

# Antenna

# YF0023GA Datasheet

## Antenna Services

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# About the Document

## Revision History

Version	Date	Author	Note
-	2022-08-16	Sly LIU/ Lucky FENG	Creation of the document
1.0	2023-08-16	Sly LIU/ Lucky FENG	First official release
1.1	2024-01-15	Lucky FENG	<ol style="list-style-type: none"><li>1. Updated the connector, mounting type and added storage temperature (Chapter 3).</li><li>2. Updated the drawing (Chapter 5).</li></ol>

## Contents

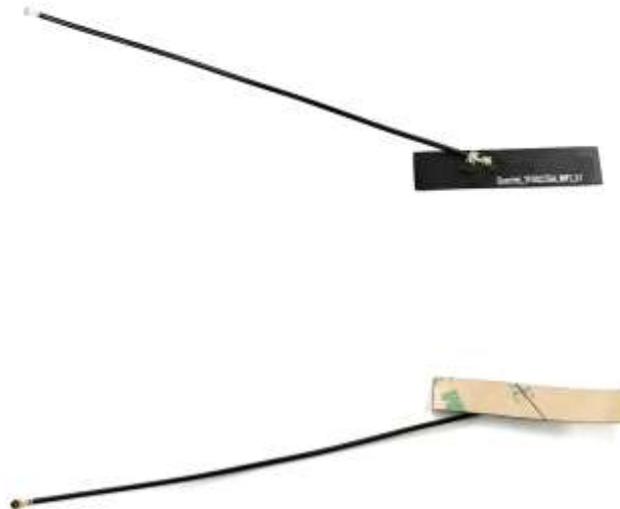
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## 1 Product Description

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.

## 2 Product Features

- Wi-Fi
- High efficiency
- Excellent performance



### 3 Product Specifications

#### Passive Electrical Specifications

Frequency Range	2400–2500 MHz; 4900–5850 MHz; 5925–7125 MHz
Input Impedance	50 $\Omega$
Return Loss	$\leq -8.8$ dB
Gain	$\leq 7$ dBi
Polarization Type	Linear

#### Mechanical Specifications

Antenna Size	37.80 mm $\times$ 7.50 mm
Material	FPC
Cable Type & Length	$\Phi$ 1.13 Black & 100 mm
Connector	IPEX MHF 4L
Color	Black
Weight	Typ. 0.44 g
Mounting Type	Adhesive
Working Temperature	-20 $^{\circ}$ C to +85 $^{\circ}$ C
Storage Temperature	-20 $^{\circ}$ C to +85 $^{\circ}$ C

