Antenna Datasheet

Product OC: YEGT002W1AM
Version: 1.3
Date: 2026-01-19
Status: Released

Product Name: GNSS Terminal Mount Rubber Passive External Antenna
Key Features:
Frequency Band: 1559–1606 MHz
Dimensions: 52.6 mm × 18.6 mm × 9 mm
Efficiency: Up to 62.9 %
RoHS & REACH Compliant
IP53

Overview

The Quectel YEGT002W1AM is a high-performance GNSS terminal mount external dipole antenna designed for precision navigation and positioning appli+G464:G481cations. Operating in the 1559–1606 MHz frequency band, it supports GPS L1, GLONASS G1, Galileo E1, and BDS B1I/B1C systems, making it ideal for automotive, industrial tracking, IoT, and telematics solutions where reliable signal reception is critical.

- **Key Features**

✓ Exceptional Efficiency: Achieves up to 62.9 % efficiency in free-space conditions, ensuring robust signal capture even in challenging environments.

✓ Compact and Lightweight: With dimensions of 52.6 mm × 18.6 mm × 9 mm and a weight of just 7.4 grams, it is engineered for seamless integration into space-constrained devices.

✓ Omni-Directional Radiation: Linear polarization and an omni-directional radiation pattern provide consistent performance across diverse orientations.

✓ Flexible Connectivity: Compatible with 90° SMA Male connector, offering versatility for various installation scenarios.

✓ Durable Design: Constructed from TPE materials, it operates reliably in temperatures ranging from -40 °C to +85 °C and complies with RoHS & REACH standards.

- **Performance Highlights**

✓ Low VSWR and high return loss minimize signal reflection, optimizing power transfer.

✓ High peak gain ensures strong signal reception, while tested radiation patterns confirm stability in both free-space and on-EVB conditions (straight or bent configurations).

- **Target Applications**

✓ Ideal for portable GNSS devices, the YEGT002W1AM combines precision, durability, and adaptability. Its modular packaging (up to 320 units per carton) streamlines logistics for large-scale deployments.

Quectel provides comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs. We have regional R & D centers to offer quick response to meet your requirements. Please contact our sales & FAEs if you have any requests.

Contents

1 Specification

Test Condition: On 130 mm × 70 mm EVB

1.1. Electrical

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

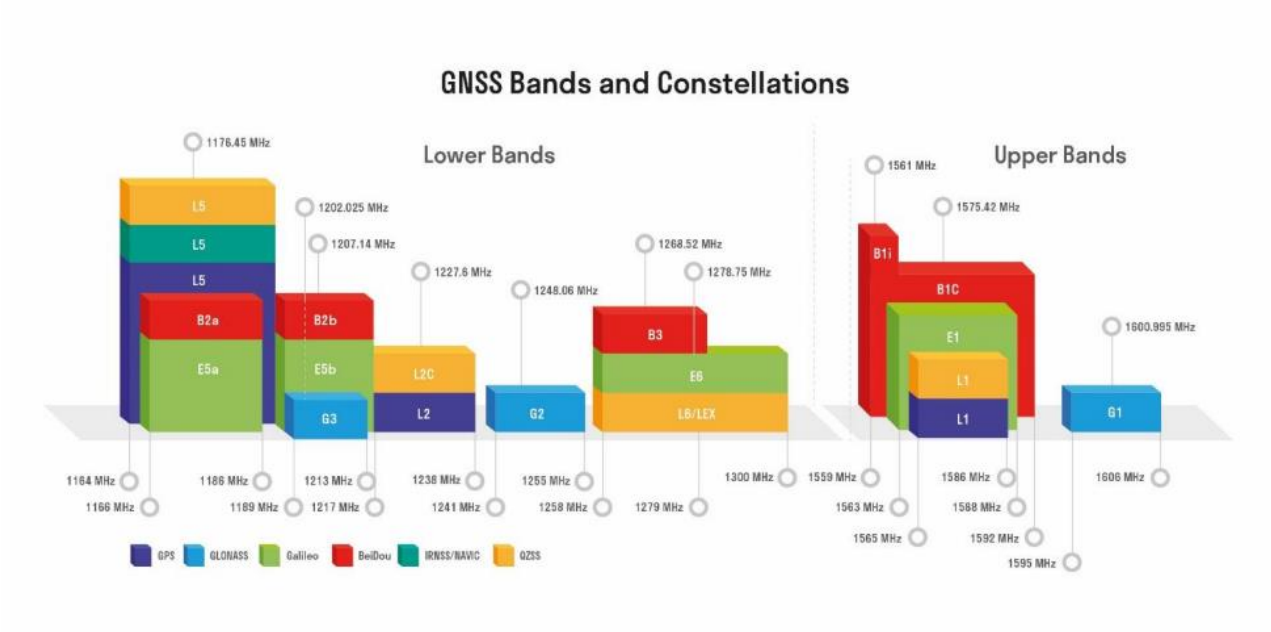
Band / Frequency (MHz)	GPS L5 GALILEO E5a BDS B2a-B2I QZSS L5 IRNSS L5	GALILEO E5b BDS B2b	GPS L2 QZSS L2C	GLONASS G2	BDS B3	BDS B1I	GPS L1 GALILEO E1 BDS B1C QZSS L1	GLONASS G1
	1176	1207	1227	1248	1268	1561	1575	1602
VSWR	-	-	-	-	-	3.2	3.2	3.3
Return Loss (dB)	-	-	-	-	-	-5.6	-5.6	-5.5
Efficiency (%)	-	-	-	-	-	62.5	61.5	57.3
Gain (dBi)	-	-	-	-	-	2.0	1.9	2.2

