

# Antenna

# YCGO010AA Datasheet

## Antenna Services

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# About the Document

## Revision History

Version	Date	Author	Note
-	2021-05-19	Kenny YIN/ Aria CHU	Creation of the document
1.0	2021-05-19	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.

## Contents

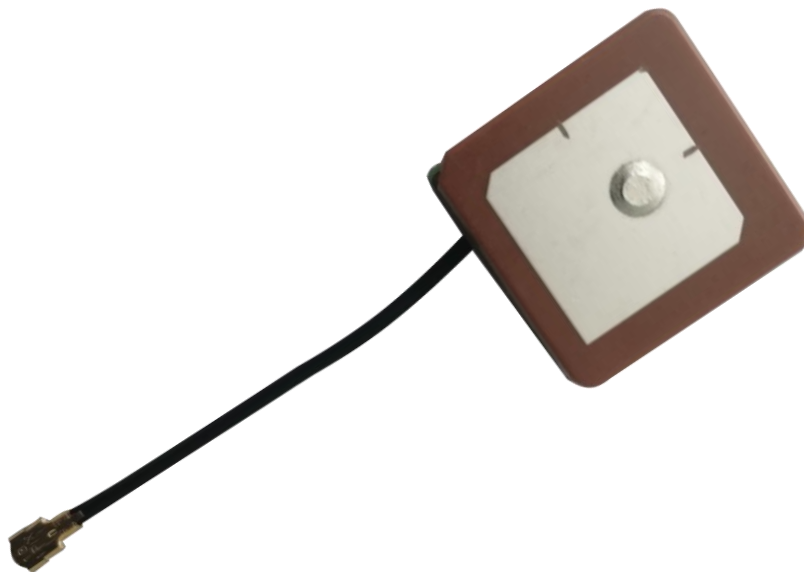
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## 1 Product Description

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 & BD B1
- High efficiency
- Excellent performance



### 3 Product Specifications

#### Passive Electrical Specifications

Frequency Range	1559–1577 MHz
Input Impedance	50 Ω
VSWR	≤ 2
Gain	≤ 1.0 dBi
Polarization Type	RHCP

#### LNA Electrical Properties

Center Frequency	1559–1577 MHz
Gain	17 ±2 dB
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	18 mm × 18 mm × 6.3 mm
Casing	Ceramics
Connector Type	I-PEX MHF 1
Working Temperature	-40 °C to +85 °C
Radome Color	-

## 4 Overall Performance

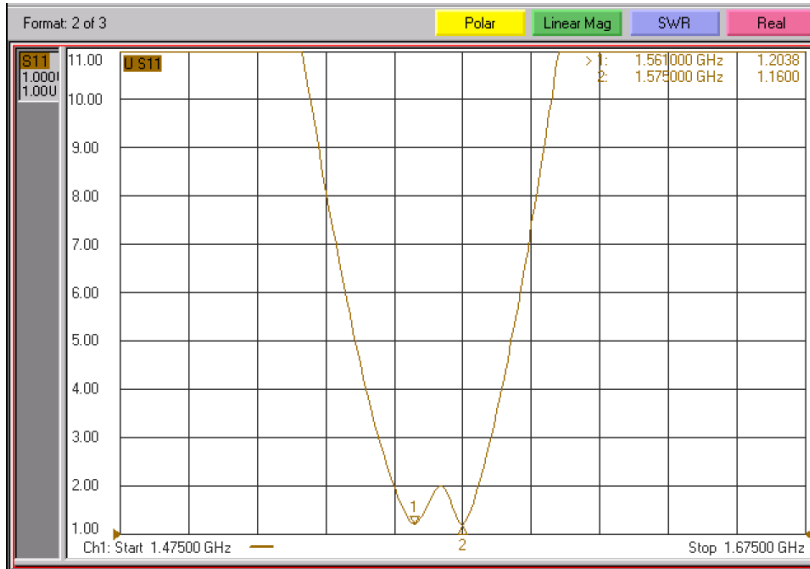
### 4.1. Test Environment

- KEYSIGHT VNA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone®2800 Chamber 5G (FR1) SISO/MIMO, 400 MHz – 8.0 GHz



