

# Antenna

# YF0023AA Datasheet

Antenna Services

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# About the Document

## Revision History

| Version | Date       | Author    | Note  |
|---------|------------|-----------|---|
| -       | 2021-08-10 | Toby WANG | Creation of the document                      |
| 1.0     | 2021-08-10 | Toby WANG | First official release                        |
| 1.1     | 2021-11-30 | Toby WANG | 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

- Cellular Wi-Fi
- High efficiency
- Excellent performance



### 3 Product Specifications

#### Passive Electrical Specifications

|                   |  |
|-------------------|--|
| Frequency Range   | 2400–2500 MHz, 4900–5850 Hz, 5925–7125 MHz |
| Input Impedence   | 50 $\Omega$                                |
| Return Loss       | $\leq -8.8$                                |
| Gain              | $\leq 5$ dBi                               |
| Polarization Type | Linear                                     |

#### Mechanical Specifications

|                     |                                      |
|---------------------|--------------------------------------|
| Antenna Size        | 22.90 mm $\times$ 11.70 mm           |
| Casing              | FPC                                  |
| Connector Type      | RF I Generation                      |
| Working Temperature | -20 $^{\circ}$ C to +85 $^{\circ}$ C |
| Radome Color        | Black                                |

## 4 Overall Performance

### 4.1. Test Environment

- ROHDE&SCHWARZ VNA Network Analyzer ZNB8 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 600 MHz – 7.5 GHz



