

Antenna

YG0028AA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
1.0	2020-08-31	Kenny YIN	Initial
1.1	2021-01-12	Kenny YIN	Updated the antenna image in Chapter 2.

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1 Product Description

The antenna is designed for superior performance, and can be widely used for wireless applications.

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

- GNSS L1+L5
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Nominal Frequency	1561–1602 MHz 1166–1186 MHz
Output VSWR	≤ 1.5
Efficiency	$\geq 45\%$
Elevation 0° Gain	Typ. 2.0 dBi
Elevation 100° Gain	Typ. -5 dBi
Polarization	RHCP
Axial Ratio	≤ 3
Impedance	50 Ω

LNA Electrical Properties

Nominal Frequency	1561–1602 MHz 1166–1186 MHz
Gain	14.5 \pm 5 dB
Noise Figure	≤ 1.5 dB
Output VSWR	≤ 1.5
Passband Ripple	≤ 1 dB
Voltage	DC 1.7 \pm 3.3 V
Current	≤ 24 mA
Impedance	50 Ω

Mechanical Specifications

Antenna Size	ϕ 54 mm \times 38 mm RG174 cable length = 3000 mm
Casing	ABS
Radiator	FPC
Connector Type	SMA (Male pin with internal thread)
Working Temperature	-20 °C to +80 °C
Radome Color	Black
Waterproof Grade	IP66
Fixing Mode	Magnet