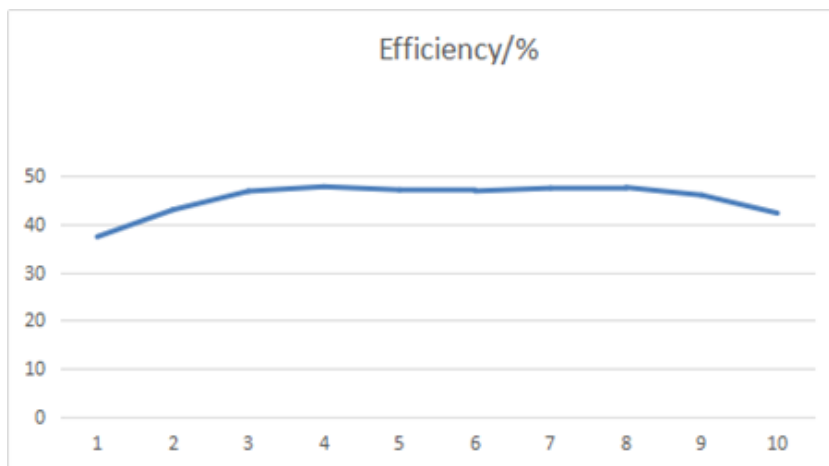


### 4.2. Return Loss



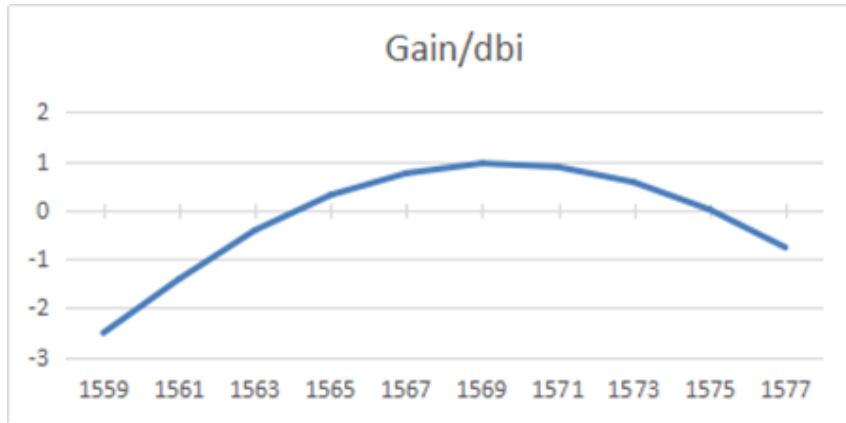
Frequency (MHz)	1561	1575
Return loss	1.2	1.16

