

Antenna

YCGO012AA Datasheet

Antenna Services

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About the Document

Revision History

| Version | Date | Author | Note |
|---------|------------|-----------|--|
| - | 2021-03-29 | Kenny YIN | Creation of the document |
| 1.0 | 2021-03-29 | Kenny YIN | First official release |
| 1.1 | 2021-07-25 | Kenny YIN | Updated working temperature. (Chapter 3) |

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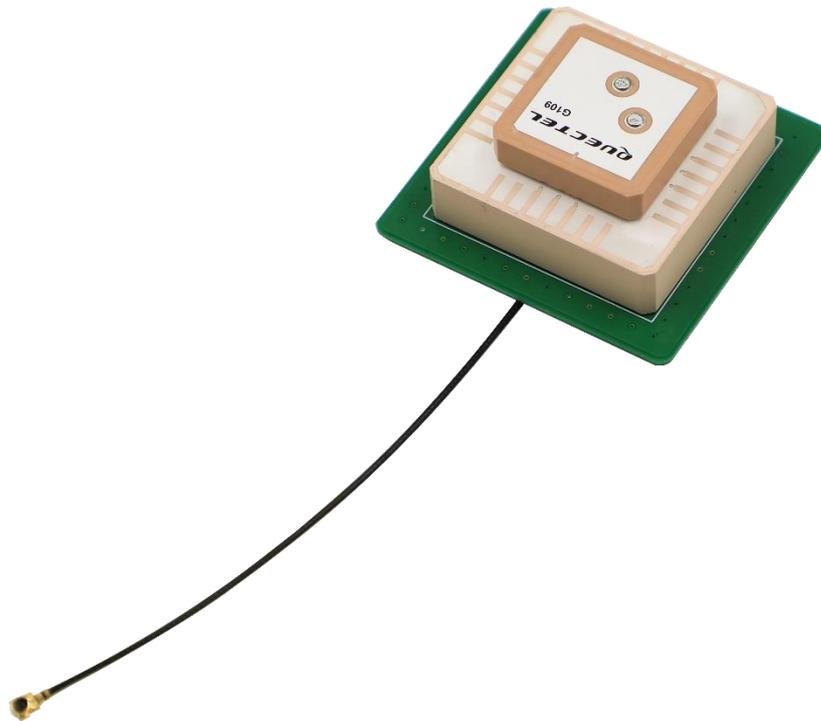
1 Product Description

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

- GPS L1/L5
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

| | |
|-------------------|--|
| Frequency | GPS L1: 1575.42 MHz GPS L5: 1176.45 MHz |
| Input Impedence | 50Ω |
| Gain | L1: 1.0 dBi L5: -4.0 dBi |
| Axial Ratio | L1: 3.0 dB Max L5: 3.0 dB Max |
| Polarization Type | R.H.C.P |

Mechanical Specifications

| | |
|---------------------|--------------------------|
| Antenna Size | 50 mm × 50 mm × 20.46 mm |
| Casing | Ceramics |
| Connector Type | IPEX MHF I |
| Working Temperature | -40 °C ~ +85 °C |
| Radome Color | / |

4 Overall Performance

4.1. Test Environment

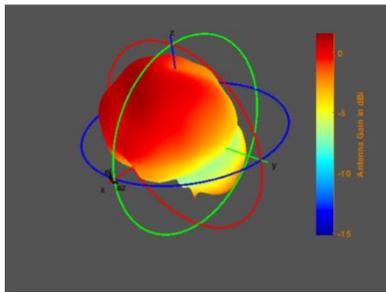
- KEYSIGHT VNA Network Analyzer E5063A 100 kHz – 6.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 400 MHz – 6.0 GHz



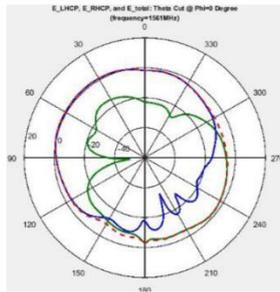
4.2. VSWR



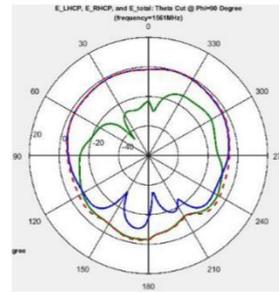
4.3. 2D&3D Circular Polarization Gain Pattern: RHCP (Unit: dBic)