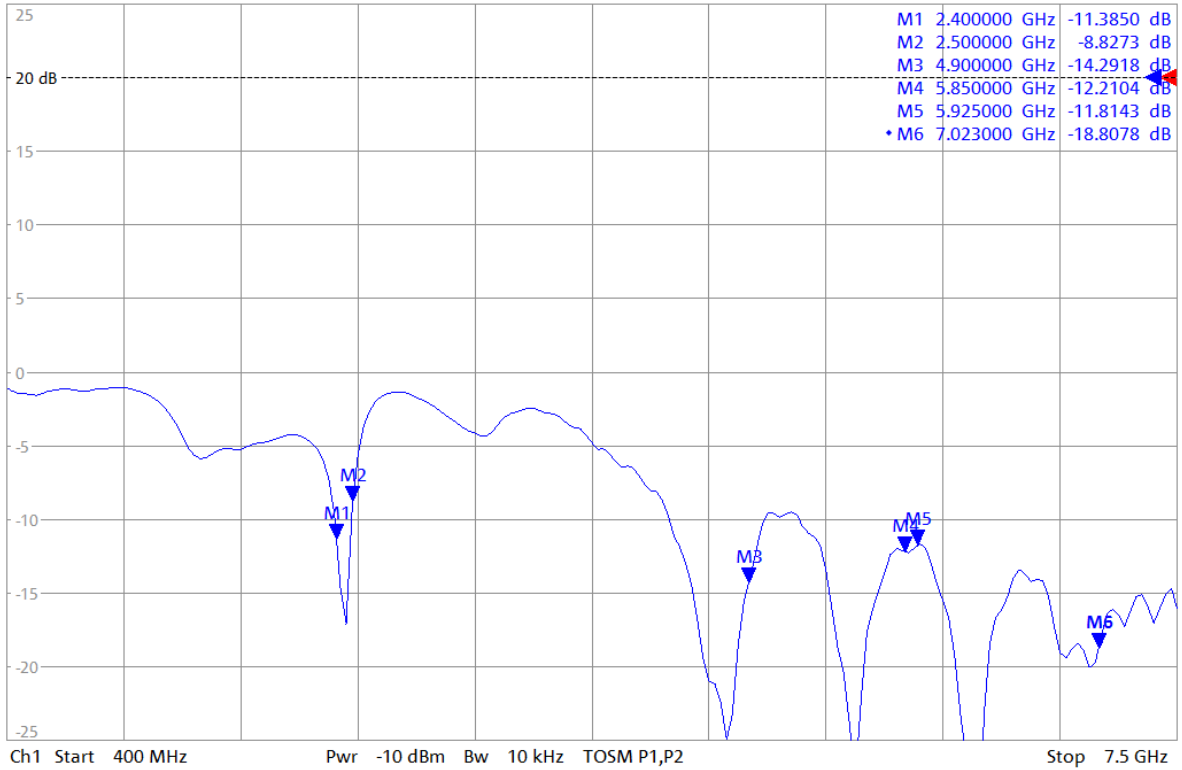


## 4.2. Return Loss

1/18/2021 1:22:01 AM  
1311.6010K44-103612-kz

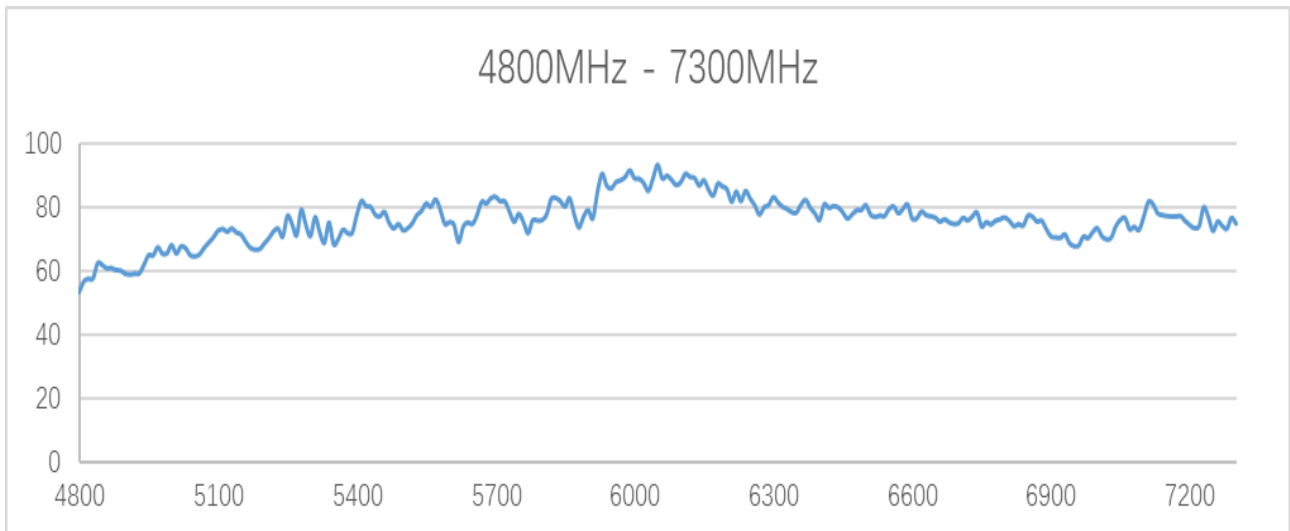
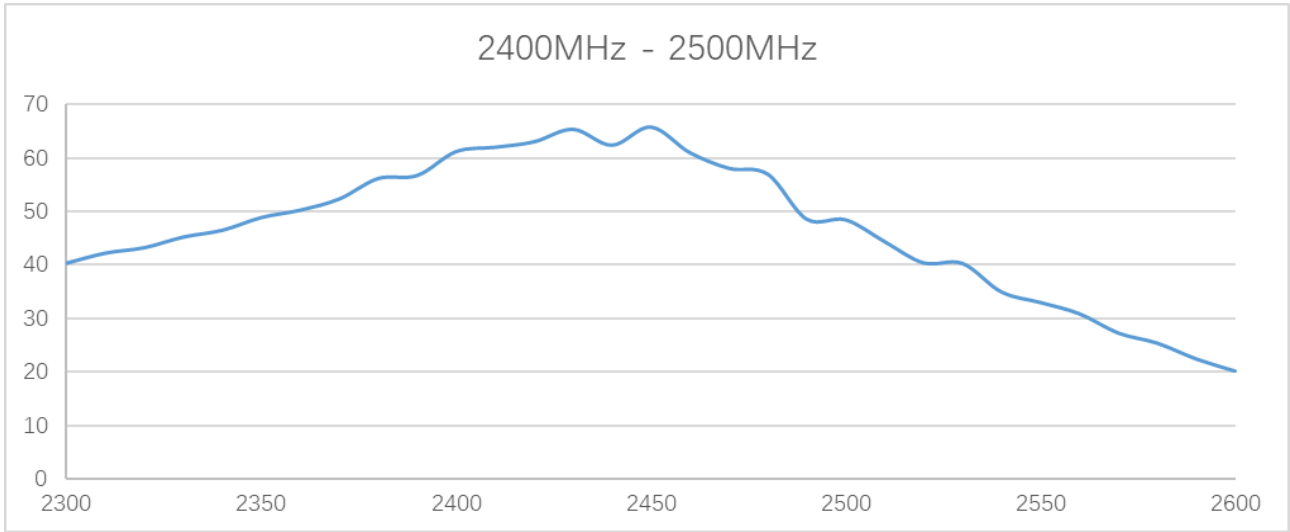
Trc1 — S11 dB Mag 5 dB/ Ref 20 dB Cal  
Mem2[Trc1] — S11 dB Mag 5 dB/ Ref 20 dB Invisible

