

Antenna

YECT002AA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
-	2021-06-29	Kenny YIN/ Aria CHU	Creation of the document
1.0	2021-06-29	Kenny YIN/ Aria CHU	First official release
1.1	2021-07-25	Kenny YIN/ Aria CHU	1. Updated working temperature (Chapter 3). 2. Added detailed passive electrical specifications (Chapter 3).
2.0	2021-09-17	Vinnie LIU	Updated all test data in this datasheet.
2.1	2021-11-27	Vinnie LIU	Updated the product description (Chapter 1).
2.2	2022-03-14	Vinnie LIU	Updated the antenna drawing (Chapter 5).
3.0	2022-03-23	Vinnie LIU	Updated the test data (Chapter 4).

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1 Product Description

This Quectel external 4G antenna covers main 4G LTE bands and is compatible with 3G/2G/LPWA bands as well. The external antenna is barely influenced by the internal environment of devices, giving a much better performance in efficiency, radiation and gain whilst providing an optimized solution for a customer product. Quectel also offers flexible installation with custom cable length and connector options.

2 Product Features

- Cellular LTE
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	615–960 MHz, 1710–2690 MHz
Input Impedance	50 Ω
VSWR	≤ 5.1
Gain	≤ 3 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.)	5.1	-	-	2.3	2.1	-	-	-
Average Efficiency (%)	34.8	-	-	51.8	61.9	-	-	-
Max. Peak Gain (dBi)	0.43	-	-	0.77	2.81	-	-	-

Mechanical Specifications

Antenna Size (mm)	196.2 × 16 × 13
Casing	ABS
Connector Type	SMA Male (Center Pin)
Working Temperature	-40 °C to +85 °C
Color	Black
Weight	Typ. 19.2 g
IP Rating	IP55

