



# Antenna Datasheet

**Product OC:** YEBT001W1AM

**Version:** 1.4

**Date:** 2025-11-07

**Status:** Released

**Product Name:** Wi-Fi Terminal Mount Rubber Monopole External Antenna

**Key Features:**

Frequency Band: 2400–2500 MHz & 5150–5850 MHz & 5925–7125 MHz

Dimensions: 135 mm × 15.6 mm × 13 mm

Efficiency: Up to 73.5 %

RoHS & REACH Compliant

IP67

Compatible with FAKRA, TNC and N-Type connectors

# Overview

YEBT001W1AM is a Wi-Fi external antenna measuring 135 mm × 15.6 mm × 13 mm. This ultra-wide-band Wi-Fi antenna provides broad coverage from 2400–2500 MHz & 5150–5850 MHz & 5925–7125 MHz. The antenna is terminated with RP SMA Male connector, also supports N male, TNC male, Fakra male connectors. Ideal for applications where the antenna is required to be discrete, this low profile, terminal mount omni-directional antenna is easy to install with maximum durability assured thanks to its IP67 rated and PC+ABS enclosure. It is compatible with Quectel's Wi-Fi modules.

The antenna is designed as dipole type to work with various GND plane sizes or in free space for ease of integration with a hinged RP SMA Male connector to achieve the optimum position. Hinged structure helps to avoid other antennas or objects by rotating to different directions when mounted on terminals. This omni-directional antenna is ideally suited for Wi-Fi, WLAN, Zigbee, Bluetooth, and 802.11a/b/g/n/ac applications, Wi-Fi application points and routers, offering great performance with its high gain and efficiency.

Typical applications include:

- Wi-Fi, WLAN, Zigbee, Bluetooth, and 802.11a/b/g/n/ac applications
- Wi-Fi application points and routers

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.

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# 1 Specification

Test Condition: Free Space & 130 mm × 70 mm EVB

## 1.1. Electrical

Electrical	
Frequency Range	2400–2500 MHz, 5150–5850 MHz, 5925–7125 MHz
Impedance	50 $\Omega$
Polarization	Linear
Radiation Pattern	Omni-directional

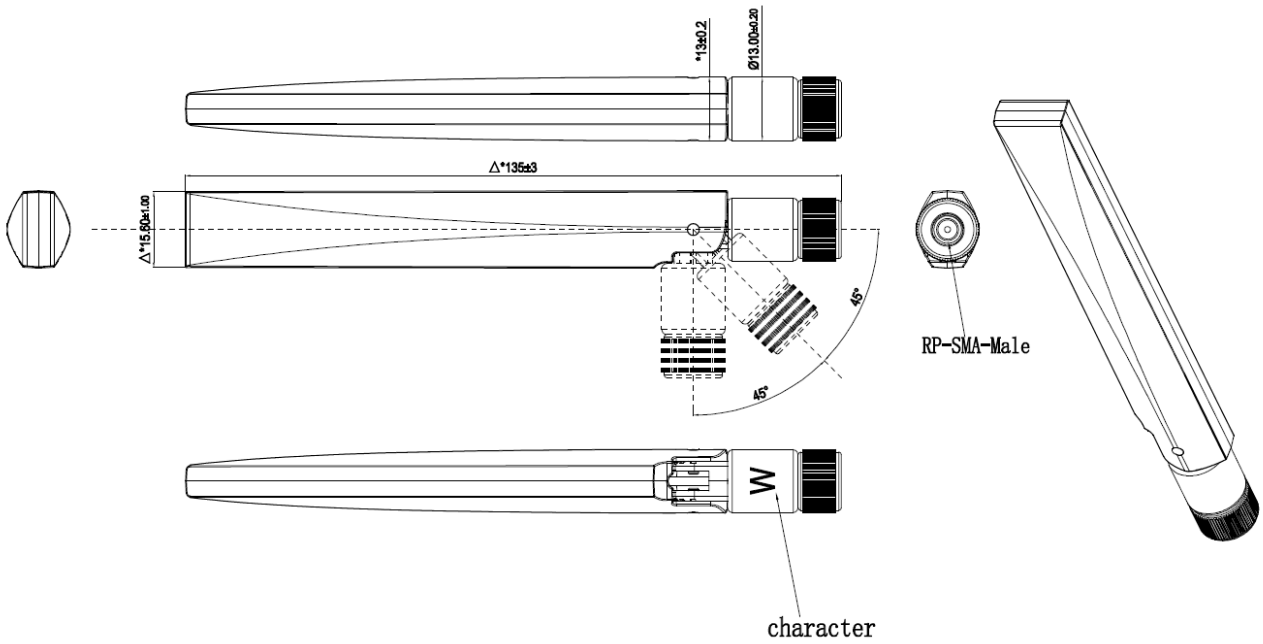
Specification	Band	Band	Wi-Fi 2G	Wi-Fi 5G	Wi-Fi 6G
		Freq. (MHz)	2400–2500	5150–5850	5925–7125
Max. VSWR	FS		1.6	2.3	3.3
	EVB		1.6	2.4	3.8
Max. Return Loss (dB)	FS		-13.0	-8.3	-5.4
	EVB		-12.2	-7.8	-4.7
AVG Eff. (%)	FS		50.8	61.8	47.8
	EVB		54.7	64.1	51.7
AVG AVG Gain (dB)	FS		-2.9	-2.1	-3.2
	EVB		-2.6	-1.9	-2.9
Max. Peak Gain (dBi)	FS		2.9	3.0	4.3
	EVB		2.1	4.1	3.6
VSWR	FS		≤ 3.3		
	EVB		≤ 3.8		
Return Loss	FS		≤ -5.4 dB		
	EVB		≤ -4.7 dB		
Peak Gain	FS		≤ 4.3 dBi		
	EVB		≤ 4.1 dBi		

