

Antenna

YG0030AA Datasheet

Antenna Services

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About the Document

Revision History

| Version | Date | Author | Note |
|---------|------------|-----------|--|
| - | 2020-10-14 | Kenny YIN | Creation of the document |
| 1.0 | 2020-10-14 | Kenny YIN | First official release |
| 2.0 | 2021-01-18 | Kenny YIN | Updated the antenna image in Chapter 2 and the electrical performance and product size in Chapter 3–5. |
| 3.0 | 2021-04-26 | Aria CHU | Updated all test data in the datasheet. |
| 4.0 | 2021-05-28 | Aria CHU | Updated all test data in the datasheet. |
| 4.1 | 2021-06-09 | Aria CHU | Added the axial ratio of 1561 MHz and 1601 MHz in Chapter 4.7. |

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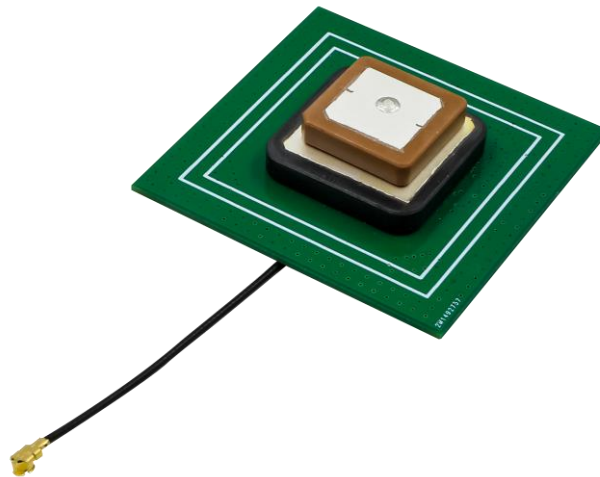
1 Product Description

The antenna is designed for superior performance, and can be widely used for wireless applications.

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

- GPS L1/L5
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

| | |
|-------------------|--|
| Frequency | GPS L1: 1575.42 MHz GPS L5: 1176.45 MHz |
| Input Impedence | 50 Ω |
| VSWR | GPS L1: ≥ 1.1 GPS L5: ≥ 1.05 |
| Gain | L1: ≤ 4.1 dBi L5: ≤ 1.3 dBi |
| Polarization Type | RHCP |

Mechanical Specifications

| | |
|---------------------|------------------------|
| Antenna Size | 50 mm x 50 mm x 9.3 mm |
| Casing | Ceramics |
| Connector Type | IPEX MHF I |
| Working Temperature | -40 °C to +85 °C |
| Radome Color | Black |

