



Antenna Datasheet

Product OC: YECT001W1CM

Version: 1.1

Date: 2024-10-17

Status: Released

Product Name: 4G Terminal Mount Rubber Monopole Antenna

Key Features:

Frequency Band: 700–960 MHz, 1710–2690 MHz

Dimensions: 52.6 mm × 18.6 mm × 9 mm

Efficiency: Up to 68.9 %

RoHS & REACH Compliant

IP53

Overview

YECT001W1CM is a 4G rubber antenna measuring $52.6 \times 18.6 \times 9$ mm. This ultra-wide-band 4G antenna provides broad coverage from 700–960 MHz, 1710–2690 MHz whilst offering backward-compatibility to support 3G and 2G networks as well as LTE Cat-M and narrowband IoT (NB-IoT). The antenna is terminated with 90° SMA Male connector. 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 4G Series modules.

It allows constant and reliable transmission and reception due to its omni-directional gain across all frequency bands. YECT001W1CM 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 Zigbee, Bluetooth, IoT Sensors, public safety and security, point of sales terminals, smart home automation, robotics / autonomous.

Typical applications include:

- Zigbee
- Bluetooth
- IoT Sensors
- Public Safety and Security
- Point of Sales Terminals
- Smart Home Automation
- Robotics / Autonomous

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

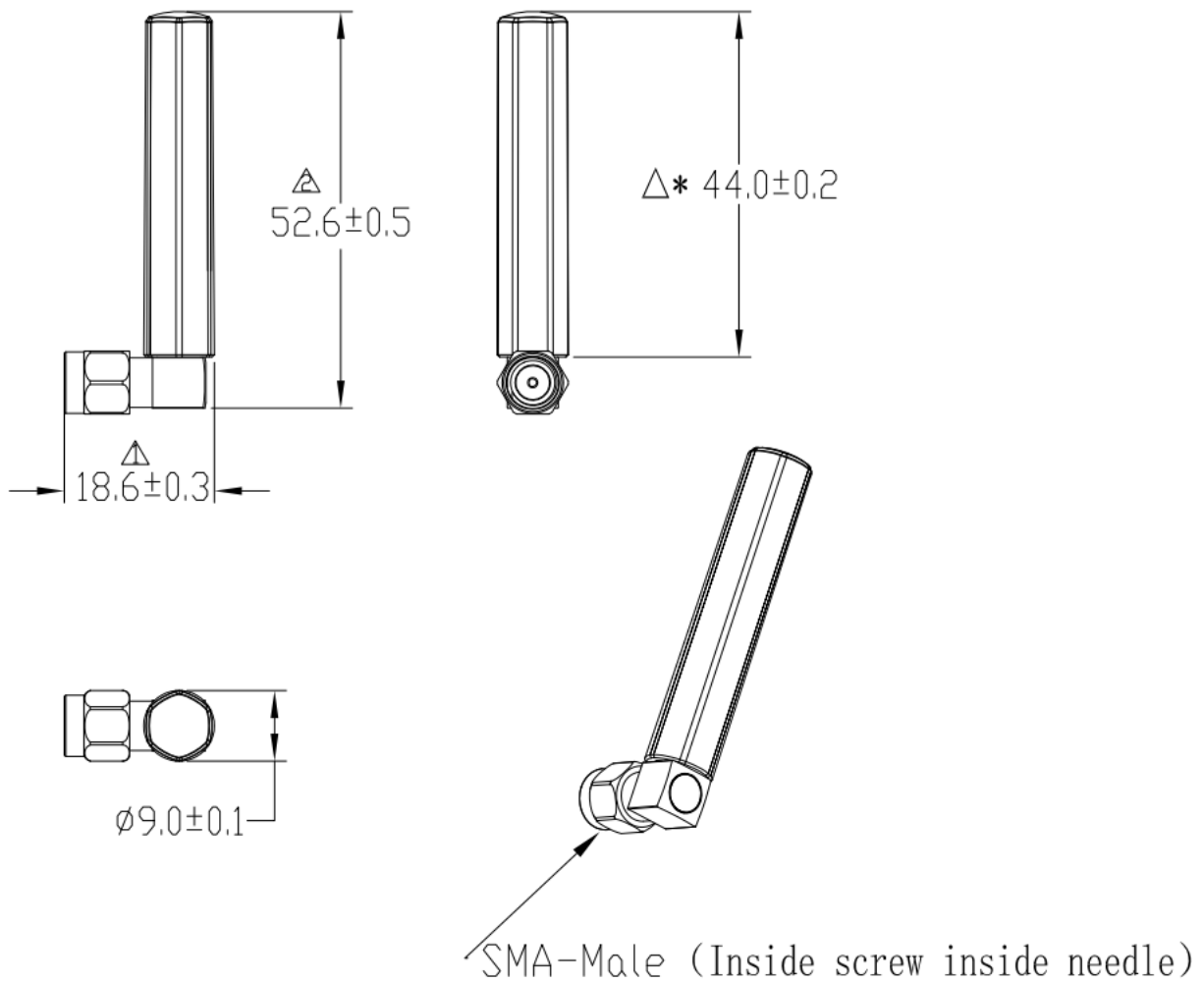
Electrical	
Frequency Range	700–960 MHz, 1710–2690 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional

