

Antenna

YG0035AA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
1.0	2020-10-26	Kenny YIN	Initial
1.1	2021-01-19	Kenny YIN	Updated the antenna image in Chapter 2.
1.2	2021-01-27	Kenny YIN	Added IP rating description.
1.3	2021-07-20	Aria CHU	1. Updated working temperature (Chapter 3). 2. Added LNA data (Chapter 4.6).
1.4	2021-10-15	Aria CHU	Updated the data (Chapter 3).
1.5	2021-12-06	Aria CHU	Updated the product description in Chapter 1.

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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.

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

- Active GPS/BD antenna
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	1568 ±10 MHz
Input Impedence	50 Ω
VSWR	≤ 2.0
Gain	≤ 1.5 dBi
Polarization Type	RHCP

Low Noise Amplifier Electrical Specifications

Frequency Range	1568 ±10 MHz
LNA Gain	28 ±3 dBi
Noise Figure	≤ 2.0
Output VSWR	≤ 2.0
Voltage Range	1.8–3.6 V

Mechanical Specifications

Antenna Size	50.3 mm × 38.4 mm × 17.1 mm RG174, Cable Length = 3000 mm
Casing	ABS
Connector Type	SMA Male (Center Pin)
Working Temperature	-40 °C to +85 °C
Radome Color	Black
Mounting Type	Magnet
IP Rating	IP64