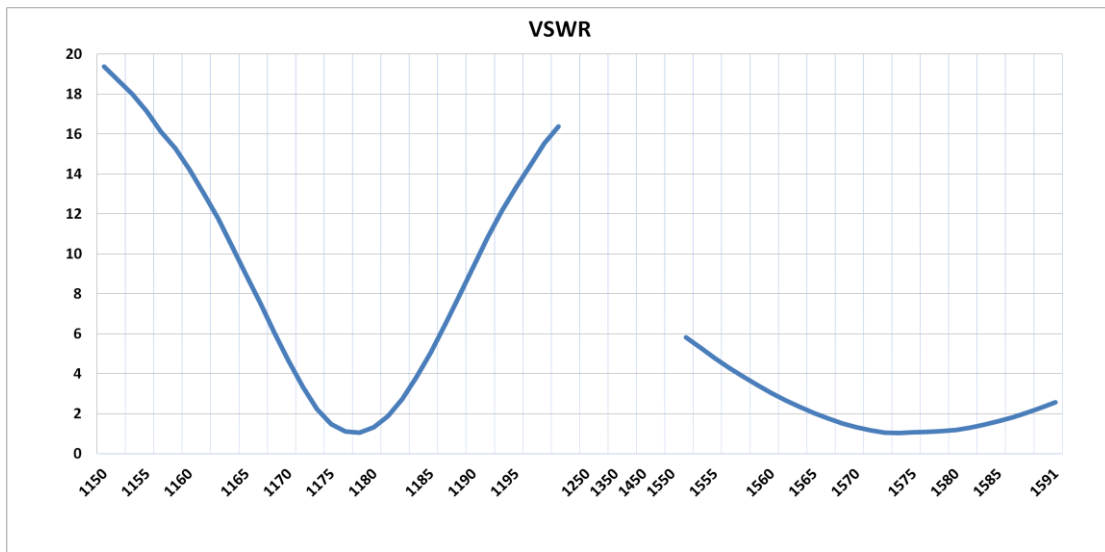
4 Overall Performance

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

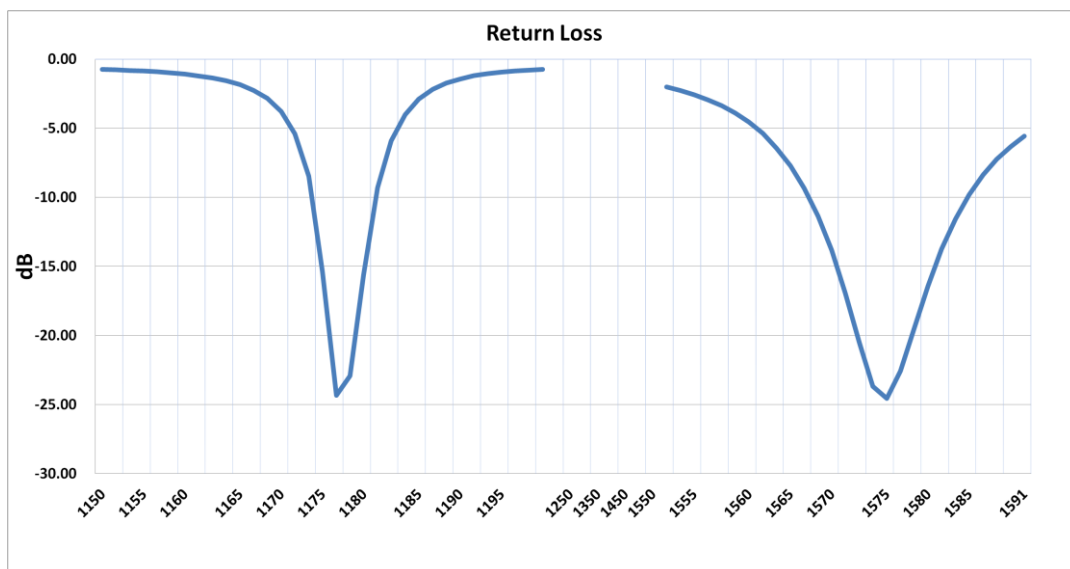


4.2. VSWR



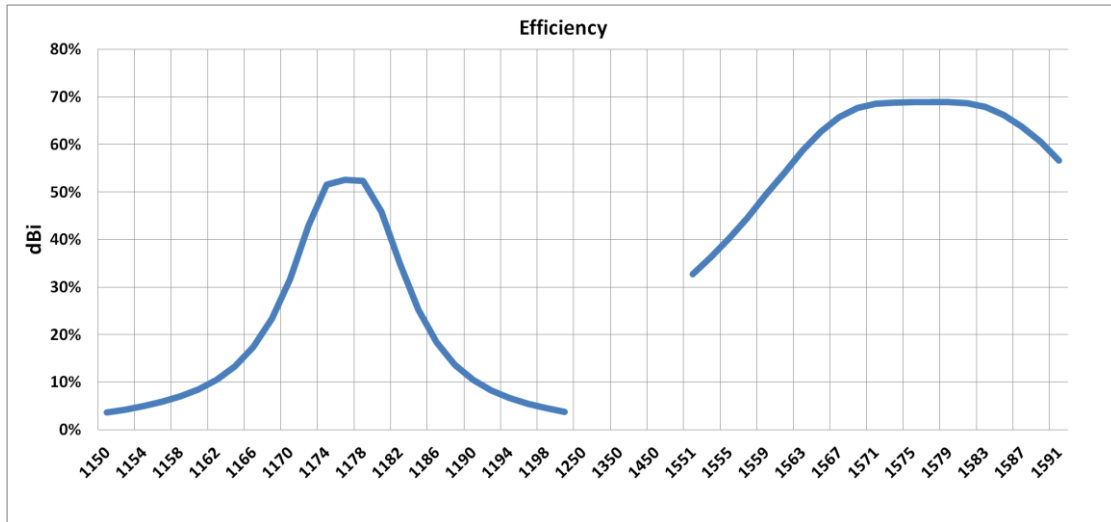
| | | |
|-----------------|------|------|
| Frequency (MHz) | 1176 | 1575 |
| VSWR | 1.05 | 1.10 |

