

# Antenna

# YFGA006AA Datasheet

## Antenna Services

Version: 1.0

Date: 2022-09-09

Status: Released



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# About the Document

## Revision History

| Version | Date       | Author                  | Note                     |
|---------|------------|-------------------------|--------------------------|
| -       | 2022-09-09 | Knight HU/<br>Joye WANG | Creation of the document |
| 1.0     | 2022-09-09 | Knight HU/<br>Joye WANG | First official release   |

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## 1 Product Description

This Quectel GNSS antenna adopts a diversity of forms to guarantee the most suitable polarization type. Quectel's positioning products support single-band or multi-band operation modes to meet various high-precision positioning requirements of customers' products. Quectel provides both passive and active antennas to satisfy the customer demand for high gain. Such antenna supports different installation or connection methods such as pin mount, surface mount, magnetic mount, internal cable, and external SMA. Customized connector type and cable length are provided according to requirements.

## 2 Product Features

- GPS L1/ L2/ L5/ L6
- High efficiency
- Excellent performance



### 3 Product Specifications

#### Passive Electrical Specifications

|                   |                              |
|-------------------|------------------------------|
| Frequency Range   | 1160–1270 MHz; 1560–1605 MHz |
| Input Impedance   | 50 $\Omega$                  |
| VSWR              | $\leq 3.0$                   |
| Gain              | $\leq 2.0$ dBi               |
| Polarization Type | Linear                       |

#### Mechanical Specifications

|                     |                                      |
|---------------------|--------------------------------------|
| Antenna Size        | 74.5 mm $\times$ 24.5 mm             |
| Material            | FPC                                  |
| Cable Type & Length | $\Phi$ 1.13 Black & 143.0 mm         |
| Connector           | IPEX 1                               |
| Color               | Black                                |
| Weight              | Typ: 1.0 g                           |
| Mounting Type       | Adhesive                             |
| Working Temperature | -40 $^{\circ}$ C to +85 $^{\circ}$ C |