1.2. Mechanical & Environmental

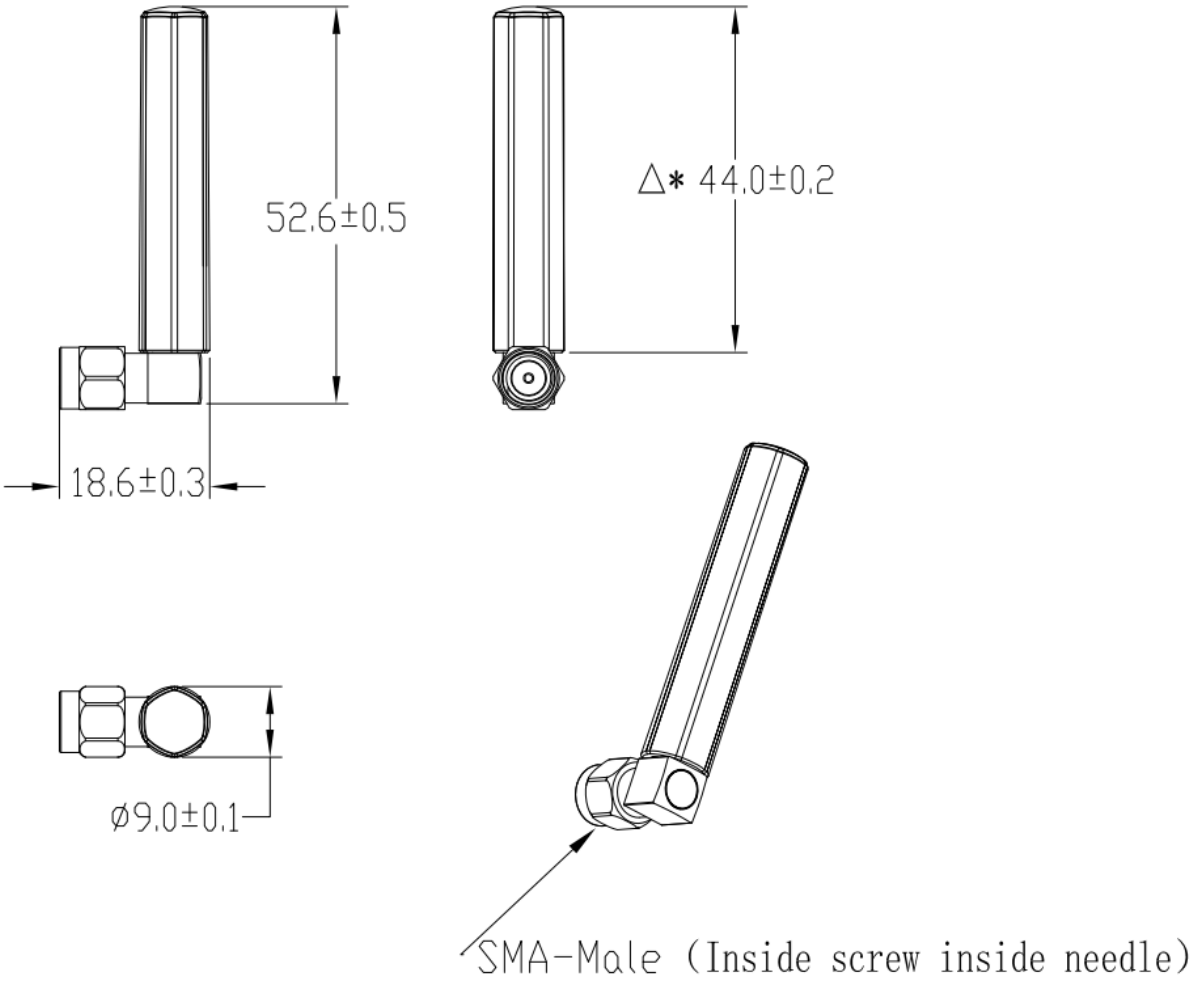
Mechanical	
Antenna Dimensions	52.6 mm × 18.6 mm × 9 mm
Casing Material & Color	TPE & Black
Connector Type	90° SMA Male
Mounting Type	Terminal
Weight	Typ. 7.4 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
Ingress Protection (IP) Rating	IP53
RoHS & REACH 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-L1OC-L1OF** Centre 1601 (1595–1606)	**G2-L2OC-L2OF** Centre 1248.06 (1241–1255)	**G3-L3OC** 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
Lower Bands
Upper Bands
1176.45 MHz
L5
L5
L5
B2a
E5a
1202.025 MHz
1207.14 MHz
B2b
E5b
G3
1227.6 MHz
L2C
L2
1248.06 MHz
G2
1268.52 MHz
1278.75 MHz
B3
E6
L6/LEX
1561 MHz
1575.42 MHz
B1i
B1C
E1
L1
L1
1600.995 MHz
G1
1164 MHz
1166 MHz
1186 MHz
1189 MHz
1213 MHz
1217 MHz
1238 MHz
1241 MHz
1255 MHz
1258 MHz
1279 MHz
1300 MHz
1559 MHz
1563 MHz
1565 MHz
1586 MHz
1588 MHz
1592 MHz
1595 MHz
1606 MHz
GPS
GLONASS
Galileo
BeiDou
IRNSS/NAVIC
QZSS