4.3. Return Loss



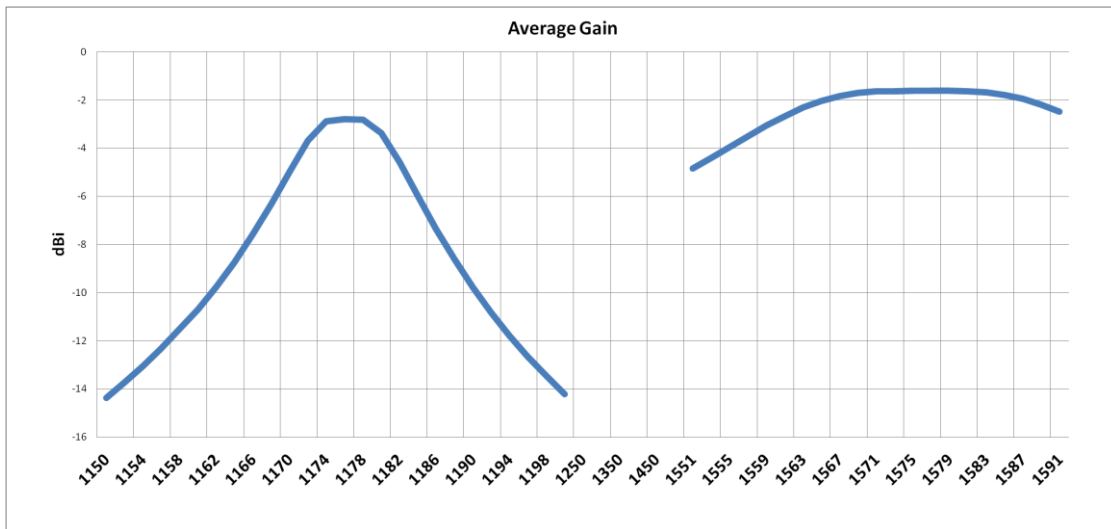
| | | |
|------------------|------|-------|
| Frequency (MHz) | 1176 | 1575 |
| Return Loss (dB) | -23 | -24.5 |

4.4. Efficiency



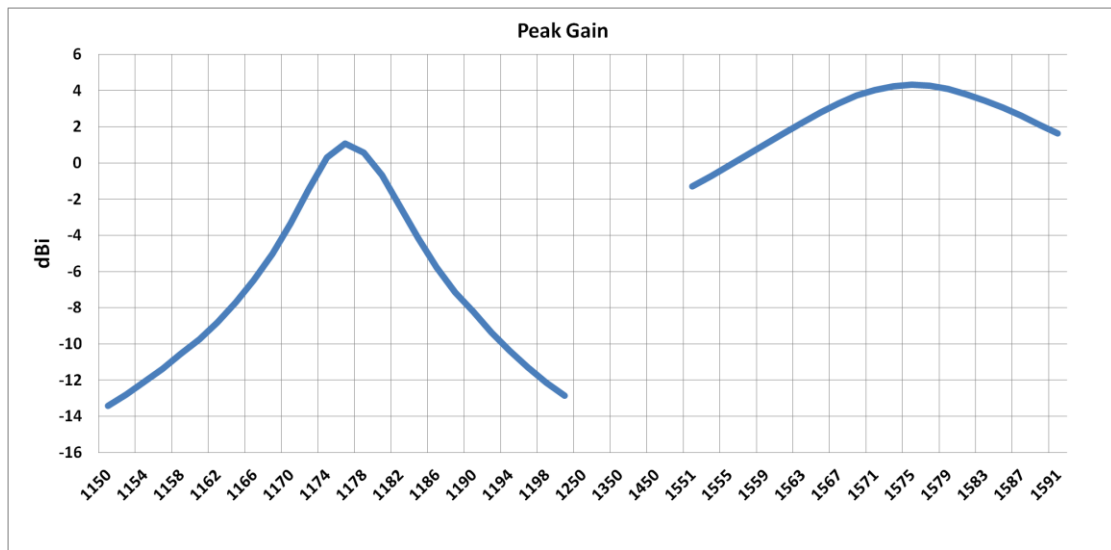
| | | |
|-----------------|------|------|
| Frequency (MHz) | 1176 | 1575 |
| Efficiency (%) | 53 | 69 |

