

# Antenna

# YF0011AA Datasheet

## Antenna Services

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# About the Document

## Revision History

Version	Date	Author	Note
-	2020-08-03	Kenny YIN	Creation of the document
1.0	2020-08-03	Kenny YIN	First official release
1.1	2021-01-15	Kenny YIN	Updated the antenna image in Chapter 2.
2.0	2021-04-26	Aria CHU	Updated all test data in the datasheets.
2.1	2021-05-27	Kenny YIN	Updated working temperature.
2.2	2021-11-30	Kenny YIN	Updated the product description in Chapter 1.

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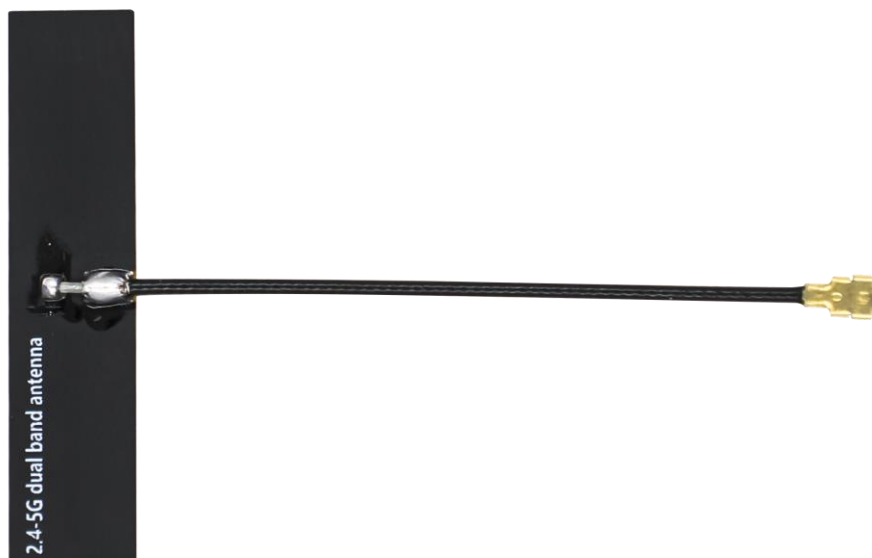
## 1 Product Description

Quectel Wi-Fi antenna covers 2.4 GHz, 5 GHz, and up to 7 GHz bands, fully satisfying customers' requirements for Wi-Fi 5, Wi-Fi 6, and Wi-Fi 6E. There are various antenna types, including built-in FPC antenna, ceramic patch antenna, and other external antennas of different shapes or sizes. The antenna performance meets the customers' demands for efficiency, gain, and radiation and ensures the superior experience of the customers' products in use.

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	2400–2500 MHz, 5150–5850 MHz
Input Impedence	50 $\Omega$
VSWR	$\leq 2.0$
Gain	$\leq 7.0$ dBi
Polarization Type	Linear

#### Mechanical Specifications

Antenna Size	38.9 mm $\times$ 9 mm $\times$ 0.12 mm
Casing	FPC
Connector Type	UF.L
Working Temperature	-40 $^{\circ}$ C to +85 $^{\circ}$ C
Radome Color	Black