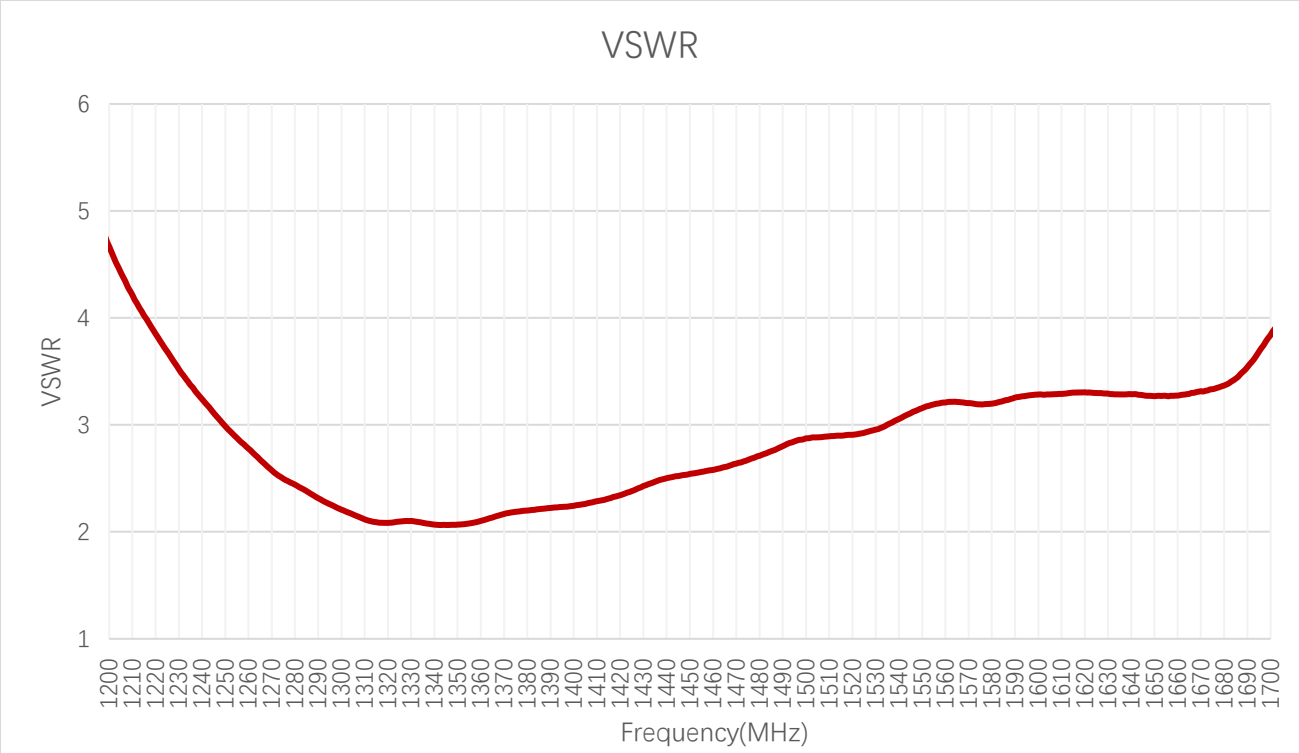
2 Drawing


52.6±0.5
△* 44.0±0.2
18.6±0.3
ø9.0±0.1
SMA-Male (Inside screw inside needle)