## 4 Overall Performance

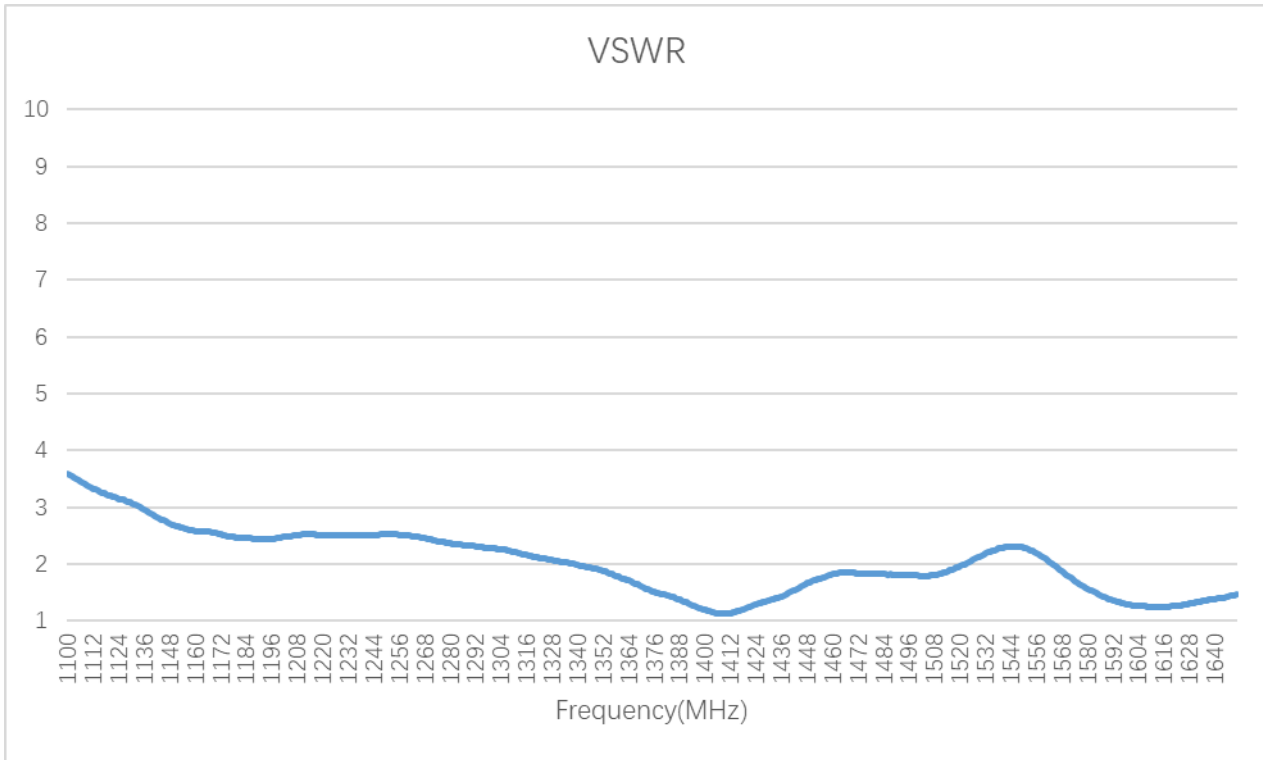
### 4.1. Test Environment

- KEYSIGHT ENA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/ MIMO, 600 MHz – 8.5 GHz



