

Antenna

YF0006AA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
1.0	2020-06-08	Kenny YIN	Initial
1.1	2020-11-19	Kenny YIN	Updated the antenna picture with the new silkscreen in Chapter 1.
1.2	2020-12-11	Kenny YIN	Updated the antenna picture in Chapter 2.
2.0	2021-04-28	Aria CHU	Updated all test data in the datasheet.
2.1	2021-05-30	Aria CHU	1. Updated the initial frequency band from 600 MHz; 2. Updated working temperature in Chapter 3.
2.2	2021-06-01	Aria CHU	Added the frequency information between 1400 MHz to 1500 MHz.
2.3	2021-12-06	Aria CHU	Updated the product description in Chapter 1.

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1 Product Description

This Quectel embedded 4G FPC antenna covers main 4G LTE bands and is compatible with 3G/2G/LPWA bands. Featuring high efficiency and gain, it is an ideal antenna for a smooth and stable connection with high-efficiency data transmission even under the influence of the device's internal structure. Ground plane independent, it's designed to be mounted directly to the underside of either a plastic or non-metallic enclosure. Ease of integration with a cable and connector which can be customized to meet your product design and RF module.

2 Product Features

- LTE Full-Band FPC Antenna
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	600–960 MHz, 1400–1500 MHz, 1710–2690 MHz
Input Impedance	50 Ω
VSWR	≤ 4.0
Gain	≤ 3.0 dBi
Polarization Type	Linear

Mechanical Specifications

Antenna Size	50 mm x 25 mm x 0.13 mm Cable Length = 30 mm
Casing	FPC
Connector Type	U.FL
Working Temperature	-40 °C to +85 °C
Radome Color	Black

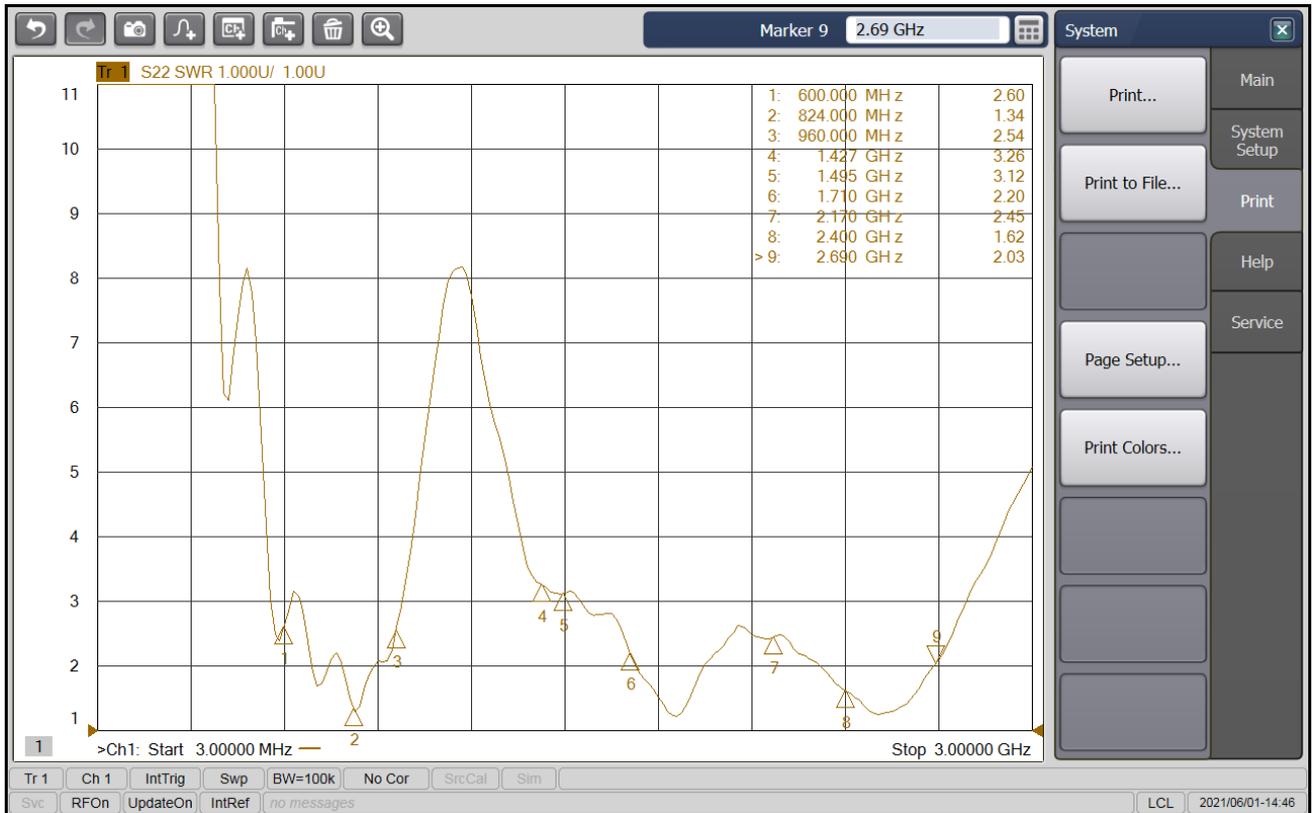
4 Overall Performance

4.1 Test Environment

- KEYSIGHT VNA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 400 MHz – 8.0 GHz

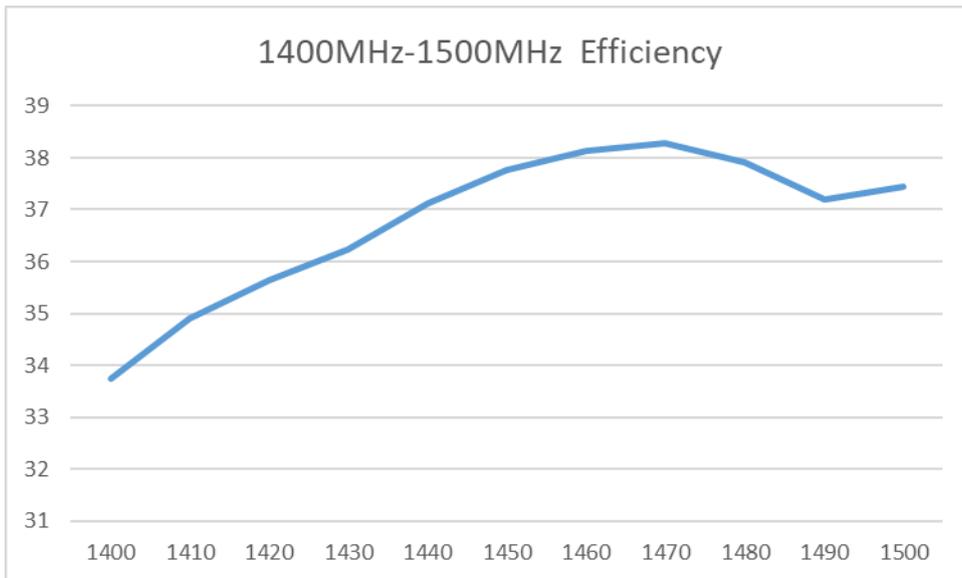
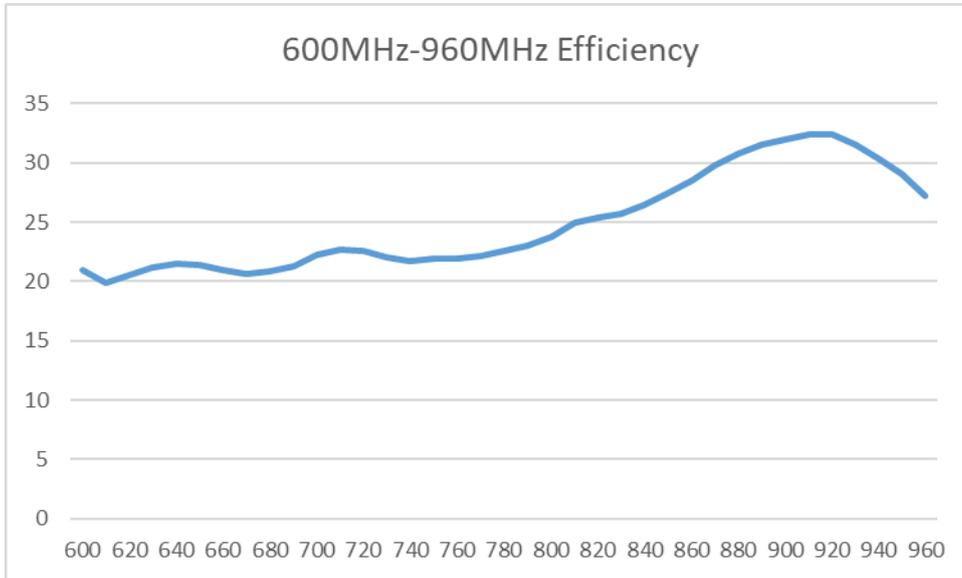


