

# Antenna

# YE0031AA Datasheet

**Antenna Services**

Version: 2.1

Date: 2021-07-25

Status: Released



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# About the Document

## Revision History

Version	Date	Author	Note
-	2020-12-21	Kenny YIN	Creation of the document
1.0	2020-12-21	Kenny YIN	First official release
1.1	2021-01-15	Kenny YIN	Updated the image in Chapter 2.
1.2	2021-01-27	Kenny YIN	Added IP rating description.
2.0	2021-04-27	Aria CHU	Updated all test data in the datasheets.
2.1	2021-07-25	Aria CHU	Updated the working temperature (Chapter 3).

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## 1 Product Description

The antenna is designed for superior performance, and can be widely used for wireless applications.

We provide comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs.

## 2 Product Features

- 2.4&5.8 GHz Wi-Fi dual-band
- High efficiency
- Excellent performance



### 3 Product Specifications

#### Passive Electrical Specifications

Frequency Range	2.4–2.5 GHz, 5.15–5.85 GHz
Input Impedence	50 $\Omega$
VSWR	2.4 GHz: $\leq 3.0$ , 5.8 GHz: $\leq 4.0$
Gain	$\leq 3.0$ dBi
Polarization Type	Linear

#### Mechanical Specifications

Antenna Size	52 mm $\times$ $\Phi$ 10 mm
Casing	ABS
Connector Type	SMA Male (center pin)
Working Temperature	-40 °C to +85 °C
Radome Color	Black
IP Rating	IP65