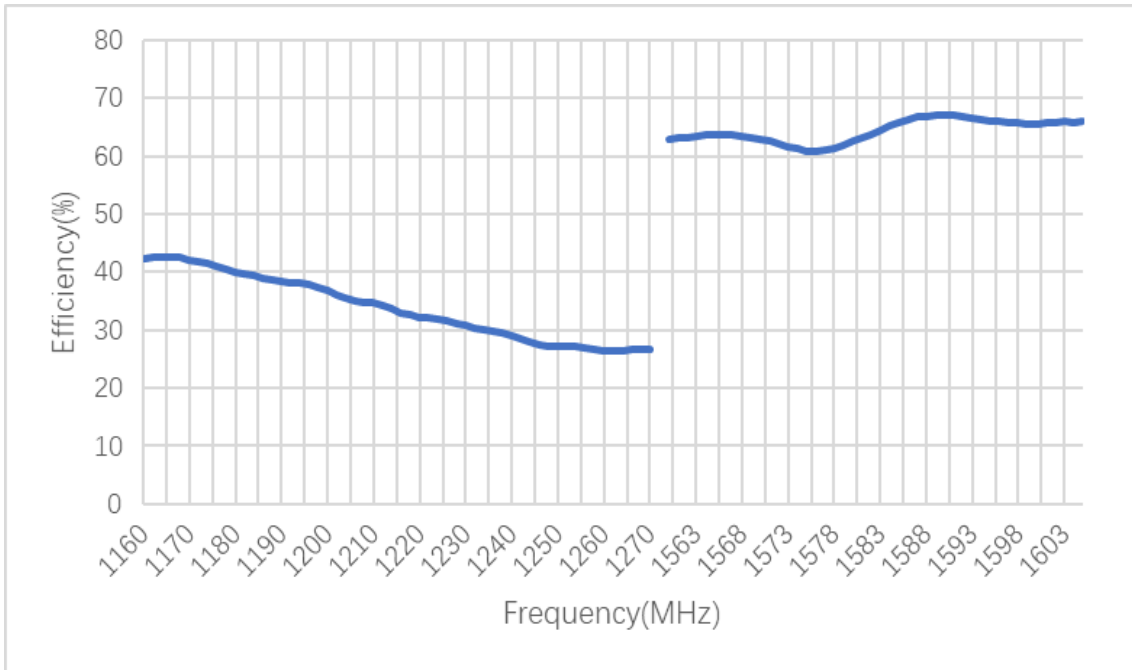


## 4.2. VSWR



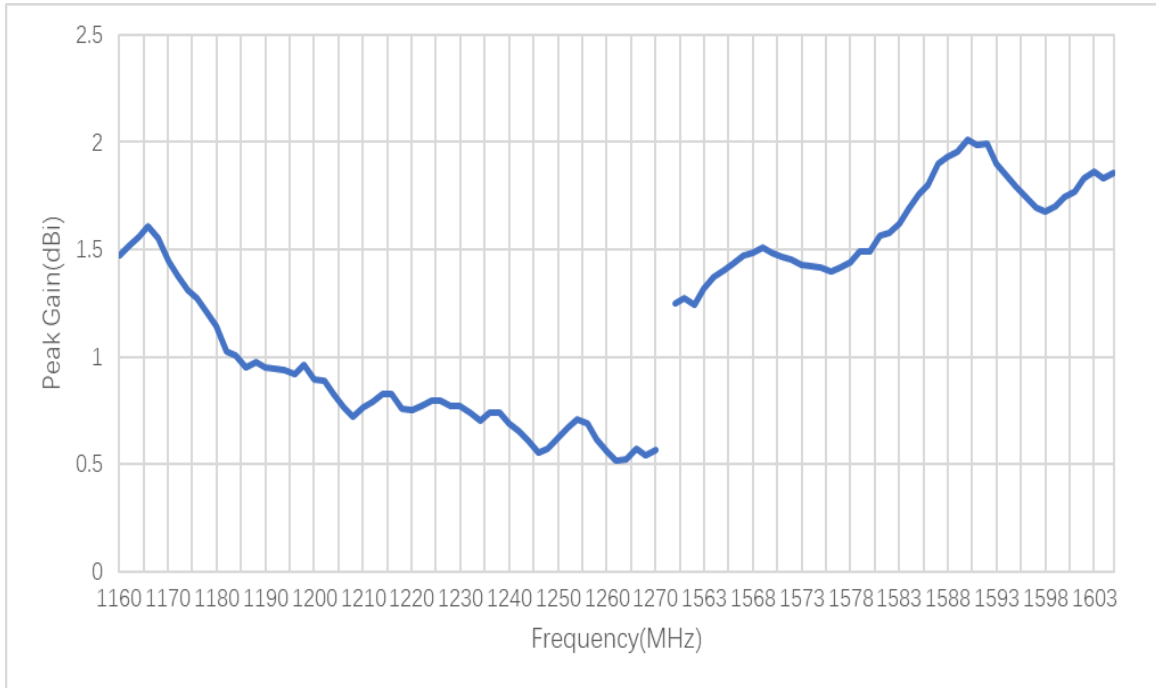
|                        |      |      |      |      |      |
|------------------------|------|------|------|------|------|
| <b>Frequency (MHz)</b> | 1176 | 1227 | 1561 | 1575 | 1602 |
| <b>VSWR</b>            | 2.49 | 2.50 | 2.07 | 1.68 | 1.27 |

### 4.3. Efficiency



|                        |      |      |      |      |      |
|------------------------|------|------|------|------|------|
| <b>Frequency (MHz)</b> | 1176 | 1227 | 1561 | 1575 | 1602 |
| <b>Efficiency (%)</b>  | 40.9 | 31.4 | 63.1 | 60.9 | 65.8 |