## 4 Overall Performance

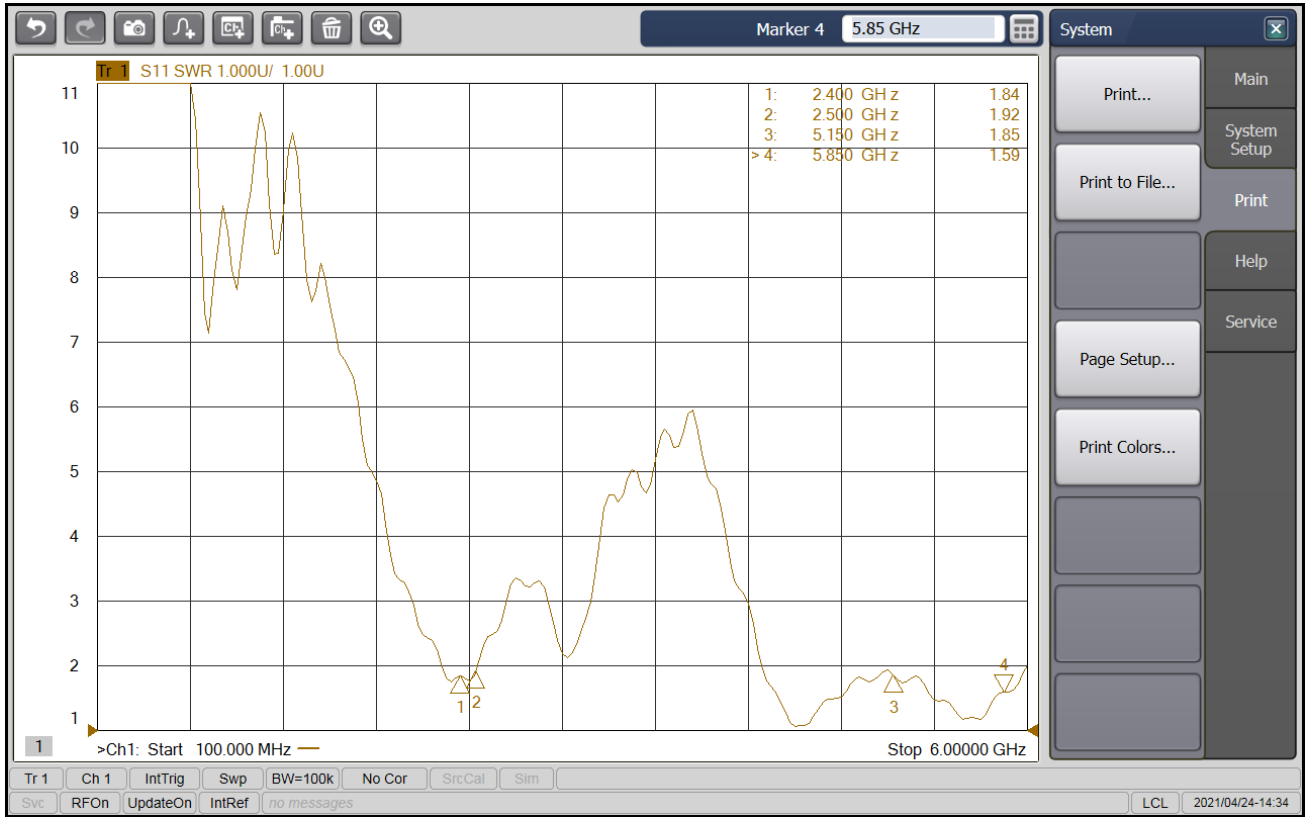
### 4.1. Test Environment

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



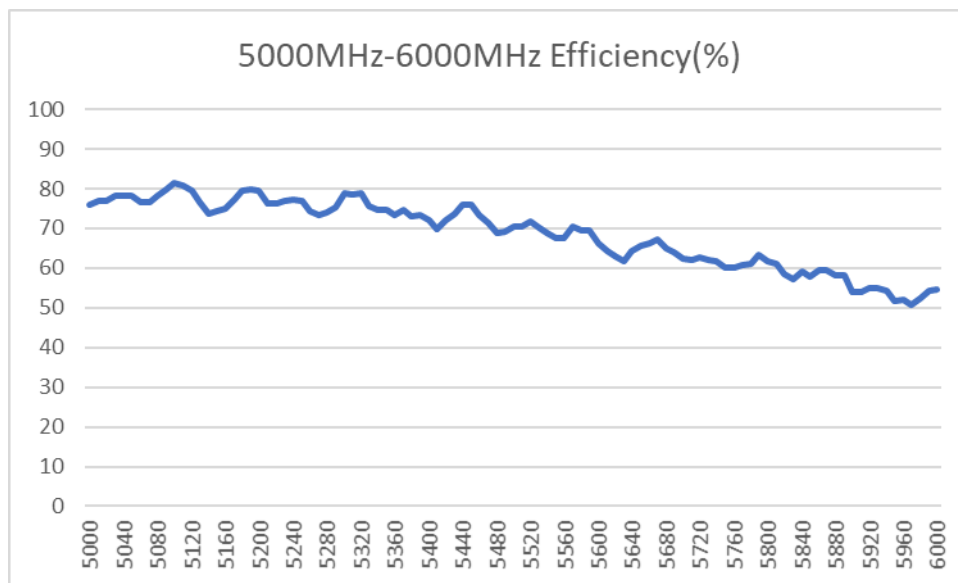
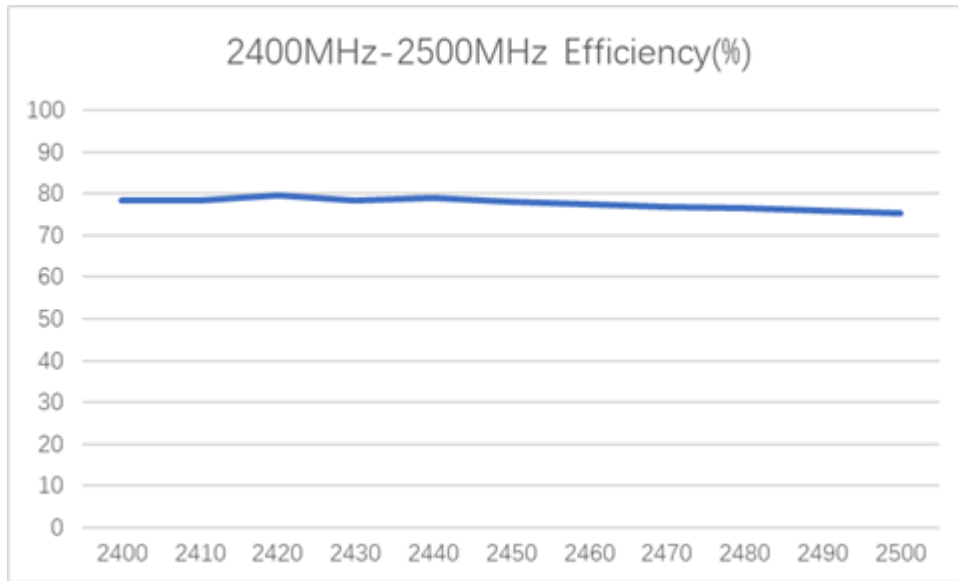