1 ▾



| Frequency (MHz)  | 2400   | 2500  | 4900   | 5850   | 5925   | 7125   |
|------------------|--------|-------|--------|--------|--------|--------|
| Return Loss (dB) | -11.38 | -8.83 | -14.29 | -12.21 | -11.81 | -18.81 |

### 4.3. Efficiency



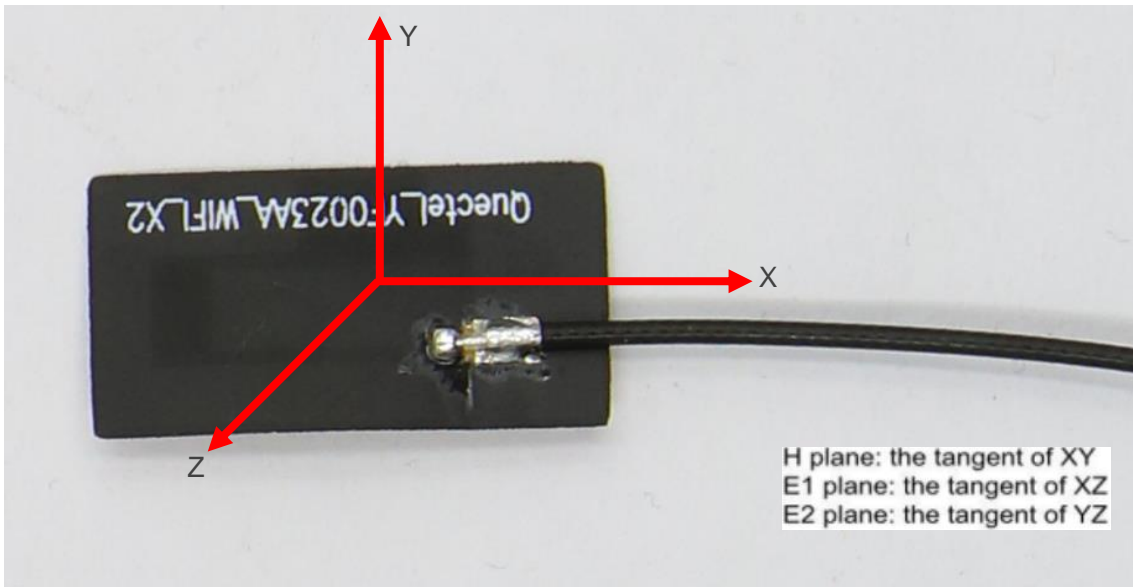
|                        |       |       |       |       |       |       |
|------------------------|-------|-------|-------|-------|-------|-------|
| <b>Frequency (MHz)</b> | 2400  | 2500  | 4900  | 5850  | 5925  | 7125  |
| <b>Efficiency (%)</b>  | 61.26 | 48.51 | 59.43 | 80.27 | 86.34 | 80.33 |

