

Antenna

YCGO005AA Datasheet

Antenna Services

Version: 2.0

Date: 2021-12-08

Status: Released



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About the Document

Revision History

| Version | Date | Author | Note |
|---------|------------|------------------------|---|
| - | 2021-06-04 | Kenny YIN/ Aria CHU | Creation of the document |
| 1.0 | 2021-06-04 | Kenny YIN/ Aria CHU | First official release |
| 1.1 | 2021-12-05 | Kenny YIN/ Aria CHU | Updated the product description in Chapter 1. |
| 2.0 | 2021-12-08 | Xiaodong YANG | Updated all test data in this datasheet. |

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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

- GNSS L1
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

| | |
|-------------------|---------------|
| Frequency Range | 1575–1602 MHz |
| Input Impedance | 50 Ω |
| VSWR | ≤ 3.5 |
| Gain | ≤ 3 dBi |
| Polarization Type | Linear |

Mechanical Specifications

| | |
|---------------------|--------------------------------------|
| Antenna Size | 15 mm \times 15 mm \times 6.2 mm |
| Casing | Ceramics |
| Connector Type | IPEX MHF I |
| Working Temperature | -40 $^{\circ}$ C to +85 $^{\circ}$ C |
| Radome Color | - |

4 Overall Performance

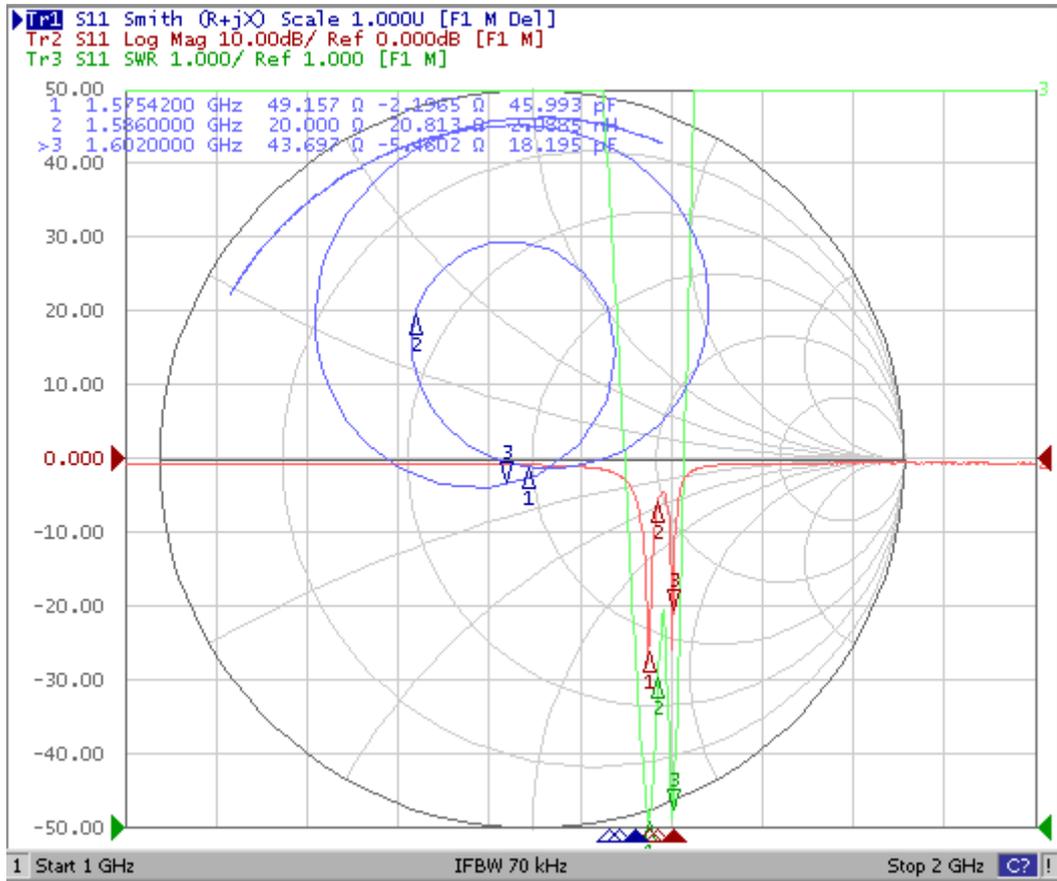
4.1. Test Environment

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



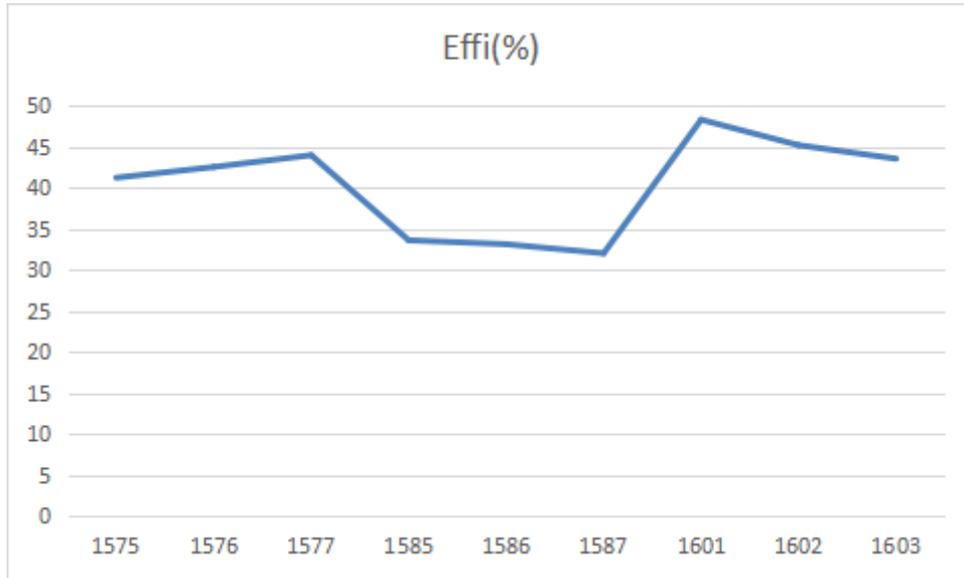
4.2. VSWR

- Note: 15 mm x 15 mm ground plane for grounding test and debugging.



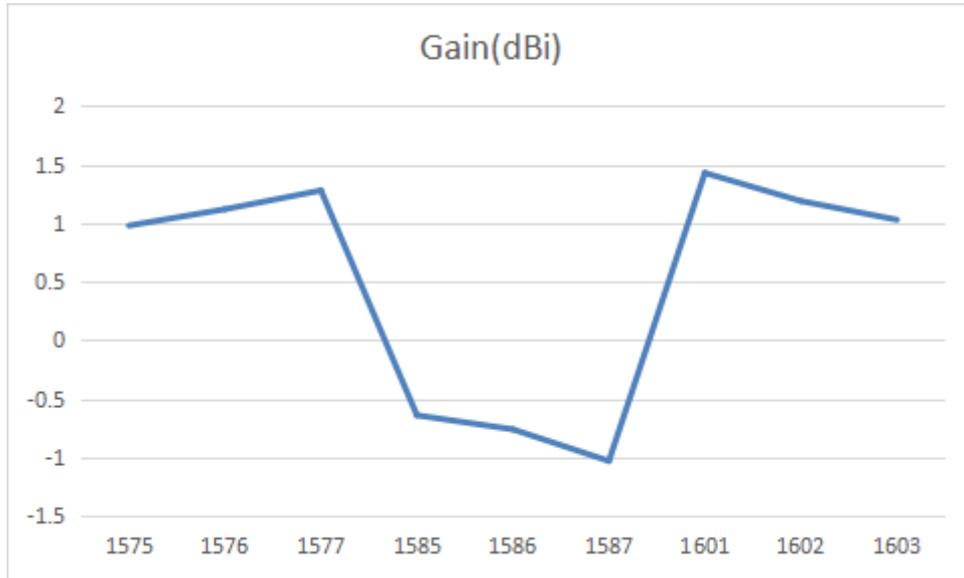
| Frequency (MHz) | 1575 | 1586 | 1602 |
|-----------------|------|------|------|
| VSWR | 1.13 | 3.05 | 1.22 |