4.5. Average Gain



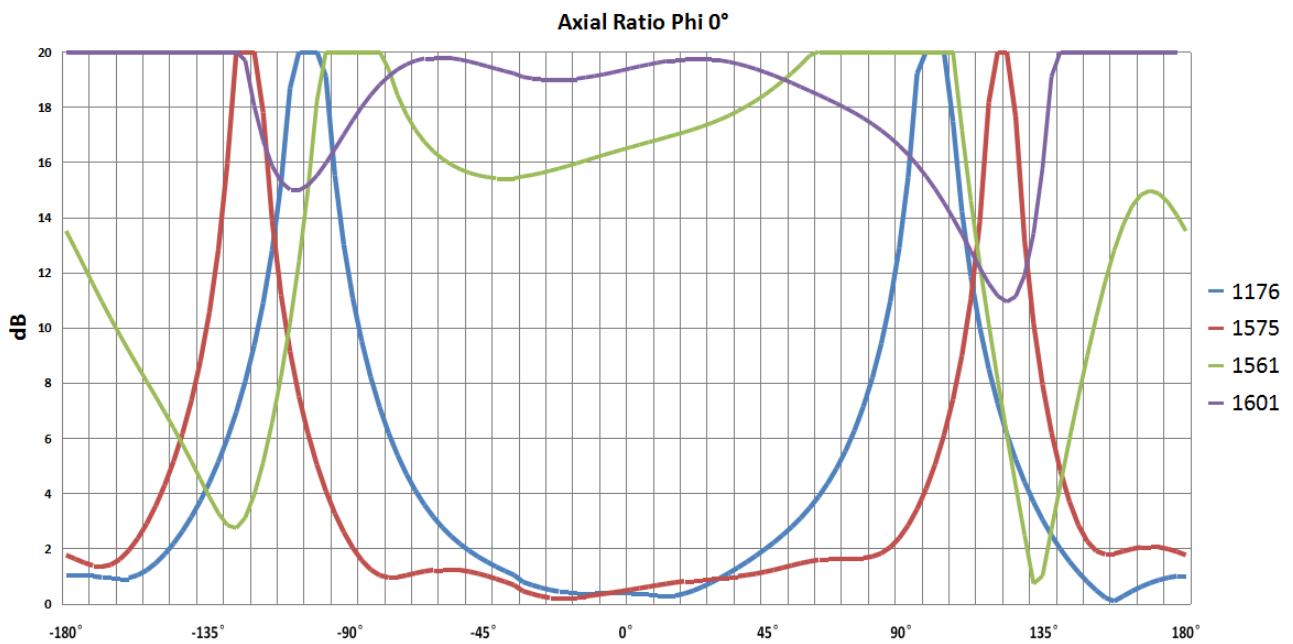
| | | |
|-----------------|------|------|
| Frequency (MHz) | 1176 | 1575 |
| Gain (dBi) | -2.8 | -1.6 |

