

Antenna

YF0023HA 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 | 2023-01-15 | Sly LIU/ Lucky FENG | First official release |

Contents

| | |
|--------------------------------|----|
| About the Document | 3 |
| Contents | 4 |
| 1 Product Description..... | 5 |
| 2 Product Features | 5 |
| 3 Product Specifications | 6 |
| 4 Overall Performance..... | 7 |
| 4.1. Test Environment | 7 |
| 4.2. Return Loss..... | 8 |
| 4.3. Efficiency | 9 |
| 4.4. Gain..... | 10 |
| 4.5. Radiation Pattern | 11 |
| 5 Product Size | 16 |

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 Hz; 5925–7125 MHz |
| Input Impedance | 50 Ω |
| Return Loss | ≤ -8.8 dB |
| Gain | ≤ 5 dBi |
| Polarization Type | Linear |

Mechanical Specifications

| | |
|---------------------|--------------------------|
| Antenna Size | 22.90 × 11.70 mm |
| Material | FPC |
| Cable Type & Length | Φ1.13 Black & L = 100 mm |
| Connector | IPEX MHF I |
| Color | Black |
| Weight | Typ. 0.44 g |
| Mounting Type | Adhesive & Soldering |
| Working Temperature | -20 °C to +85 °C |

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

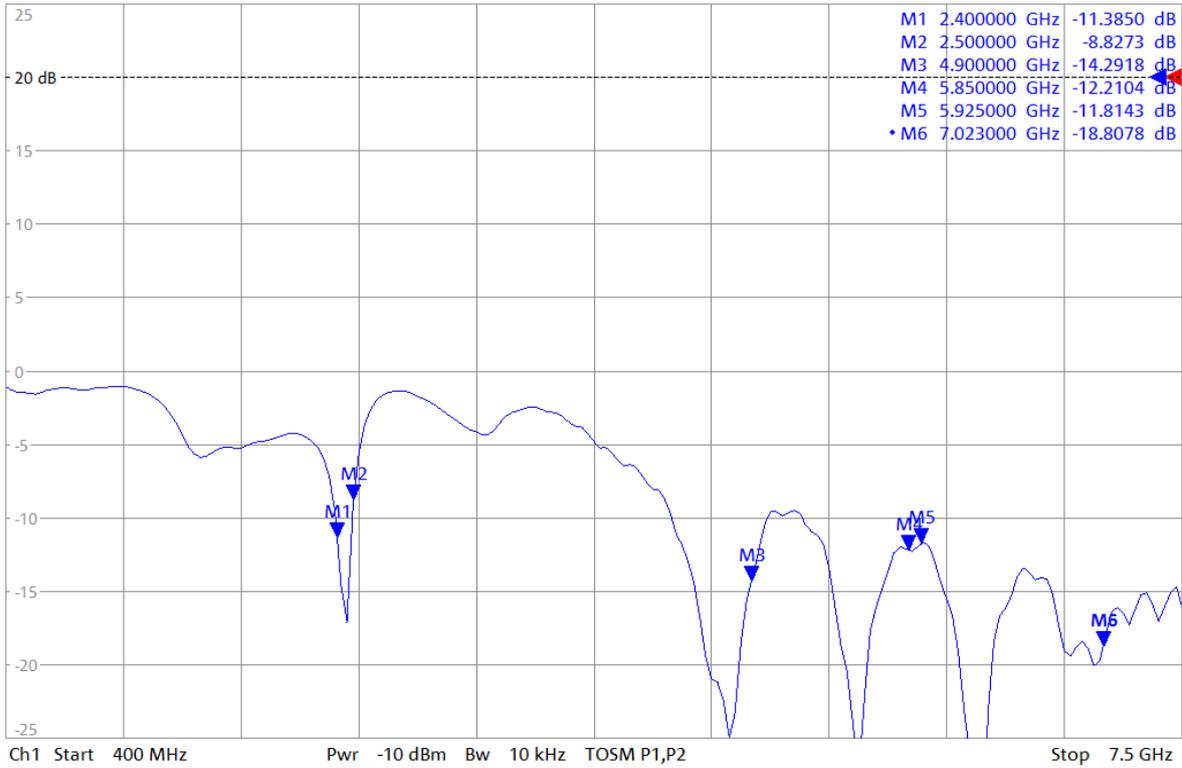


4.2. Return Loss

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

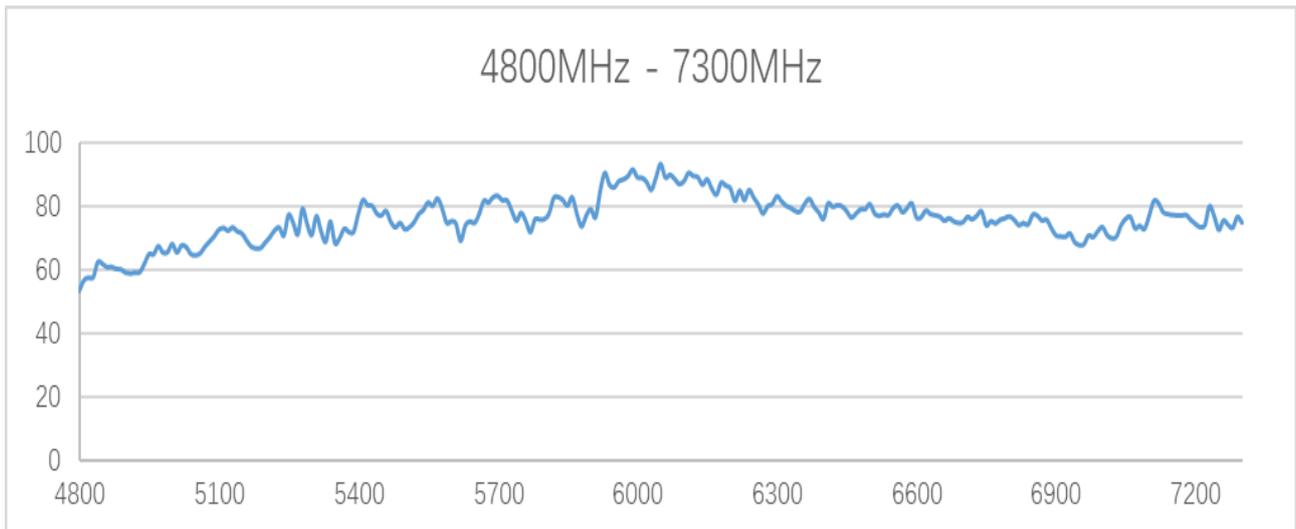
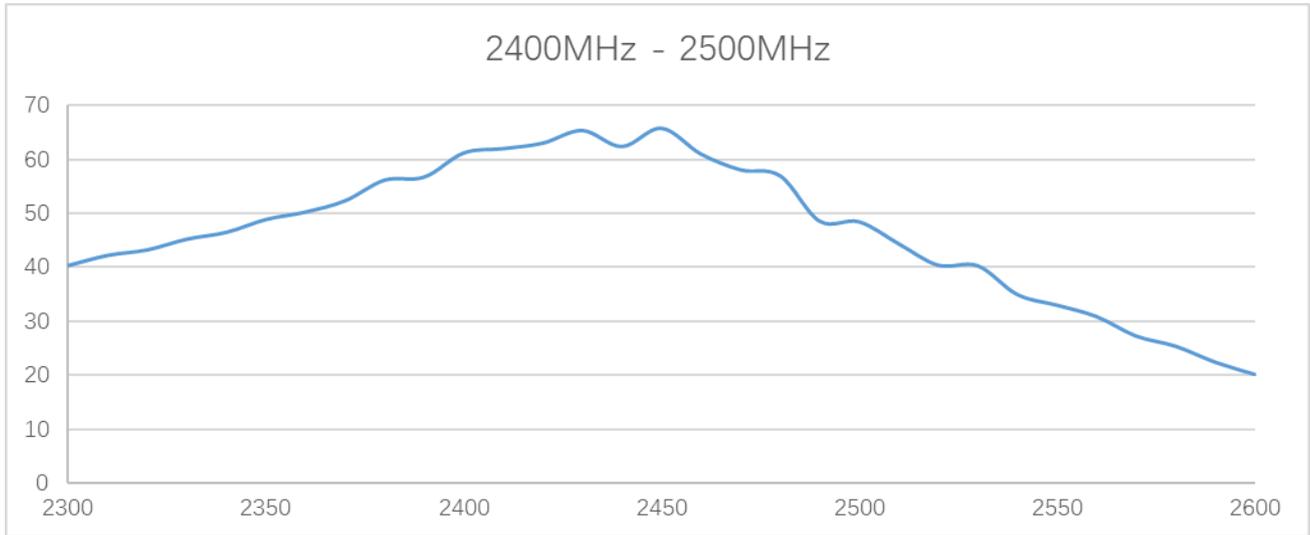
Trc1 — S11 dB Mag 5 dB/ Ref 20 dB Cal
Mem2[Trc1] — S11 dB Mag 5 dB/ Ref 20 dB Invisible