Electrical – Detail							
SPEC \ Band	Band	B71	B12 /B13 /B28	B5 /B8 /B26	B1 /B2 /B3	B40	B38 /B41 B42 /B48 /n77
		60–0 700	700– 810	820– 960	1700– 2170	2300– 2400	2500– 2690 3300– 3800
Max. VSWR		-	6.8	3.8	4.1	2.4	2.4
Max. Return Loss (dB)		-	-2.6	-4.7	-4.3	-7.8	-7.7
AVG Eff. (%)		-	47.5	54.1	60.8	61.3	56.5
AVG AVG Gain (dB)		-	-3.3	-2.7	-2.2	-2.1	-2.5
Max. Peak Gain (dBi)		-	1.6	2.1	3.7	2.1	1.9
VSWR	≤ 6.8						
Return Loss	≤ -2.6 dB						
Peak Gain	≤ 3.7 dBi						

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

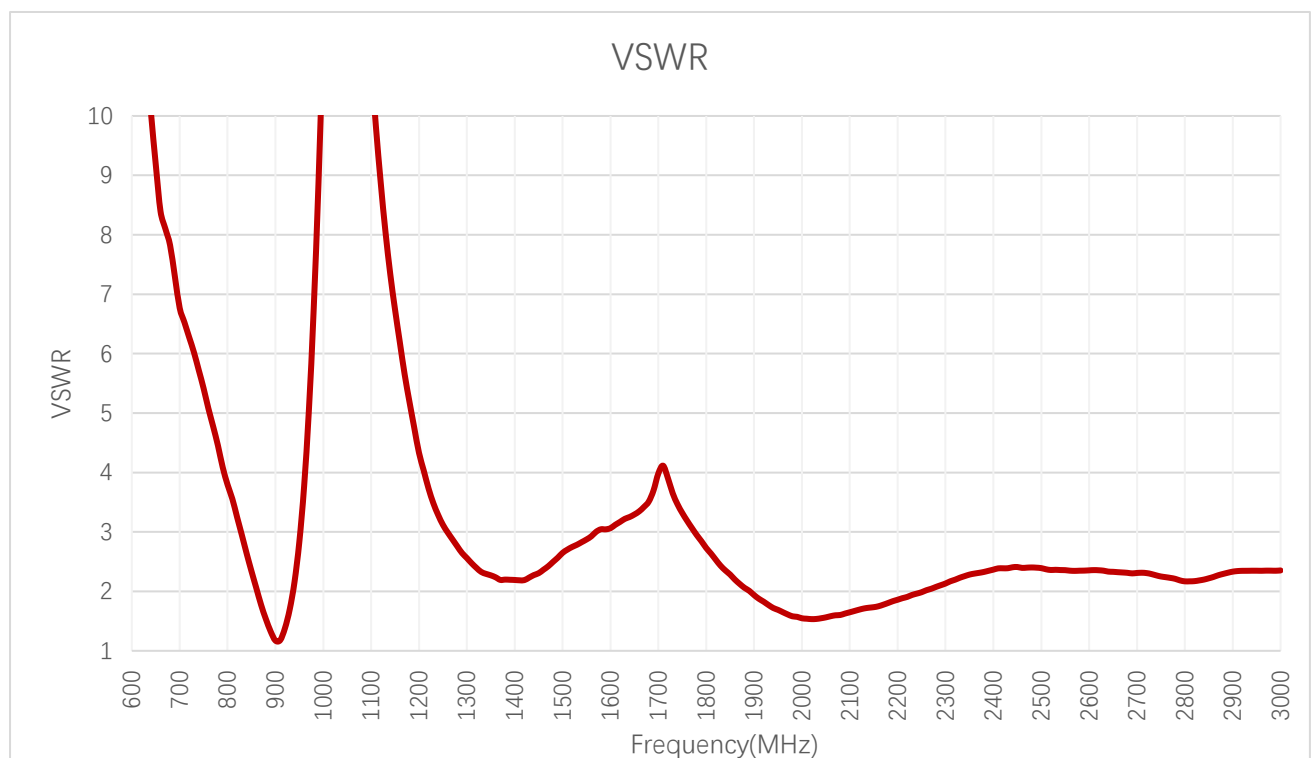
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