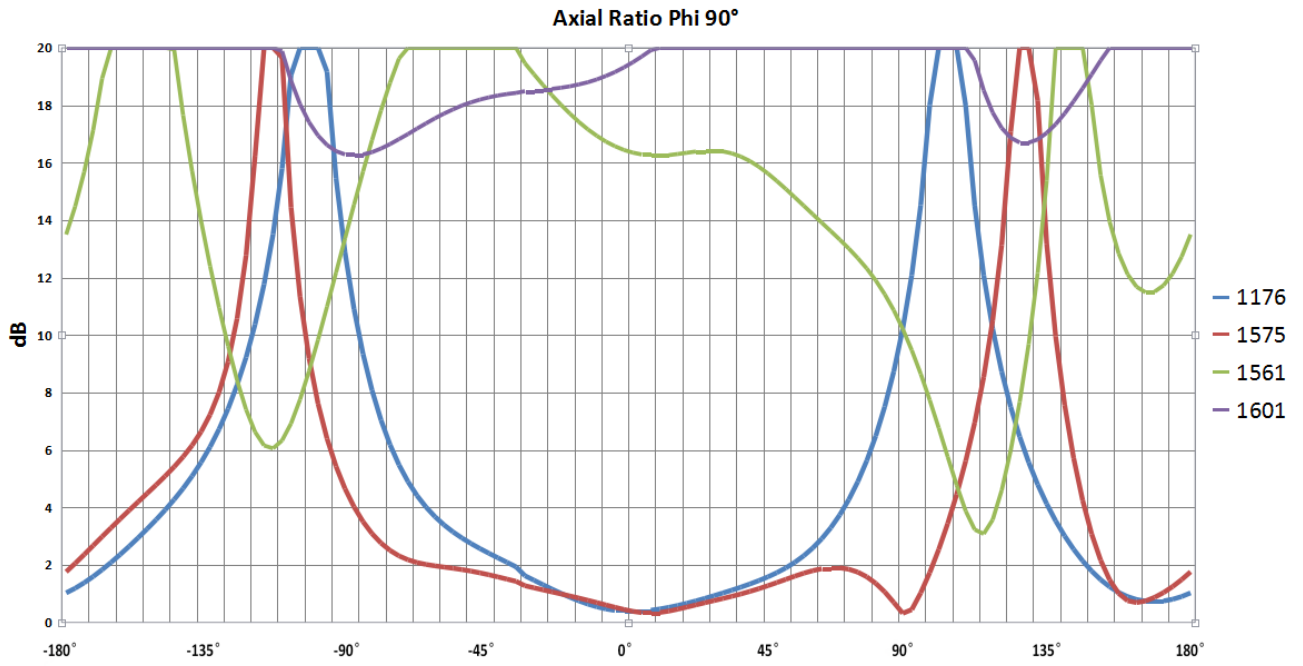
4.6. Peak Gain



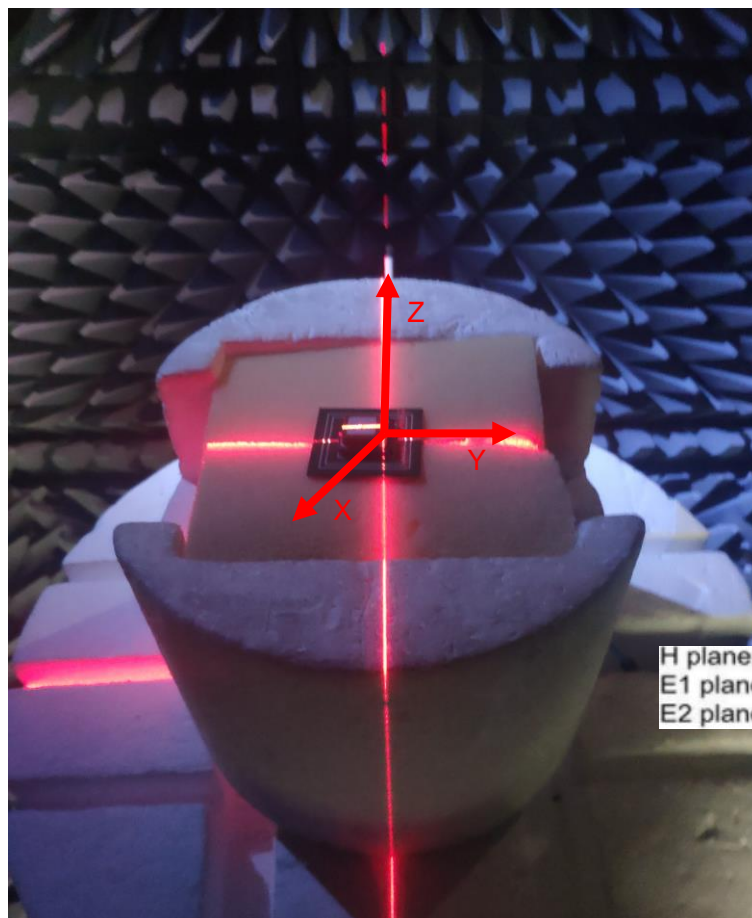
| | | |
|-----------------|------|------|
| Frequency (MHz) | 1176 | 1575 |
| Gain (dBi) | 1.3 | 4.1 |