### 4.4. Gain

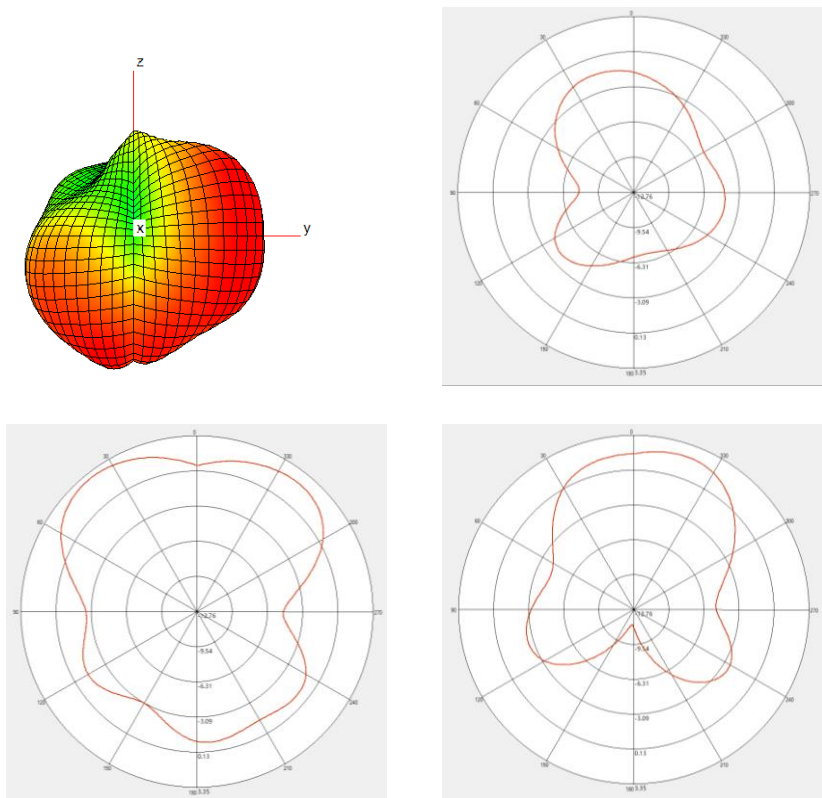


| Frequency (MHz) | 2400 | 2500 | 4900 | 5850 | 5925 | 7125 |
|-----------------|------|------|------|------|------|------|
| Gain (dBi)      | 2.73 | 1.56 | 2.35 | 3.54 | 4.31 | 4.49 |

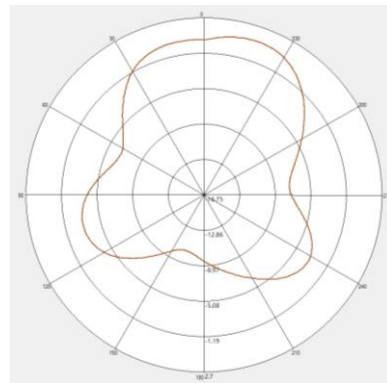
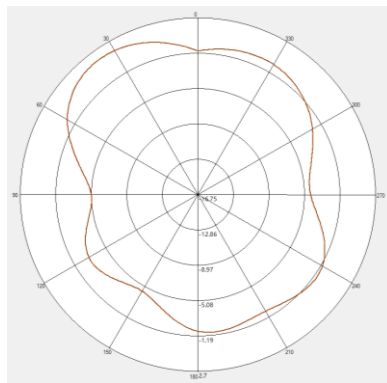
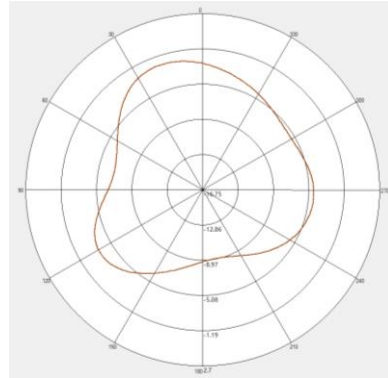
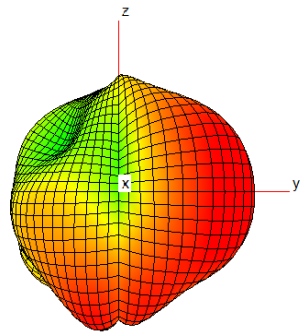
### 4.5. Radiation Pattern