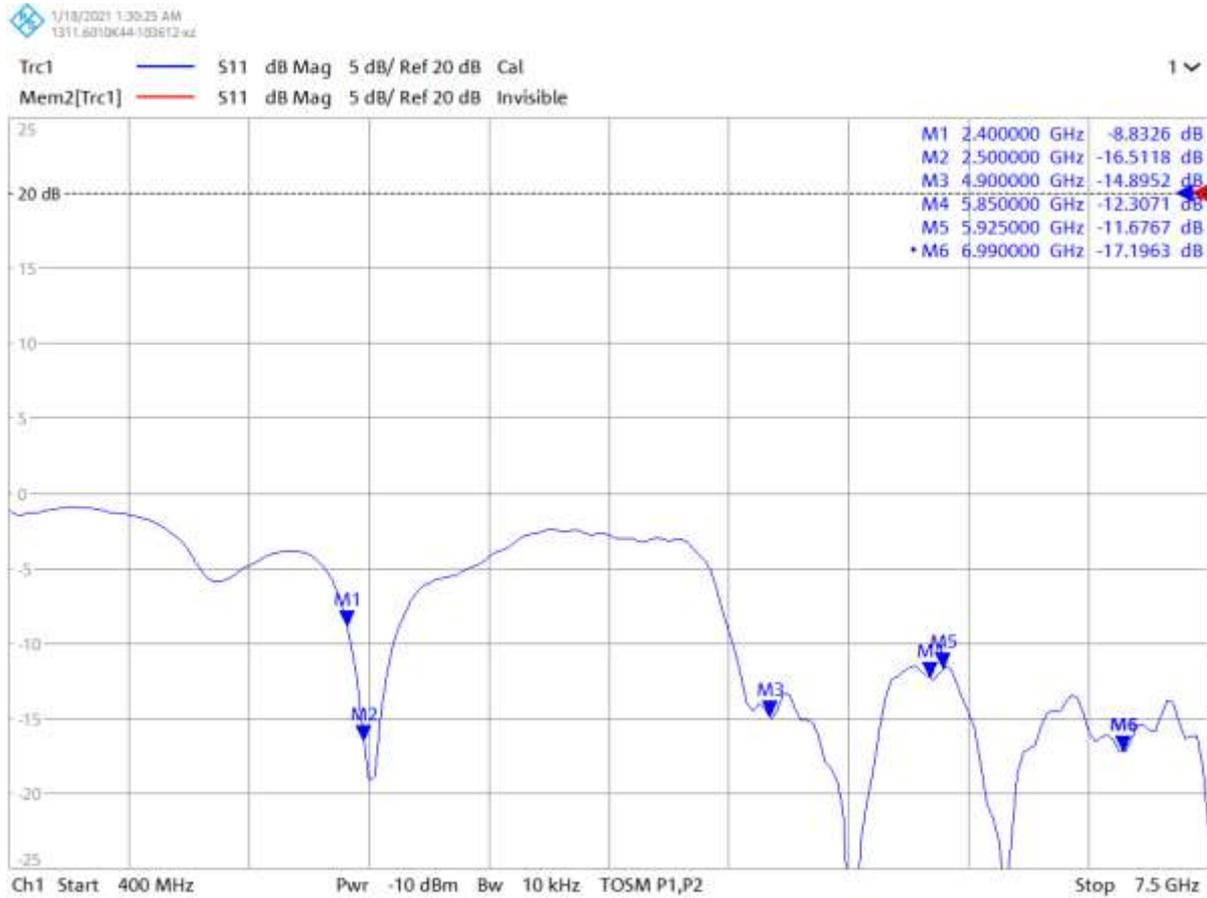
## 4 Overall Performance

### 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

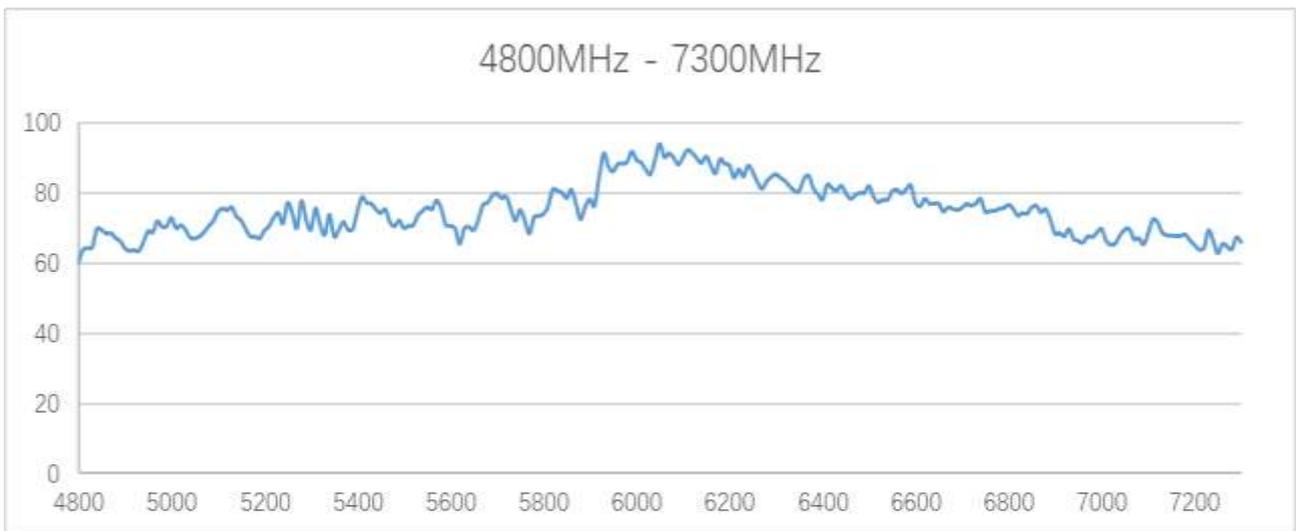
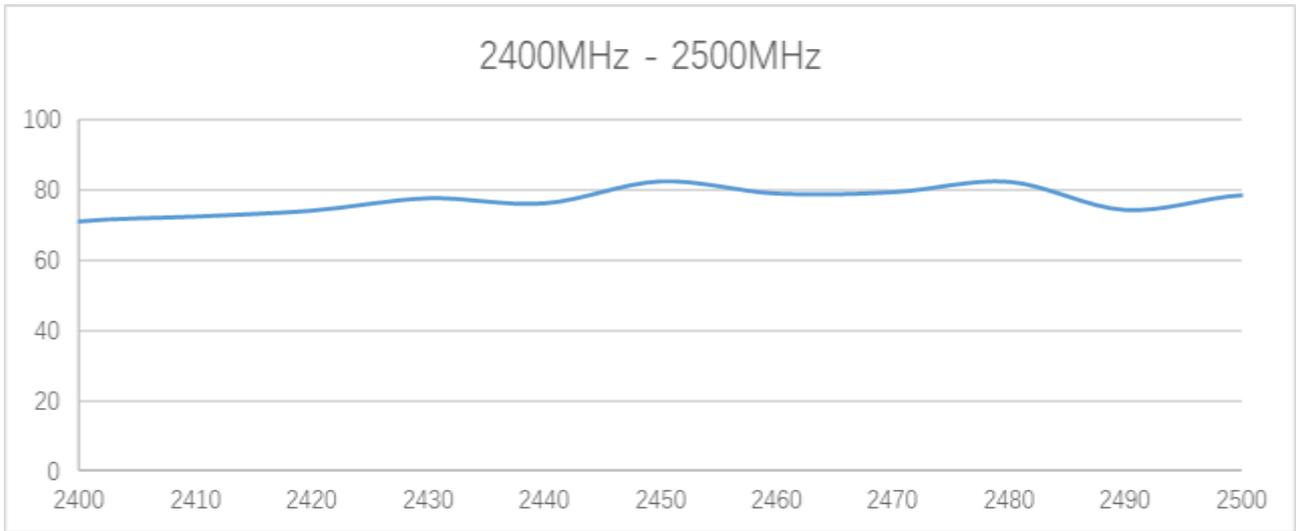


