Antenna

YFCO002AA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
-	2021-12-17	Eleven RONG/ Jason LONG	Creation of the document
1.0	2021-12-17	Eleven RONG/ Jason LONG	First official release
1.1	2022-01-12	Jason LONG	Updated to IPEX MHF original terminal and added the antenna weight parameter (Chapter 3).

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1 Product Description

To meet customers' requirements for the high performance, high integration, and integrated appearance of their products, Quectel provides a combined antenna box series. The antenna box can integrate a variety of antennas, such as 5G, 4G, GNSS, Wi-Fi antennas, to achieve communication functions of 5G MIMO, 4G, GNSS, and Wi-Fi. These antenna boxes can be mounted on the surface of devices via screw, adhesive or other methods, supports multiple connector types and cable lengths. It is a more flexible and reliable high-performance antenna solution for outdoor applications.

2 Product Features

- 4G & 5G
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications	
Frequency Range	600–6000 MHz
Input Impendence	50 Ω
VSWR	≤ 3
Gain	≤ 5.91 dBi
Polarization Type	Linear

Detailed Passive Electrical Specifications								
Frequency Range (MHz)	**600–960**	**1176–1280**	**1400–1610**	**1710–2170**	**2170–2690**	**3300–4000**	**4000–5000**	**5000–6000**
VSWR (Max.)	2.92	-	1.7	2	2	2.2	2.5	3
Max. Peak Insulation (dB)	-10	-	-17	-18	-18	-30	-26	-30
Average Efficiency (%)	52.88	-	73.39	68.99	65.61	66.96	59.12	49.98
Max. Peak Gain (dBi)	3.46	-	4.94	4.65	4.23	4.85	4.81	5.91

Mechanical Specifications	
Antenna Size	237 mm × 22 mm
Casing	FPC
Connector Type	IPEX I
Working Temperature	-40 °C to +85 °C
Radome Color	Black
Mounting Type	Adhesive
Antenna Weight	3.1 g

4 Overall Performance

4.1. Test Environment

- KEYSIGHT VNA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 600 MHz – 8.5 GHz



4.2. VSWR

- Test on the 3mm ABS.

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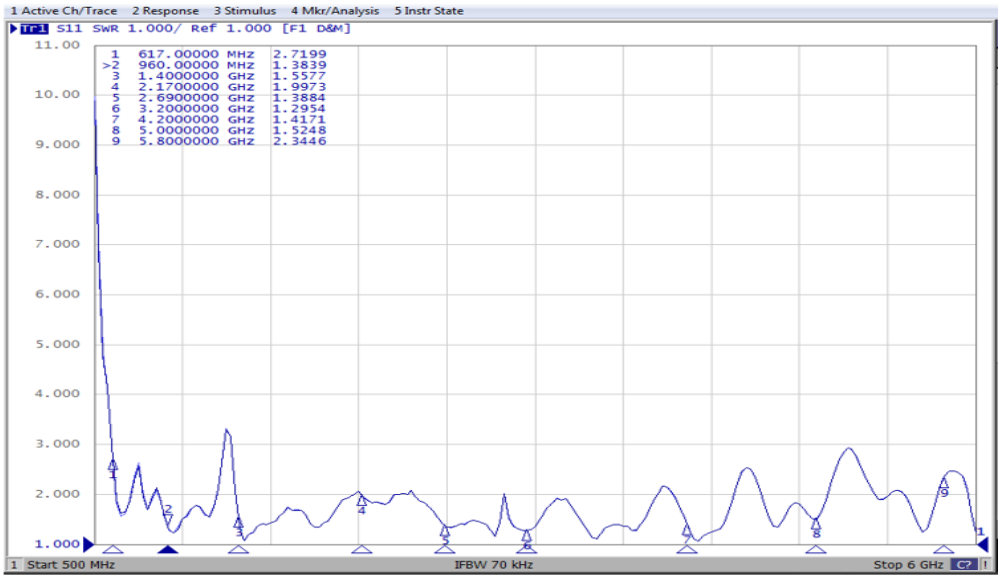

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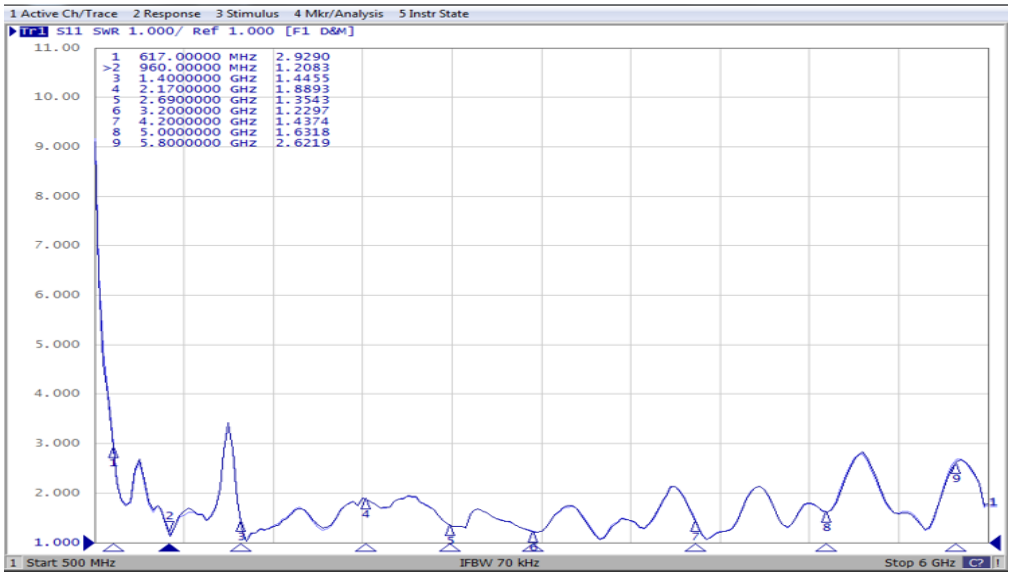
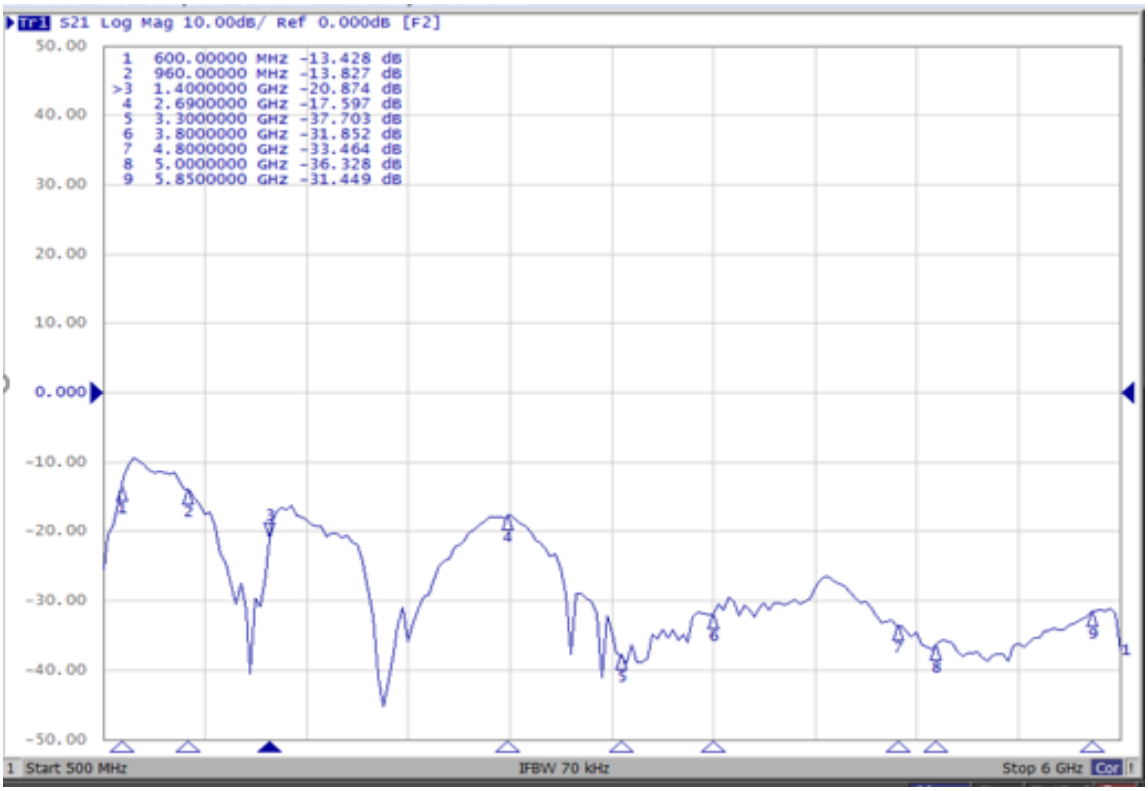