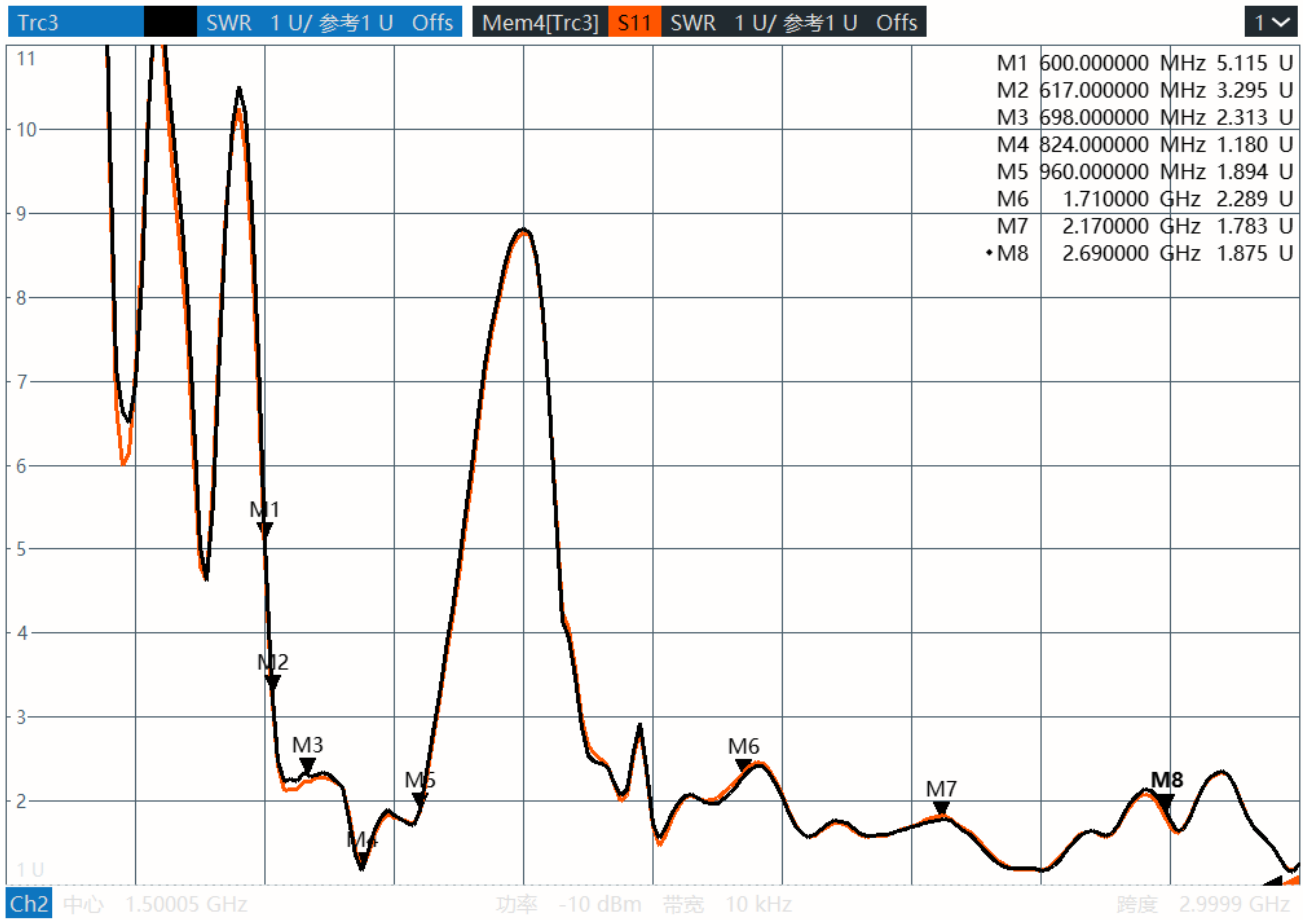
4 Overall Performance

4.1. Test Environment

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



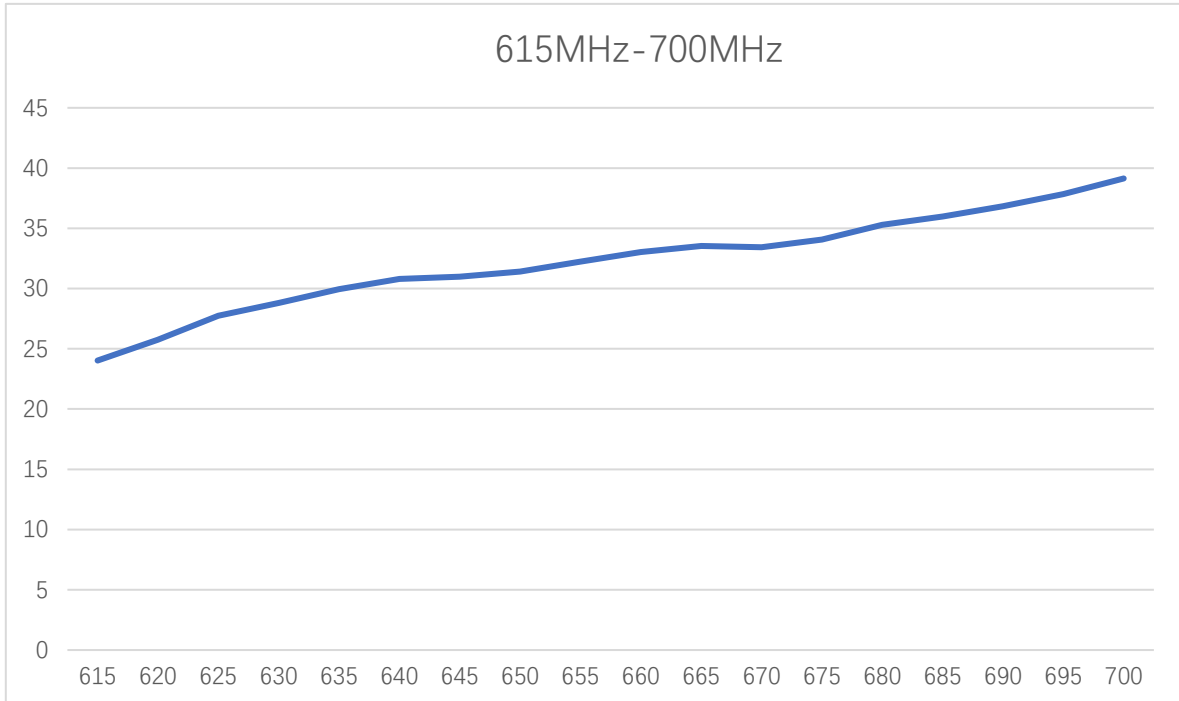
4.2. VSWR



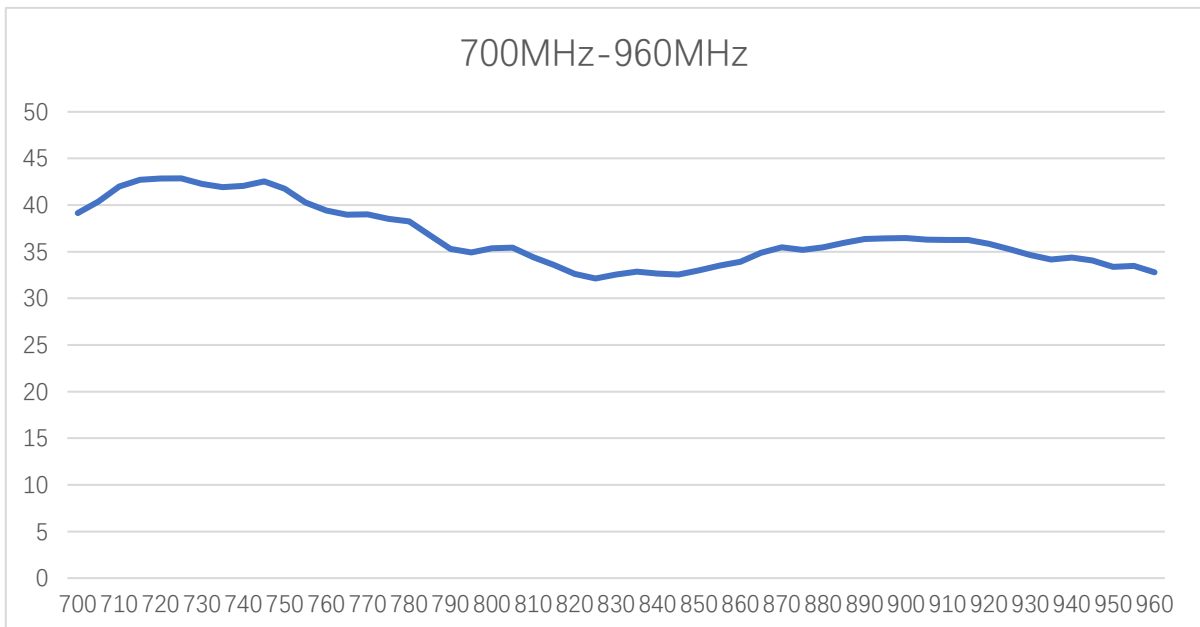
Frequency (MHz)	600	617	698	824	960	1710	2170	2690
VSWR	5.11	3.29	2.31	1.18	1.89	2.28	1.78	1.87

