Antenna Datasheet

Product OC: YENT060W1BM
Version: 1.0
Date: 2025-12-12
Status: Released

Product Name: LPWA/ISM Screw Mount Stubby Monopole External Antenna

Key Features:

Frequency band: 450–470 MHz
Dimensions: Φ 9.4 mm × 34.7 mm
Efficiency: Up to 29.3 % (EVB)
RoHS & REACH Compliant

Overview

YENT060W1BM is a ISM antenna measuring Φ 9.4 mm × 34.7 mm. This ISM antenna provides coverage from 450–470 MHz. The antenna terminated with SMA Male connector, and is available with customized connectors. This low profile, terminal mount omni-directional external antenna, ideal for applications where the antenna is required to be discrete, is easy to install with maximum durability assured. It is compatible with Quectel 's ISM Series modules. It has been tested with EVB board.

It allows constant and reliable transmission and reception due to its omni-directional gain across all frequency bands. The YENT060W1BM is designed as a monopole antenna, which needs to be mounted on a ground plane to offer high efficiency in all working bands. It is a perfect antenna product for customers that desire highest performance. This high-efficiency, high-gain omni-directional antenna is ideally suited for Gateways & Routers, Smart Metering, Vending Machines, Industrial IoT, Smart Home, Connected Enterprise, offering great performance with its high gain and efficiency.

- **Typical applications include:**

✓ Security Alerts

✓ Wireless Data-transmission

✓ Automated Manufacturing

✓ Industrial IoT

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: Free Space & On 130 mm × 130 mm EVB

1.1. Electrical

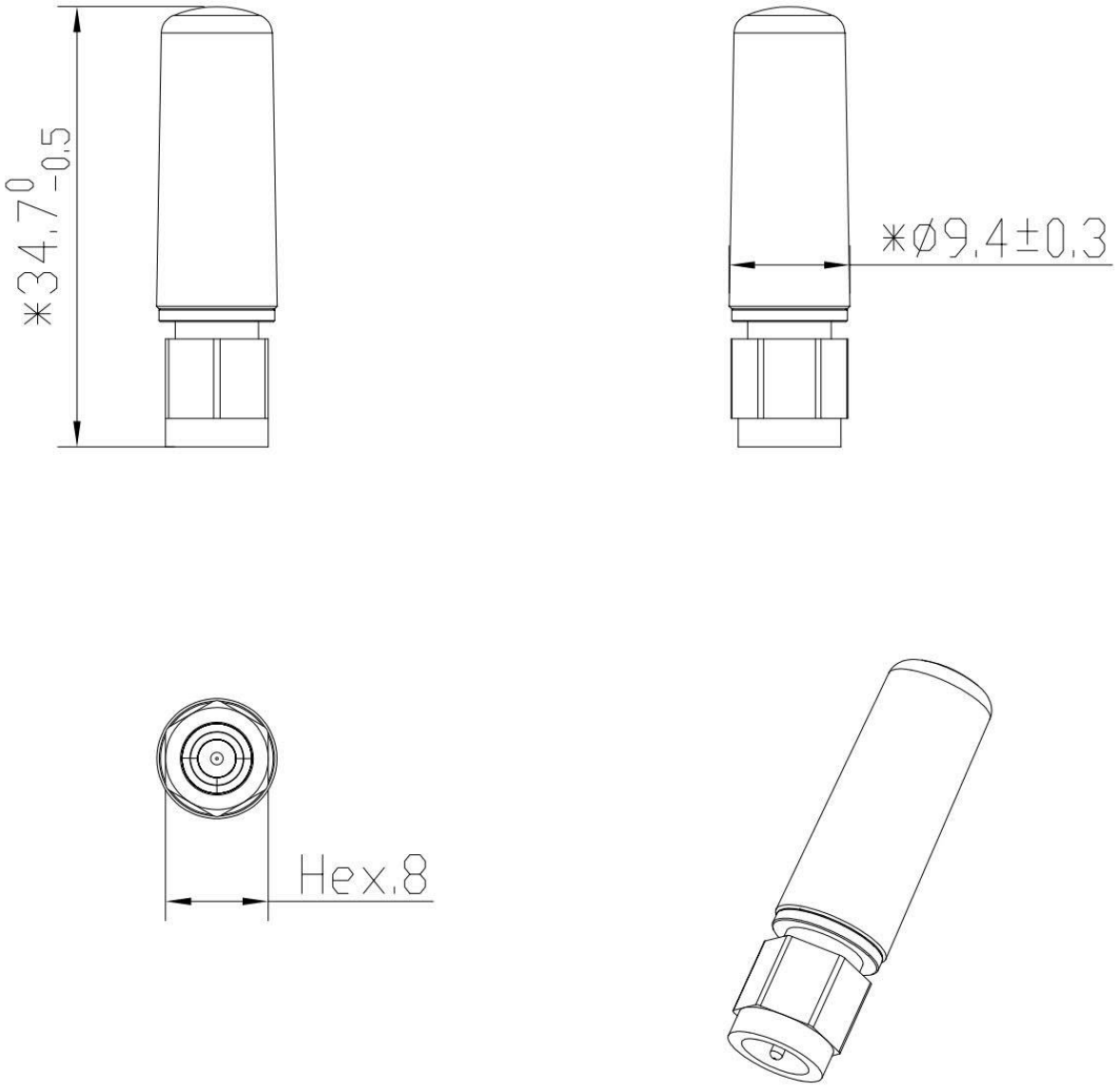
Electrical	
Frequency Range	450–470 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional