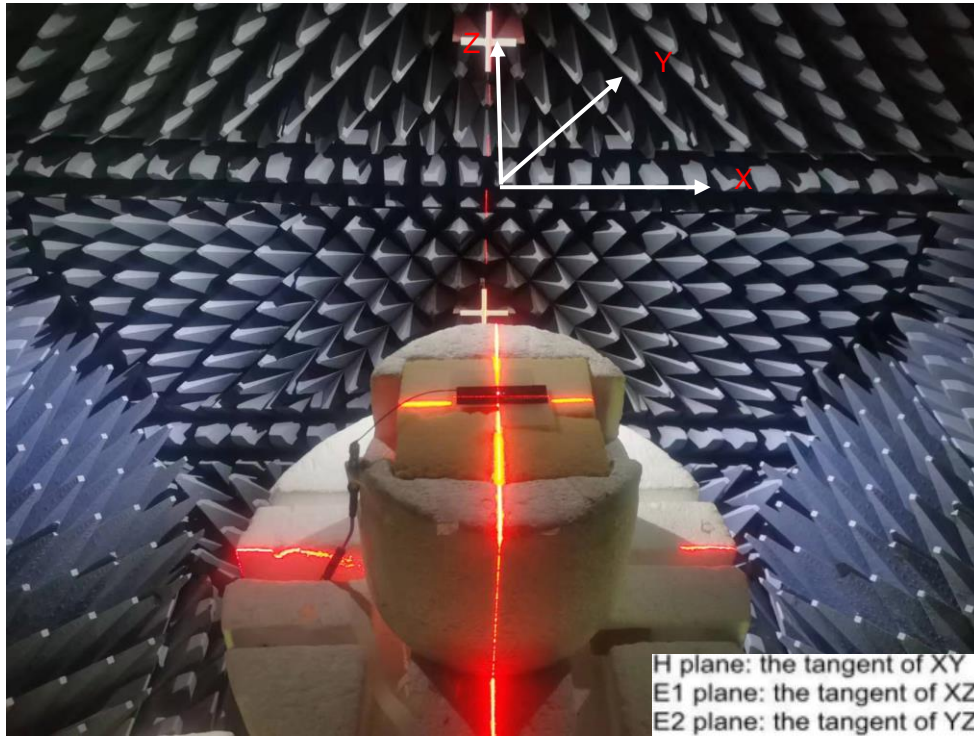
### 4.4. Gain



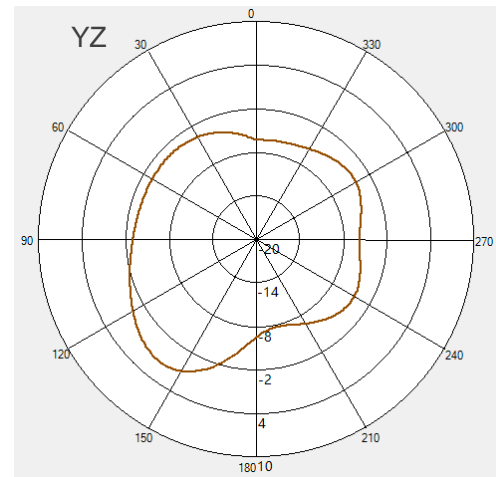
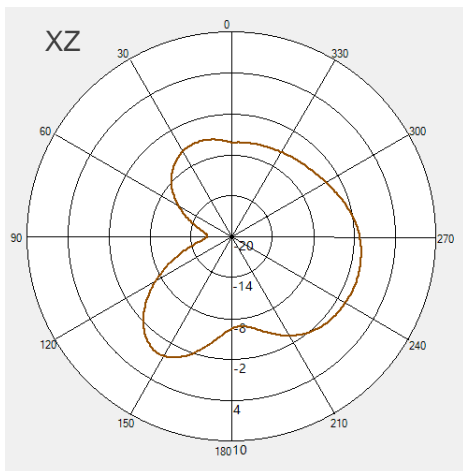
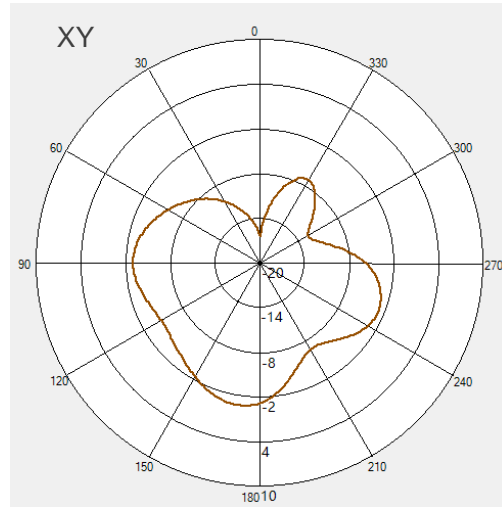
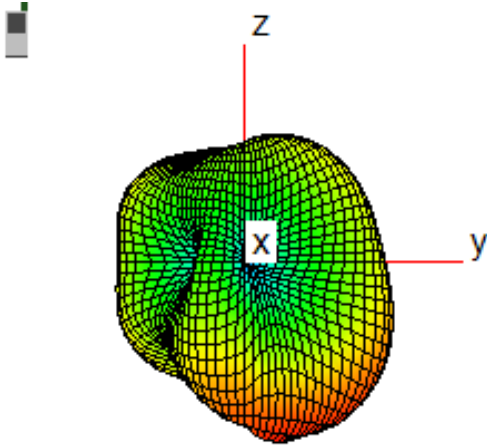
|                        |      |      |      |      |      |
|------------------------|------|------|------|------|------|
| <b>Frequency (MHz)</b> | 1176 | 1227 | 1561 | 1575 | 1602 |
| <b>Gain (dBi)</b>      | 1.27 | 0.78 | 1.28 | 1.41 | 1.83 |