### 4.2. VSWR



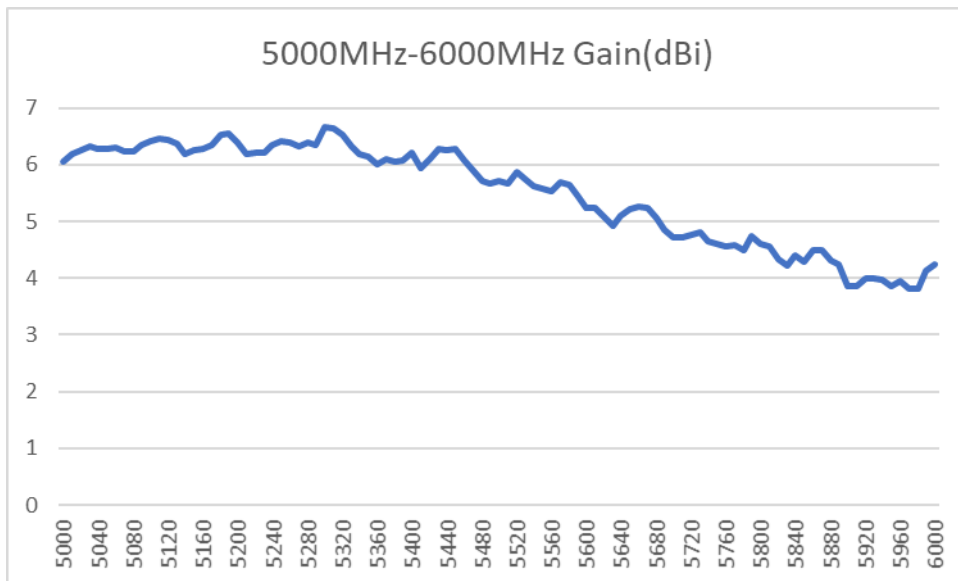
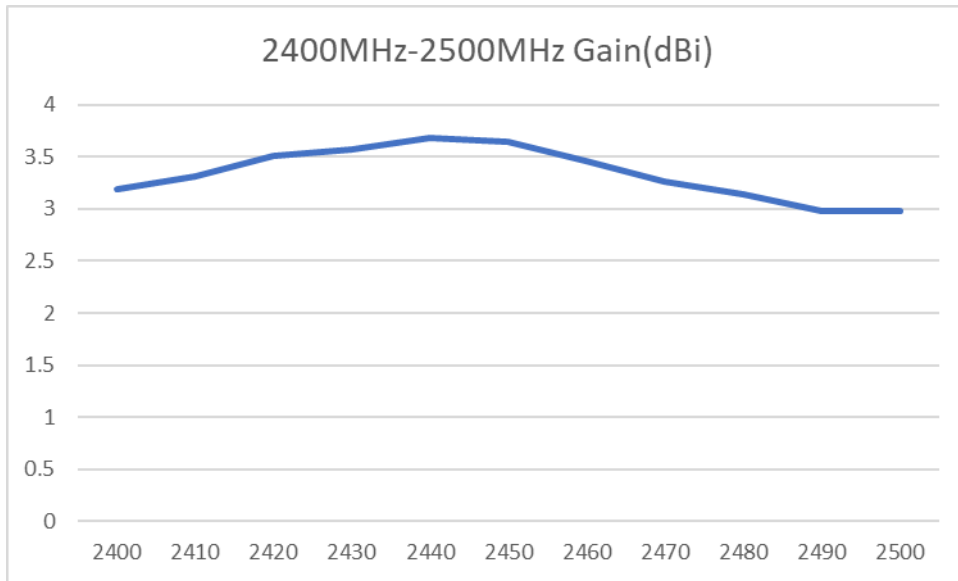
<b>Frequency (MHz)</b>	2400	2500	5150	5850
<b>VSWR</b>	1.85	1.92	1.85	1.59