- FS: Free Space.
- EVB: On 130 mm × 70 mm EVB.

## 1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	135 mm × 15.6 mm × 13 mm
Material & Color	PC + ABS & Black
Connector Type	RP SMA Male
Mounting Type	Terminal
Weight	Typ. 17 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
Ingress Protection (IP) Rating	IP67 (After Installation)
RoHS & REACH Compliant	Yes

# 2 Drawing



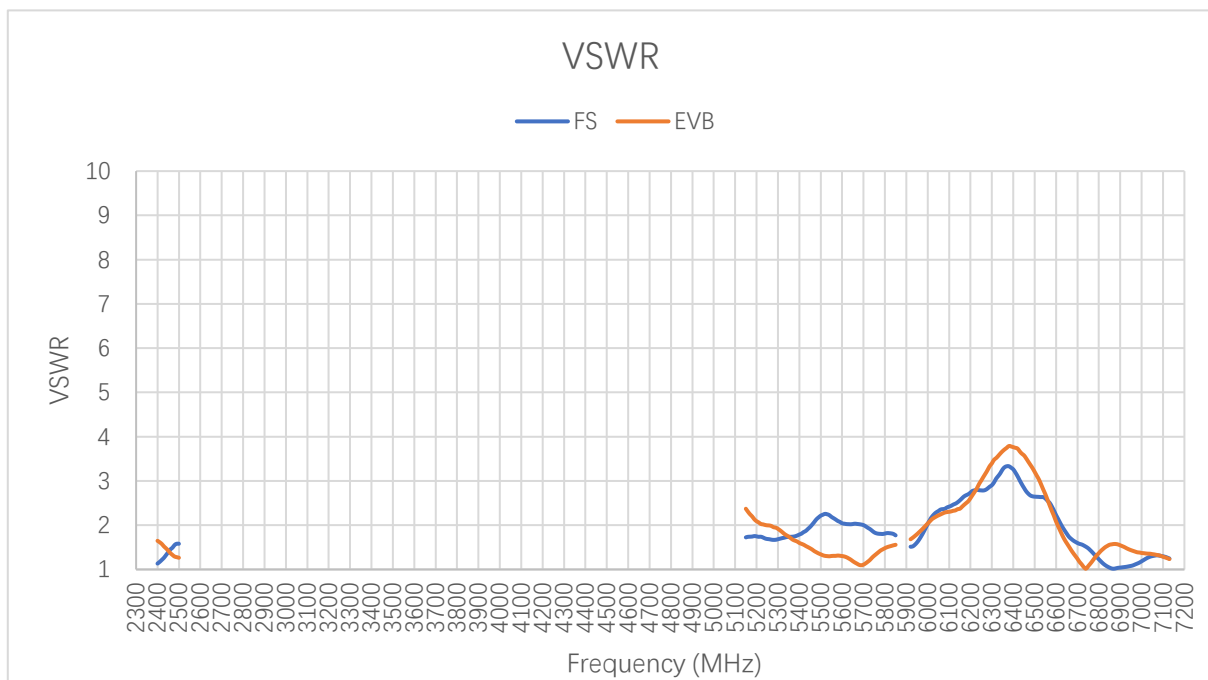
UNIT:mm

Note: If you use a torque wrench, the recommended force for mounting the antenna is 0.9Nm and the maximum torque to prevent antenna damage is 1.17Nm.