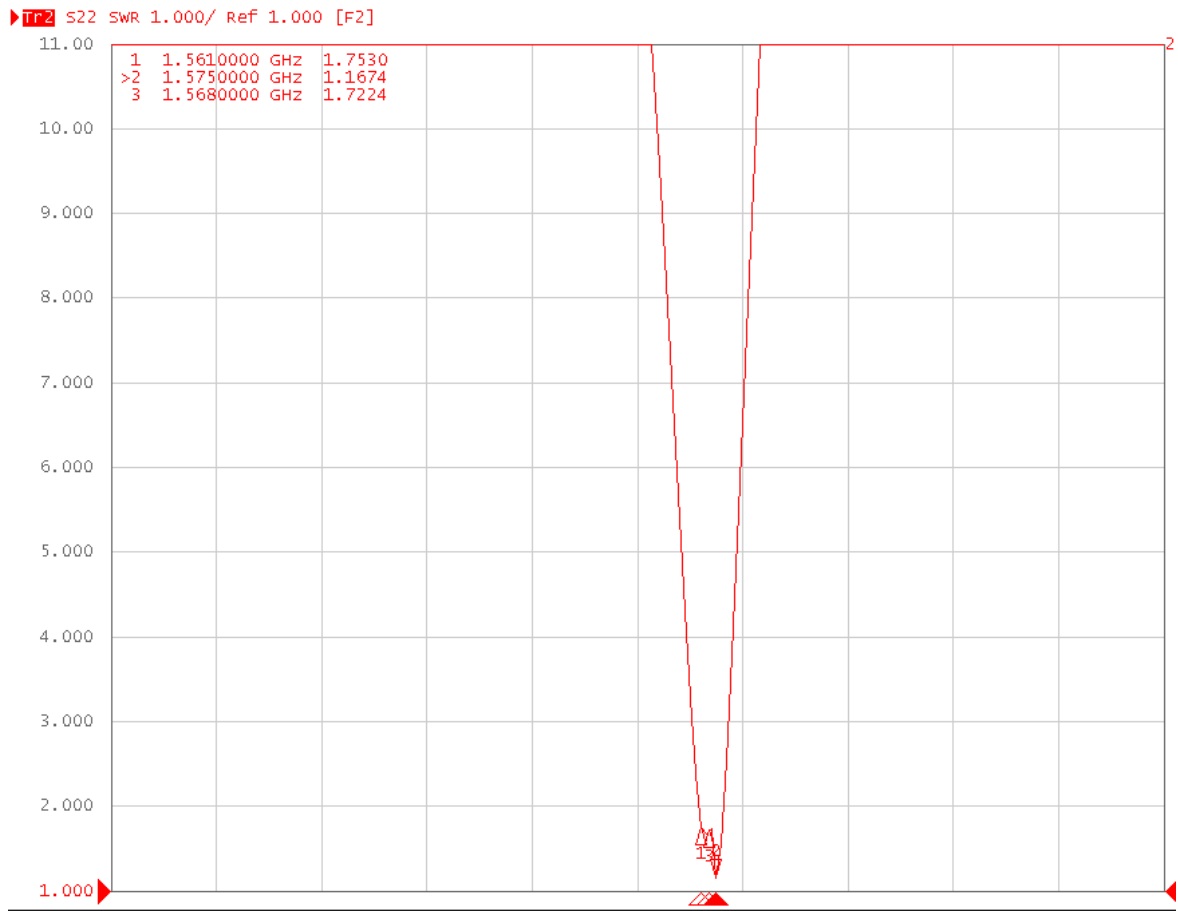
4 Overall Performance

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

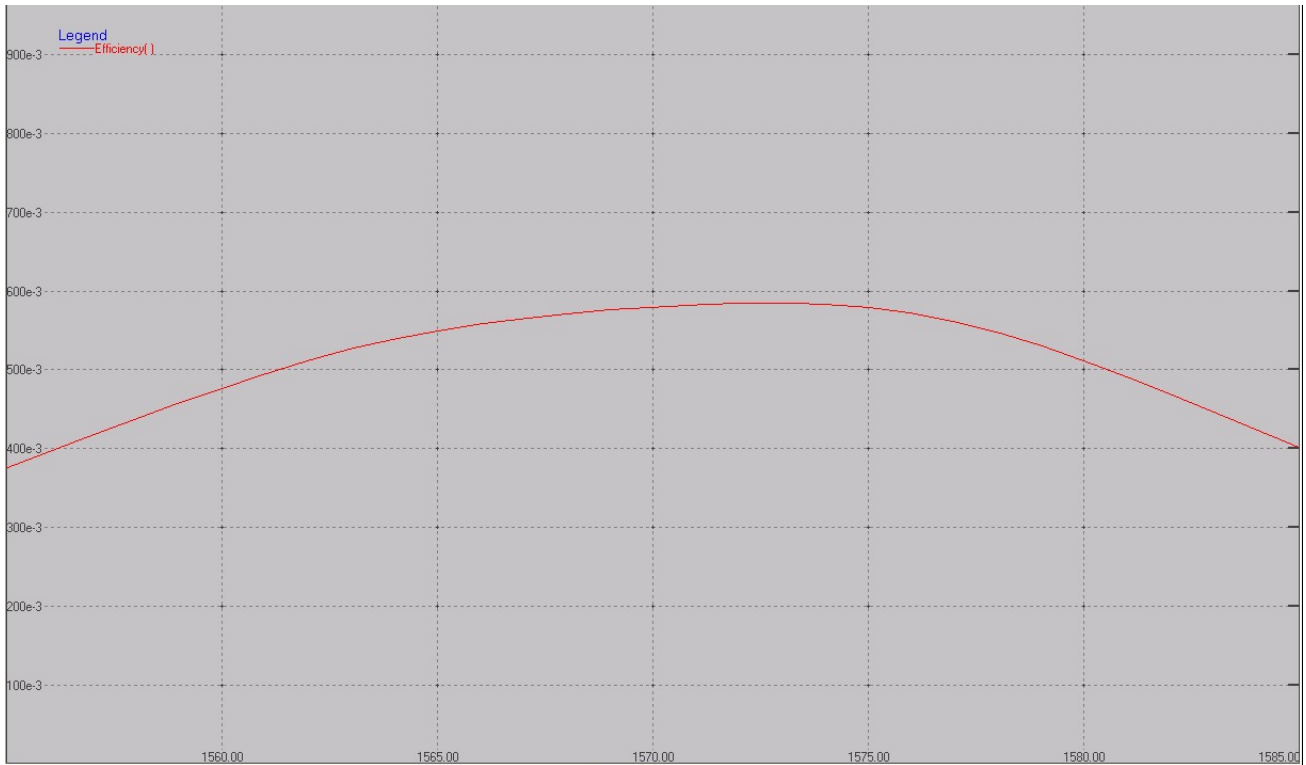


4.2. VSWR



Frequency (MHz)	1561	1575	1568
VSWR	1.56	1.16	1.72

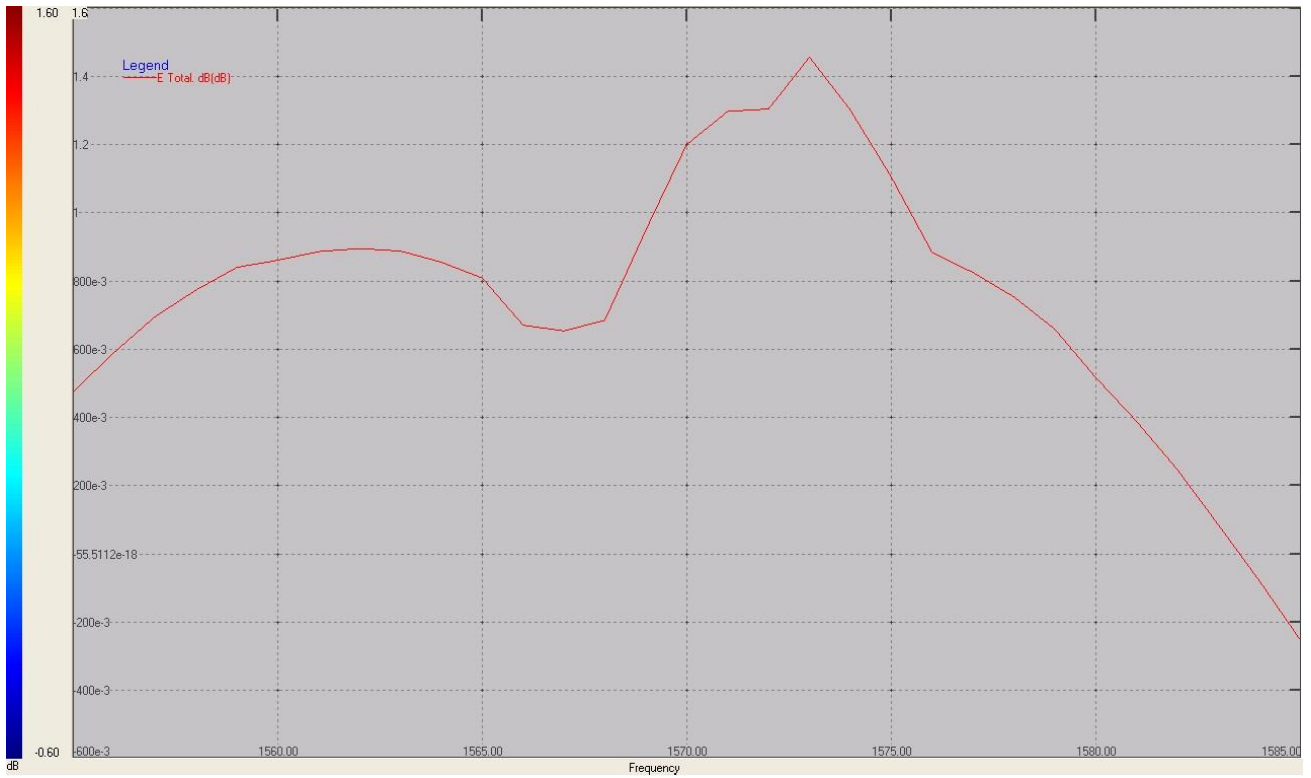
4.3. Efficiency



Frequency (MHz)	1557	1558	1559	1560	1561	1562	1563	1564	1565
Efficiency (%)	41%	43%	45%	47%	50%	51%	52%	53%	54%

Frequency (MHz)	1571	1572	1573	1574	1575	1576	1577	1578	1579
Efficiency (%)	58%	58%	58%	58%	57%	57%	56%	54%	53%