## 4 Overall Performance

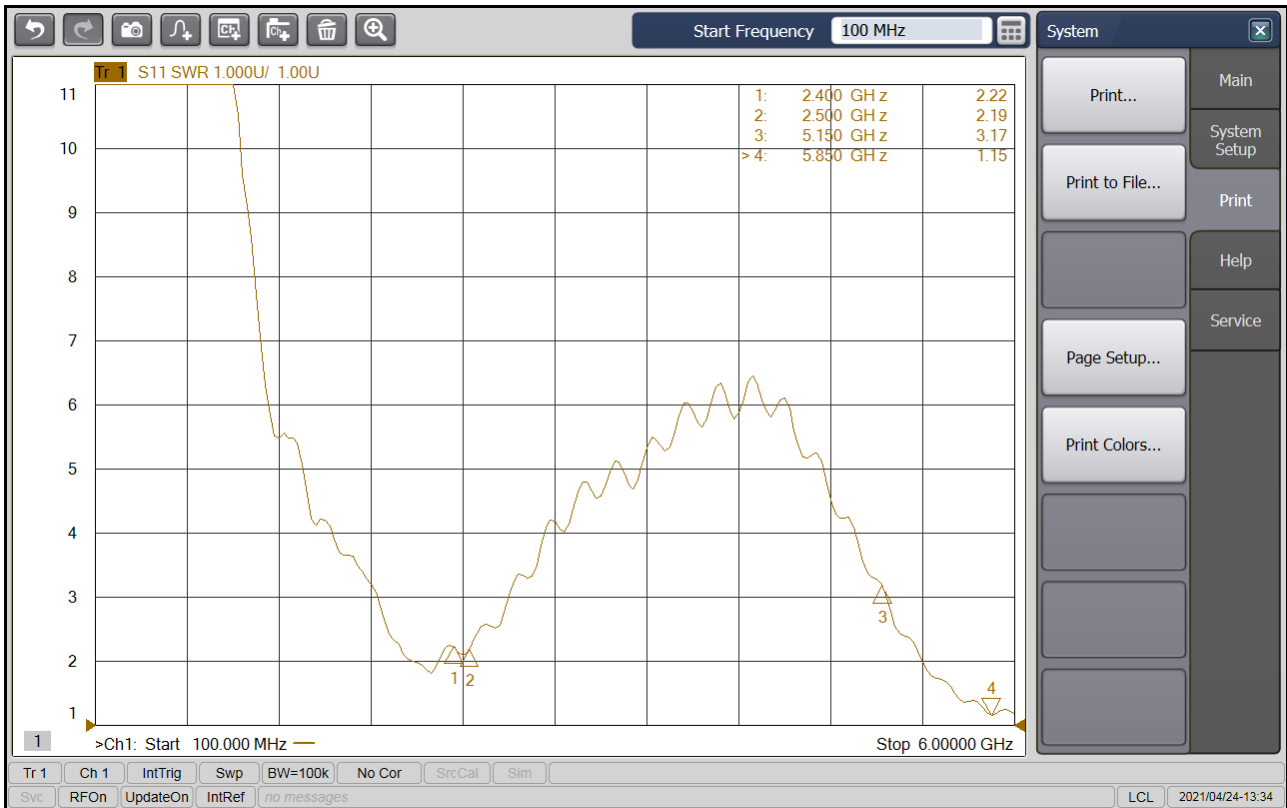
### 4.1. Test Environment

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



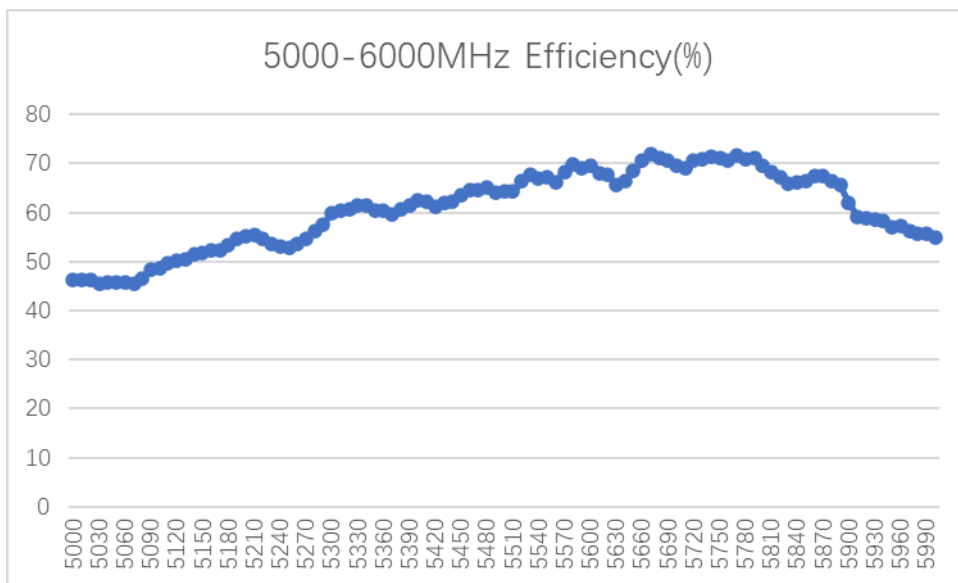
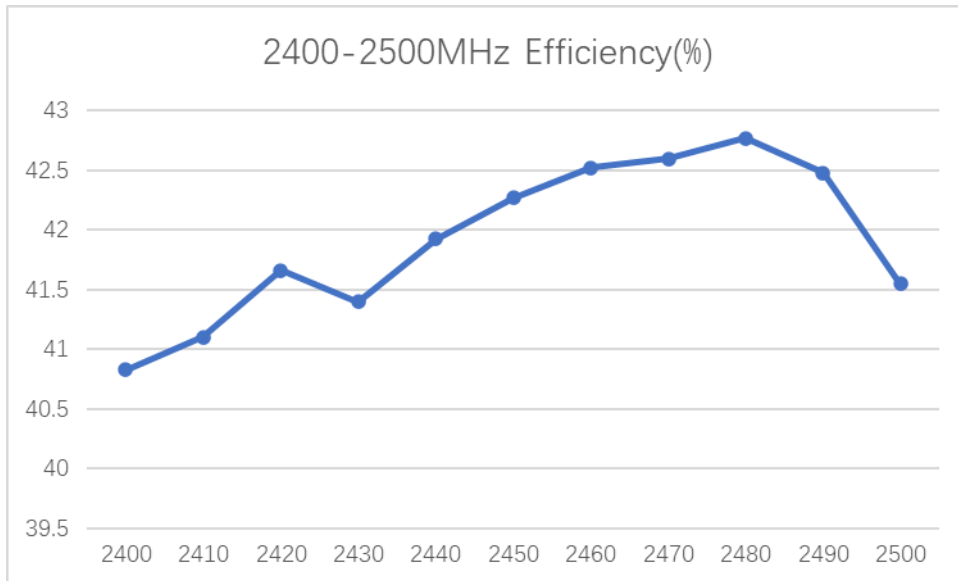