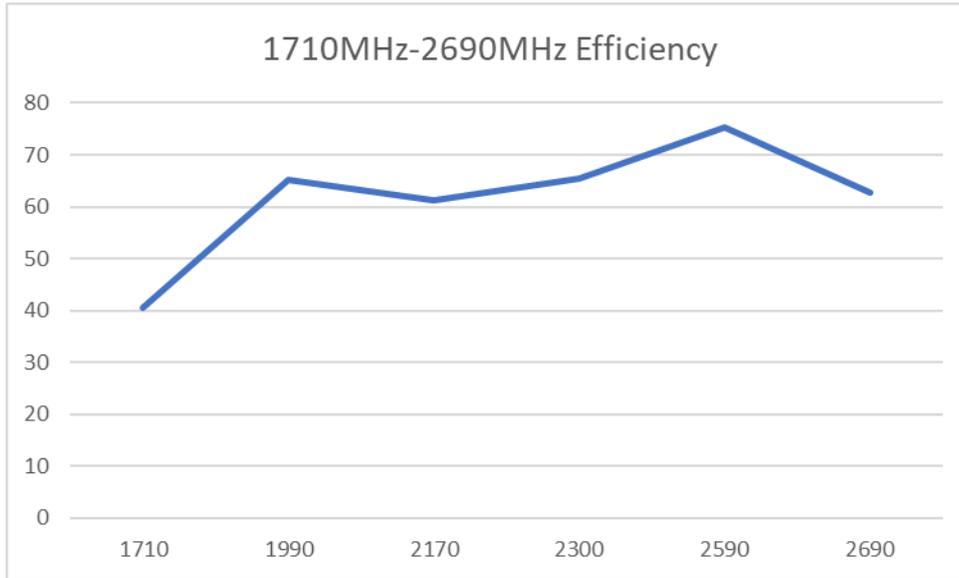
4.2 VSWR



Frequency (MHz)	600	824	960	1427	1495	1710	2170	2400	2690
VSWR	2.60	1.34	2.54	3.26	3.12	2.20	2.45	1.62	2.03

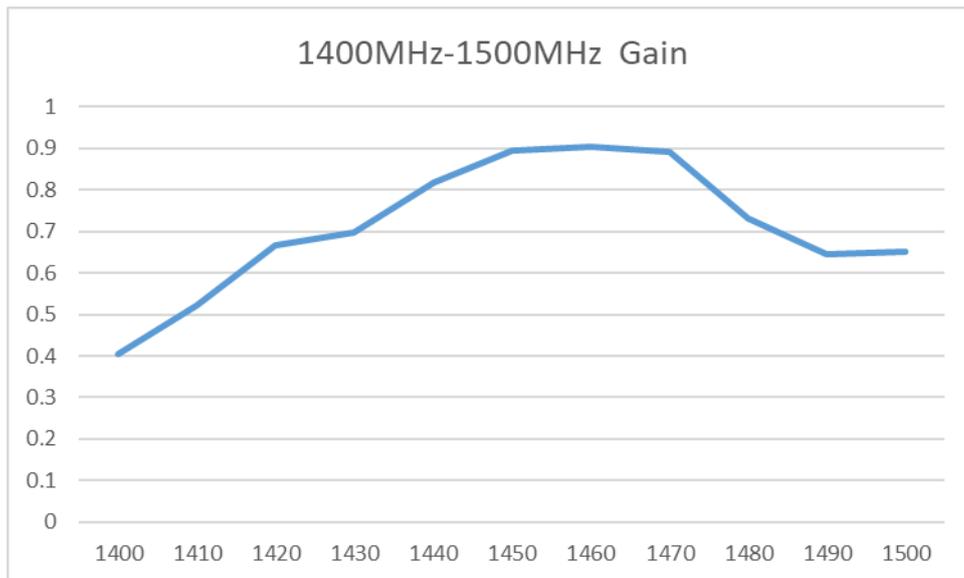
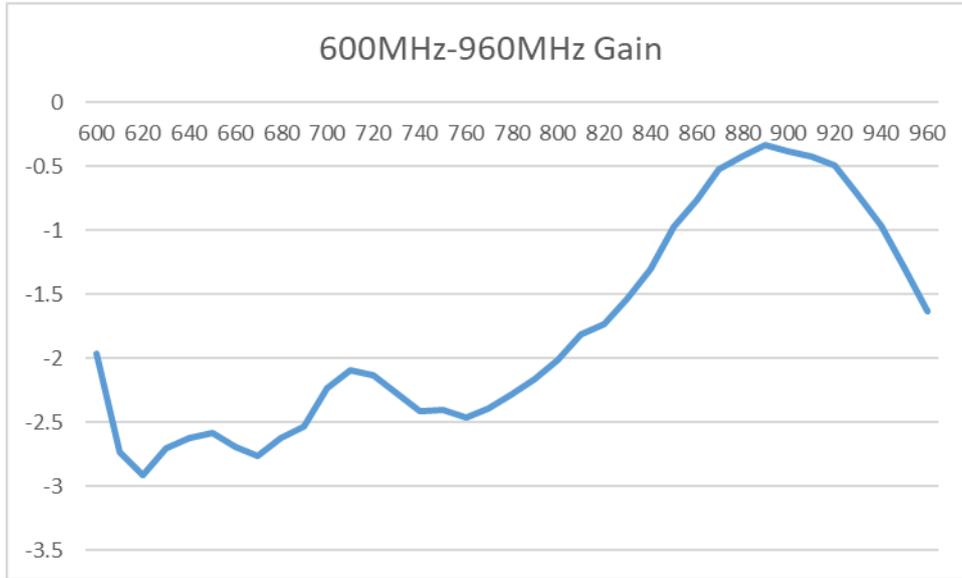
4.3 Efficiency

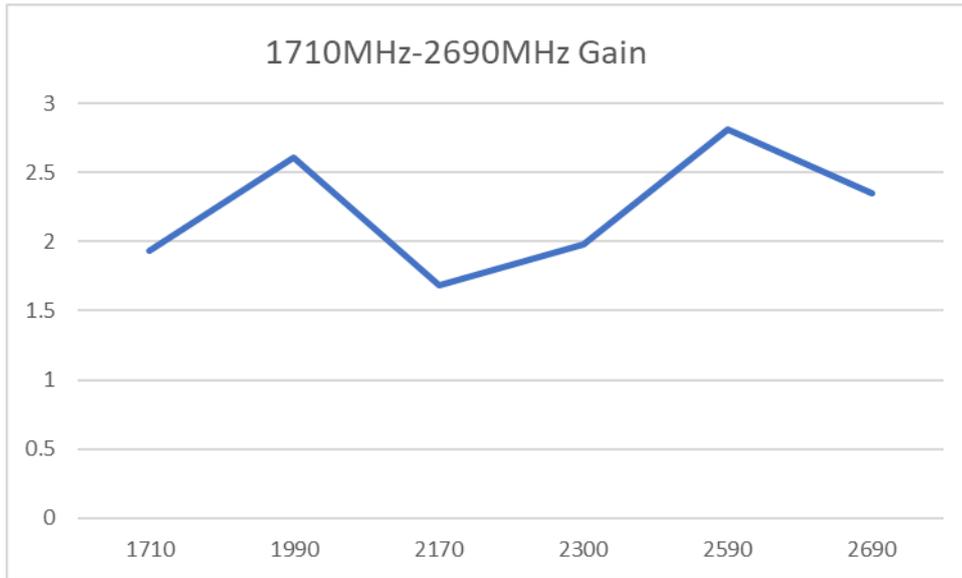




Frequency (MHz)	600	820	960	1430	1490	1500	1710	1990	2170	2300	2400	2690
Efficiency (%)	21.0	25.3	27.2	36.2	37.1	37.4	40.5	65.3	61.1	65.3	77.1	62.8