4.4. Gain

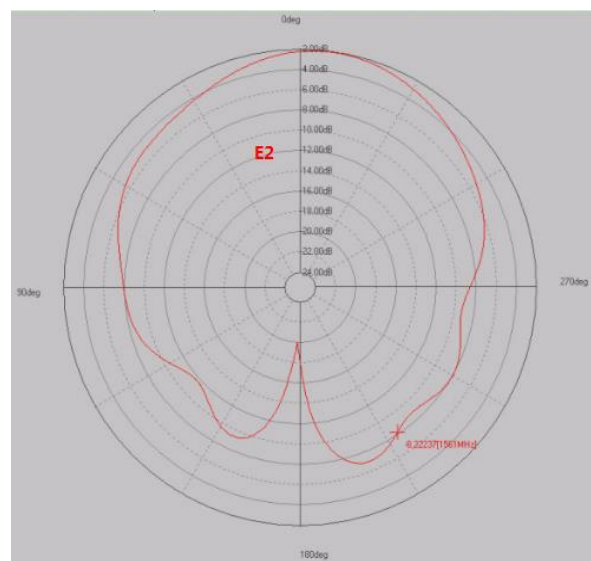
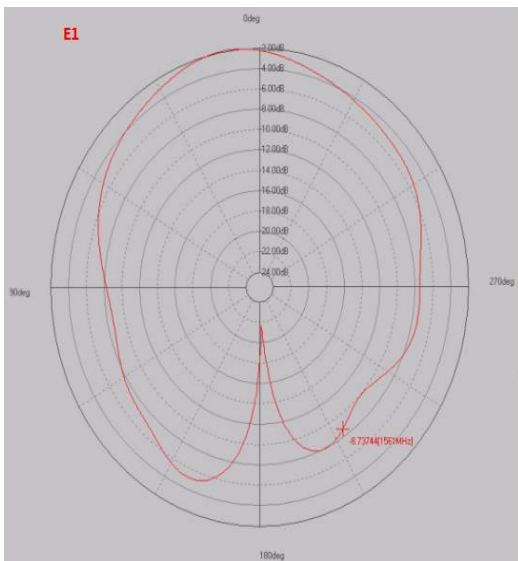
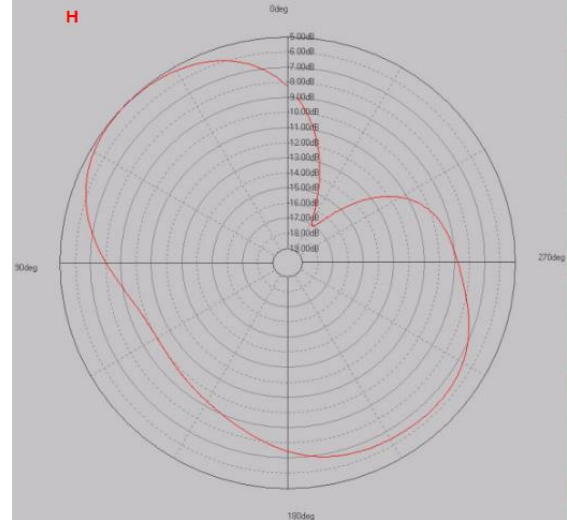
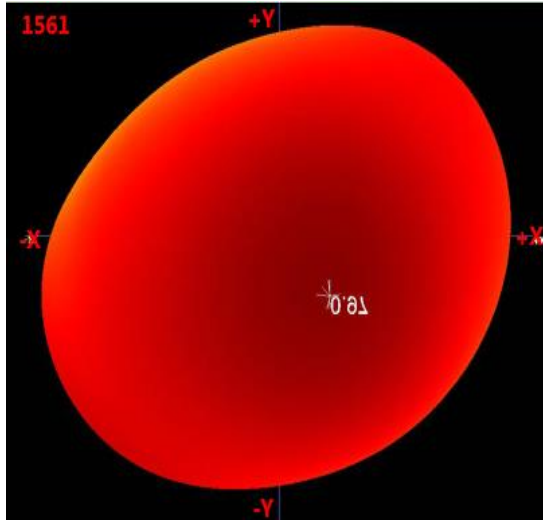


