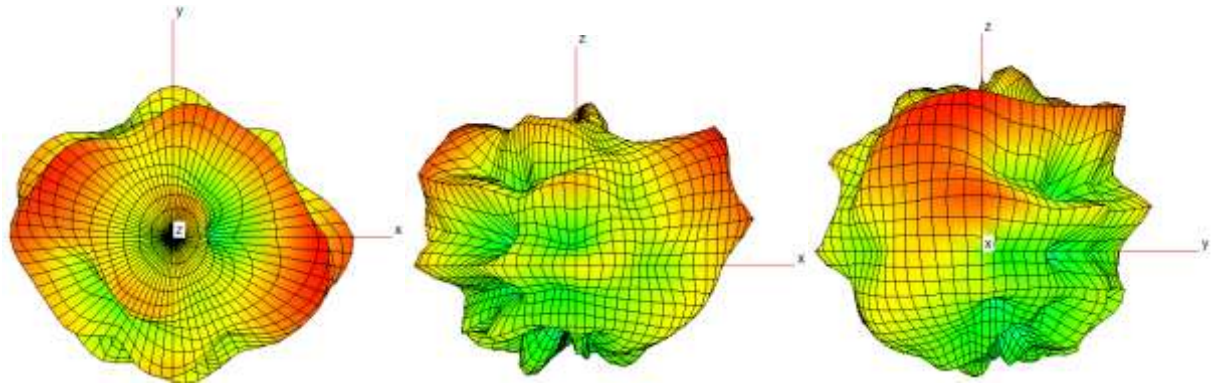
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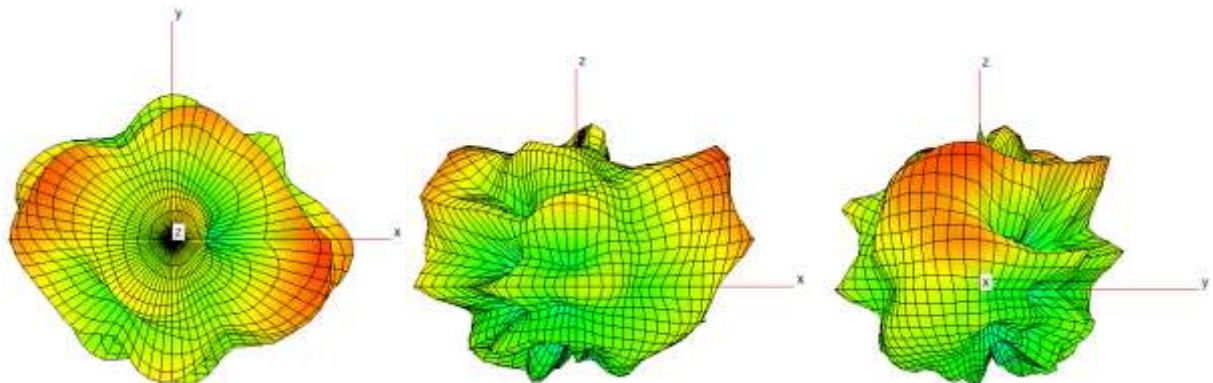
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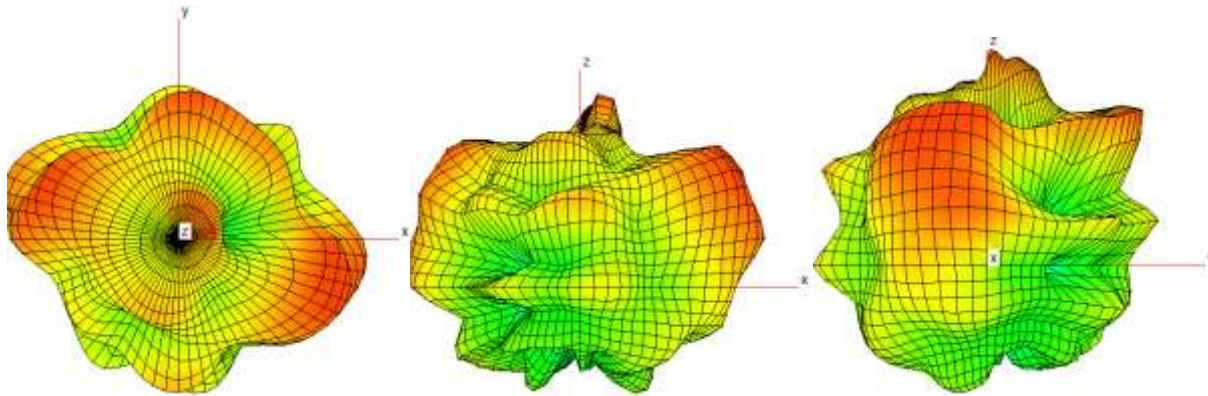
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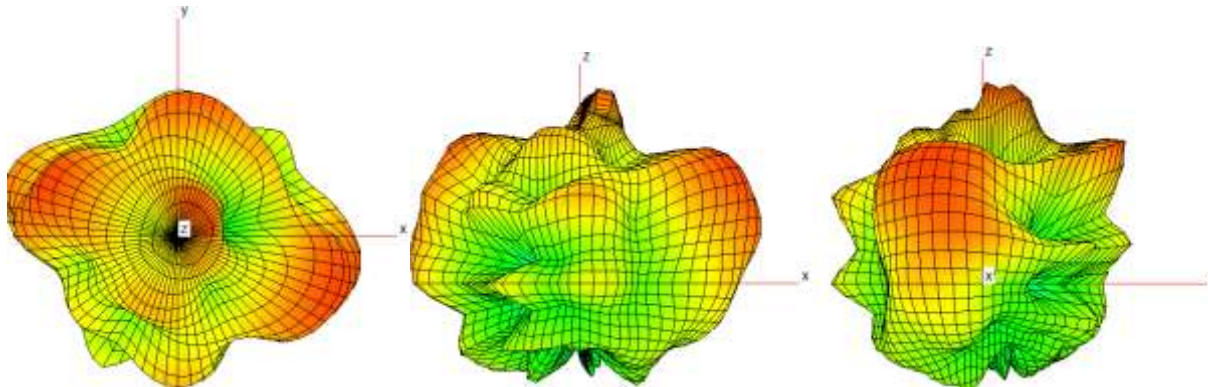