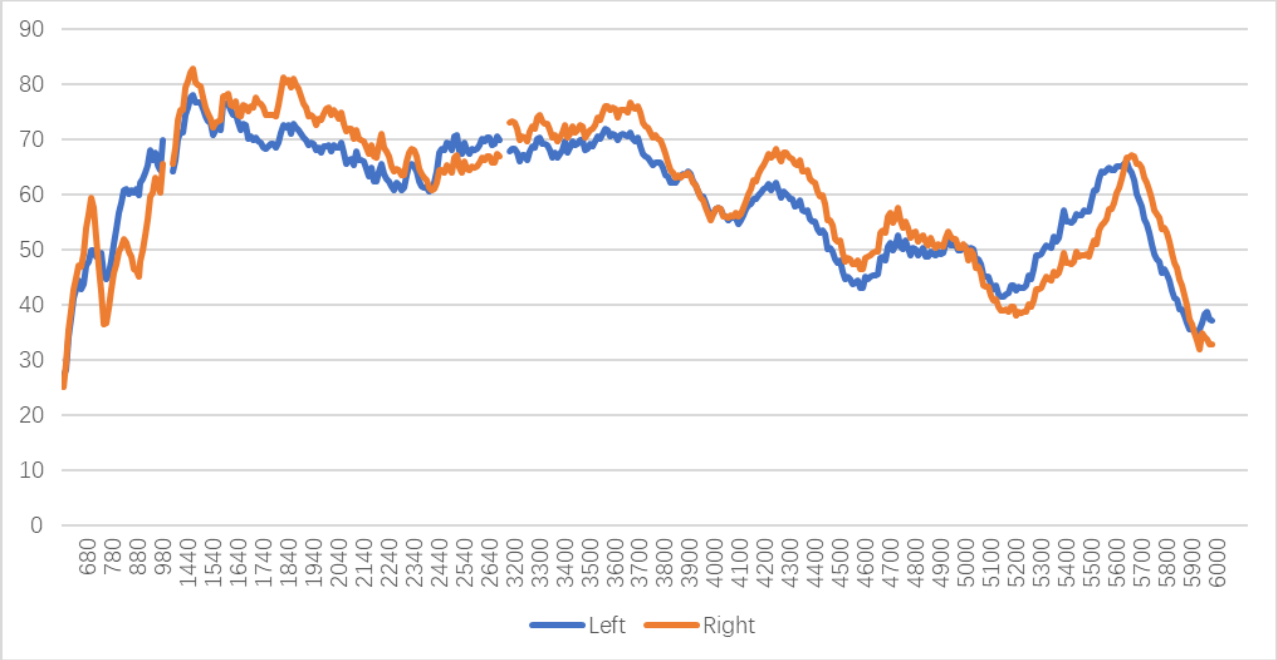
Frequency (MHz)	600	960	1400	2170	2690	3200	4200	5000	5800
VSWR-Left	2.71	1.38	1.55	1.99	1.28	1.29	1.41	1.52	2.34
VSWR-Right	2.92	1.20	1.44	1.88	1.35	1.22	1..43	1.63	2.62

4.3. Isolation



Frequency (MHz)	600	960	1400	2690	3300	3800	4800	5000	5850
Insulation (dB)	-13.4	-13.8	-20.8	-17.5	-37.7	-31.8	-33.4	-36.3	-31.4

4.4. Efficiency



Frequency (MHz)	600	820	960	1400	1710	2690	3200	3800	4800	5000	5850
Efficiency (%) - Left	27.11	50.98	66.17	64.2	70.22	64.62	67.91	65.82	49.11	49.81	41.35
Efficiency (%) - Right	25.26	45.77	60.36	65.62	75.1	68.60	72.98	69.90	52.22	50.38	47.73

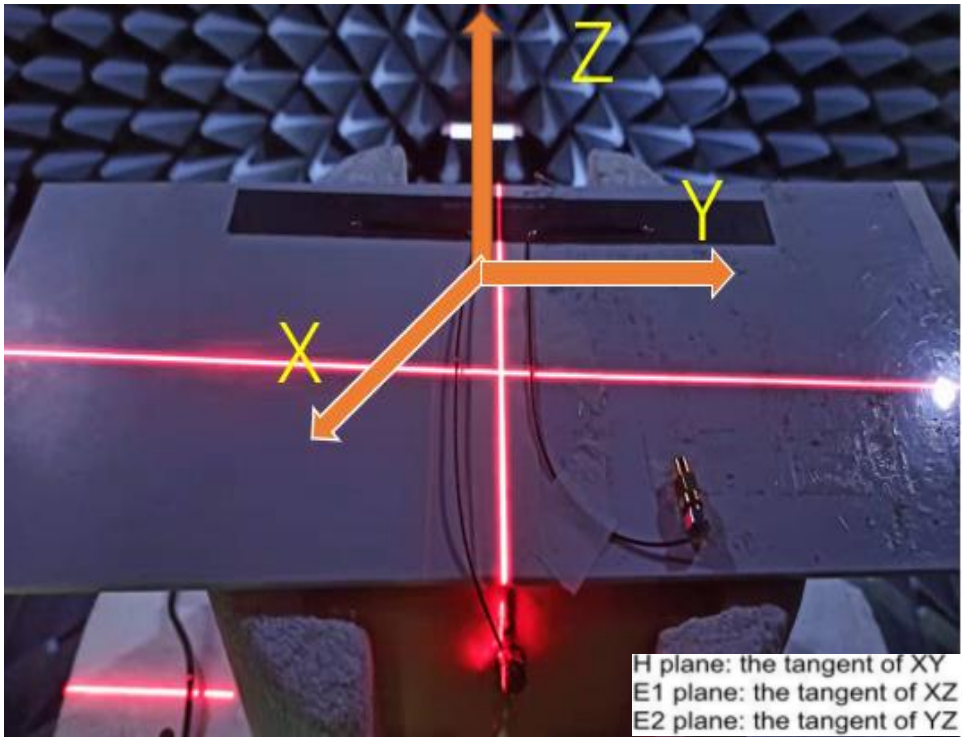
4.5. Gain



Frequency (MHz)	600	820	960	1400	1710	2690	3300	3800	4800	5000	5850
Gain (dBi) - Left	-3.3	1.37	1.30	3.52	3.19	4.02	4.30	3.00	1.04	1.43	3.17
Gain (dBi) - Right	-1.97	1.22	2.89	3.88	3.93	3.51	4.52	3.23	3.04	1.13	3.82

4.6. Radiation Pattern

- Test condition: free space.