### 4.2. VSWR



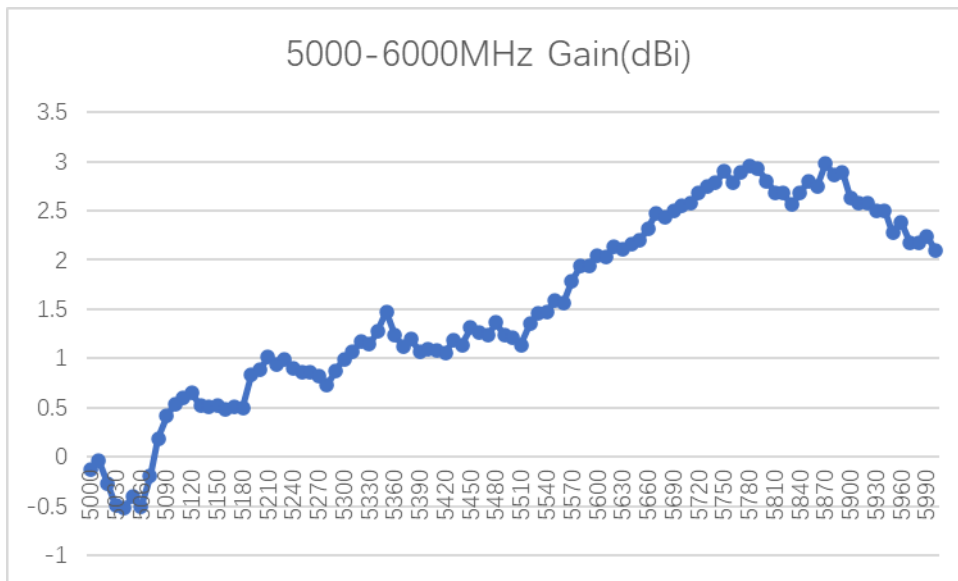
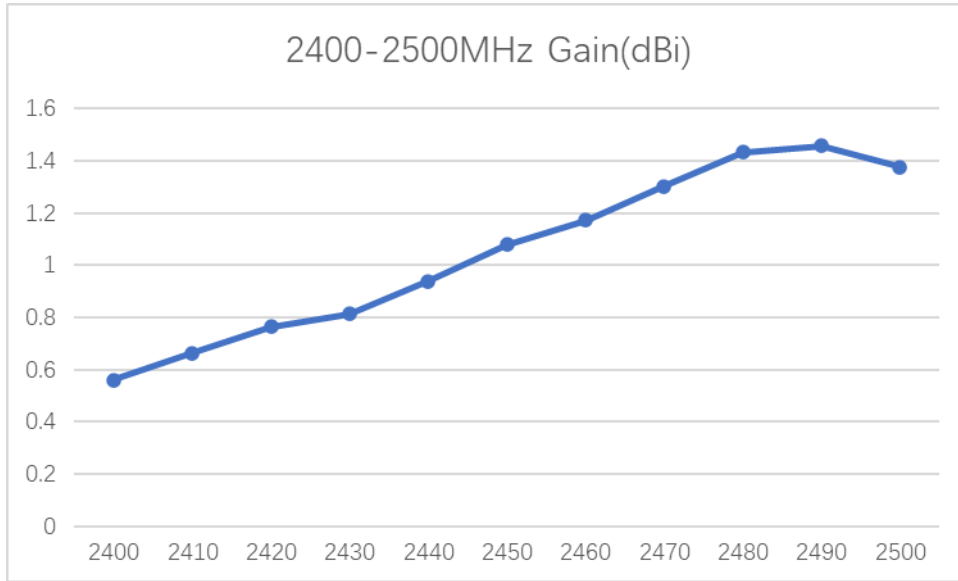
Frequency (MHz)	2400	2500	5150	5850
VSWR	2.22	2.19.	3.17	1.15

### 4.3. Efficiency



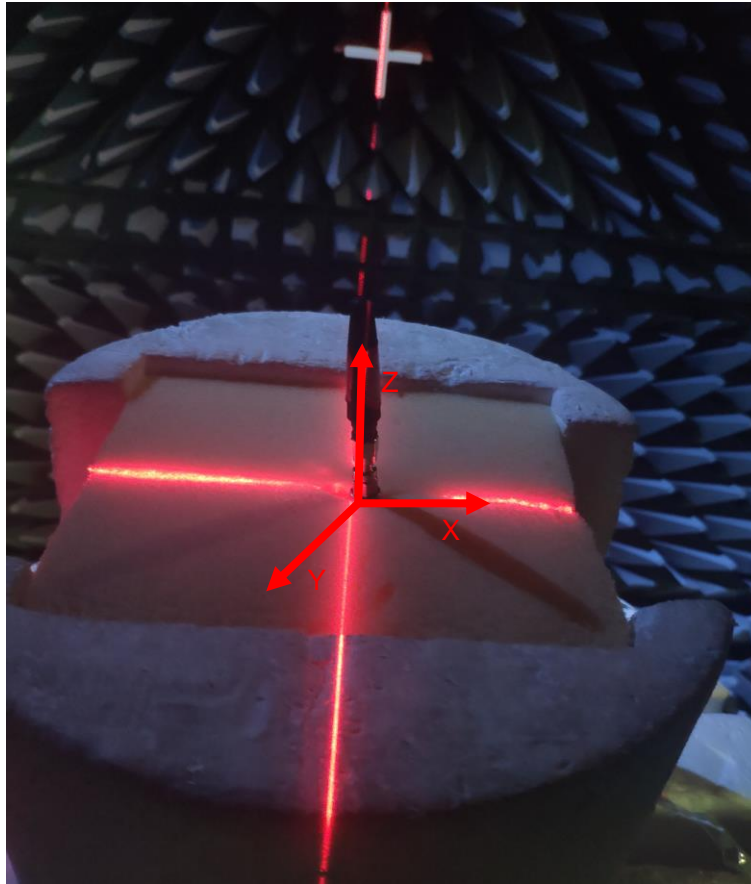
<b>Frequency (MHz)</b>	2400	2450	2500	5150	5550	5850
<b>Efficiency (%)</b>	40.83	42.27	41.55	51.76	67.34	66.37

