



Antenna Datasheet

Product OC: YEGT010W1AM

Version: 1.0

Date: 2025-02-06

Status: Released

Product Name: GNSS Terminal Mount Rubber Passive Antenna

Key Features:

Frequency Band: 1559–1606 MHz

Dimensions: Φ 10.22 mm \times 69.5 mm

Efficiency: Up to 78.2 % (Bent)

RoHS Compliant

Overview

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 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.

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1 Specification

Test Condition: On 130 mm × 130 mm EVB

1.1. Electrical

Electrical	
Frequency Range	1559–1606 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omnidirectional

Specification	Band	GPS L5 GALILEO E5a BDS B2a–B2I QZSS L5 IRNSS L5	GALILEO E5b BDS B2b	GPS L2 QZSS L2C	GLONAS S G2	BDS B3	BDS B1I	GPS L1 GALILEO E1 BDS B1C QZSS L1	GLONASS G1
	Freq. (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
VSWR	Straight	-	-	-	-	-	2.0	2.0	2.0
	Bent	-	-	-	-	-	1.7	1.7	1.7
Return Loss (dB)	Straight	-	-	-	-	-	-9.5	-9.4	-9.6
	Bent	-	-	-	-	-	-11.6	-11.4	-11.5
Efficiency (%)	Straight	-	-	-	-	-	73.9	71.3	71.3
	Bent	-	-	-	-	-	78.2	75.8	75.5
Gain (dBi)	Straight	-	-	-	-	-	3.1	3.1	2.9

	Bent	-	-	-	-	-	3.5	3.5	3.2
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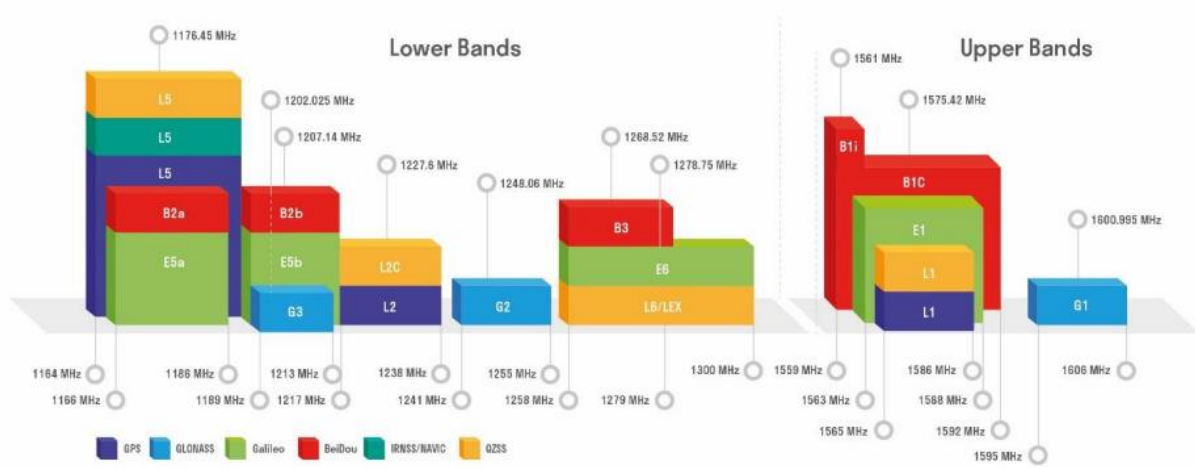
1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	Φ 10.22 mm × 69.5 mm
Casing Material & Color	POM & Black
Connector Type	SMA Male
Mounting Type	Terminal (Connector)
Weight	Typ. 8.9 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
RoHS Compliant	Yes