1



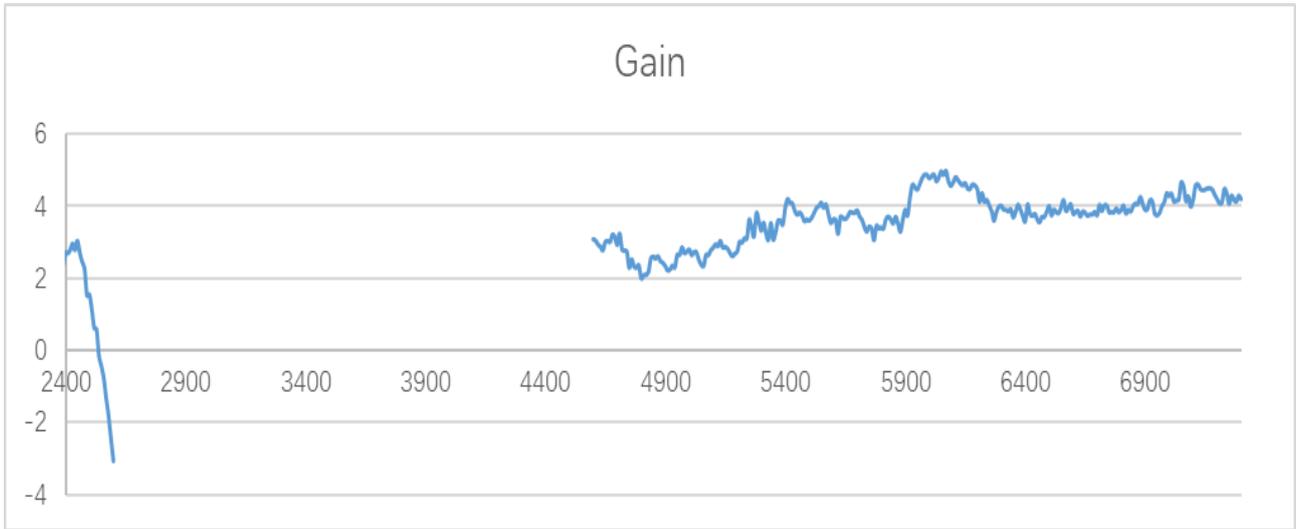
| Frequency (MHz) | 2400 | 2500 | 4900 | 5850 | 5925 | 7125 |
|------------------|--------|-------|--------|--------|--------|--------|
| Return Loss (dB) | -11.38 | -8.83 | -14.29 | -12.21 | -11.81 | -18.81 |