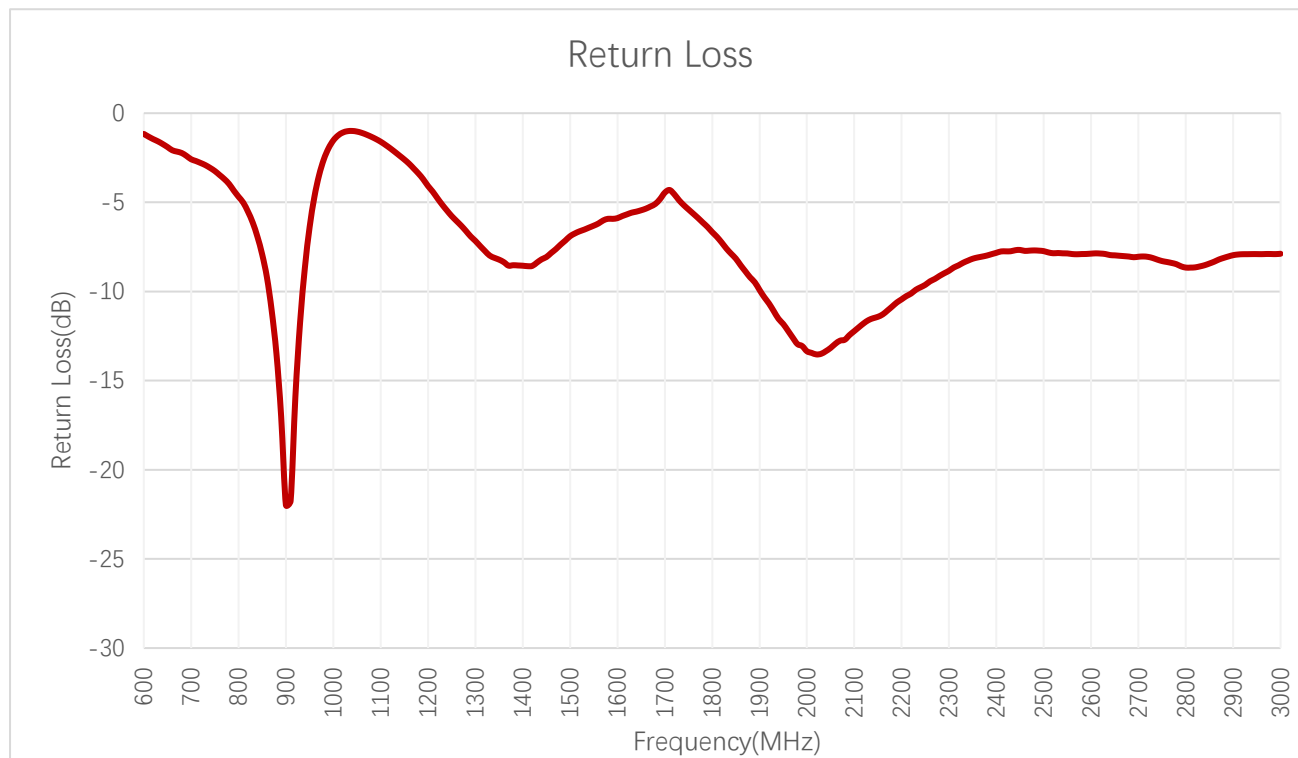
3.1.1. VSWR



VSWR

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
VSWR	-	-	6.5	2.9	1.2	3.8	-	4.1	3.5	2.1
Frequency (MHz)	1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
VSWR	1.7	1.7	2.3	2.4	2.4	2.3	-	-	-	-