### 4.3. Efficiency



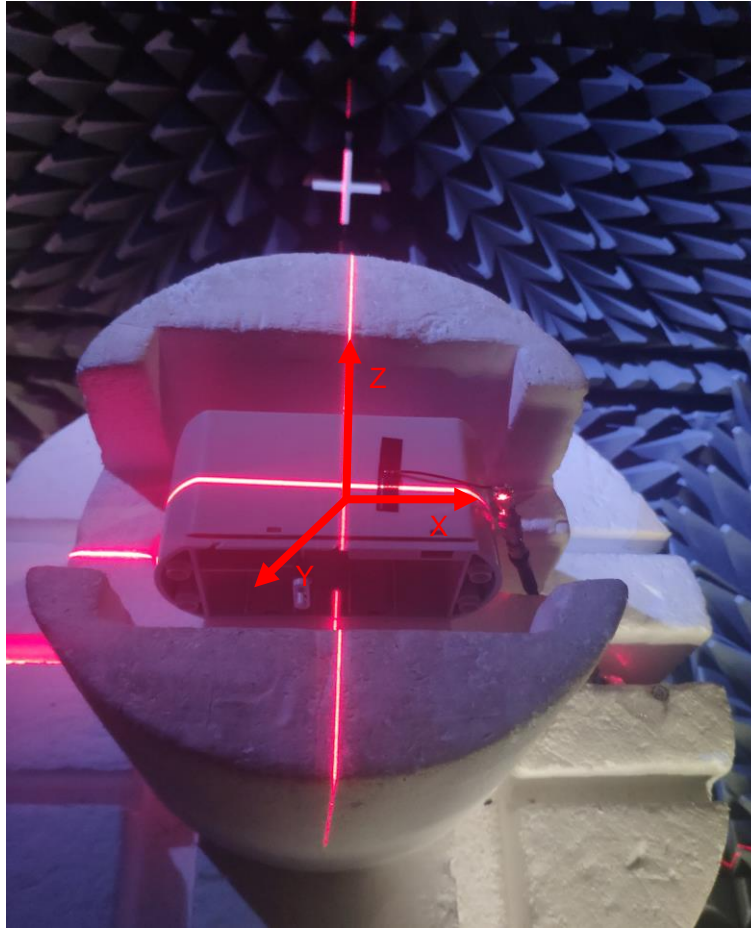
<b>Frequency (MHz)</b>	2400	2450	2500	5150	5550	5850
<b>Efficiency (%)</b>	78.49	78.11	75.30	74.32	65.70	57.84

### 4.4. Gain



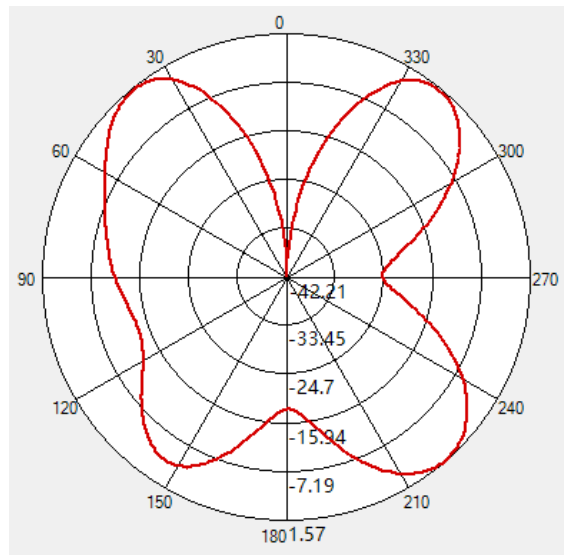
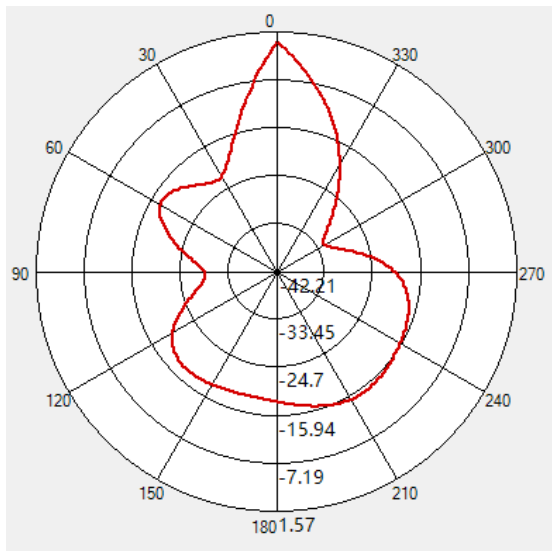
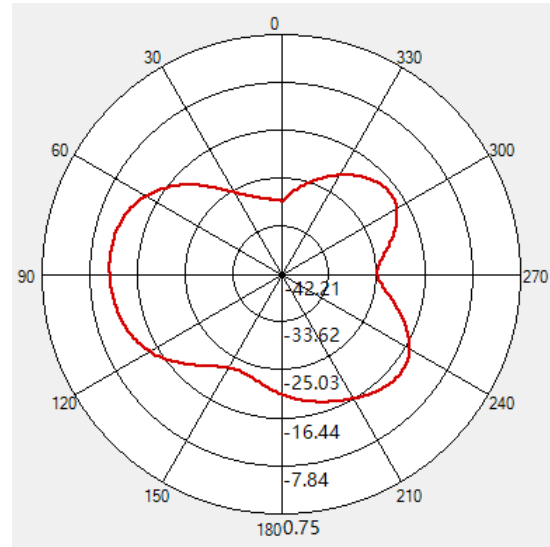
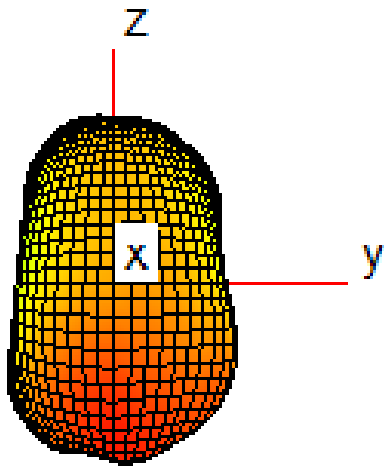
<b>Frequency (MHz)</b>	2400	2450	2500	5150	5550	5850
<b>Gain (dBi)</b>	3.18	3.65	2.98	6.29	5.57	4.28