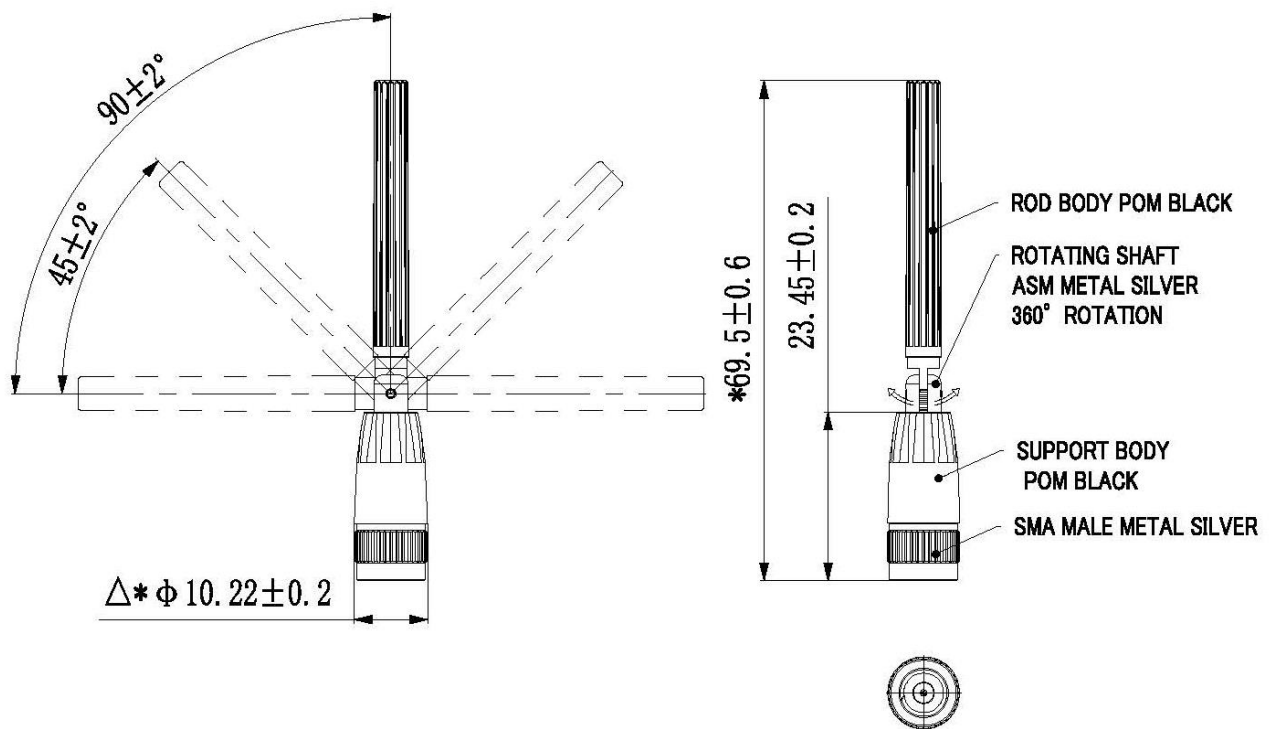
1.3. Supported GNSS Frequency Bands

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

GNSS Bands and Constellations



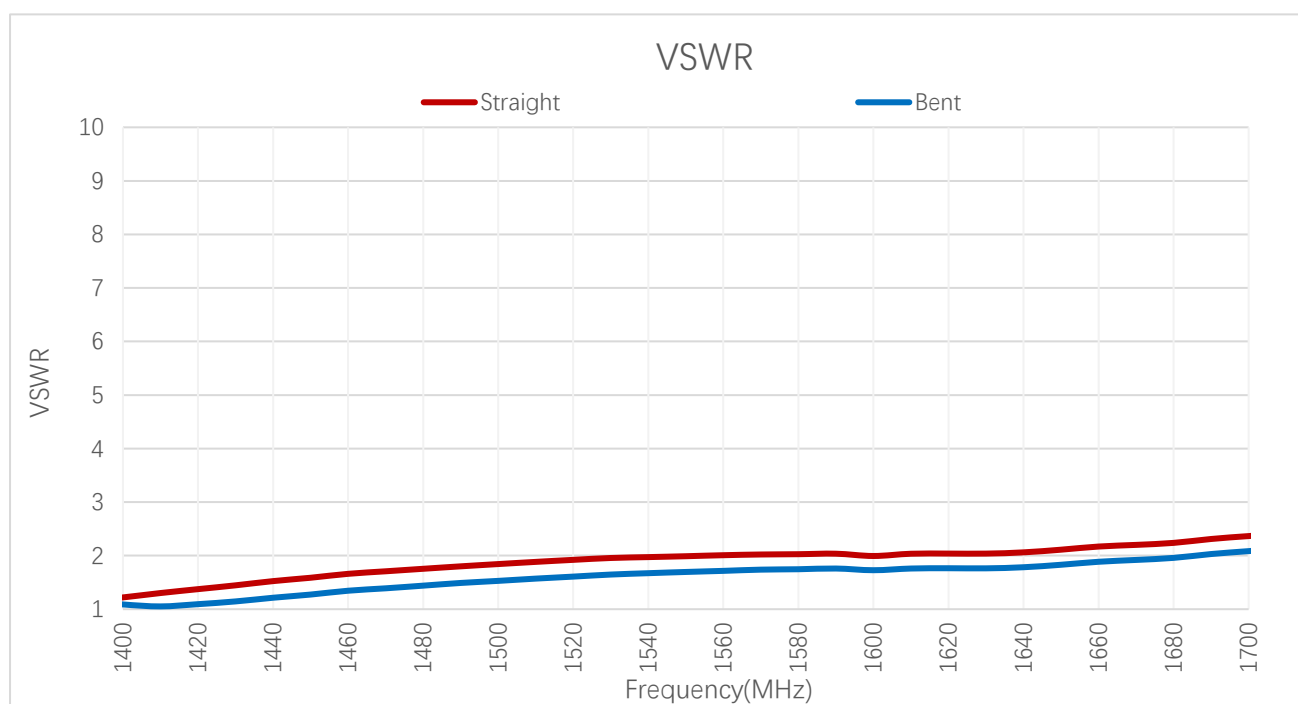
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