3.1.2. Return Loss

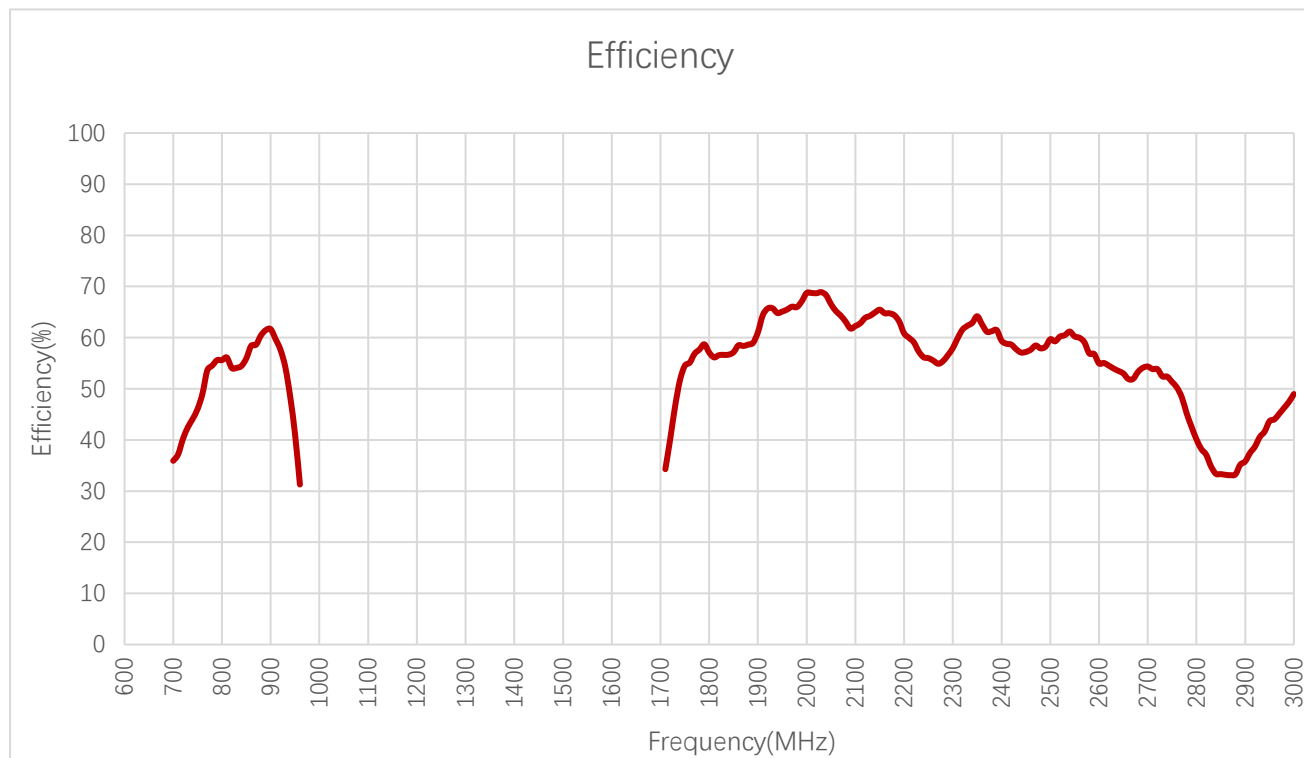


Return Loss (dB)

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Return Loss (dB)	-	-	-2.7	-6.1	-22.0	-4.7	-	-4.3	-5.2	-9.2
Frequency (MHz)	1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
Return Loss (dB)	-11.8	-11.5	-8.2	-7.7	-7.9	-8.1	-	-	-	-

3.2. Radiation Performance Test

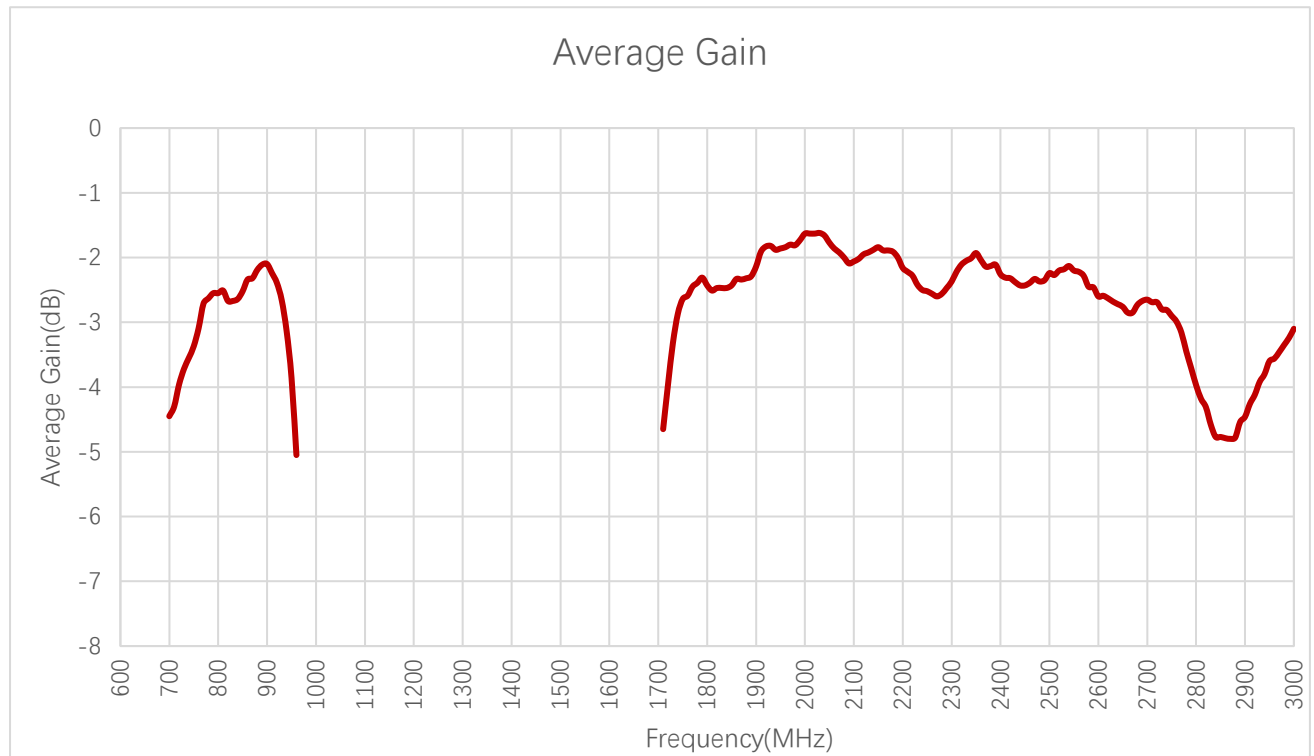
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Efficiency (%)	-	-	37.2	54.1	61.7	31.3	-	34.3	51.7	58.6
Frequency (MHz)	1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
Efficiency (%)	65.1	64.9	64.2	57.2	55.0	54.1	-	-	-	-