### 4.5. Radiation Patterns

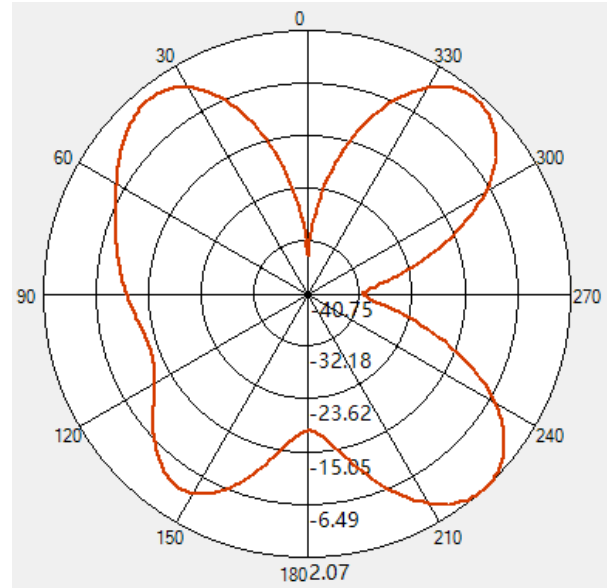
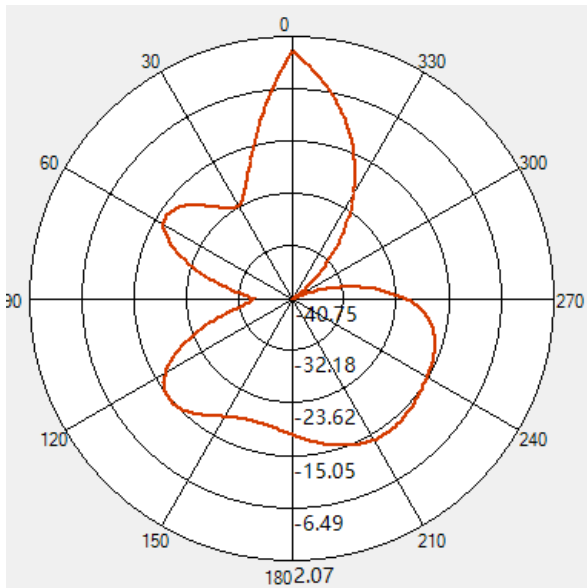
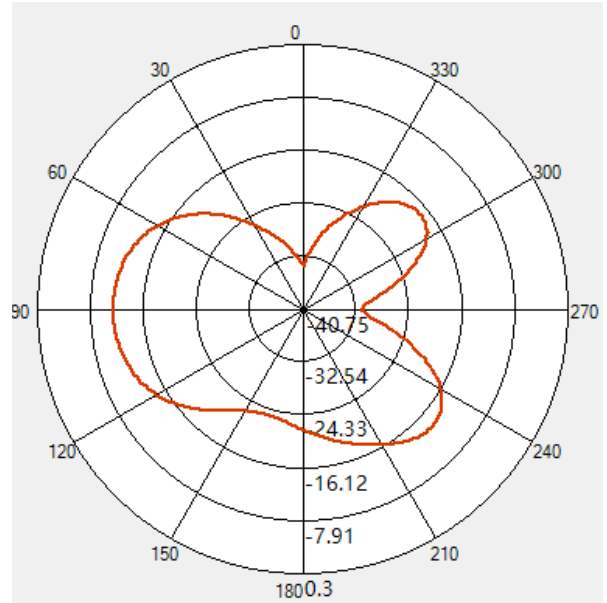
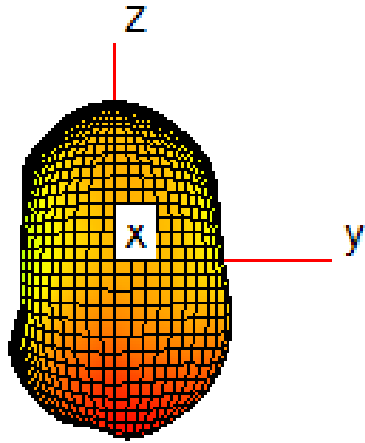


H plane: the tangent of XY  
E1 plane: the tangent of XZ  
E2 plane: the tangent of YZ

