



Antenna Datasheet

Product OC: YEWM001AA

Version: 2.0

Date: 2023-06-25

Status: Released

Product Name: Wi-Fi External Antenna

Key Features:

Frequency Band: 2400–2500 MHz

Dimensions: Φ 30 × 77.4 mm

Efficiency: Up to 38.5 % (MP)

RoHS Compliant

IP53

Overview

Quectel Wi-Fi 2.4G antenna covers 2.4 ~2.5GHz bands, fully satisfying customers' requirements for Wi-Fi/Zigbee/BT antennas. There are various antenna types, including built-in FPC/PCB antenna, ceramic patch antenna, and other external antennas of different shapes or sizes. The antenna performance meets the customers' demands for efficiency, gain, and radiation and ensures the superior experience of the customers' products in use.

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1 Specification

Test Condition: In Free Space & On 300 × 300 mm Metal Plane

1.1. Electrical

Electrical	
Frequency Range	2400–2500 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional

Electrical - Detail				
Specification \ Band	Band	Wi-Fi 2G	Wi-Fi 5G	Wi-Fi 7G
	Freq. (MHz)	2400 - 2500	5150 - 5850	5925 - 7125
Max. VSWR	MP	1.6	-	-
	FS	1.6	-	-
Max. Return Loss (dB)	MP	-13.1	-	-
	FS	-13.3	-	-
AVG Eff. (%)	MP	37.2	-	-
	FS	37.1	-	-
AVG Gain (dB)	MP	-4.3	-	-
	FS	-4.3	-	-
Max. Peak Gain (dBi)	MP	0.1	-	-
	FS	-0.8	-	-

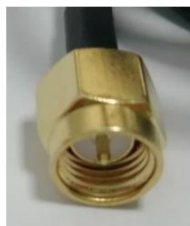
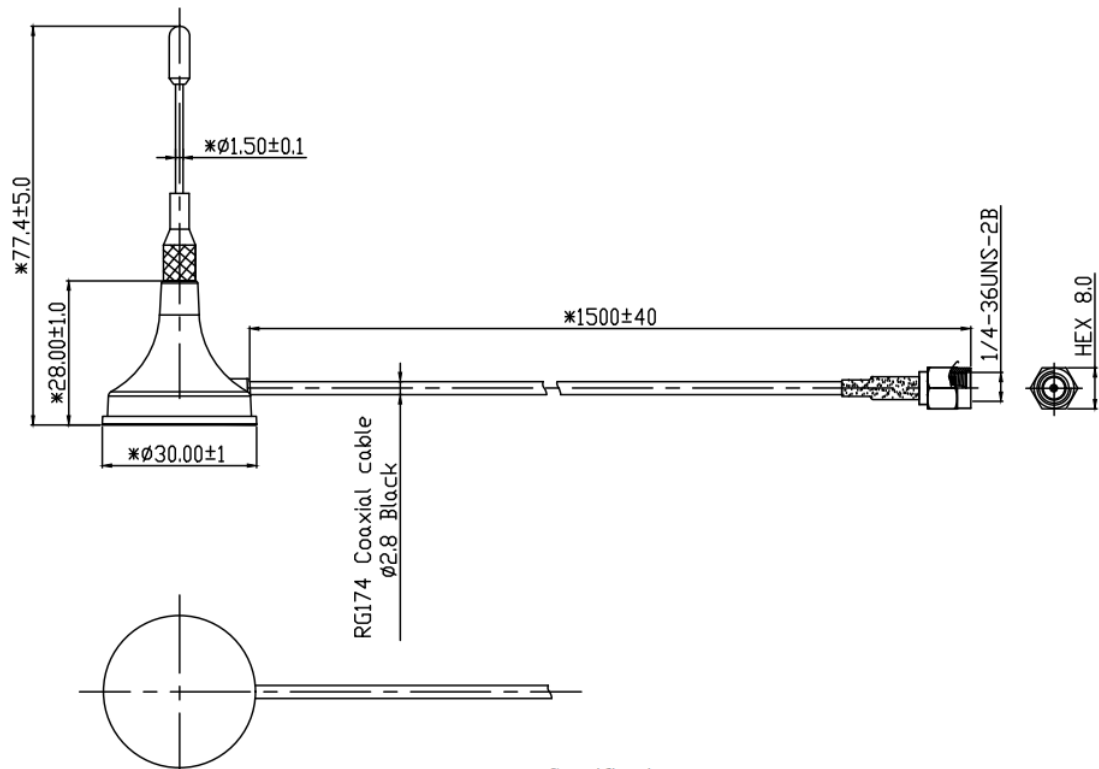
VSWR	MP	≤ 1.6
	FS	≤ 1.6
Return Loss	MP	≤ -13.1 dB
	FS	≤ -13.3 dB
Peak Gain	MP	≤ 0.1 dBi
	FS	≤ -0.8 dBi