4.3. Efficiency



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

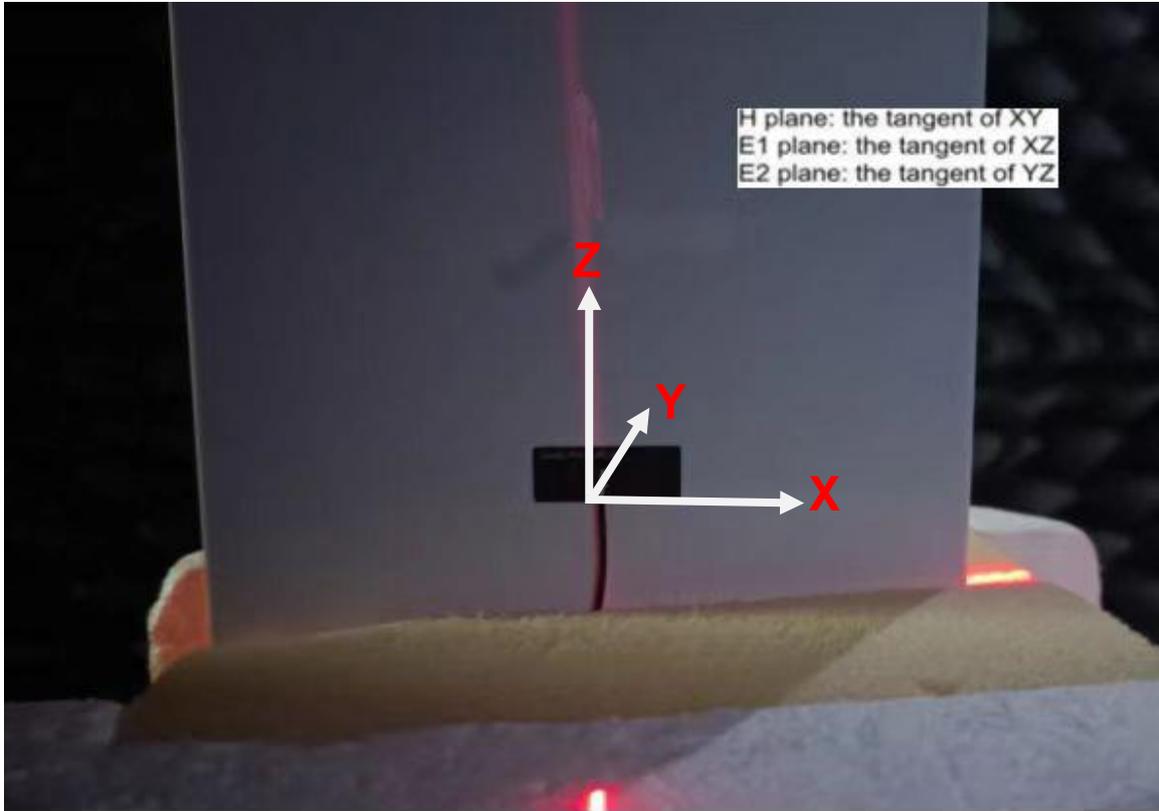
4.4. Gain



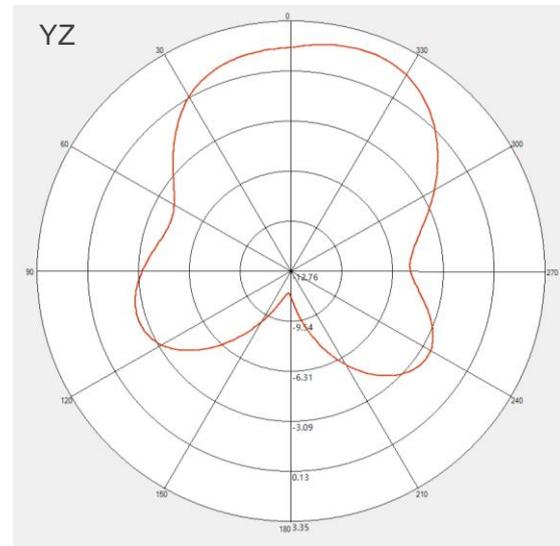
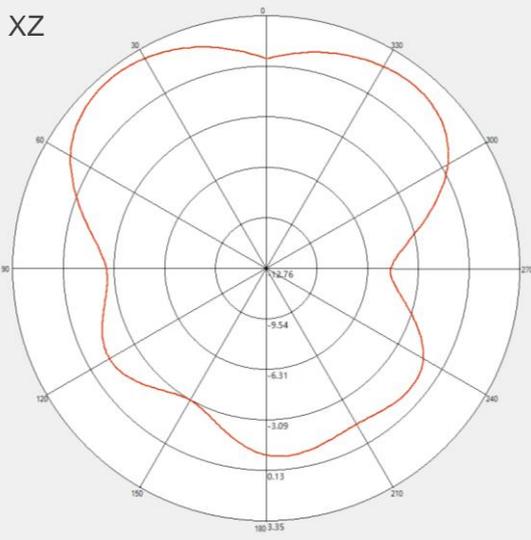
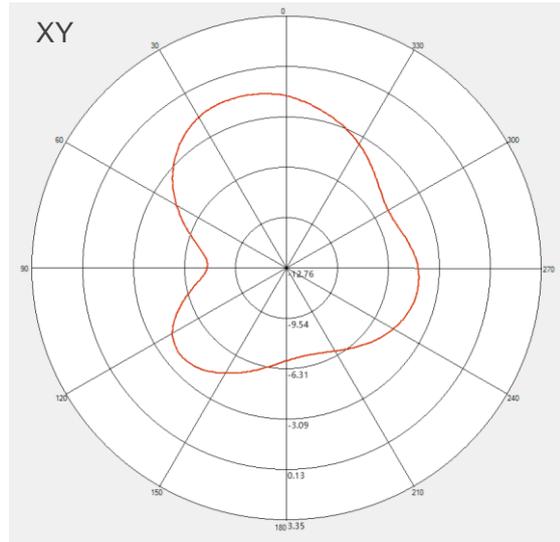
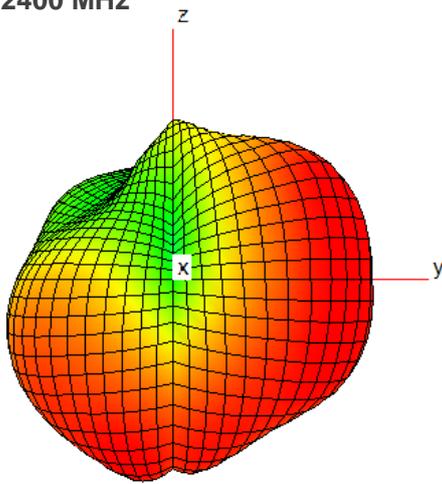
| | | | | | | |
|------------------------|------|------|------|------|------|------|
| Frequency (MHz) | 2400 | 2500 | 4900 | 5850 | 5925 | 7125 |
| Gain (dBi) | 2.73 | 1.56 | 2.35 | 3.54 | 4.31 | 4.49 |