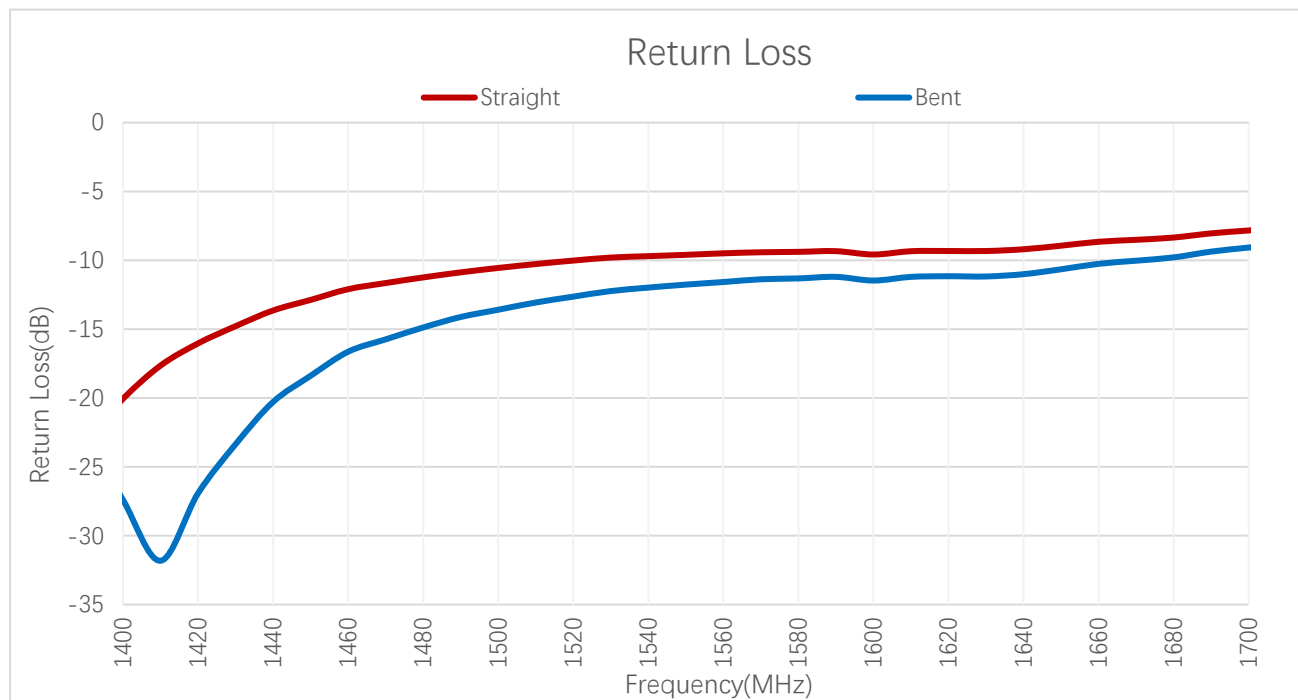
3.1.1. VSWR



VSWR

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Straight	-	-	-	-	-	2.0	2.0	2.0
Bent	-	-	-	-	-	1.7	1.7	1.7