Specification \ Band		B88	EU433	B31
		412–427 MHz	433–435 MHz	450–470 MHz
Max. VSWR	**FS**	-	-	5.4
	EVB	-	-	3.5
Max. Return Loss (dB)	**FS**	-	-	-3.3
	EVB	-	-	-5.1
AVG Eff. (%)	**FS**	-	-	6.8
	EVB	-	-	26.4
AVG AVG Gain (dB)	**FS**	-	-	-11.8
	EVB	-	-	-5.8
Max. Peak Gain (dBi)	**FS**	-	-	-8.0
	EVB	-	-	-3.6

1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	Φ 9.4 mm × 34.7 mm
Material & Color	TPE & Black
Connector Type	SMA Male
Mounting Type	Terminal
Weight	Typ. 4.55 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
RoHS & REACH Compliant	Yes

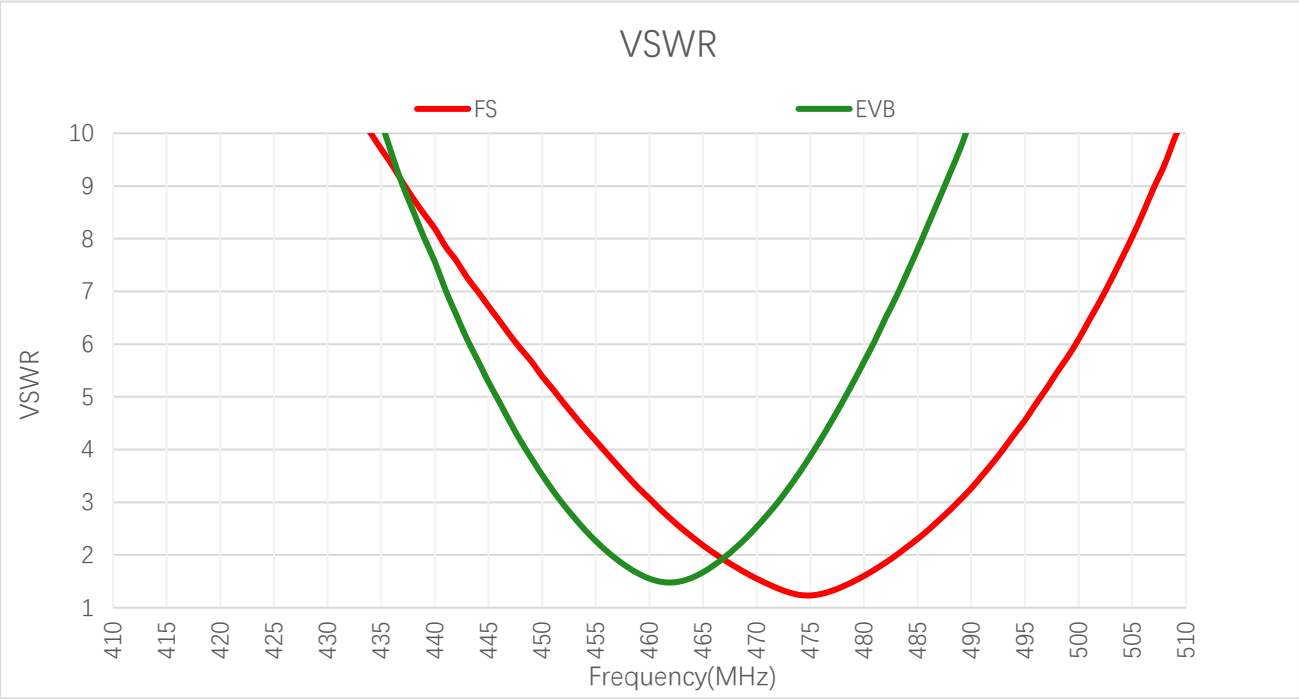
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