3 Detailed Performance

3.1. S-Parameter Test

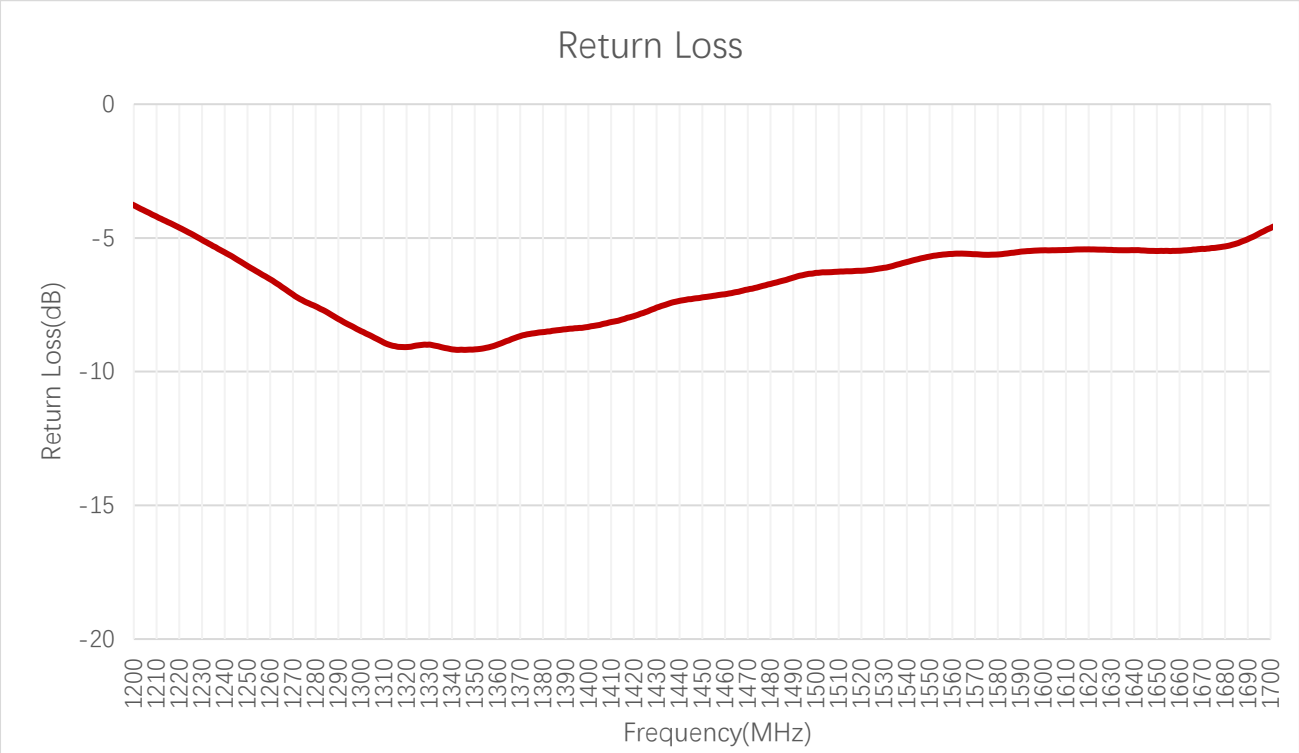
3.1.1. VSWR



VSWR

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
VSWR	-	-	-	-	-	3.2	3.2	3.3