4.3. Efficiency

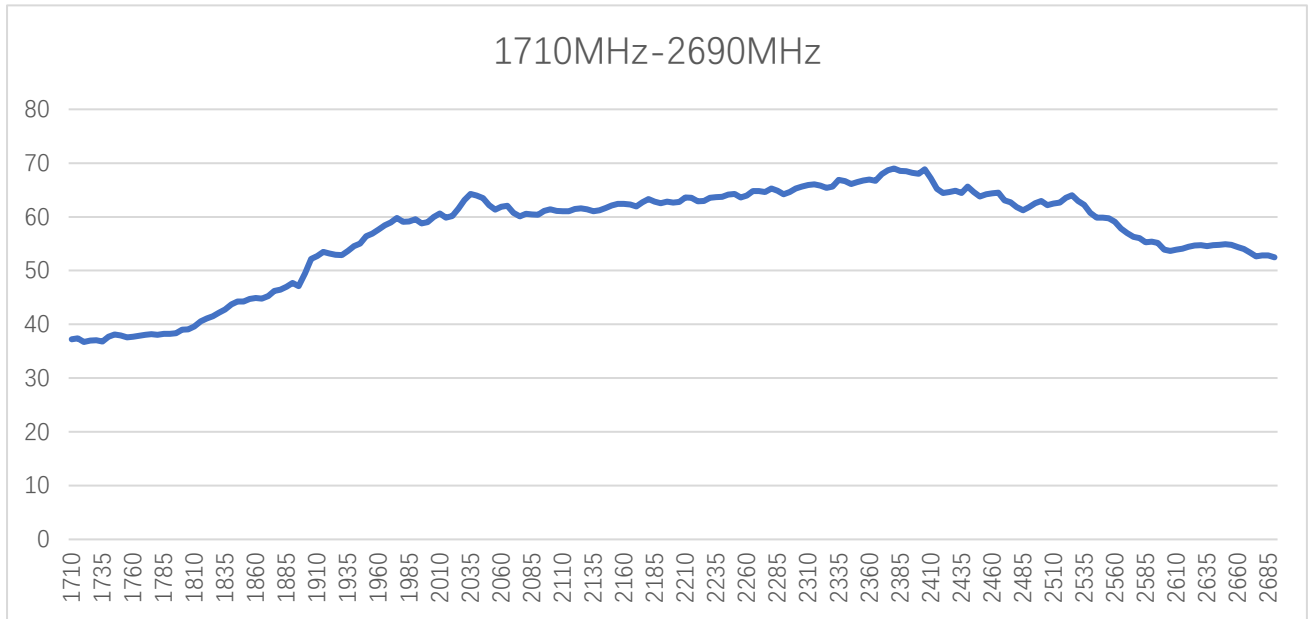
4.3.1. 615–700 MHz



4.3.2. 700–960 MHz



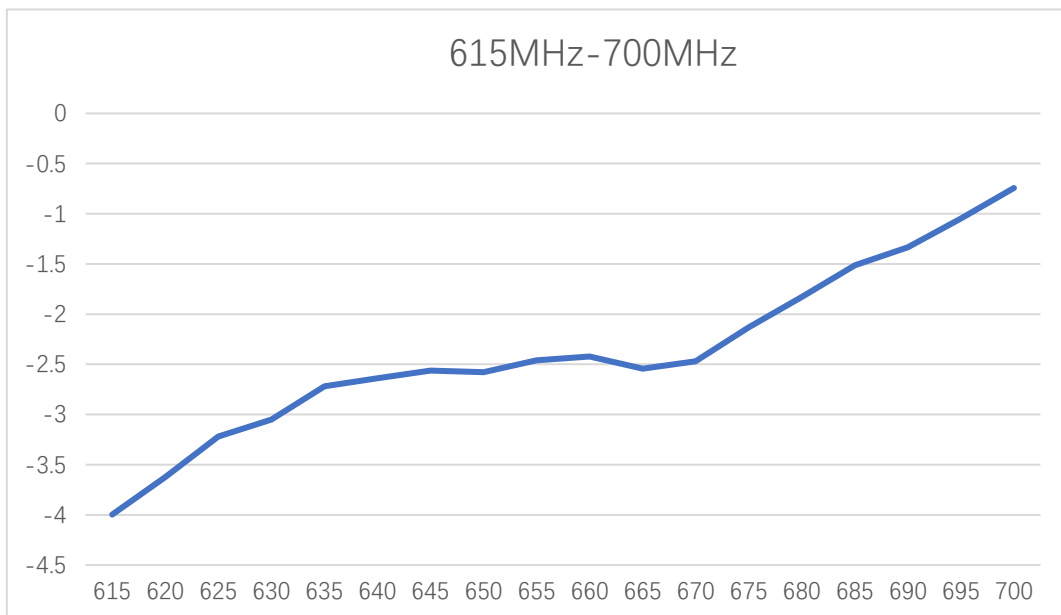
4.3.3. 1710–2690 MHz



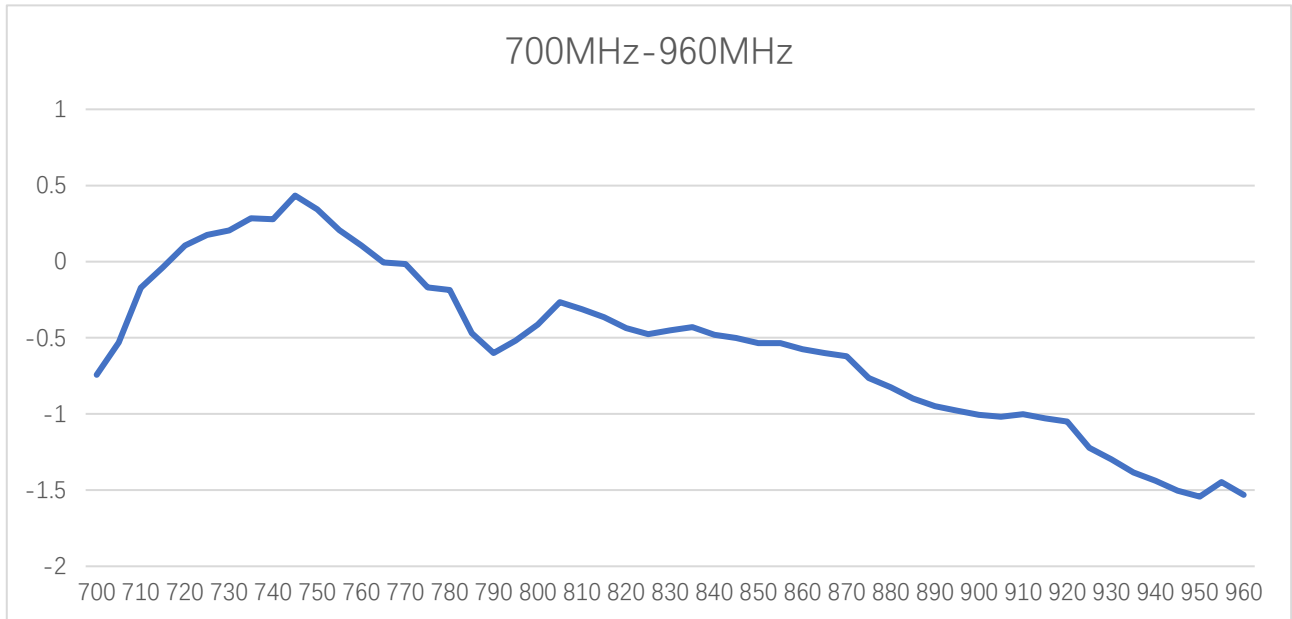
Frequency (MHz)	615	700	960	1710	1990	2170	2450	2570	2690
Efficiency (%)	24	39.1	32.8	37.2	59.6	62	63.8	57	52.5