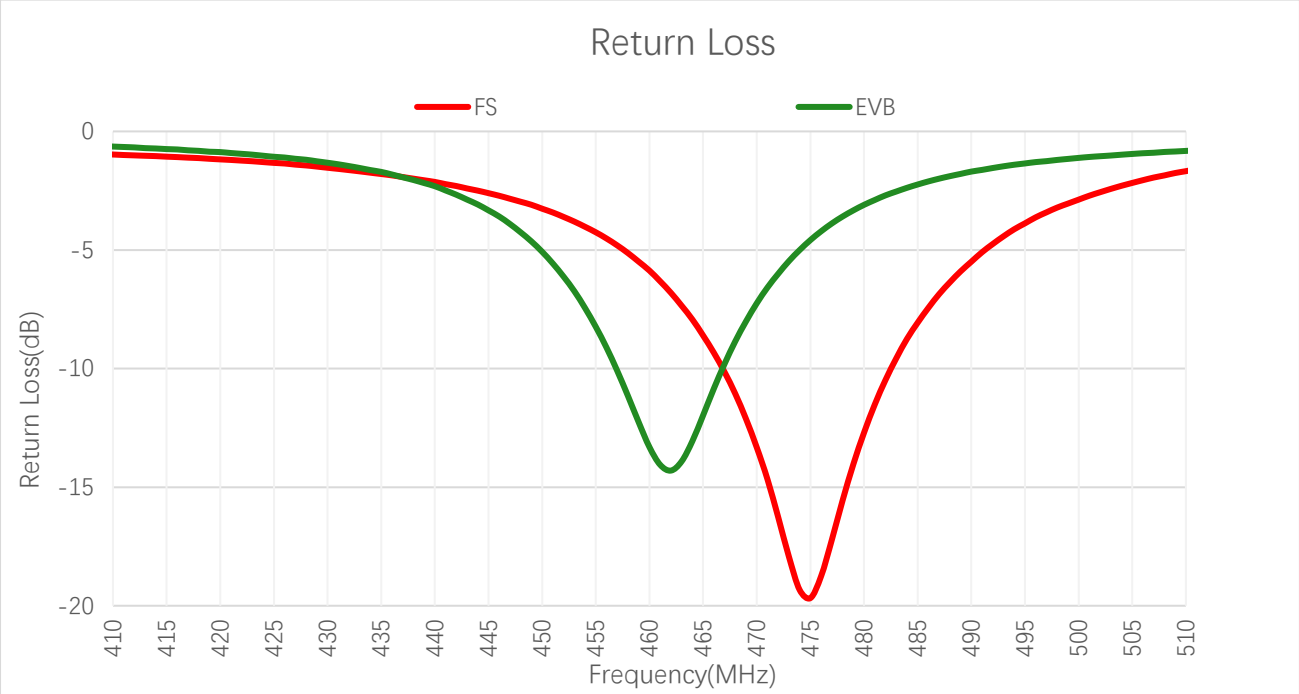
3.1.1. VSWR



VSWR

Frequency (MHz)	412	427	433	435	450	470	490	510	860	870
FS	-	-	-	-	5.4	1.6	-	-	-	-
EVB	-	-	-	-	3.5	2.5	-	-	-	-

3.1.2. Return Loss