3.1.2. Return Loss

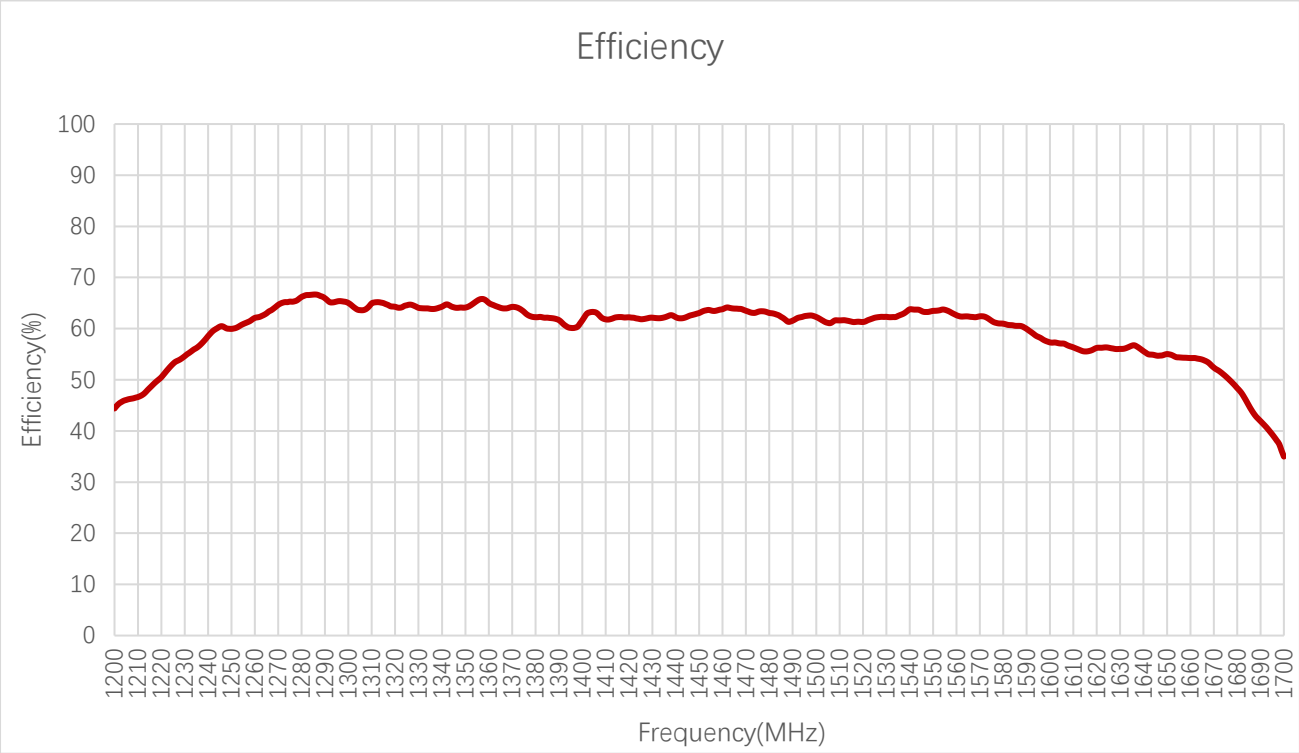


Return Loss (dB)

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Return Loss (dB)	-	-	-	-	-	-5.6	-5.6	-5.5

