Antenna

YG0034AA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
1.0	2020-10-28	Kenny YIN	Initial
2.0	2021-09-10	Aria CHU	Updated all test data in this datasheet.
3.0	2021-11-25	Junsen LI	Updated all test data in this datasheet.
3.1	2021-11-26	Junsen LI	Updated the antenna drawing (Chapter 6).
3.2	2022-06-23	Kenny YIN	Updated the antenna drawing (Chapter 6).

Contents

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.

2 Product Features

- GPS 1575 MHz
- High efficiency
- Excellent performance

3 Product Specifications

- The antenna is tested on a 13 mm × 13 mm × 1 mm PCB.

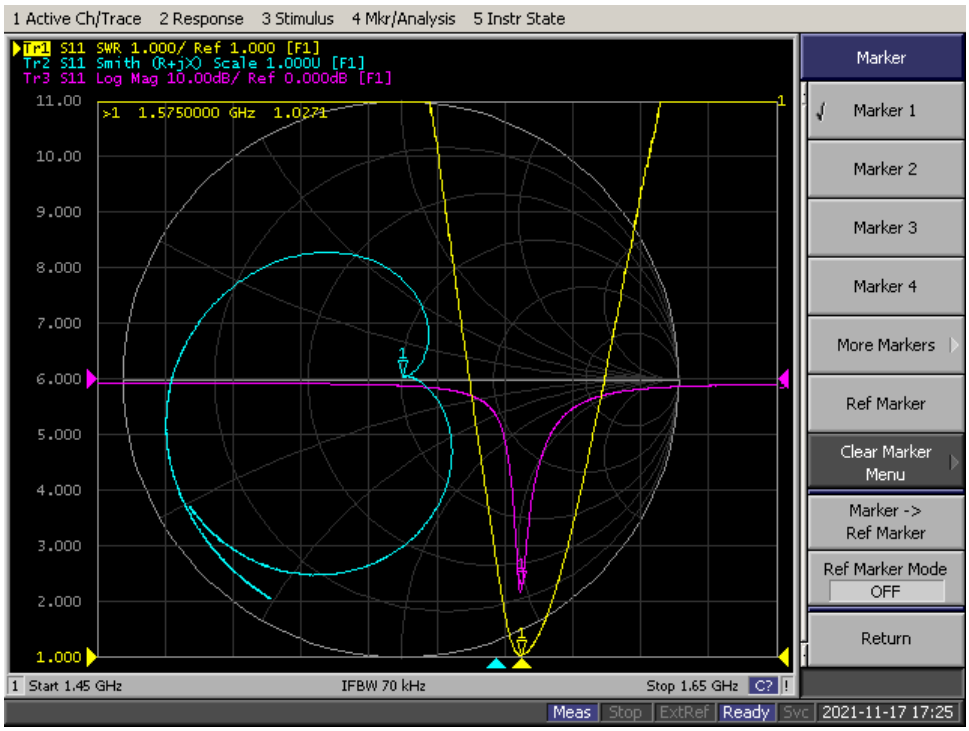
Electrical Specifications	
Nominal Frequency	1575 MHz
Peak Gain	-0.97 dBi
Output VSWR	≤ 2.0
Axial Ratio	< 3 dB
Polarization Type	RHCP
Impedance	50 Ω
LNA Electrical Properties	
Center Frequency	1575 MHz
Gain (DC = 3.0 V)	21 ±3 dB
Noise Figure (DC = 3.0 V)	Typ. 1.5 dB
Output VSWR (DC = 3.0 V)	Max. 2.0
Current (DC = 3.0 ±0.01 V)	3.5 ±1 mA
Impedance	50 Ω
Mechanical Specifications	
Antenna Size	13 mm × 13 mm × 6.8 mm
Casing	Ceramics
Connector Type	IPEX MHF I
Working Temperature	-40 °C to +85 °C
Radom Color	-

