



# Antenna

# YG0015AA Datasheet

Antenna Services

Version: 2.4

Date: 2023-12-13

Status: Released



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# About the Document

## Revision History

Version	Date	Author	Note
1.0	2020-08-24	Kenny YIN	Initial
2.0	2021-06-16	Kenny YIN/ Aria CHU	Updated all test data in this datasheet.
2.1	2021-08-18	Aria CHU	Added the weight information (Chapter 3).
2.2	2021-11-30	Aria CHU	Updated the product description (Chapter 1).
2.3	2023-08-14	Blake XIANG	Updated the drawing (Chapter 5).
2.4	2023-12-13	Blake XIANG	Updated the drawing (Chapter 5).

## Contents

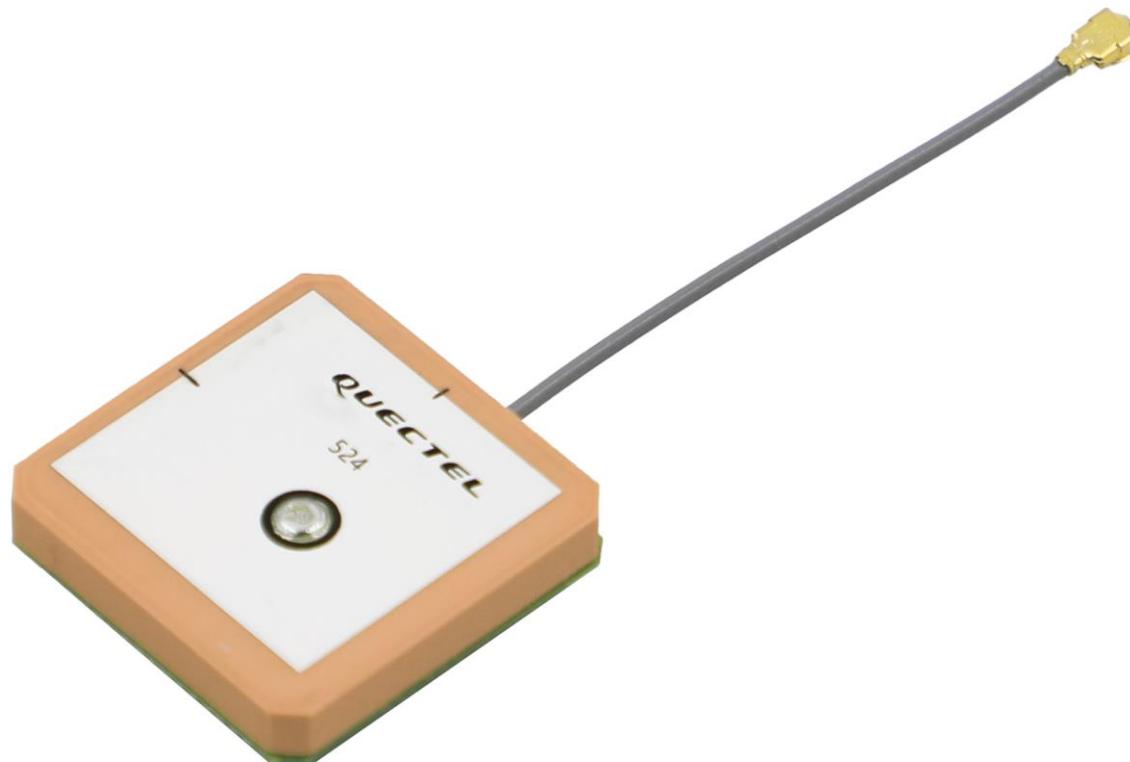
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## 1 Product Description

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

- GNSS
- High efficiency
- Excellent performance



### 3 Product Specifications

#### Passive Electrical Specifications

Frequency Range	1575.42–1602 MHz
Input Impedance	50 Ω
VSWR	≤ 2.0
Peak Gain	1575.42 MHz: < 0.47 dBi 1602 MHz: < -0.29 dBi
Polarization Type	RHCP

#### LNA Electrical Specifications

Frequency Range	1575.42–1602 MHz
VSWR	≤ 2.0
Noise Figure	1575.42 MHz: Typ. 2.5 dB 1602 MHz: Typ. 2.7 dB
Gain	1575.42 MHz: 26.0 ±3.0 dB 1602 MHz: 25.0 ±3.0 dB
Out-of-Band Attenuation	F1 -50 MHz > 30 dB F1 -100 MHz > 30 dB F2 +50 MHz > 40 dB F2 +100 MHz > 40 dB (F1 = 1575.42 MHz; F2 = 1602 MHz)
Operation Voltage	3.0 V
Current	8.0 ±3.0 mA