3.1.2. Return Loss

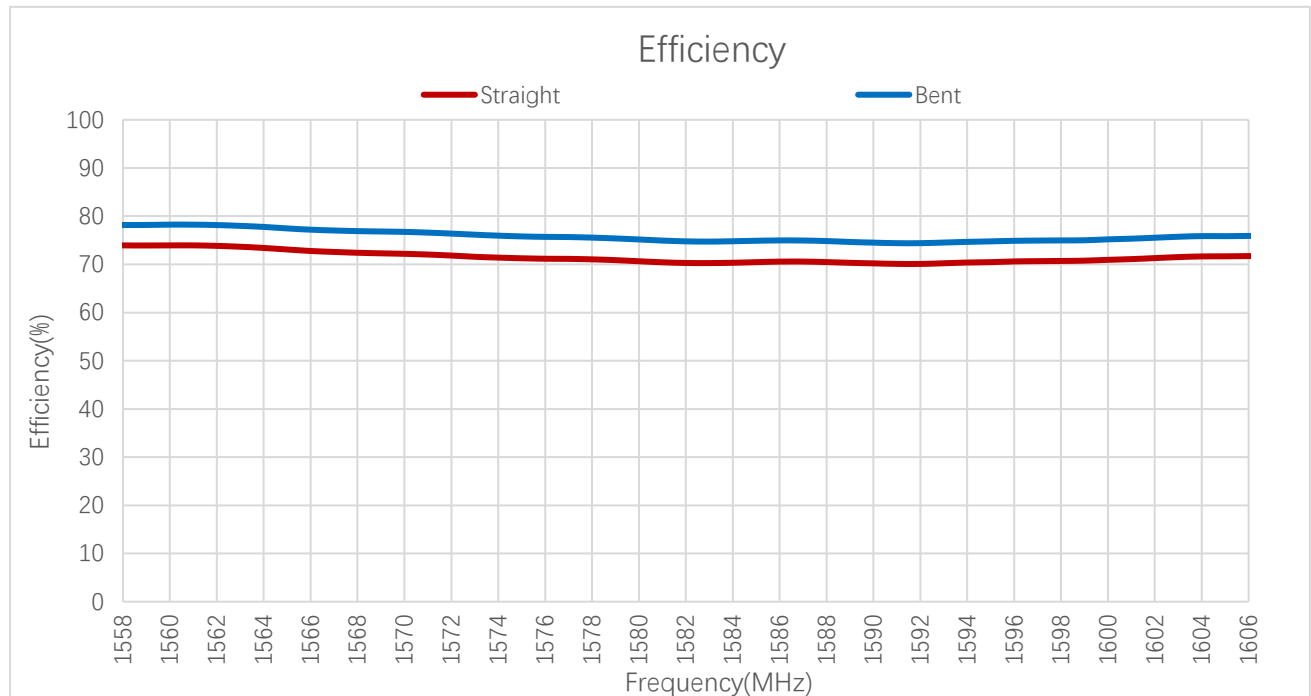


Return Loss (dB)

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Straight	-	-	-	-	-	-9.5	-9.4	-9.6
Bent	-	-	-	-	-	-11.6	-11.4	-11.5

3.2. Radiation Performance Test

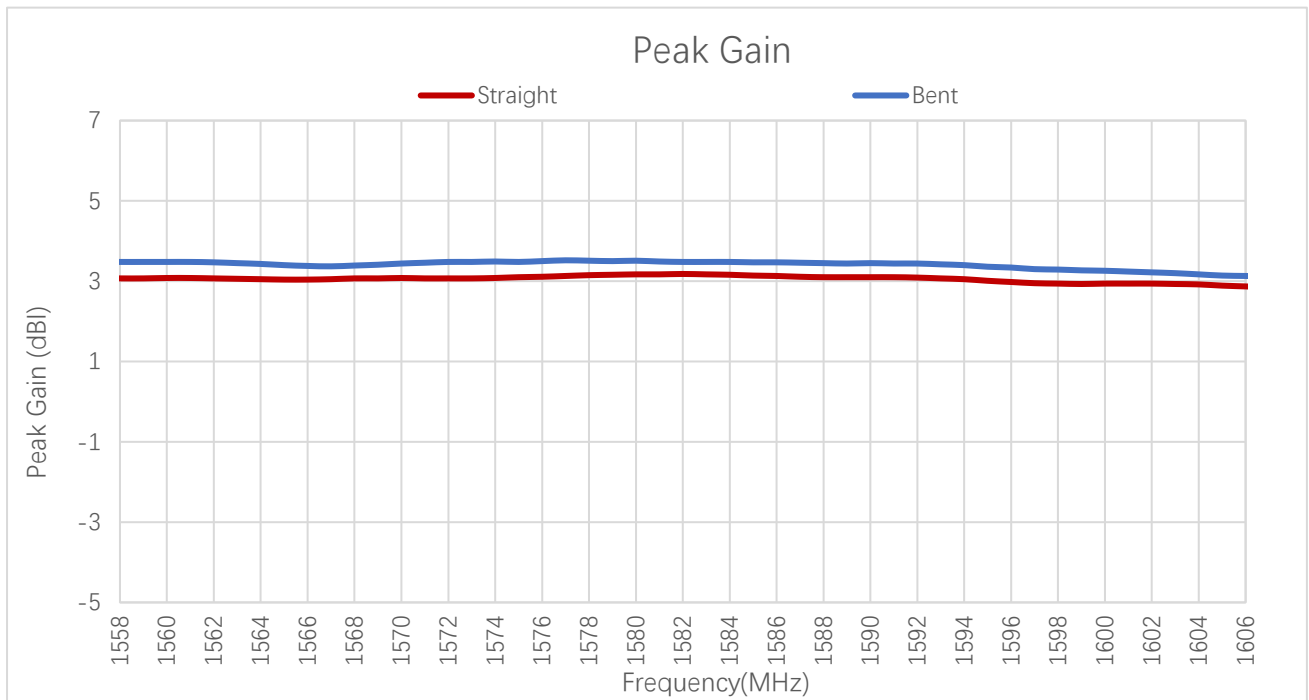
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Straight	-	-	-	-	-	73.9	71.3	71.3
Bent	-	-	-	-	-	78.2	75.8	75.5

