

# Antenna

# YG0062AA Datasheet

## Antenna Services

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# About the Document

## Revision History

Version	Date	Author	Note
-	2020-06-02	Kenny YIN	Creation of the document
1.0	2020-06-02	Kenny YIN	First official release
2.0	2021-04-28	Aria CHU	Updated all test data in the datasheet.
2.1	2021-06-17	Kenny YIN	Updated working temperature (Chapter 3).
2.2	2021-07-13	Aria CHU	Added Chapters 3 and 7.
2.3	2021-08-09	Aria CHU	Updated the VSWR data (Chapter 5.2).
2.4	2021-12-05	Aria CHU	Updated the product description (Chapter 1).
2.5	2023-04-23	Bunny ZHANG	Updated the packaging (Chapter 8).

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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

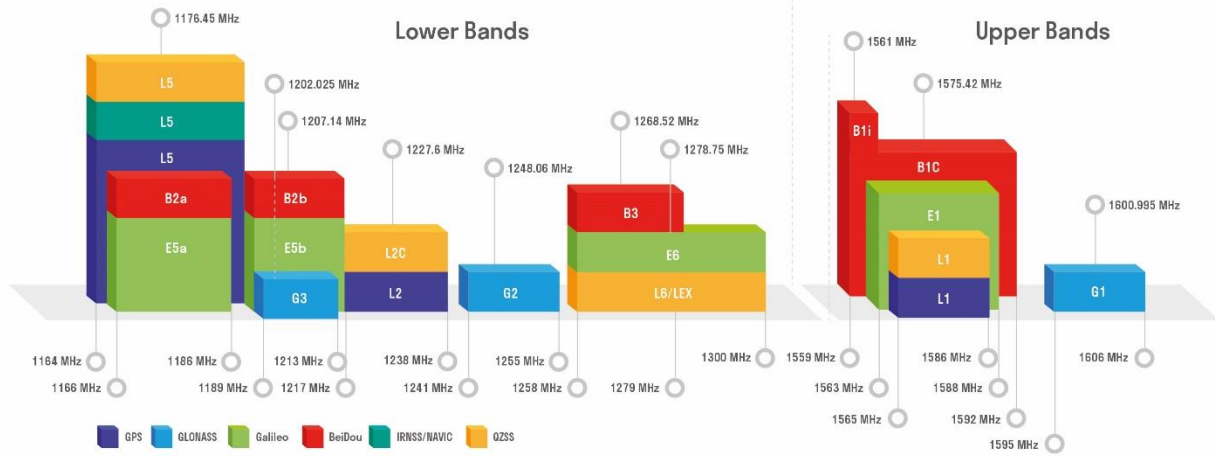
- GNSS
- High efficiency
- Excellent performance



### 3 GNSS Frequency Band Checklist

GNSS Frequency Bands (MHz)					
<b>GPS</b>	<b>L1</b> Centre 1575.42 (1565–1586)	<b>L2</b> Centre 1227.6 (1217–1238)	<b>L5</b> Centre 1176.45 (1164–1189)		
	•	-	-		
<b>GLONASS</b>	<b>G1/L10C/L10F</b> Centre 1601 (1595–1606)	<b>G2/L20C/L20F</b> Centre 1248.06 (1241–1255)	<b>G3/L30C</b> Centre 1202.025 (1189–1213)		
	•	-	-		
<b>GALILEO</b>	<b>E1</b> Centre 1575.42 (1563–1588)	<b>E5a</b> Centre 1176.45 (1166–1187)	<b>E5b</b> Centre 1207.14 (1197–1218)	<b>E6</b> Centre 1278.75 (1258–1300)	
	•	-	-	-	
<b>BEIDOU</b>	<b>B1I</b> Centre 1561.098 (1559–1564)	<b>B1C (BeiDou-3)</b> Centre 1575.42 (1559–1592)	<b>B2a/B2I</b> Centre 1176.45 (1166–1187)	<b>B2b</b> Centre 1207.14 (1197–1217)	<b>B3</b> Centre 1268.52 (1258–1279)
	•	•	-	-	-
<b>QZSS</b>	<b>L1</b> Centre 1575.42 (1573–1578)	<b>L2C</b> Centre 1227.6 (1226–1229)	<b>L5</b> Centre 1176.45 (1166–1187)	<b>L6</b> Centre 1278.75 (1257–1300)	
	•	-	-	-	
<b>IRNSS</b>	<b>L5</b> Centre 1176.45 (1164–1189)				
	-				

### GNSS Bands and Constellations





## 4 Product Specifications

- The antenna is tested on a 25 mm × 25 mm PCB.