4.4. Gain

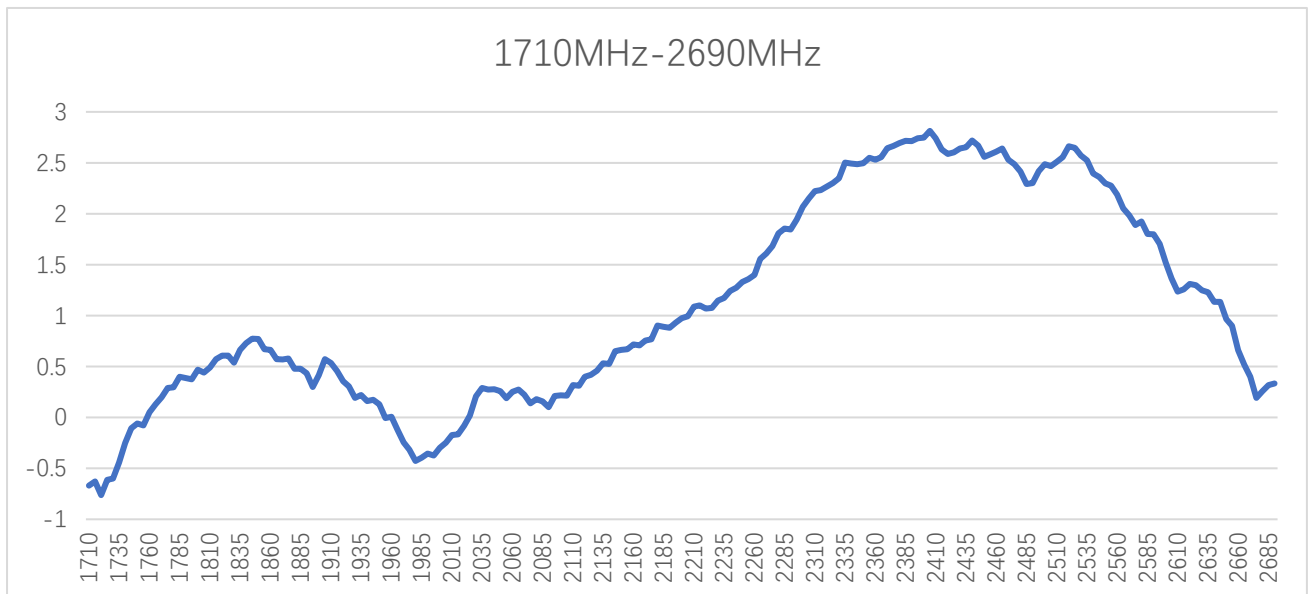
4.4.1. 615–700 MHz



4.4.2. 700–960 MHz



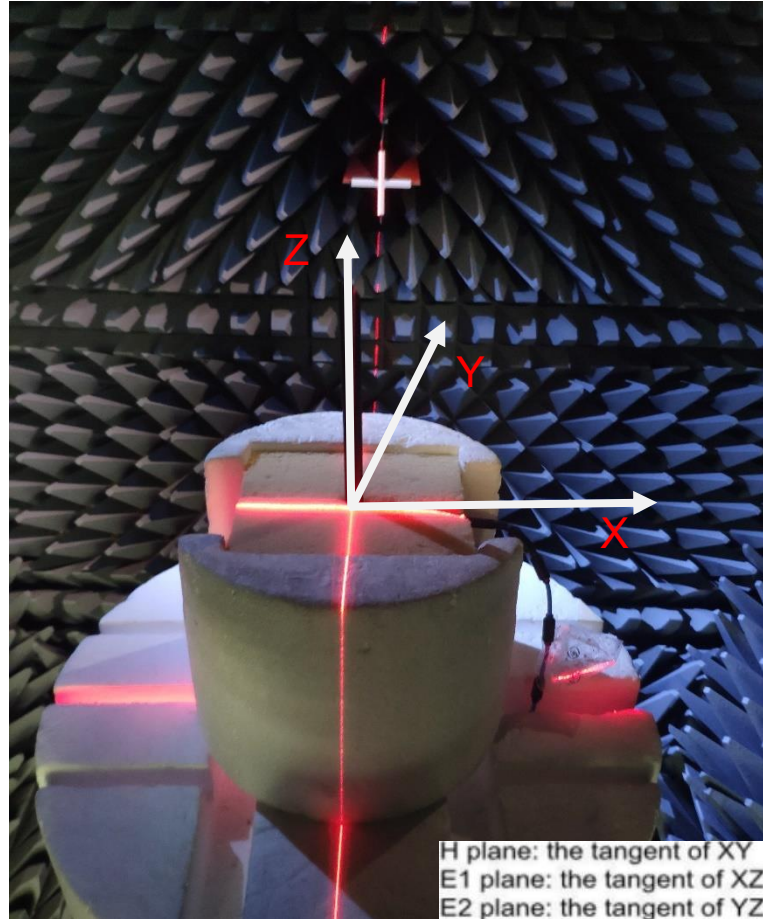
4.4.3. 1710–2690 MHz



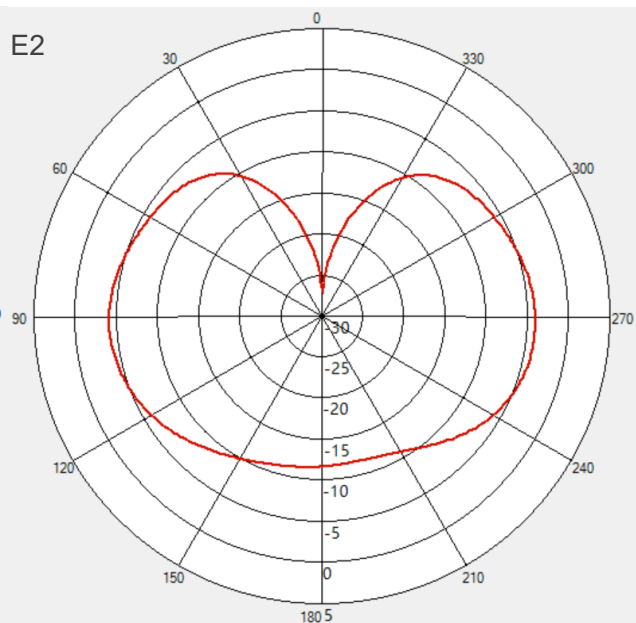
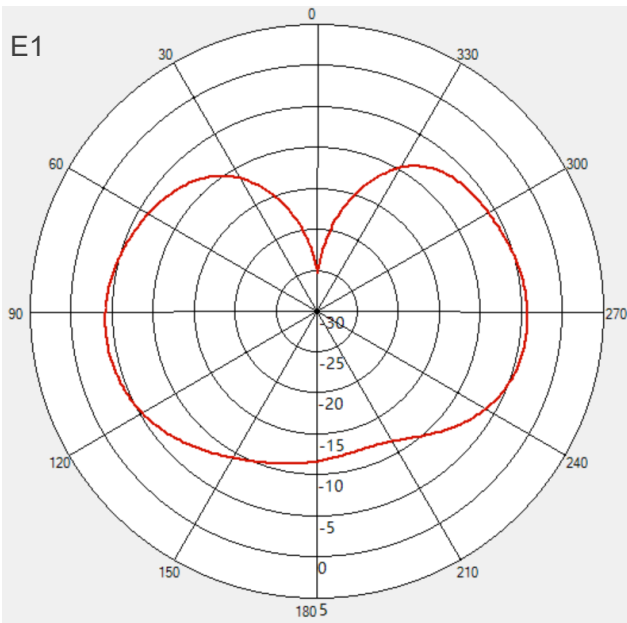
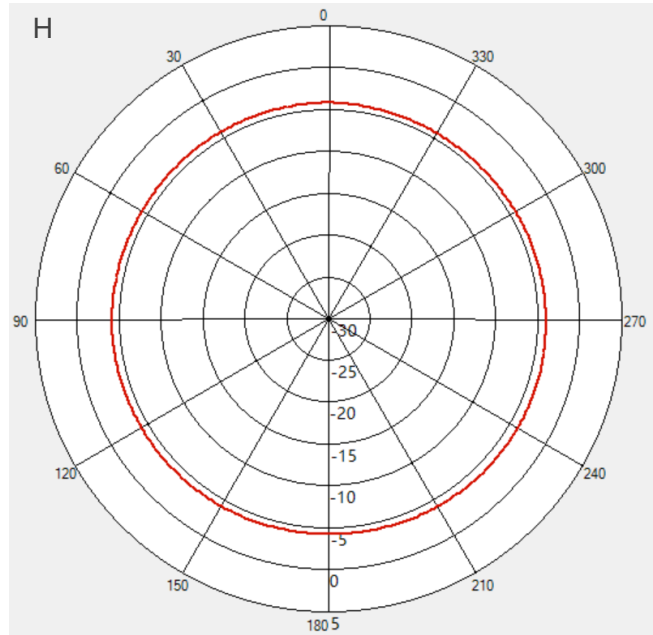
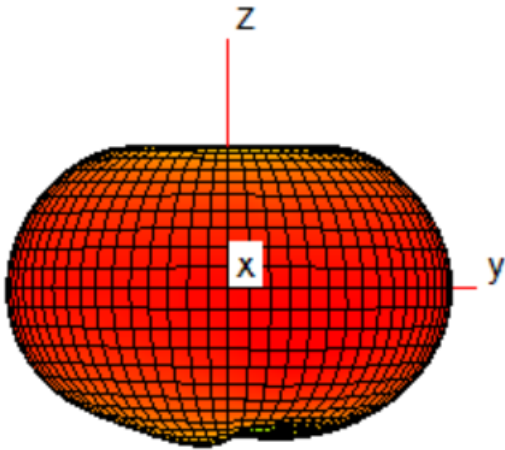
Frequency (MHz)	615	700	960	1710	1990	2170	2450	2570	2690
Gain (dBi)	-3.9	-0.74	-1.53	0.67	-0.35	0.75	2.56	1.98	0.33

4.5. Radiation Pattern

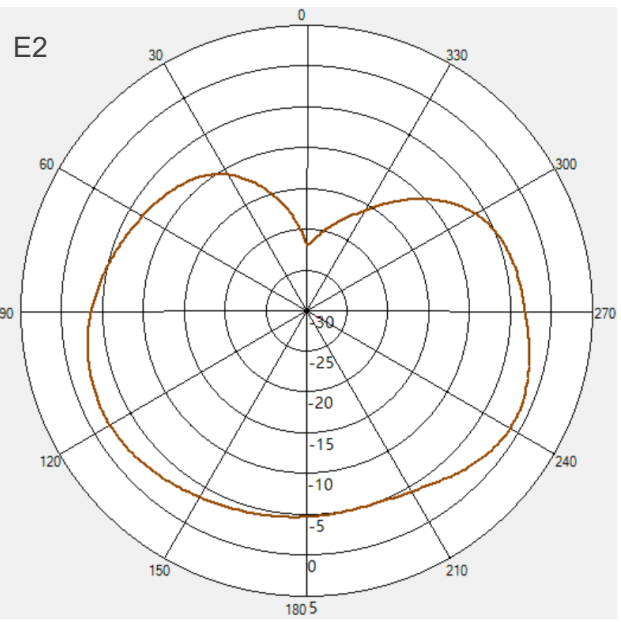
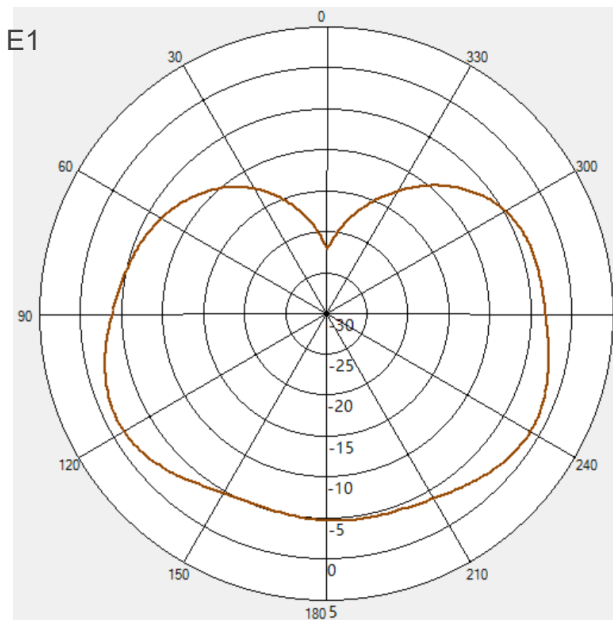
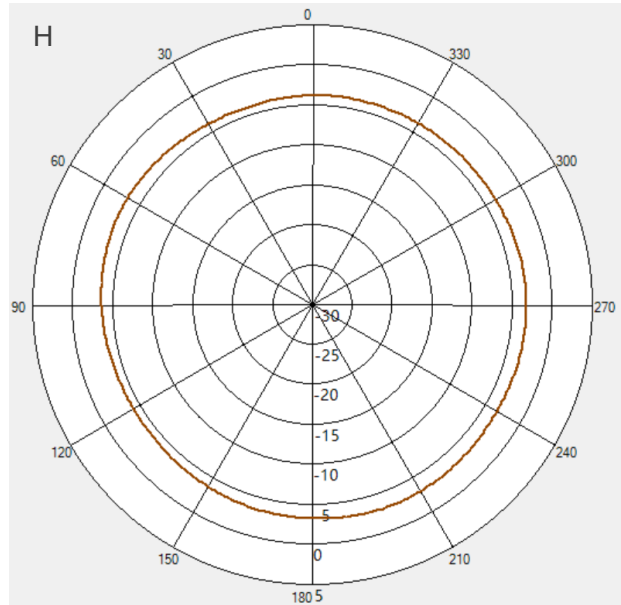
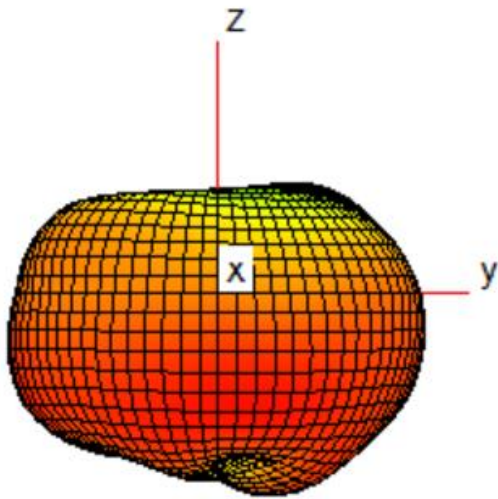
- Test condition: free space.