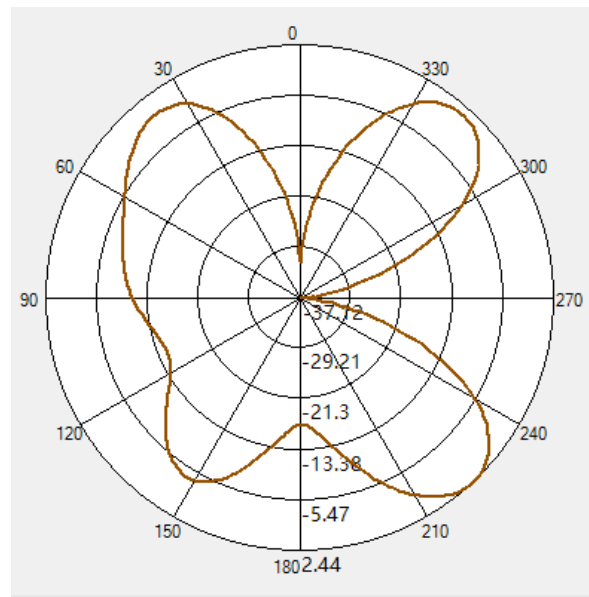
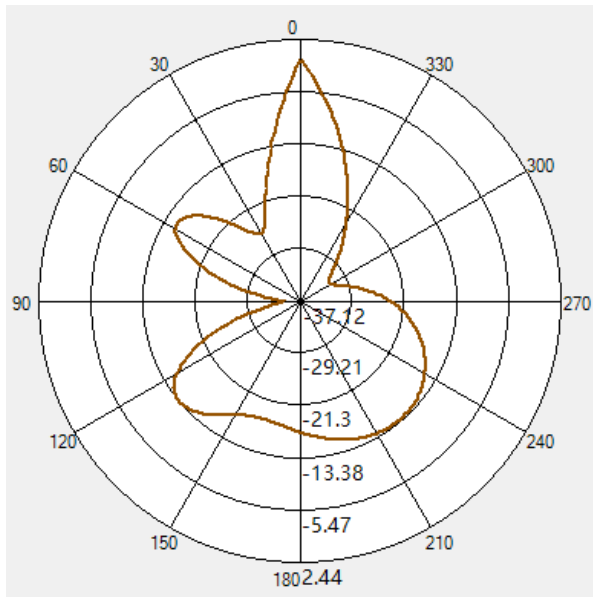
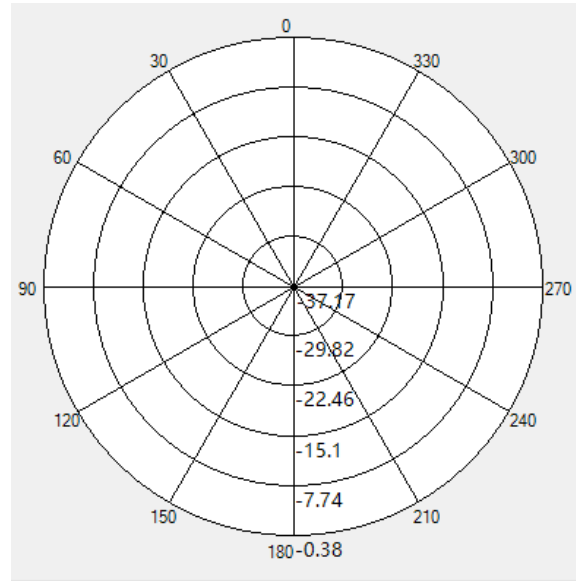
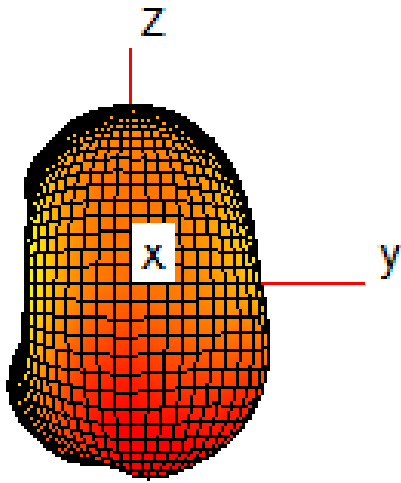
4.5.1. 2400 MHz