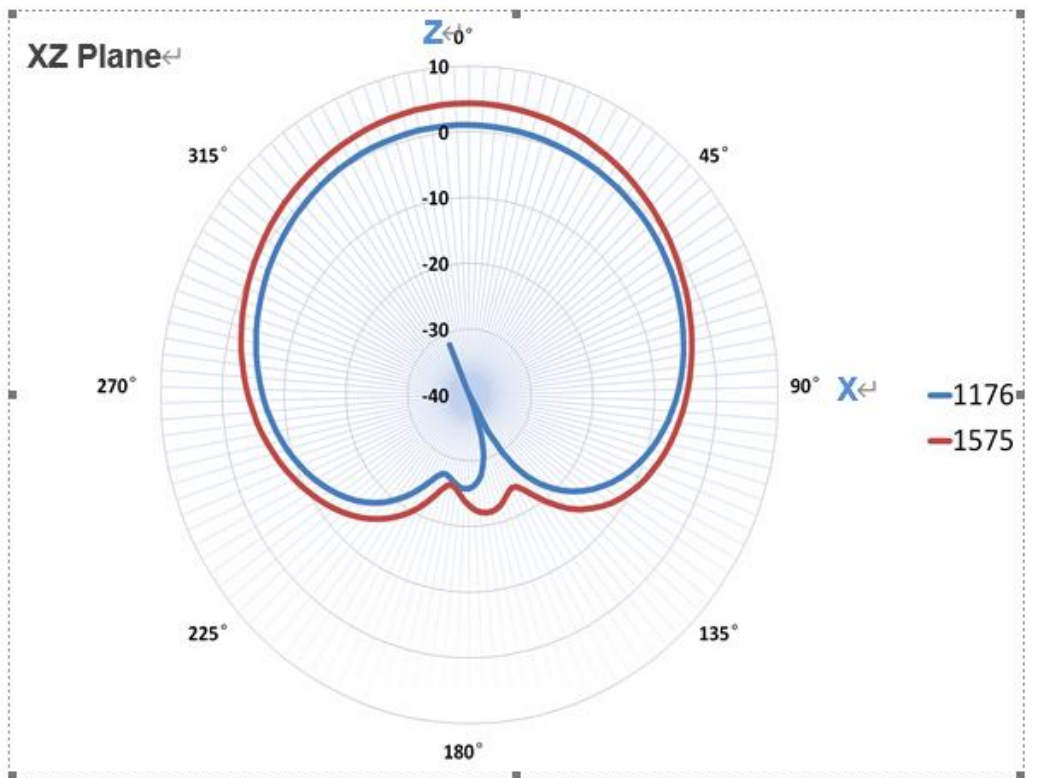
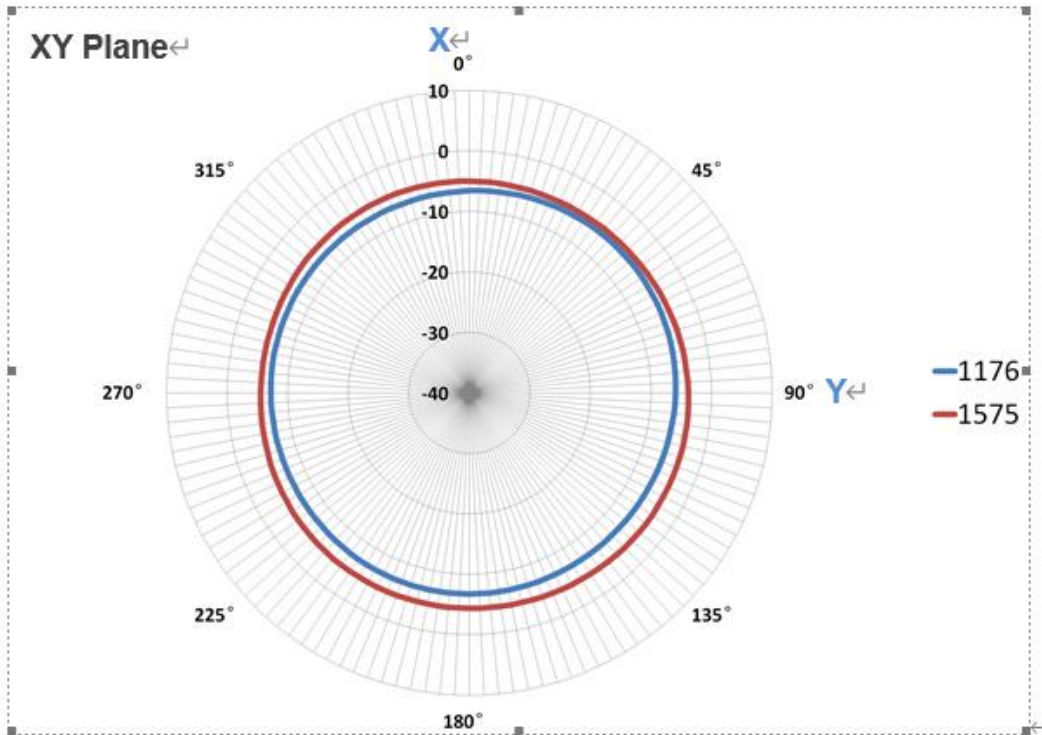
4.7. Axial Ratio