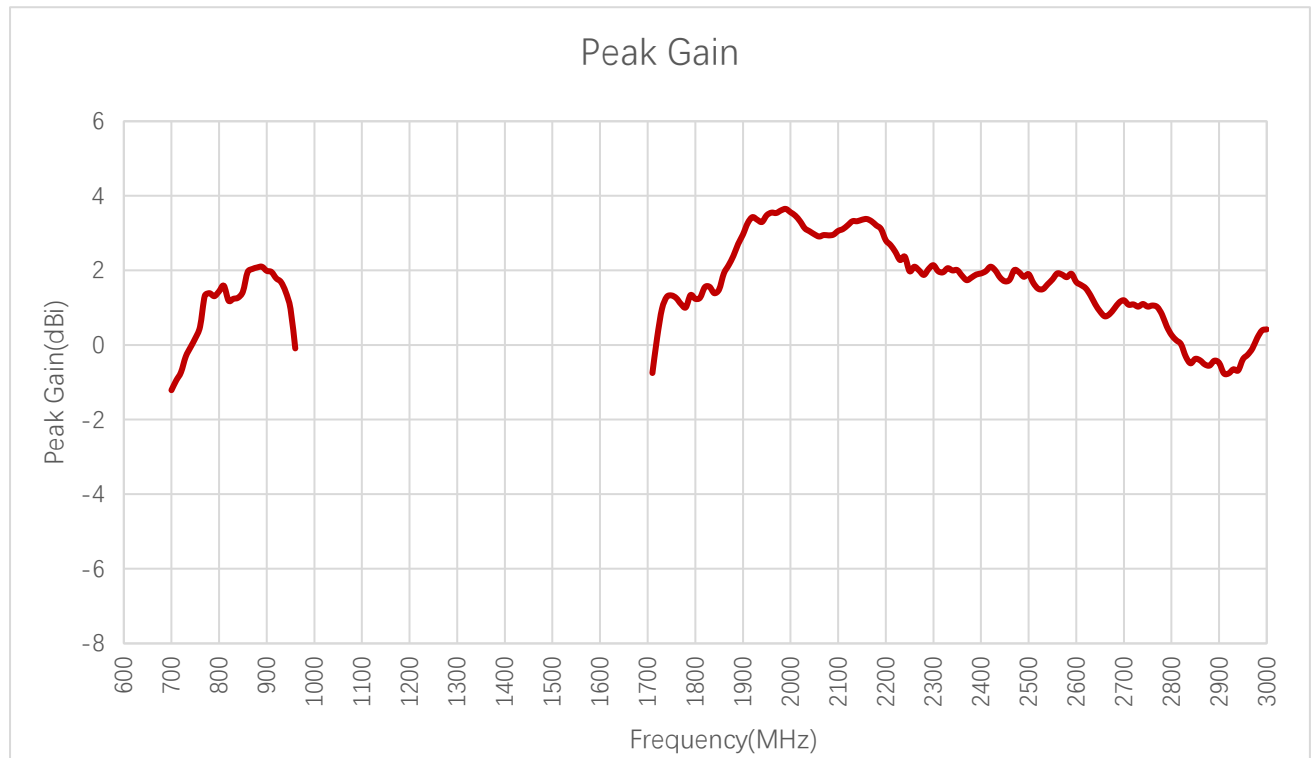
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Average Gain (dB)	-	-	-4.3	-2.7	-2.1	-5.1	-	-4.7	-2.9	-2.3
Frequency (MHz)	1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
Average Gain (dB)	-1.9	-1.9	-1.9	-2.4	-2.6	-2.7	-	-	-	-

3.2.3. Peak Gain

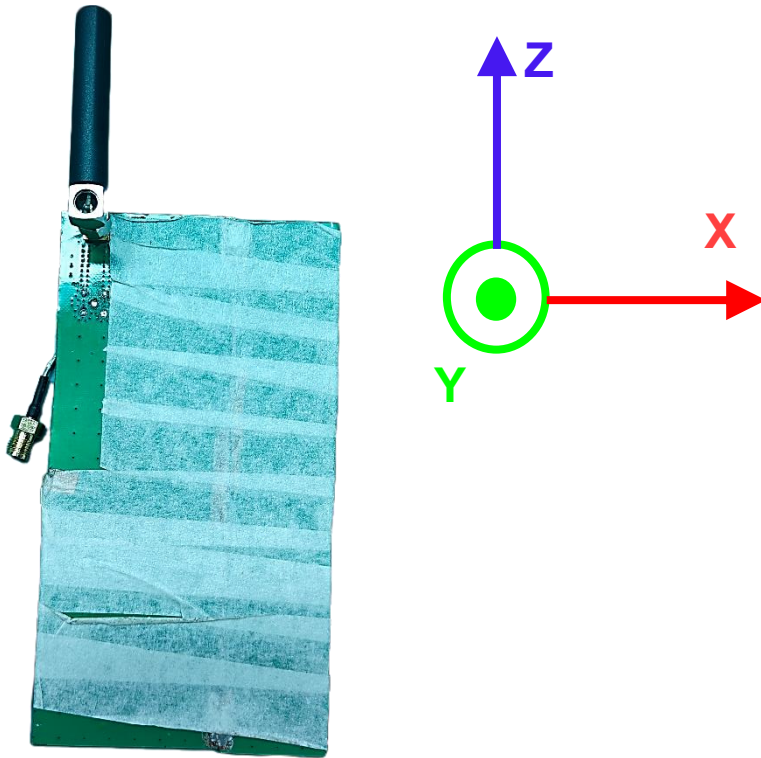


Peak Gain (dBi)