### 4.3. Efficiency



Frequency (MHz)	1561	1575
Efficiency (%)	42	46

### 4.4. Gain

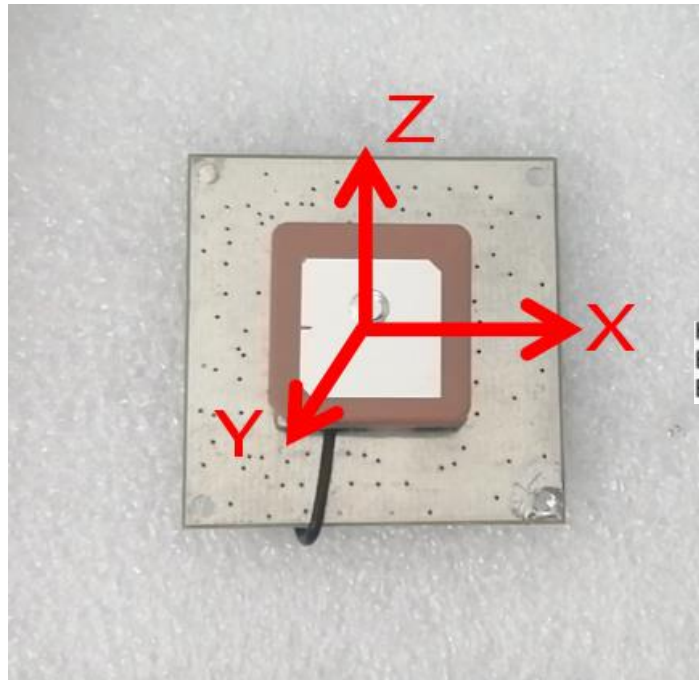


Frequency (MHz)	1561	1575
Gain (dBi)	-1.4	0.1

### 4.5. LNA Gain



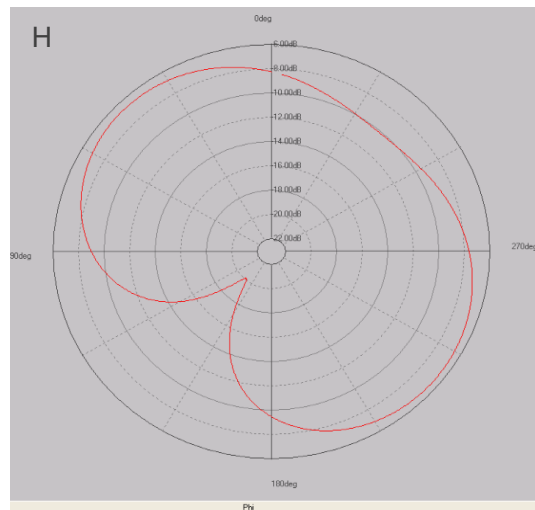
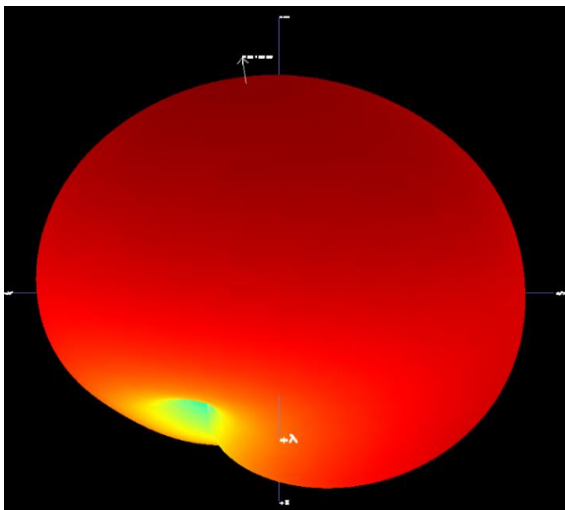
### 4.6. Radiation Pattern

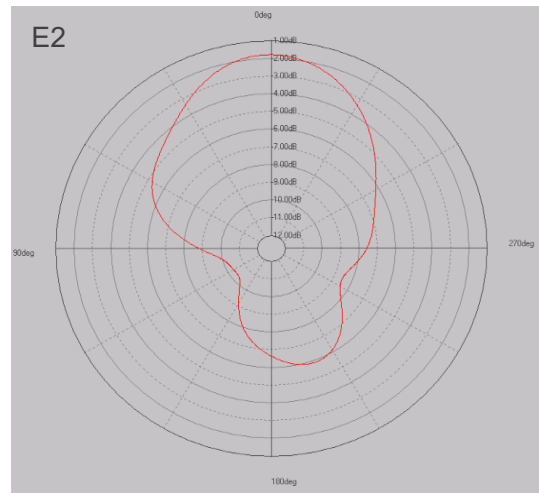
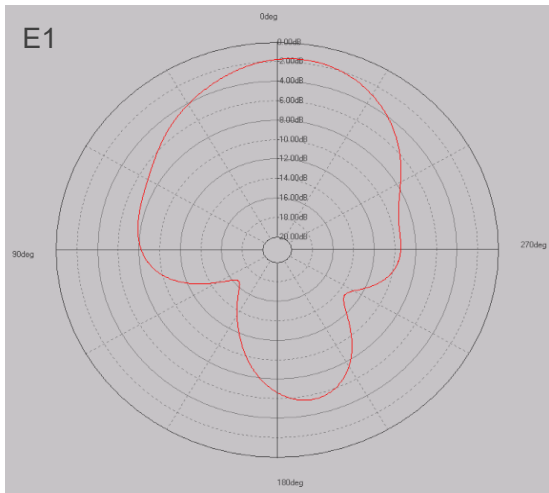