3.2. Radiation Performance Test

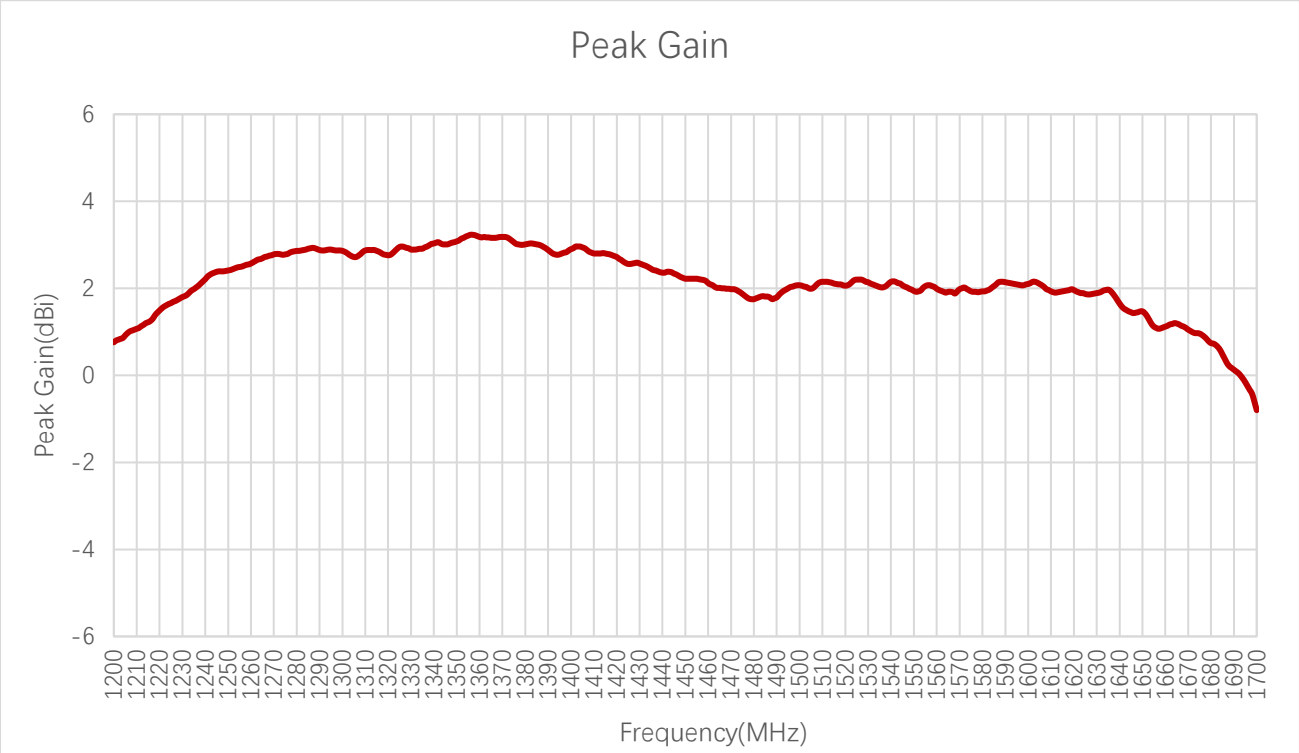
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Efficiency (%)	-	-	-	-	-	62.5	61.5	57.3

