

Antenna

YCGO008AA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
-	2021-05-14	Kenny YIN/ Aria CHU	Creation of the document
1.0	2021-05-14	Kenny YIN/ Aria CHU	First official release
1.1	2021-07-25	Kenny YIN/ Aria CHU	Updated working temperature. (Chapter 3)
1.2	2021-11-30	Kenny YIN/ Aria CHU	Updated the product description in Chapter 1.
1.3	2022-05-24	Kenny YIN	<ol style="list-style-type: none">1. Updated some details about the antenna (Chapters 3, 4.1 and 4.5).2. Updated the antenna drawing (Chapter 6).

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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.

2 Product Features

- GPS L1
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	1575.45 ±1.5 MHz
Input Impedance	50 Ω
VSWR	≤ 2
Gain	< -2.0 dBi
Polarization Type	RHCP

LNA Electrical Properties

Center Frequency	1575.45 MHz
Gain	17 ±2 dBi
Noise Figure	Typ. 1.5 dB (25 ±5 °C)
Output VSWR	< 2.0
Input VSWR	< 2.0
Voltage	DC 3–3.3 V
Current	≤ 10 mA (Measuring Voltage: 3.3 V)
Impedance	50 Ω

Mechanical Specifications

Antenna Size	10 mm ×10 mm × 6.3 mm
Material	Ceramics
Connector Type	I-PEX MHF 1
Working Temperature	-40 °C to +85 °C
Radome Color	-