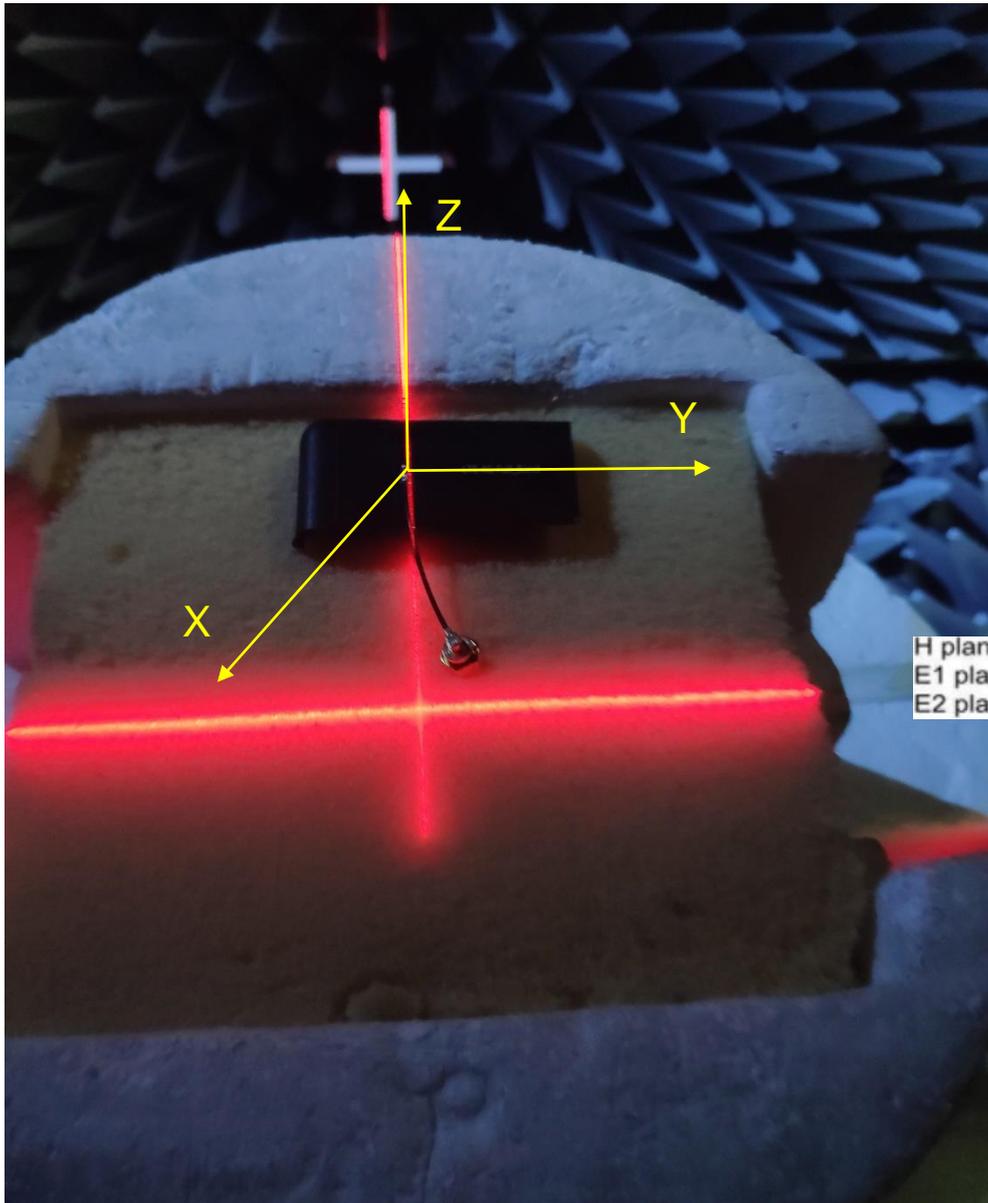
4.4 Gain





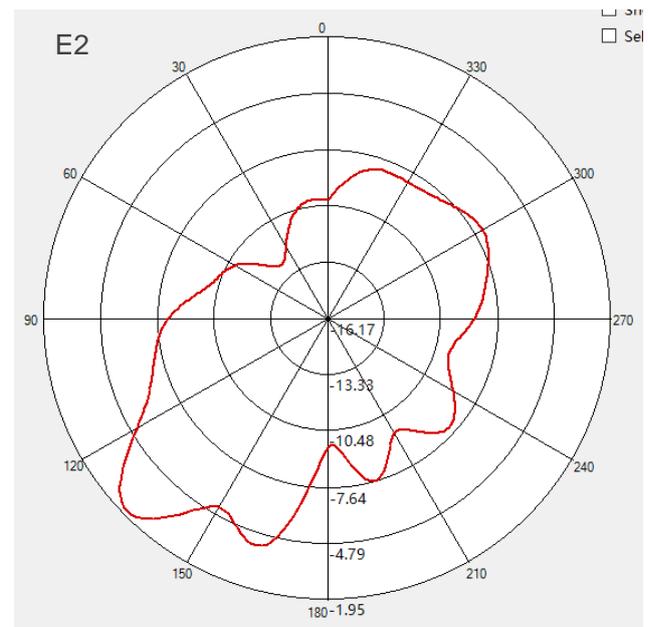
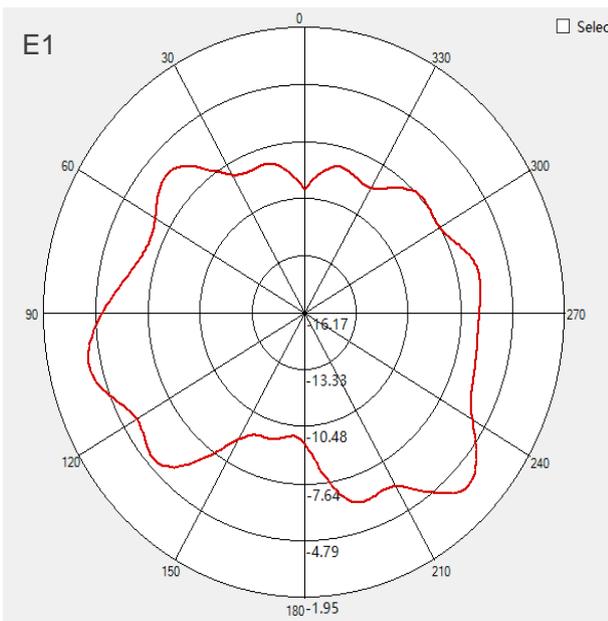
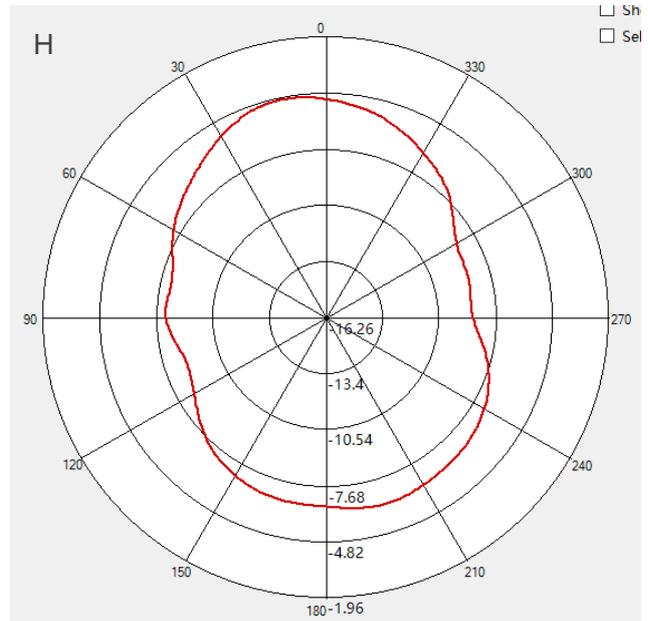
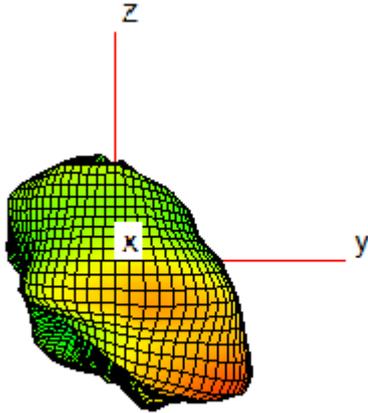
Frequency (MHz)	600	820	960	1430	1490	1710	1990	2170	2300	2400	2690	1500
Gain (dBi)	-1.96	-1.73	-1.63	0.69	0.64	1.93	2.61	1.69	1.98	2.82	2.35	0.65