4 Overall Performance

4.1. Test Environment

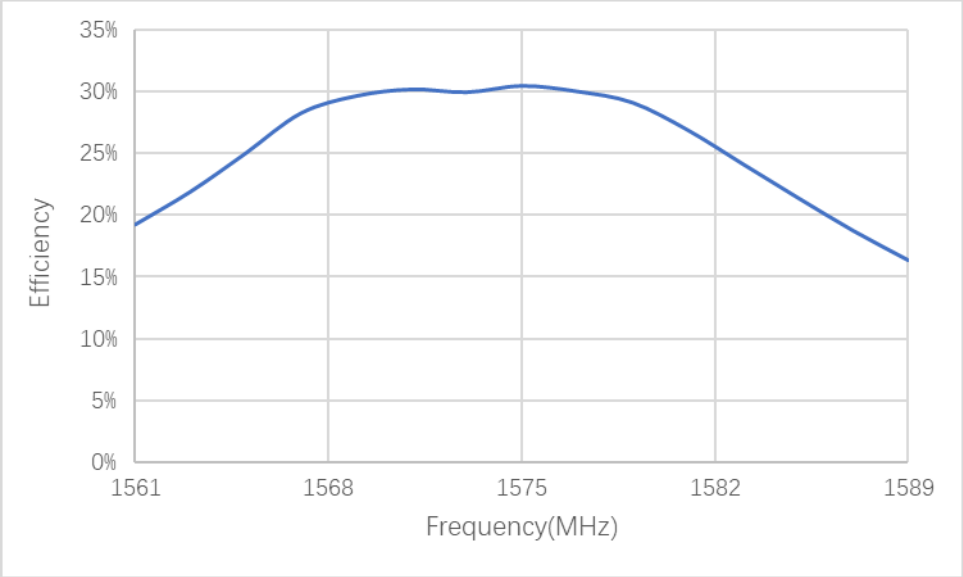
- KEYSIGHT ENA Network Analyzer E5063A, 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 600 MHz – 8.5 GHz

