

Antenna

YCGO007AA Datasheet

Antenna Services

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Quectel Wireless Solutions Co., Ltd.

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China

Tel: +86 21 5108 6236

Email: info@quectel.com

Or our local offices. For more information, please visit:

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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 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	1575–1602MHz
Input Impedence	50 Ω
VSWR	≤ 3
Gain	≤ 2.0 dBi
Polarization Type	Linear

Mechanical Specifications

Antenna Size	25 mm \times 25 mm \times 6.3 mm
Casing	Ceramic
Connector Type	IPEX MHF I
Working Temperature	-40 $^{\circ}$ C to +85 $^{\circ}$ C
Radome Color	-

4 Overall Performance

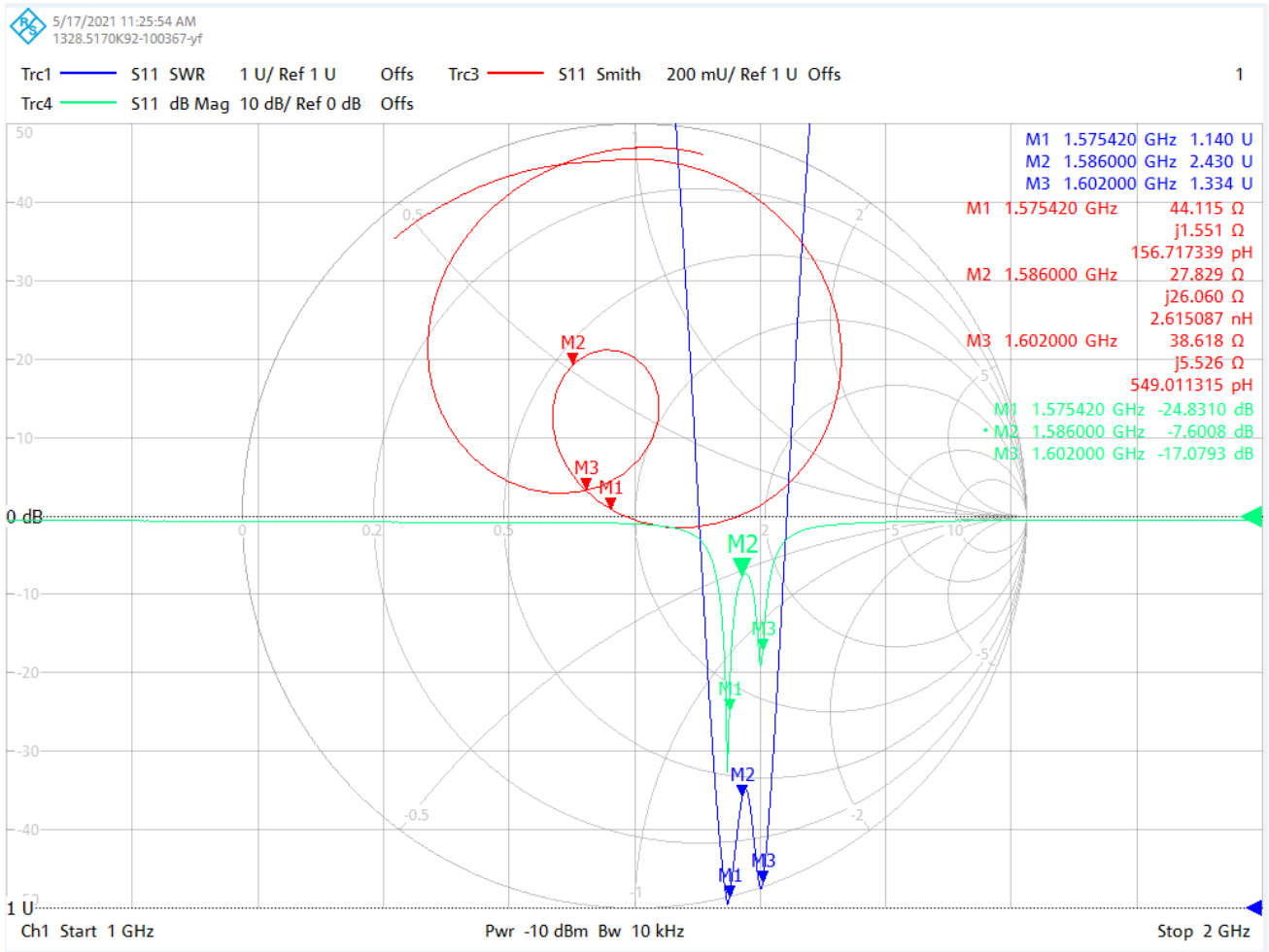
4.1. Test Environment

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



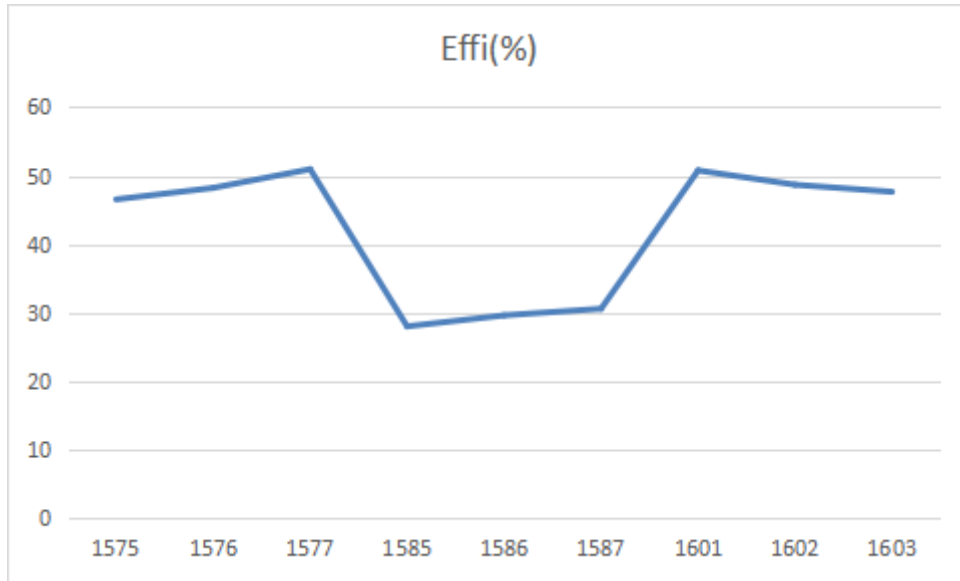
4.2. VSWR

- Note: 25 mm x 25 mm ground plane for grounding test and debugging.



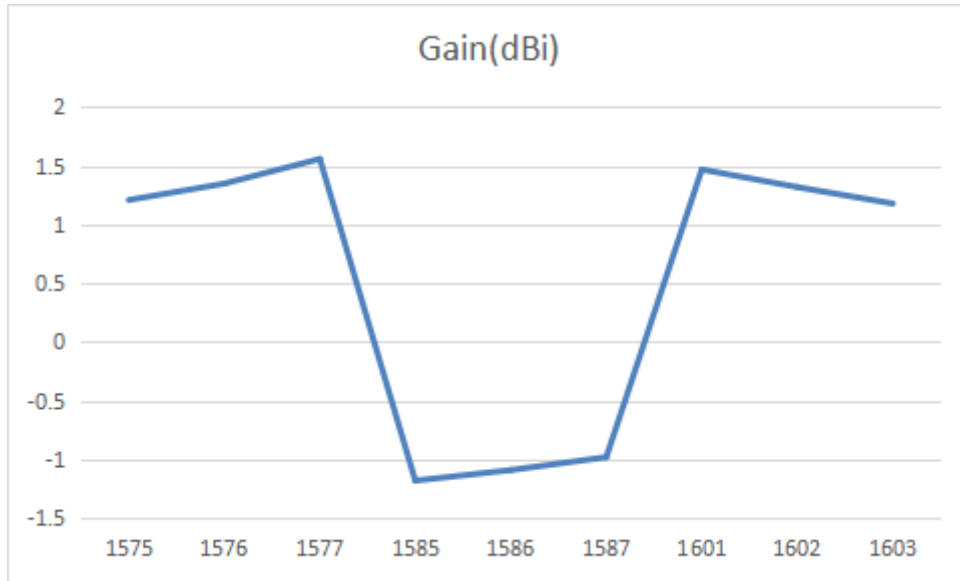
Frequency (MHz)	1575.42	1586	1602
VSWR	1.14	2.43	1.33