Frequency (MHz)	1557	1558	1559	1560	1561	1562	1563	1564	1565
Gain (dBi)	0.70	0.83	0.85	0.86	0.88	0.89	0.88	0.85	0.80

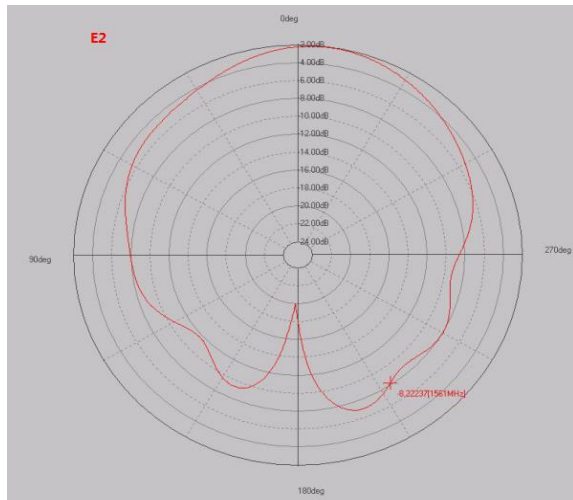
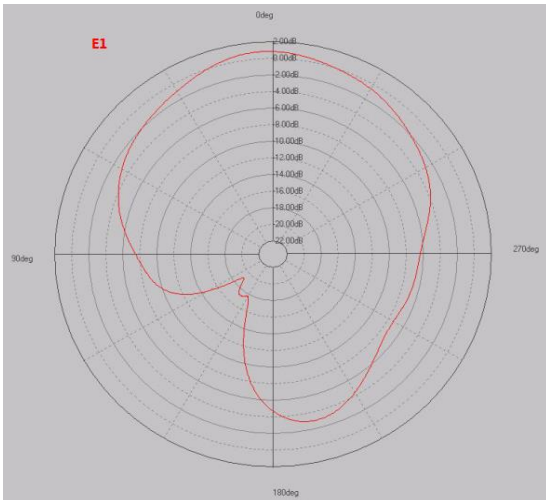
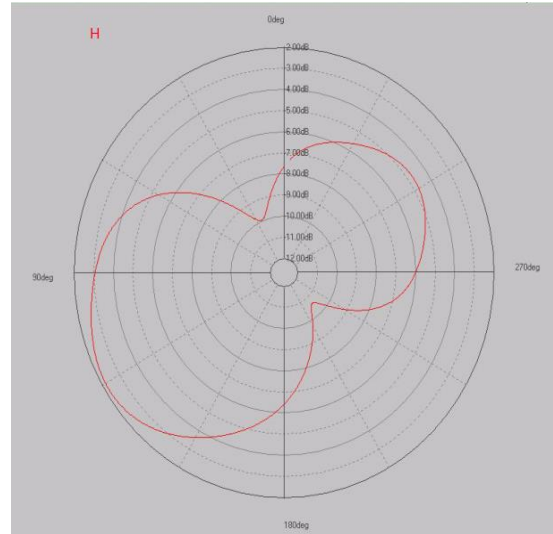
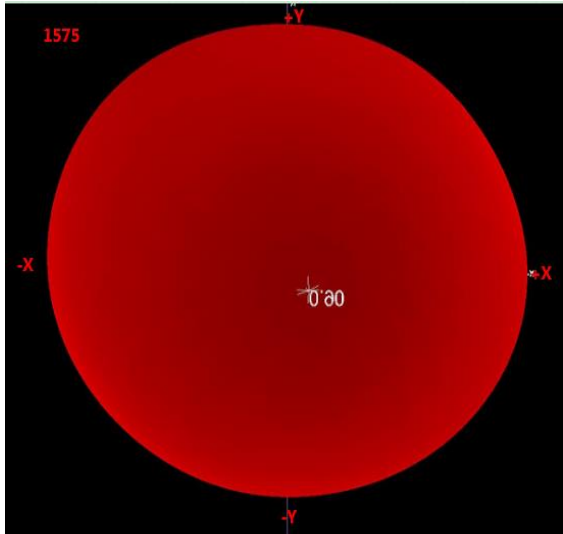
Frequency (MHz)	1571	1572	1573	1574	1575	1576	1577	1578	1579
Gain (dBi)	1.2	1.3	1.4	1.3	1.2	1.1	0.8	0.8	0.7

