Antenna

YG0065AA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
-	2021-03-10	Kenny YIN	Creation of the document
1.0	2021-03-10	Kenny YIN	First official release
1.1	2021-12-06	Kenny YIN	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

- GNSS
- High efficiency
- Excellent performance

3 Product Specifications

Passive Electrical Specifications	
Frequency Range	1575–1610 MHz
Input Impendence	50 Ω
VSWR	2.0 typ.
Gain	1575.42 MHz: 2.4 dBi 1602 MHz: 2.8 dBi
Polarization Type	RHCP
Mechanical Specifications	
Antenna Size	34.5 mm × 37.5 mm × 12.5 mm; RG174 Length = 3000 mm
Casing	ABS
Connector Type	FAKRA Female (Code C)
Working Temperature	-40 °C to +85 °C
Radome Color	Black
Installation Method	Magnet
IP rating	IP66

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. Electrical Specification

- All values are defined at 25 ±15 °C, 65 ±20 % RH, power handling 1 u watt, air pressure 960 ±100 hPa unless otherwise noted.
- Patch characteristics are measured with 70 × 70 mm test ground plane in an anechoic chamber.

Patch

Characteristics	Specification	
Frequency Range	1575~1610 MHz	
Peak Gain	1575.42 MHz	2.4 dBic
	1602 MHz	2.8 dBic
Polarization	RHCP	
VSWR	2.0 typ.	
Impedance	50 ohm	

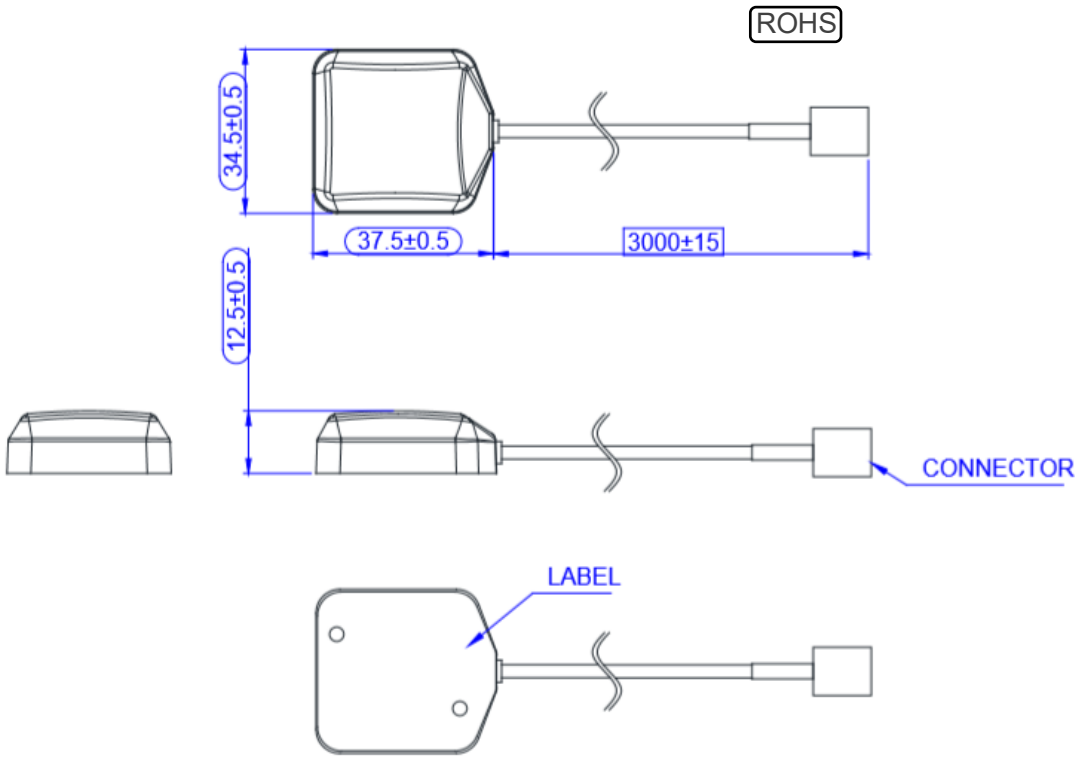
Filter / LNA

Characteristics	Specification		
Frequency Range	1575~1602 MHz		
Gain	1575.42 MHz	27.0±3.0 dB	
	1602 MHz	27.0±3.0 dB	
Noise Figure	2.0 dB typ.		
Filter Out Band Attenuation	F_1= 1575.42 MHz	F_1-50 MHz	> 30 dB
		F_1-100 MHz	> 35 dB
	F_2= 1602 MHz	F_2+50 MHz	> 30 dB
		F_2+100 MHz	> 35 dB
Output VSWR	2.0 typ.		
Operation Voltage	3.3 V		
Current	10.0±3.0 mA		

Overall Specification (Through Antenna, LNA, Without Cable Loss)

Characteristics	Specification	
Frequency Range	1575~1602 MHz	
Gain	1575.42 MHz	29.4±3.0 dBic
	1602 MHz	29.8±3.0 dBic
Output VSWR	2.0 typ.	
Operation Voltage	3.3 V	
Current	10.0±3.0 mA	

5 Product Size



NOTE :
1. " ○ " INDICATES PROCESS CONTROL DIMENSION.
2. " □ " INDICATES CPK CONTROL DIMENSION.

Connector Appearance (FAKRA FEMALE C CODE)