4.3. Efficiency



Frequency (MHz)	1575	1586	1602
Efficiency (%)	46.55	29.62	48.69

4.4. Gain



Frequency (MHz)	1575	1586	1602
Gain (dBi)	1.21	-1.09	1.32

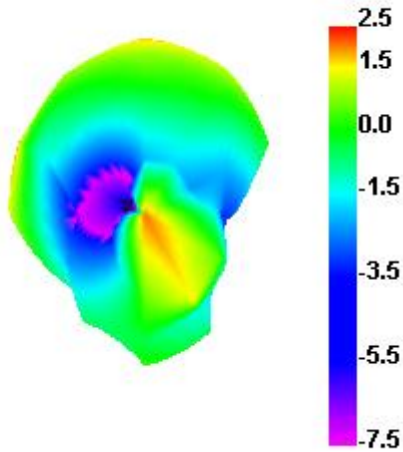
4.5. Radiation Pattern



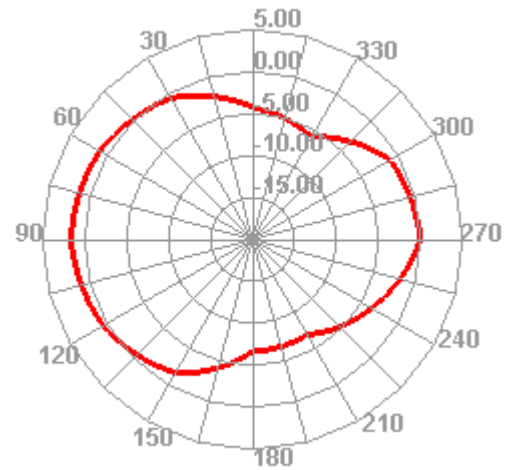
H plane: the tangent of XY
E1 plane: the tangent of XZ
E2 plane: the tangent of YZ