# 3 Detailed Performance

## 3.1. S-Parameter Test

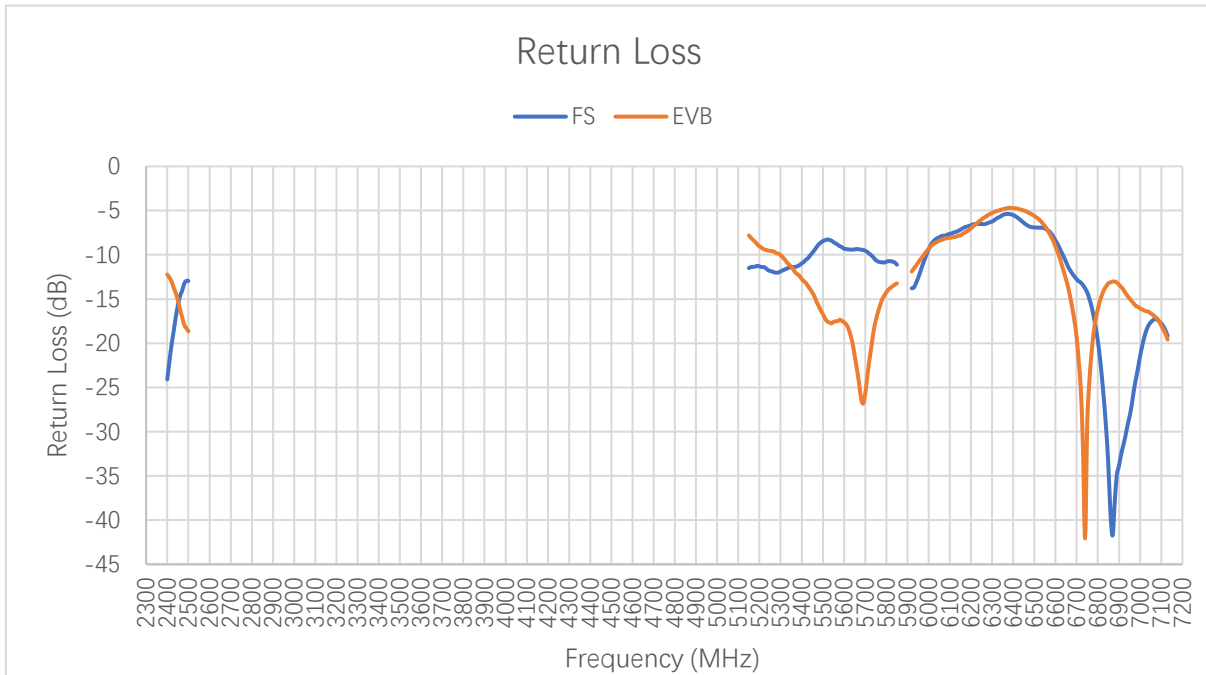
### 3.1.1. VSWR



**VSWR**

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
<b>FS</b>	1.1	1.4	1.6	1.7	2.2	1.8	1.5	2.6	1.5	1.2
<b>EVB</b>	1.6	1.4	1.3	2.4	1.3	1.6	1.7	2.9	1.1	1.2