## 4.5. Radiation Pattern

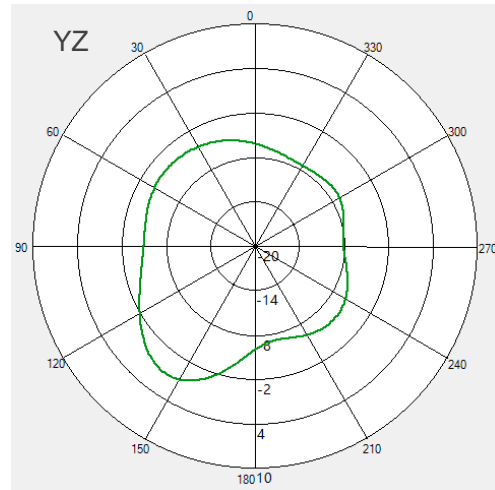
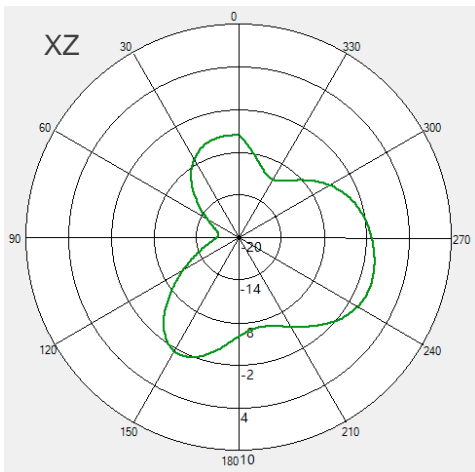
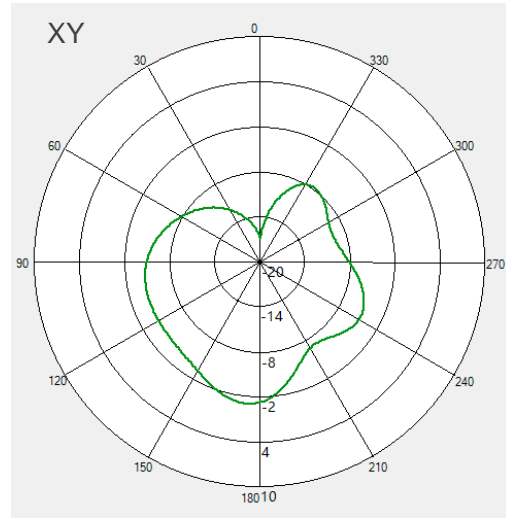
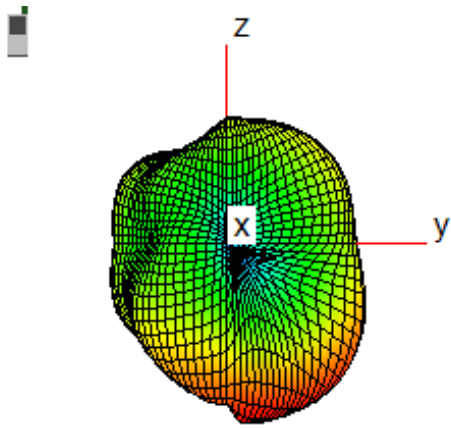
- Test condition: free space