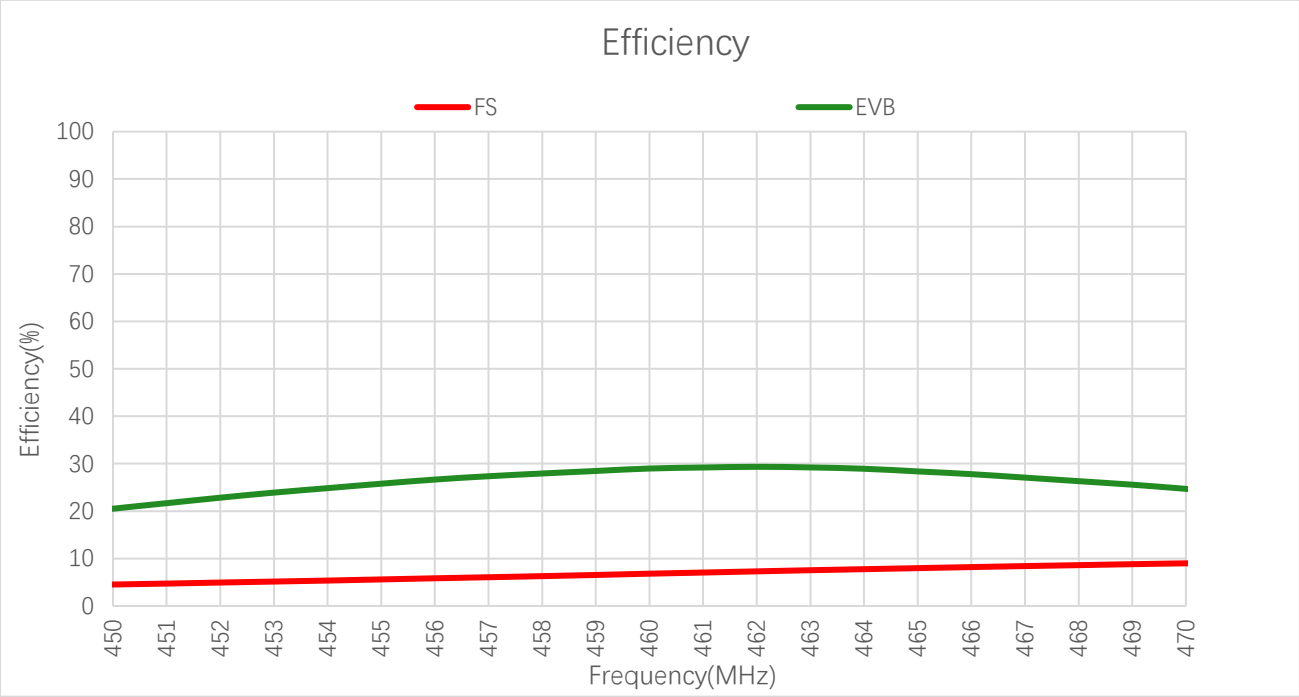


Return Loss (dB)

Frequency (MHz)	412	427	433	435	450	470	490	510	860	870
FS	-	-	-	-	-3.3	-13.3	-	-	-	-
EVB	-	-	-	-	-5.1	-7.2	-	-	-	-