4.5. Radiation Pattern

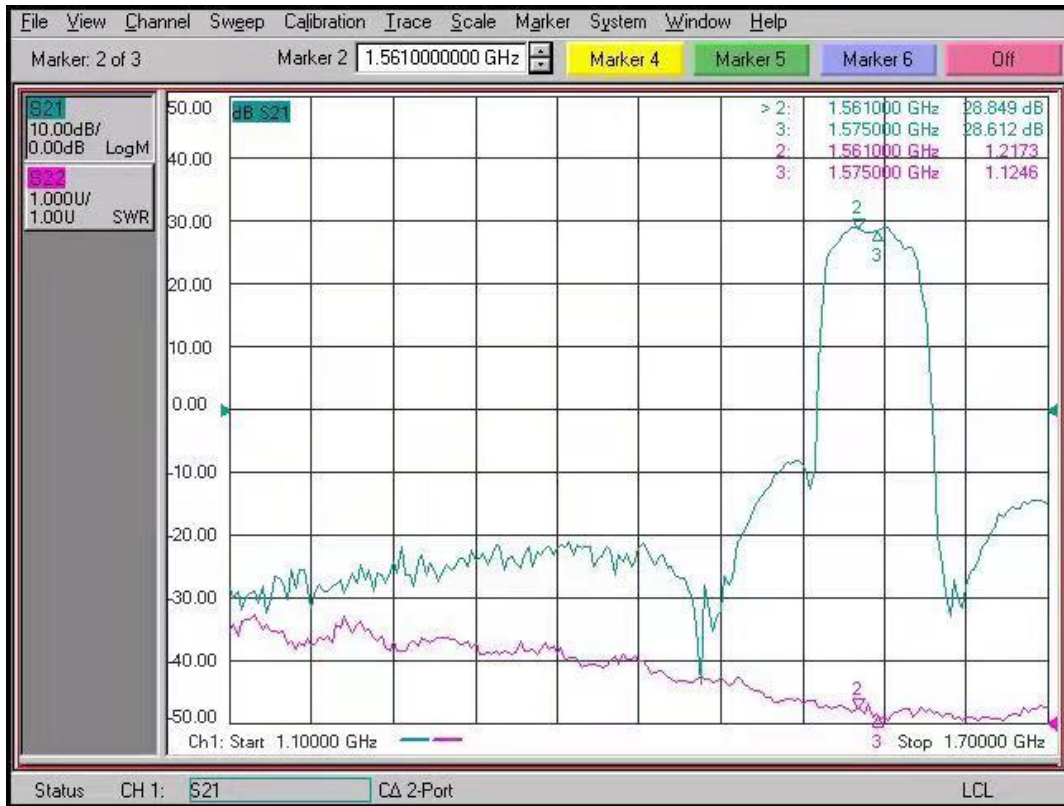
4.5.1. 1561 MHz



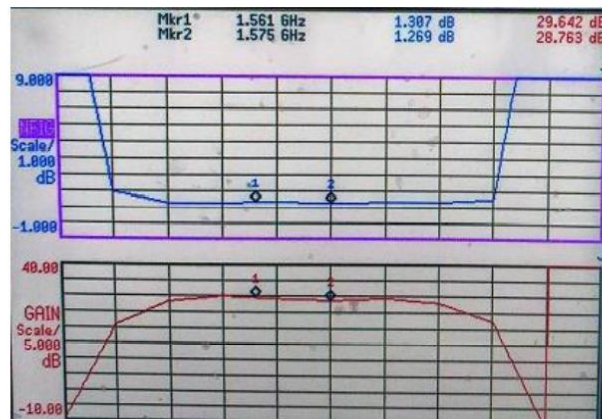
4.5.2. 1575 MHz



4.6. LNA Data



- Noise Figure



Frequency(MHz)	1561	1575
Noise Figure	1.3	1.2
LNA Gain	29	28

5 Product Size