3.2.2. Peak Gain

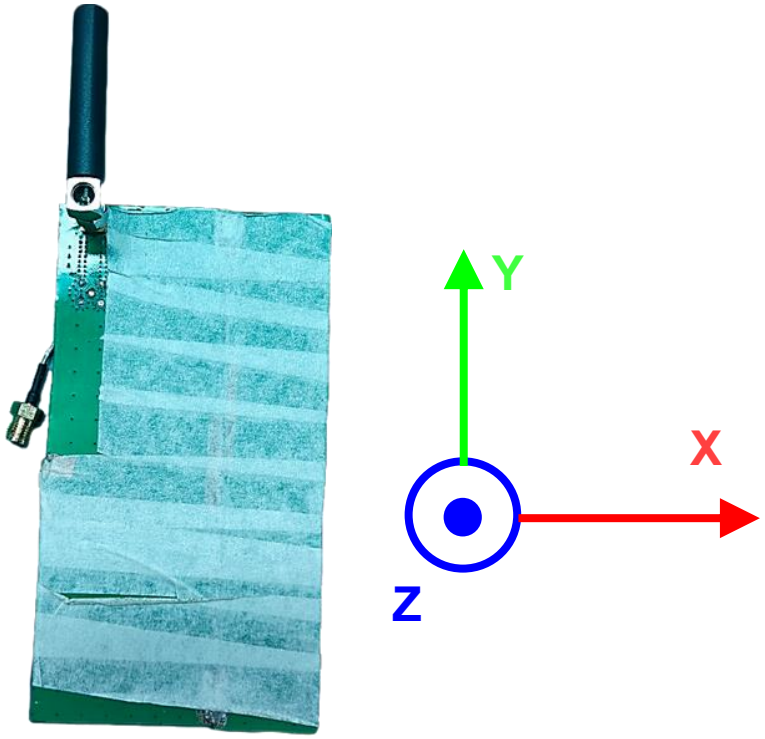


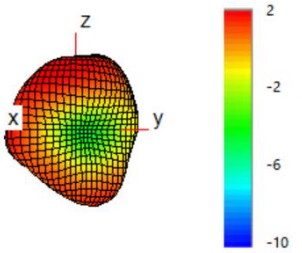
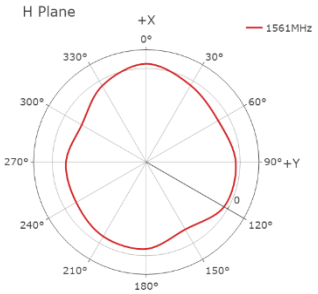
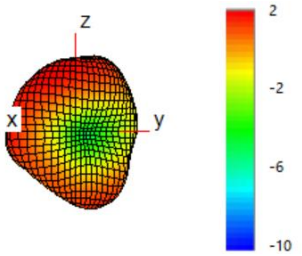
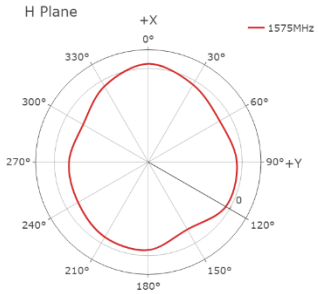
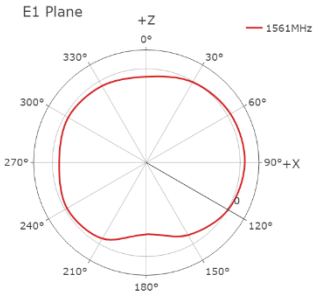
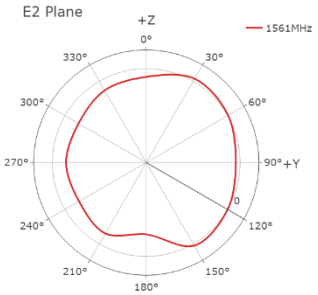
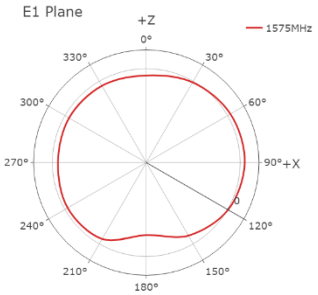
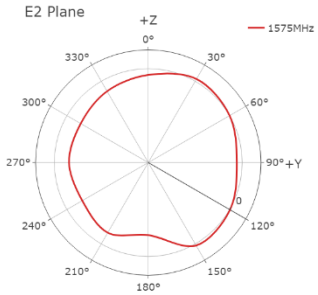
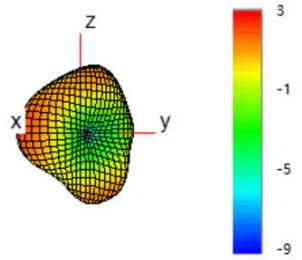
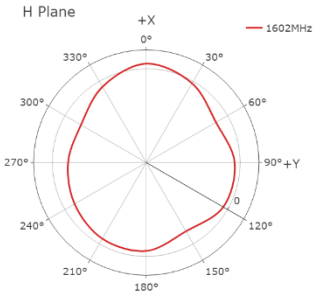
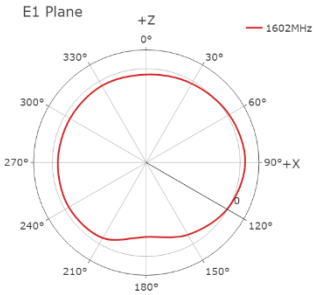
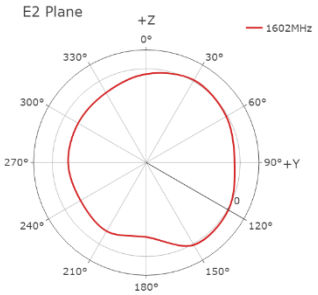
Peak Gain (dBi)