1.2. Mechanical, Environmental & Storage

Mechanical	
Antenna Dimensions	$\Phi 30 \times 77.4$ mm
Material & Color	ABS & Black
Connector Type	SMA Male
Mounting Type	Magnet
Weight	Typ. 28 g
Environmental	
Operation Temperature	-20 °C to +60 °C
Ingress Protection Rating	IP53
RoHS Compliant	Yes

Storage	
Storage Temperature	18 °C–27 °C
Humidity	30 %–80 % RH
Storage Place	Away from corrosive gas and direct sunlight.
Packaging	Antennas should be stored in unopened sealed manufacturer's plastic packaging.

2 Drawing

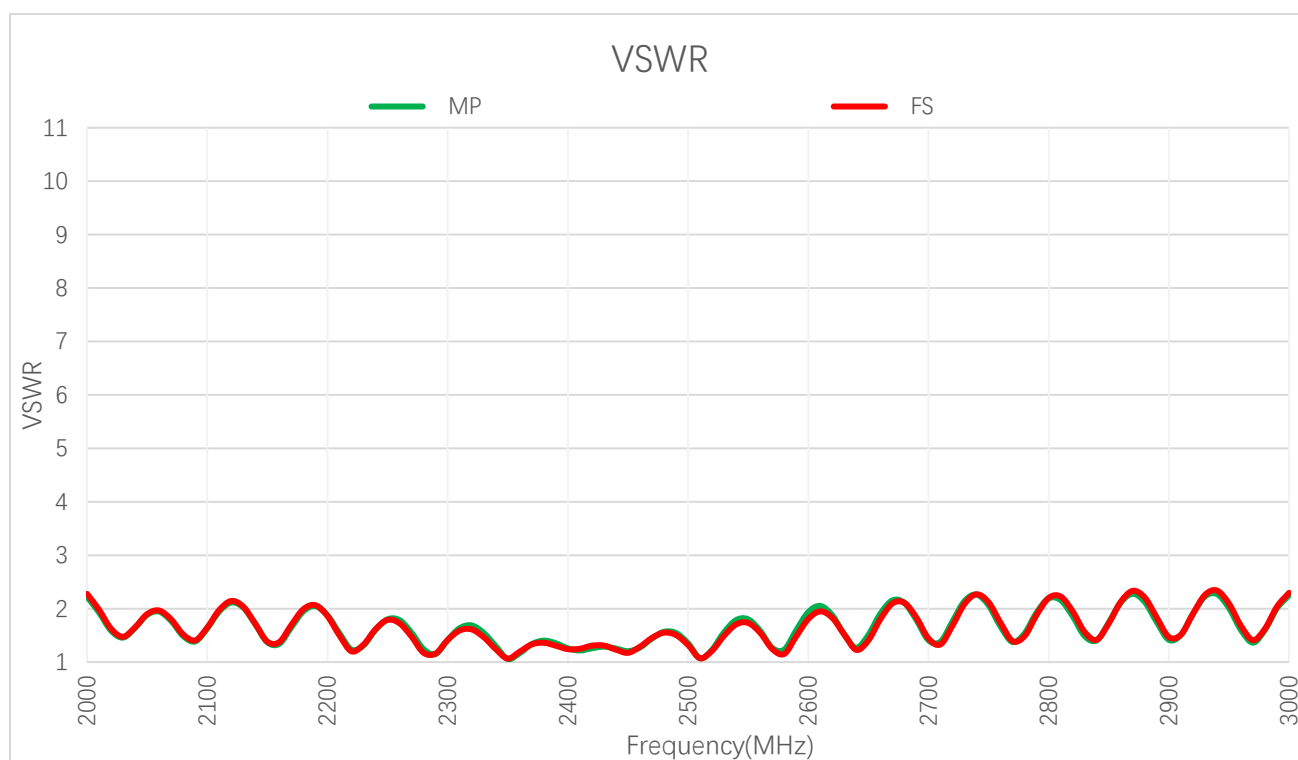


SMA Male (center pin)

3 Detailed Performance

3.1. S-Parameter Test

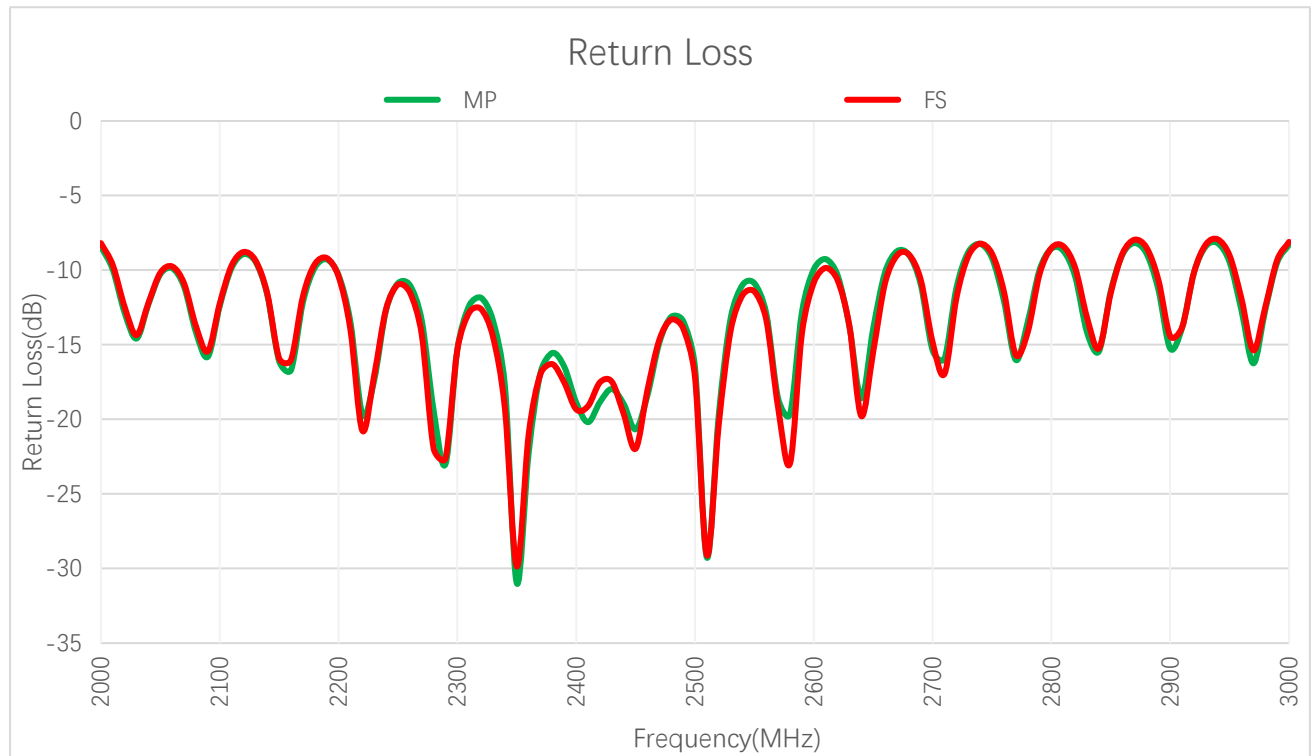
3.1.1. VSWR



VSWR

Frequency (MHz)		2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
VSWR	MP	1.3	1.2	1.4	-	-	-	-	-	-	-
	FS	1.2	1.2	1.3	-	-	-	-	-	-	-