**3.1.2. Return Loss**

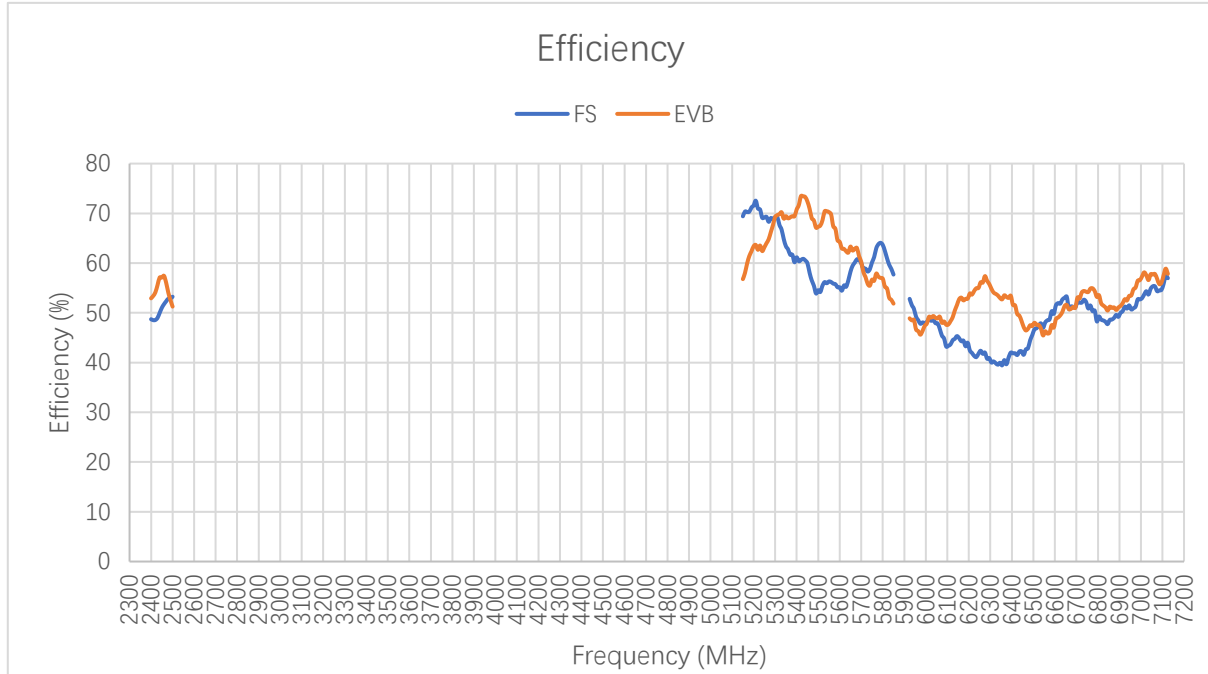


**Return Loss (dB)**

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
<b>FS</b>	-24.1	-15.7	-13.0	-11.5	-8.5	-11.1	-13.8	-6.9	-13.4	-19.2
<b>EVB</b>	-12.2	-15.1	-18.7	-7.8	-16.7	-13.2	-11.9	-6.2	-32.1	-19.6

### 3.2. Radiation Performance Test

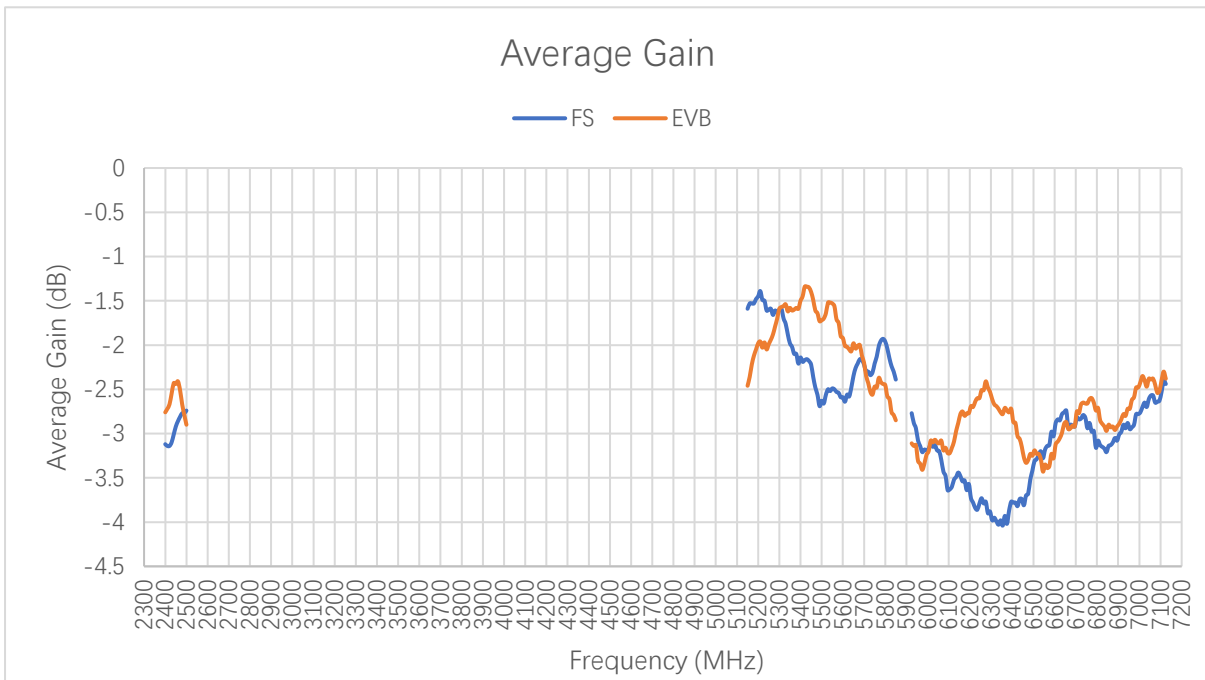
#### 3.2.1. Efficiency



**Efficiency (%)**

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
<b>FS</b>	48.7	51.0	53.2	69.4	54.6	57.7	52.8	47.4	52.1	57.0
<b>EVB</b>	52.9	57.1	51.3	56.8	67.3	51.9	48.9	47.6	54.1	57.8