### 4.4. Gain



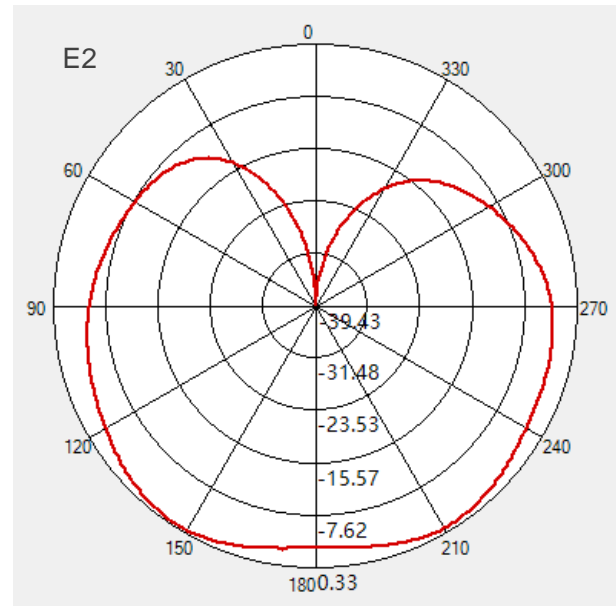
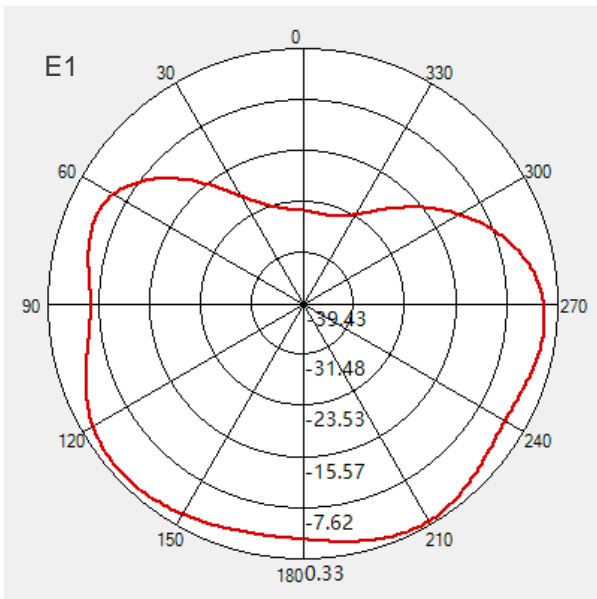
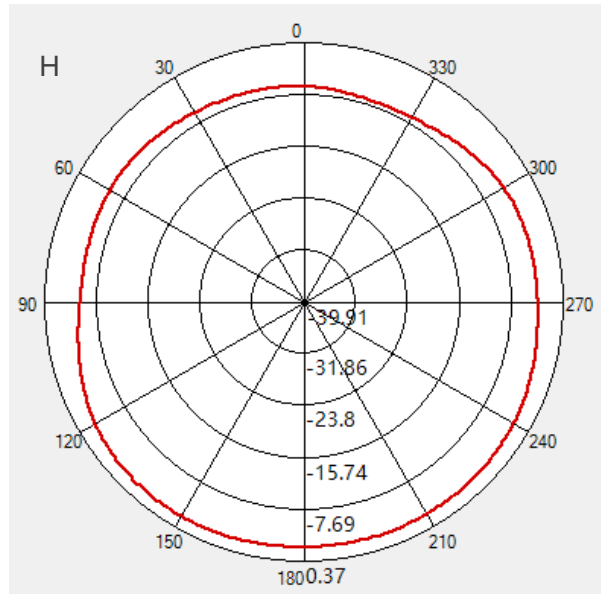
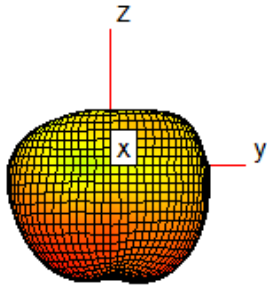
Frequency (MHz)	2400	2450	2500	5150	5550	5850
Gain (dBi)	0.56	1.08	1.38	0.52	1.59	2.80