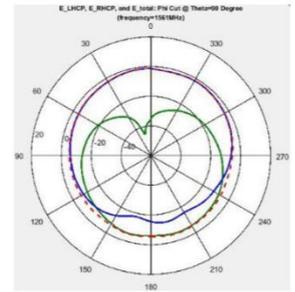
1561MHz



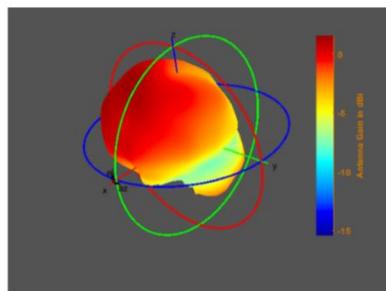
XZ



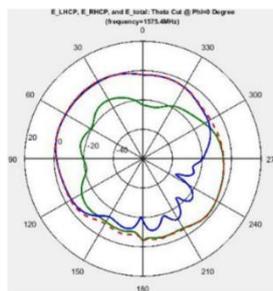
YZ



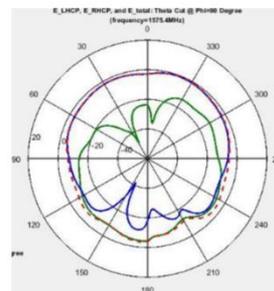
XY



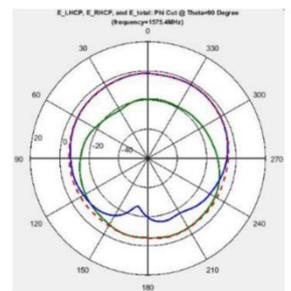
1575.42MHz



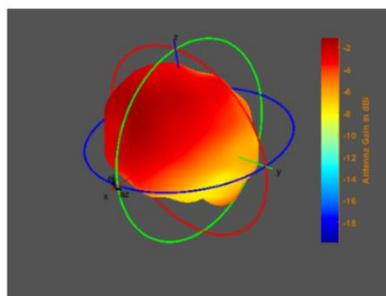
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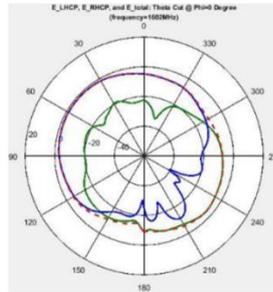
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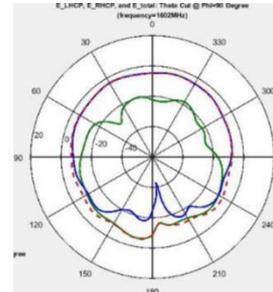
XY



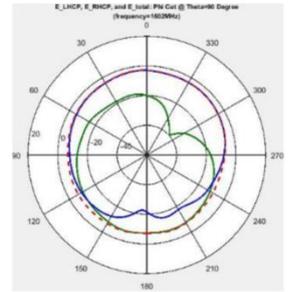
1602MHz



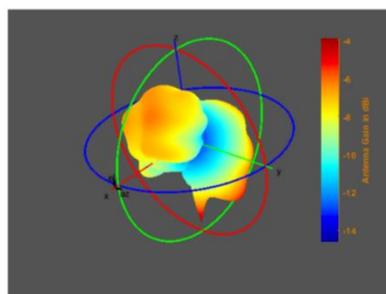
XZ



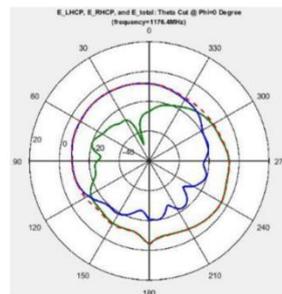
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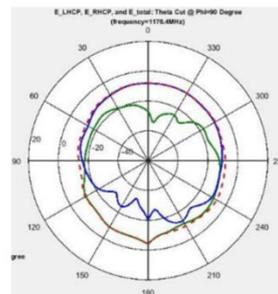
XY