3.2.2. Peak Gain



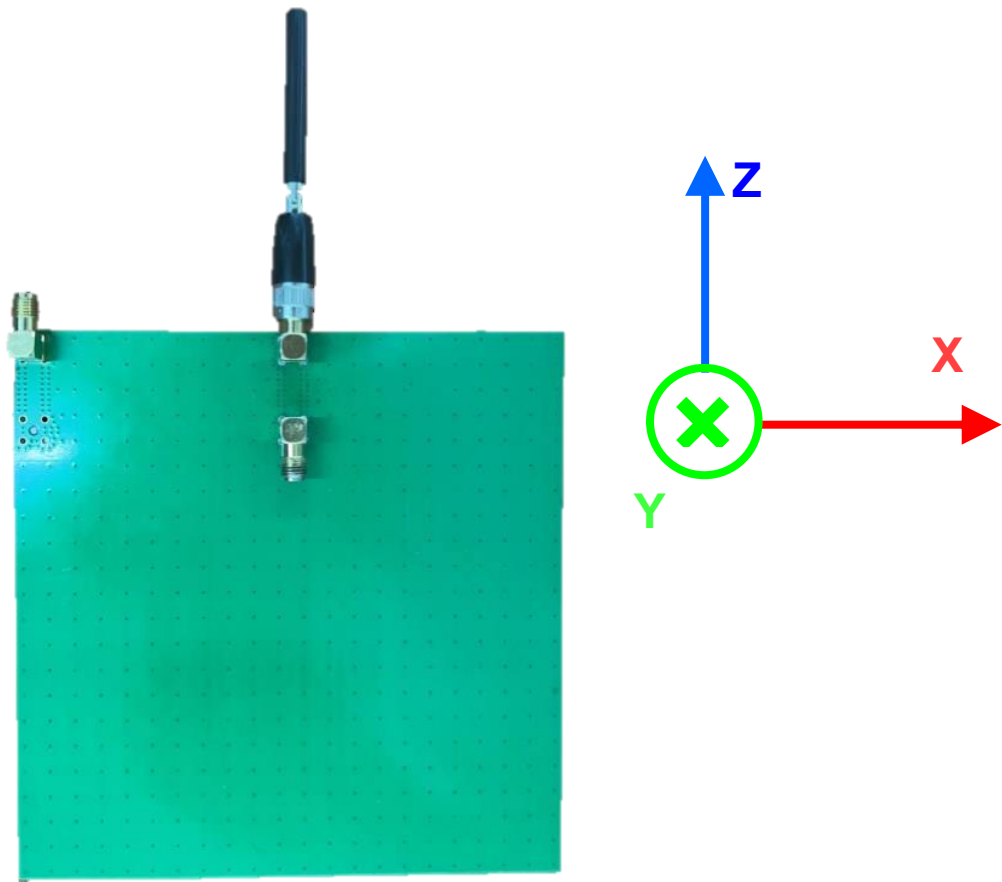
Peak Gain (dBi)

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Straight	-	-	-	-	-	3.1	3.1	2.9
Bent	-	-	-	-	-	3.5	3.5	3.2

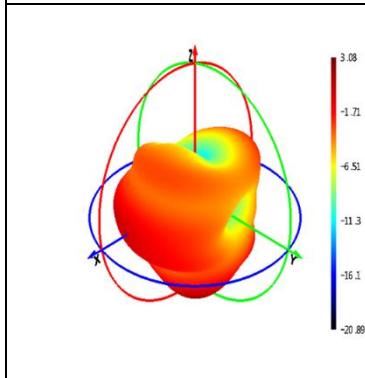
3.2.3. 3D & 2D Radiation Pattern

3.2.3.1. Test state: Straight

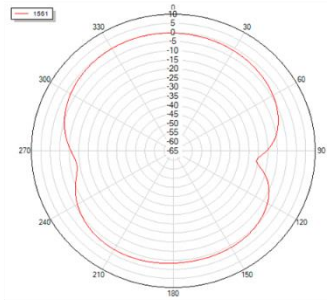
- Test Condition: On 130 mm × 130 mm EVB
- Test Chamber: HF-S-1