4.5 Radiation Pattern

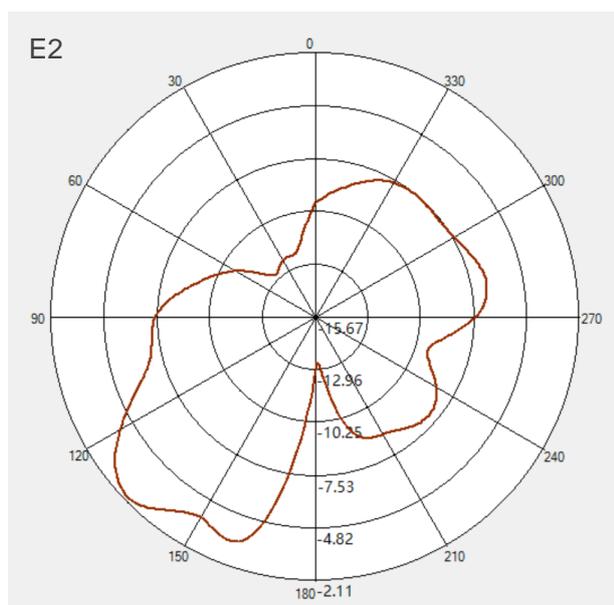
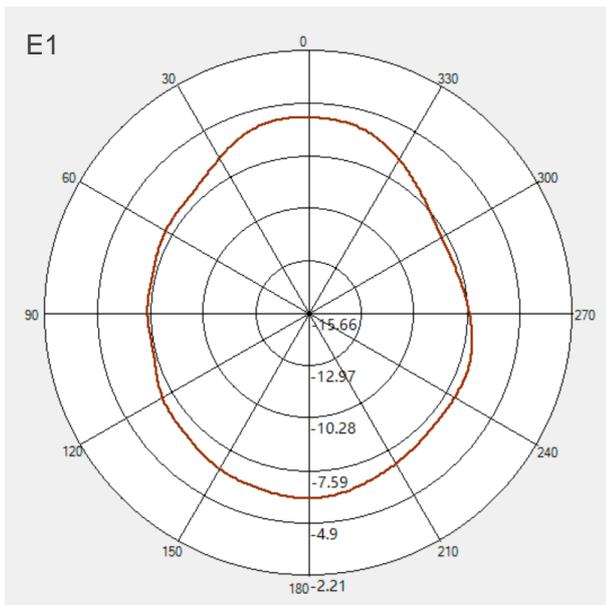
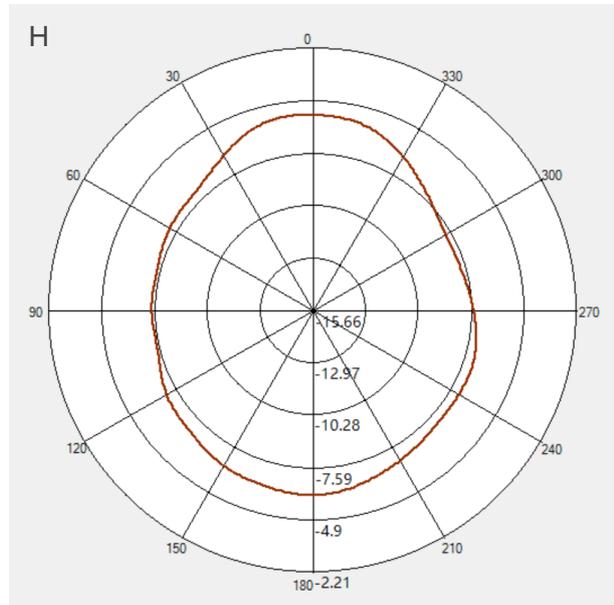
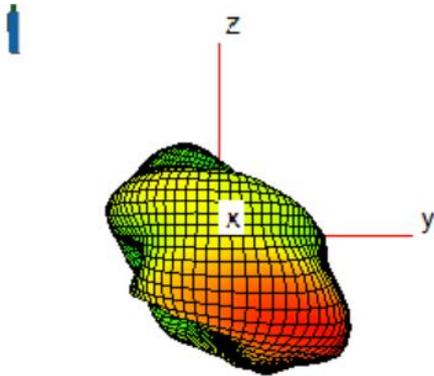


H plane: the tangent of XY
E1 plane: the tangent of XZ
E2 plane: the tangent of YZ

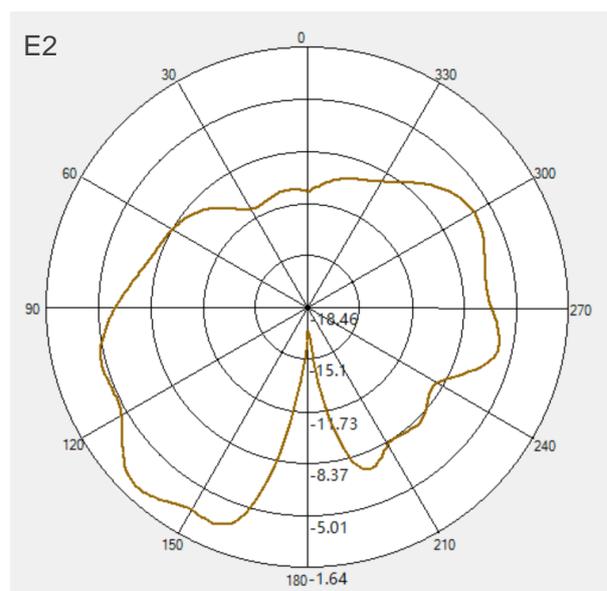
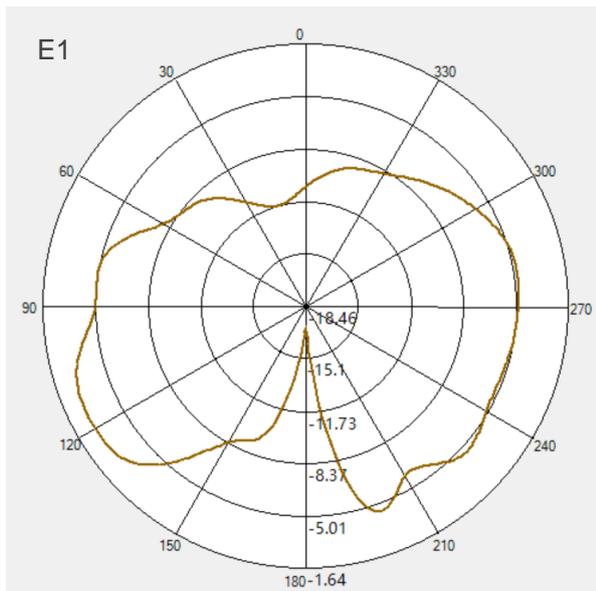
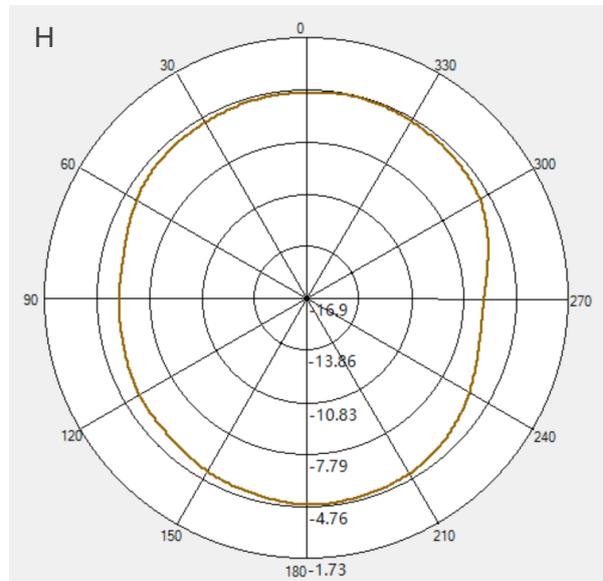
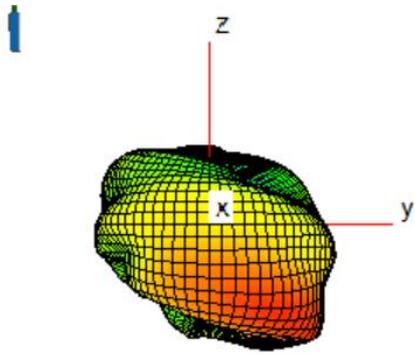
4.5.1 600 MHz