4.5. Radiation Pattern

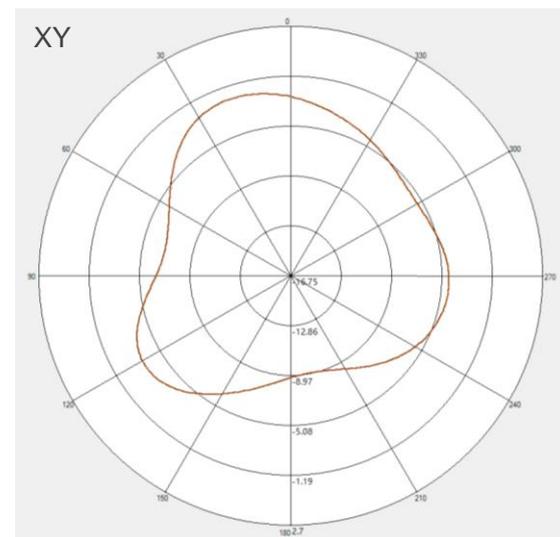
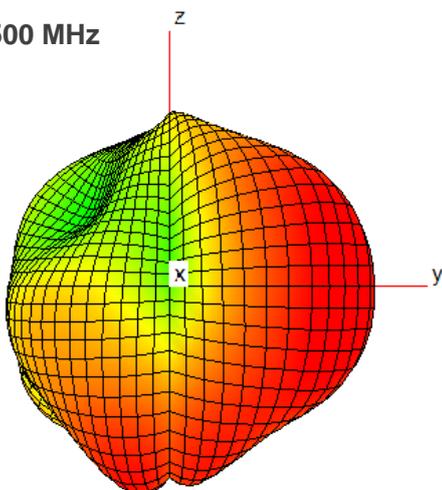
- Test condition: stick on a 3 mm thick ABS board.

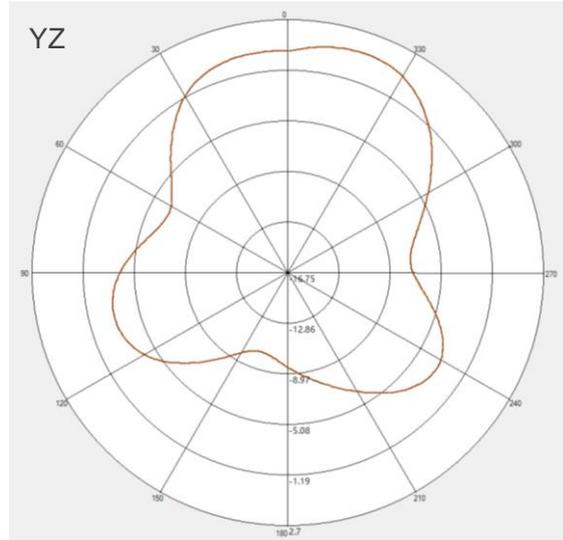
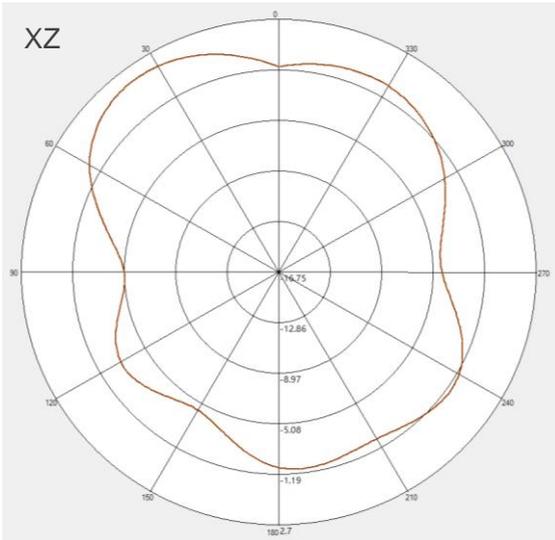