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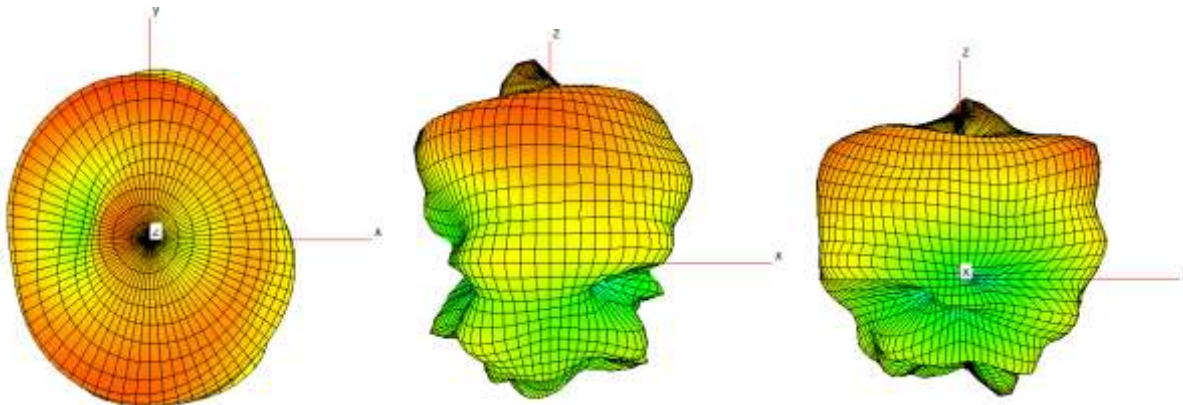


Antenna 1

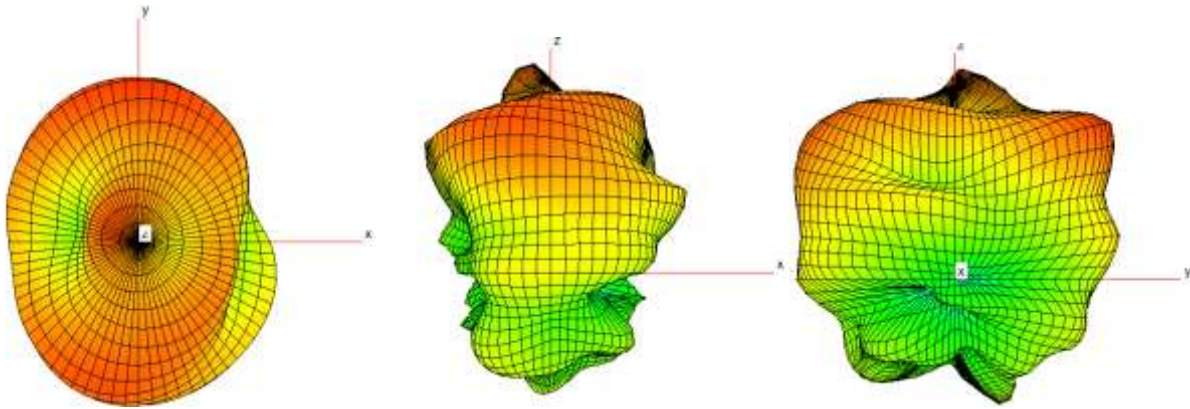
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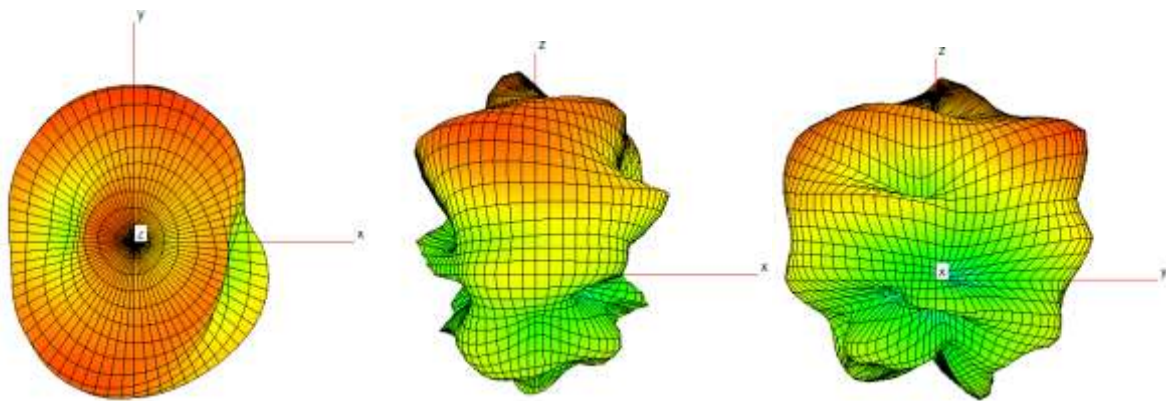
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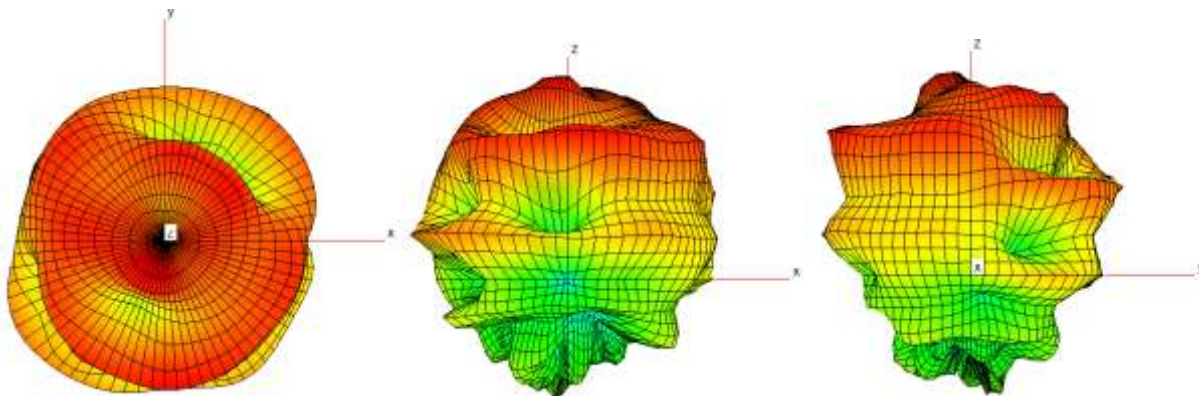