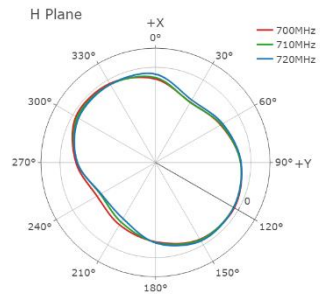
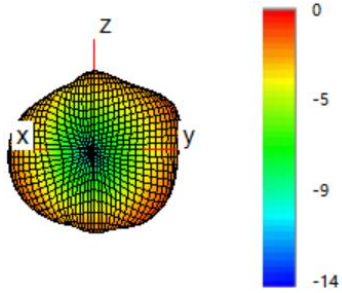
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Peak Gain (dBi)	-	-	-1.0	1.2	2.0	-0.1	-	-0.8	1.3	2.4
Frequency (MHz)	1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
Peak Gain (dBi)	3.5	3.3	2.0	1.7	1.7	1.1	-	-	-	-

3.2.4. 3D & 2D Radiation Pattern

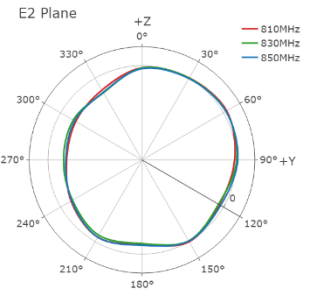
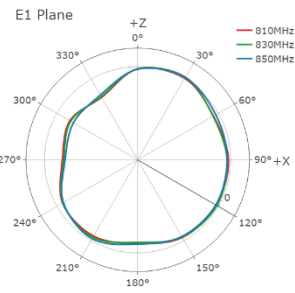
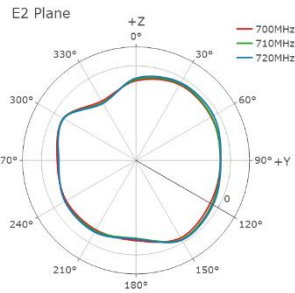
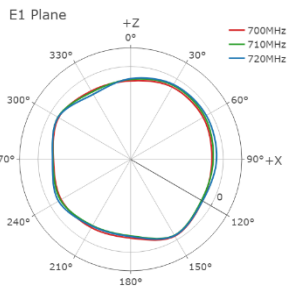
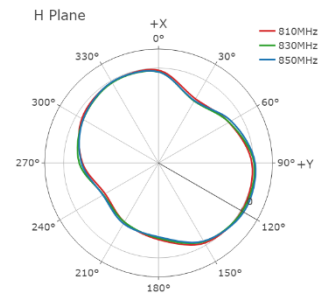
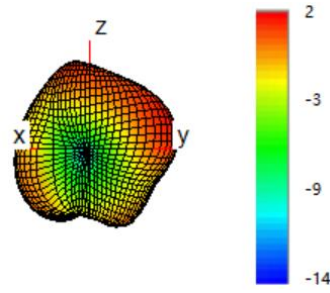
- Test Condition: On 130 mm × 70 mm EVB
- Test Chamber: GL-G-1



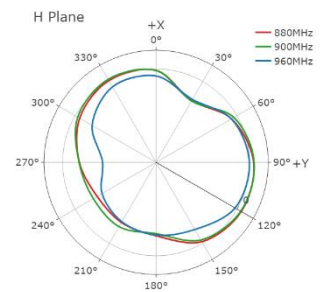
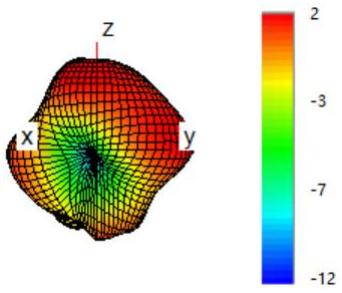
710 MHz



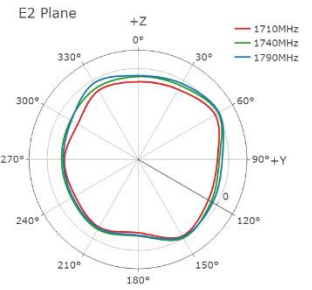
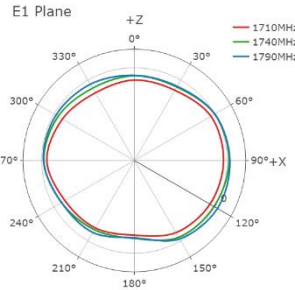
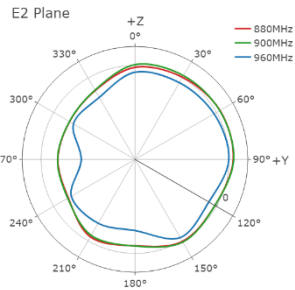
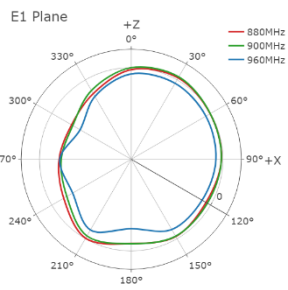
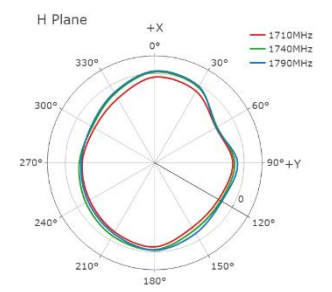
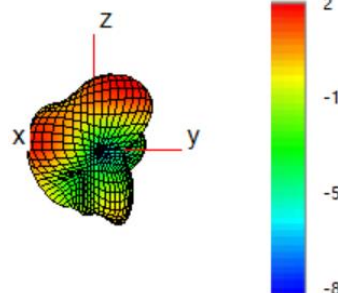
830 MHz