## 4.5. Radiation Pattern

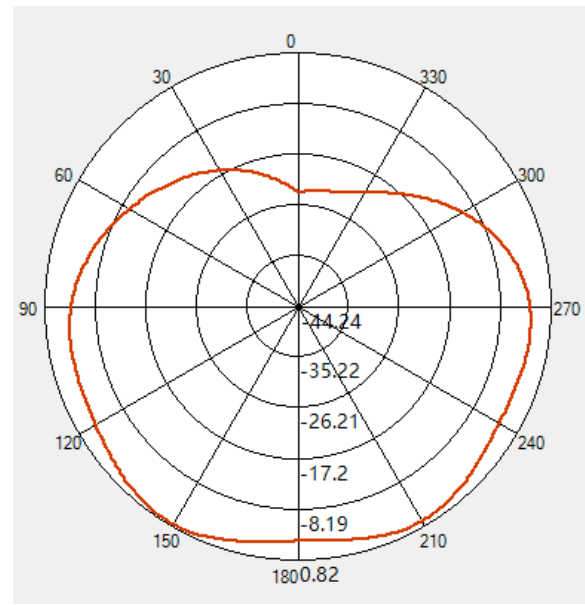
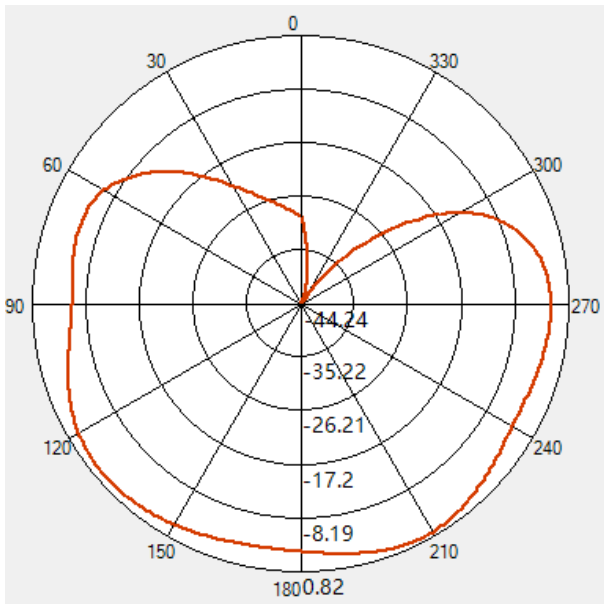
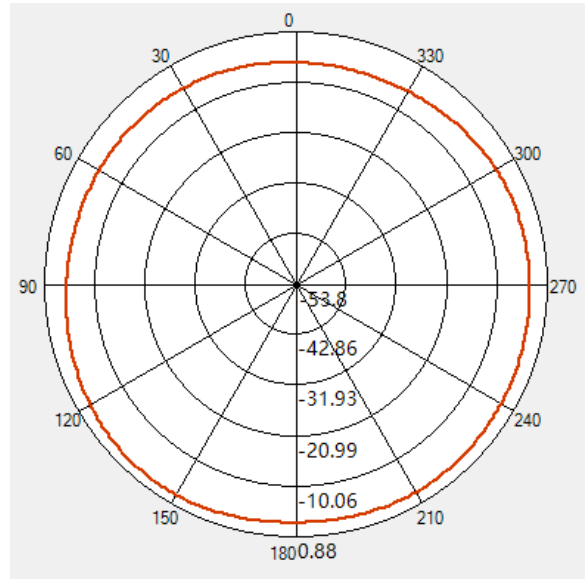
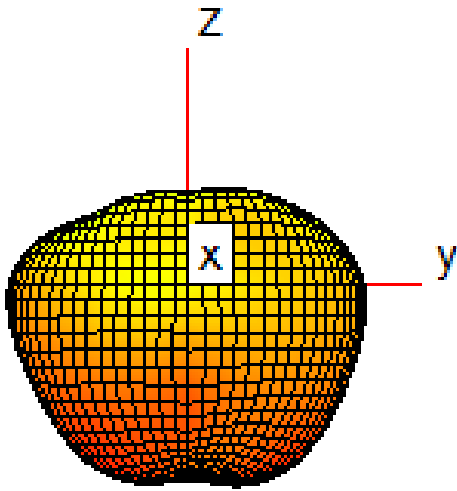


H plane: the tangent of XY  
E1 plane: the tangent of XZ  
E2 plane: the tangent of YZ