3.2. Radiation Performance Test

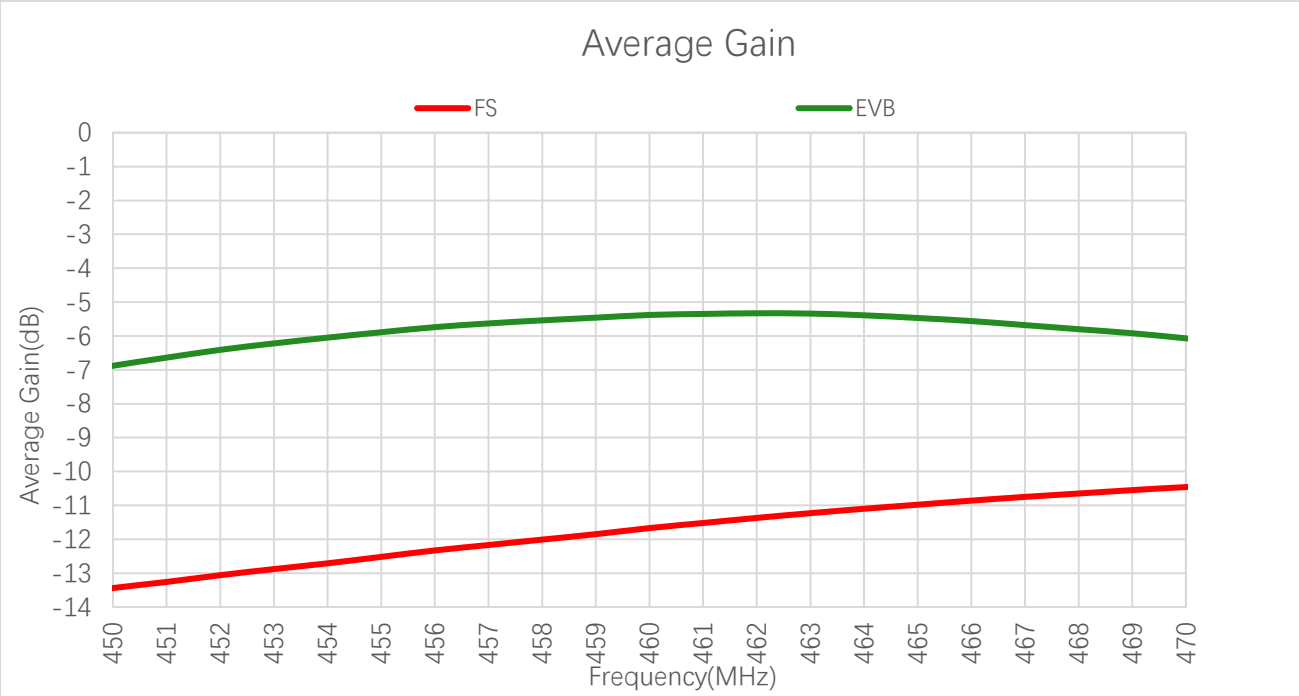
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	412	427	433	435	450	470	490	510	860	870
FS	-	-	-	-	4.5	9.0	-	-	-	-
EVB	-	-	-	-	20.5	24.7	-	-	-	-