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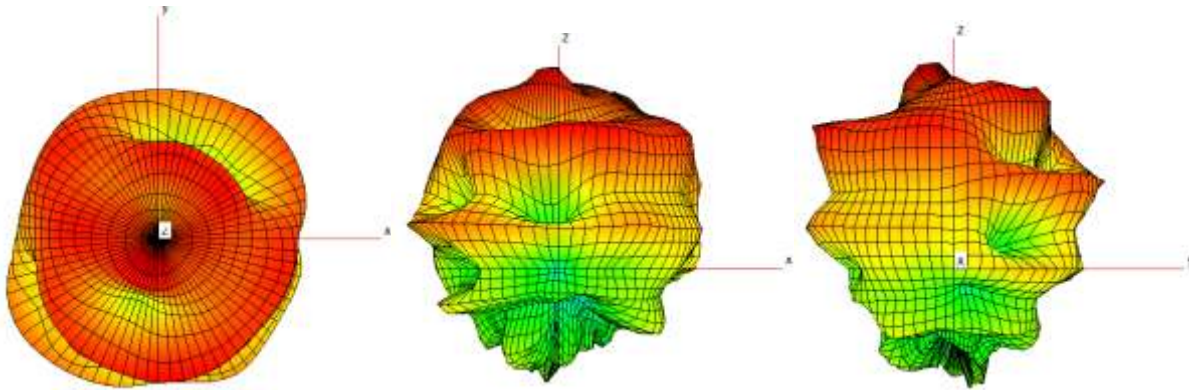
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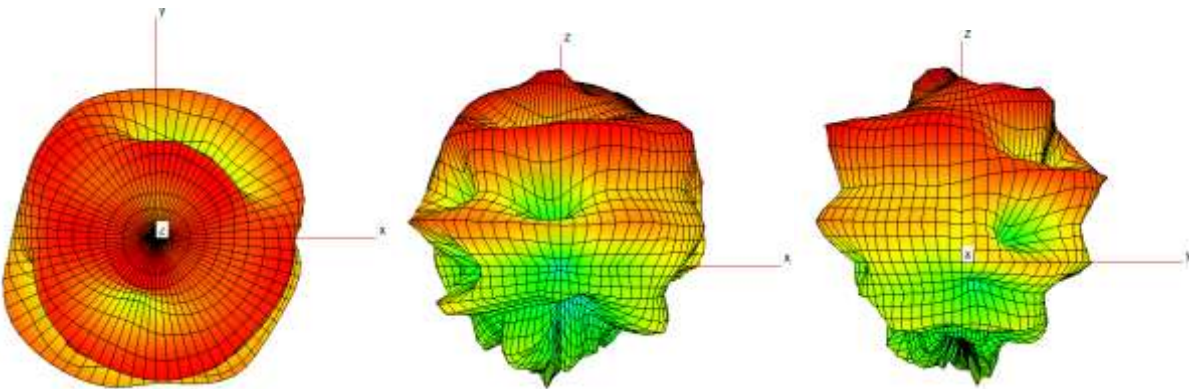
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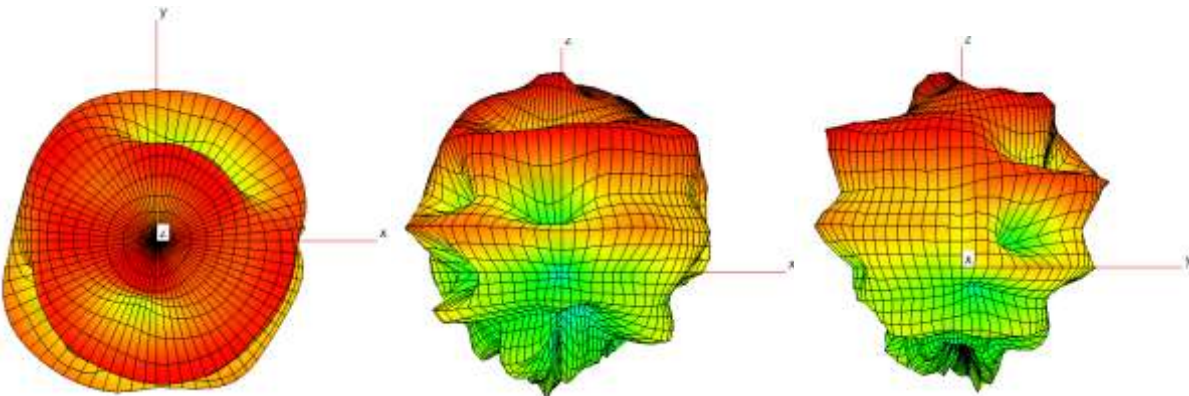