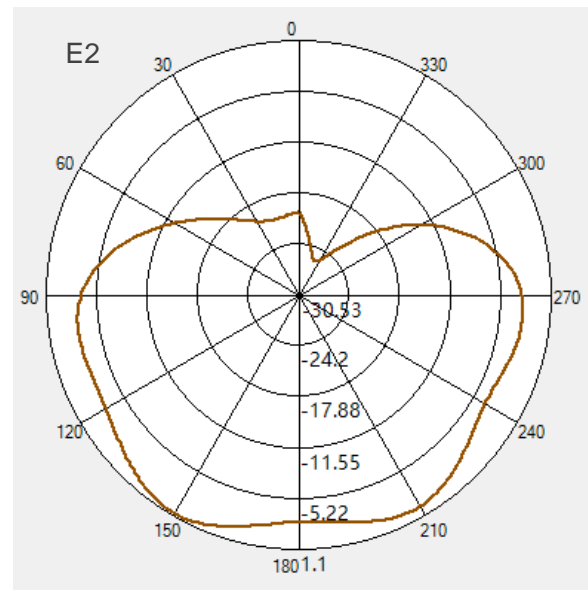
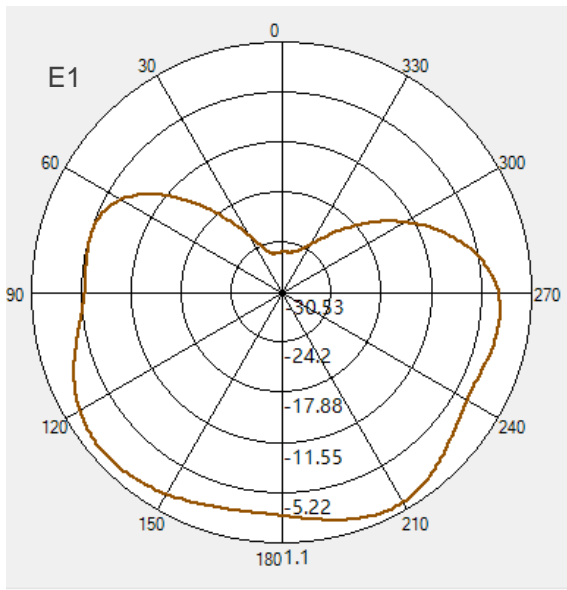
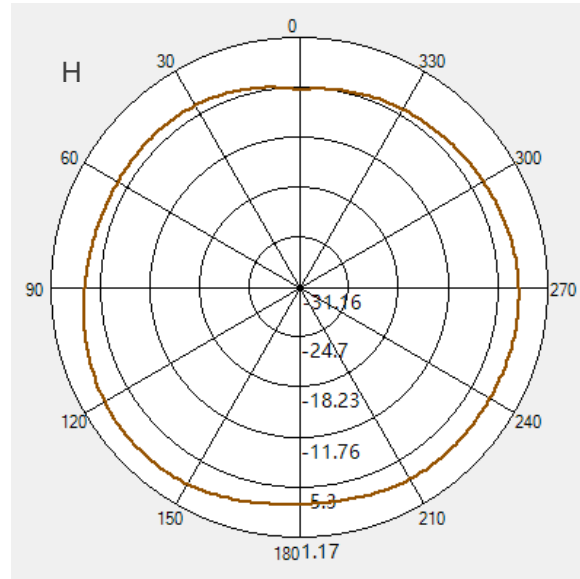
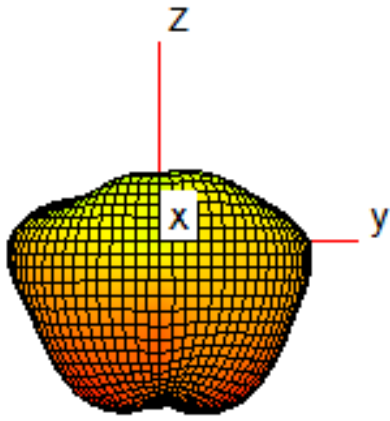
4.5.1. 2400 MHz



