



Antenna Datasheet

Product OC: YEBT001WFBM

Version: 1.3

Date: 2025-08-18

Status: Released

Product Name: Wi-Fi & V2X Terminal Mount Rubber Monopole Antenna

Key Features:

Frequency Band: Wi-Fi: 2400–2500 MHz, 5150–5850 MHz,
5925–7125 MHz;

V2X: 5850–5925 MHz

Dimensions: Φ 9 mm \times 54.9 mm

Efficiency: Up to 74.8 %

RoHS & REACH Compliant

IP54

Overview

YEBT001WFBM is a Wi-Fi & V2X rubber antenna measuring Φ 9 mm \times 54.9 mm. This ultra-wide-band antenna provides broad coverage from 2400–2500 MHz, 5150–7125 MHz. The antenna is terminated with RP-SMA Male connectors. This low profile, terminal mount omni-directional antenna, ideal for applications where the antenna is required to be discrete, is easy to install with maximum durability assured thanks to its TPE enclosure. It is compatible with Quectel's Wi-Fi and V2X Series modules.

It allows constant and reliable transmission and reception due to its omni-directional gain across all frequency bands. YEBT001WFBM 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 and routers, IoT Sensors, public safety and security, point of sales terminals, smart home automation, robotics / autonomous, V2X mesh networks system.

Typical applications include:

- Gateways and Routers
- IoT Sensors
- Public Safety and Security
- Point of Sales Terminals
- Smart Home Automation
- Robotics / Autonomous
- V2X mesh networks system

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: On 130 mm × 70 mm EVB

1.1. Electrical

Electrical		
Frequency Range	Wi-Fi	2400–2500 MHz, 5150–5850 MHz, 5925–7125 MHz
	V2X	5850–5925 MHz
Impedance	50 Ω	
Polarization	Linear	
Radiation Pattern	Omni-directional	

1.1.1. Wi-Fi

Specification	Band	Band	Wi-Fi 2G	Wi-Fi 5G	Wi-Fi 6G
		Freq. (MHz)	2400–2500	5150–5850	5925–7125
Max. VSWR			1.8	1.9	2.4
Max. Return Loss (dB)			-11.1	-10.1	-7.7
AVG Eff. (%)			37.4	60.7	62.5
AVG AVG Gain (dB)			-4.3	-2.2	-2.1
Max. Peak Gain (dBi)			2.5	3.2	4.3
VSWR		≤ 2.4			
Return Loss		≤ -7.7 dB			
Peak Gain		≤ 4.3 dBi			