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Peak Gain (dBi)	-	-	-	-	-	2.0	1.9	2.2

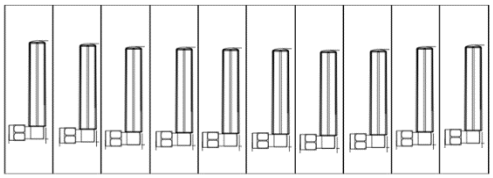
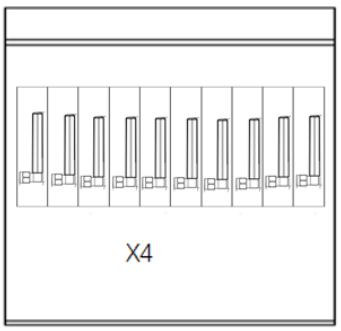
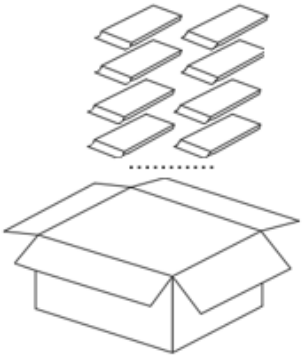
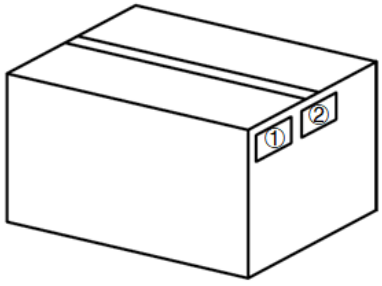
3.2.3. 3D & 2D Radiation Pattern

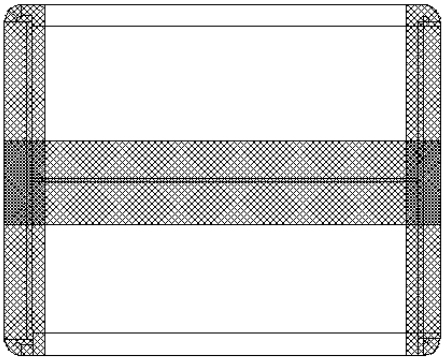
- Test Condition: On 130 mm × 70 mm EVB
- Test Chamber: GL-G-1



1561 MHz		1575 MHz	
			
			
1602 MHz			
			
			

4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		10 antenna products in a One-piece bag. (10 Antennas / One-Piece Bag)
2		40 antenna products in a PE bag. (40 Antennas / PE Bag)
3		(40 PE Bags / Carton Box) (1600 Antennas / Carton Box) Estimated quantity Products that cannot fill the entire carton box are packed in a suitable size carton box. Carton Size: L × W × H = 470 × 310 × 310 mm
4		**Position for Attaching Labels** ① Carton Label ② Quality Label

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

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
-	2024-07-12	Black Li/ Steven Mo/ David Liu/ Rainey Liao	Creation of the document
1.0	2024-07-12	Black Li/ Steven Mo/ David Liu/ Rainey Liao	First official release
1.1	2024-10-17	Steven Mo	Added Ingress Protection (IP) Rating (Chapter 1.2).
1.2	2025-08-11	Riva Ren/ Rainey Liao	1. Updated the antenna image (Cover page). 2. Updated the overview. 3. Updated the package (Chapter 4).
1.3	2026-01-19	Strong Qiang	Updated the packaging (Chapter 4).

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