## 4.2. Return Loss



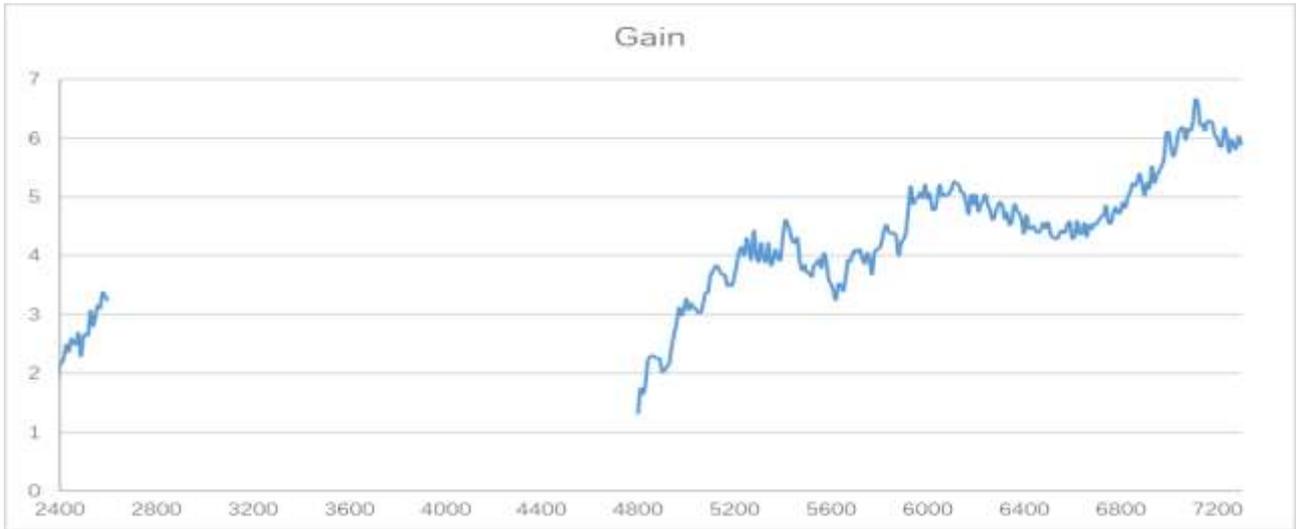
Frequency (MHz)	2400	2500	4900	5850	5925	7125
Return Loss (dB)	-8.83	-16.51	-14.89	-12.31	-11.68	-17.19

### 4.3. Efficiency



<b>Frequency (MHz)</b>	2400	2500	4900	5850	5925	7125
<b>Efficiency (%)</b>	71.07	78.50	64.37	78.58	84.73	70.82