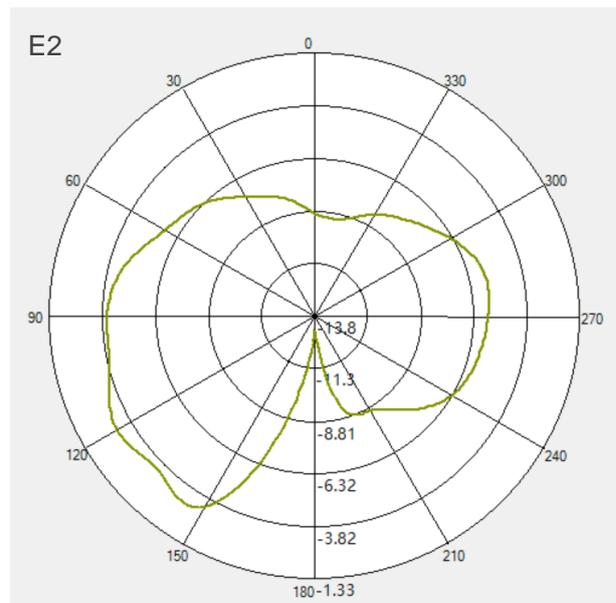
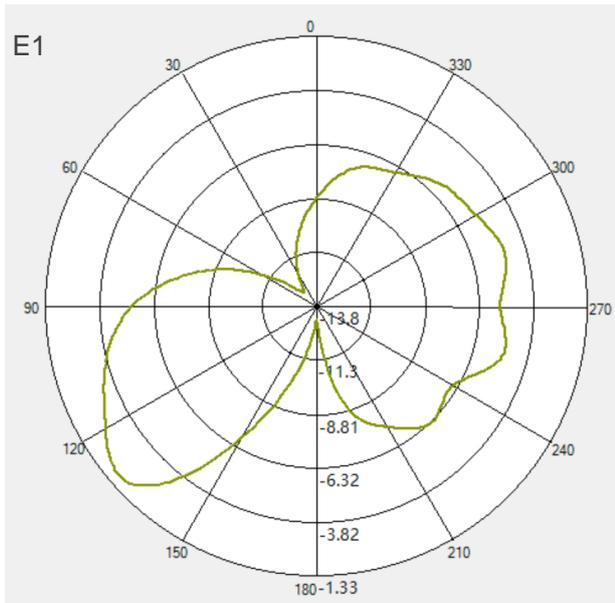
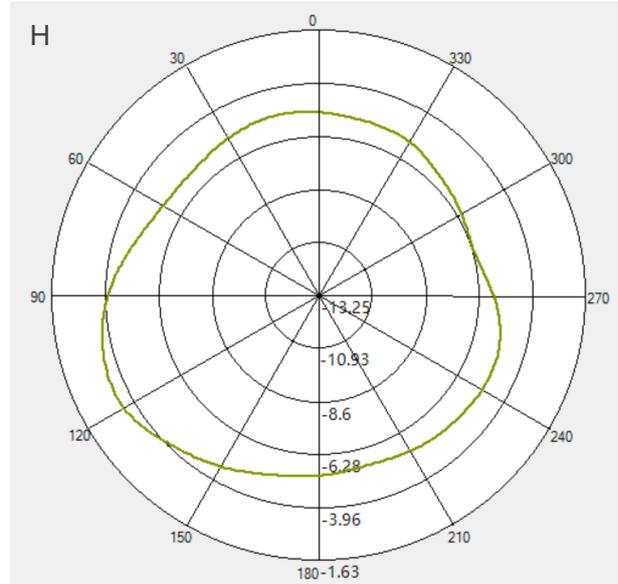
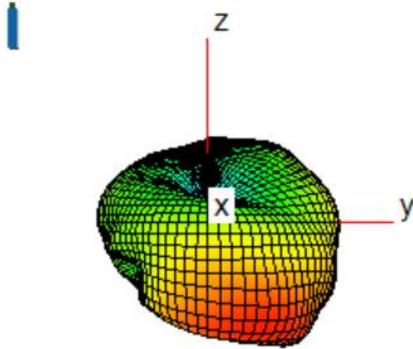
4.5.2 700 MHz