### Passive Electrical Specifications

Frequency Range	1575.42 ±3 MHz, 1602 ±3 MHz
Input Impedance	50 Ω
VSWR	≤ 3.5
Gain	≤ 2.0 dBi
Polarization Type	RHCP

### Mechanical Specifications

Antenna Size	25 × 25 × 4 mm
Casing	Ceramics
Connector Type	-
Working Temperature	-40 °C to +85 °C
Radome Color	-

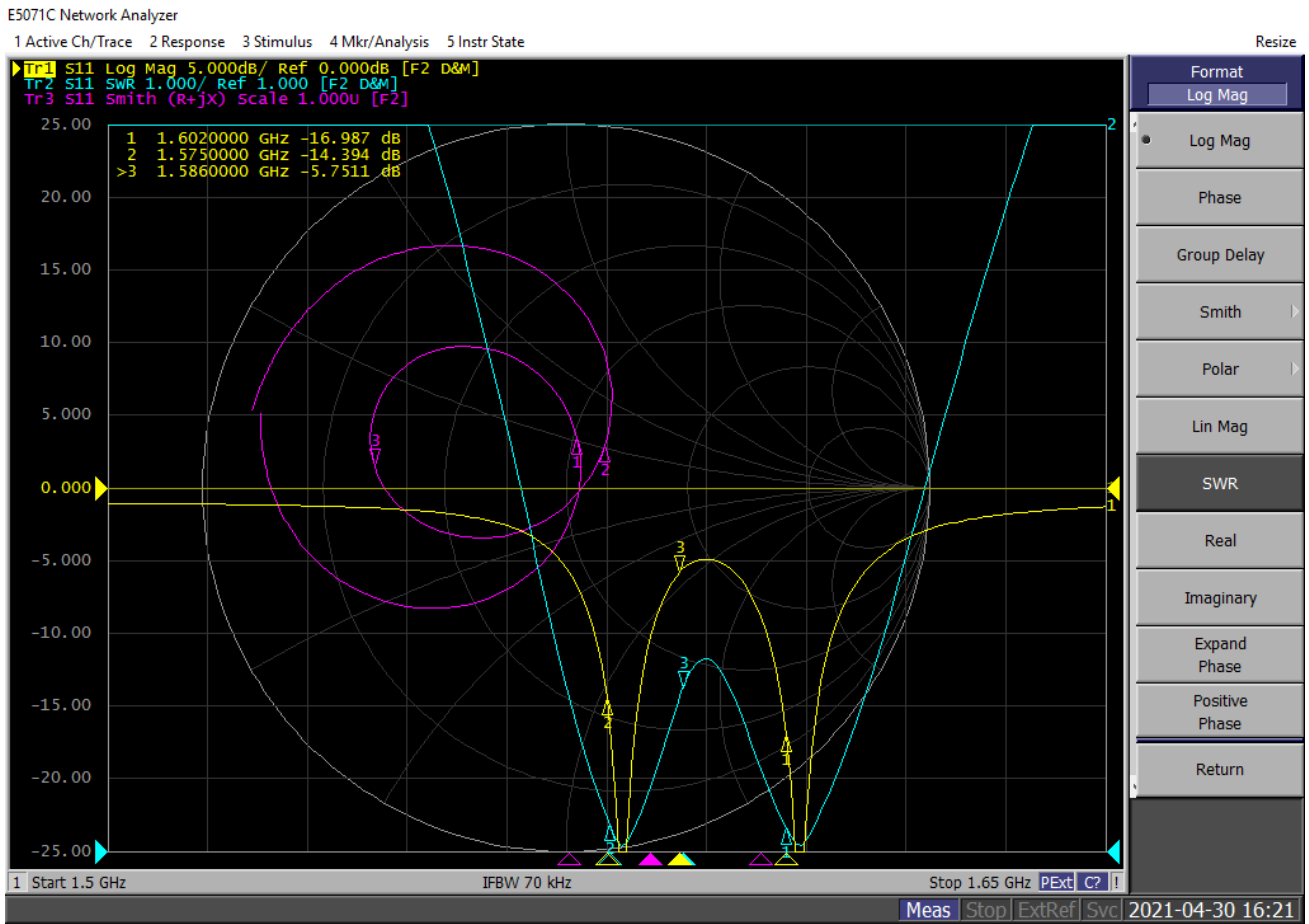
## 5 Overall Performance

### 5.1. Test Environment

- KEYSIGHT VNA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 400 MHz – 8.0 GHz