#### Mechanical Specifications

Antenna Size	25 mm × 25 mm × 7.76 mm
Casing	Ceramics
Connector Type	IPEX MHF I
Working Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
Weight	11.68 ±1 g

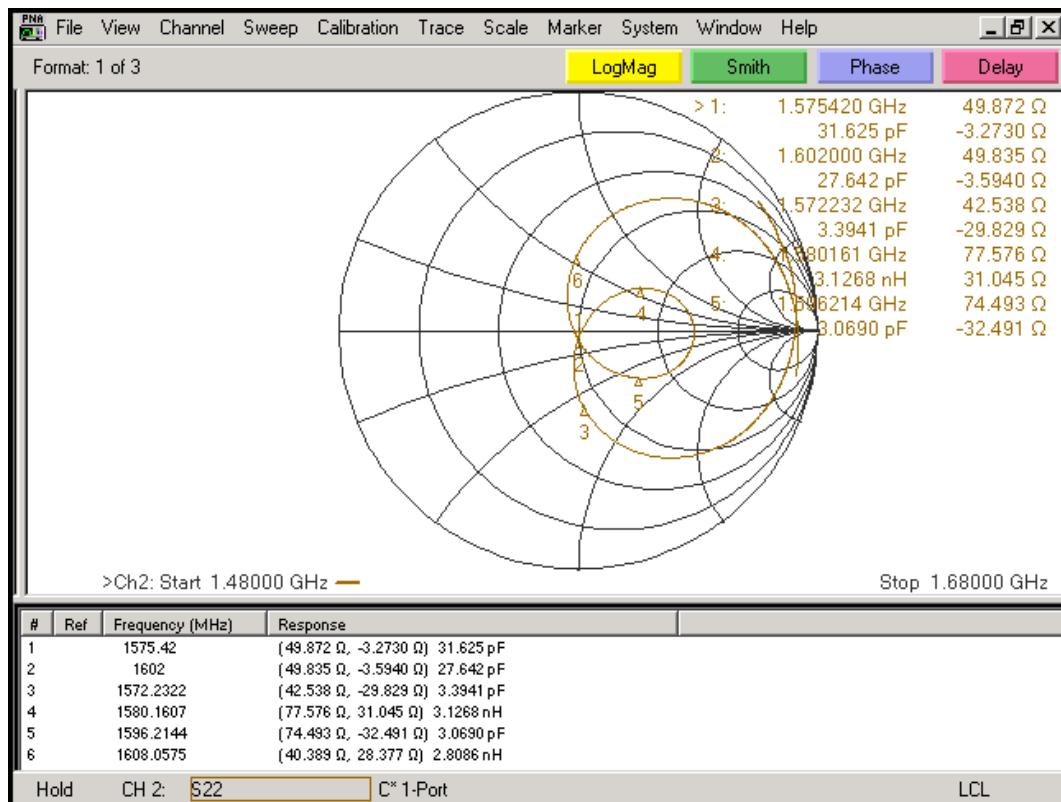
## 4 Overall Performance

### 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