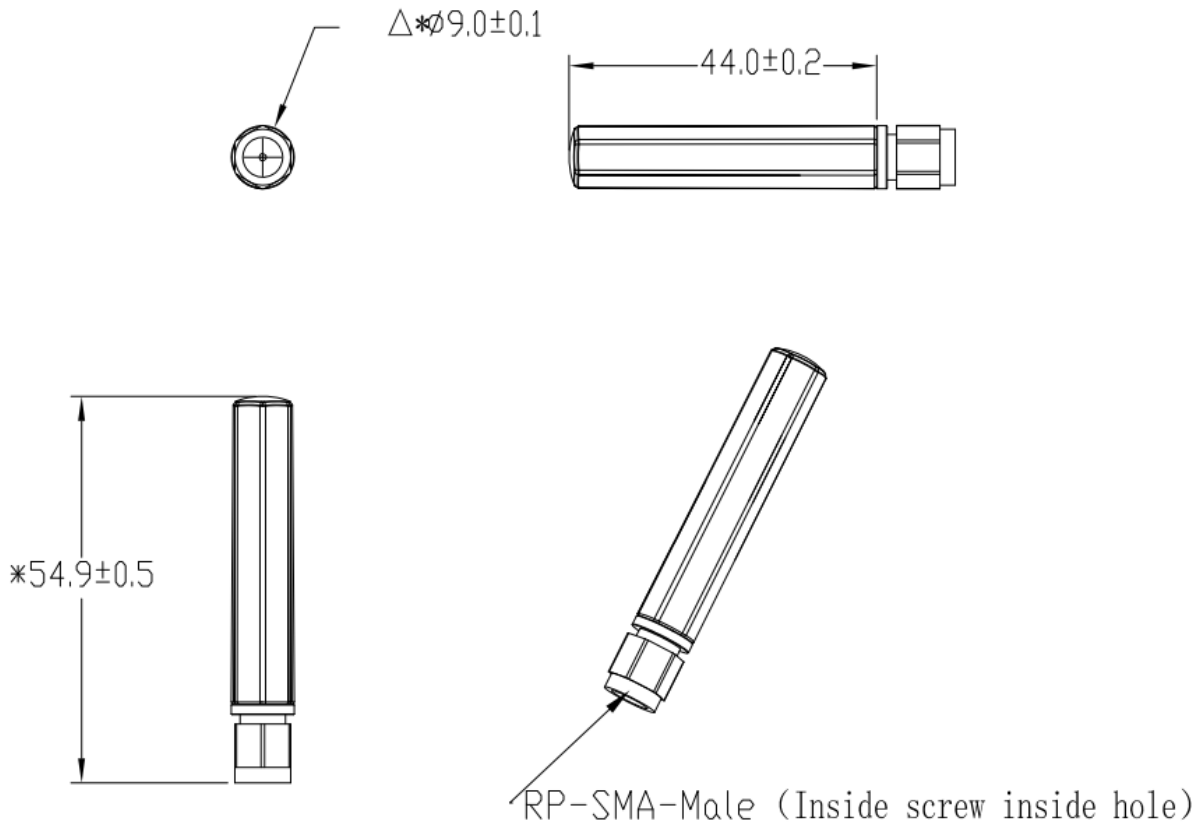
1.1.2. V2X

Specification	Band	Band	V2X
		Freq. (MHz)	5850–5925
Max. VSWR			1.9
Max. Return Loss (dB)			-10.4
AVG Eff. (%)			58.4
AVG AVG Gain (dB)			-2.3
Max. Peak Gain (dBi)			2.9
VSWR		≤ 1.9	
Return Loss		≤ -10.4 dB	
Peak Gain		≤ 2.9 dBi	

1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	Φ 9 mm × 54.9 mm
Casing Material & Color	TPE & Black
Connector Type	RP-SMA Male
Mounting Type	Terminal
Weight	Typ. 5.1 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
Ingress Protection (IP) Rating	IP54
RoHS & REACH Compliant	Yes

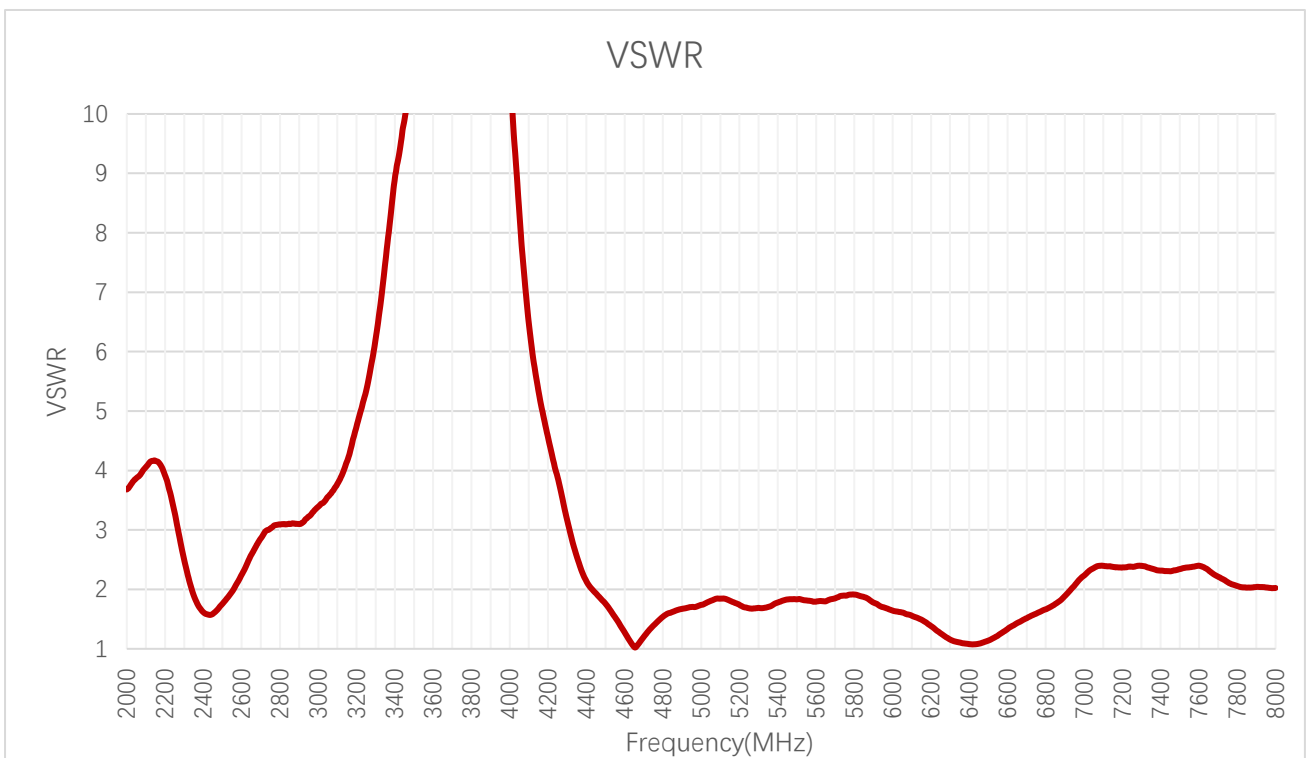
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

