

Antenna

YFGA003AA Datasheet

Antenna Services

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About the Document

Revision History

| Version | Date | Author | Note |
|---------|------------|------------------------|---|
| - | 2021-05-26 | Kenny YIN/ Aria CHU | Creation of the document. |
| 1.0 | 2021-05-26 | Kenny YIN/ Aria CHU | First official release. |
| 1.1 | 2021-12-03 | Kenny YIN/ Aria CHU | Updated the product description in Chapter 1. |

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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 also 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.

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 FPC Antenna
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

| | |
|-------------------|---------------|
| Frequency Range | 1559–1609 MHz |
| Input Impedence | 50 Ω |
| VSWR | ≤ 2 |
| Gain | < 6.0 dBi |
| Polarization Type | Linear |

Mechanical Specifications

| | |
|---------------------|-------------------------------|
| Antenna Size | 39.45 mm × 13.25 mm × 0.13 mm |
| Casing | Cu |
| Connector Type | RF1 |
| Working Temperature | -40 °C to +85 °C |
| Radome Color | Black |
| Installation Method | - |

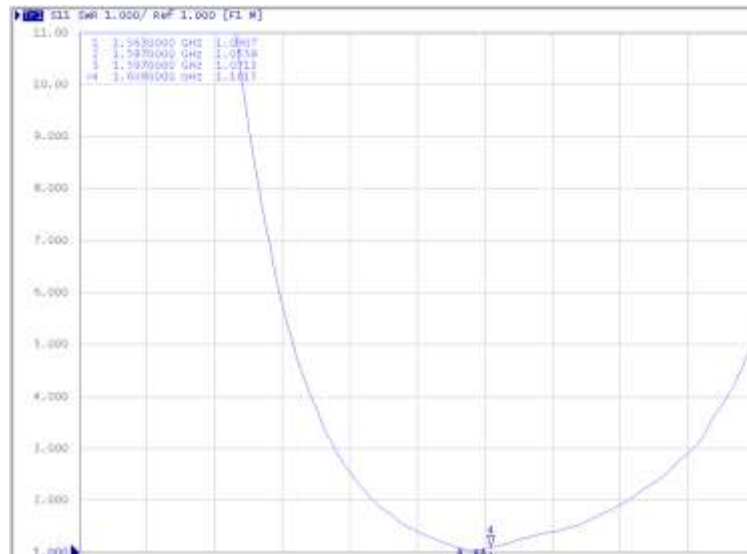
4 Overall Performance

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

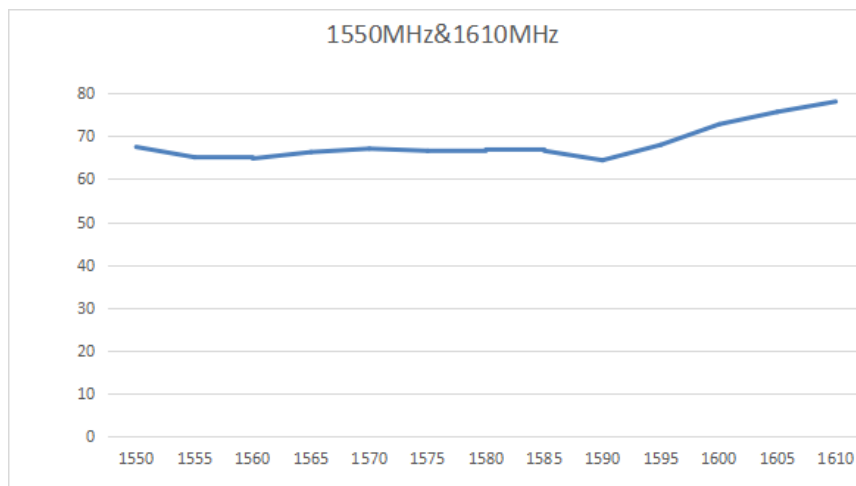


4.2. S11



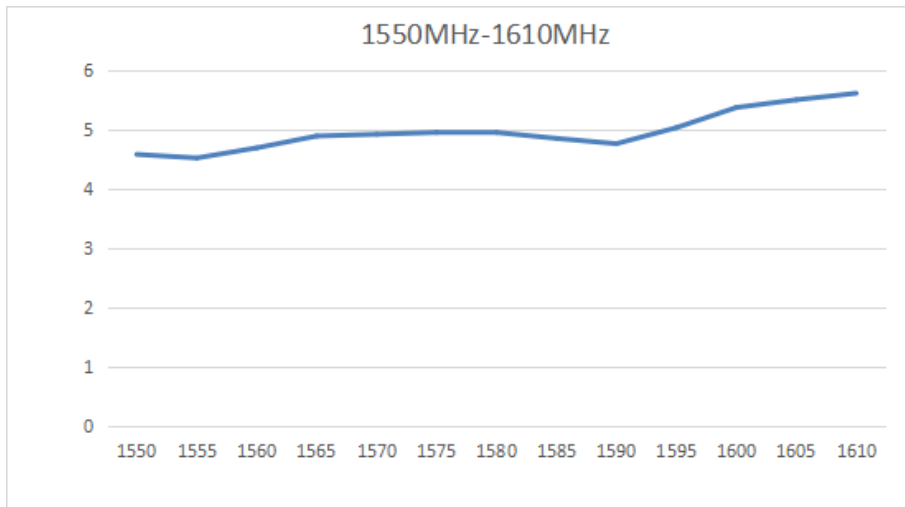
| | | | | |
|-----------------|------|------|------|------|
| Frequency (MHz) | 1563 | 1587 | 1597 | 1609 |
| VSWR | 1.09 | 1.06 | 1.07 | 1.10 |