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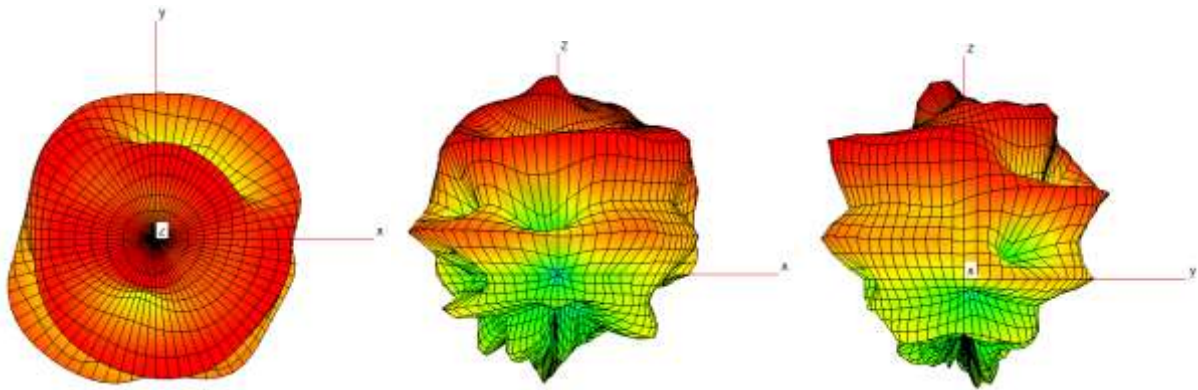
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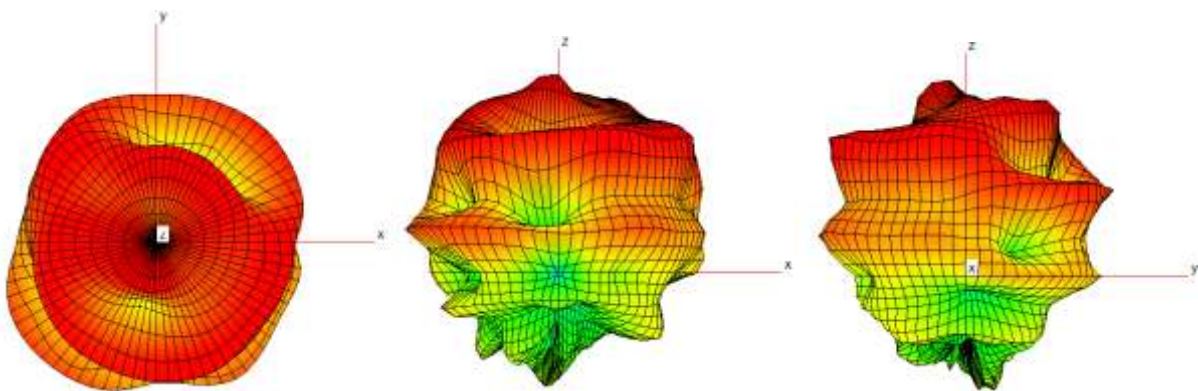
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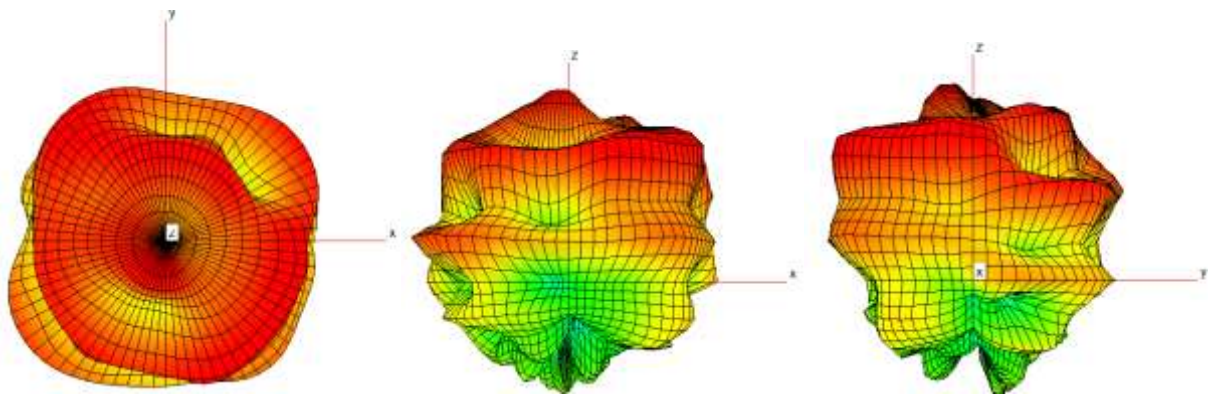