3.1.1. VSWR



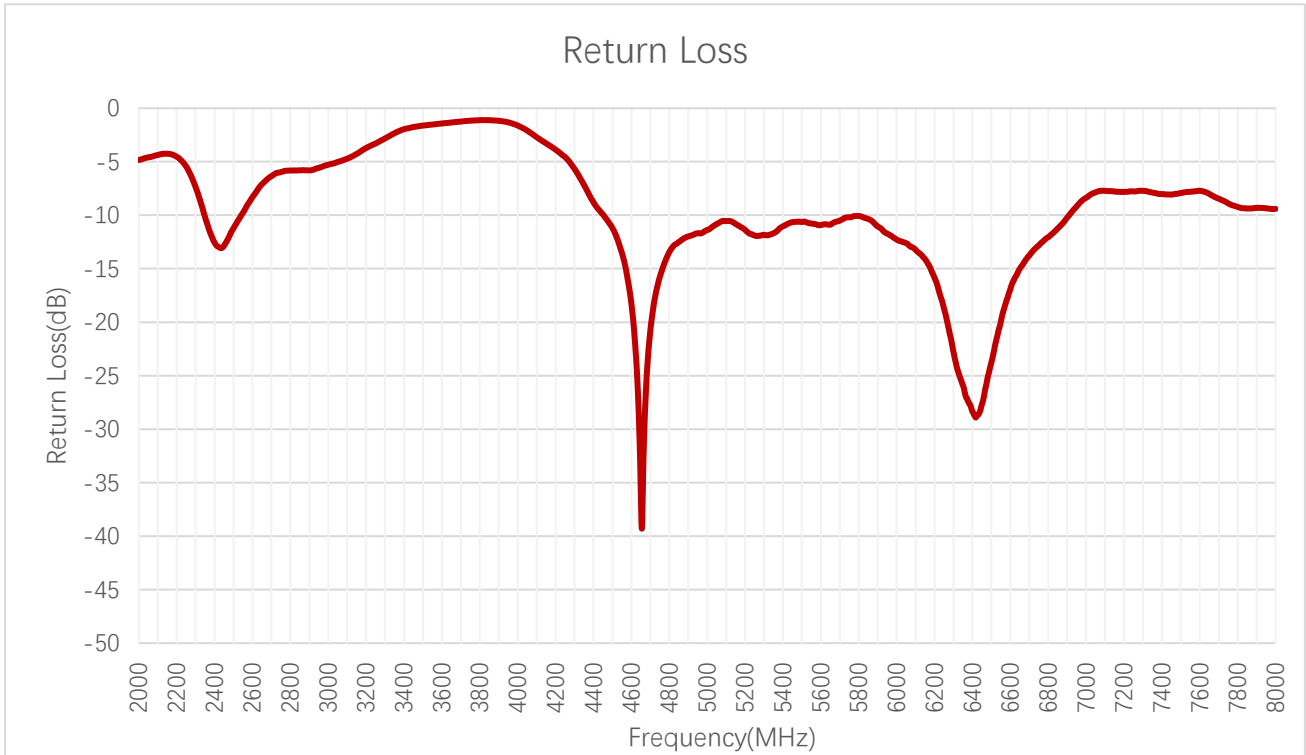
VSWR – Wi-Fi

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
VSWR	1.6	1.6	1.8	1.8	1.8	1.9	1.7	1.1	1.6	2.4