2400 MHz

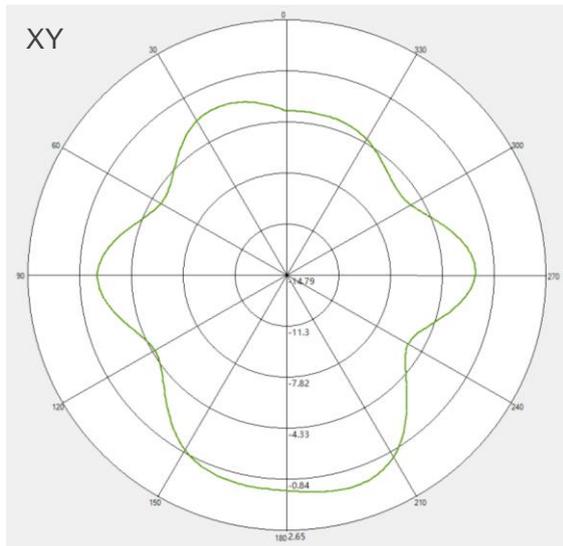
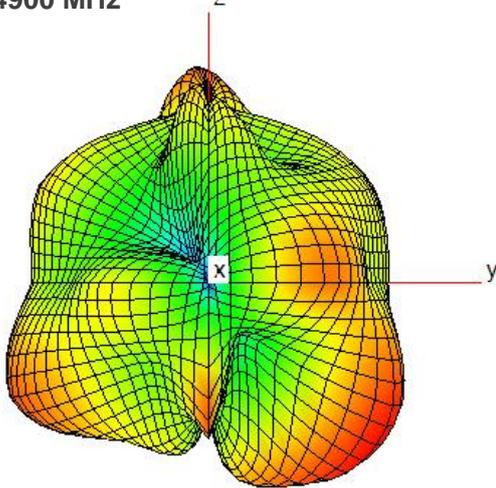


2500 MHz

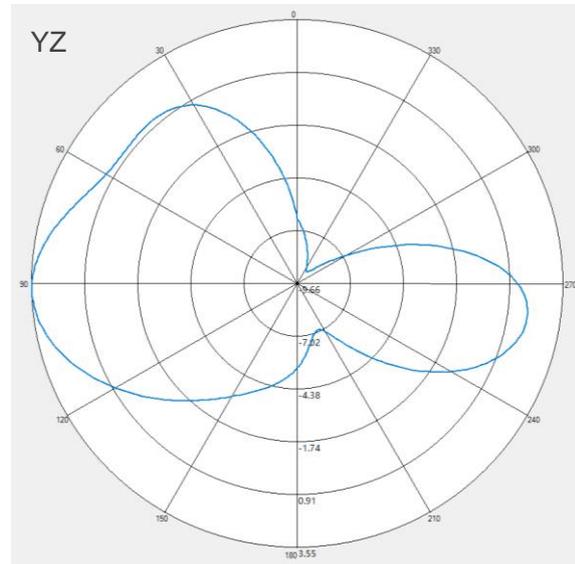
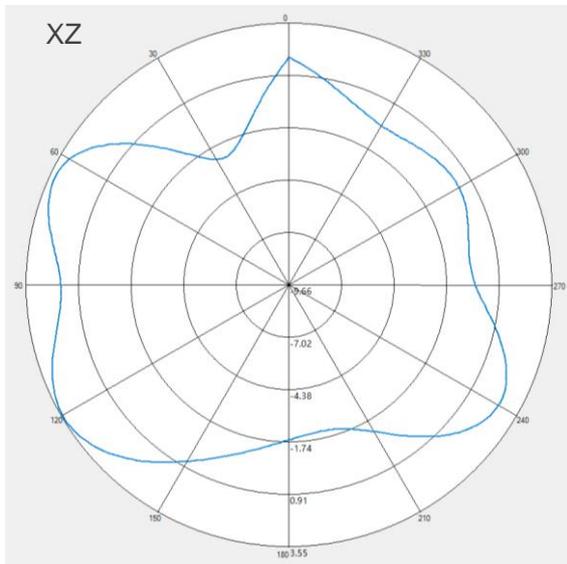
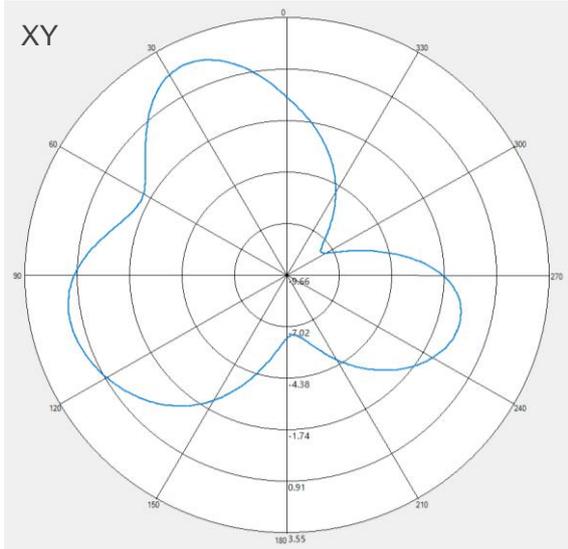
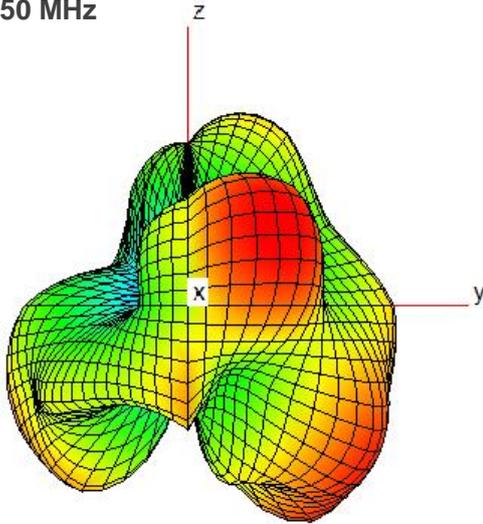