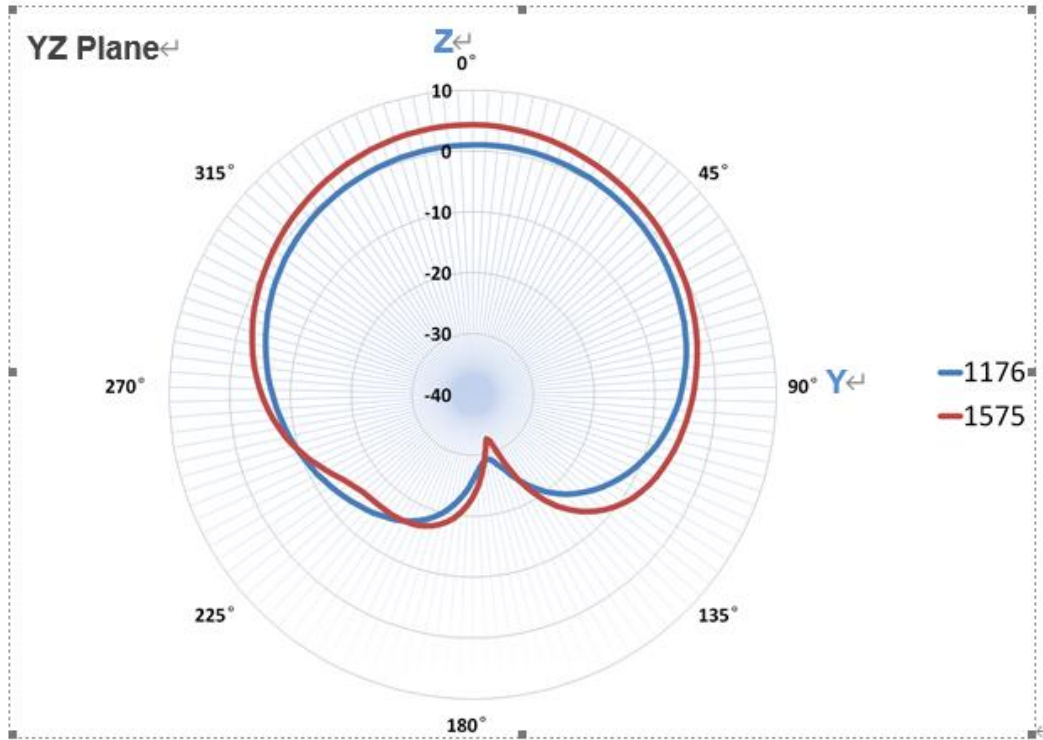




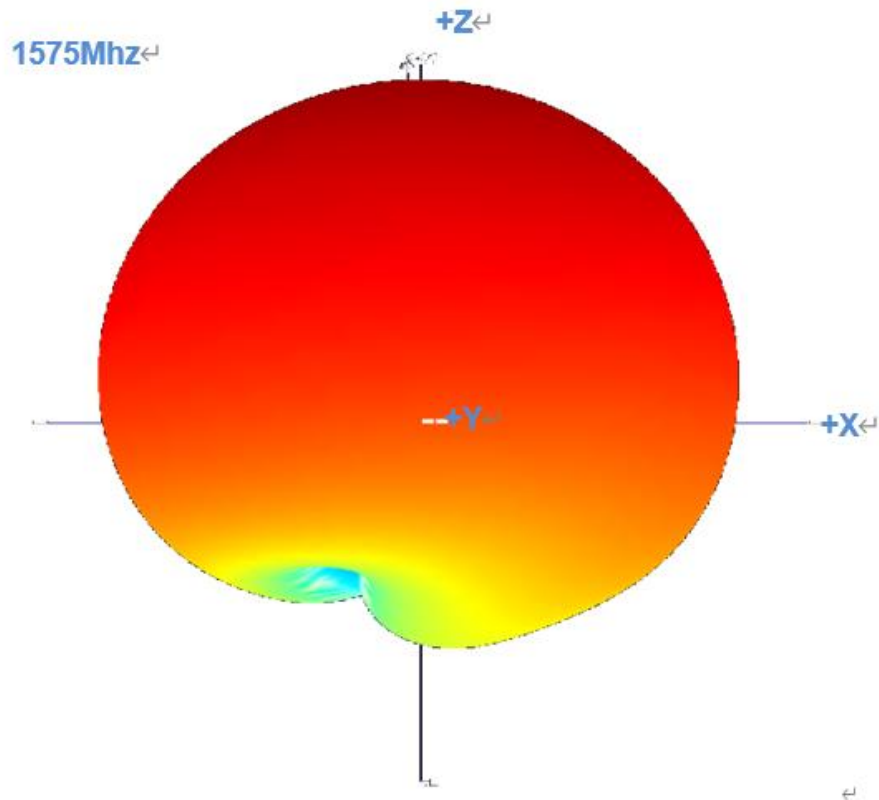