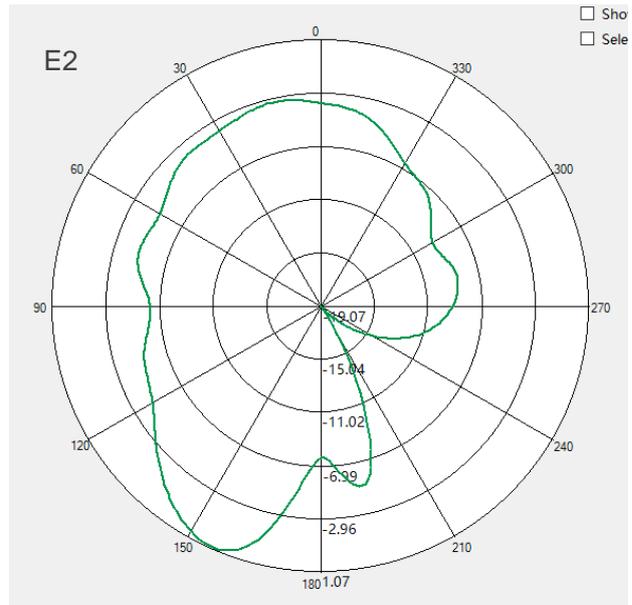
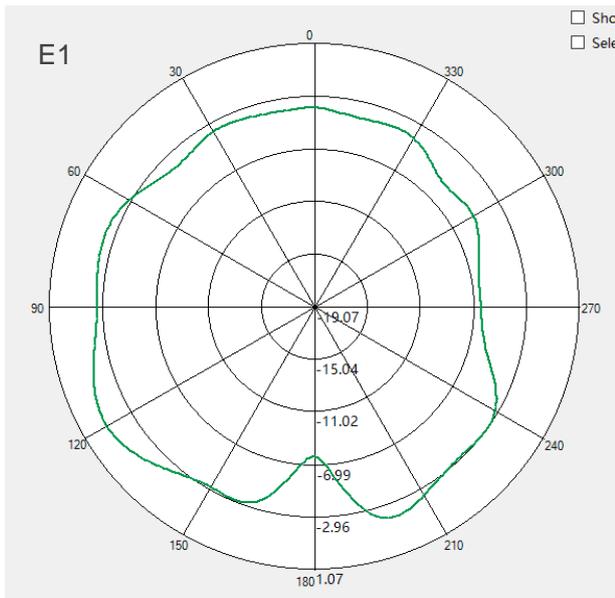
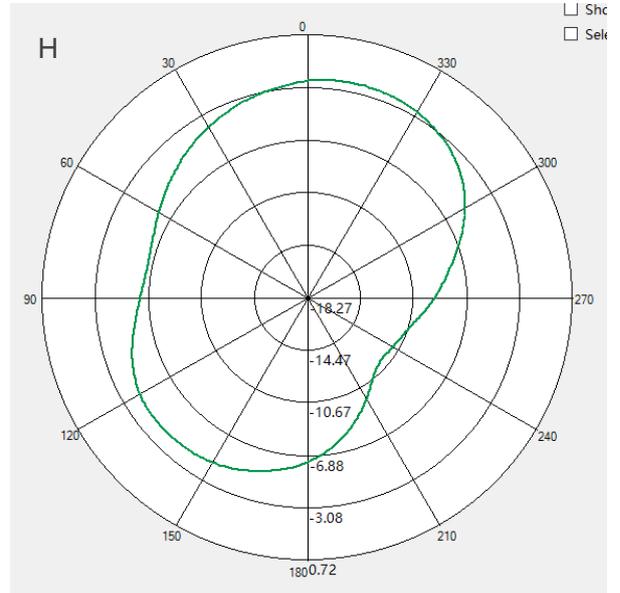
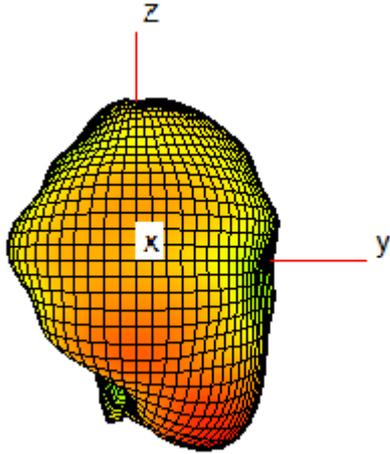
4.5.3 820 MHz



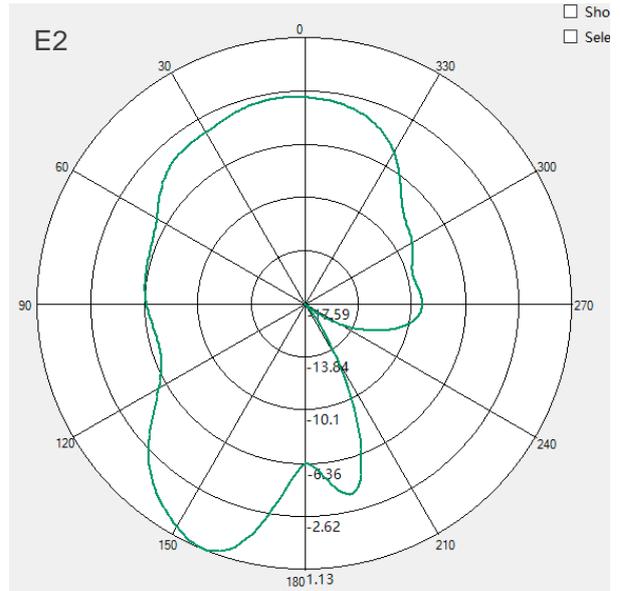
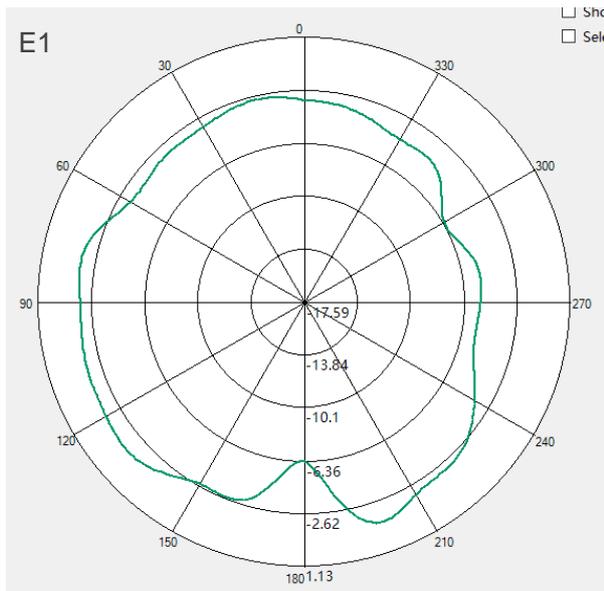
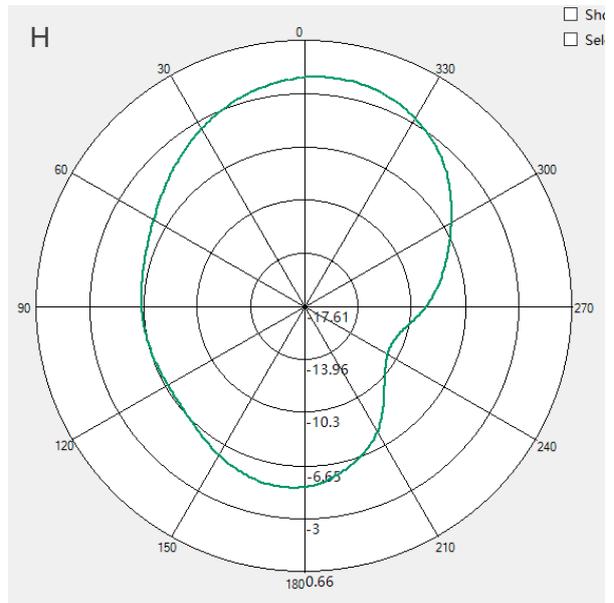
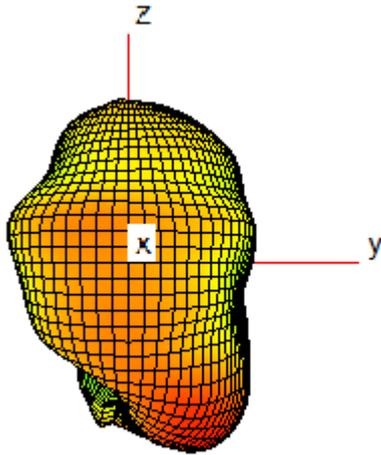
4.5.4 960 MHz