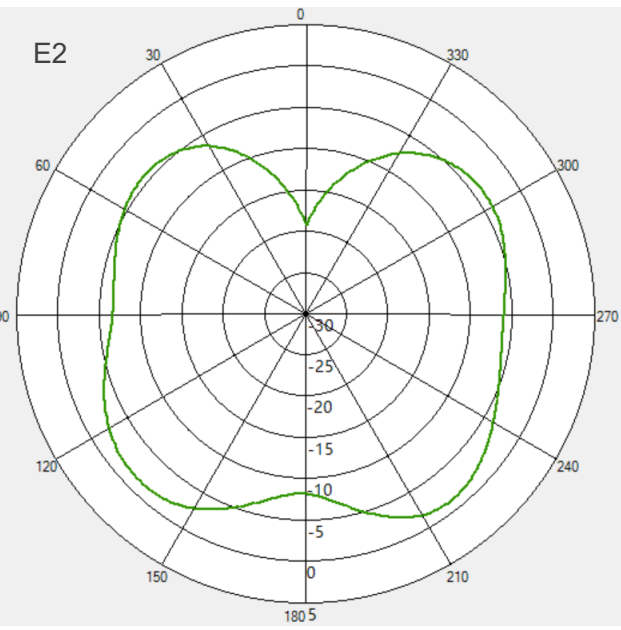
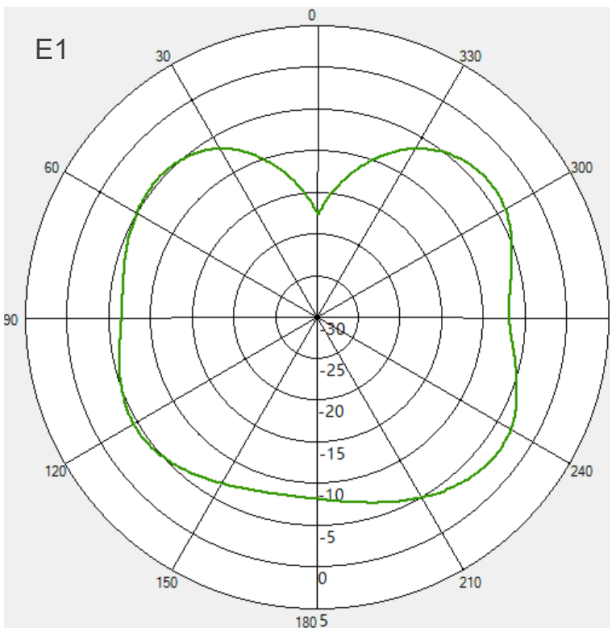
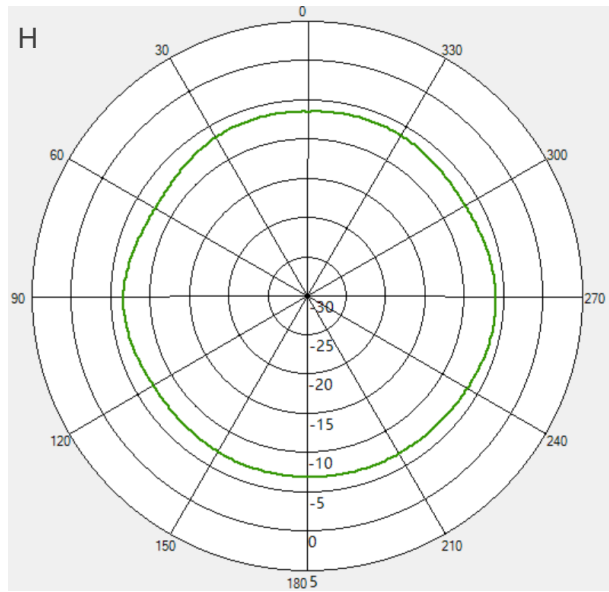
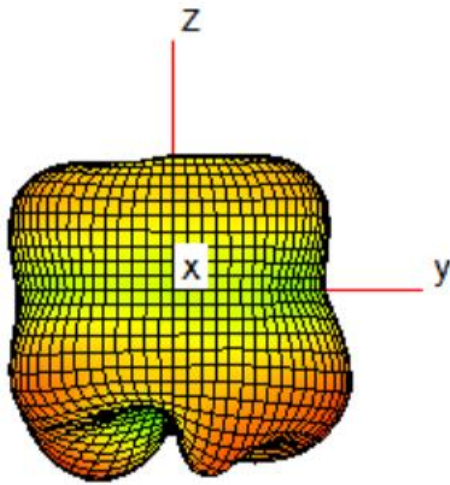
4.5.1. 615 MHz



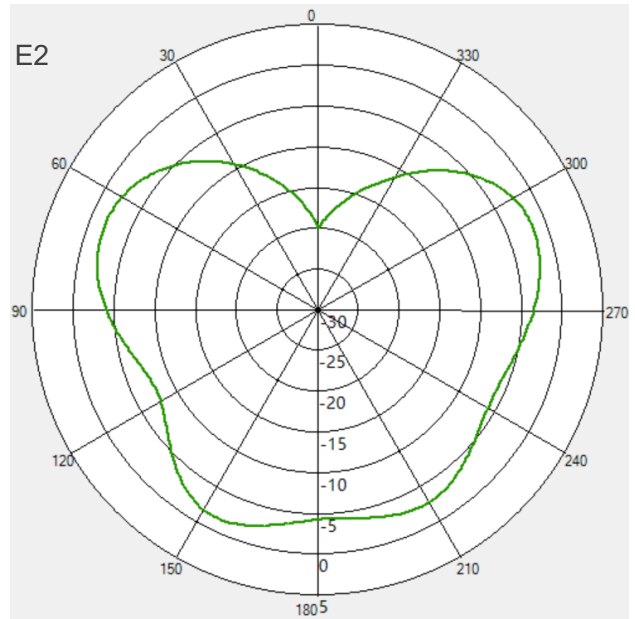
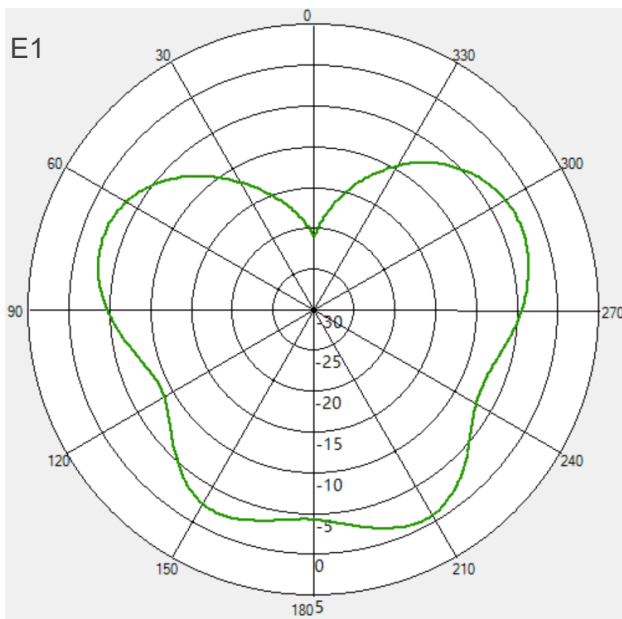
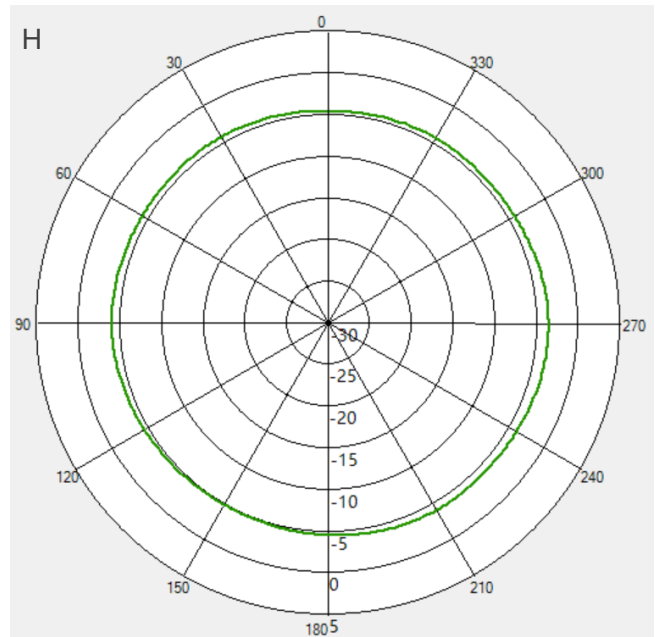
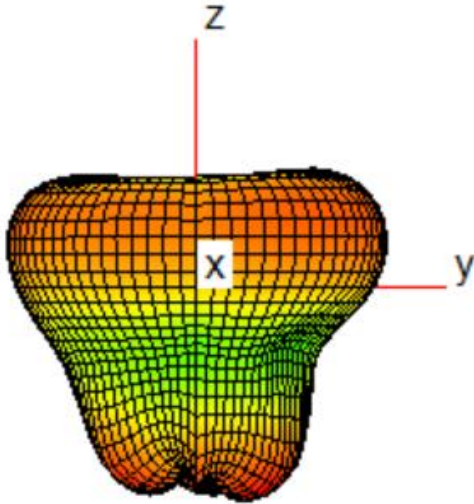
4.5.2. 700 MHz