4.3. Efficiency



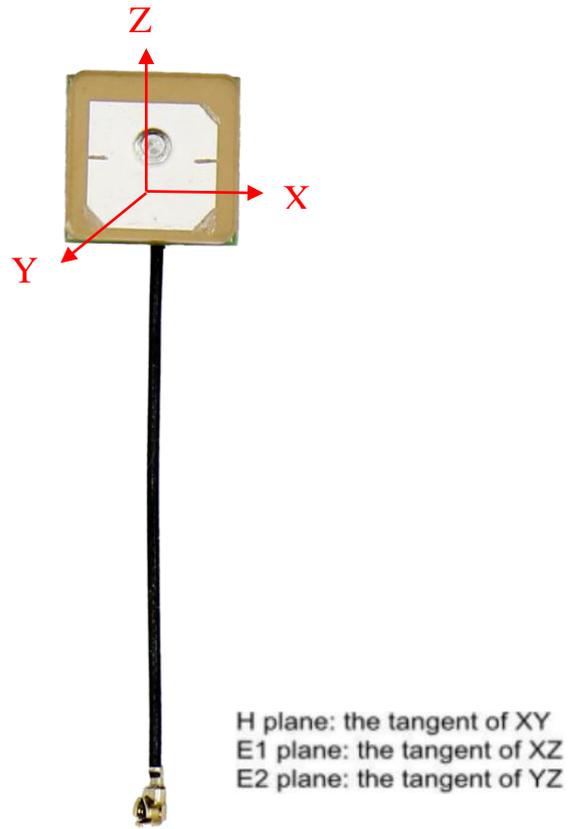
| | | | |
|------------------------|-------|-------|-------|
| Frequency (MHz) | 1575 | 1586 | 1602 |
| Efficiency (%) | 41.27 | 33.16 | 45.24 |

4.4. Gain



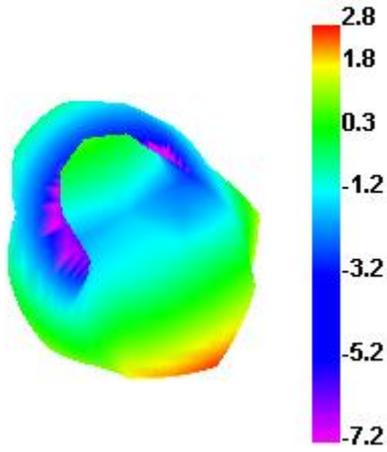
| | | | |
|------------------------|------|-------|------|
| Frequency (MHz) | 1575 | 1586 | 1602 |
| Gain (dBi) | 0.98 | -0.76 | 1.19 |