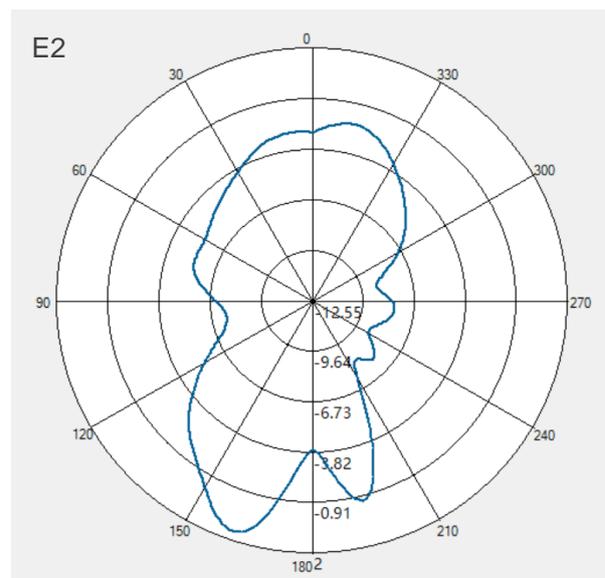
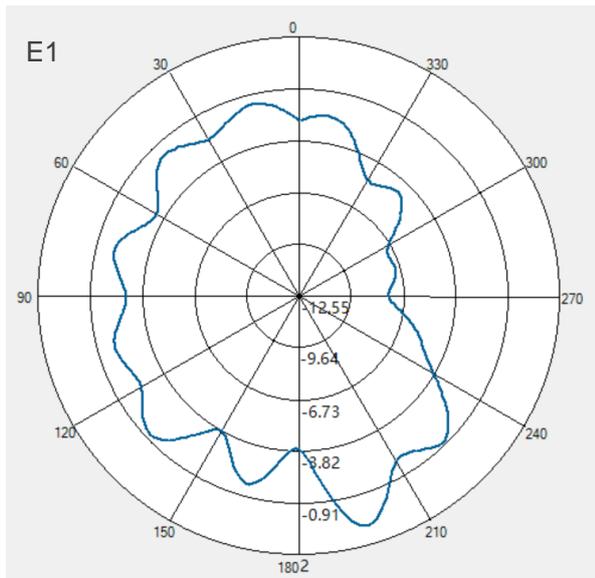
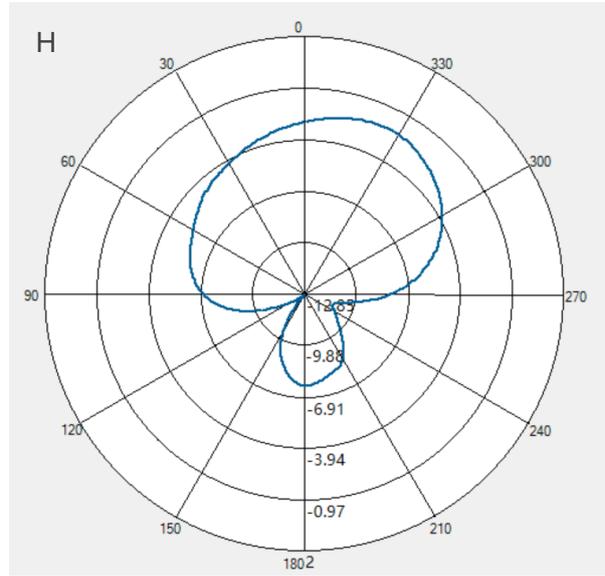
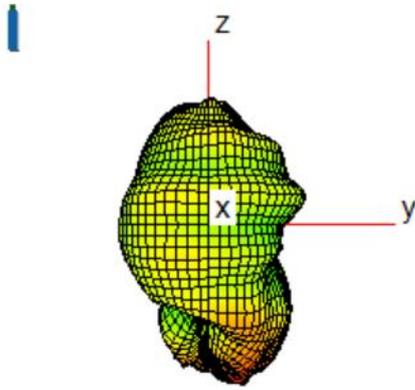
4.5.5 1430 MHz



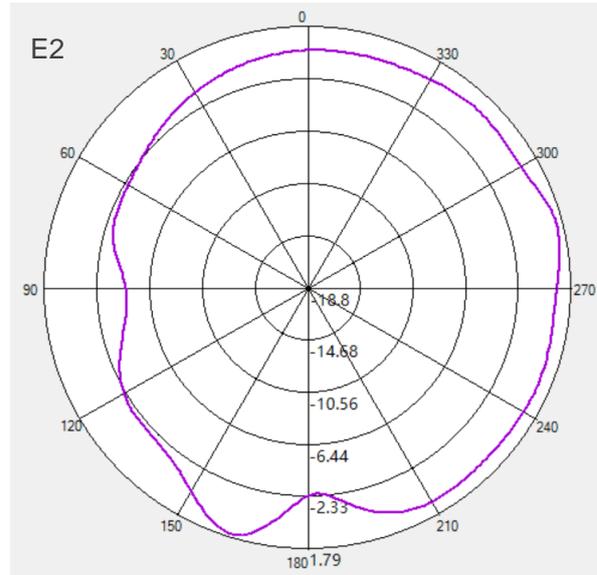
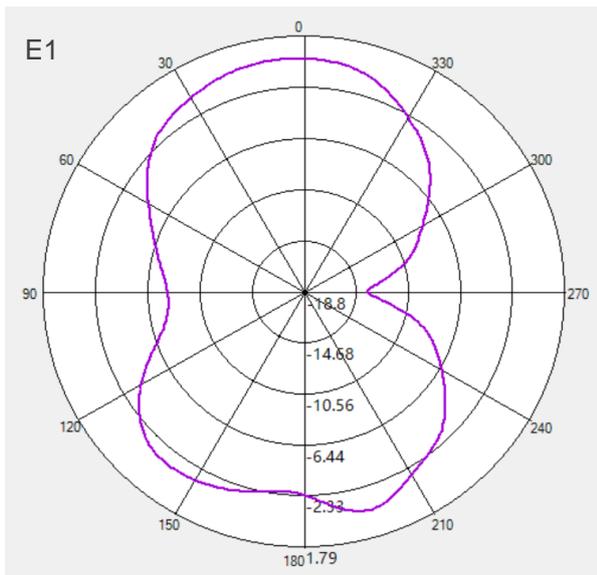
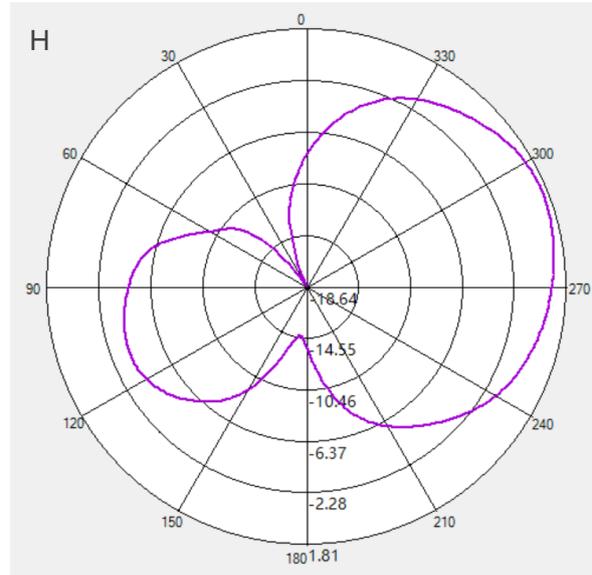
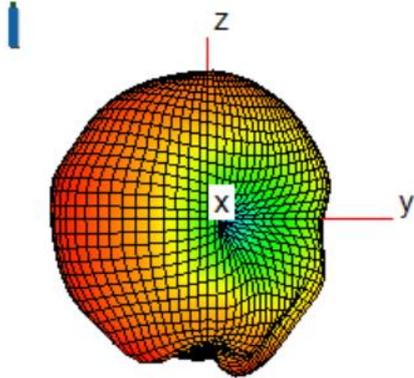
4.5.6 1490 MHz