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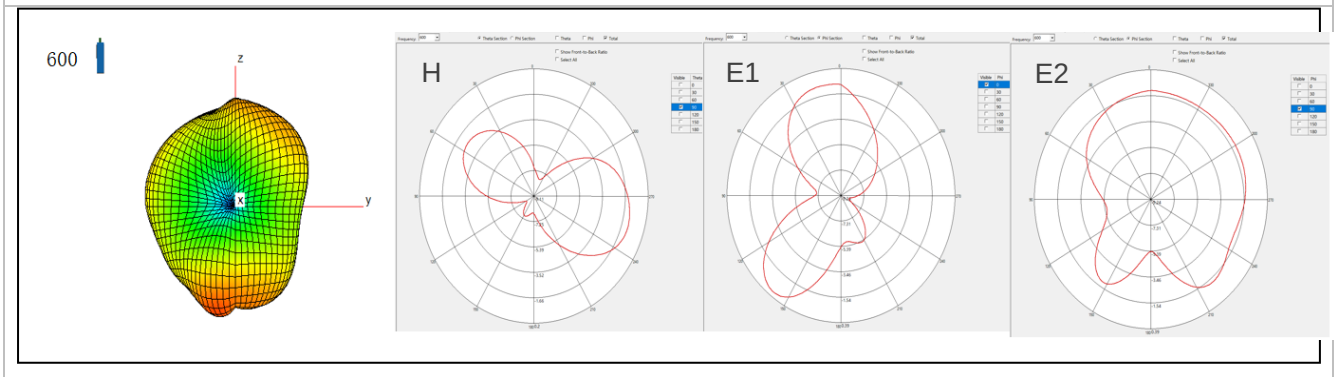

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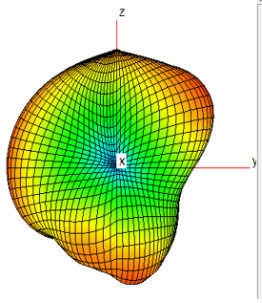

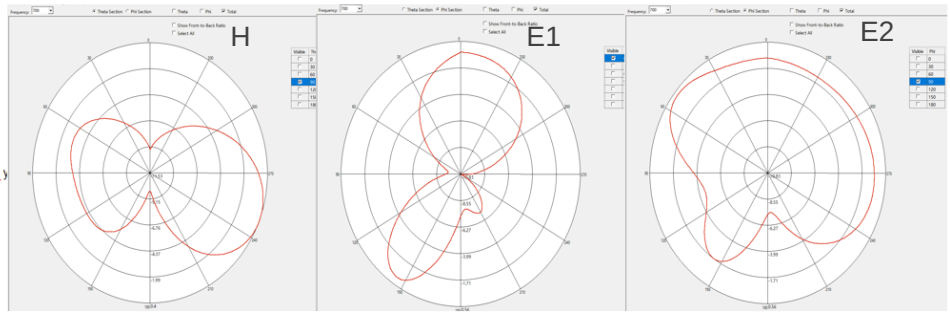

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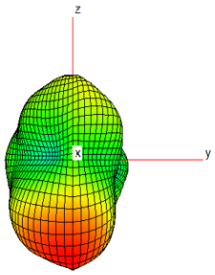

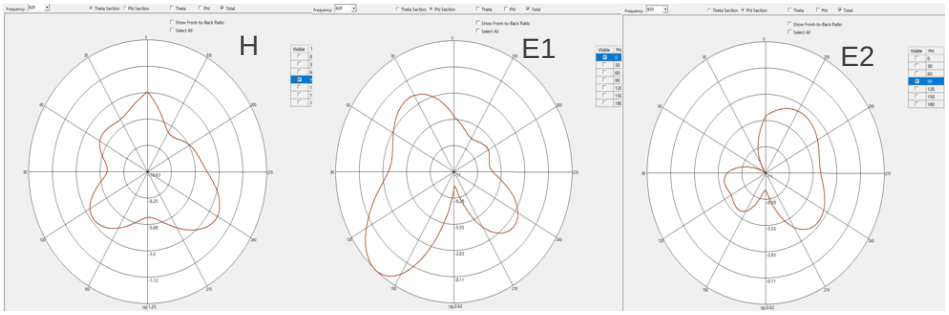

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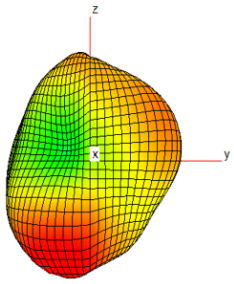

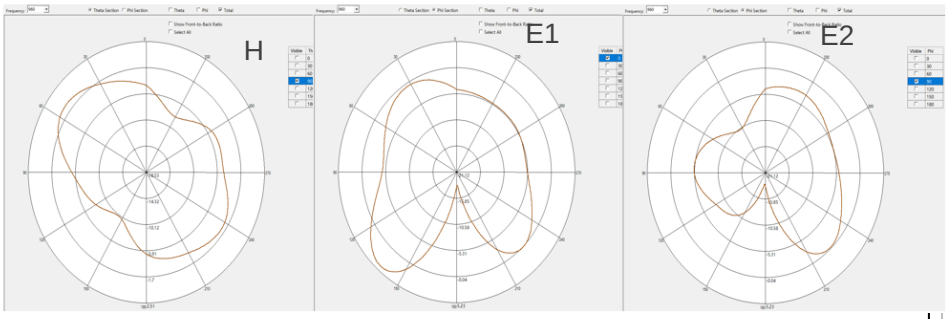

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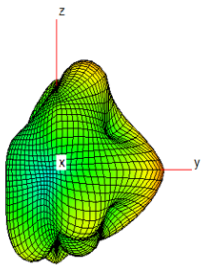