VSWR – V2X

Frequency (MHz)	5860	5880	5900
VSWR	1.9	1.8	1.8

3.1.2. Return Loss



Return Loss (dB) – Wi-Fi

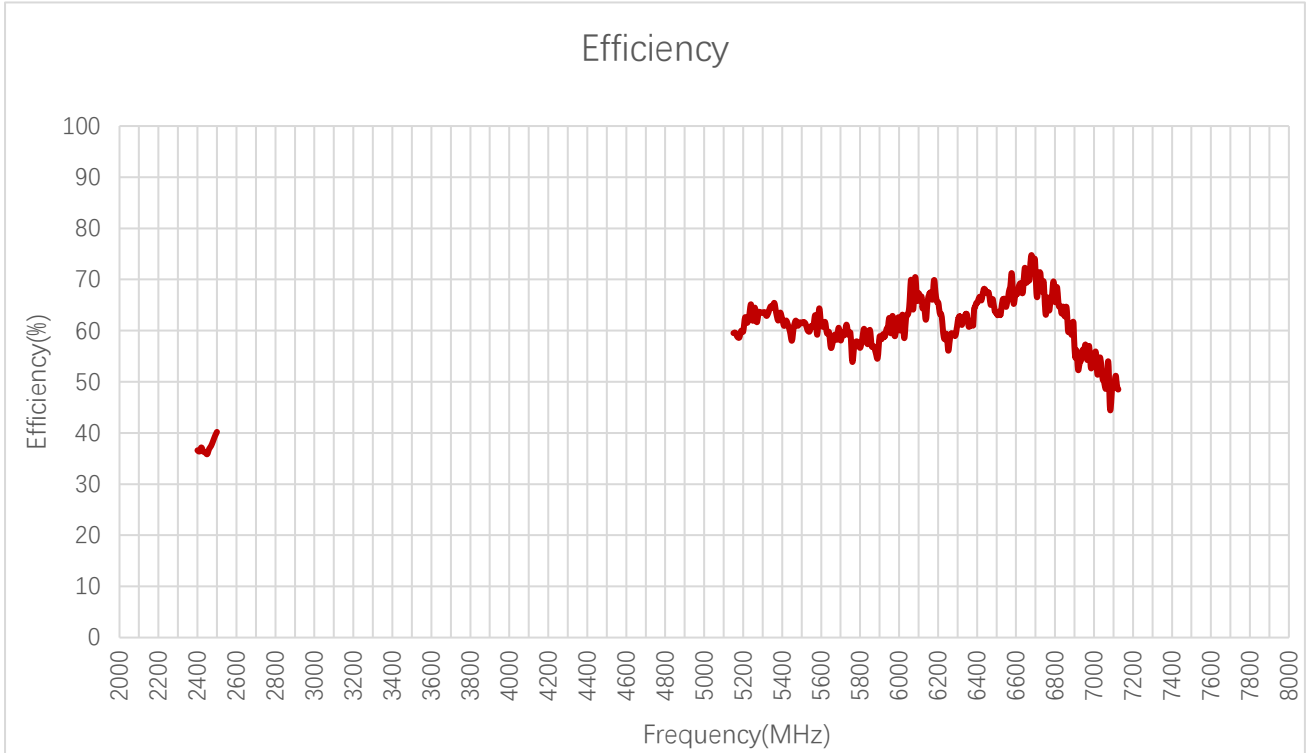
Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Return Loss (dB)	-12.6	-12.9	-11.1	-10.8	-10.6	-10.4	-11.4	-24.8	-13.2	-7.7