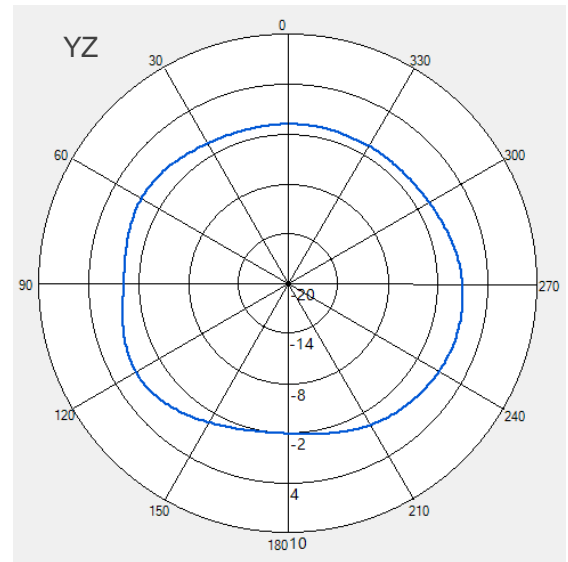
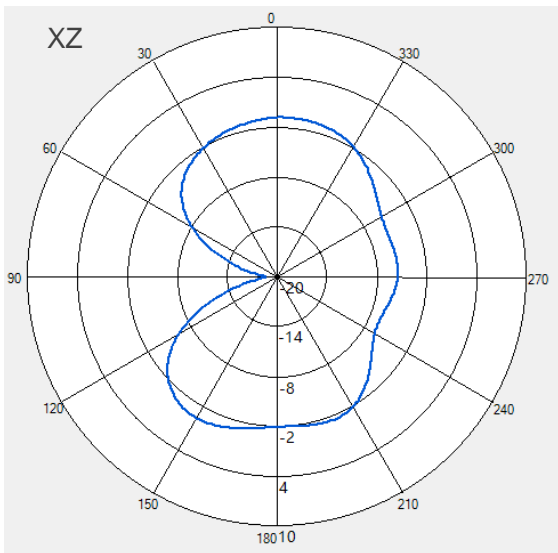
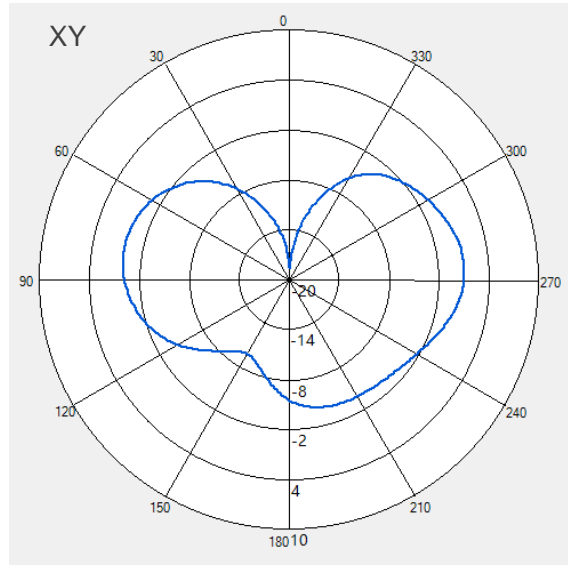
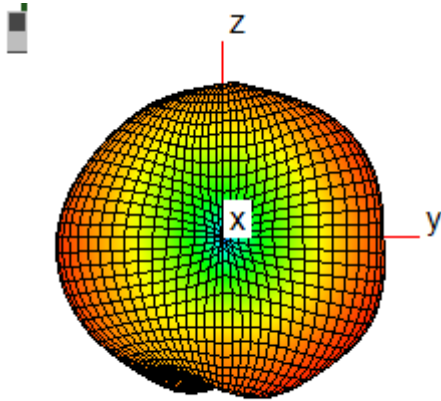
**4.5.1. 1176 MHz**