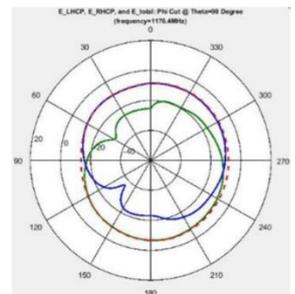
1176.45 MHz



XZ



YZ

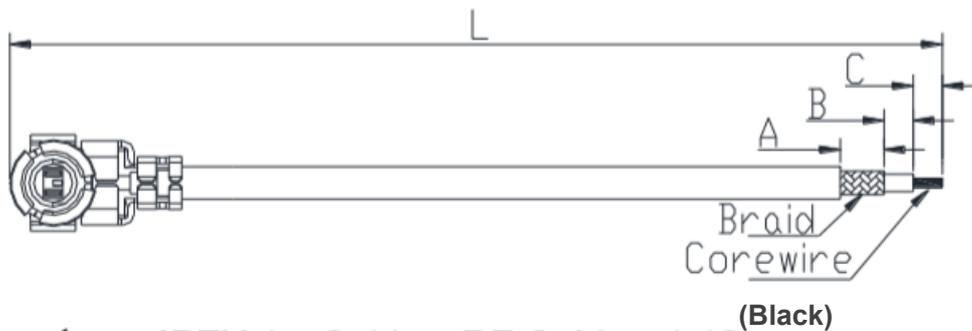
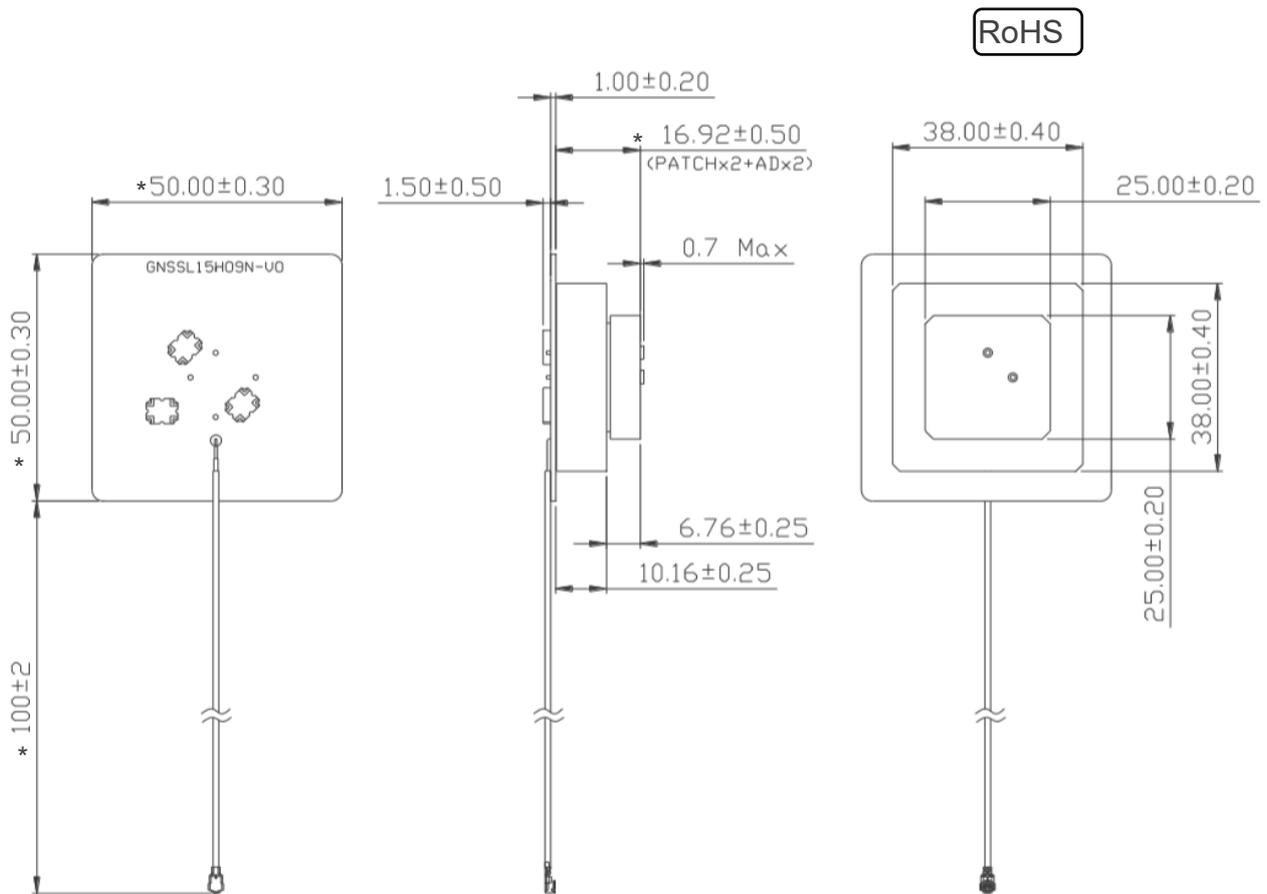


XY

4.4. Antenna Passive Test Result

| Frequency (MHz) | Peak Gain (dBi) | Efficiency (%) |
|-----------------|-----------------|----------------|
| 1172 | -3.74 | 20.39 |
| 1174 | -3.74 | 20.86 |
| 1176.45 | -3.90 | 19.87 |
| 1178 | -4.08 | 18.03 |
| 1180 | -4.40 | 17.88 |
| 1557 | 1.07 | 42.29 |
| 1559 | 1.17 | 41.86 |
| 1561 | 1.23 | 43.97 |
| 1563 | 1.50 | 44.50 |
| 1565 | 1.21 | 42.87 |
| 1571 | 1.29 | 42.67 |
| 1573 | 1.17 | 43.76 |
| 1575.42 | 1.01 | 43.65 |
| 1577 | 0.94 | 40.90 |
| 1579 | 0.81 | 40.88 |

5 Product Size



Connector : IPEX 1 , **Cable** : RF Cable ϕ 1.13

L : 112 ± 2 mm A : 2.5 ± 0.5 mm B : 2.5 ± 0.5 mm C : 1.5 ± 0.5 mm