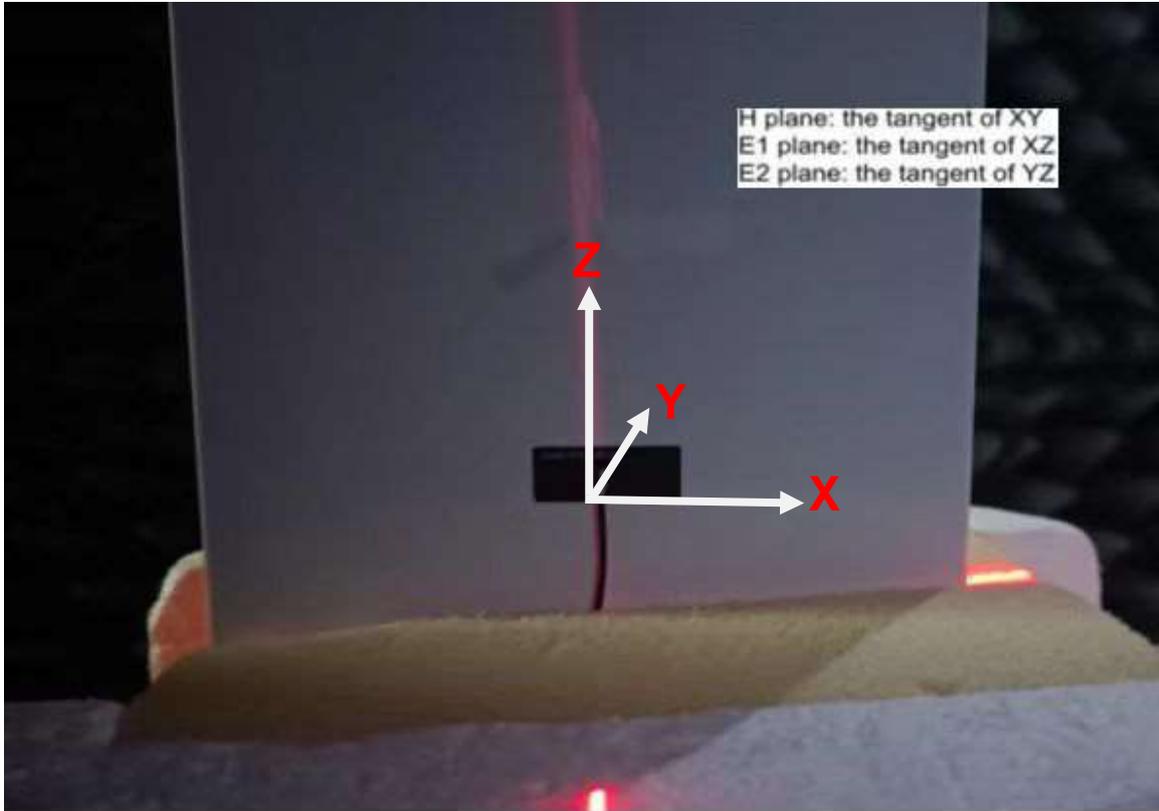
### 4.4. Gain

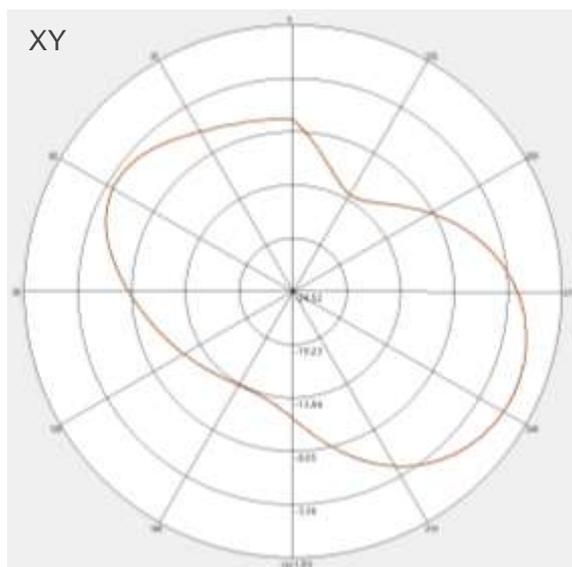
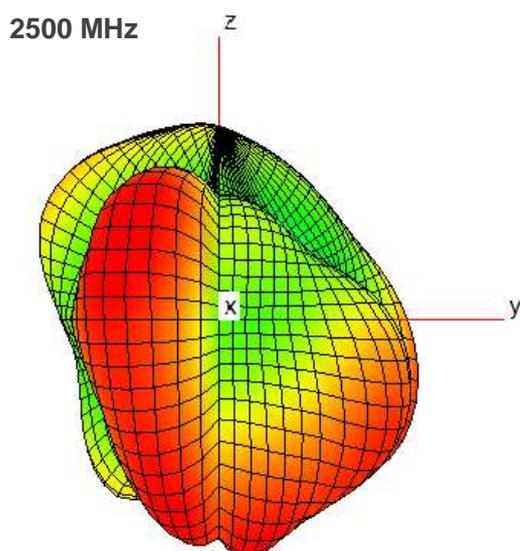
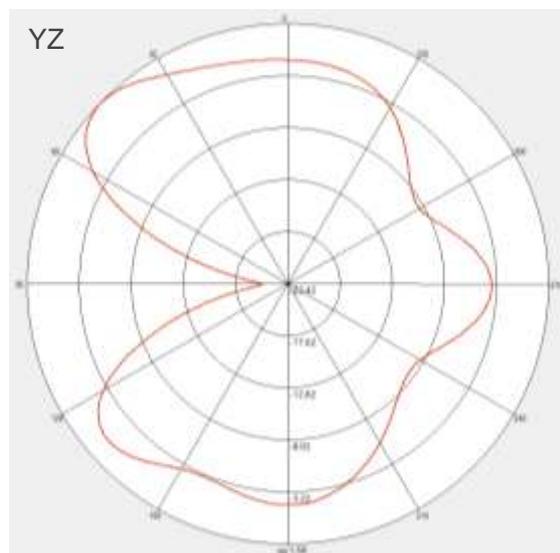
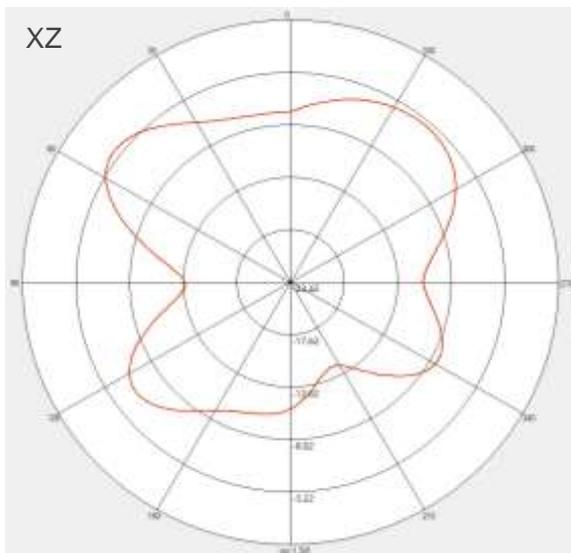
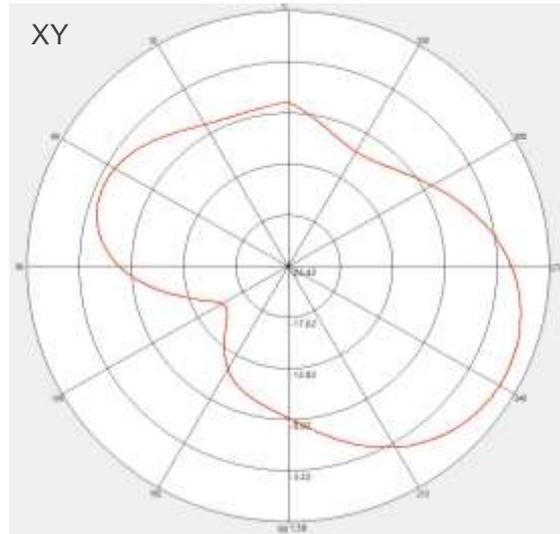
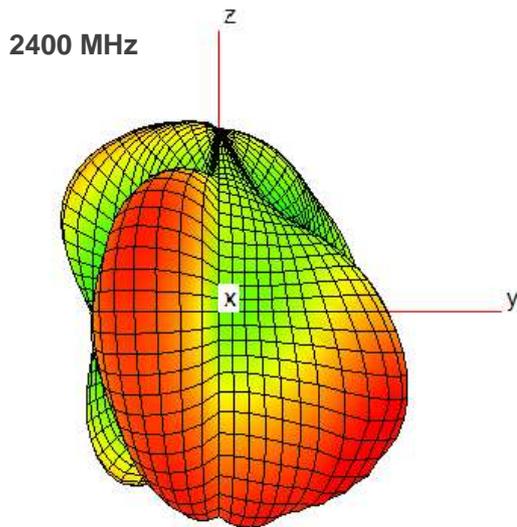