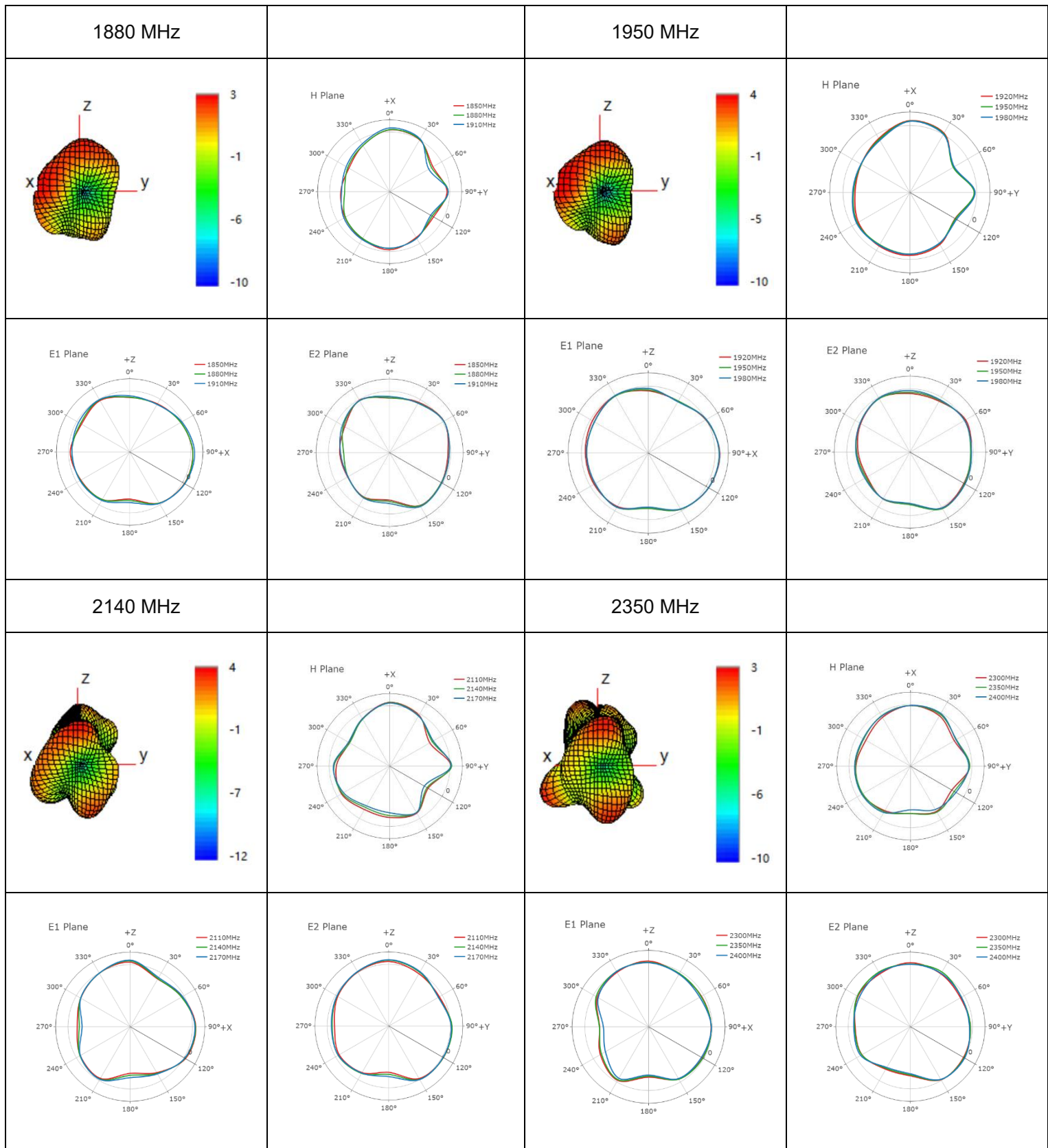


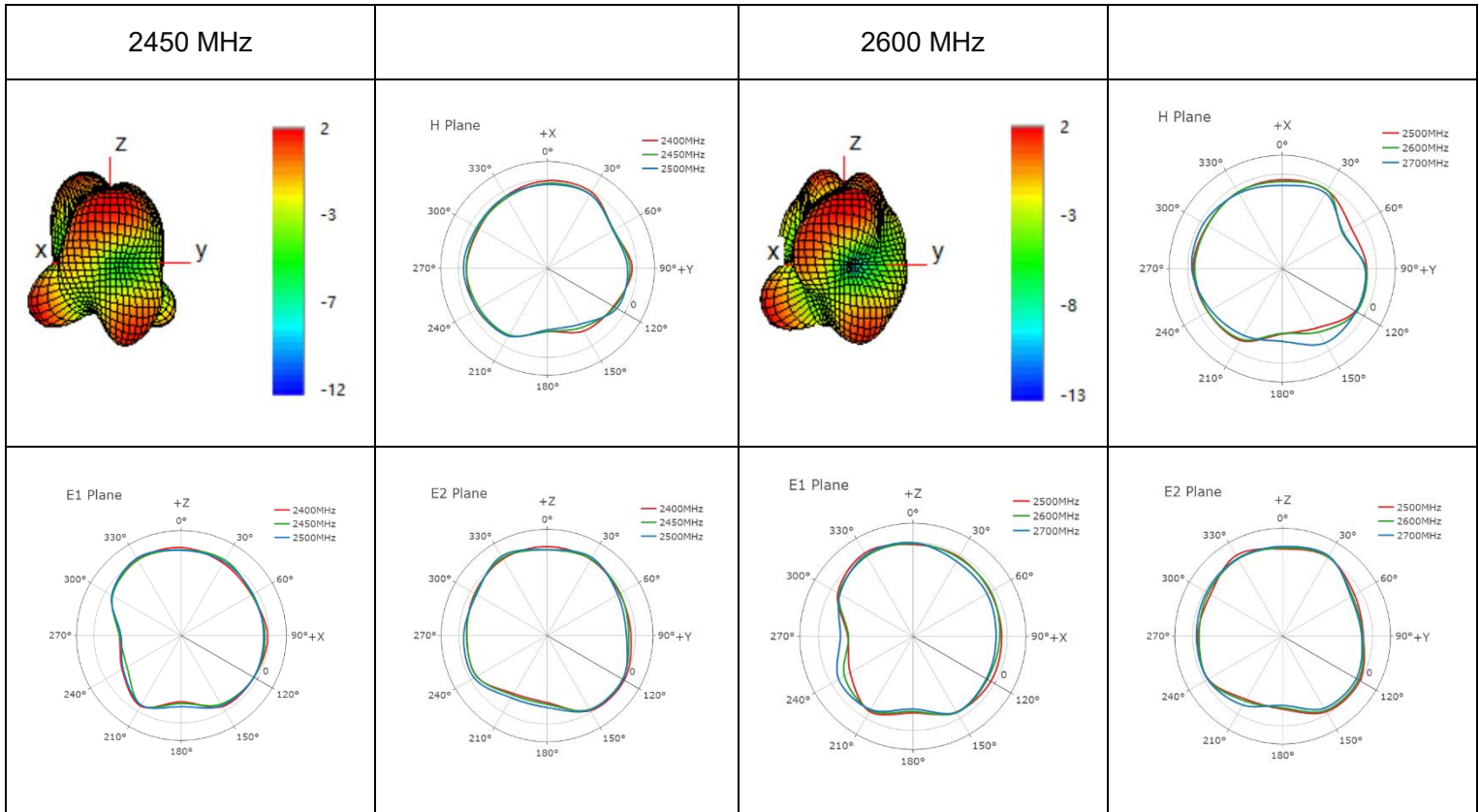
900 MHz



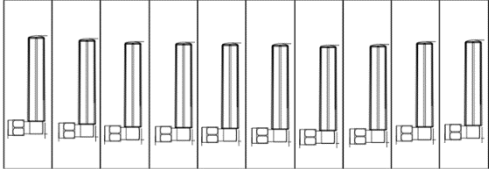
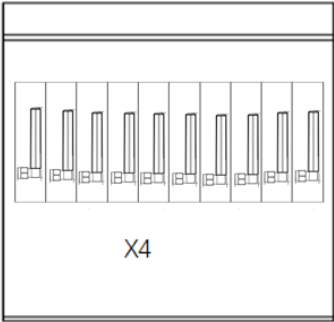
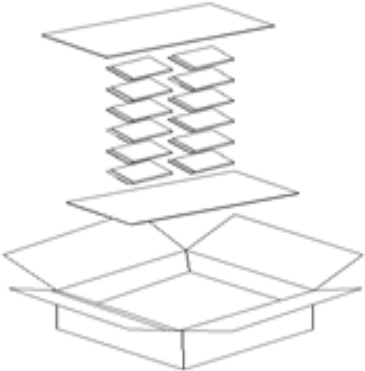
1740 MHz

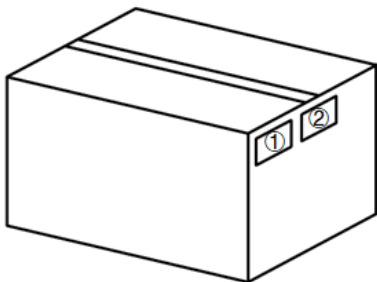
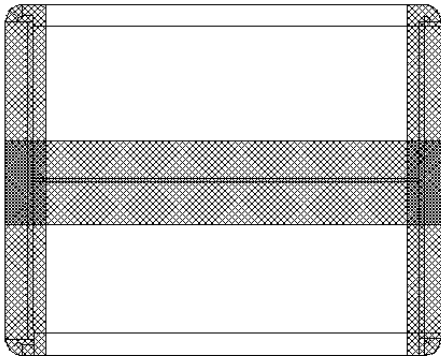






4 Packaging

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		Sealing Cartons “I” type 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:

Quectel Wireless Solutions Co., Ltd.

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China

Tel: +86 21 5108 6236

Email: info@quectel.com

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

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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).



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