4.3. Efficiency



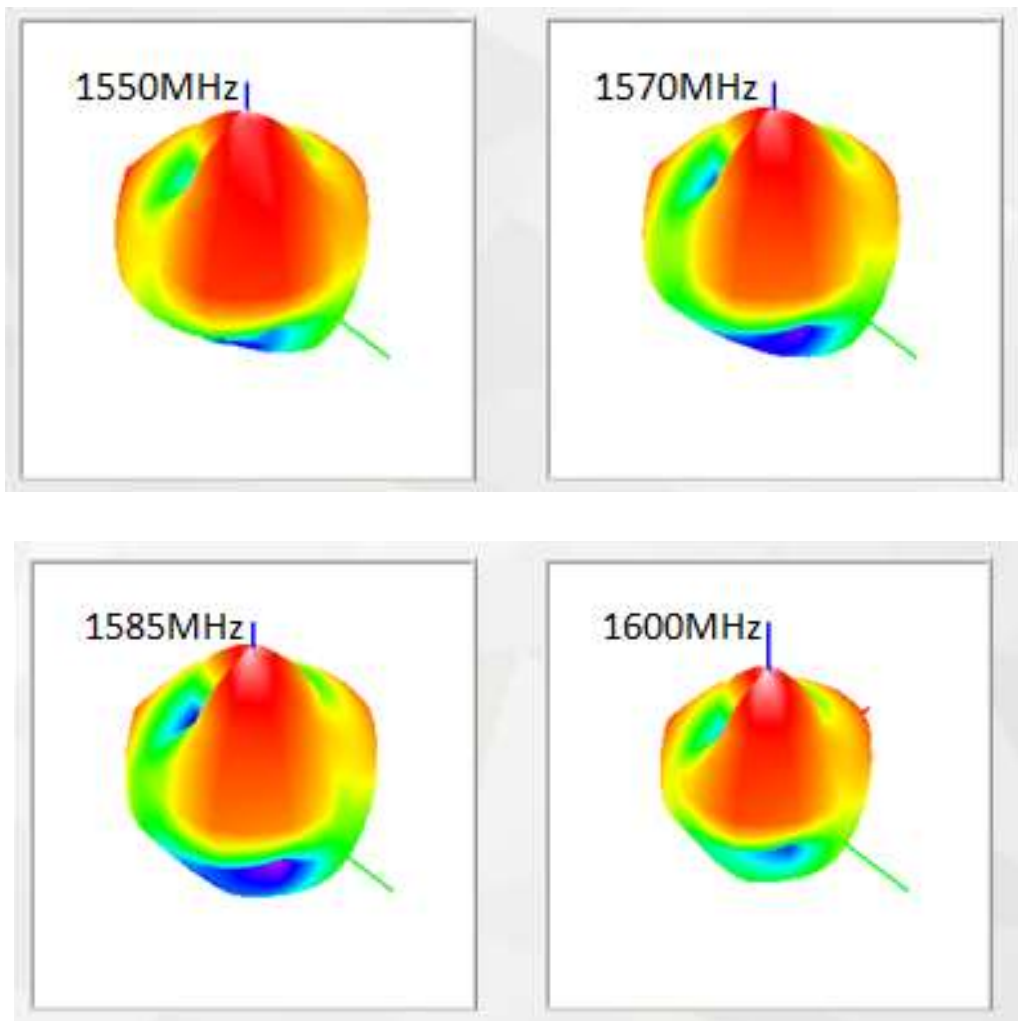
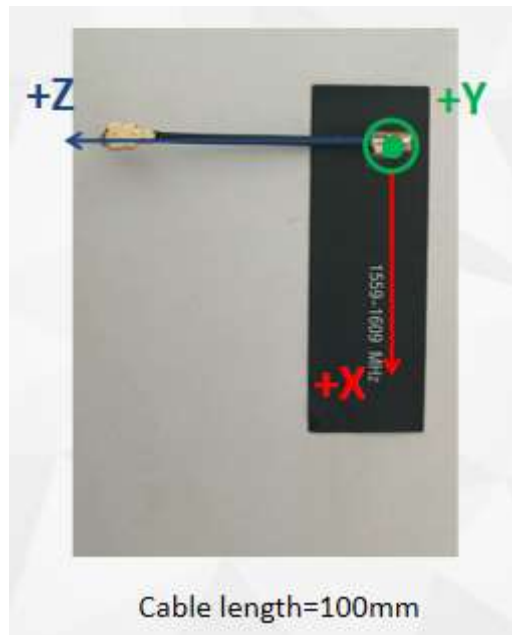
| | | | | |
|-----------------|------|------|------|------|
| Frequency (MHz) | 1550 | 1575 | 1600 | 1605 |
| Efficiency (%) | 67.5 | 66.6 | 72.8 | 75.7 |

4.4. Gain



| | | | | |
|------------------------|------|------|------|------|
| Frequency (MHz) | 1550 | 1575 | 1600 | 1605 |
| Gain (dBi) | 4.57 | 4.94 | 5.35 | 5.49 |

4.5. Radiation Pattern



5 Product Size