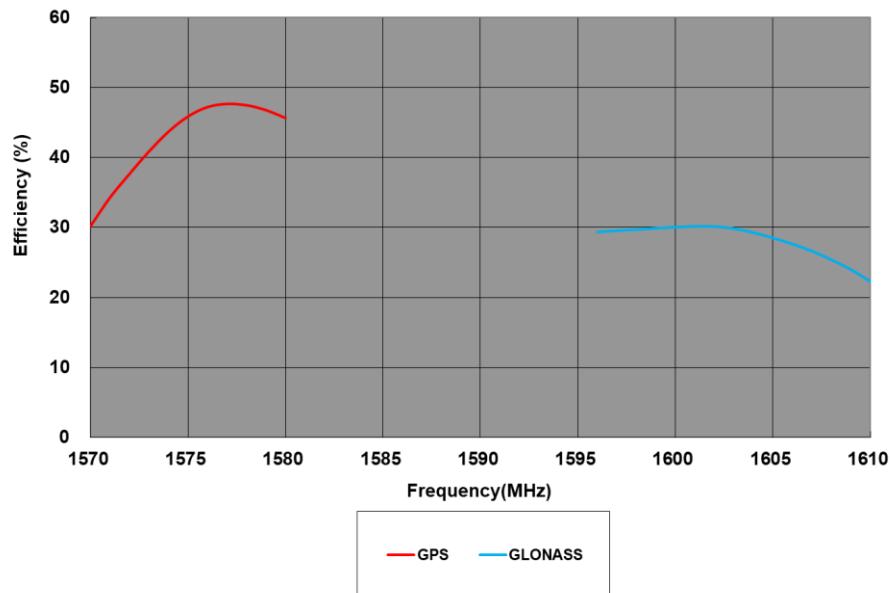


## 4.2. Return Loss



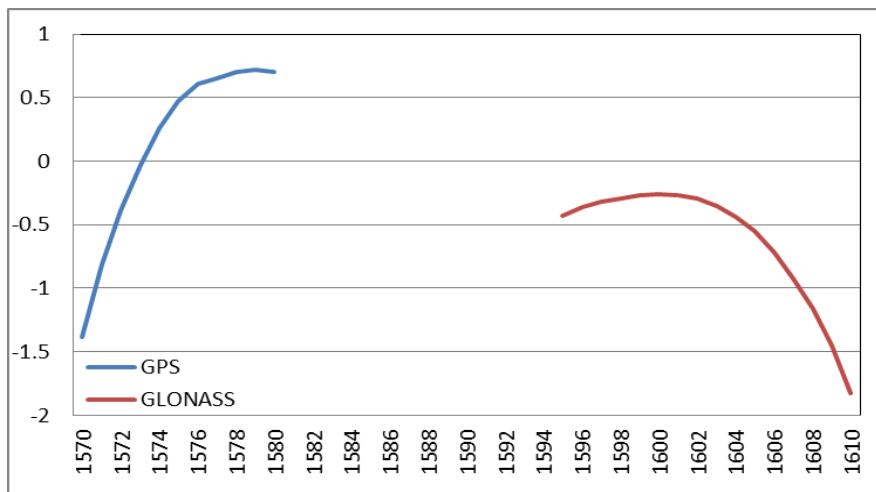
Frequency (MHz)	1575.42	1602
RL	-29.77	-28.87

### 4.3. Efficiency



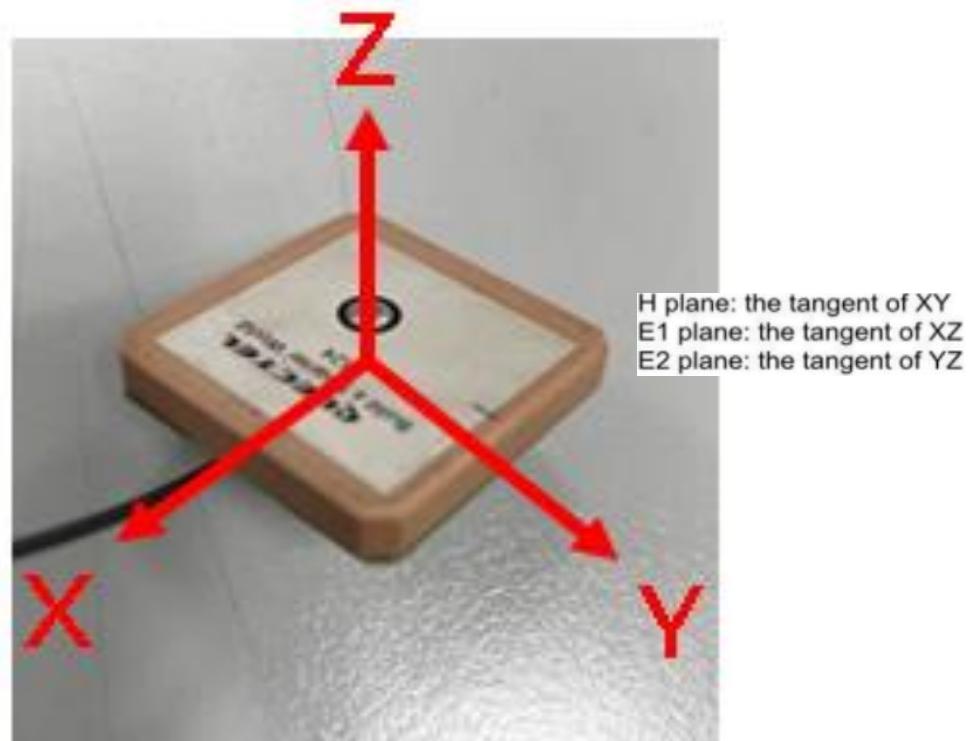
Frequency (MHz)	1575.42	1602
Efficiency (%)	45.87	30.15