H plane: the tangent of XY  
E1 plane: the tangent of XZ  
E2 plane: the tangent of YZ

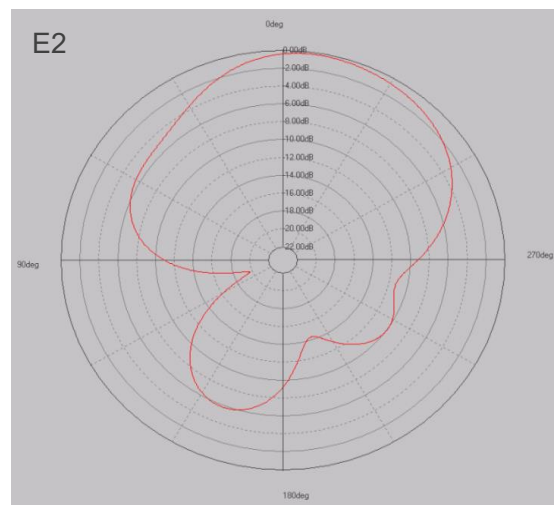
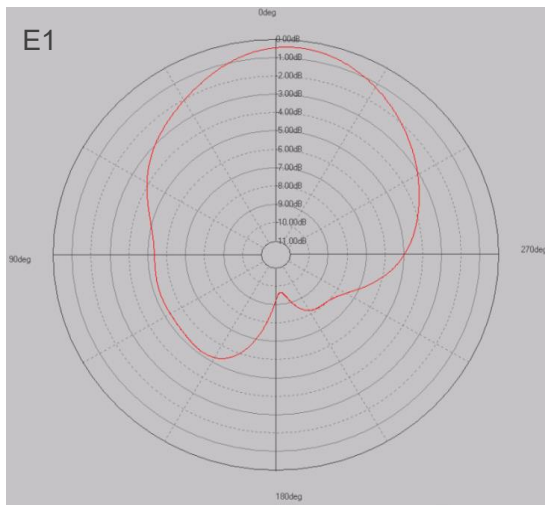
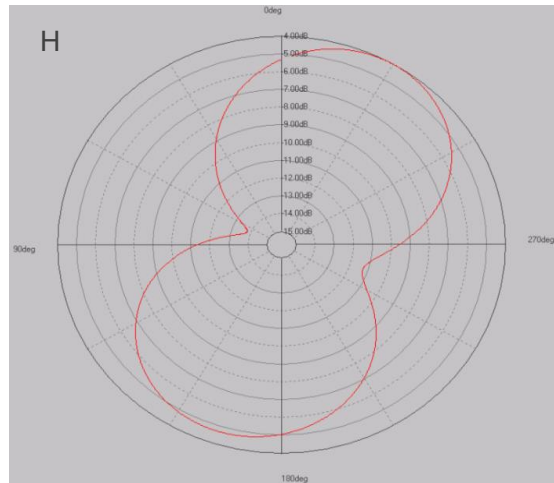
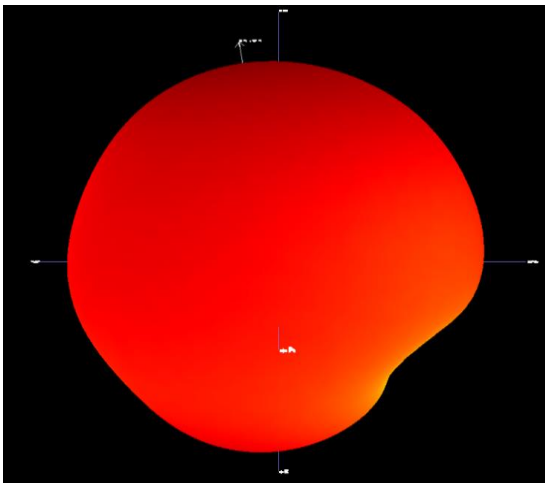
- Note: By 40 mm square ground plane.

#### 4.6.1. 1561 MHz





**4.6.2. 1575 MHz**



## 5 Product Size