Return Loss (dB) – V2X

Frequency (MHz)	5860	5880	5900
Return Loss (dB)	-10.5	-10.7	-11.0

3.2. Radiation Performance Test

3.2.1. Efficiency



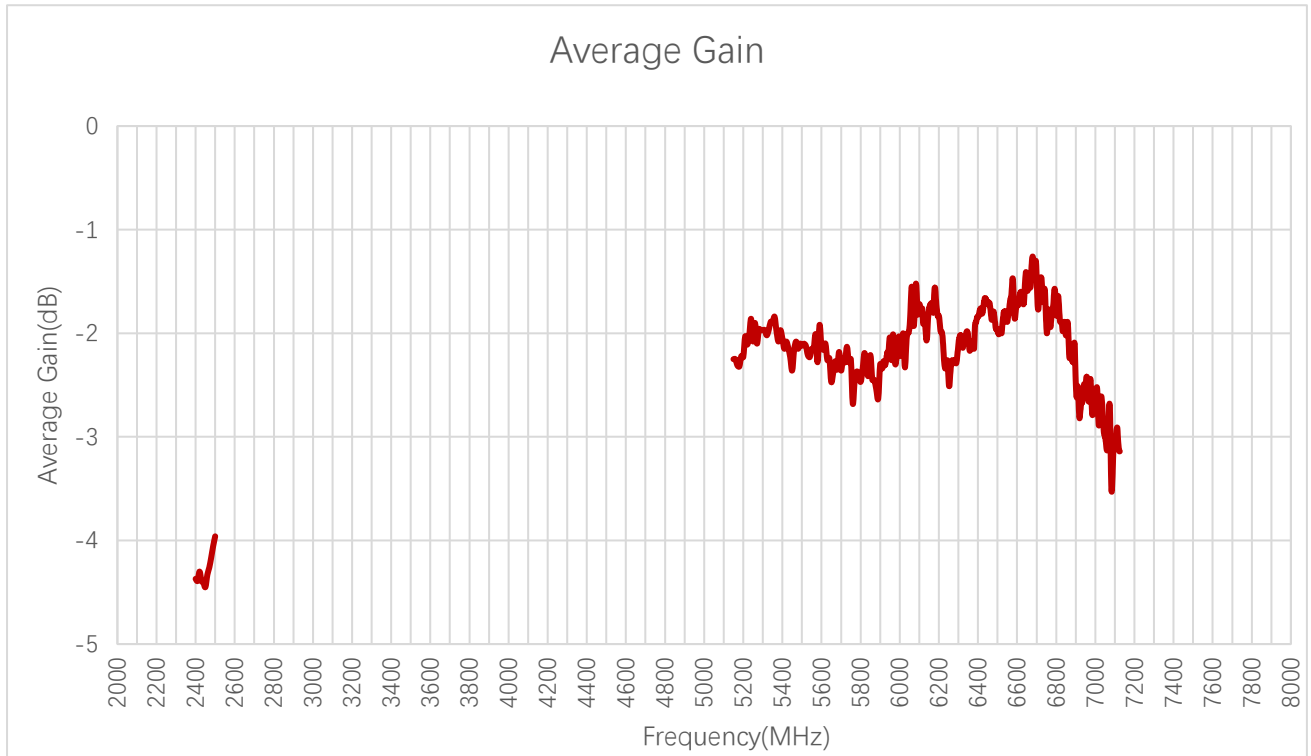
Efficiency (%) – Wi-Fi

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Efficiency (%)	36.6	35.9	40.2	59.5	61.4	60.2	58.9	61.5	71.3	48.5