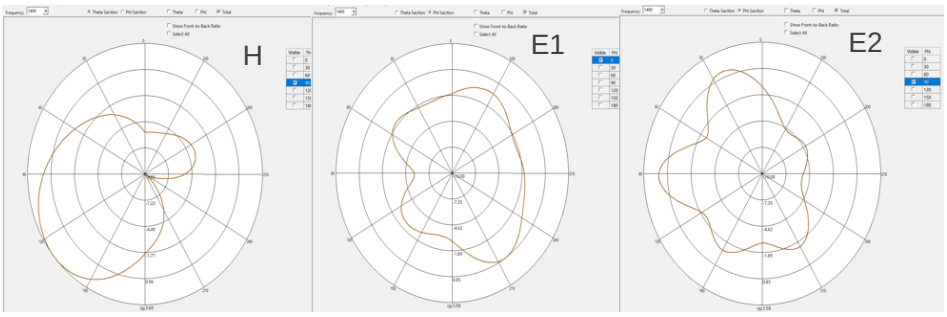

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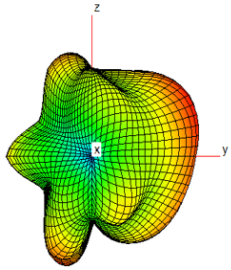

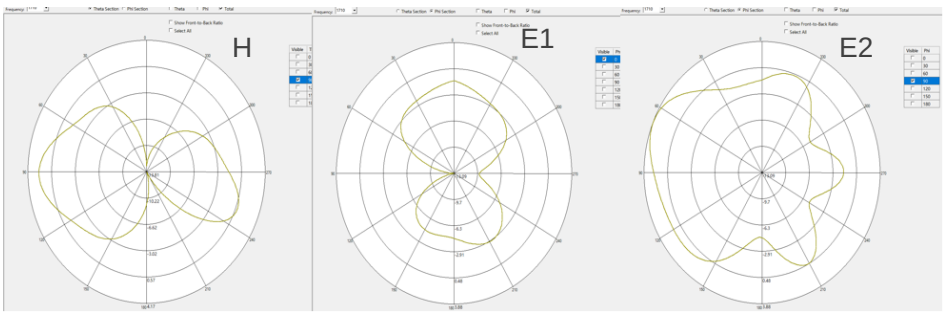

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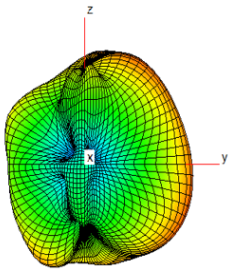

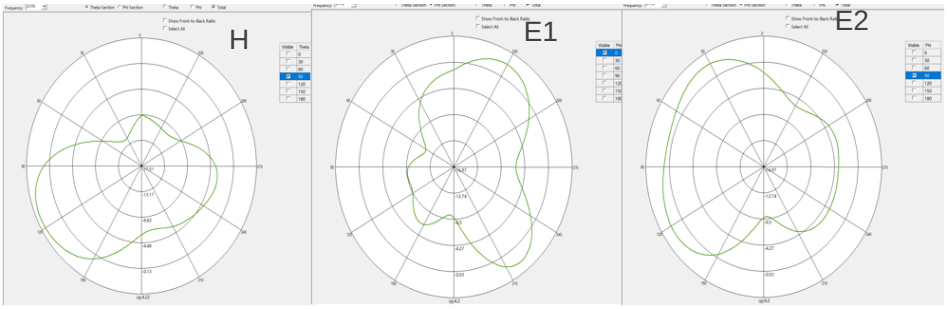

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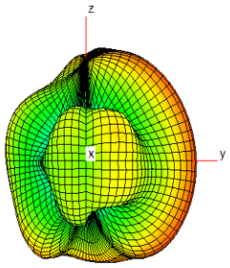

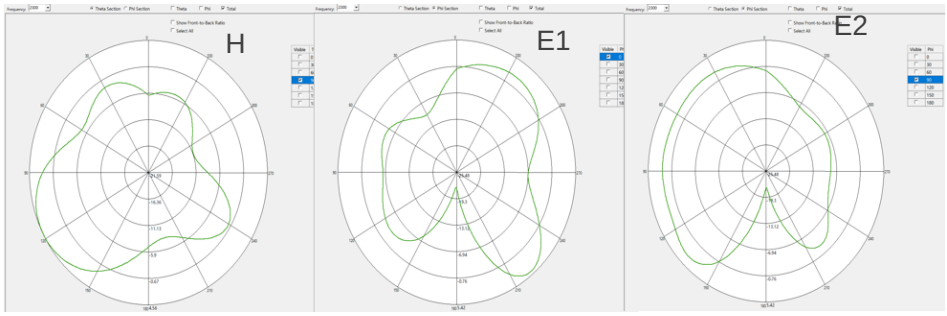

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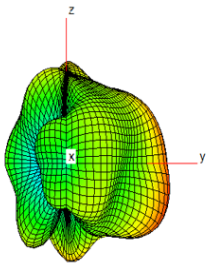

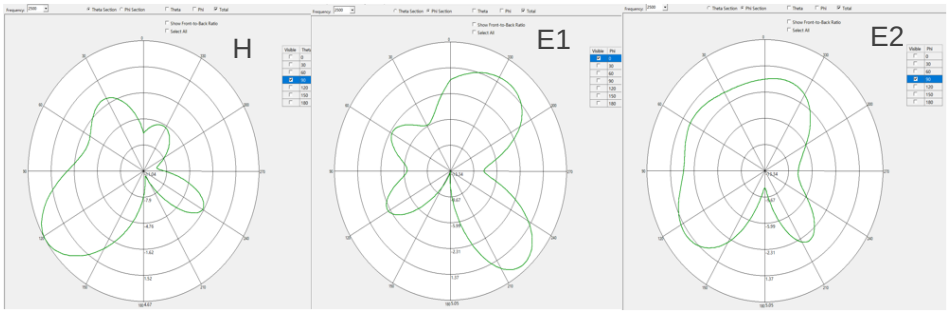

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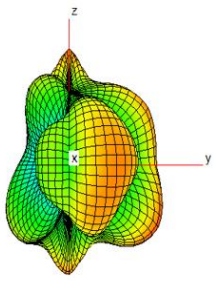

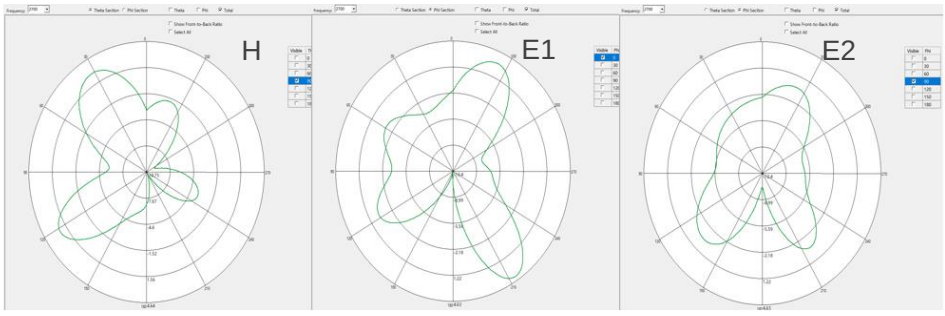

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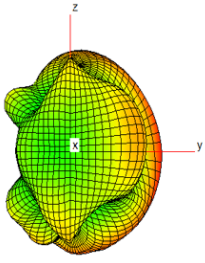