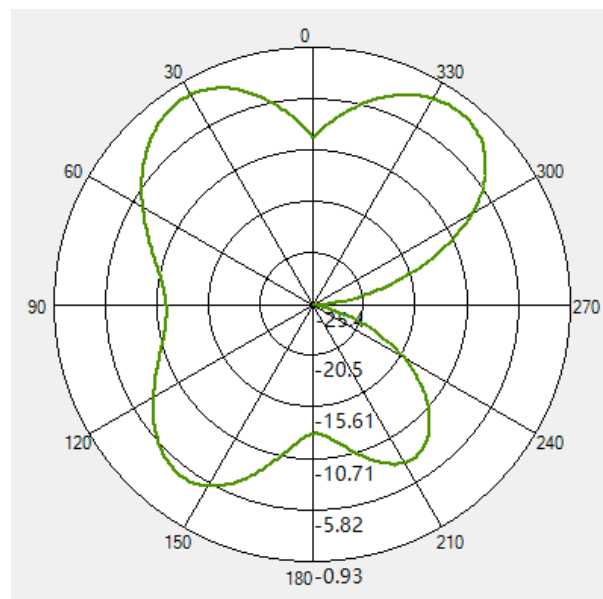
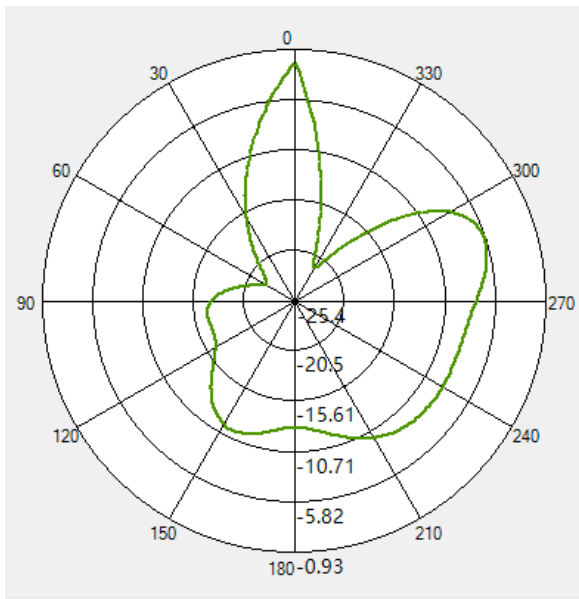
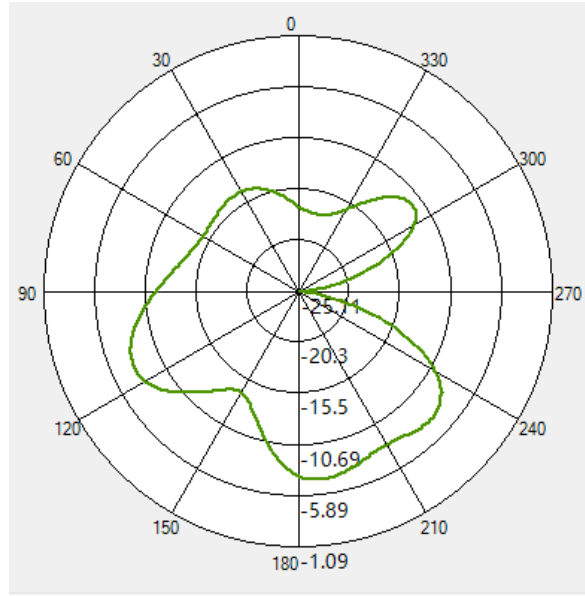
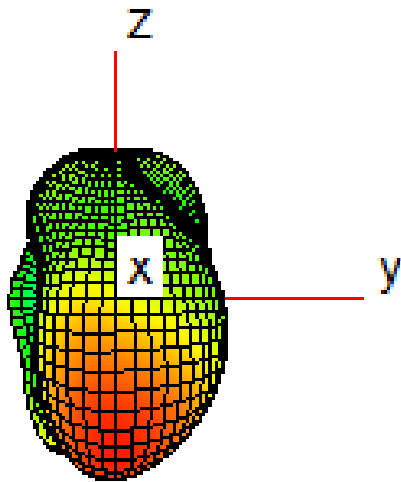
4.5.2. 2450 MHz