4.5. Radiation Pattern

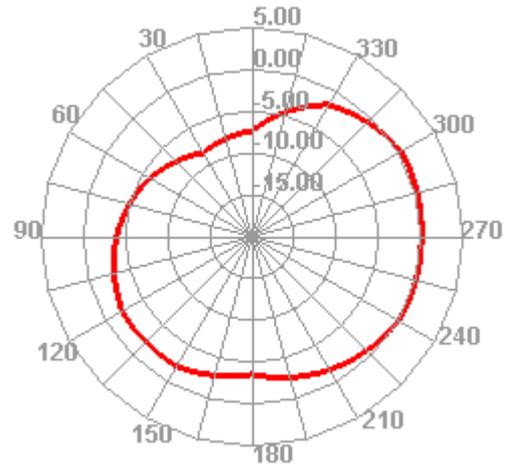


4.5.1. 1575 MHz

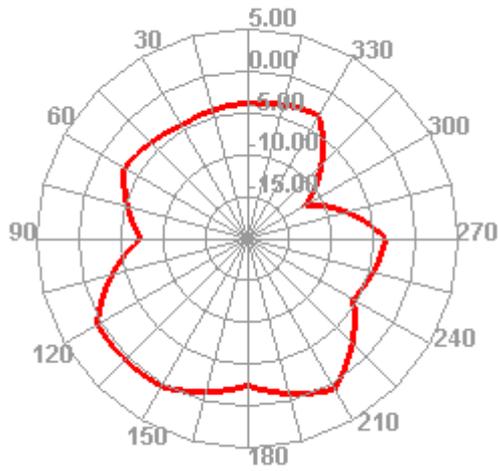
1575.000MHz



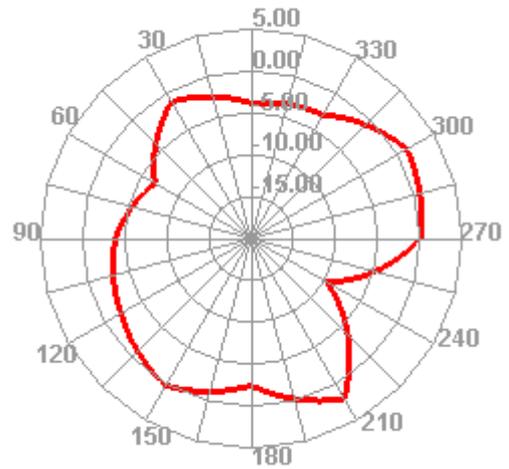
1575.000MHz H



1575.000MHz E1

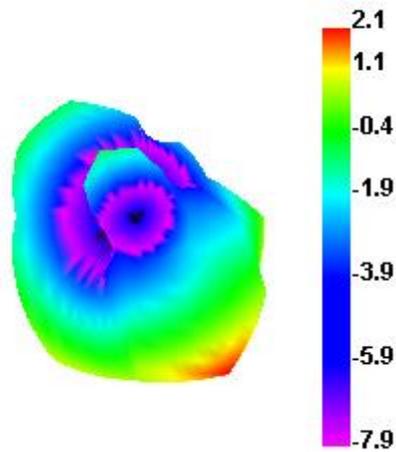


1575.000MHz E2

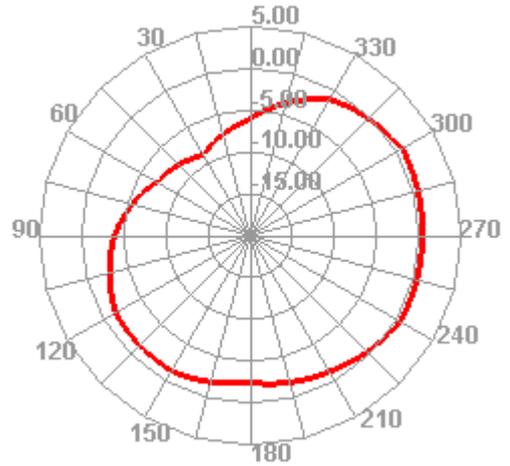


4.5.2. 1586 MHz

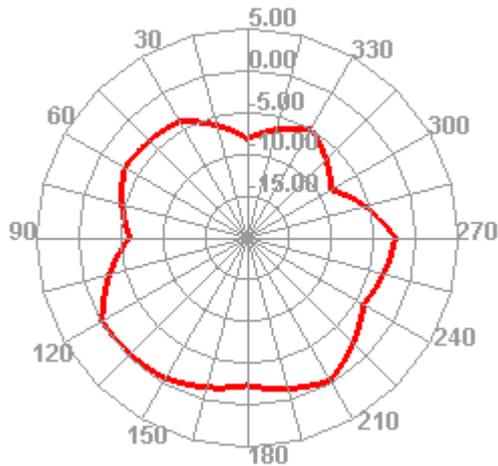