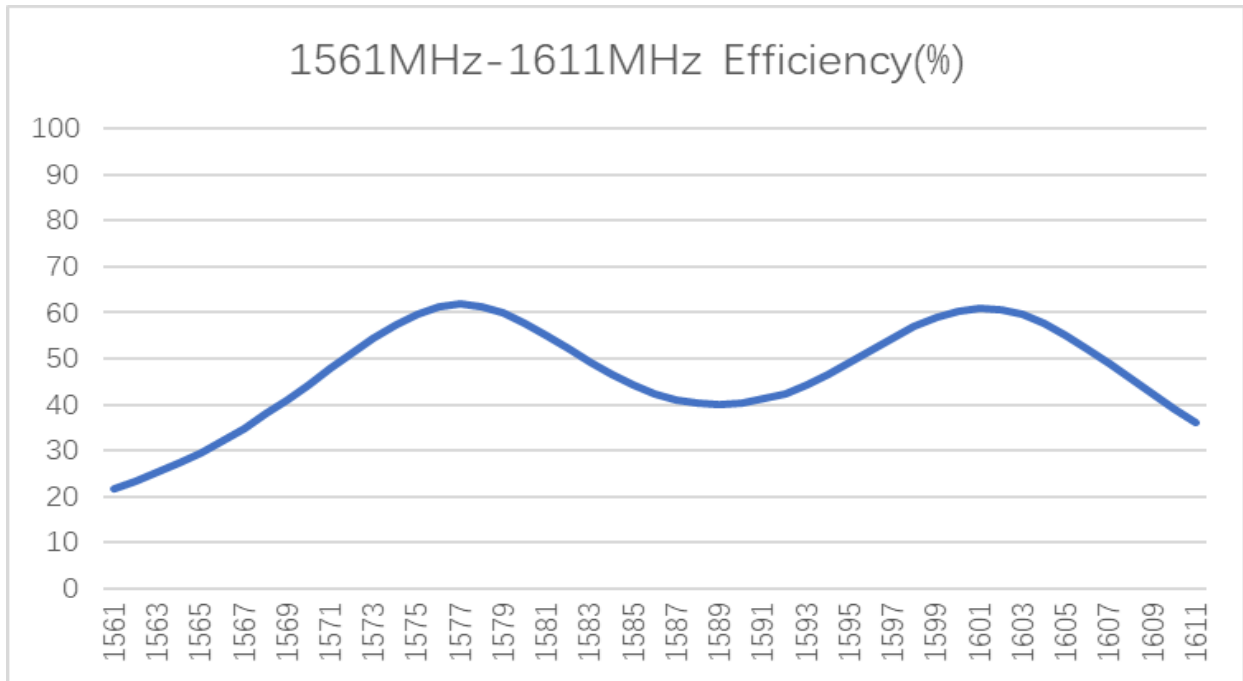


## 5.2. VSWR



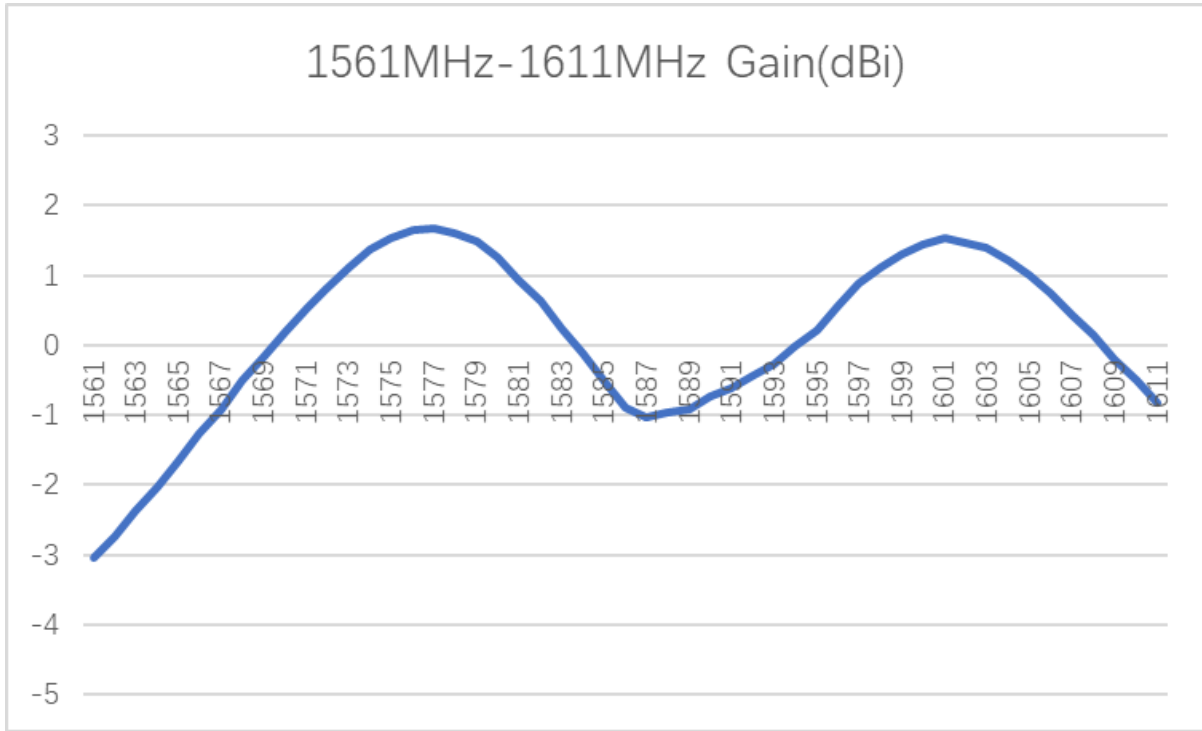
Frequency (MHz)	1575	1602
RL	-14.39	-16.98
VSWR	1.47	1.33