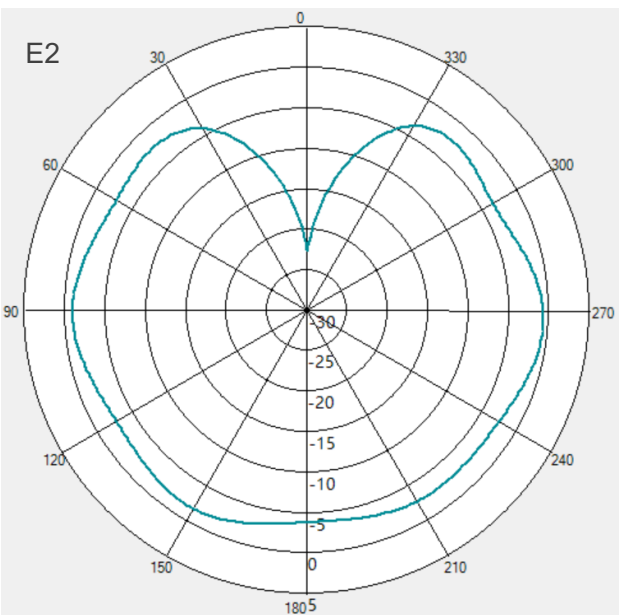
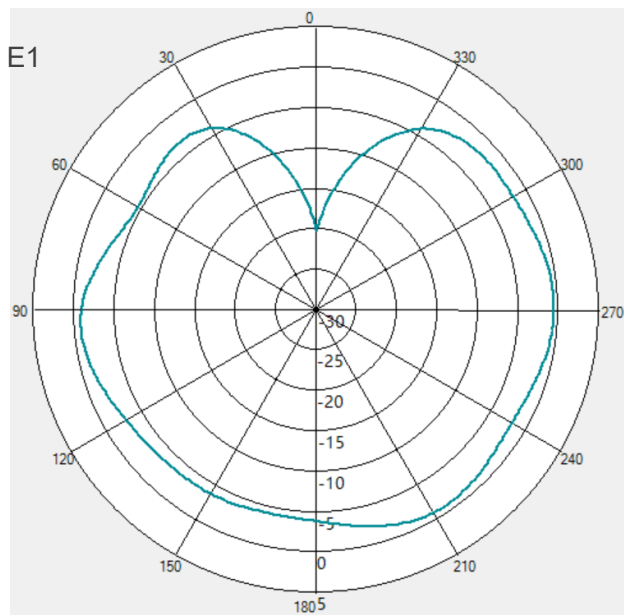
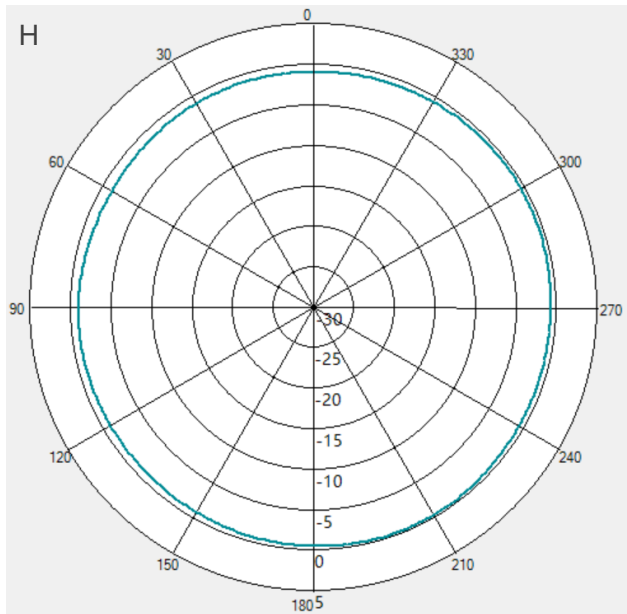
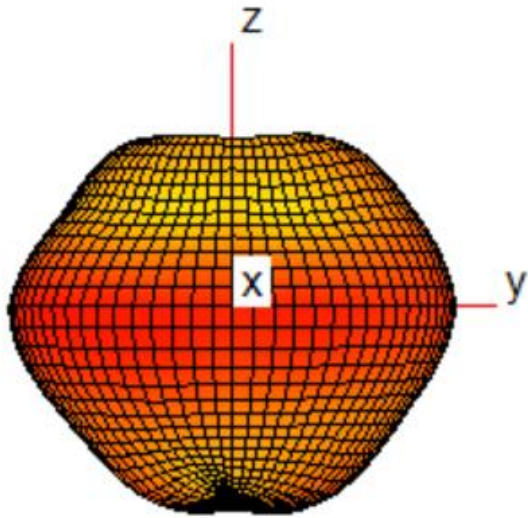
4.5.3. 960 MHz