Efficiency (%) – V2X

Frequency (MHz)	5860	5880	5900
Efficiency (%)	56.9	55.7	58.9

3.2.2. Average Gain



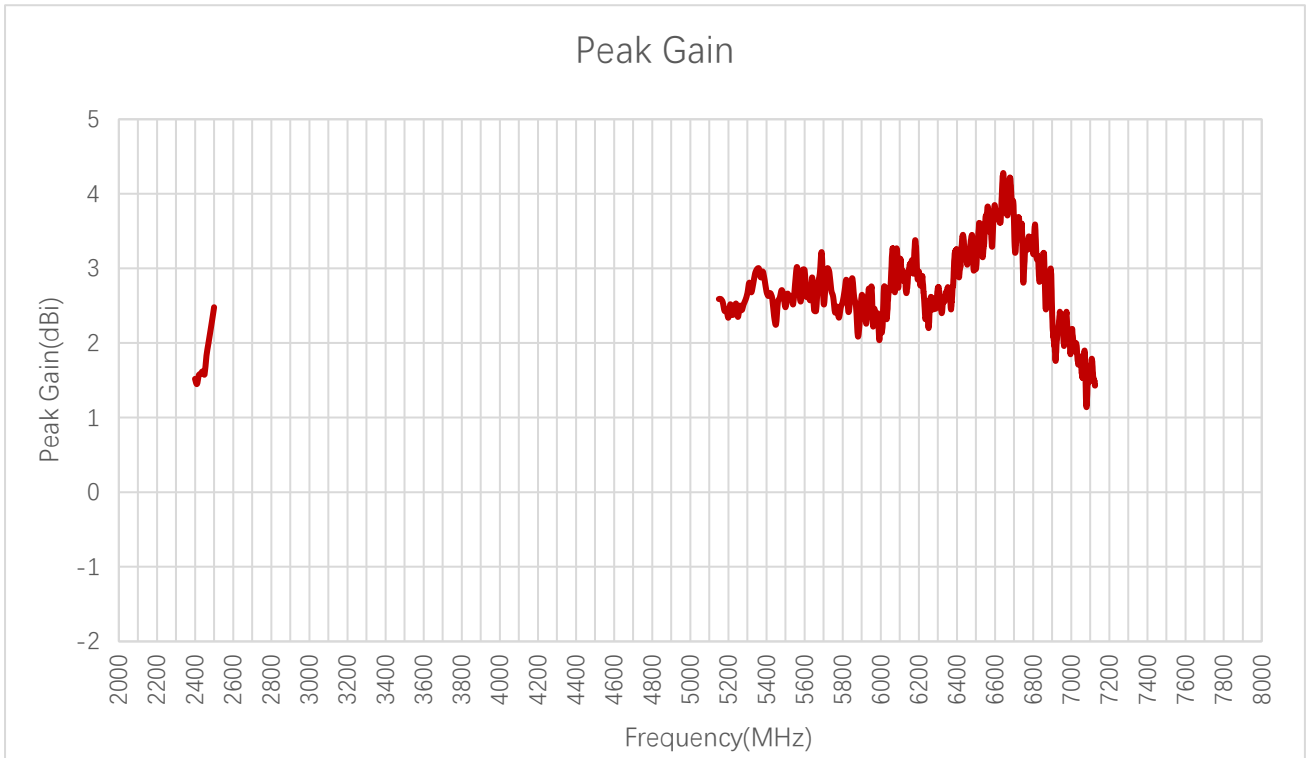
Average Gain (dB) – Wi-Fi

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Average Gain (dB)	-4.4	-4.5	-4.0	-2.3	-2.1	-2.2	-2.3	-2.1	-1.5	-3.1

Average Gain (dB) – V2X

Frequency (MHz)	5860	5880	5900
Average Gain (dB)	-2.5	-2.5	-2.3

3.2.3. Peak Gain



Peak Gain (dBi) – Wi-Fi

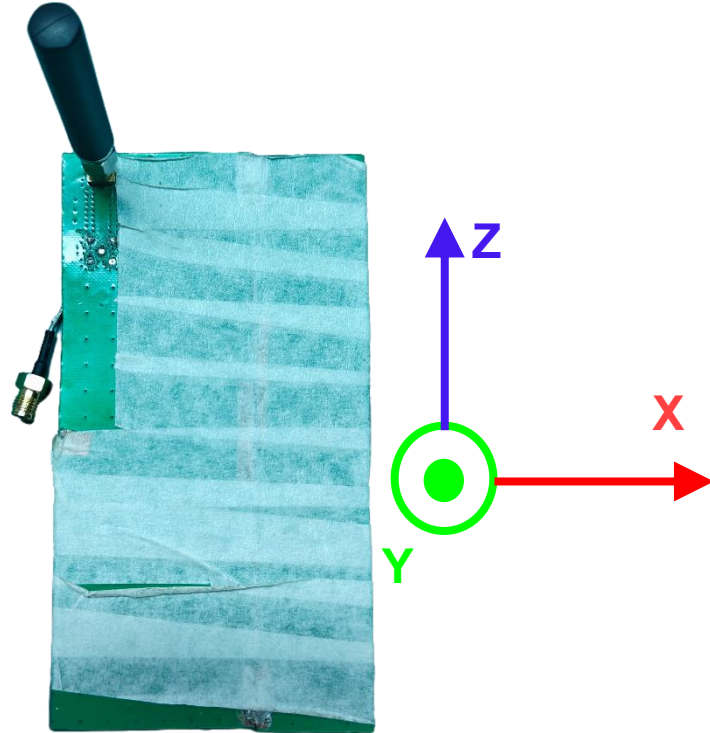
Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Peak Gain (dBi)	1.5	1.6	2.5	2.6	2.5	2.9	2.3	2.5	3.7	1.4