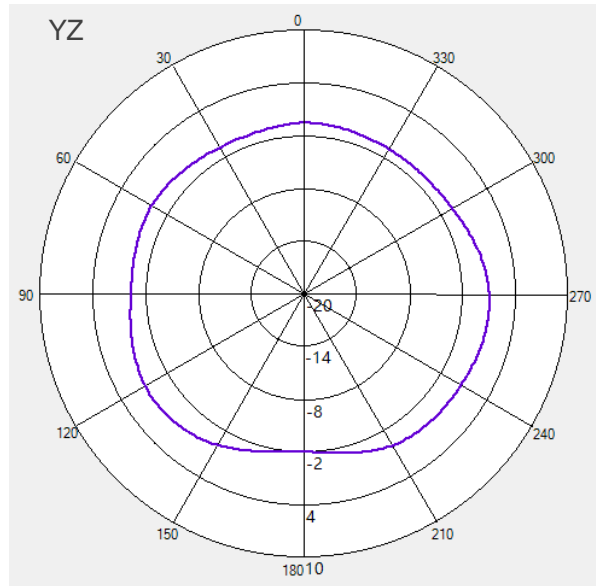
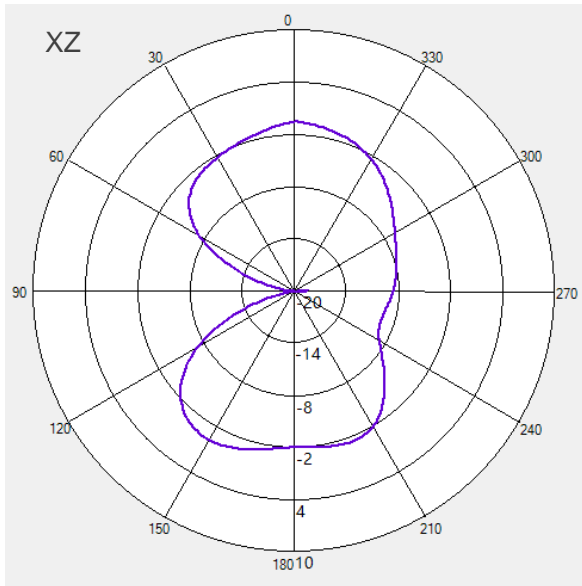
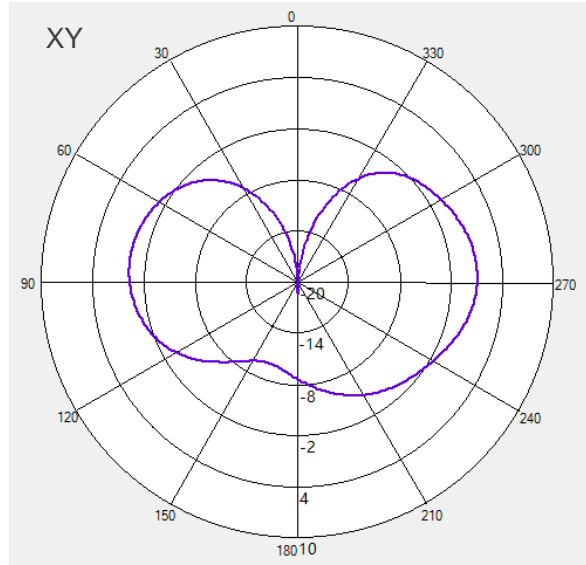
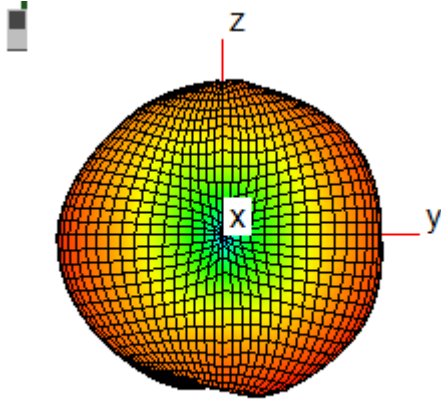
**4.5.2. 1227 MHz**