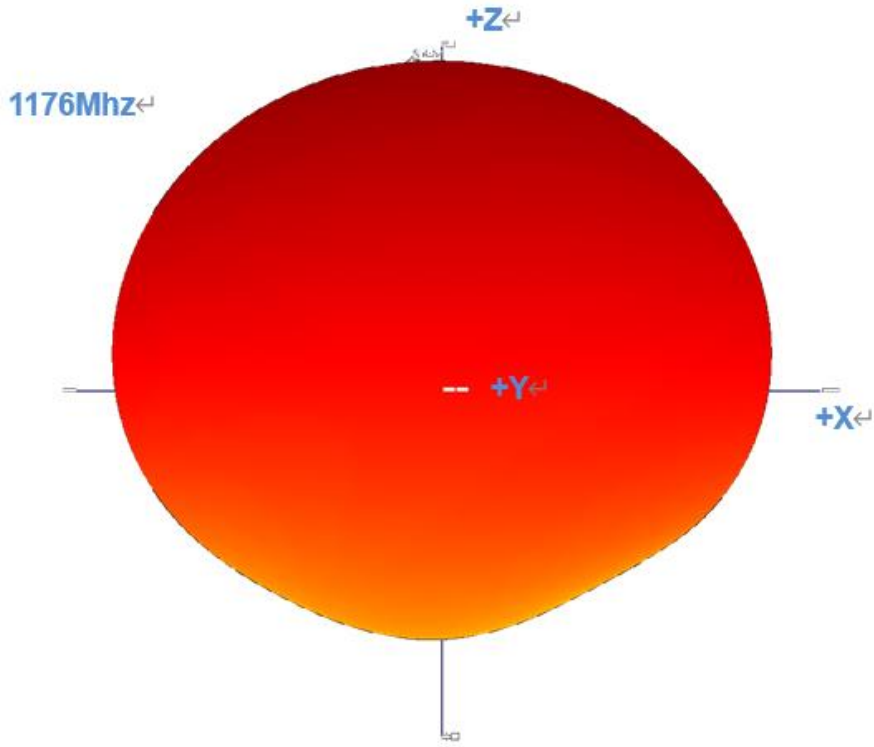
4.8. 2D Radiation Pattern







4.9. 3D Radiation Pattern



5 Product Size