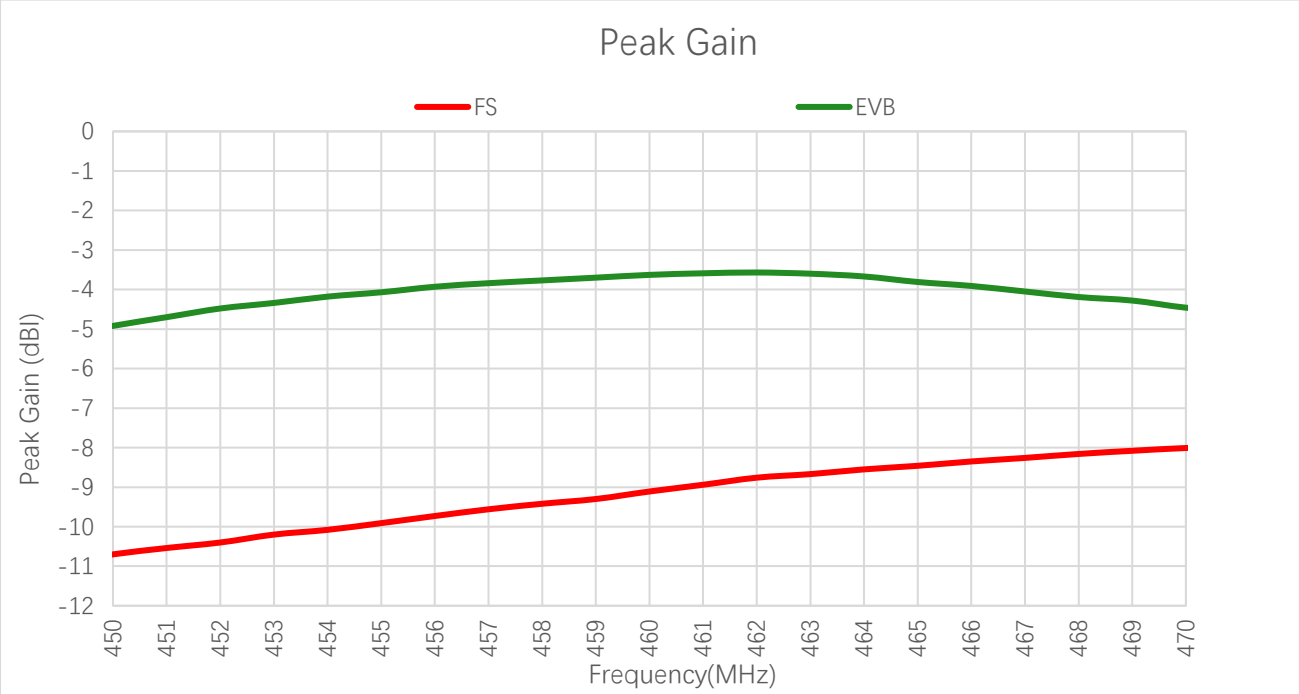
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)	412	427	433	435	450	470	490	510	860	870
FS	-	-	-	-	-13.4	-10.5	-	-	-	-
EVB	-	-	-	-	-6.9	-6.1	-	-	-	-

3.2.3. Peak Gain

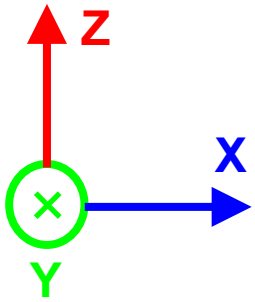


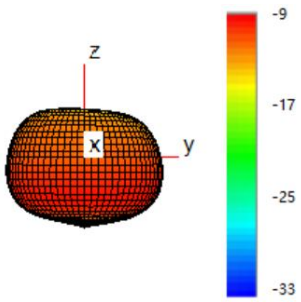
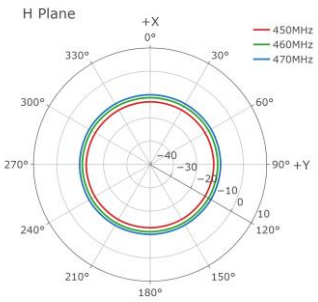
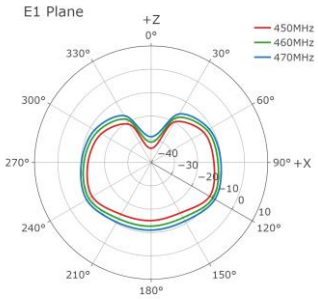
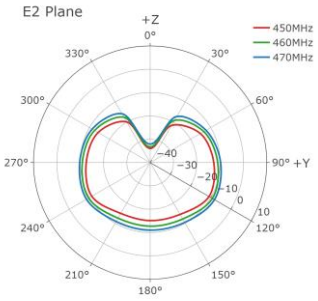
Peak Gain (dBi)