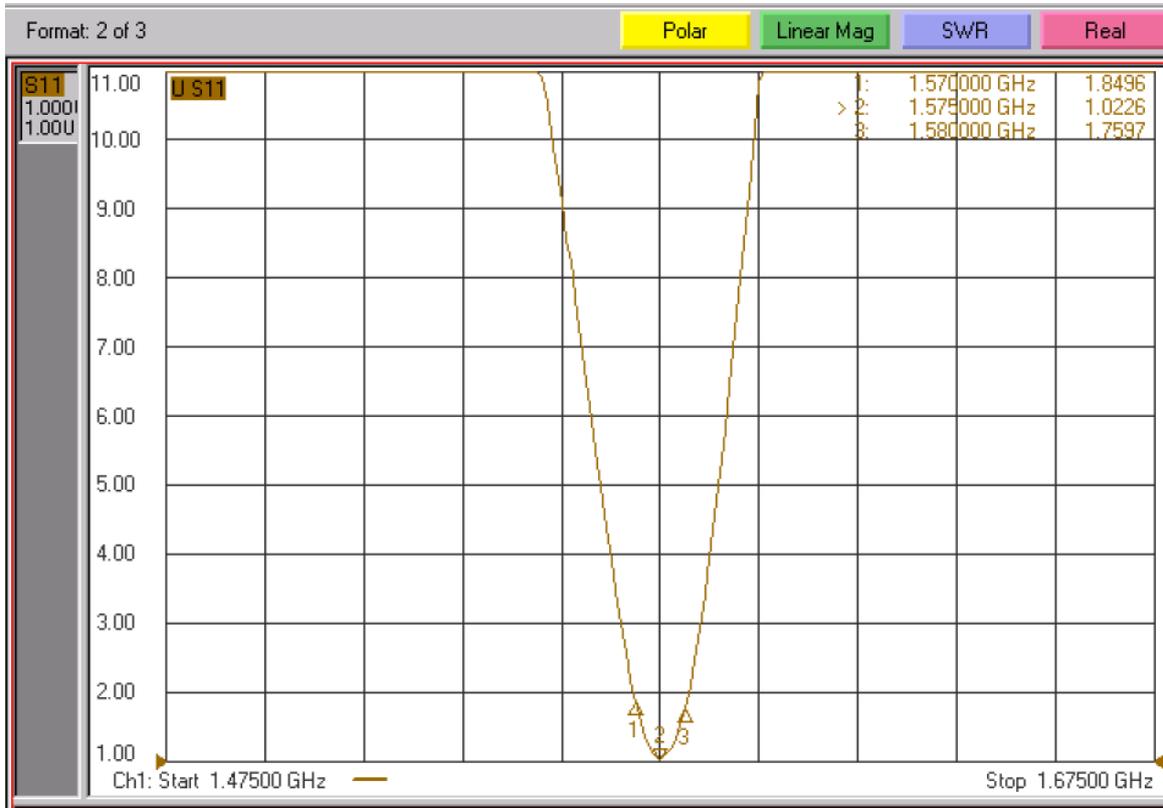
4 Overall Performance

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

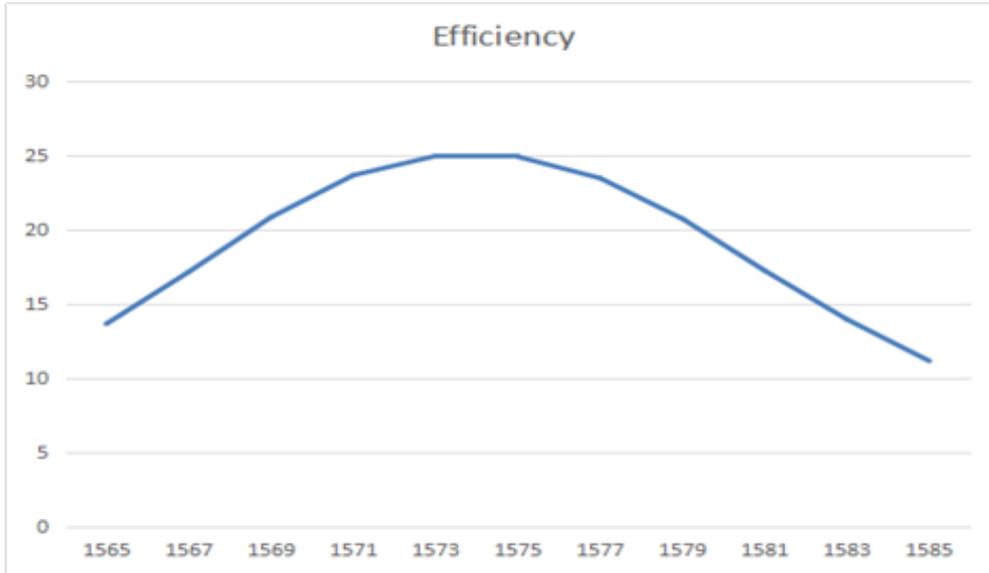


4.2. Return Loss



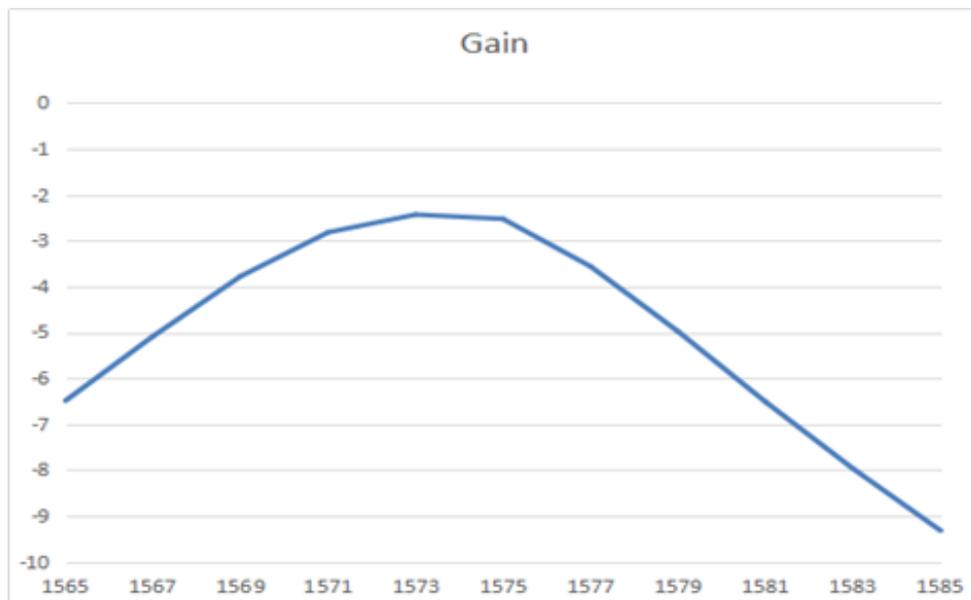
Frequency (MHz)	1575
Return Loss	1.02