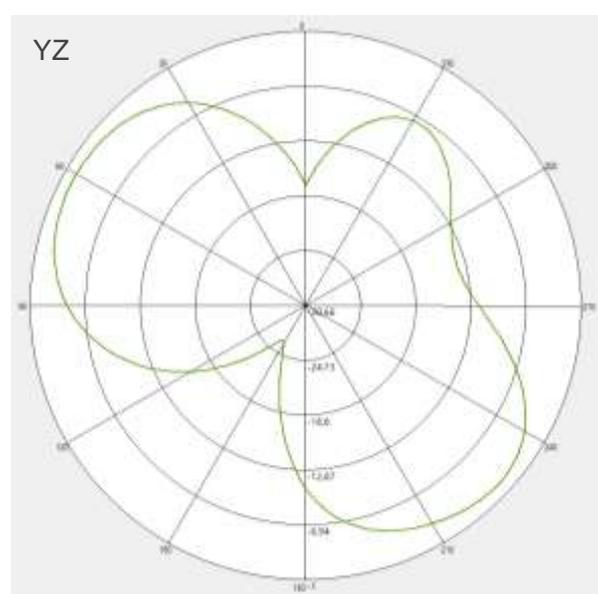
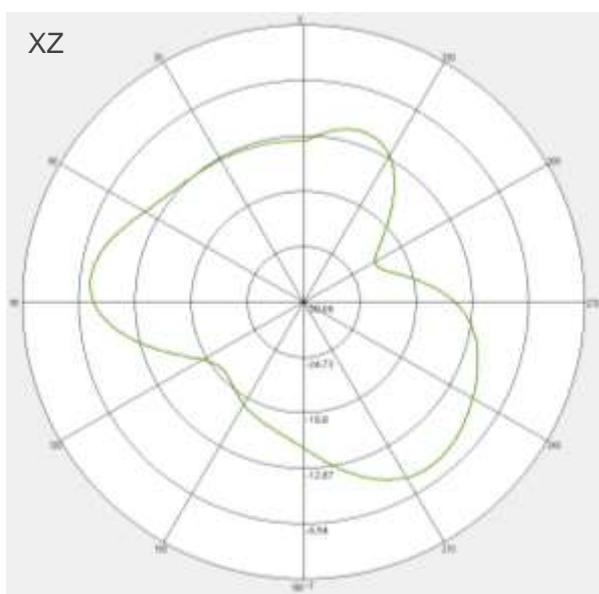
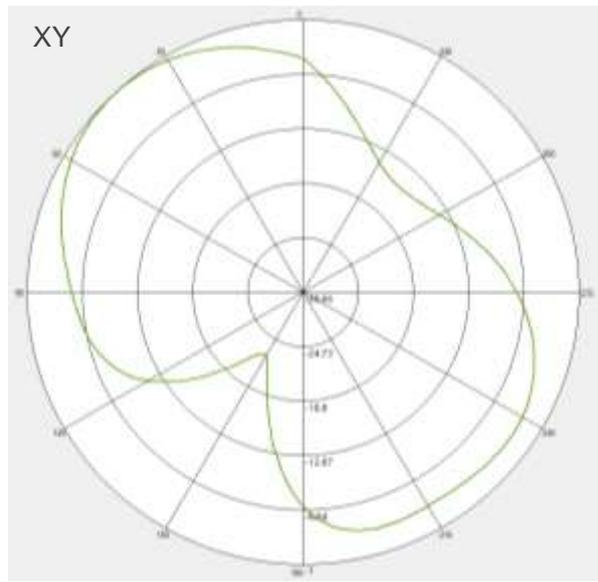
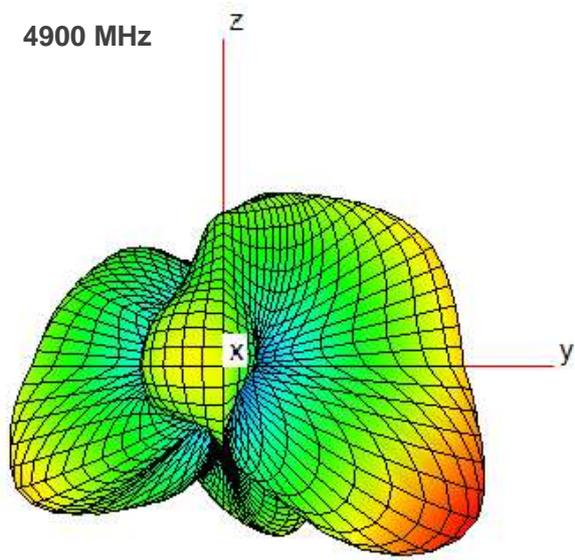
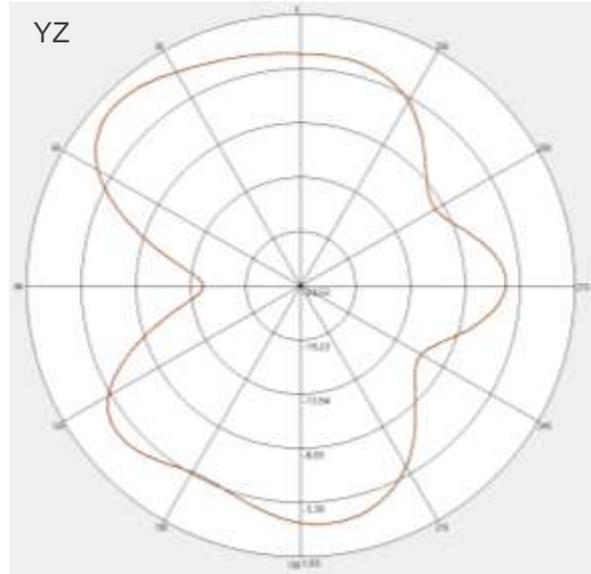
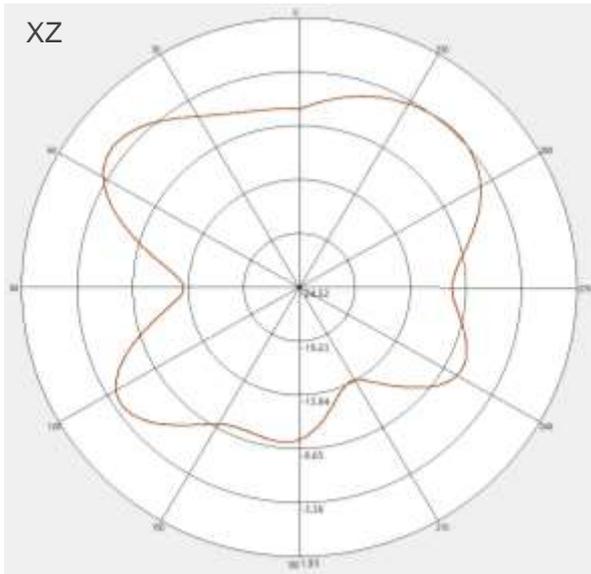
<b>Frequency (MHz)</b>	2400	2500	4900	5850	5925	7125
<b>Gain (dBi)</b>	2.12	2.62	2.03	4.38	4.78	6.62