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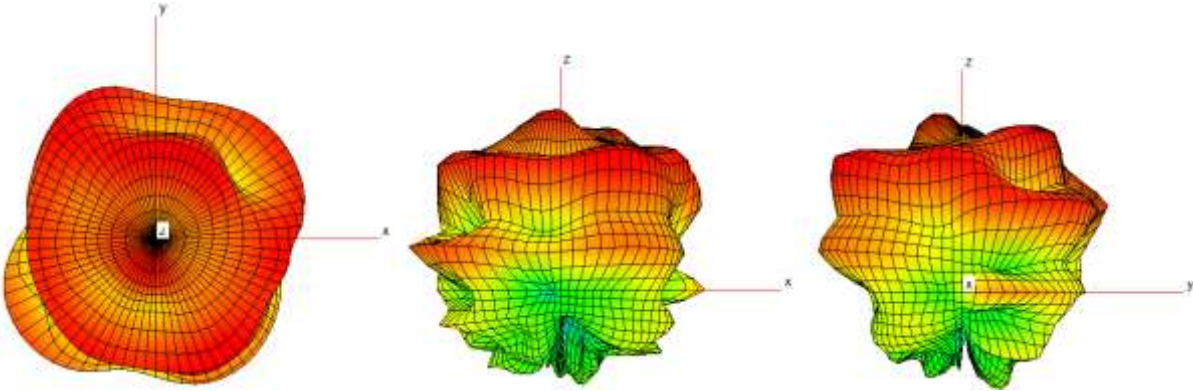
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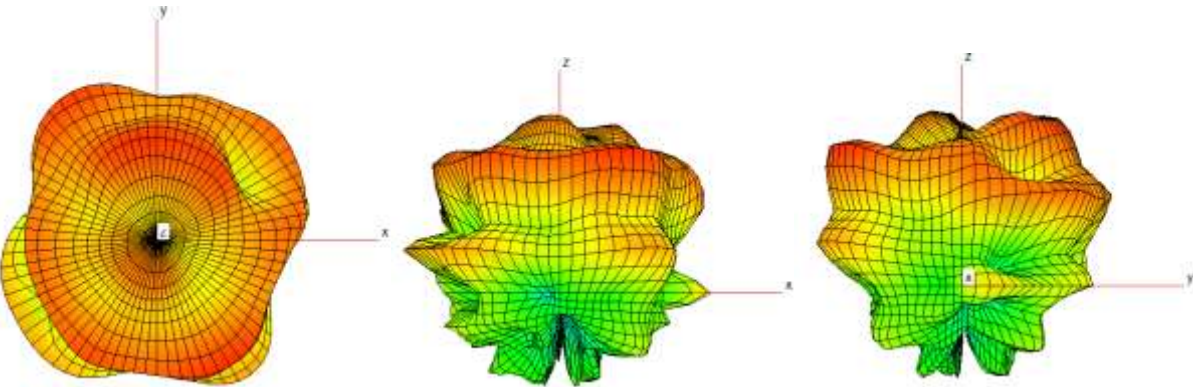
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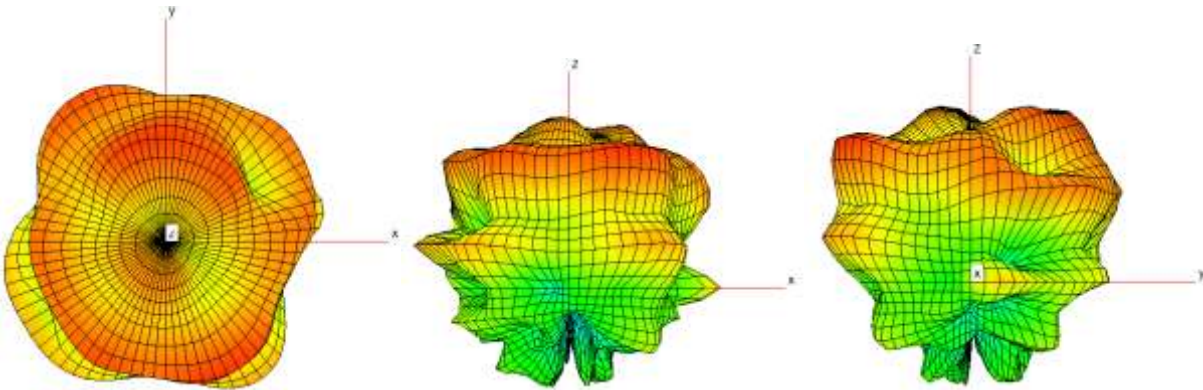
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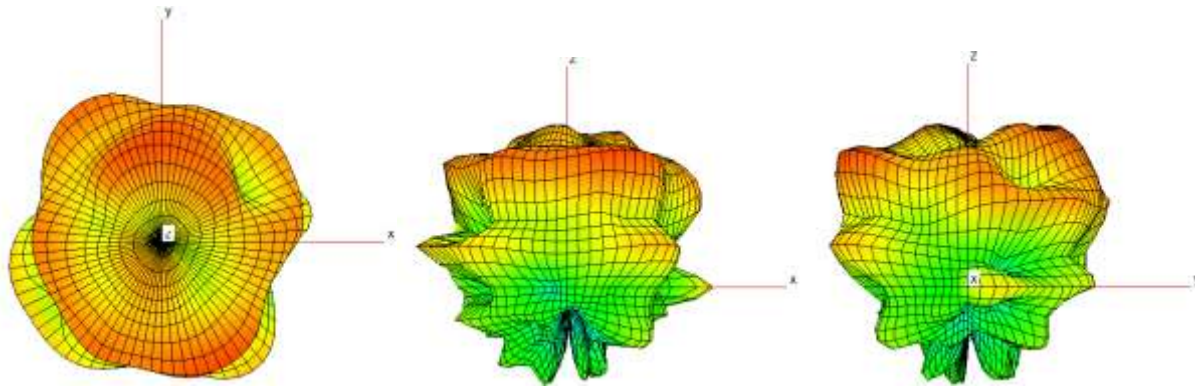