Frequency (MHz)	412	427	433	435	450	470	490	510	860	870
FS	-	-	-	-	-10.7	-8.0	-	-	-	-
EVB	-	-	-	-	-4.9	-4.5	-	-	-	-

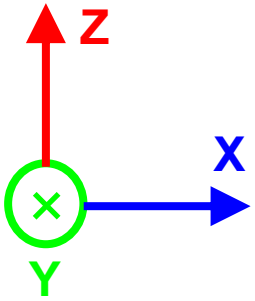
3.2.4. 3D & 2D Radiation Pattern

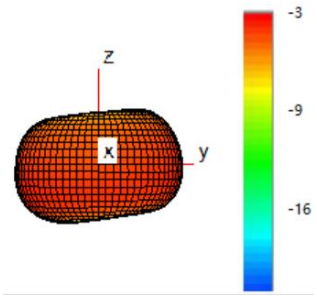
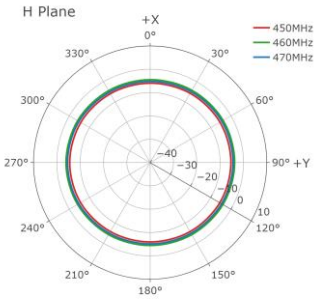
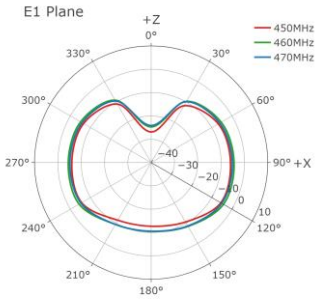
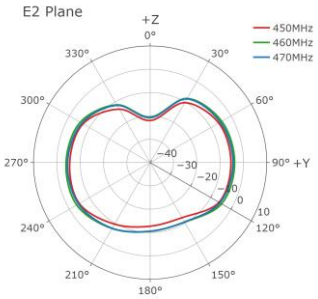
- Test Status: Free Space
- Test Chamber: HF-G-1



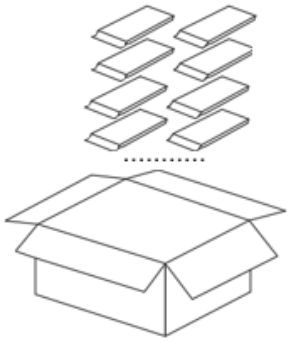
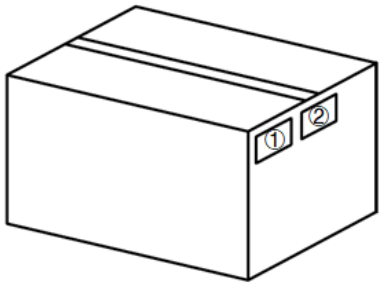
460 MHz	
	
	

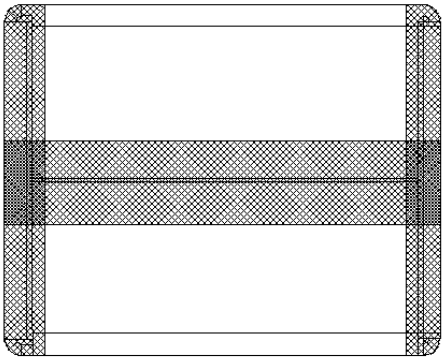
- Test Status: On 130 mm × 130 mm EVB
- Test Chamber: HF-G-1



460 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		(25 PE Bags / Carton Box) (1000 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 = 405 × 293 × 185 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
-	2025-12-12	Christopher Yao/ Toby Wang/ Strong Qiang/ Rainey Liao	Creation of the document
1.0	2025-12-12	Christopher Yao/ Toby Wang/ Strong Qiang/ Rainey Liao	First official release

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