1586.000MHz



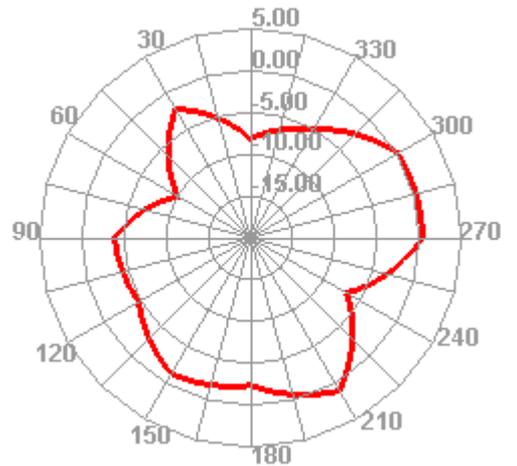
1586.000MHz H



1586.000MHz E1

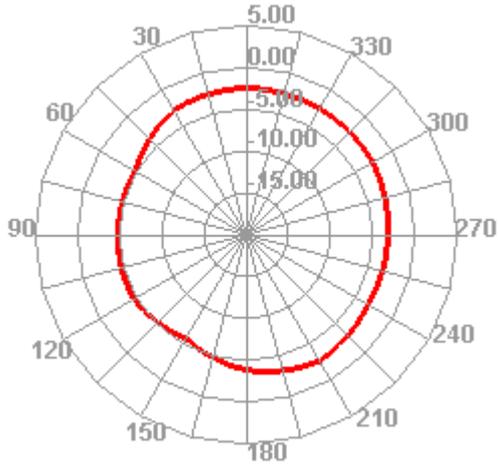


1586.000MHz E2

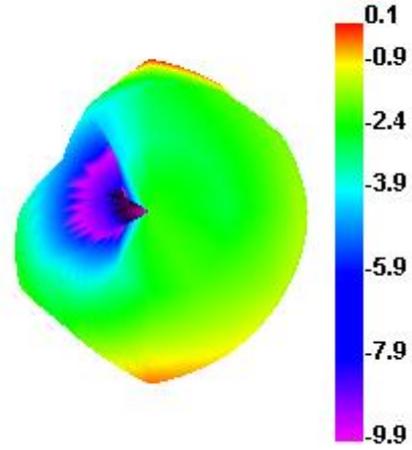


4.5.3. 1602 MHz

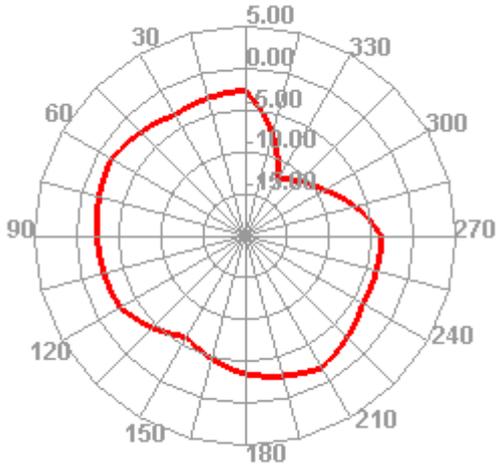
1602.000MHz H



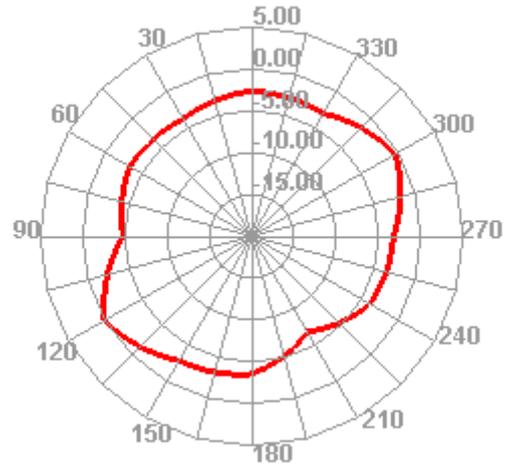
1602.000MHz



1602.000MHz E1



1602.000MHz E2



5 Product Size