4.3. Efficiency



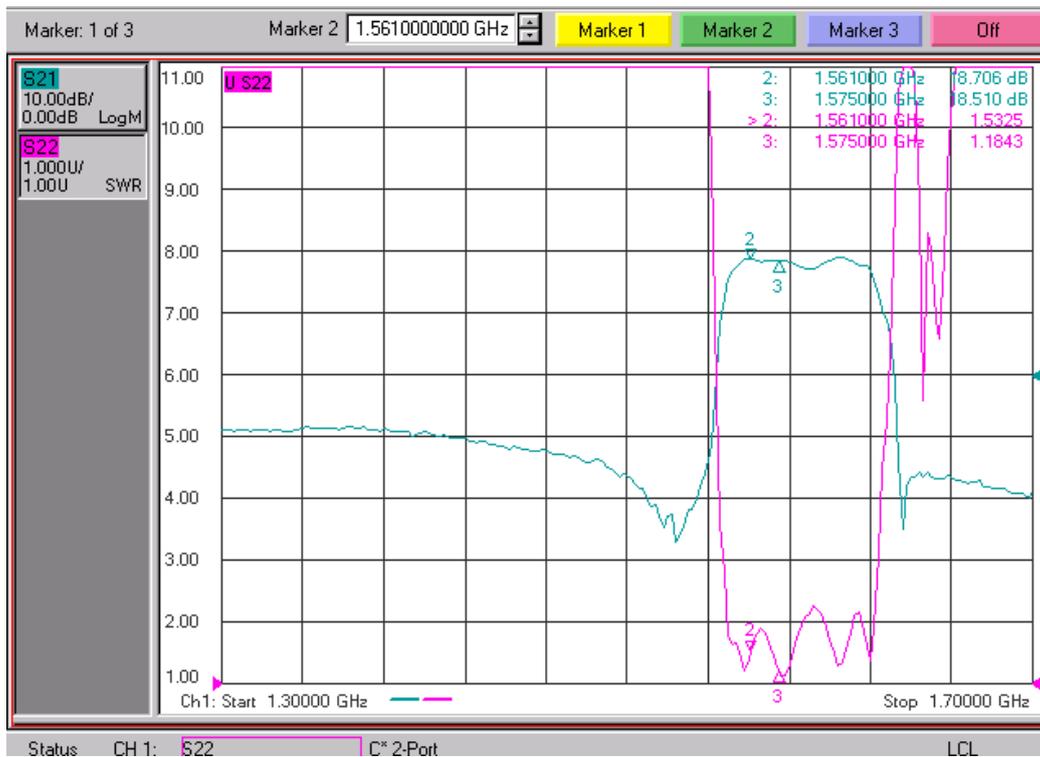
Frequency (MHz)	1575
Efficiency (%)	25

4.4. Gain



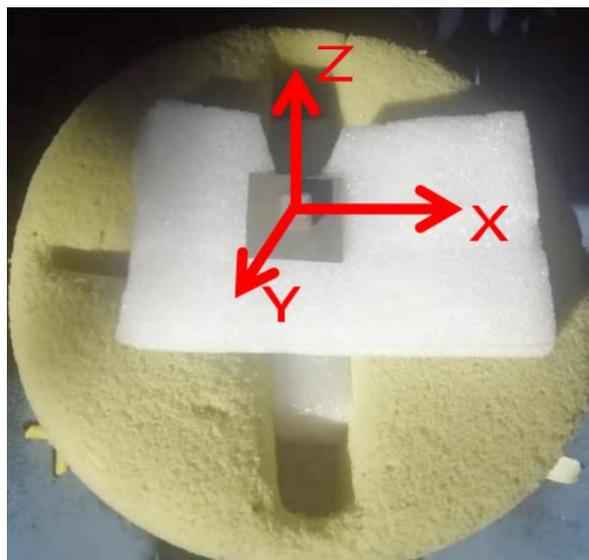
Frequency (MHz)	1575
Gain (dBi)	-2.55

4.5. LNA Gain



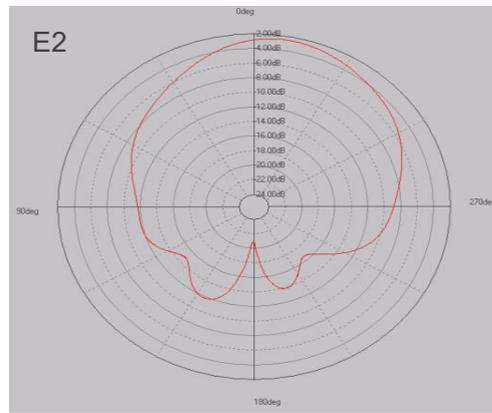
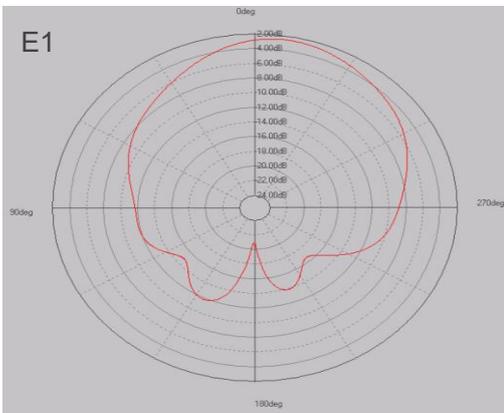