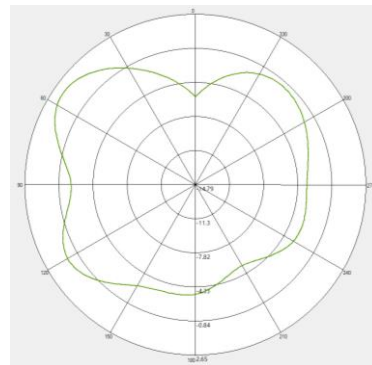
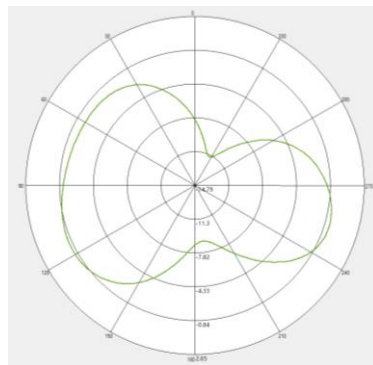
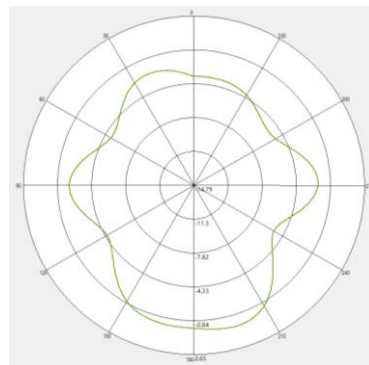
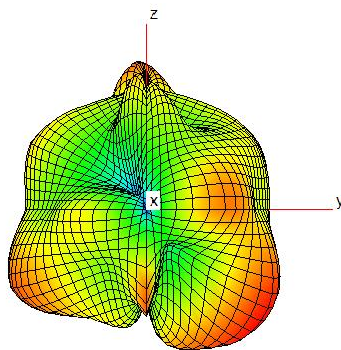
#### 4.5.1. 2400 MHz