Peak Gain (dBi) – V2X

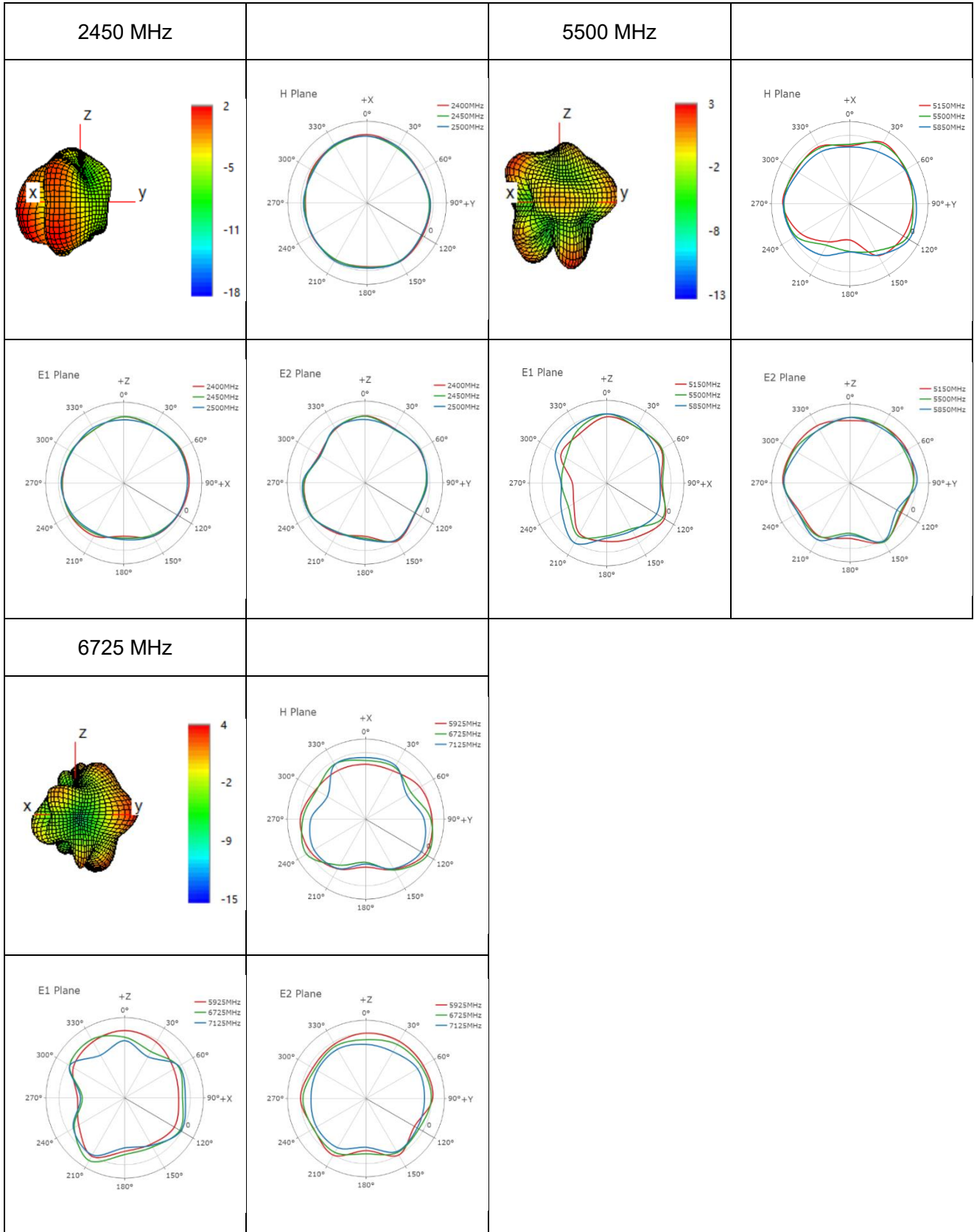
Frequency (MHz)	5860	5880	5900
Peak Gain (dBi)	2.6	2.1	2.6

3.2.4. 3D & 2D Radiation Pattern

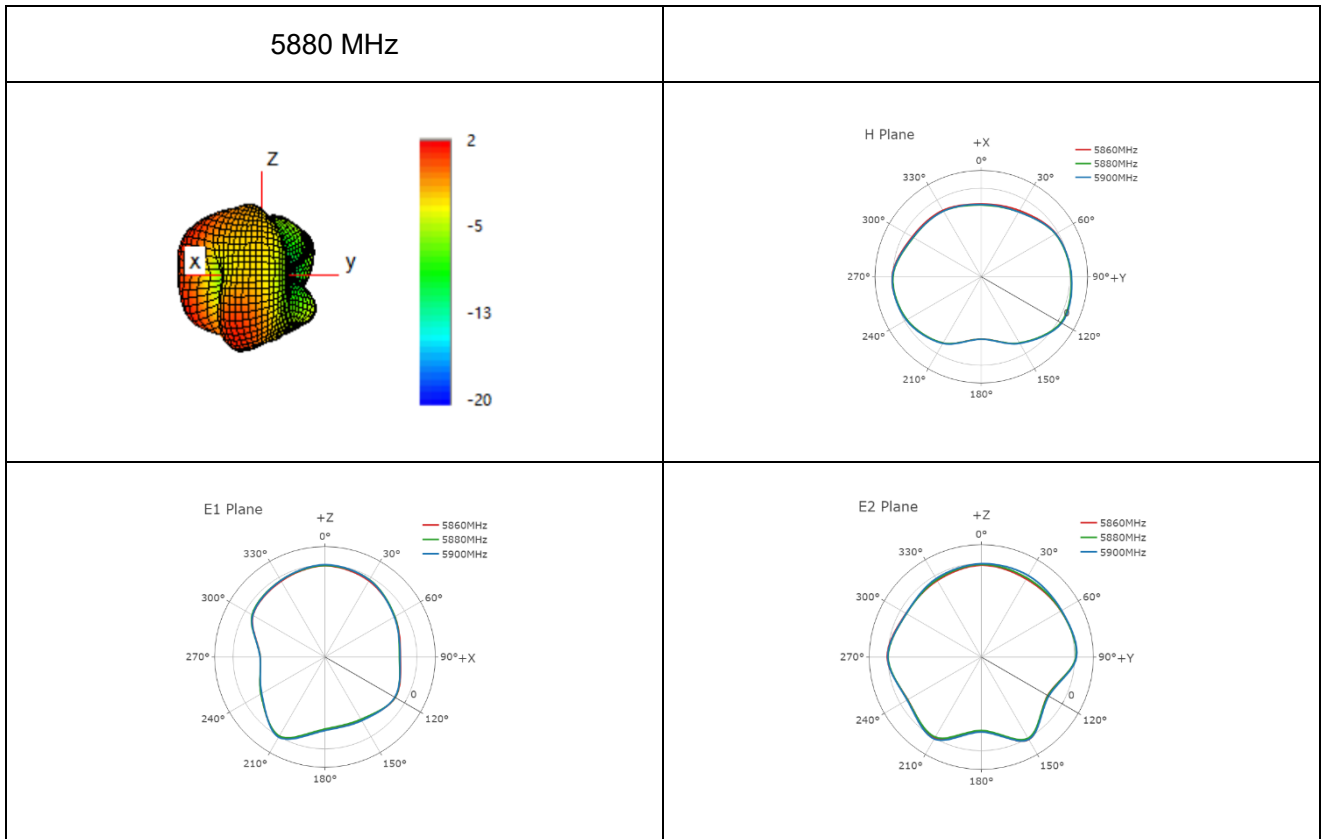
- Test Condition: On 130 mm × 70 mm EVB
- Test Chamber: GL-G-1