4.2. VSWR or S11



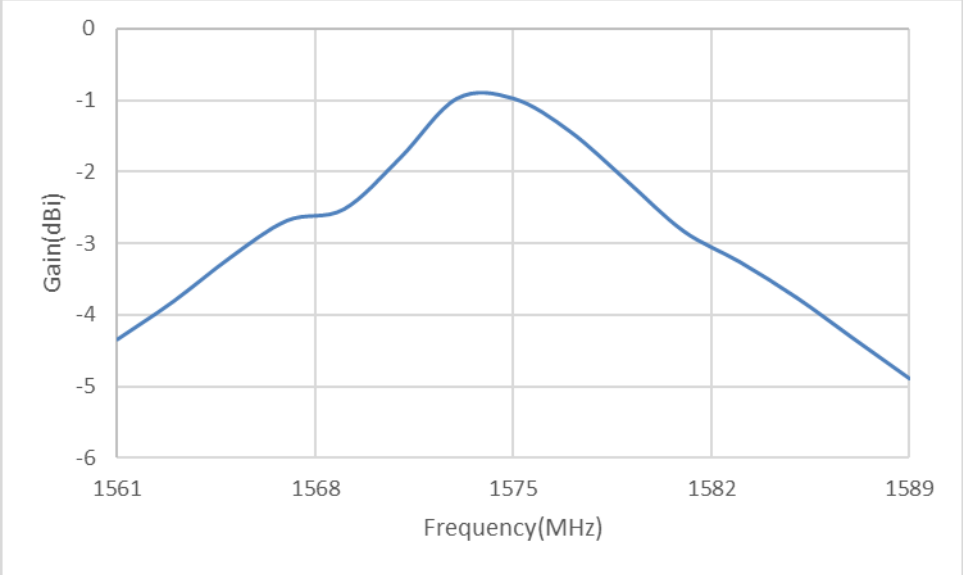
Frequency (MHz)	1575
VSWR	1.02

4.3. Efficiency



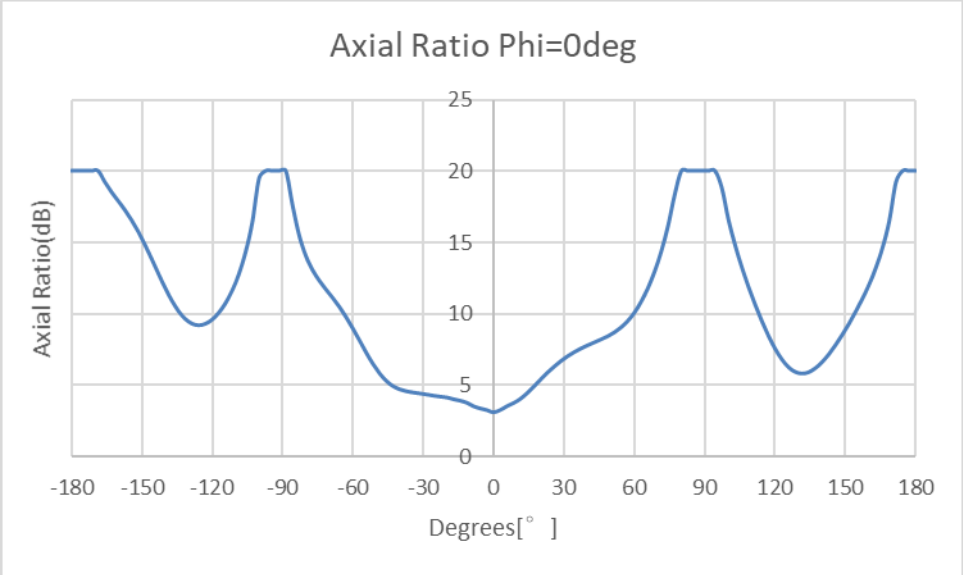
Frequency (MHz)	1575
Efficiency (%)	30

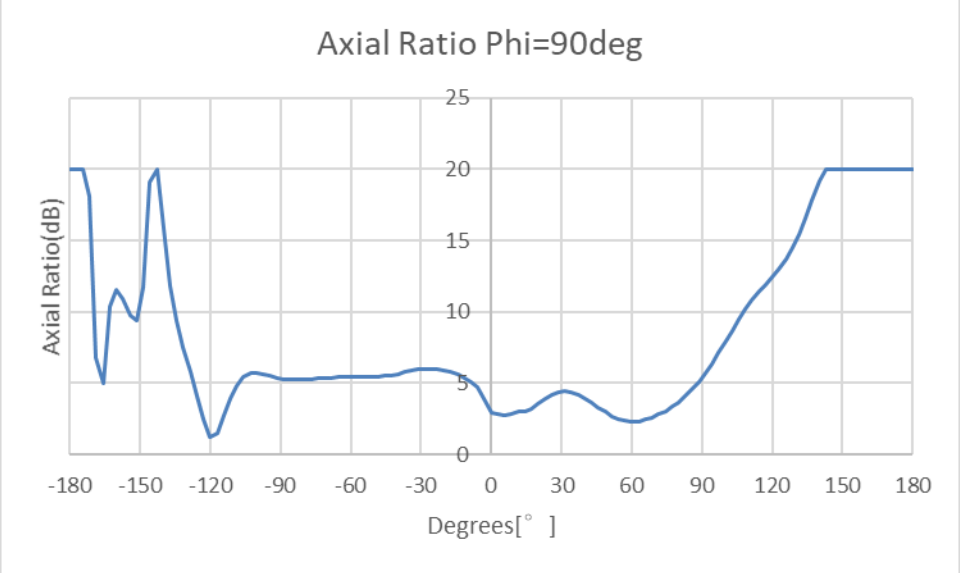
4.4. Gain



Frequency (MHz)	1575
Gain (dBi)	-0.97

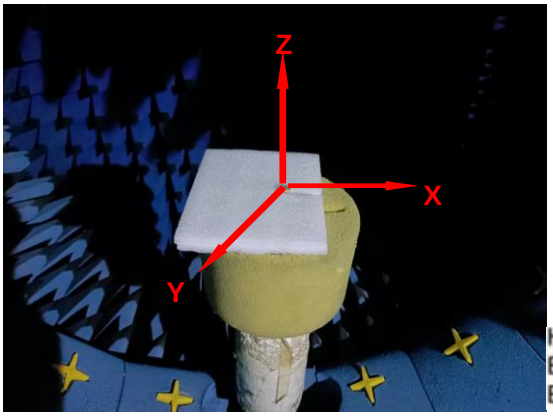
4.5. Axial Ratio in XOZ/YOZ