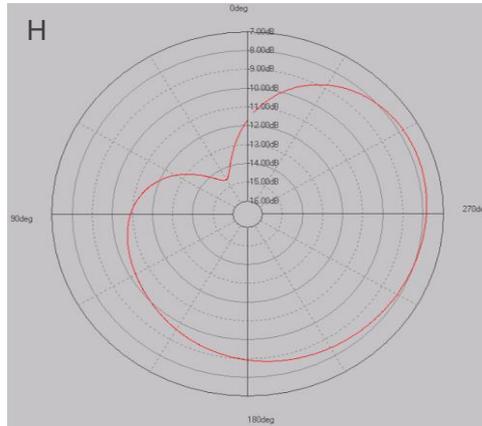
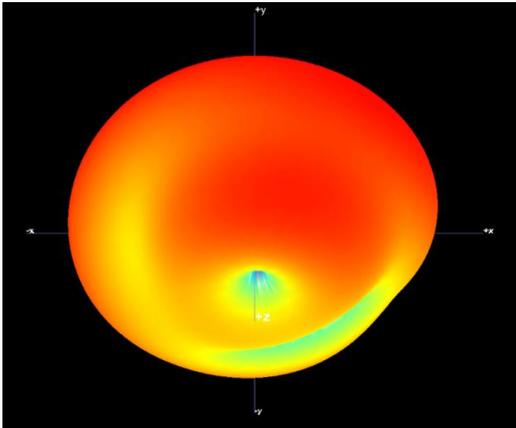
4.6. Radiation Pattern

- Test condition: by 30 mm square ground plane.



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

4.6.1. 1575.00 MHz



5 Product Size