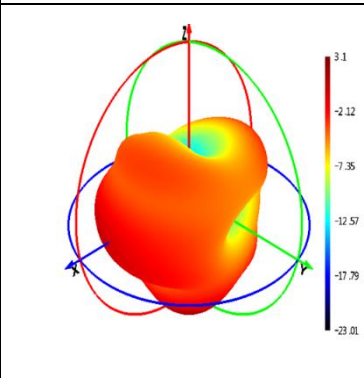
1561 MHz



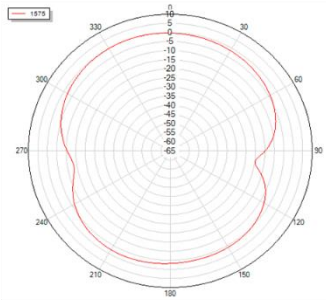
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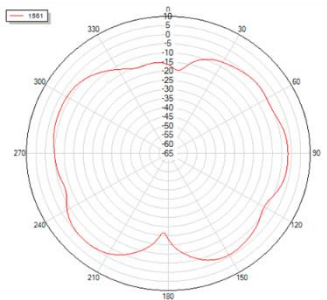
1575 MHz



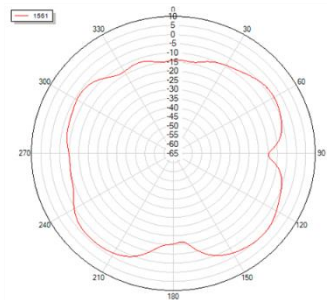
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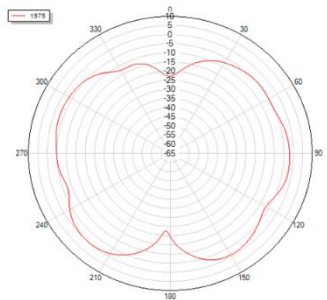
Phi=0 freq=1561MHz



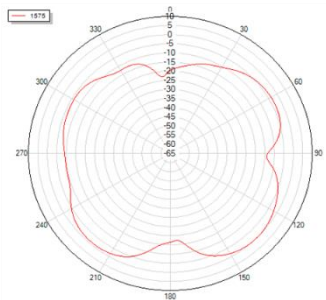
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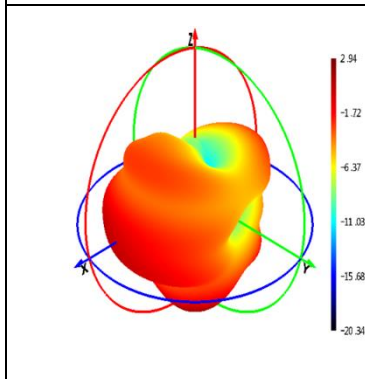
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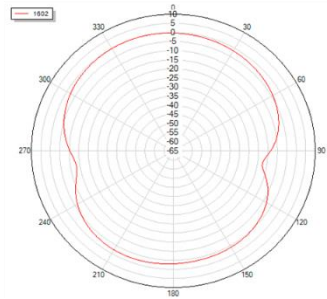
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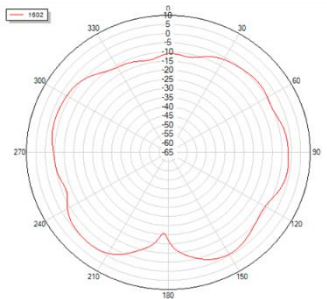
1602 MHz