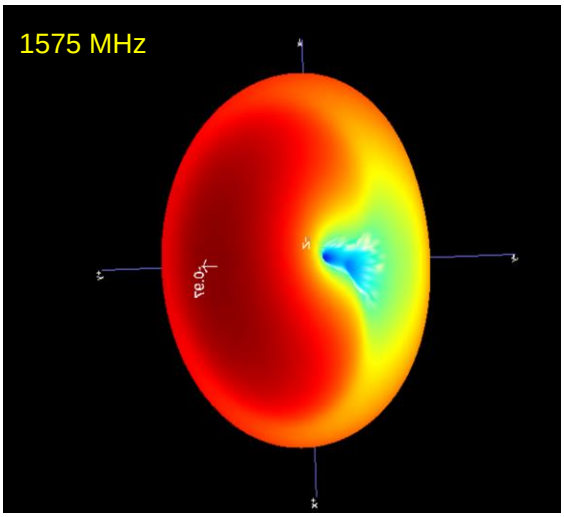


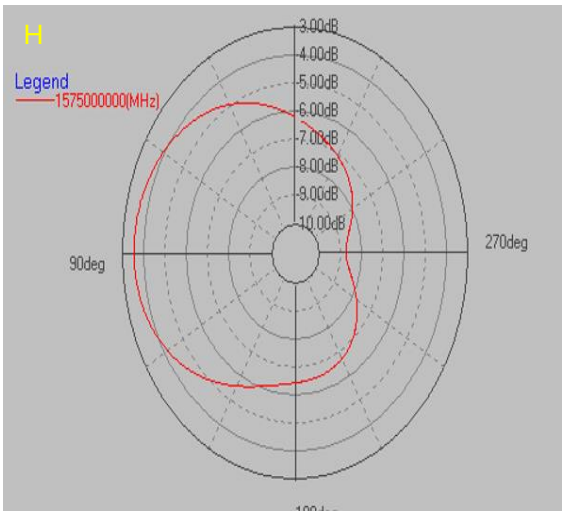
Frequency (MHz)	1575
AR (dB) **Phi = 0 (deg) Theta = 0 (deg)**	2.98
AR (dB) **Phi = 90 (deg) Theta = 0 (deg)**	2.98

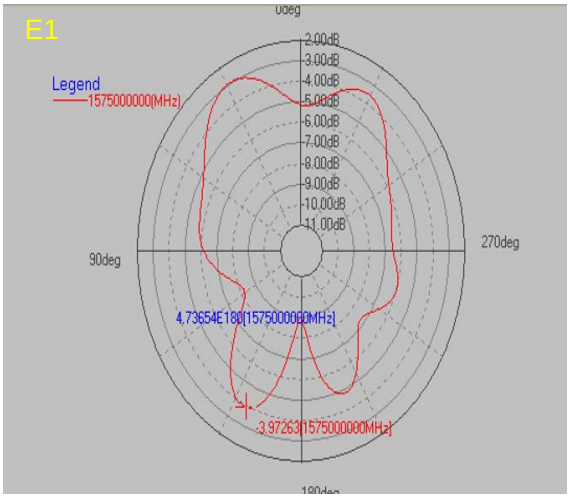
5 Pattern Radiation

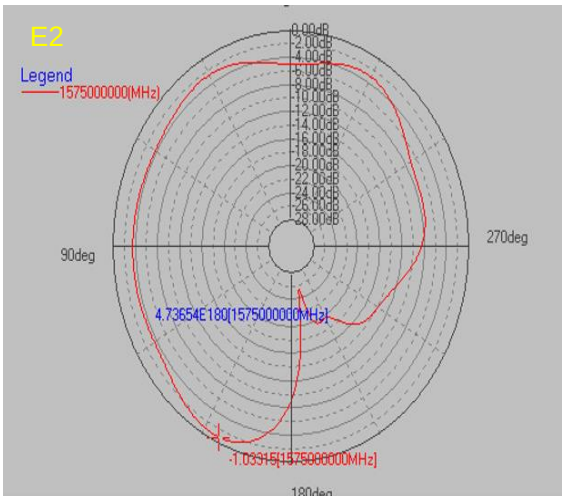


H plane: the tangent of XY
E1 plane: the tangent of XZ
E2 plane: the tangent of YZ