4.5.3. 2500 MHz

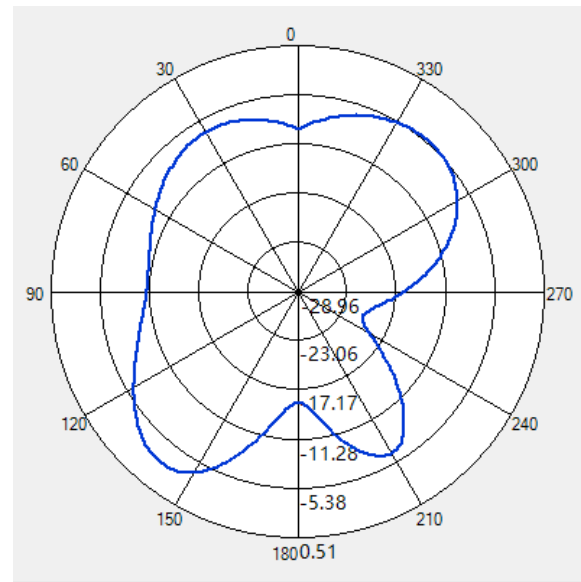
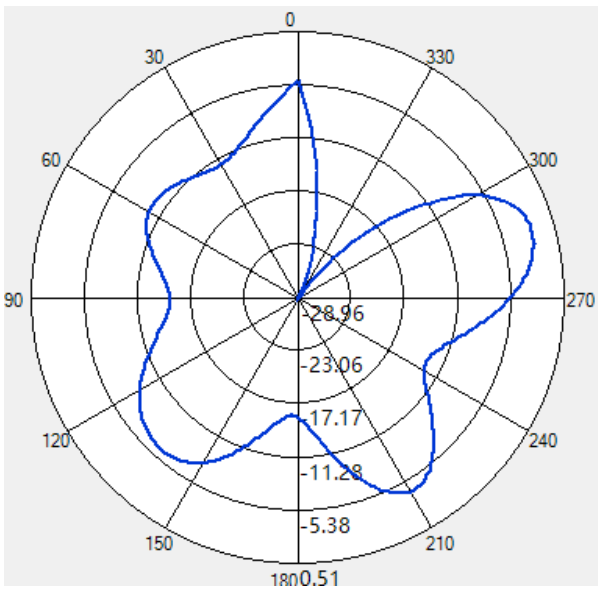
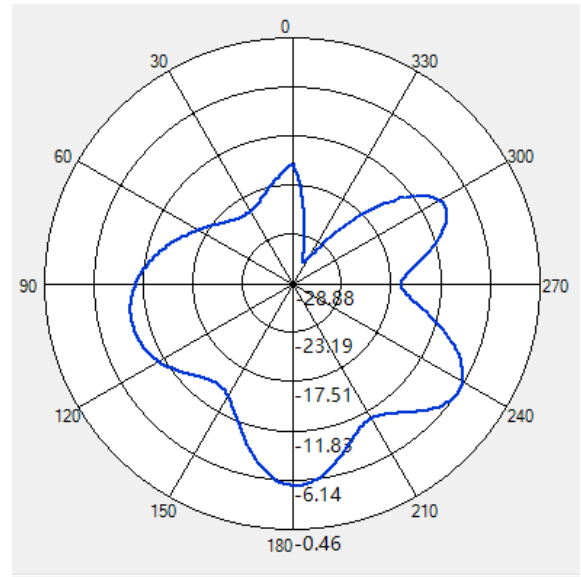
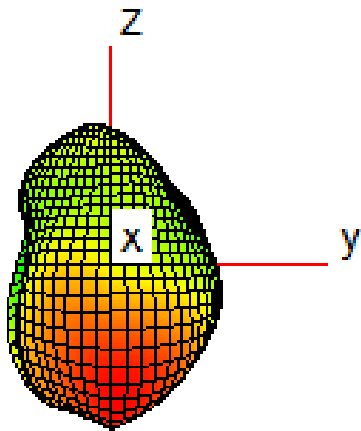


4.5.4. 5150 MHz

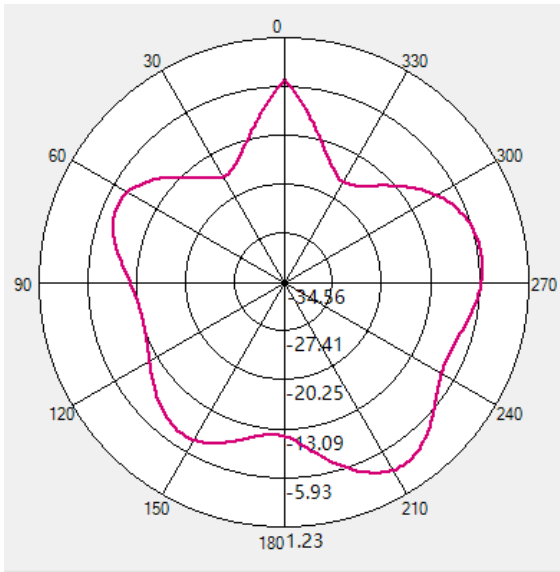
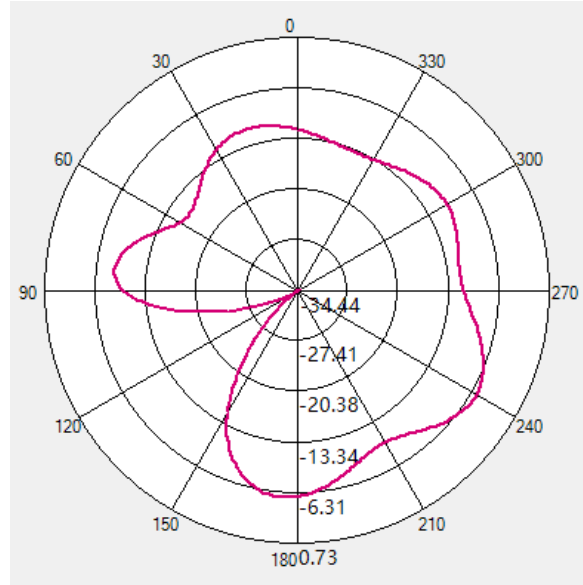
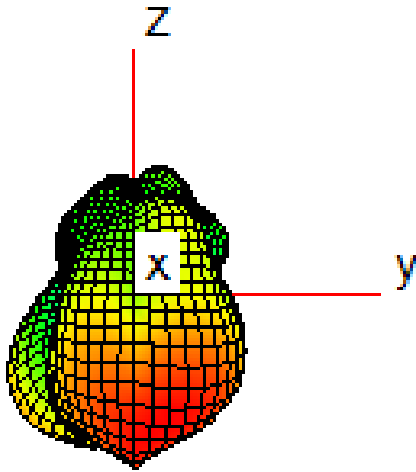




4.5.5. 5550 MHz



4.5.6. 5850 MHz



## 5 Product Size