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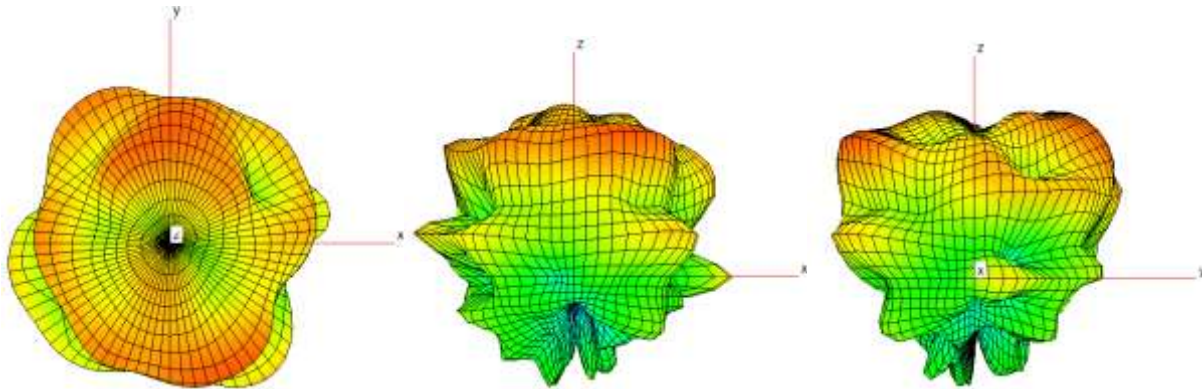
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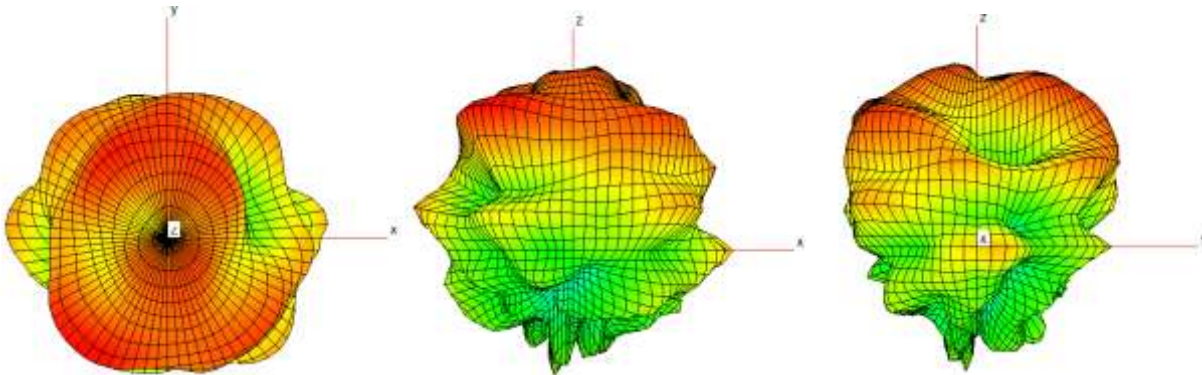
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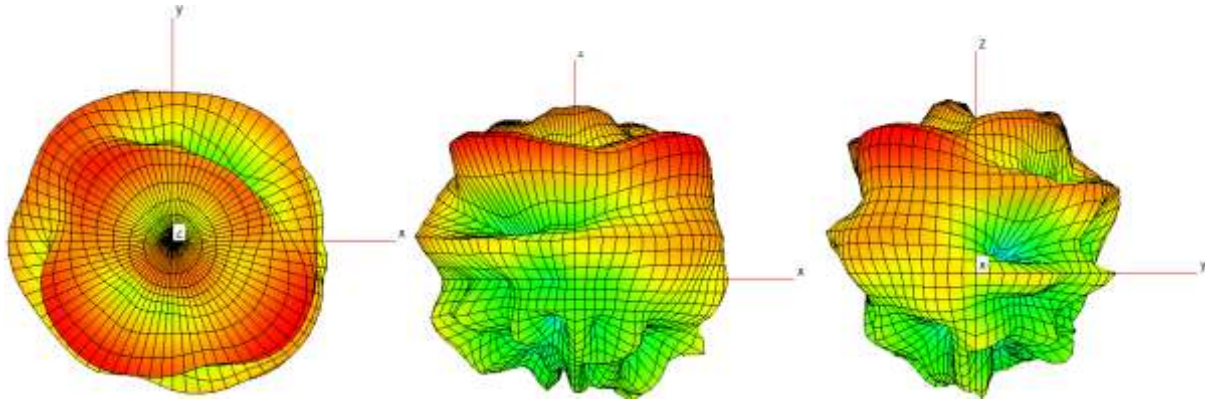