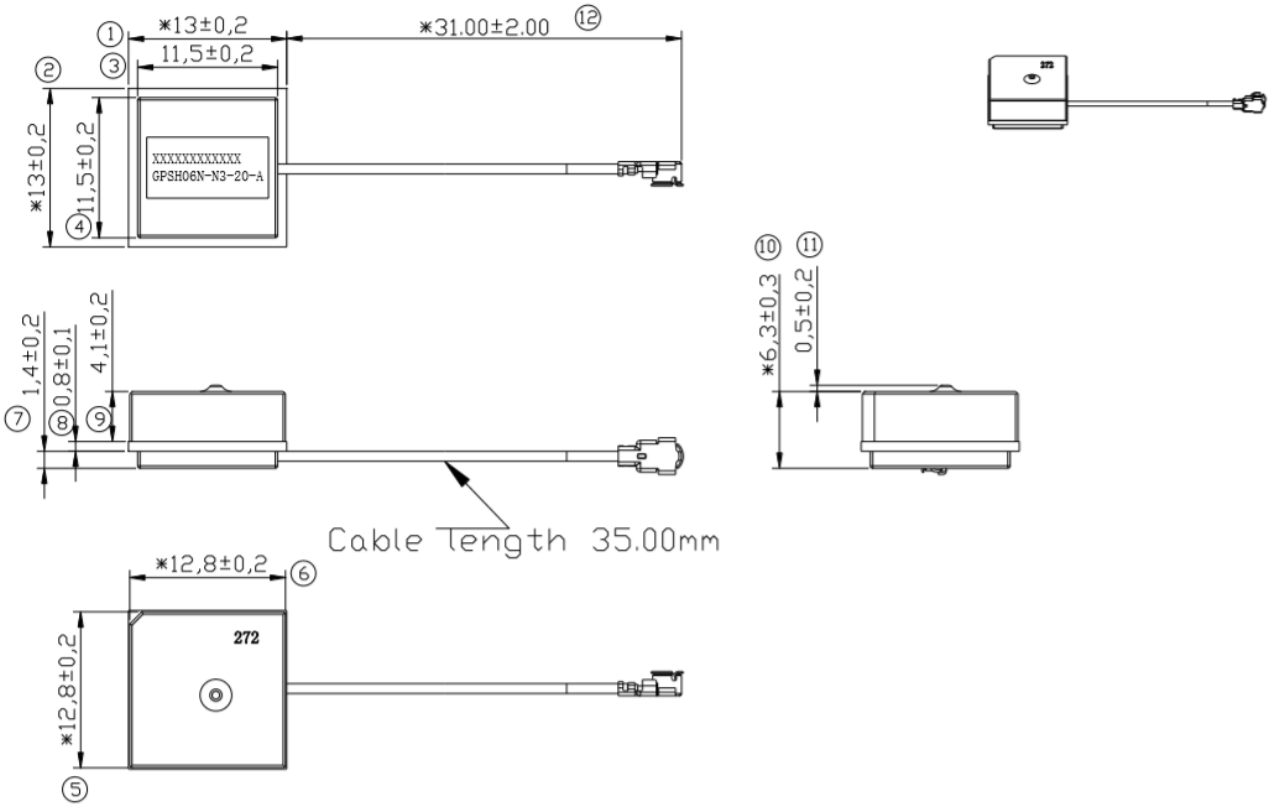


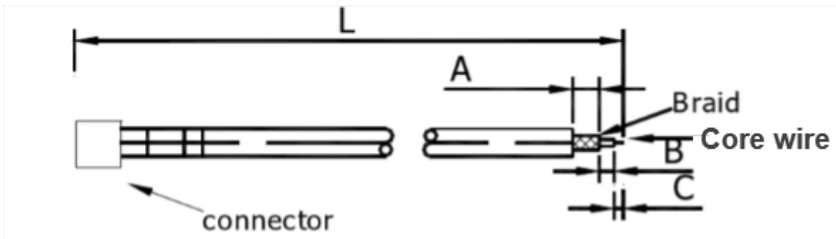




6 Product Size

RoHS





Connector：I-PEX MHF，Cable：RF Cable φ0.81Gray
L：35±2mm A：1.5±0.5mm B：1±0.3mm C：1±0.3mm