**4.5.3. 1561 MHz**

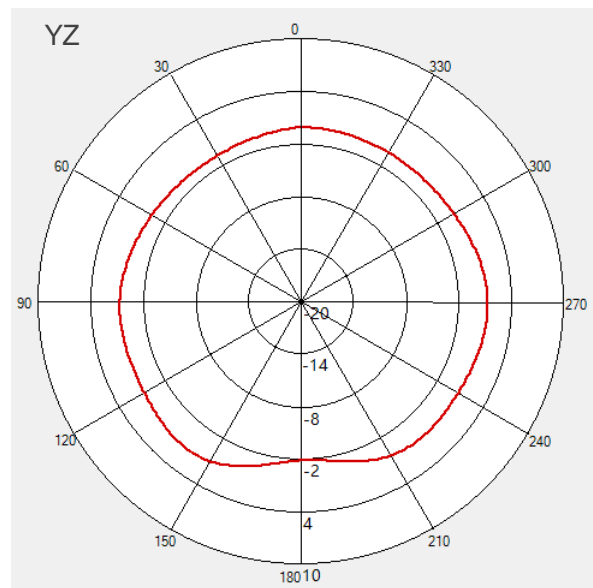
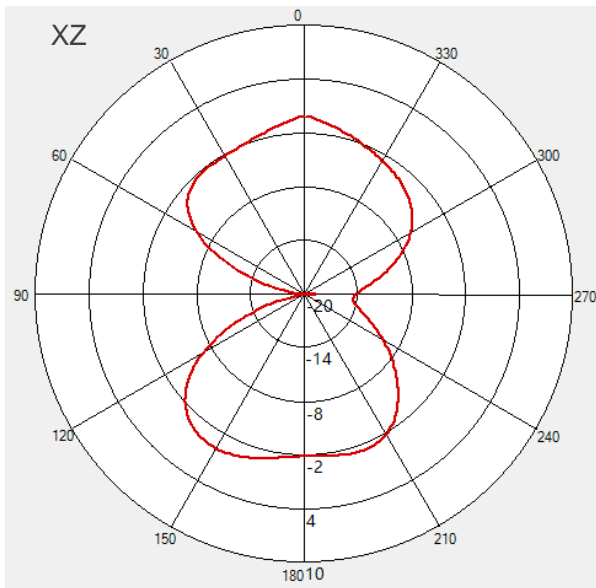
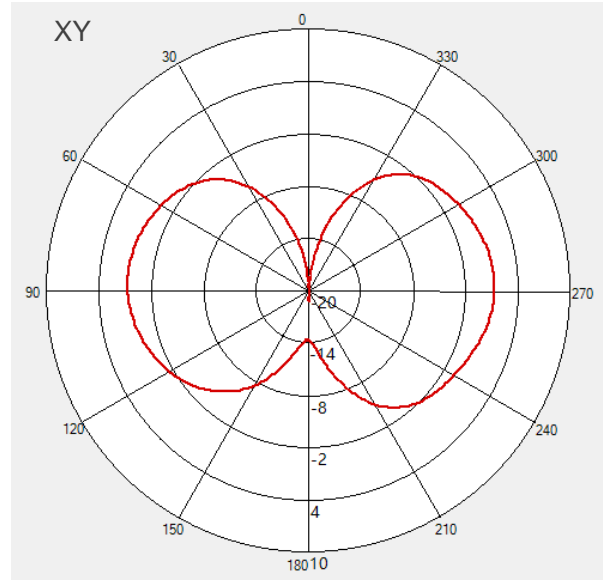
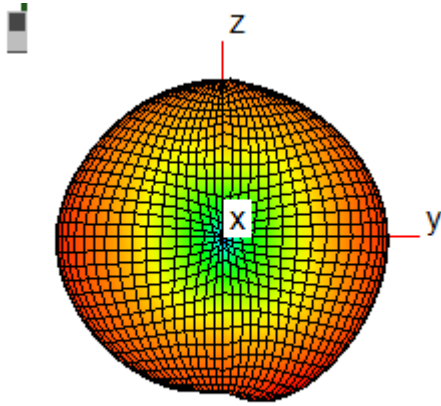


4.5.4. 1575 MHz





4.5.5. 1602 MHz



## 5 Product Size

ROHS