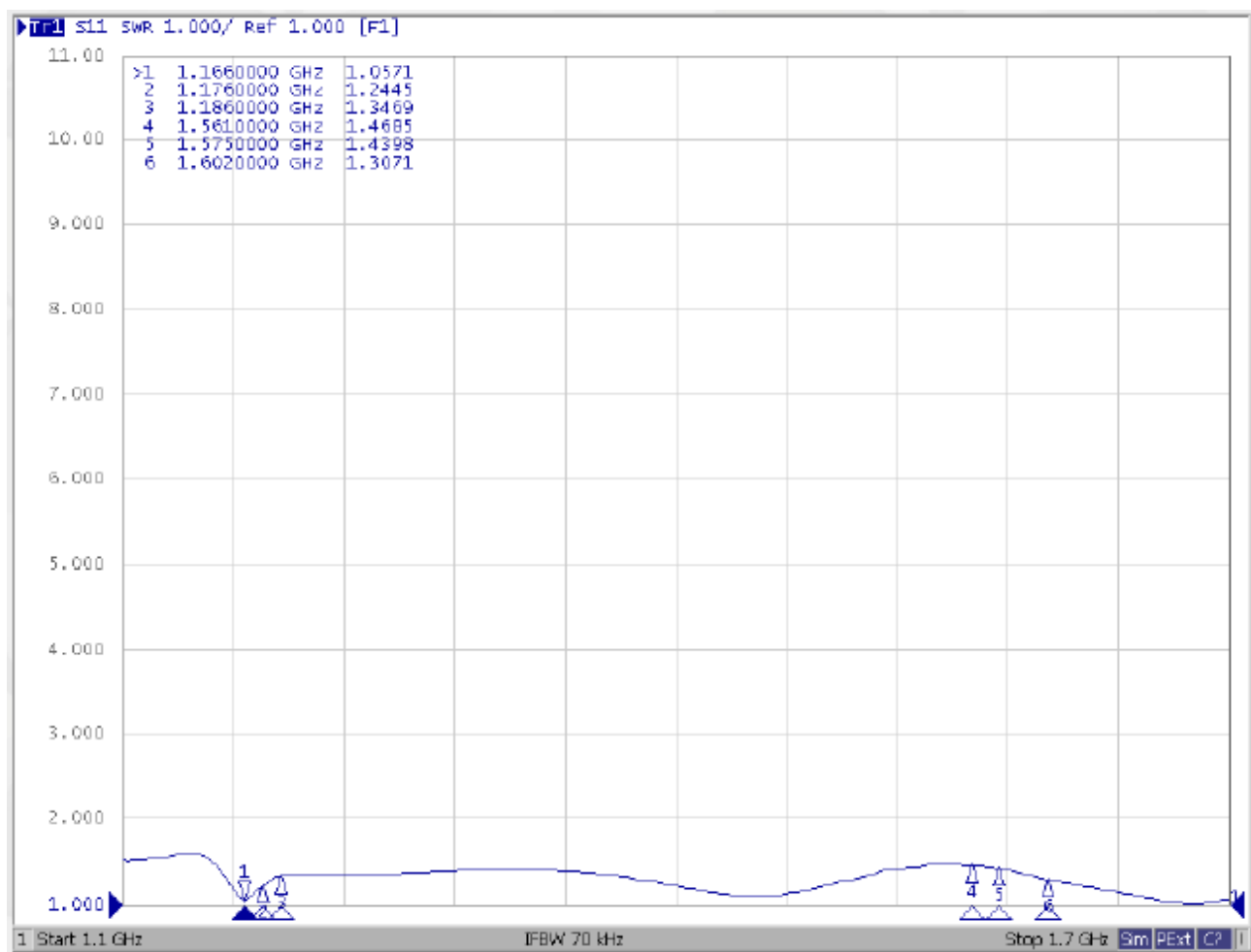
4 Overall Performance

4.1. Test Environment

- KEYSIGHT VNA Network Analyzer E5063A 100 kHz – 6.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 400 MHz – 6.0 GHz.

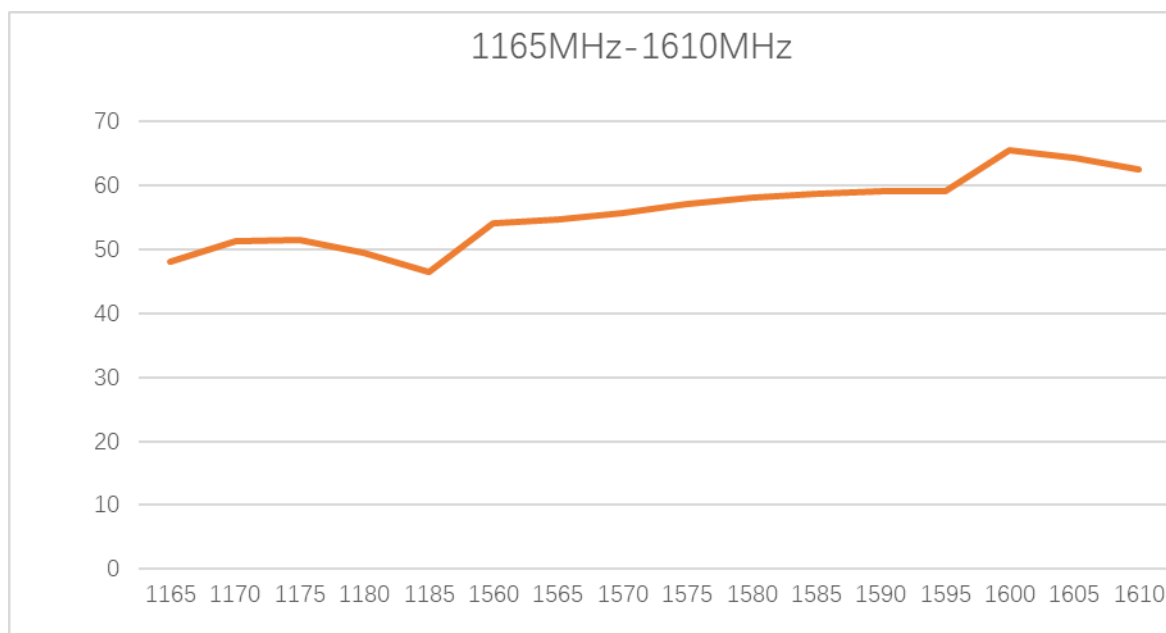


4.2. VSWR



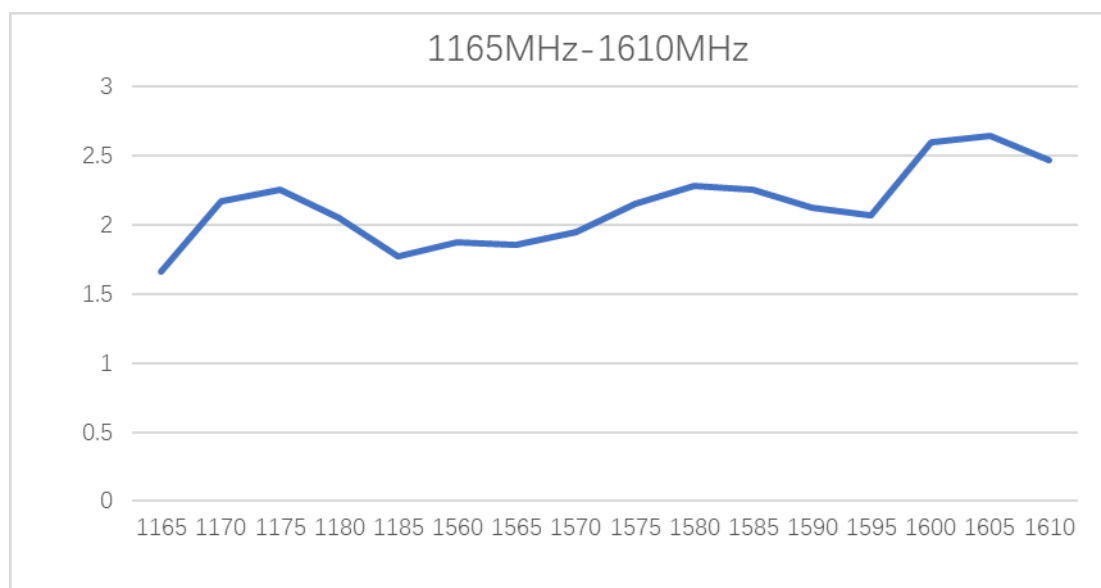
Frequency (MHz)	1166	1176	1186	1561	1575	1602
VSWR	1.06	1.24	1.35	1.47	1.44	1.31