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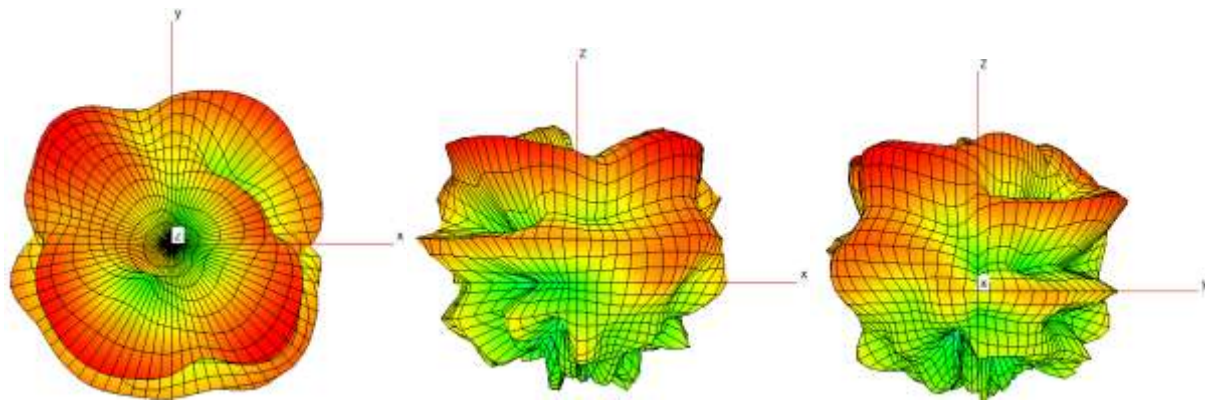
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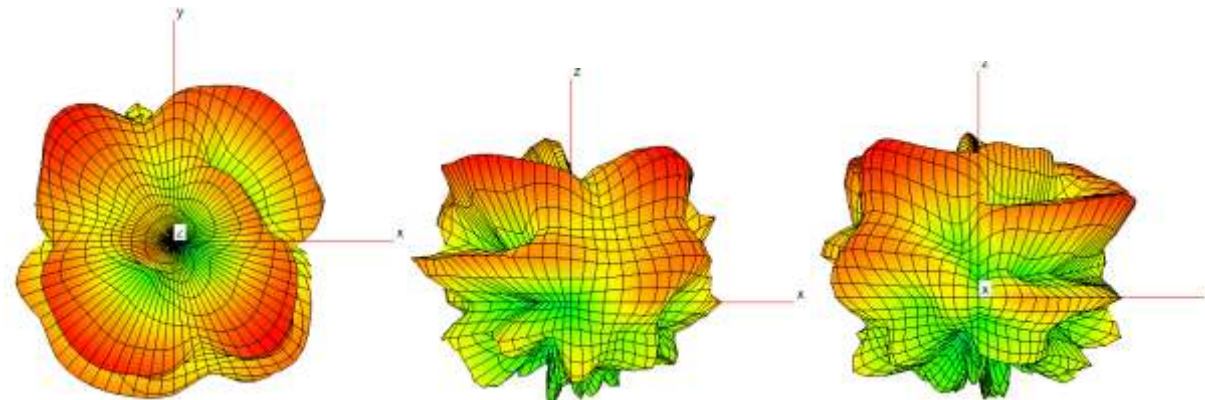
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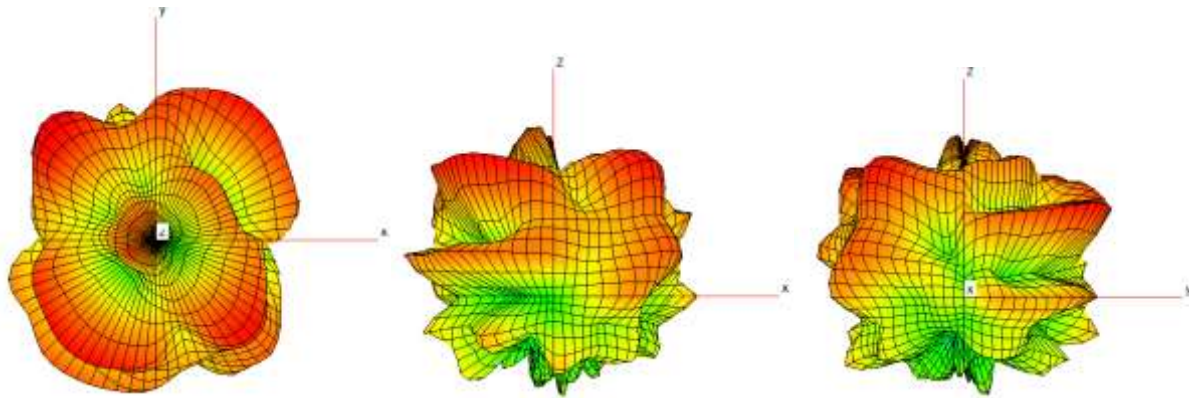