### 5.3. Efficiency



<b>Frequency (MHz)</b>	1575	1602
<b>Efficiency (%)</b>	59.81	60.60

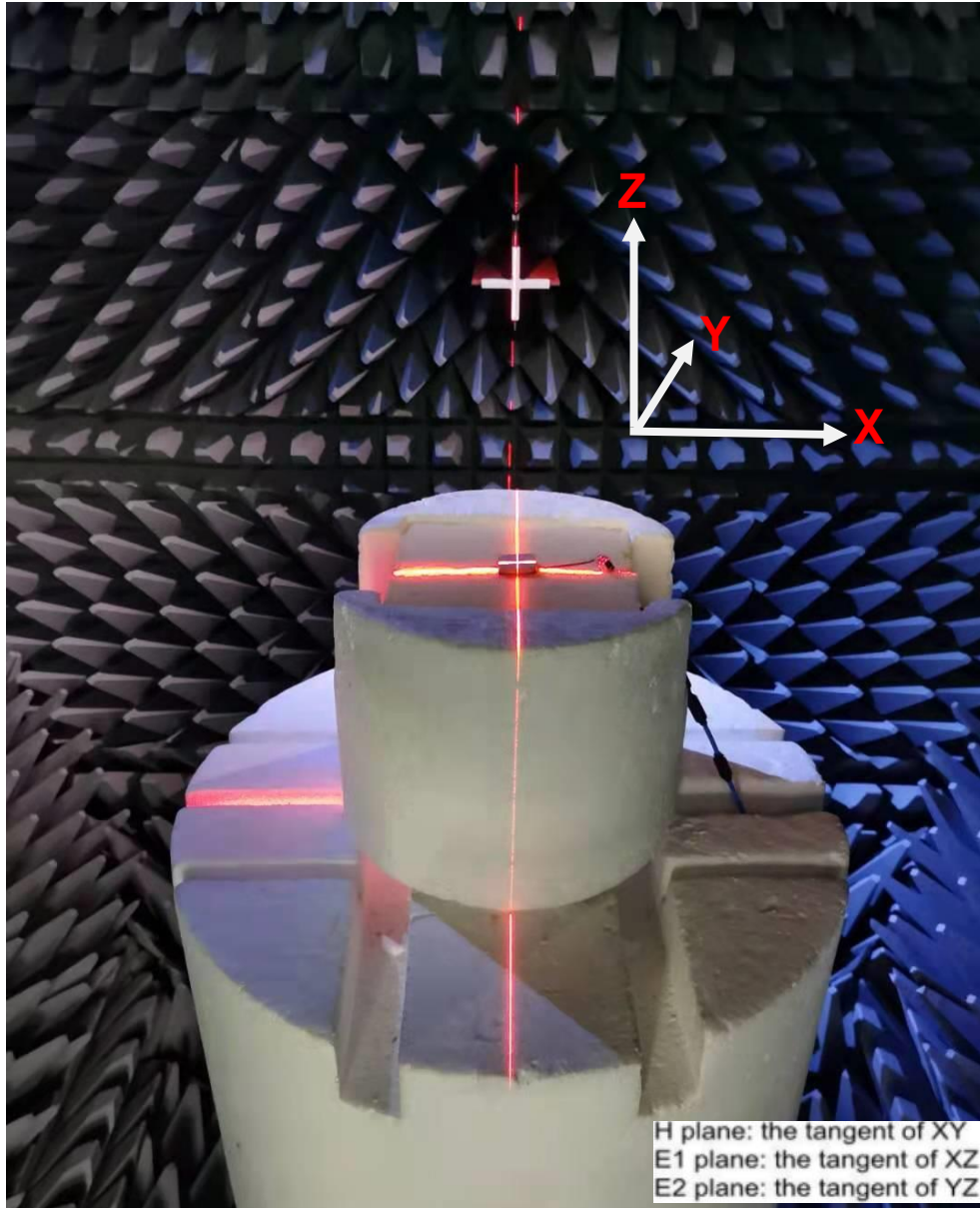
**5.4. Gain**



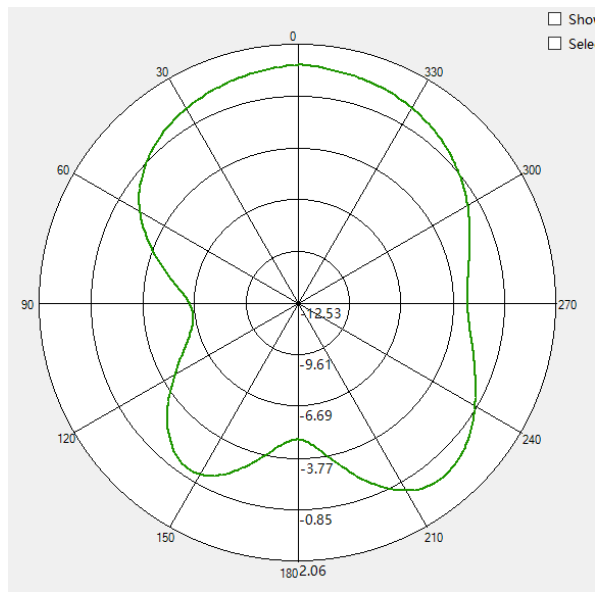