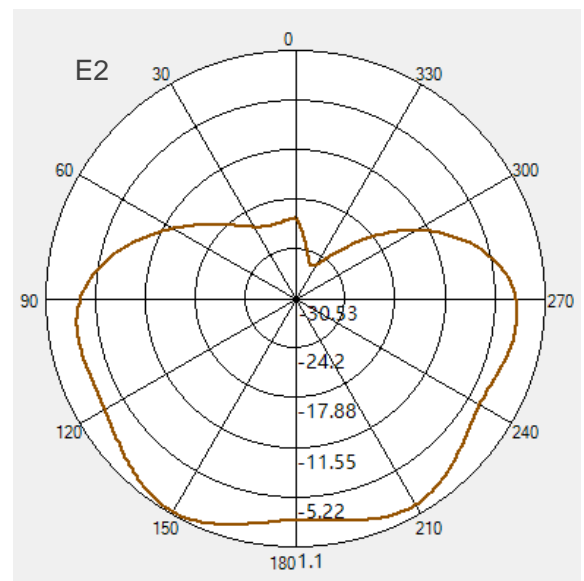
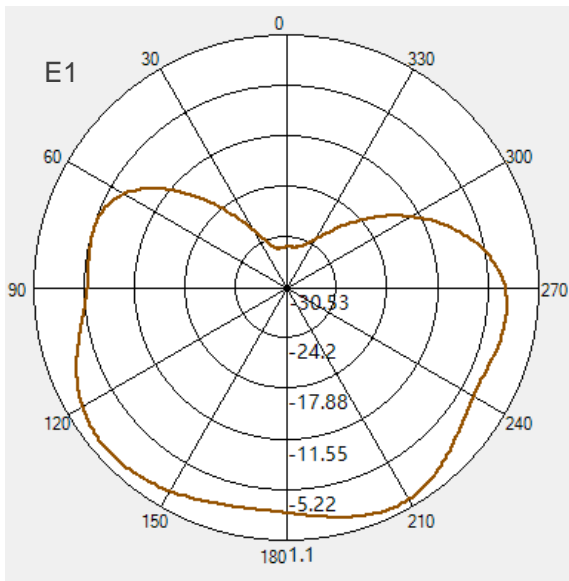
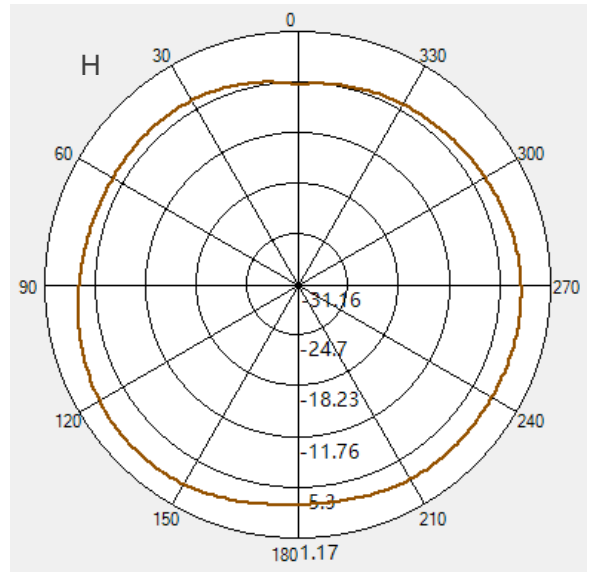
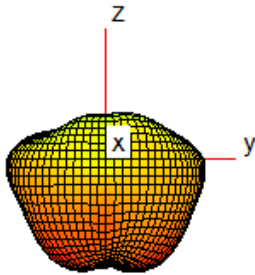
4.5.2. 2450 MHz



4.5.3. 2500 MHz

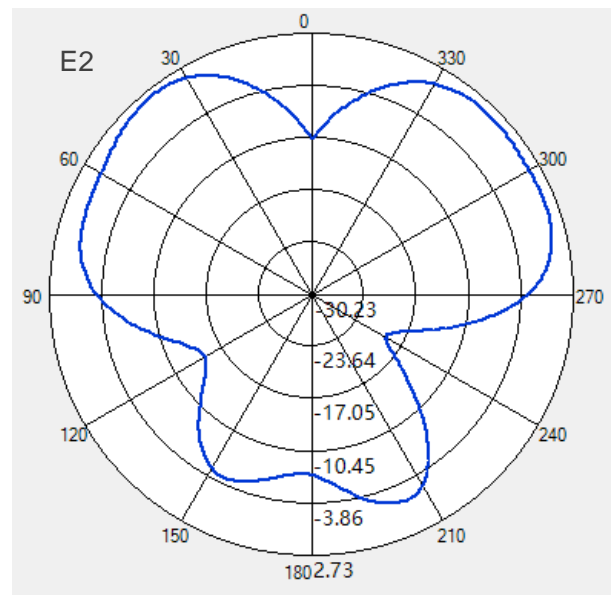
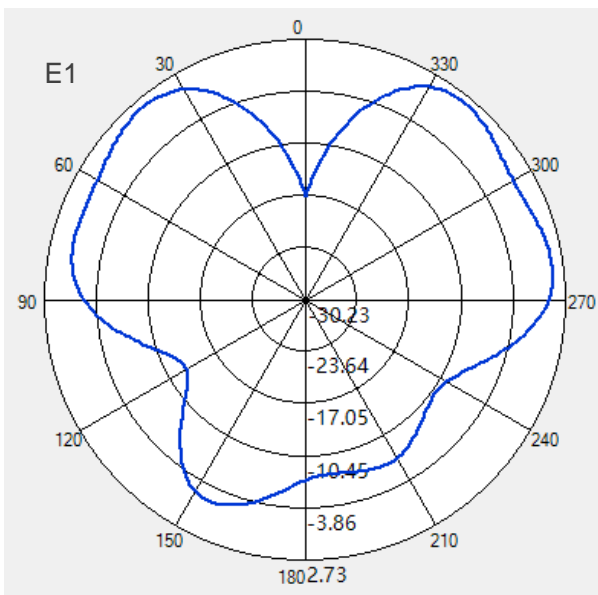
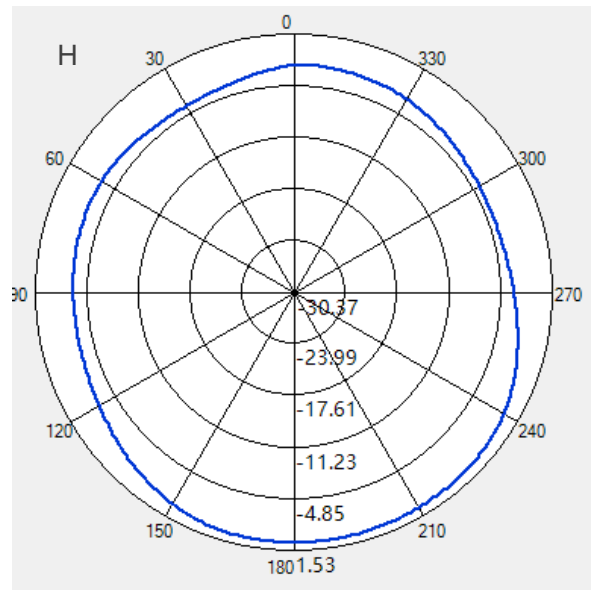
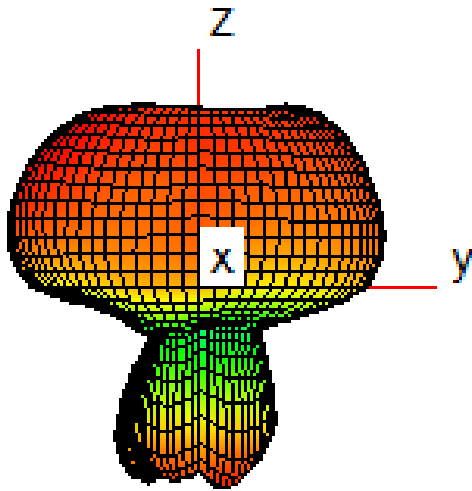