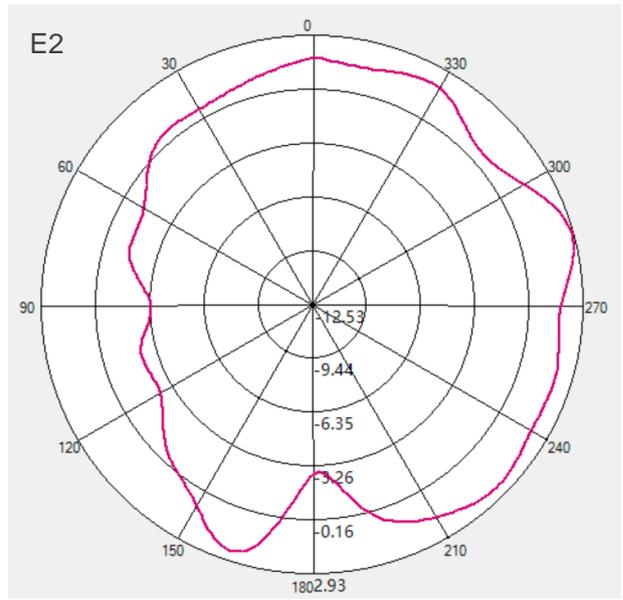
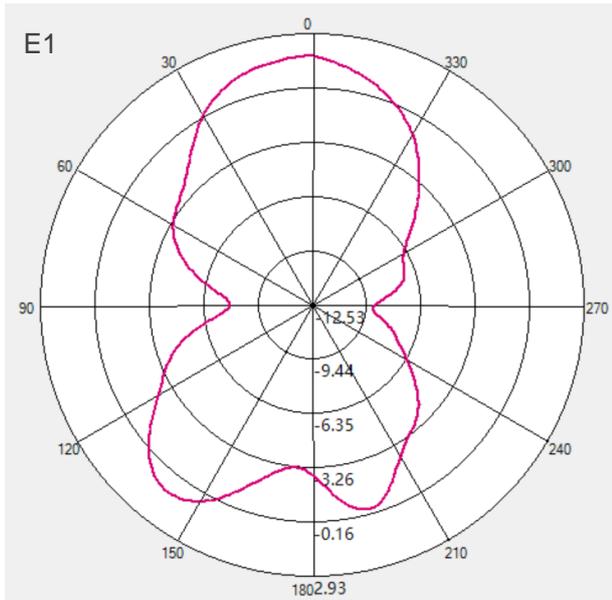
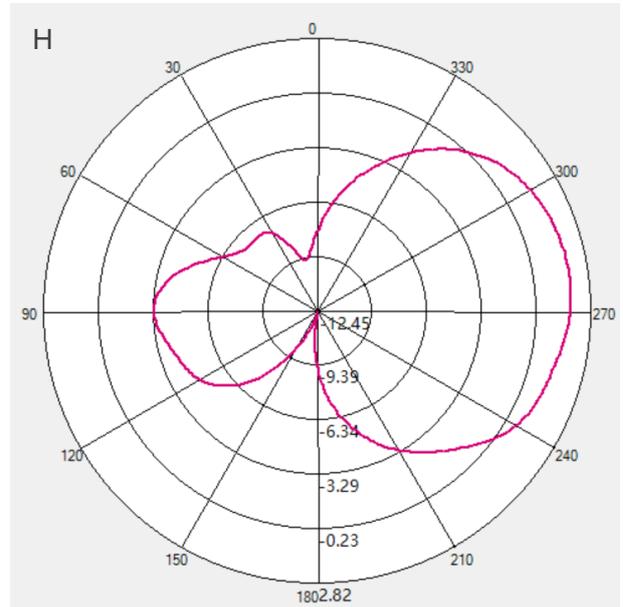
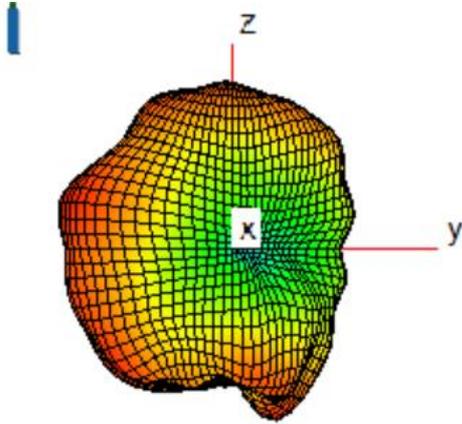
4.5.7 1710 MHz



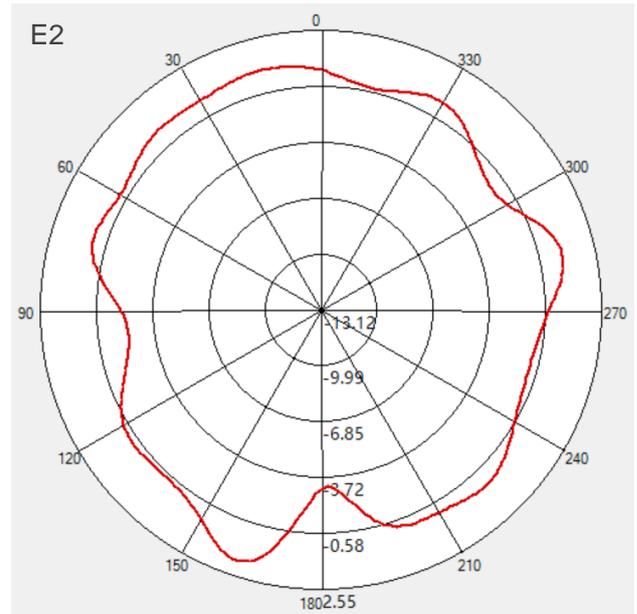
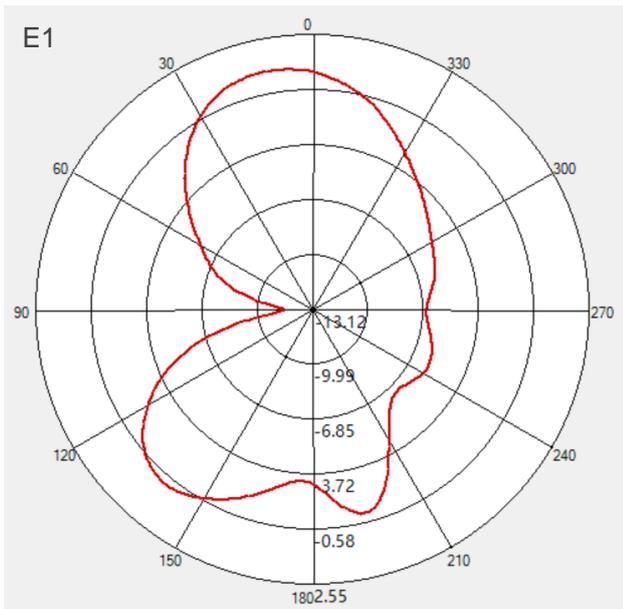
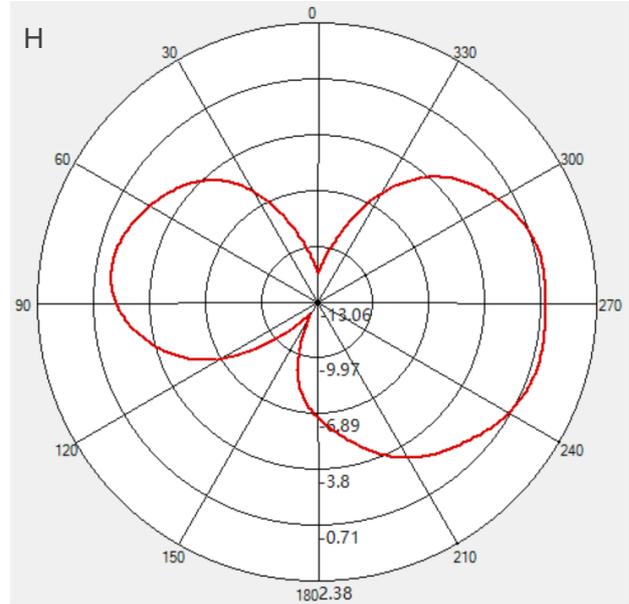
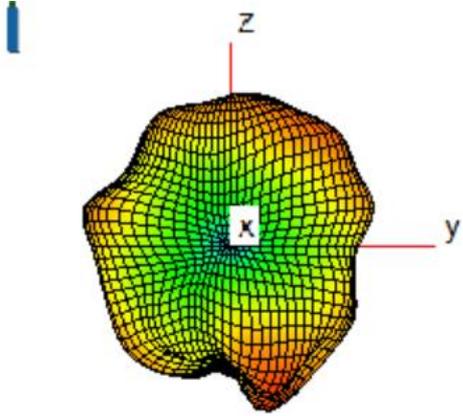
4.5.8 2170 MHz



4.5.9 2400 MHz



4.5.10 2690 MHz



5 Product Size