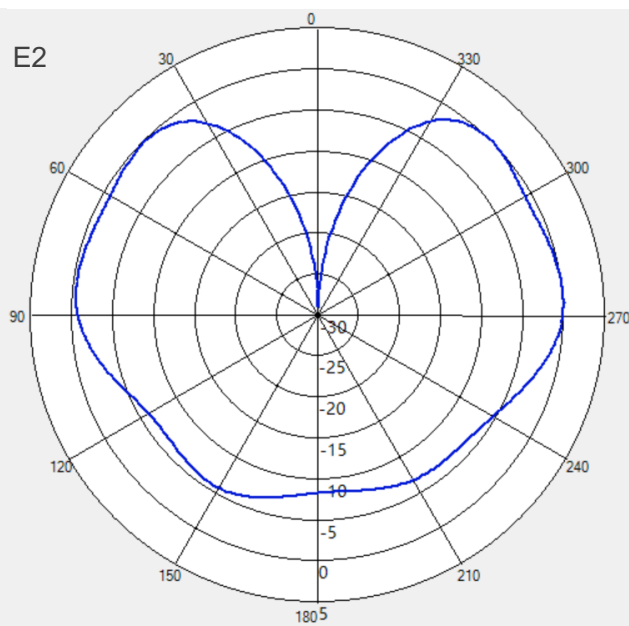
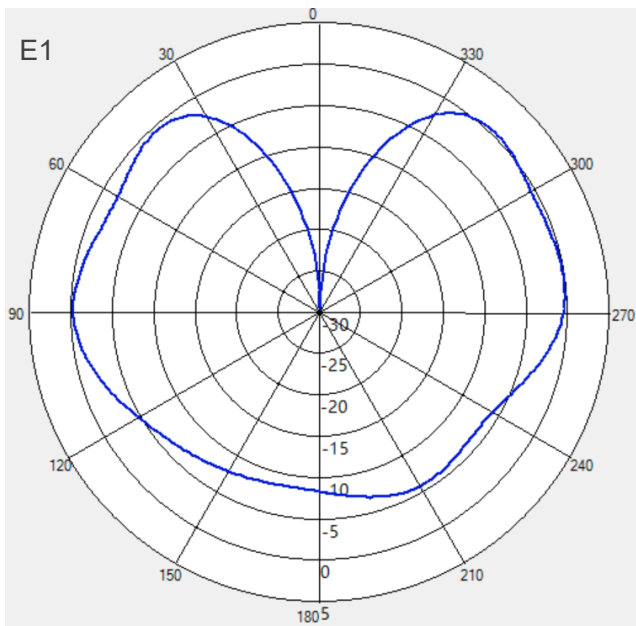
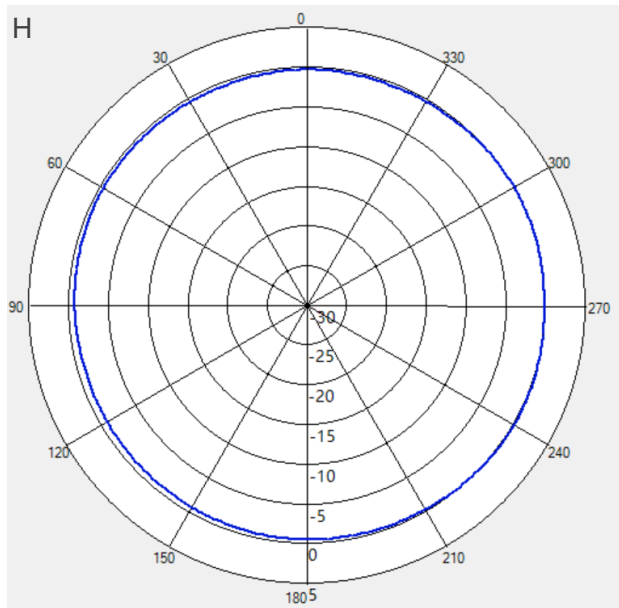
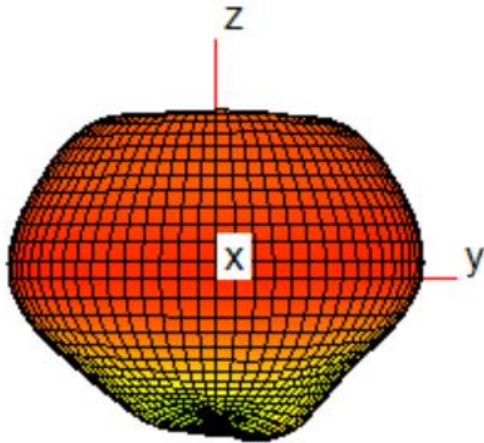
4.5.4. 1710 MHz



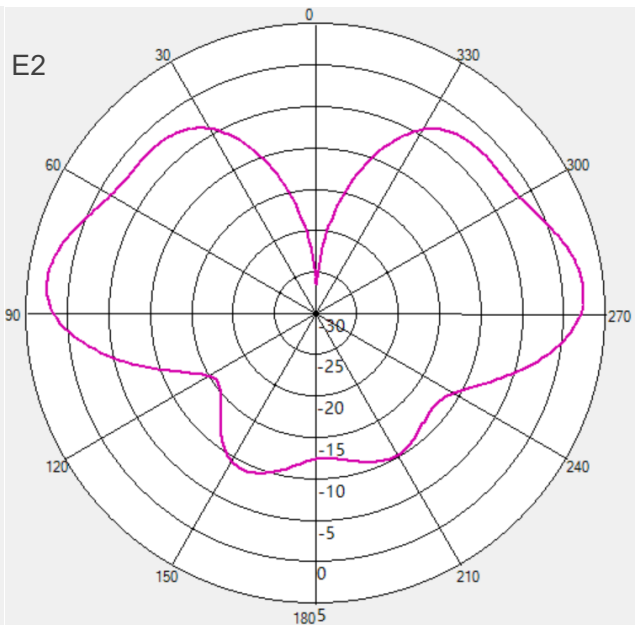
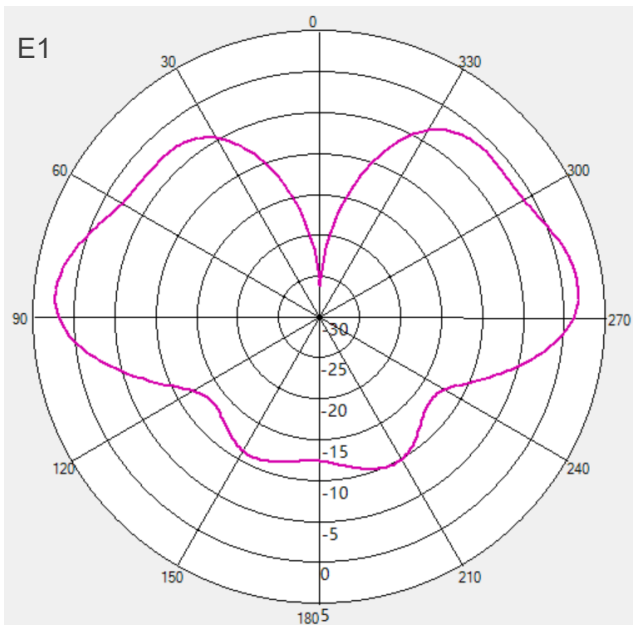
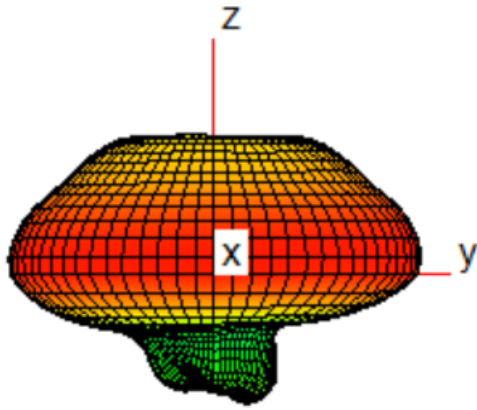
4.5.5. 1990 MHz



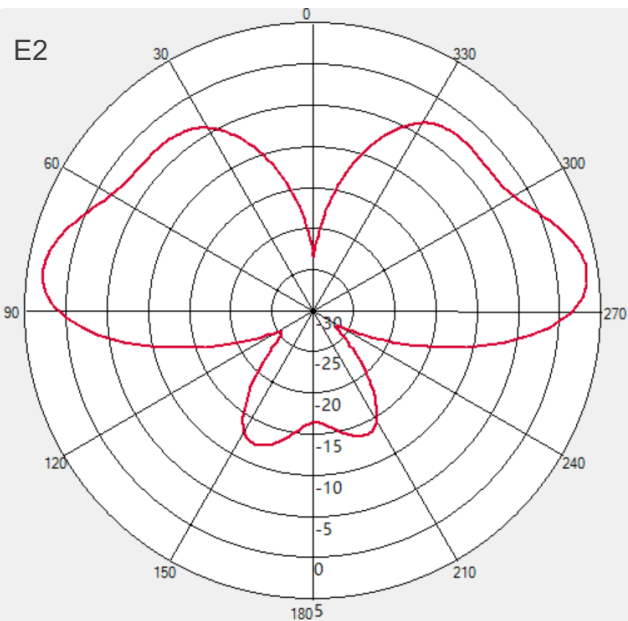
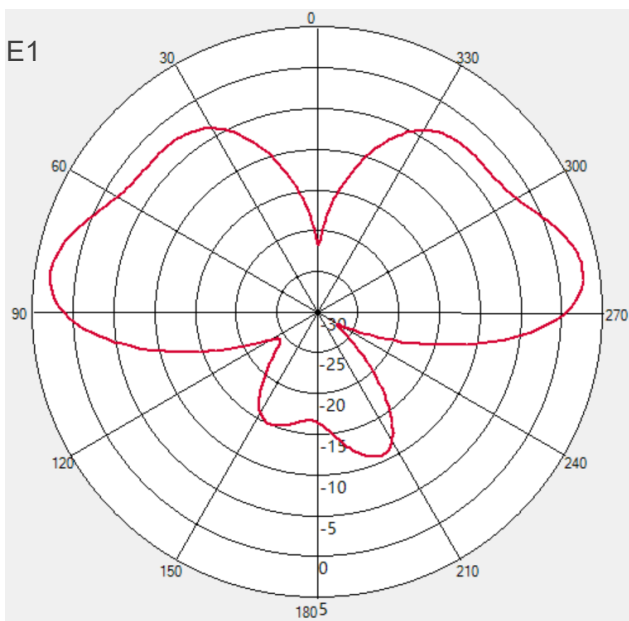
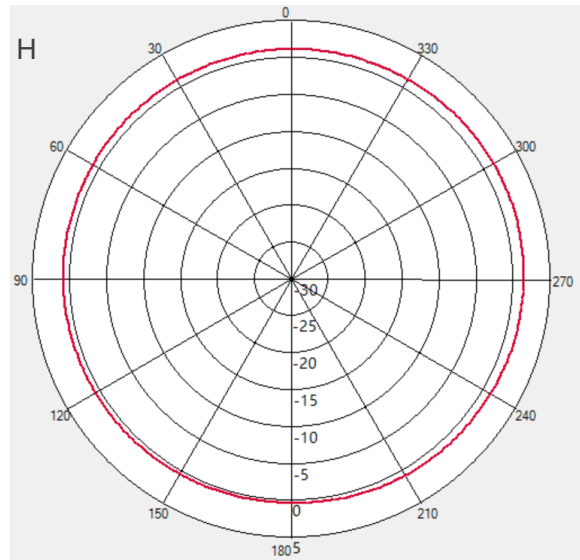
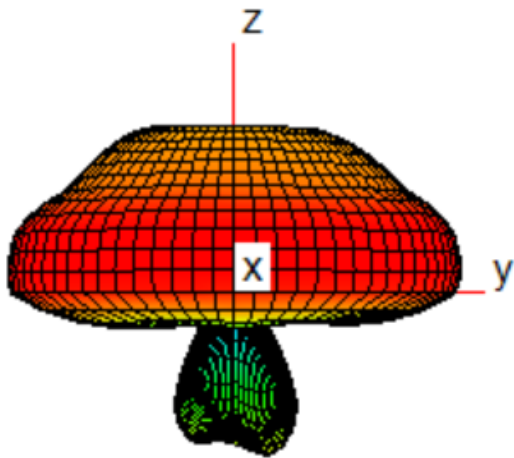
4.5.6. 2170 MHz