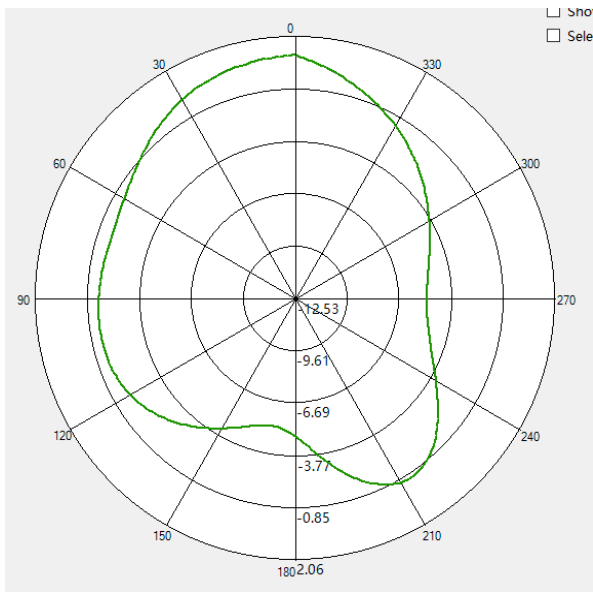
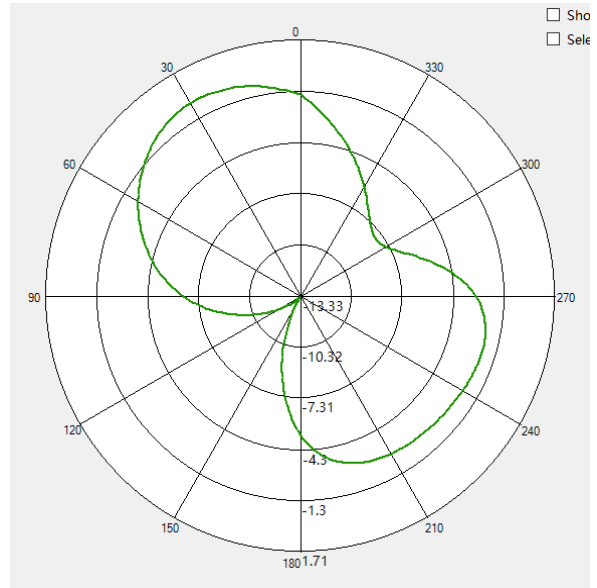
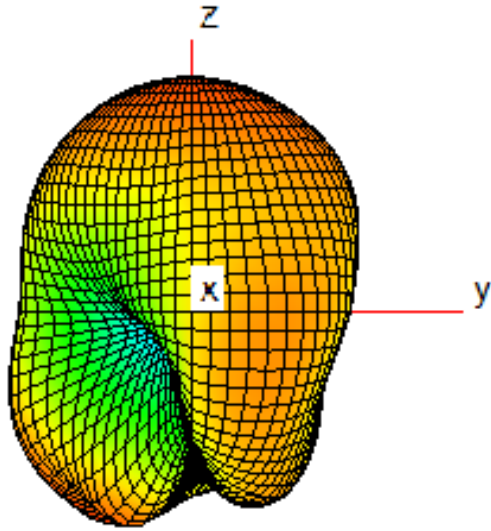
<b>Frequency (MHz)</b>	1575	1602
<b>Gain (dBi)</b>	1.54	1.46