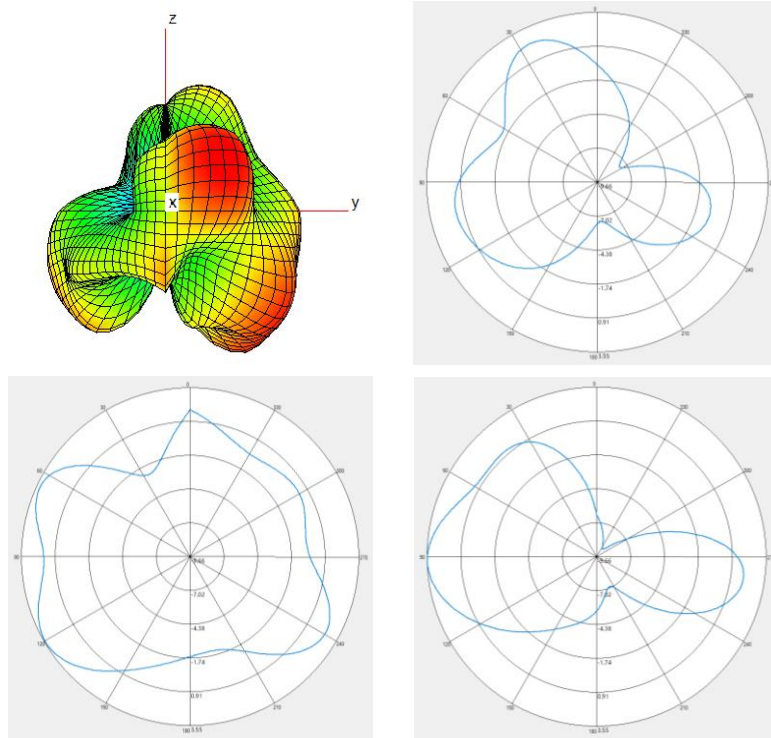
**4.5.2. 2500 MHz**



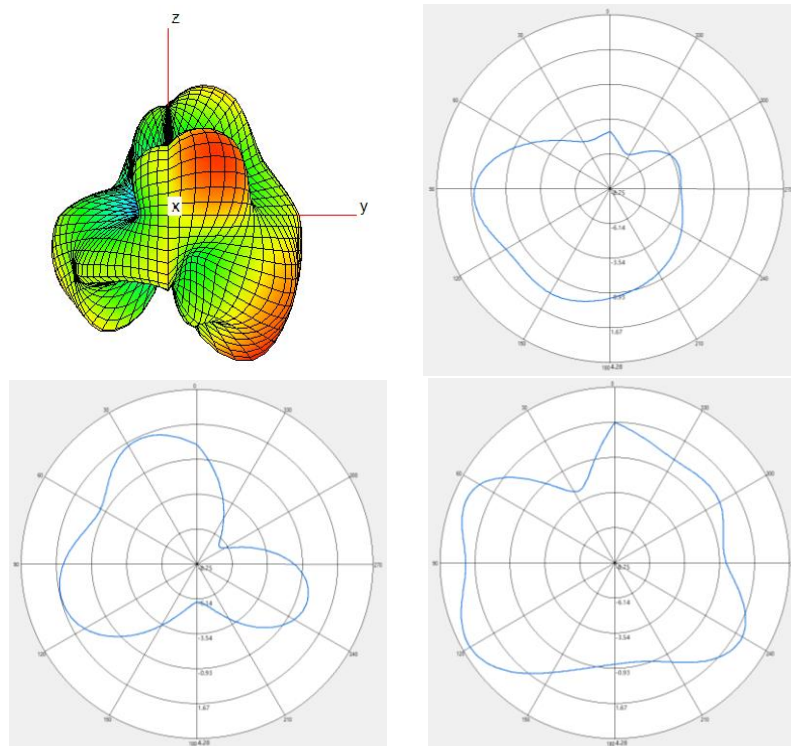
**4.5.3. 4900 MHz**



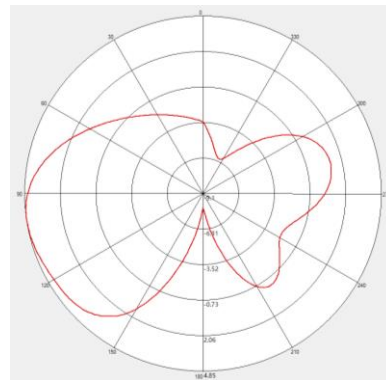
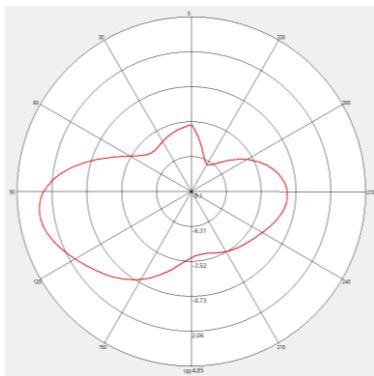
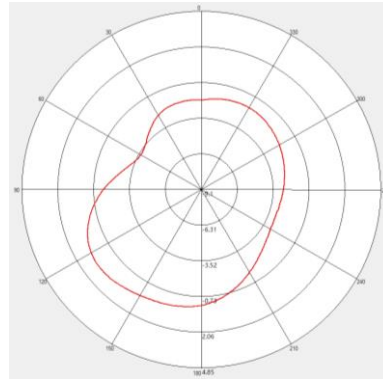
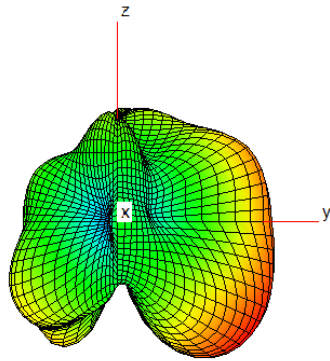
**4.5.4. 5850 MHz**



**4.5.5. 5925 MHz**



**4.5.6. 7125 MHz**



## 5 Product Size