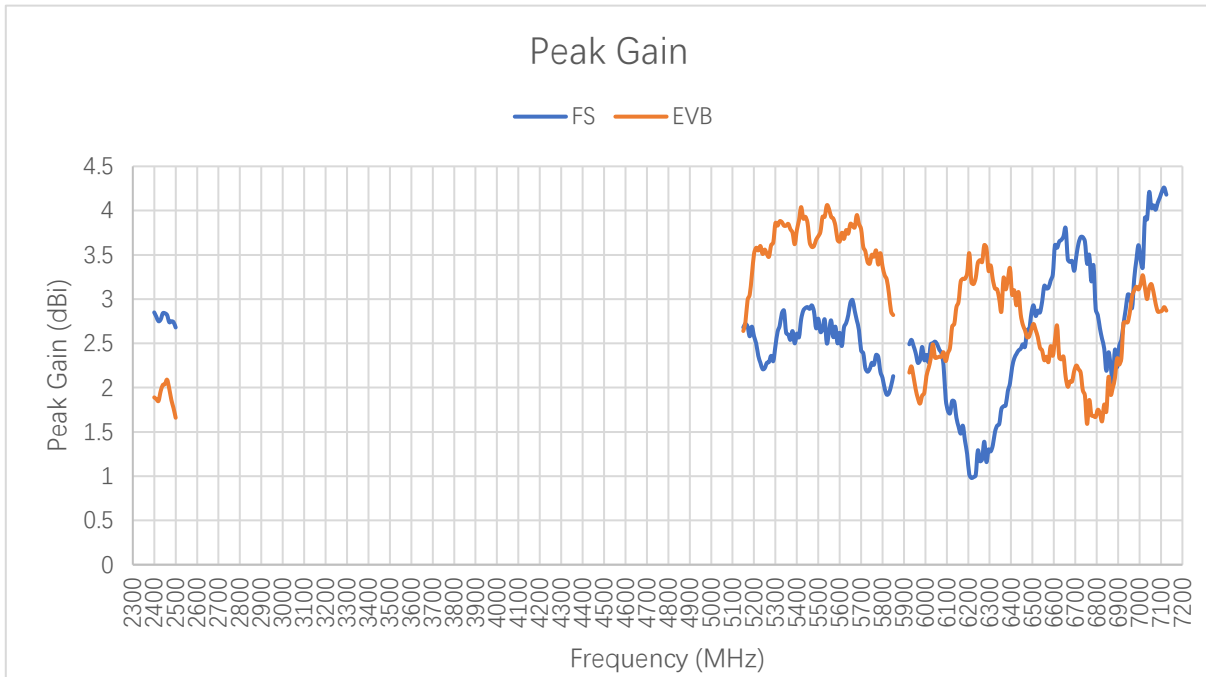
**3.2.2. Average Gain**



**Average Gain (dB)**

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
<b>FS</b>	-3.1	-2.9	-2.7	-1.6	-2.6	-2.4	-2.8	-3.2	-2.8	-2.4
<b>EVB</b>	-2.8	-2.4	-2.9	-2.5	-1.7	-2.9	-3.1	-3.2	-2.7	-2.4