4.5.1. 1575 MHz

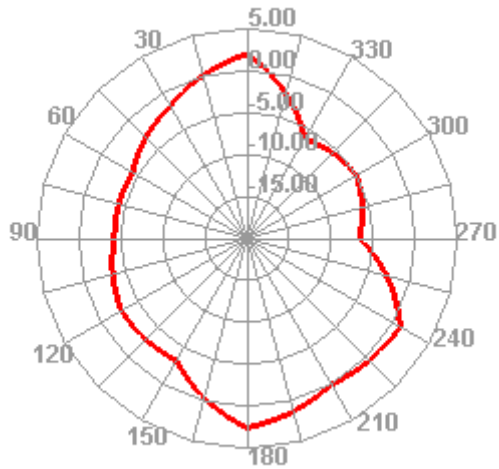
1575.000MHz



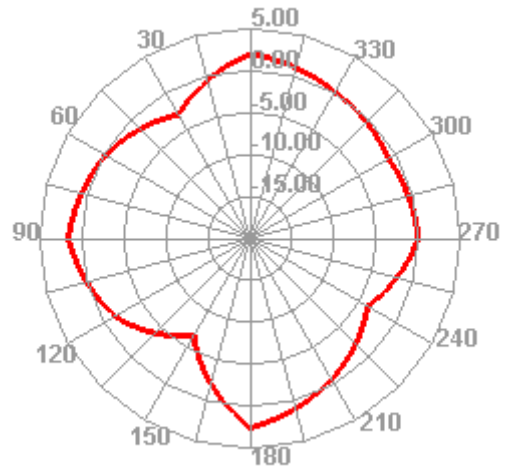
1575.000MHz H



1575.000MHz E1

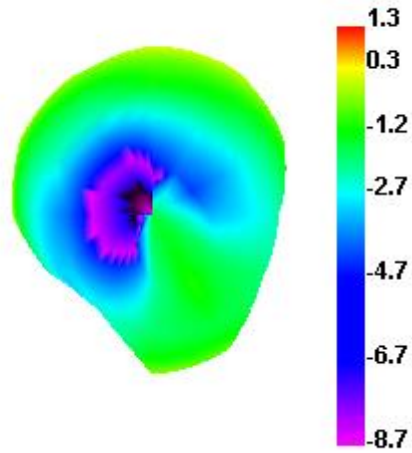


1575.000MHz E2

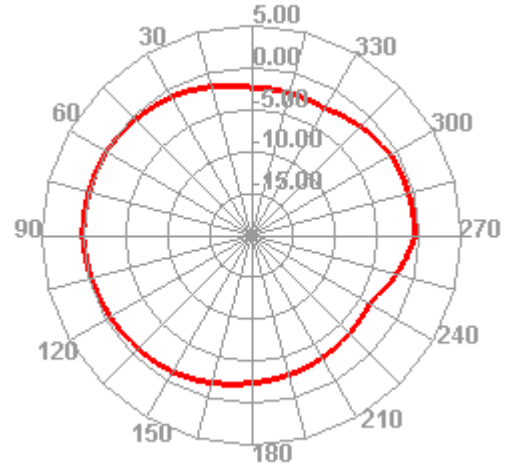


4.5.2. 1586 MHz

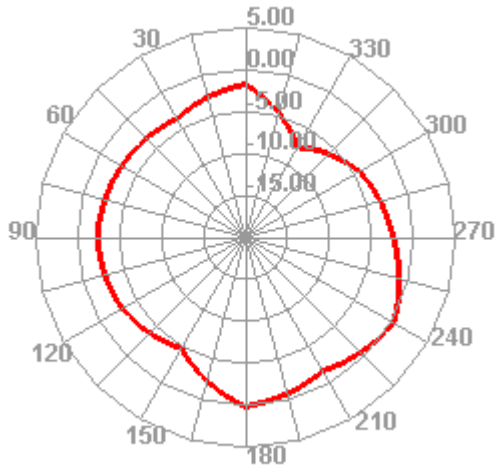
1586.000MHz



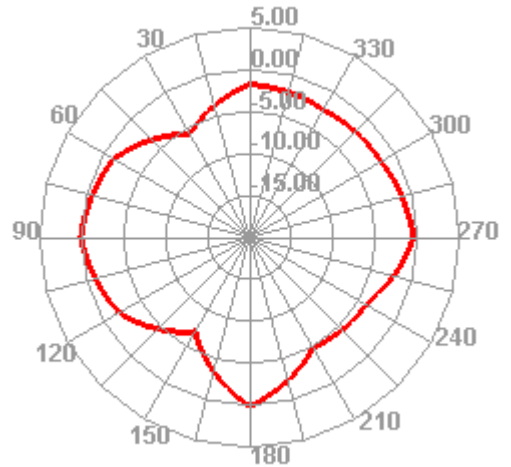
1586.000MHz H



1586.000MHz E1

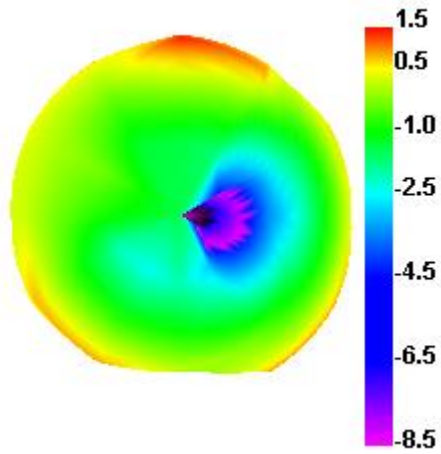


1586.000MHz E2

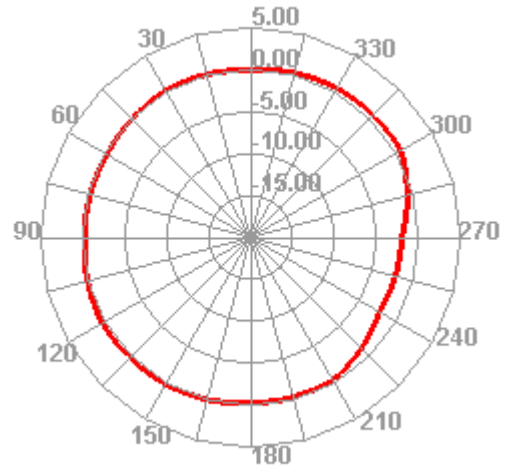


4.5.3. 1602 MHz

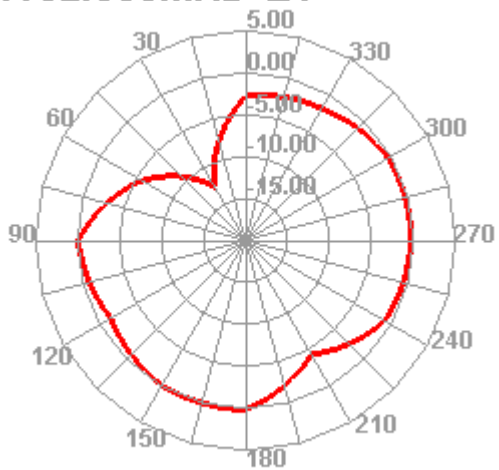
1602.000MHz



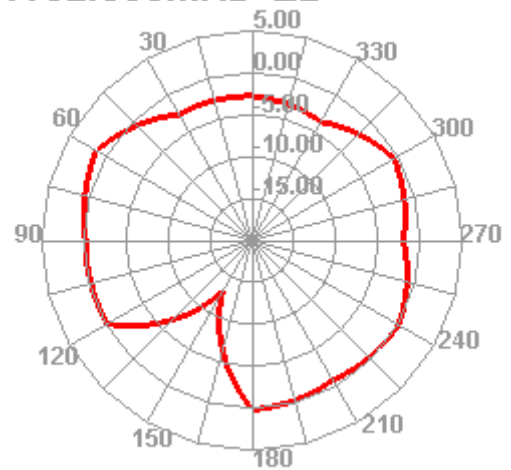
1602.000MHz H



1602.000MHz E1



1602.000MHz E2



5 Product Size