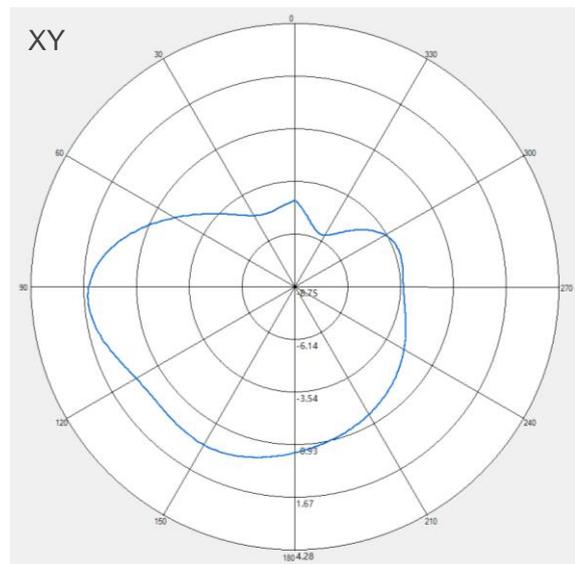
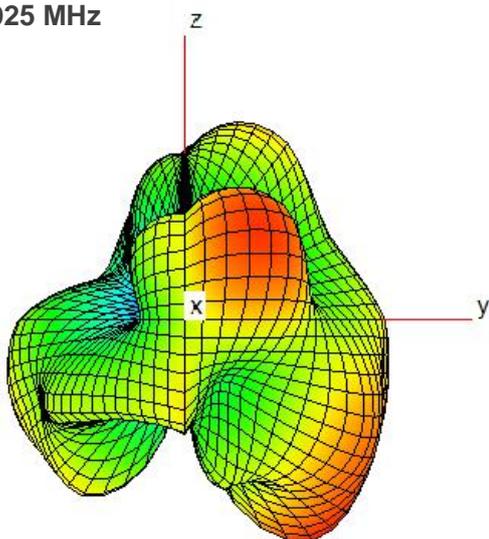
4900 MHz

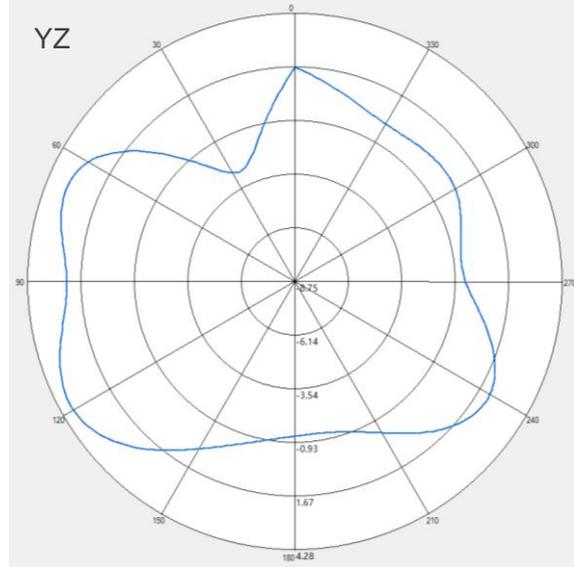
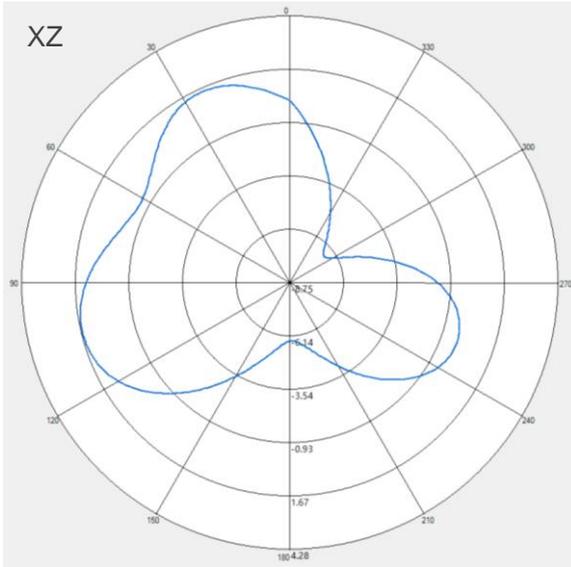