**3.2.3. Peak Gain**



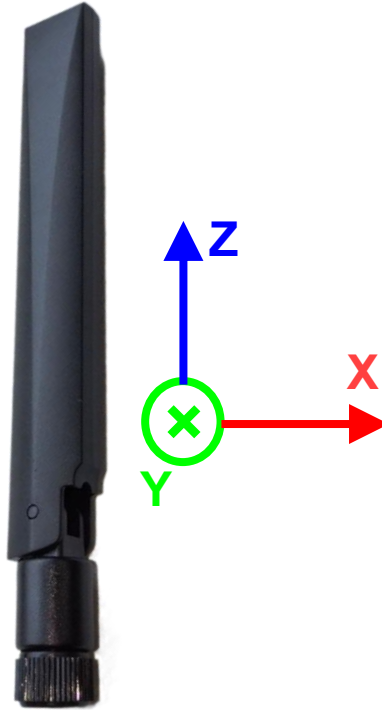
**Peak Gain (dBi)**

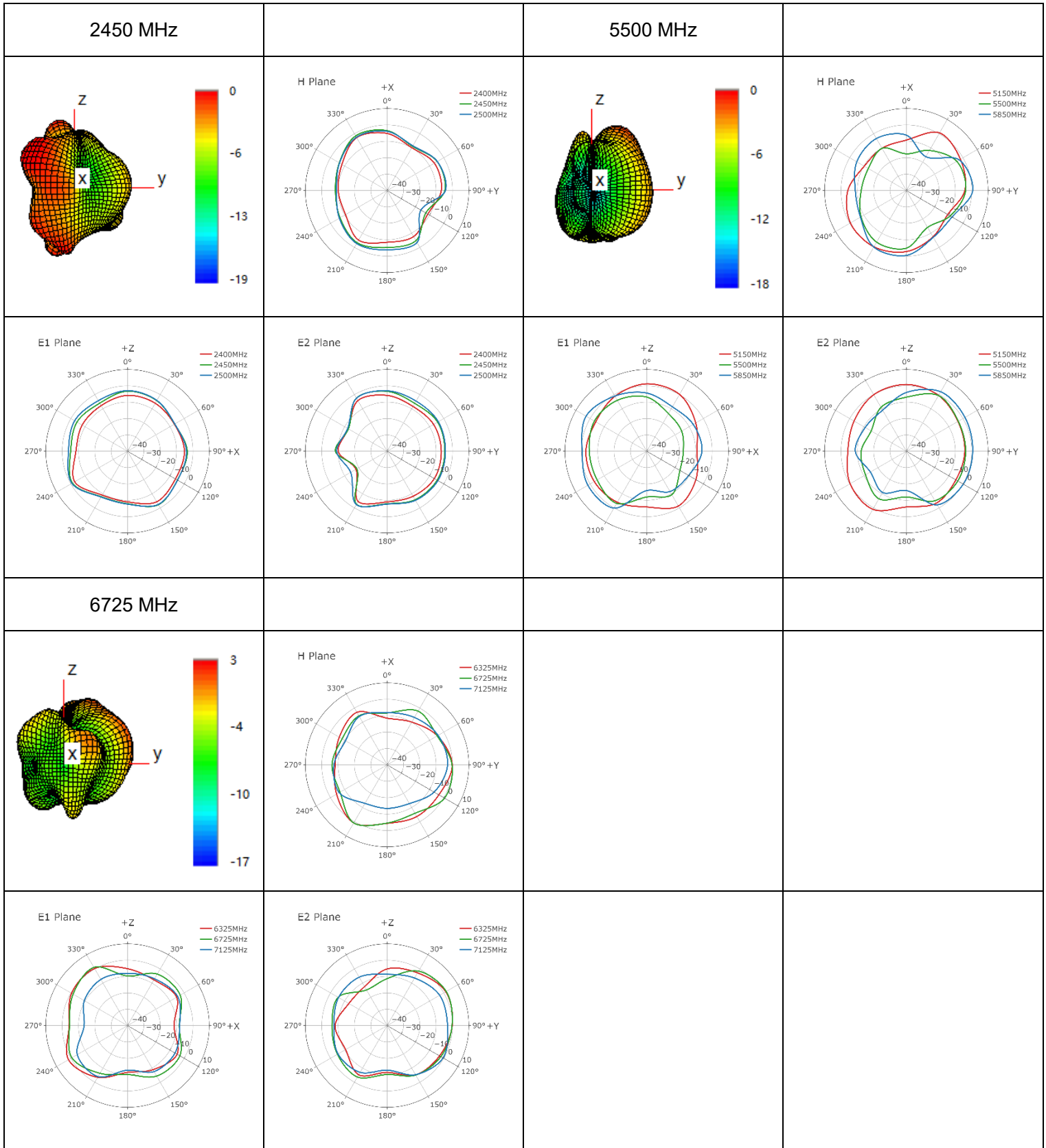
Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
<b>FS</b>	2.9	2.8	2.7	2.7	2.8	2.1	2.5	2.9	3.7	4.2
<b>EVB</b>	1.9	2.0	1.7	2.6	3.7	2.8	2.2	2.6	2.2	2.9