4.5.4. 5150 MHz

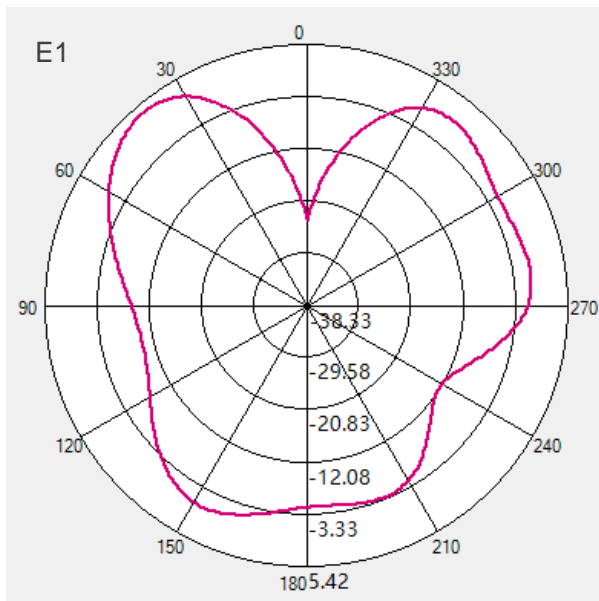
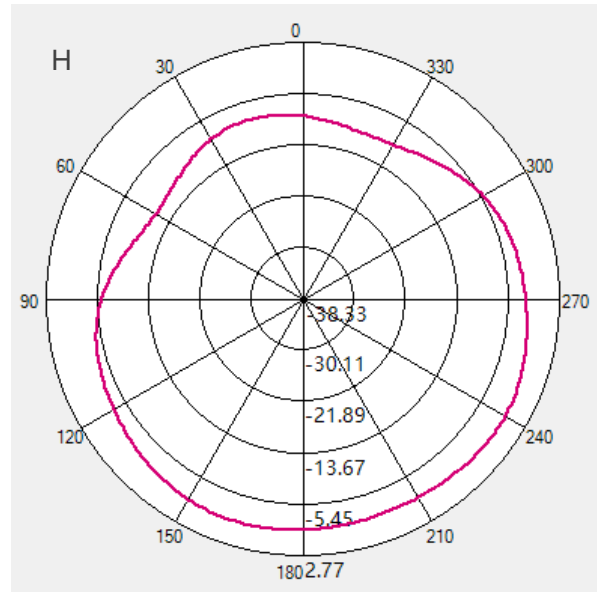
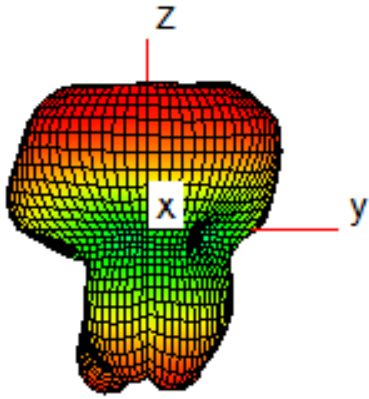




4.5.5. 5550 MHz



4.5.6. 5850 MHz



## 5 Product Size