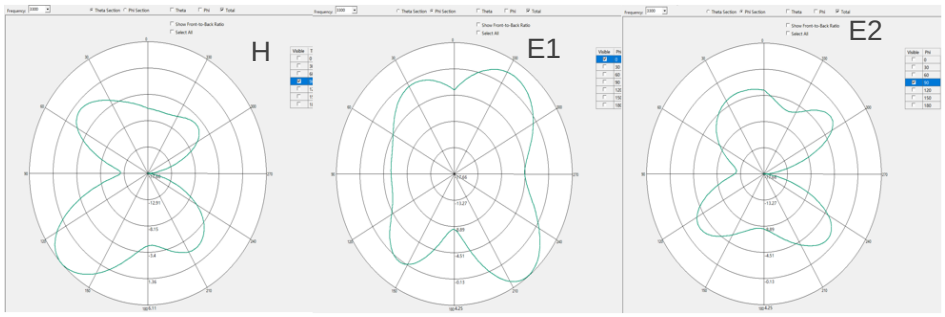

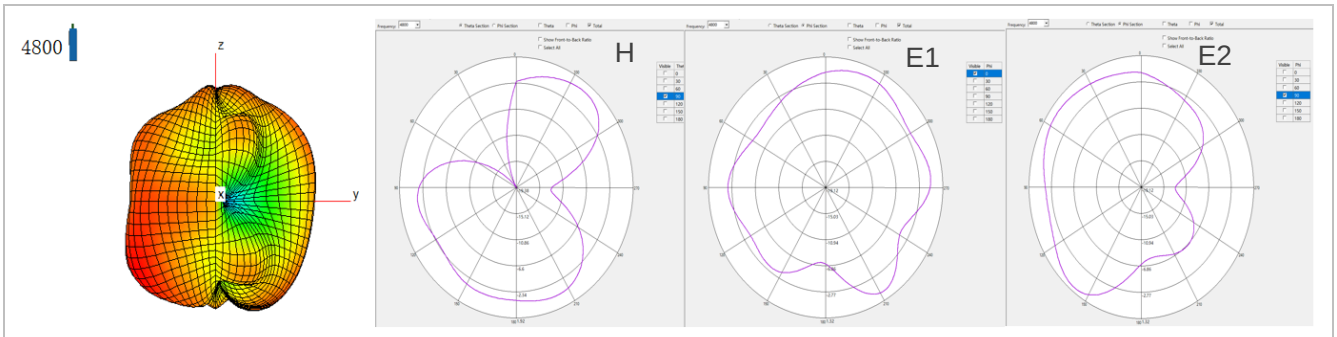

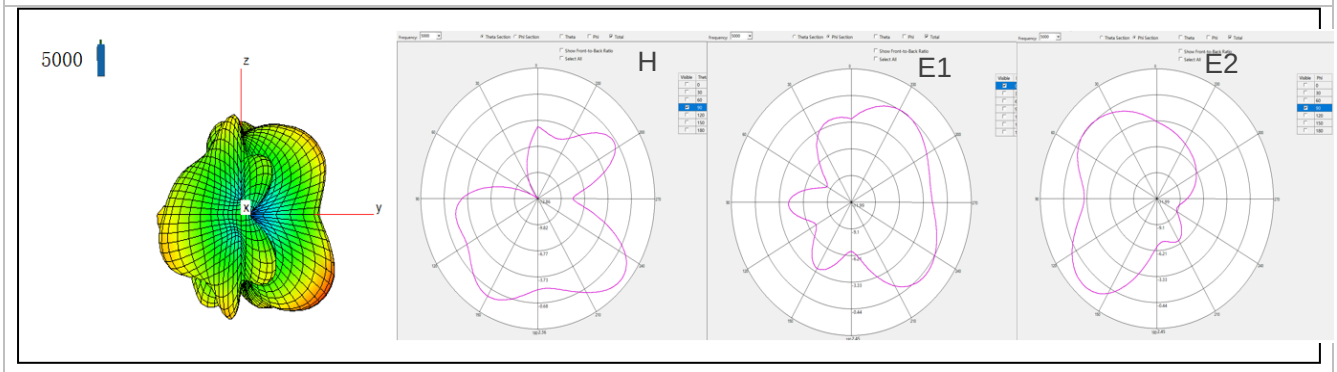

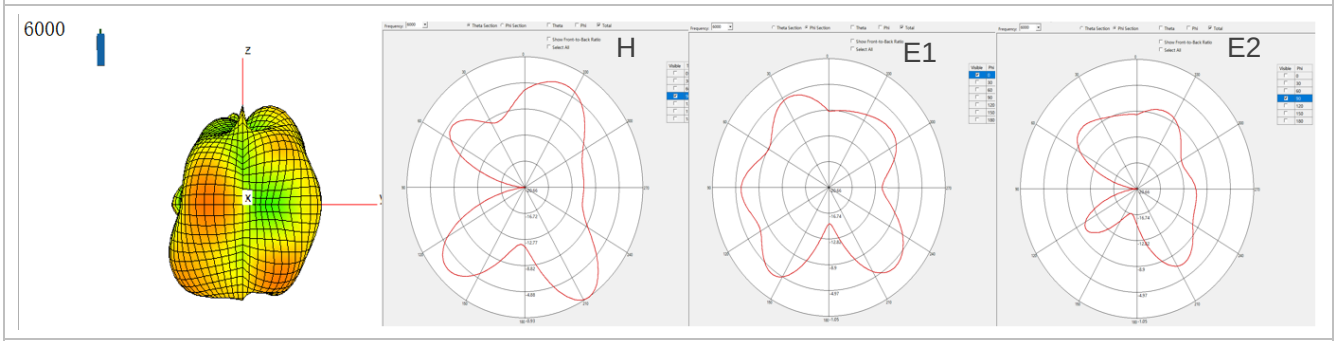

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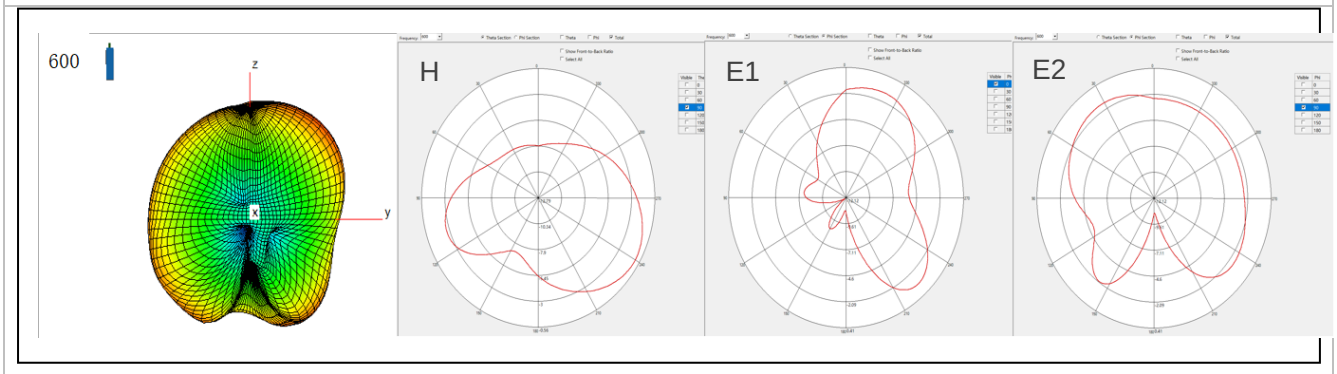