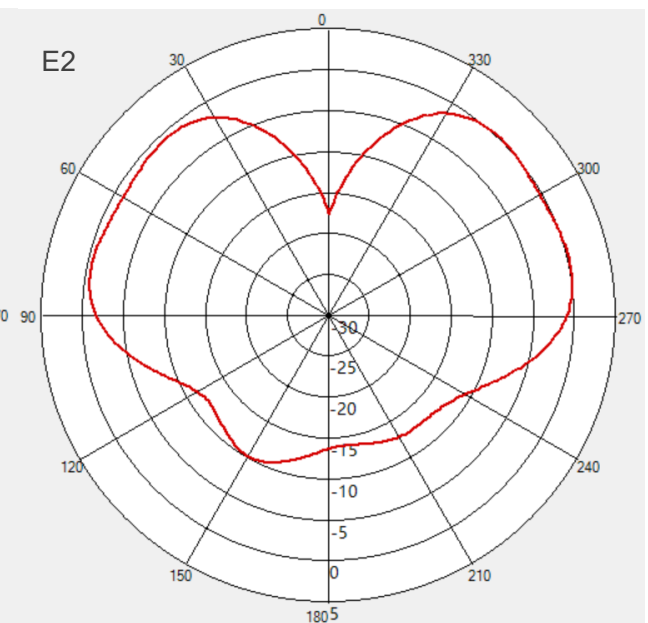
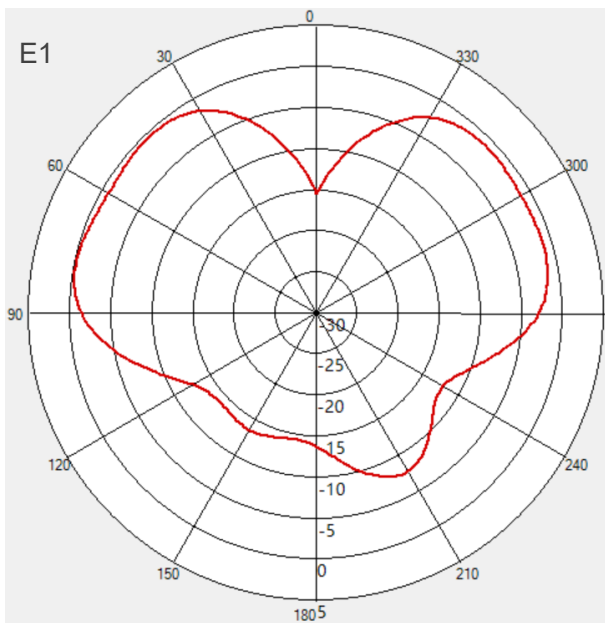
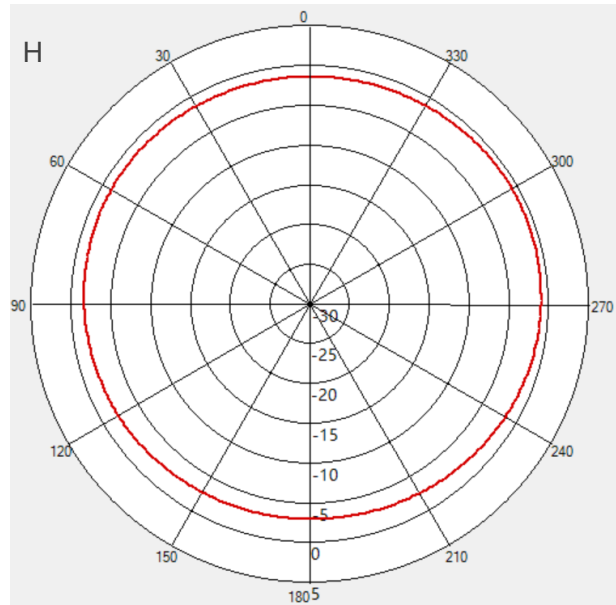
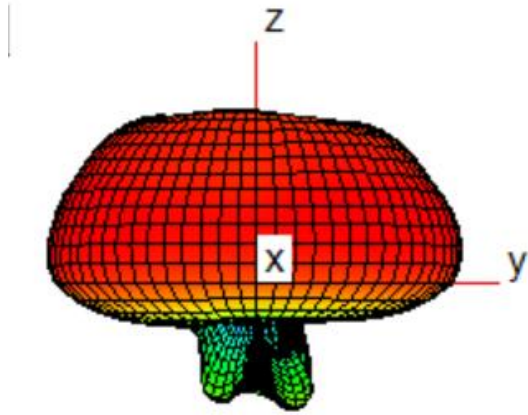
4.5.7. 2450 MHz



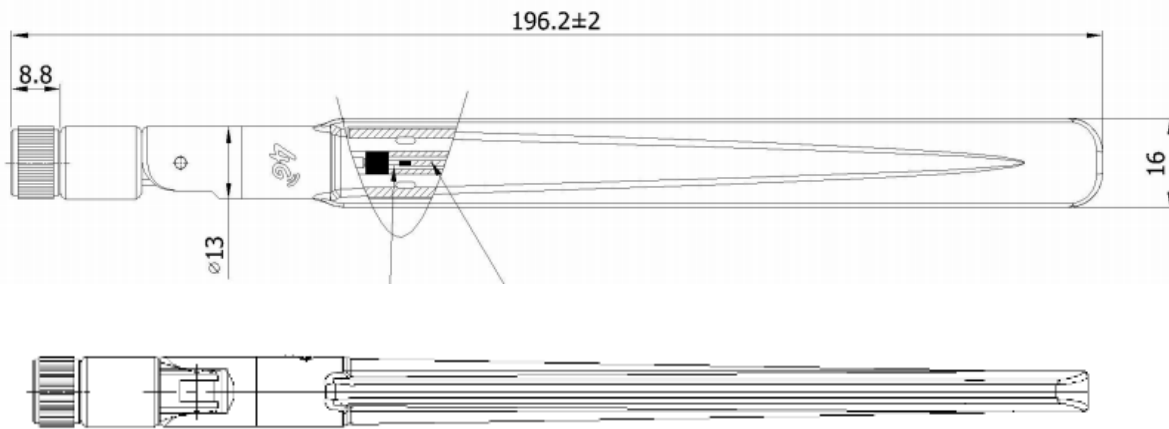
4.5.8. 2570 MHz



4.5.9. 2690 MHz



5 Product Size



ROHS