### 3.2.4. 3D & 2D Radiation Pattern

#### 3.2.4.1. Test Condition: Free Space

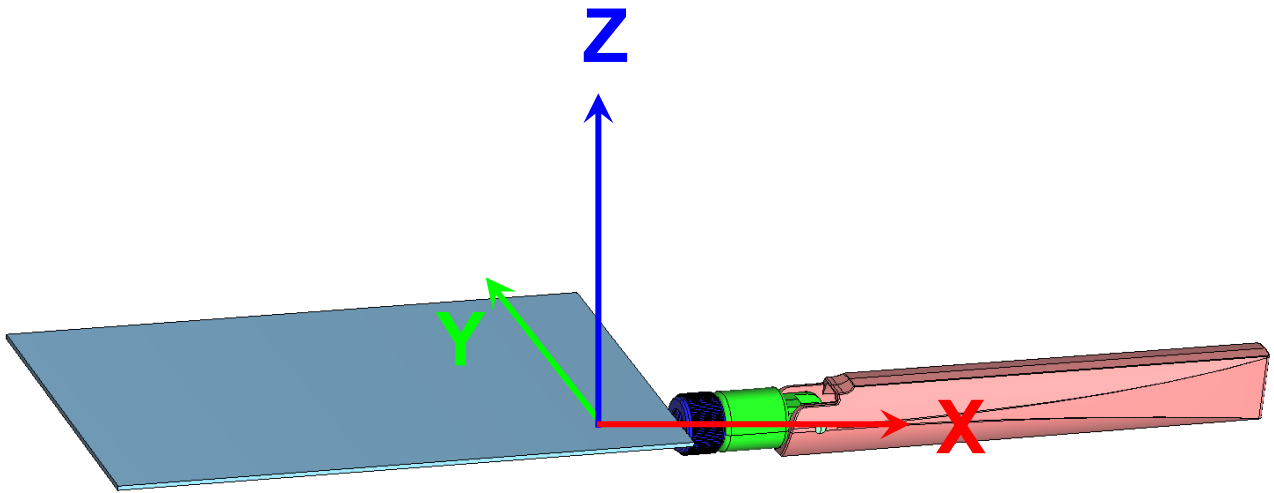
- Test Chamber: FS-G-1

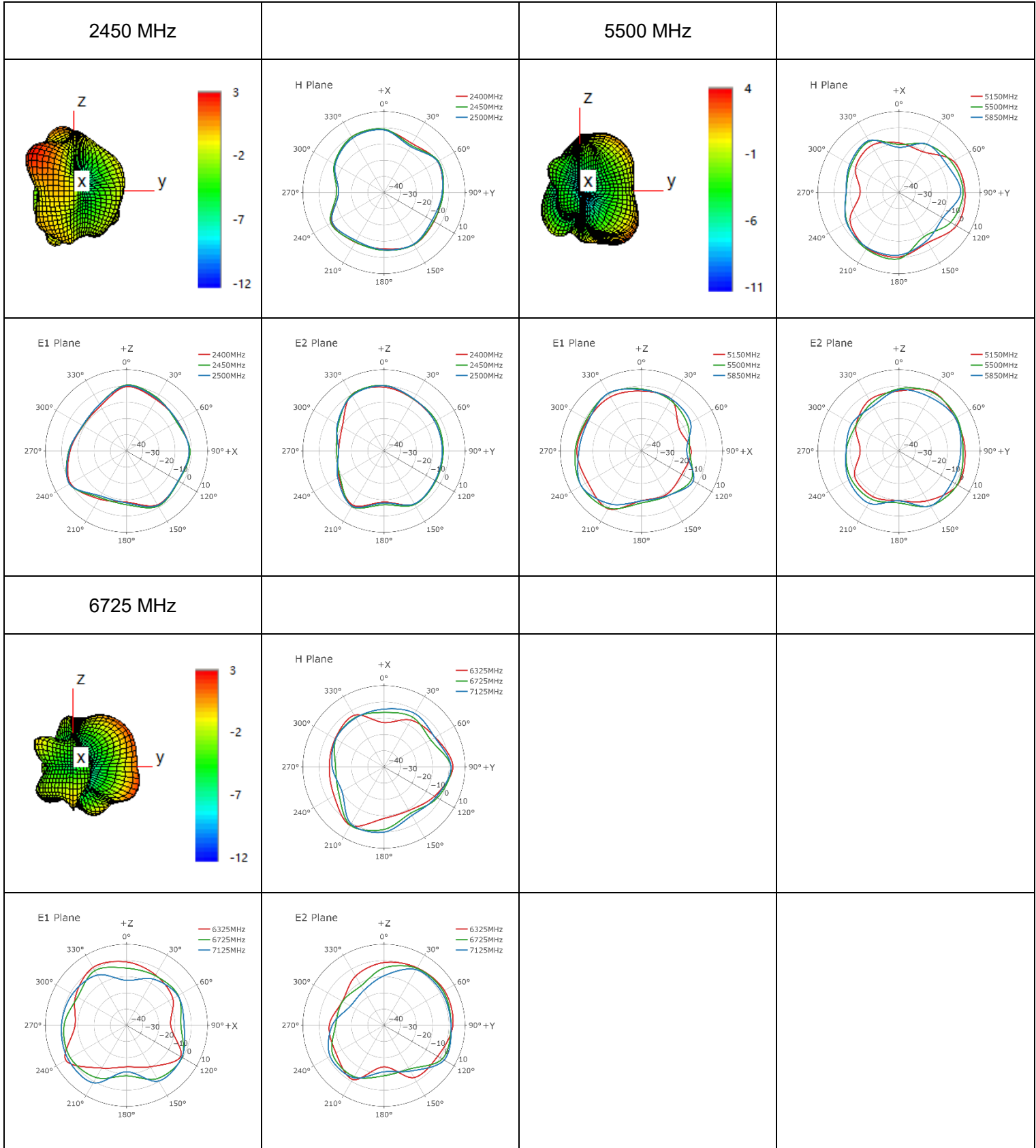




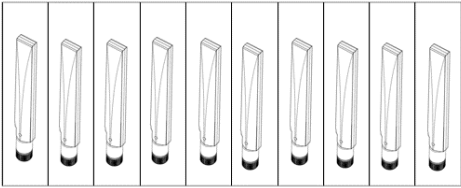
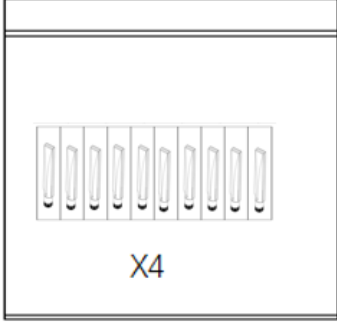
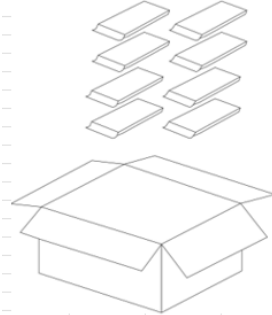
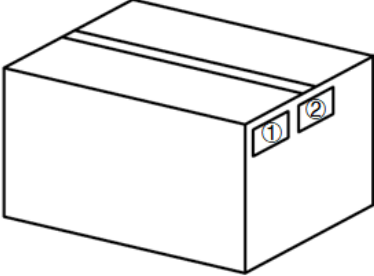
**3.2.4.2. Test Condition: On 130 mm × 70 mm EVB**

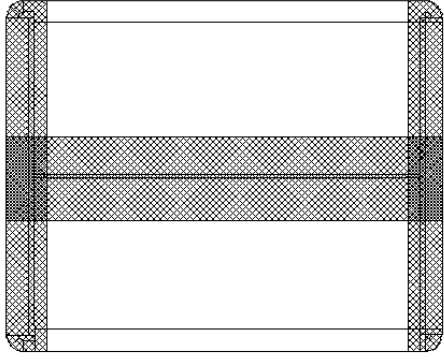
- Test Chamber: FS-G-1





# 4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		<p>10 antenna products in a one-piece bag. (10 Antennas / One-piece Bag)</p>
2		<p>40 antenna products in a PE bags. (40 Antennas / PE Bag)</p>
3		<p>(8 PE Bags / Carton Box) (320 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 = 325 × 325 × 200 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	 A technical drawing of an H-shaped sealing carton. It consists of a central horizontal rectangular section with a cross-hatched texture, representing the sealing material. This central section is connected to two vertical rectangular sections, also with a cross-hatched texture, representing the side panels of the carton. The overall shape is an 'H'.	<p><b>Sealing Cartons</b> 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
-	2024-06-05	Mordecai Liu/ Lance Sun/ David Liu/ Rainey Liao	Creation of the document
1.0	2024-06-05	Mordecai Liu/ Lance Sun/ David Liu/ Rainey Liao	First official release
1.1	2024-10-11	David Liu	Updated the packaging (Chapter 4).
1.2	2024-11-07	Lance Sun	Updated the drawing (Chapter 2).
1.3	2025-06-12	Rainey Liao	Updated the antenna image (Cover page).
1.4	2025-11-07	Blake Xiang	Updated the drawing (Chapter 2).

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