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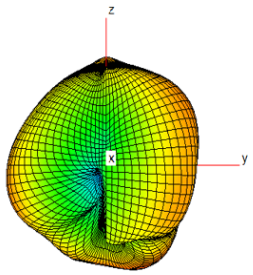

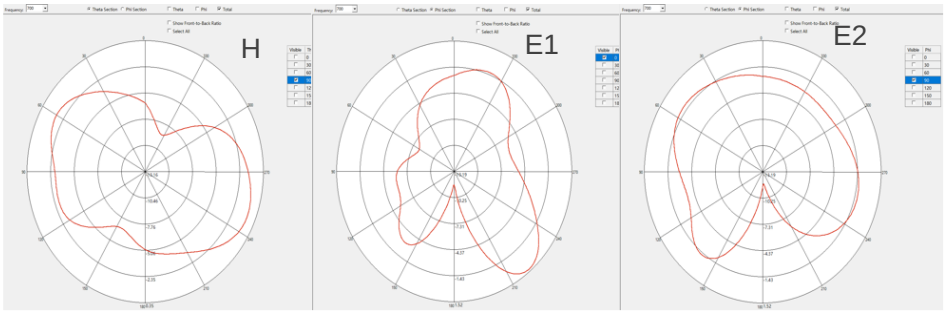

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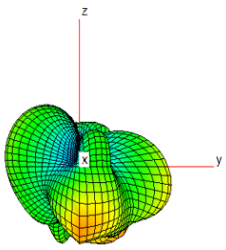

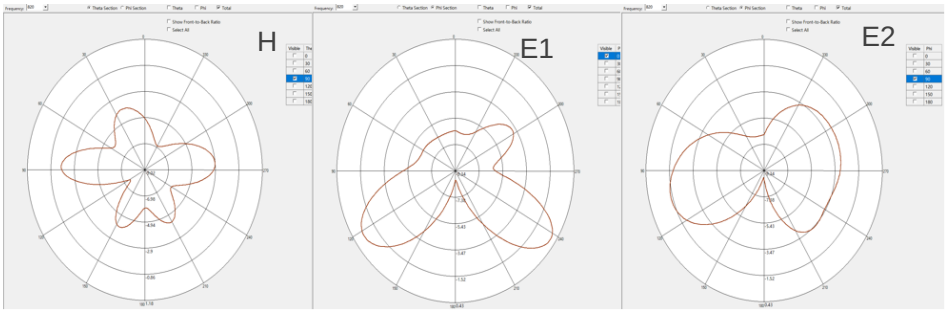

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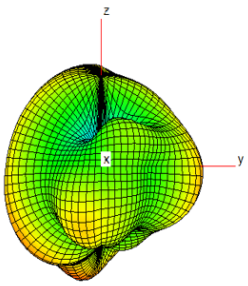

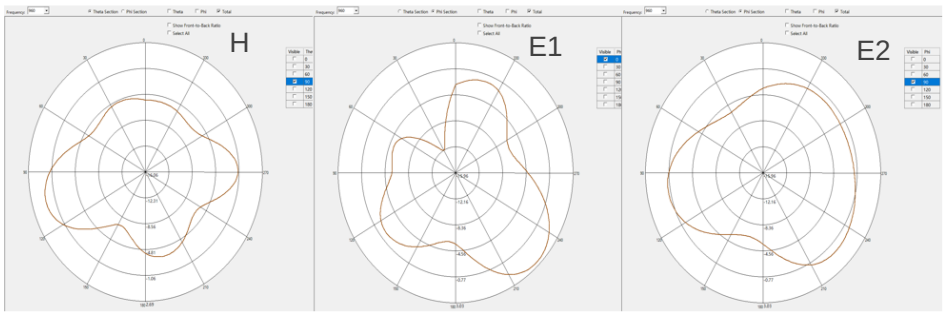

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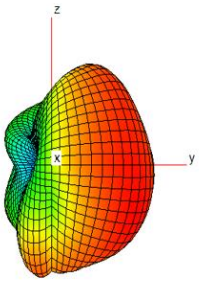

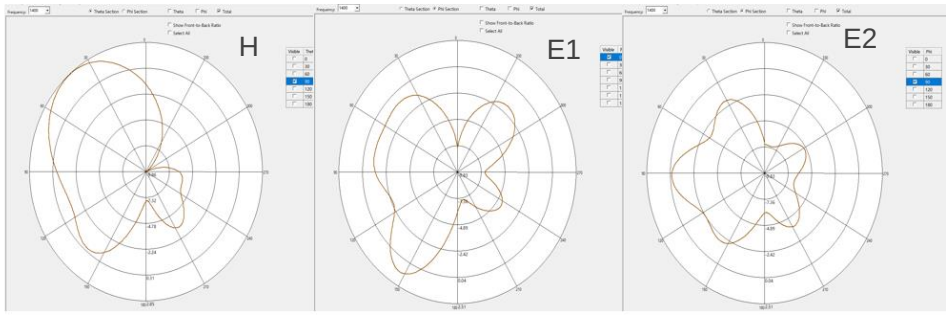

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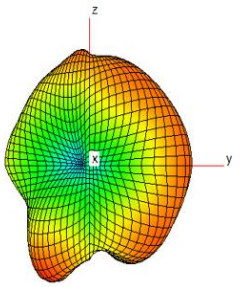

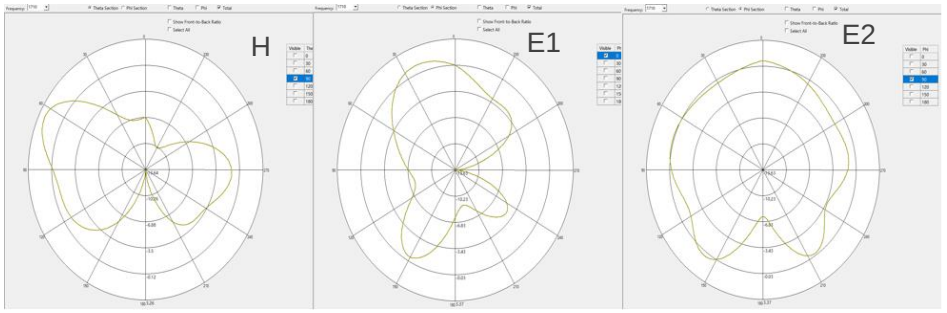

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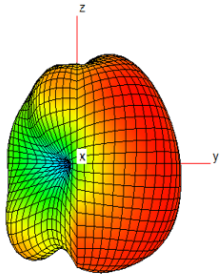

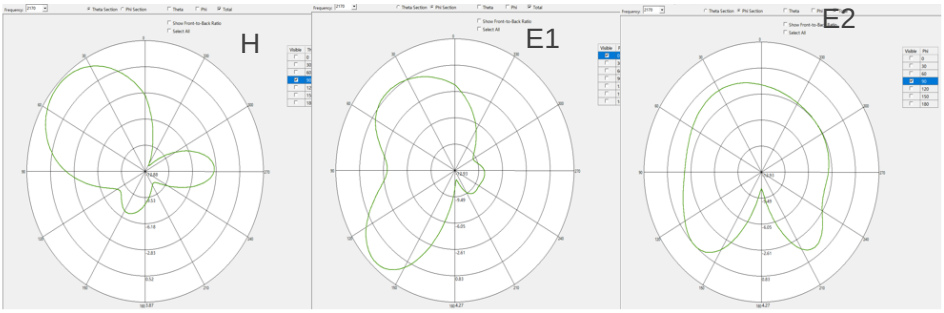

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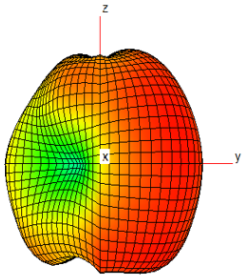