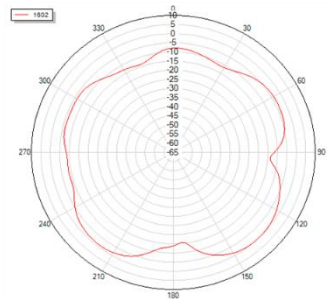
Theta=90 freq=1602MHz



Phi=0 freq=1602MHz

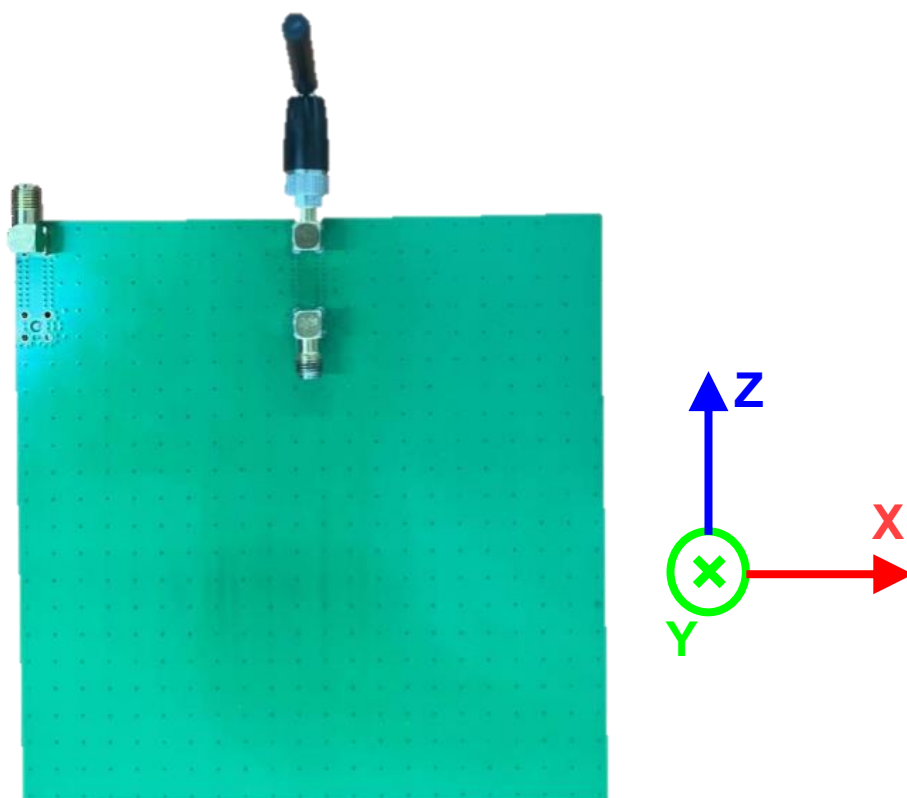


Phi=90 freq=1602MHz

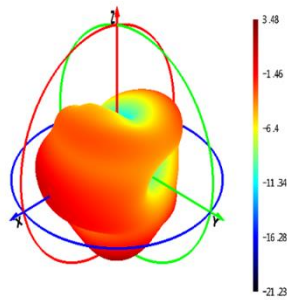


3.2.3.2. Test state: Bent

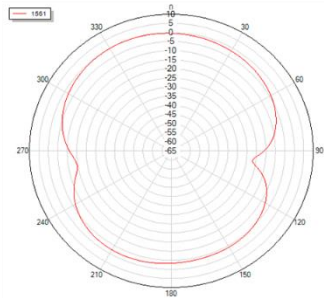
- Test Condition: On 130 mm × 130 mm EVB
- Test Chamber: HF-S-1