5850 MHz

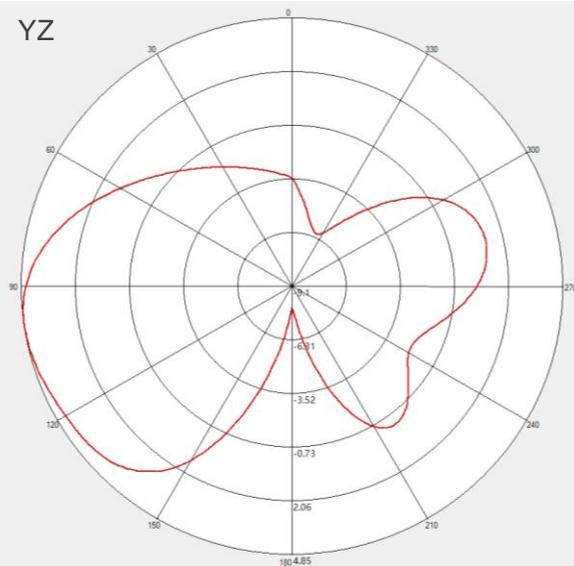
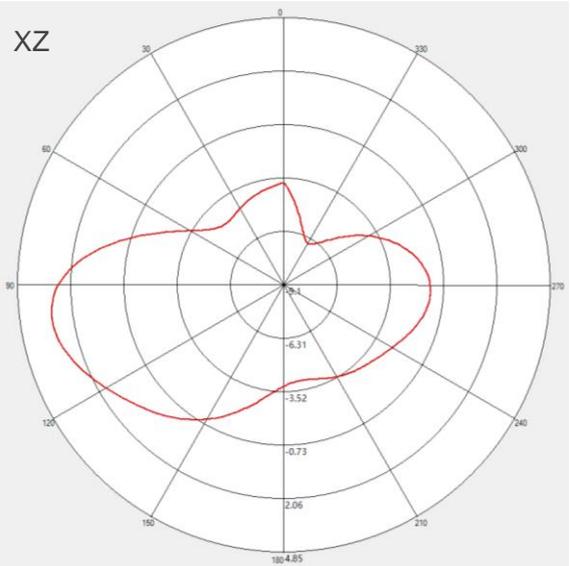
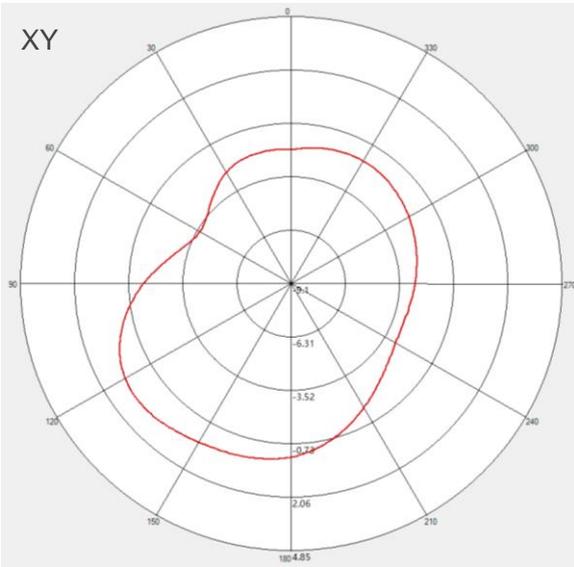
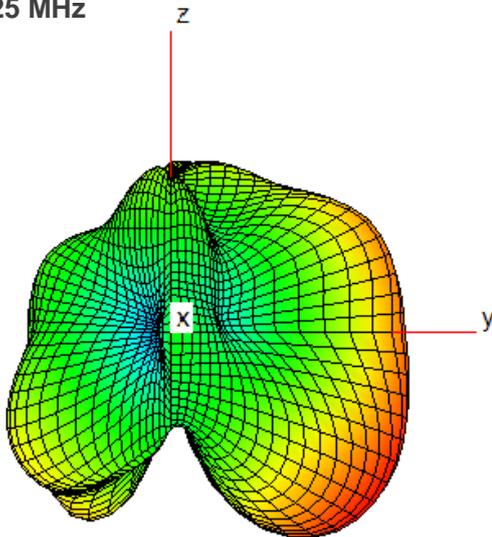


5925 MHz





7125 MHz



5 Product Size