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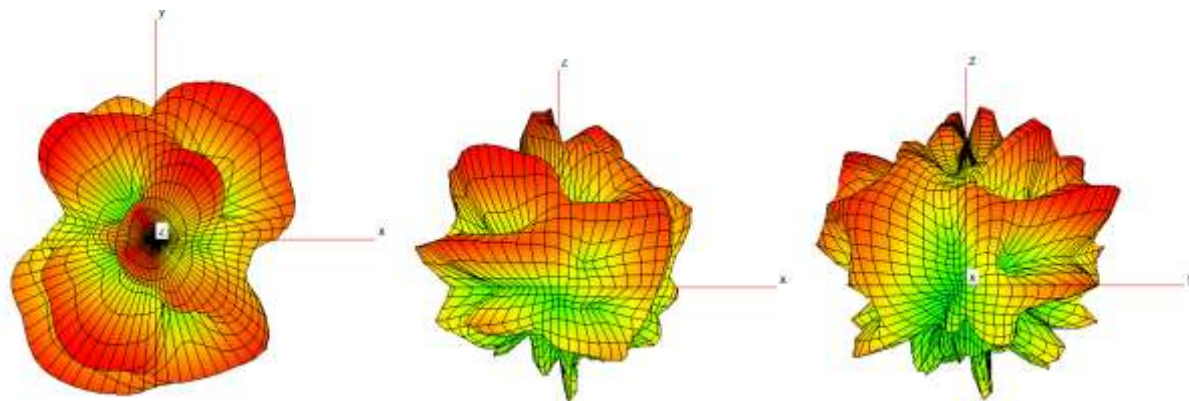
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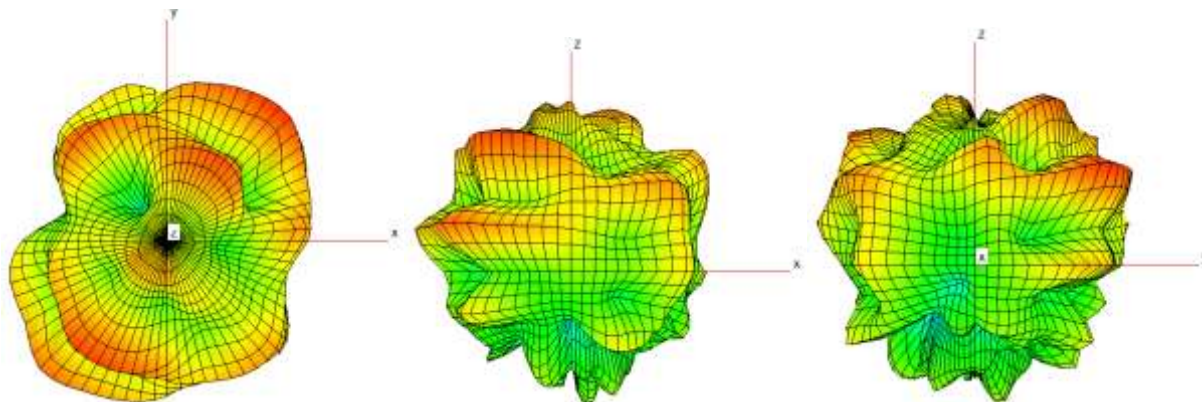
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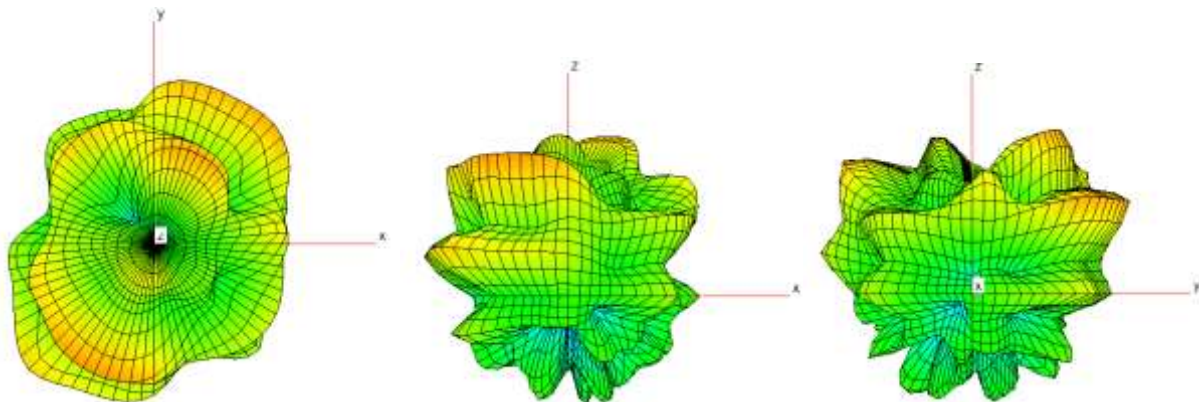
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6855



7015



7095