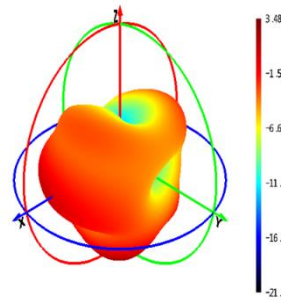
1561 MHz



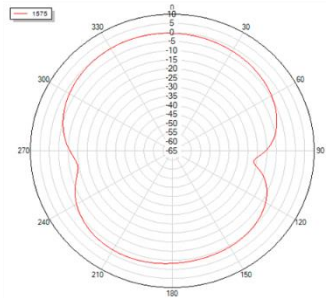
Theta=90 freq=1561MHz



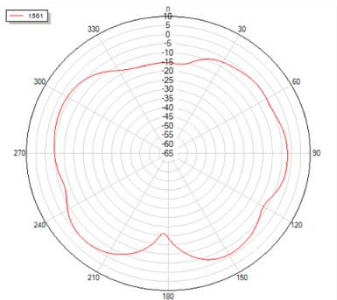
1575 MHz



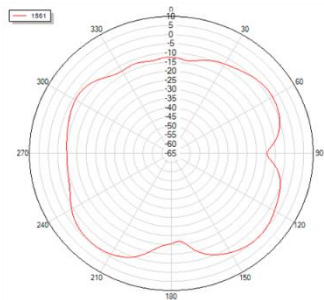
Theta=90 freq=1575MHz



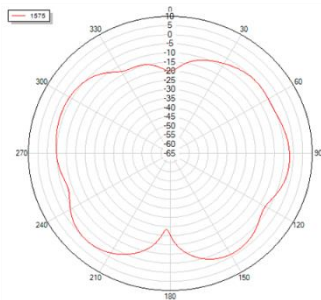
Phi=0 freq=1561MHz



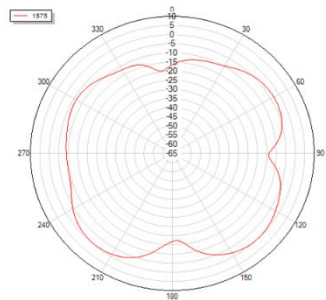
Phi=90 freq=1561MHz



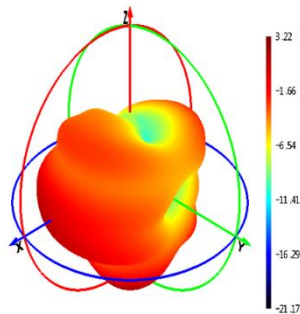
Phi=0 freq=1575MHz



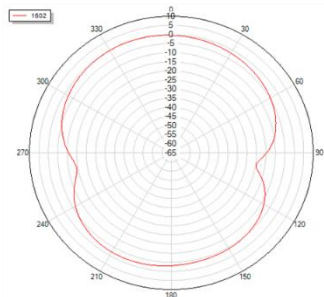
Phi=90 freq=1575MHz



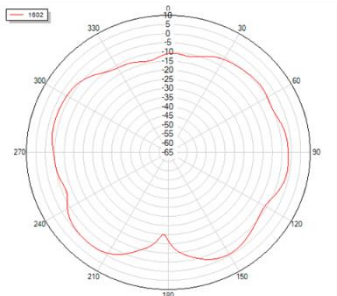
1602 MHz



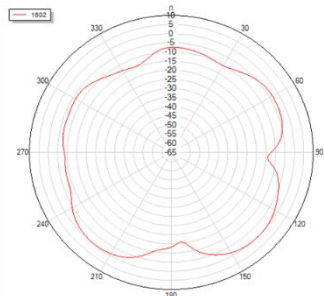
Theta=90 freq=1602MHz



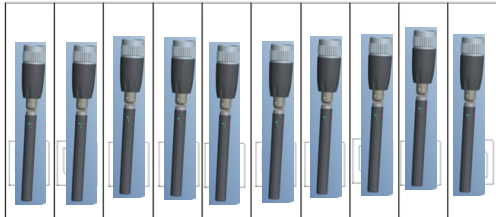
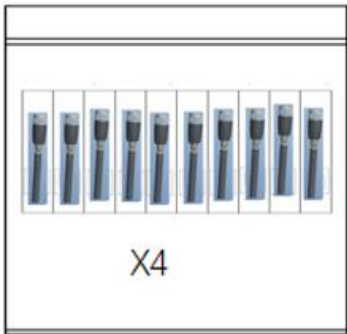
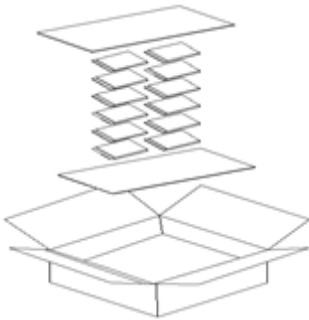
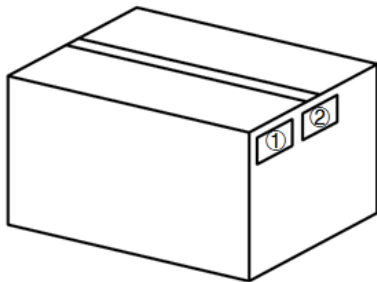
Phi=0 freq=1602MHz

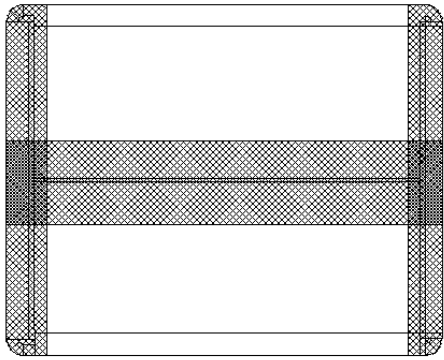


Phi=90 freq=1602MHz



4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		10 pcs antenna products in a one-piece bag. (10 PCS Antennas / One-piece Bag)
2		40 pcs antenna products in a PE bag. (40 PCS Antennas / PE Bag)
3		(20 PE Bags / Carton Box) (800 PCS Antennas / Carton Box) Estimated quantity Products that cannot fill the entire carton box are packed in a suitable size carton box. <u>Carton Size:</u> <u>L × W × H = 300 × 250 × 200 mm</u>
4		Position for Attaching Labels ① Carton Label ② Quality Label

5		<p>Sealing Cartons H-shaped sealing cartons</p>
Note	<p>The initial packaging method described above is for reference only, and the final actual packaging method shall be subject to the actual shipping packaging.</p>	

Contact Us

At Quectel, our aim is to provide timely and comprehensive services to our customers. If you require any assistance, please contact our headquarters:

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Or our local offices. For more information, please visit:

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Revision History

Version	Date	Author	Note
–	2025-02-06	Christopher YAO/ Rojin LUO/ Riva REN/ Rainey LIAO	Creation of the document
1.0	2025-02-06	Christopher YAO/ Rojin LUO/ Riva REN/ Rainey LIAO	First official release



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