## 4.5. Radiation Pattern

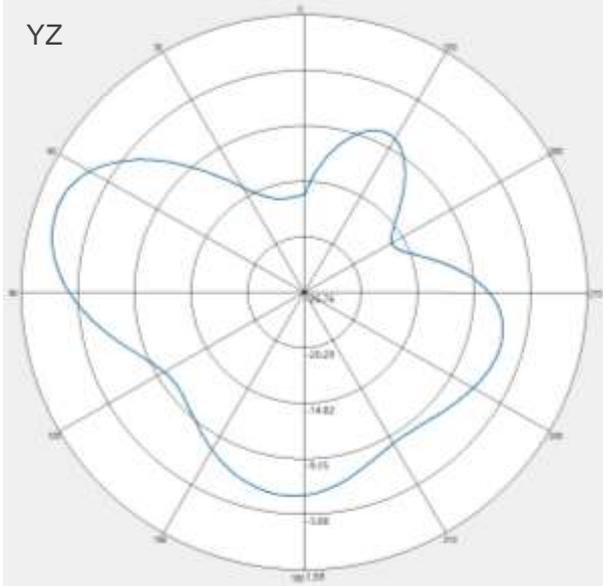
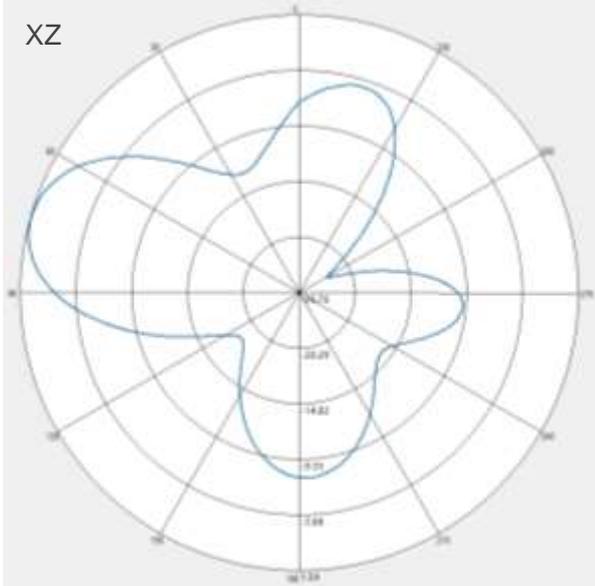
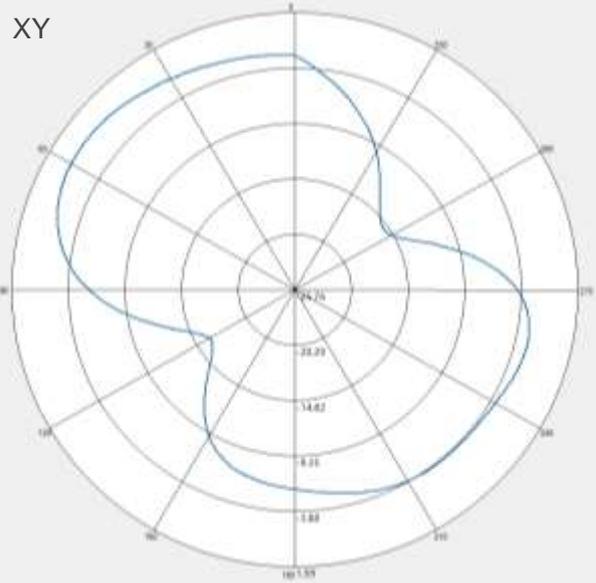
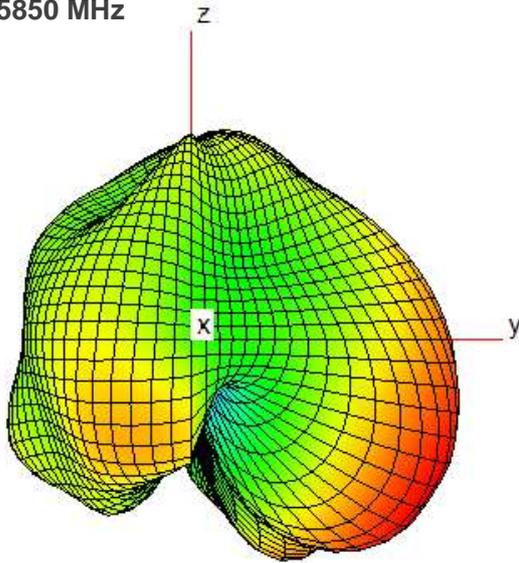
- Test condition: stick on a 3 mm thick ABS board.