### 4.4. Peak Gain

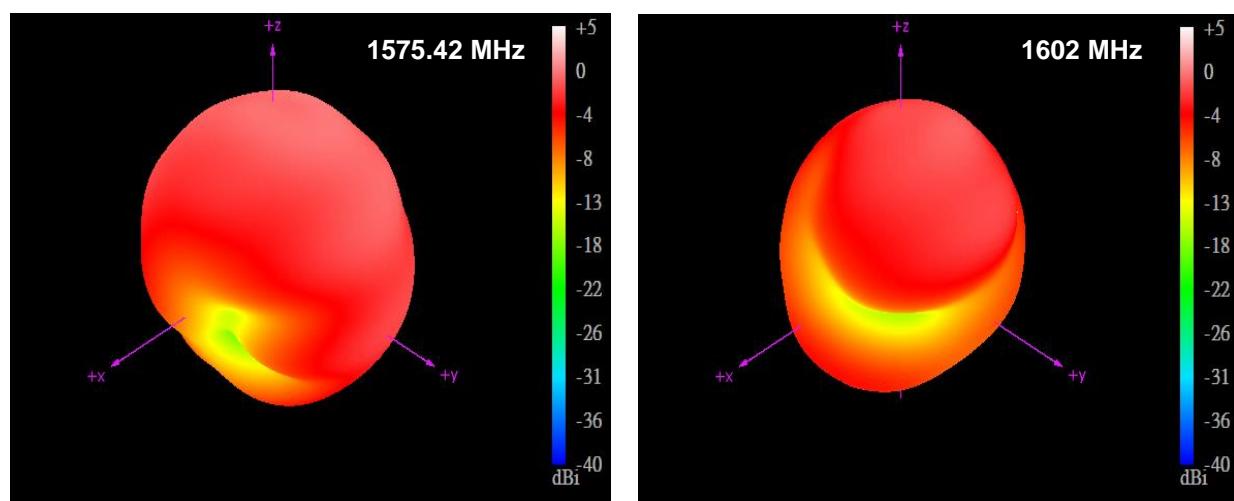


Frequency (MHz)	1575.42	1602
Peak Gain (dBi)	0.47	-0.29

## 4.5. Radiation Pattern

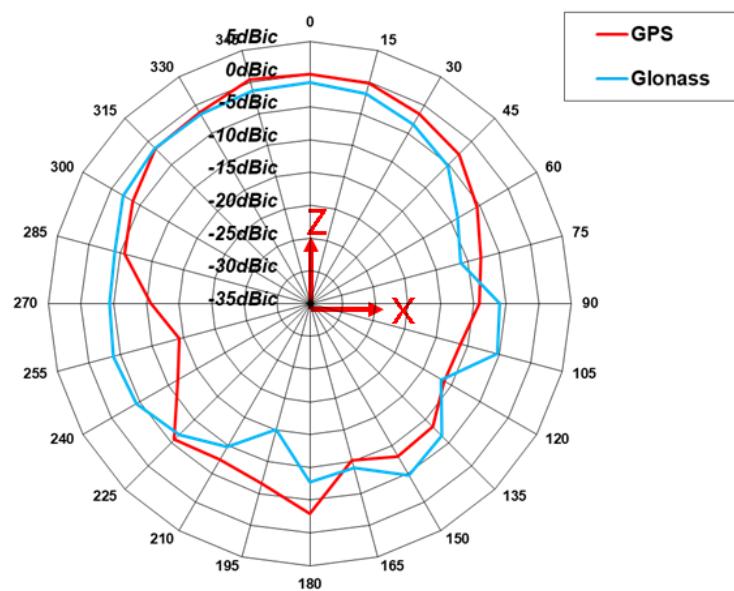


### 4.5.1. 3D Circular Polarization Gain Pattern

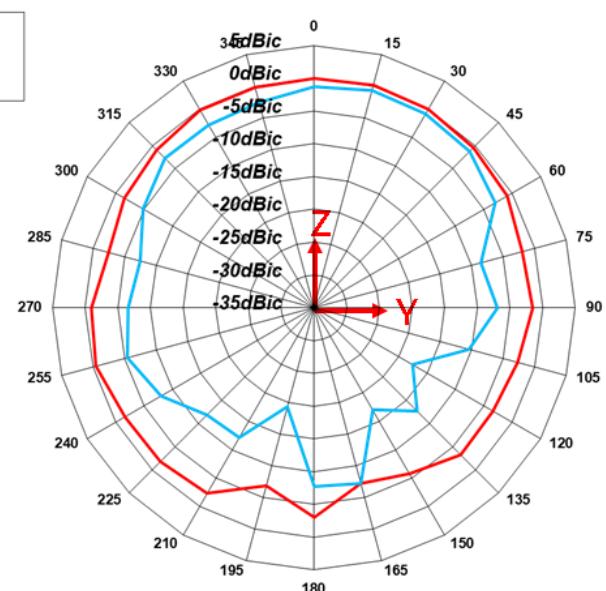


#### 4.5.2. 2D Circular Polarization Gain Pattern

Circular Gain Radiation XZ Pattern



Circular Gain Radiation YZ Pattern



## 5 Product Size