4.3. Efficiency



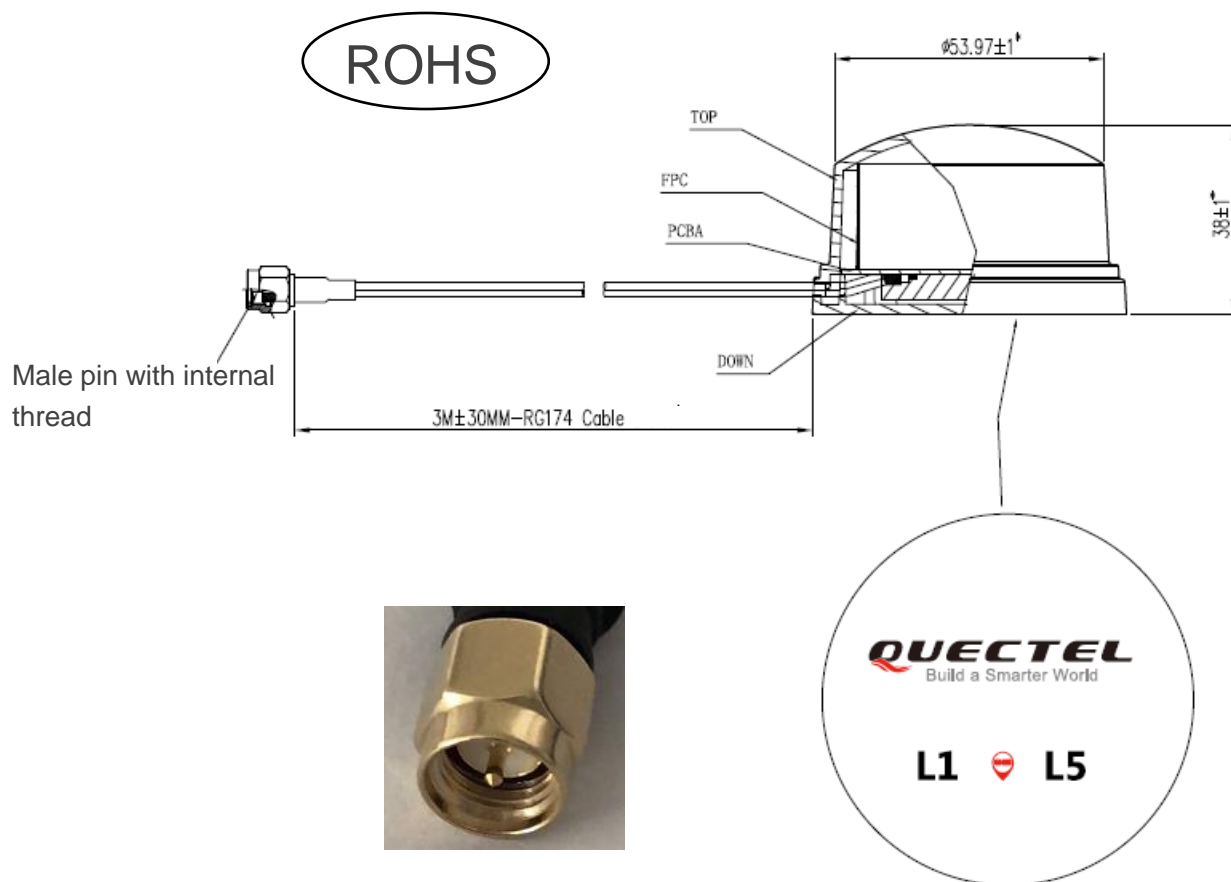
Frequency (MHz)	1165	1175	1185	1560	1575	1605
Efficiency (%)	48.17	51.57	46.49	54.03	57.21	64.39

4.4. Gain



Frequency (MHz)	1165	1175	1185	1560	1575	1605
Gain (dBi)	1.66	2.25	1.77	1.87	2.15	2.64

5 Product Size



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