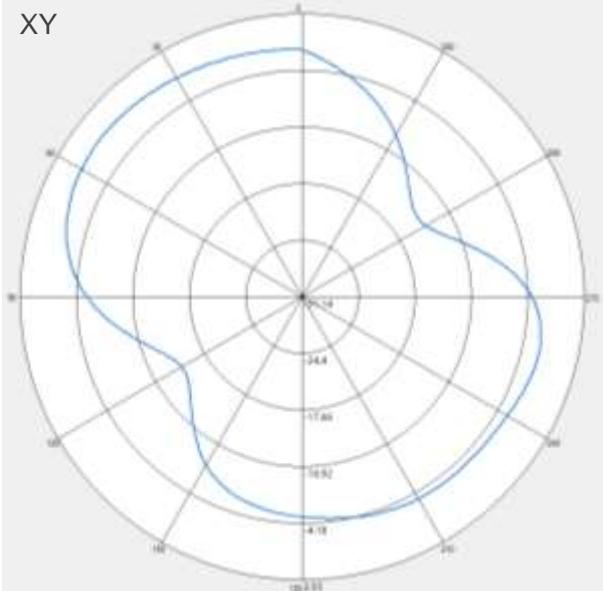
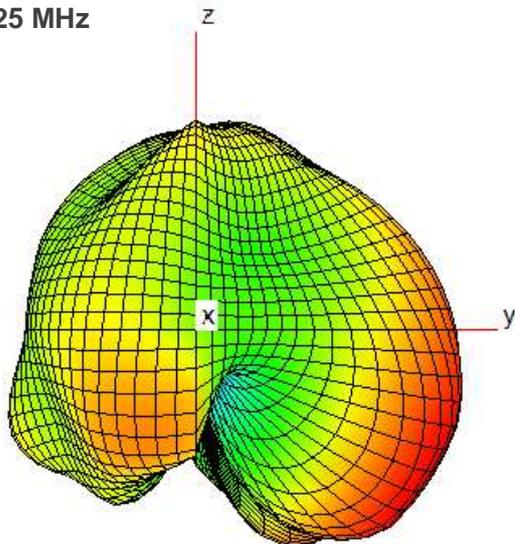


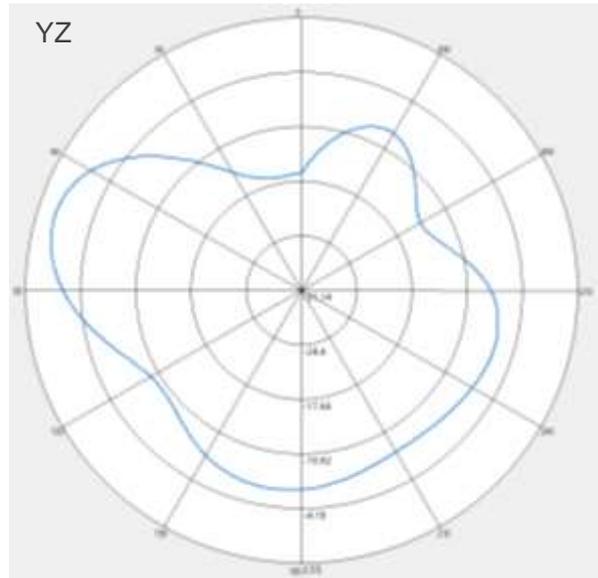
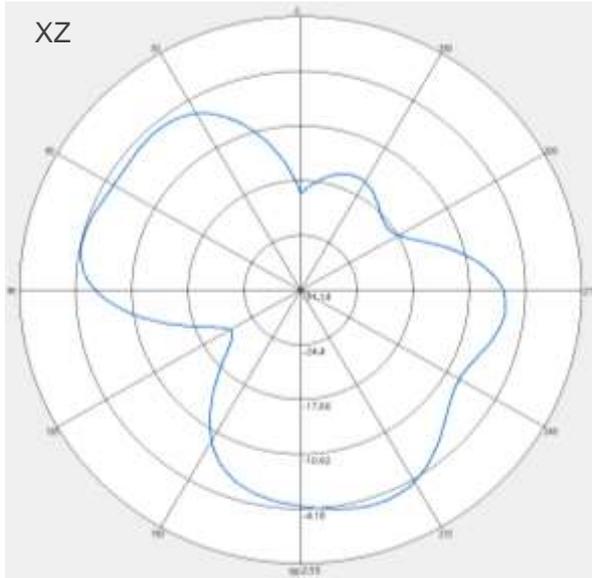