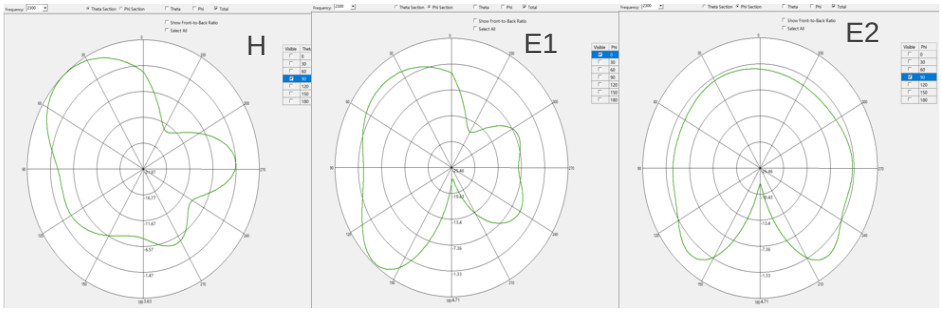

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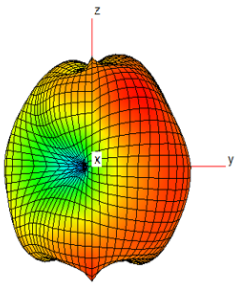

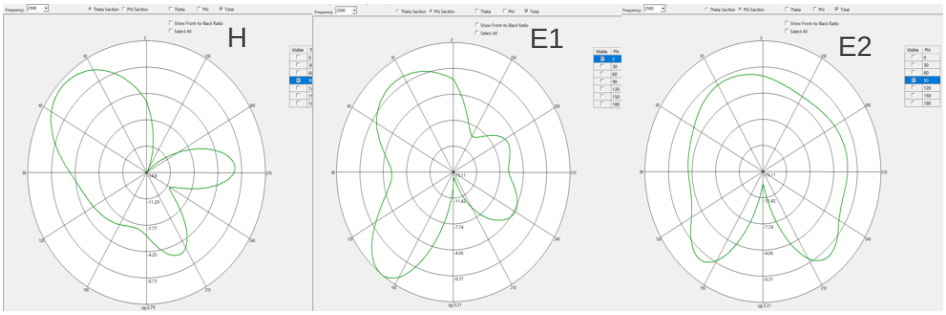

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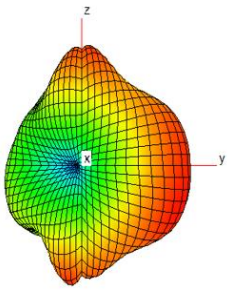

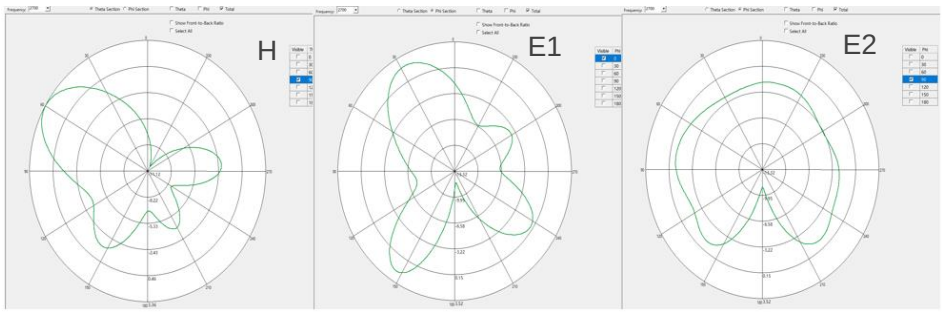

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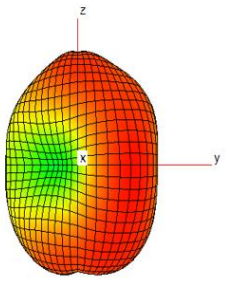

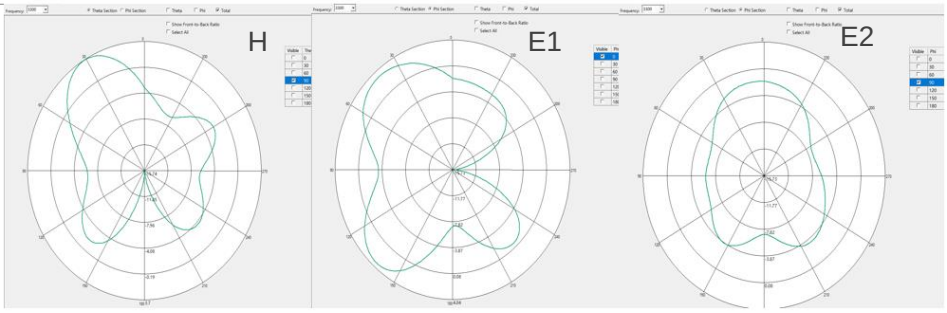

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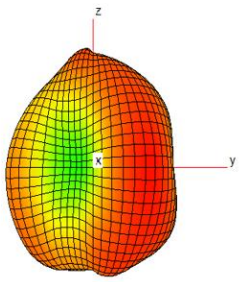

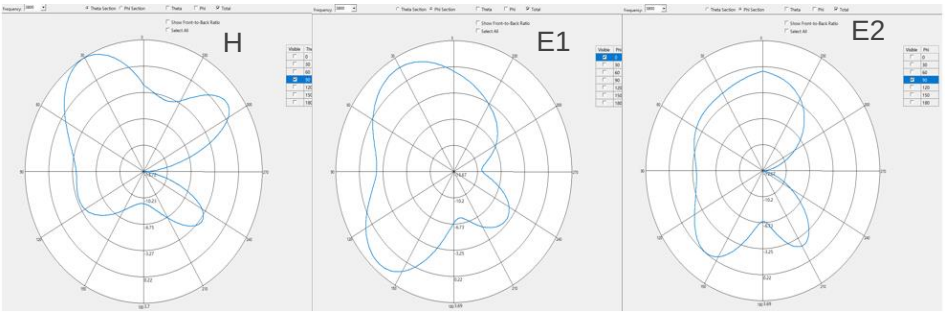

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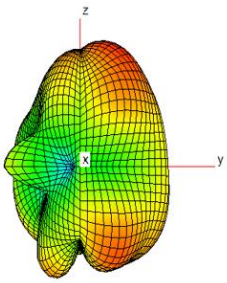