## 5.5. Radiation Pattern

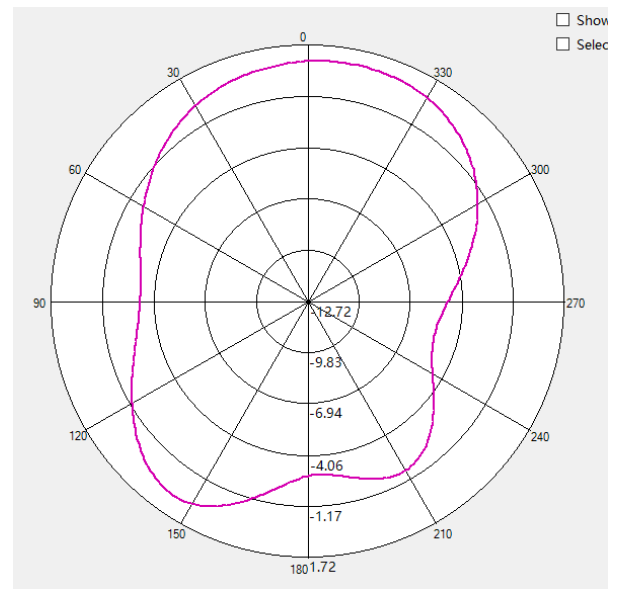
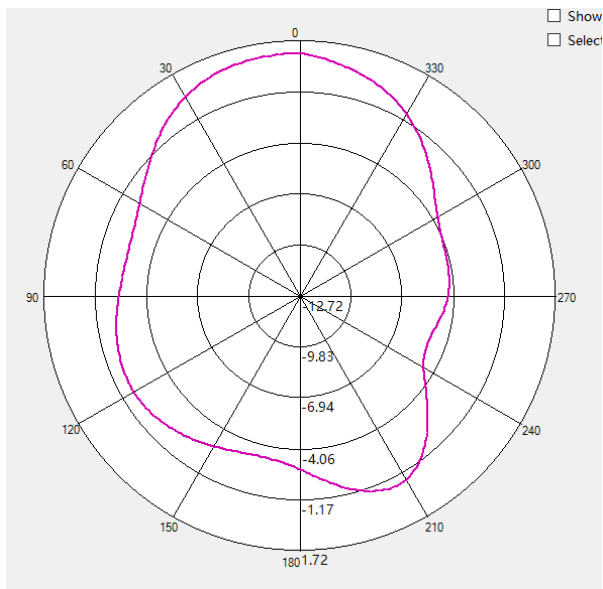
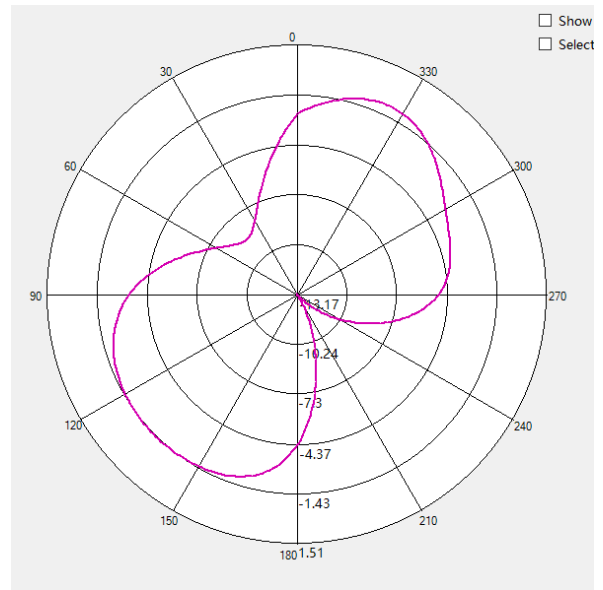
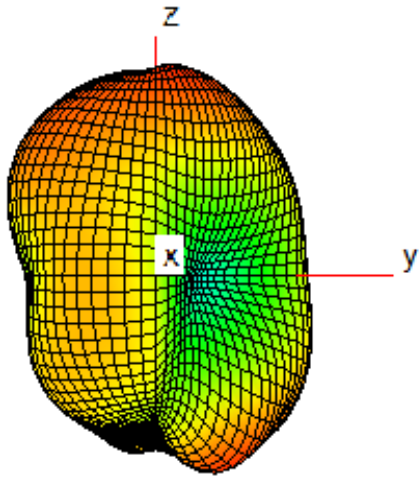
- Test Condition: Free space