5850 MHz

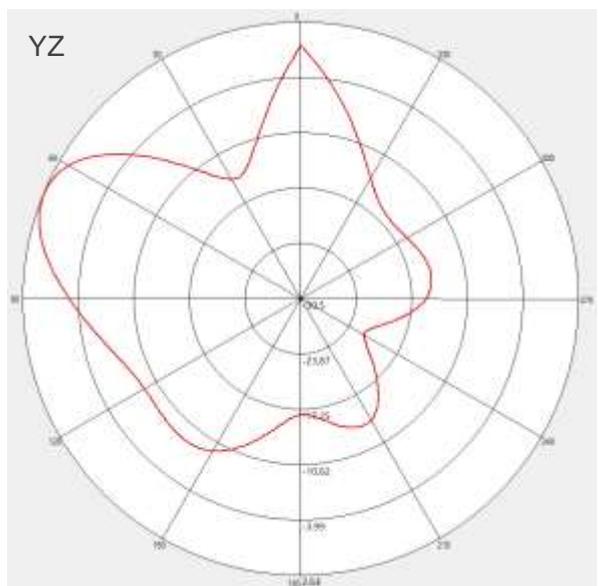
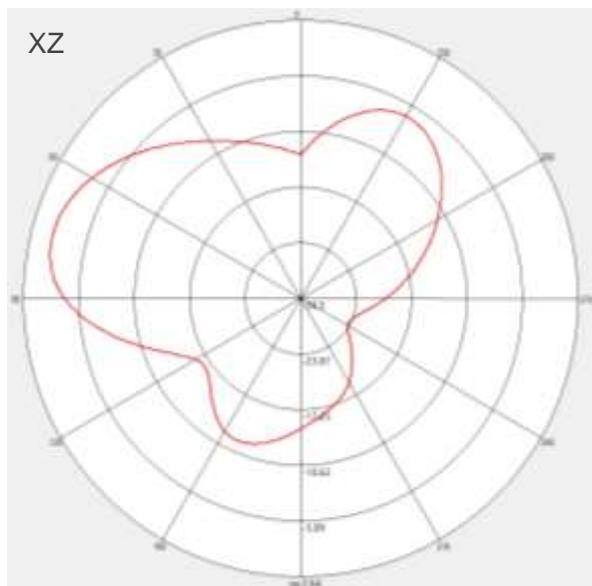
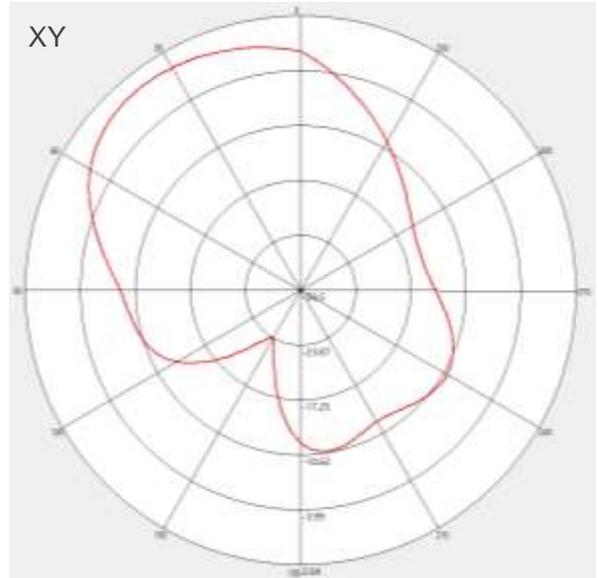
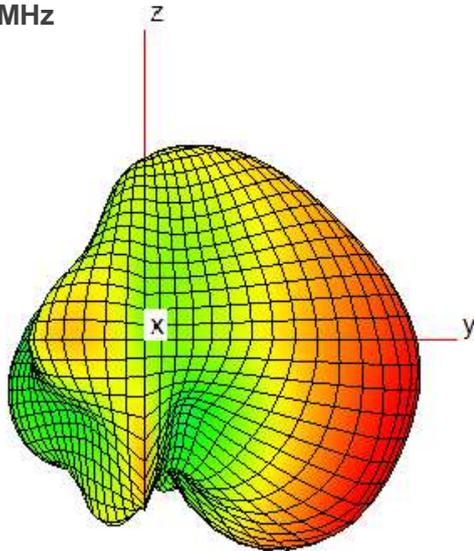


5925 MHz





7125 MHz



## 5 Product Size