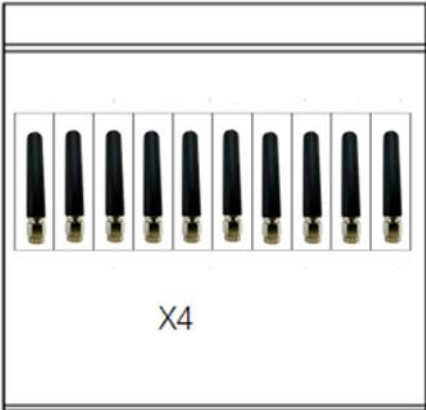
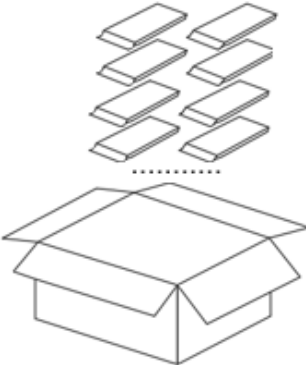
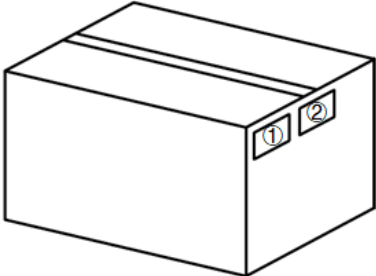
● **Wi-Fi**

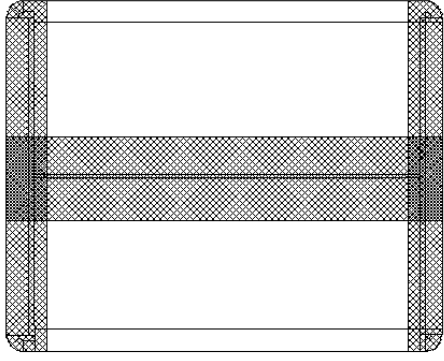


● **V2X**



4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		<p>10 antennas products in a one-piece bag. (10 Antennas / PE Bag)</p>
2		<p>40 antennas products in a PE bag. (40 Antennas / PE Bag)</p>
3		<p>(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. <u>Carton Size:</u> <u>L x W x H = 405 x 293 x 185 mm</u></p>
4		<p>Position for Attaching Labels</p> <ul style="list-style-type: none"> ① Carton Label ② Quality Label

5	 A technical drawing of an H-shaped sealing carton. It consists of a central horizontal rectangular section with a cross-hatched texture, flanked by two vertical rectangular sections, also with a cross-hatched texture. The corners of the vertical sections are rounded. The entire structure is shown in a perspective view.	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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Email: info@quectel.com

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

<http://www.quectel.com/support/sales.htm>.

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Revision History

Version	Date	Author	Note
-	2024-07-11	Black Li/ Steven Mo/ David Liu/ Rainey Liao	Creation of the document
1.0	2024-07-11	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	2025-06-12	Riva Ren/ Rainey Liao	1. Updated the antenna image (Cover page). 2. Updated the packaging (Chapter 4).
1.3	2025-08-18	Steven Mo	Updated the Ingress Protection (IP) rating to IP54.

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