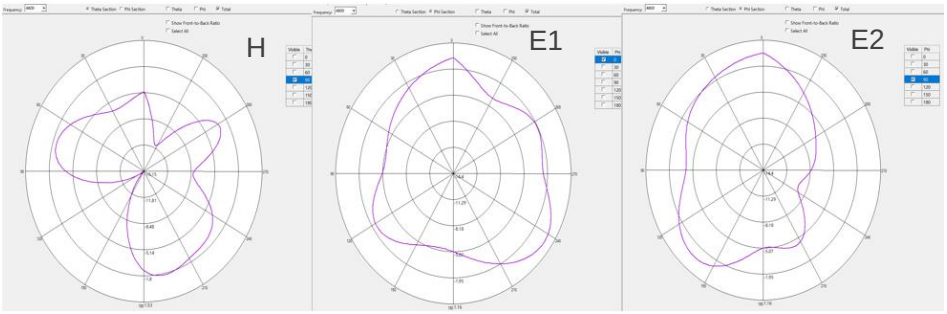

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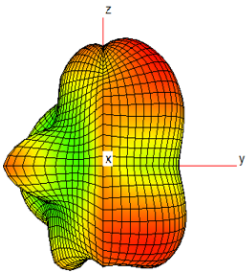

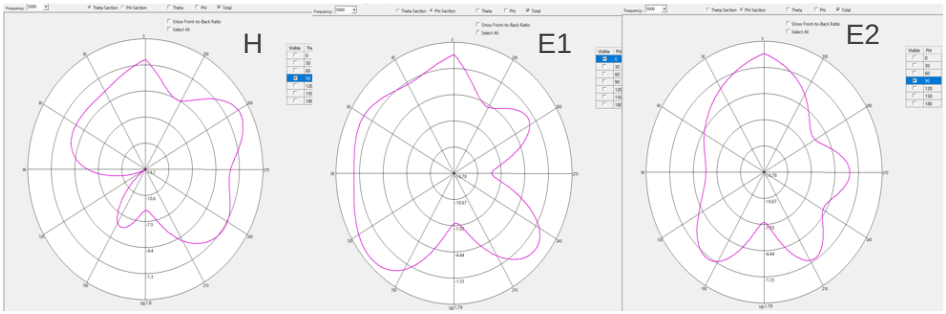

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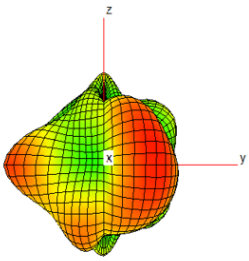
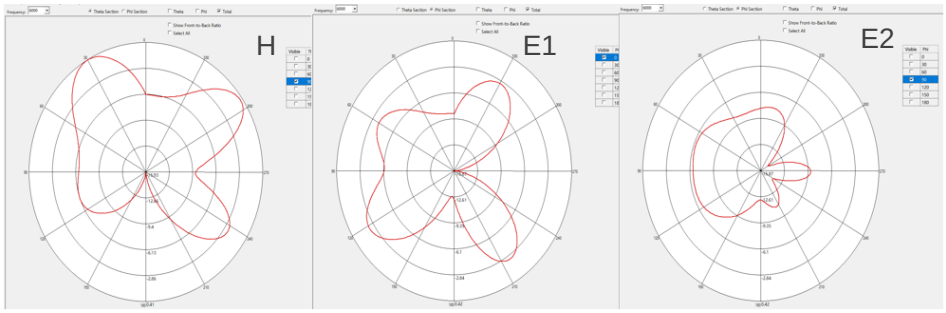
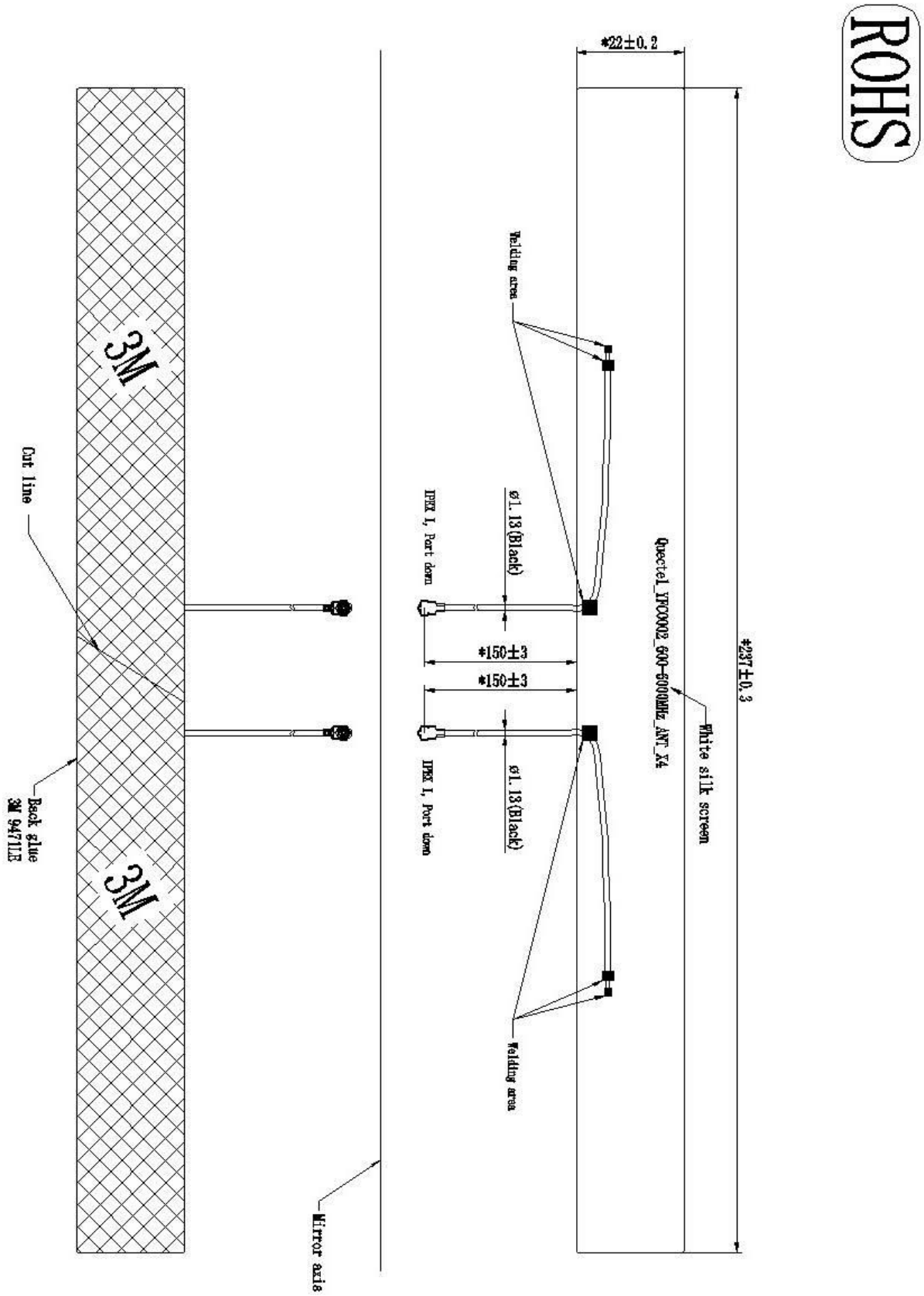




5 Product Size



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