● 1575 MHz

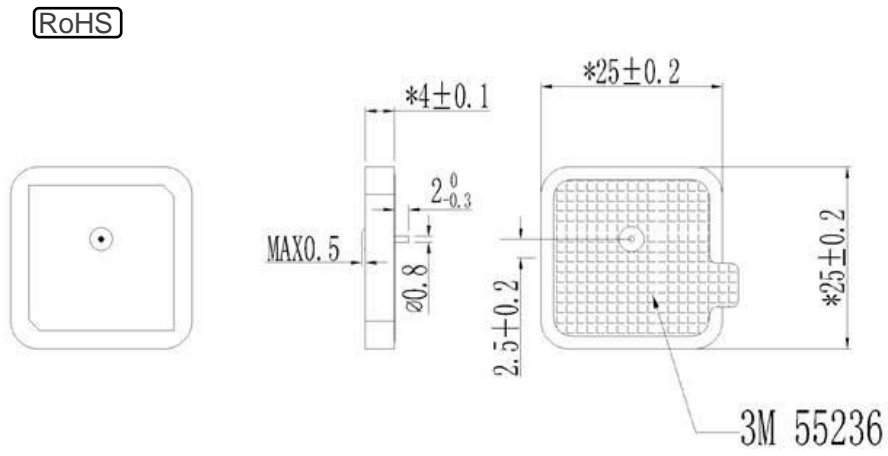


● 1602 MHz



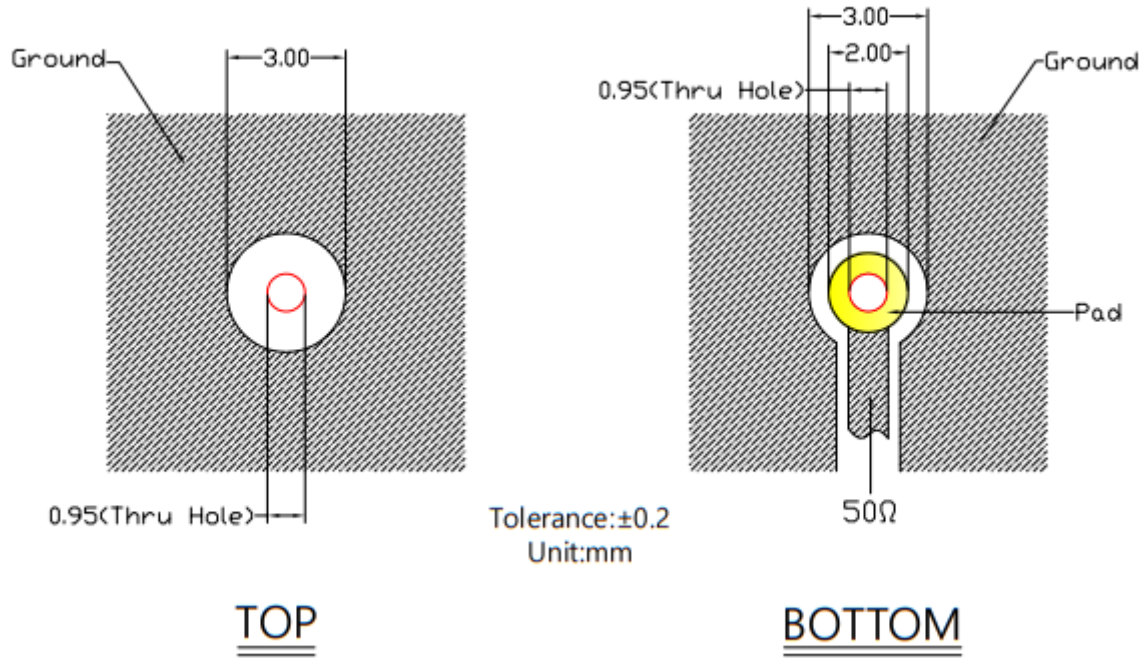


## 6 Product Size






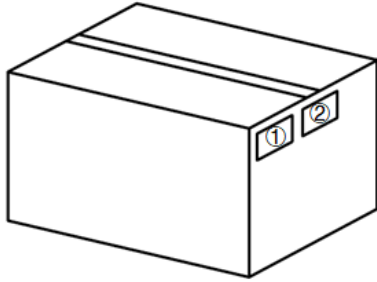
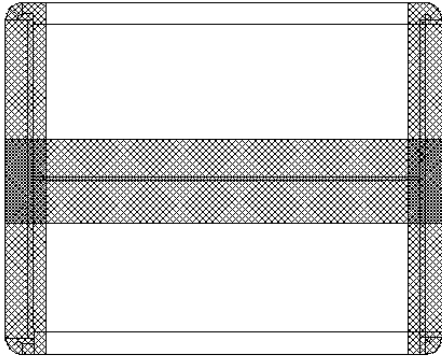
Unit:mm

## 7 PCB Footprint Recommendation



## 8 Packaging

Step	Packaging Picture / 2D Picture	Description
1		40 products per tray
2		The blister tray is stacked in 5 layers, and an empty tray is placed on the top. After vacuuming, the tray is placed in the inner box.
3		<p>(4 inner boxes per carton box) (800 pcs products per carton box)</p> <p><u>Carton Size:</u> <u>L x W x H = 405 x 293 x 185 mm</u></p>

4		<p><b>Position for Attaching Labels</b></p> <ul style="list-style-type: none"><li>① Carton Label</li><li>② Quality Label</li></ul>
5		<p><b>Sealing Cartons</b></p> <p>“工” type sealing cartons</p>