3.1.2. Return Loss

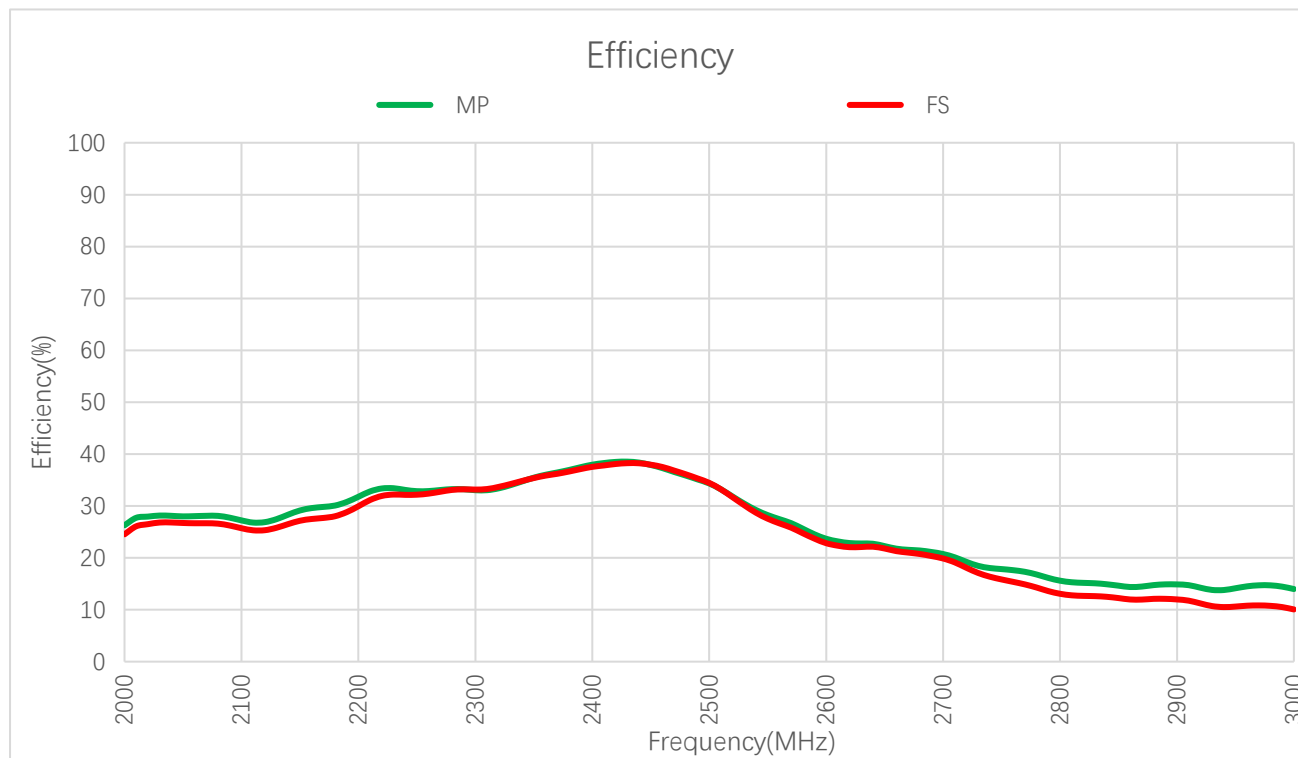


Return Loss (dB)

Frequency (MHz)		2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Return Loss (dB)	MP	-18.9	-20.7	-16.5	-	-	-	-	-	-	-
	FS	-19.3	-22.0	-17.2	-	-	-	-	-	-	-

3.2. Radiation Performance Test

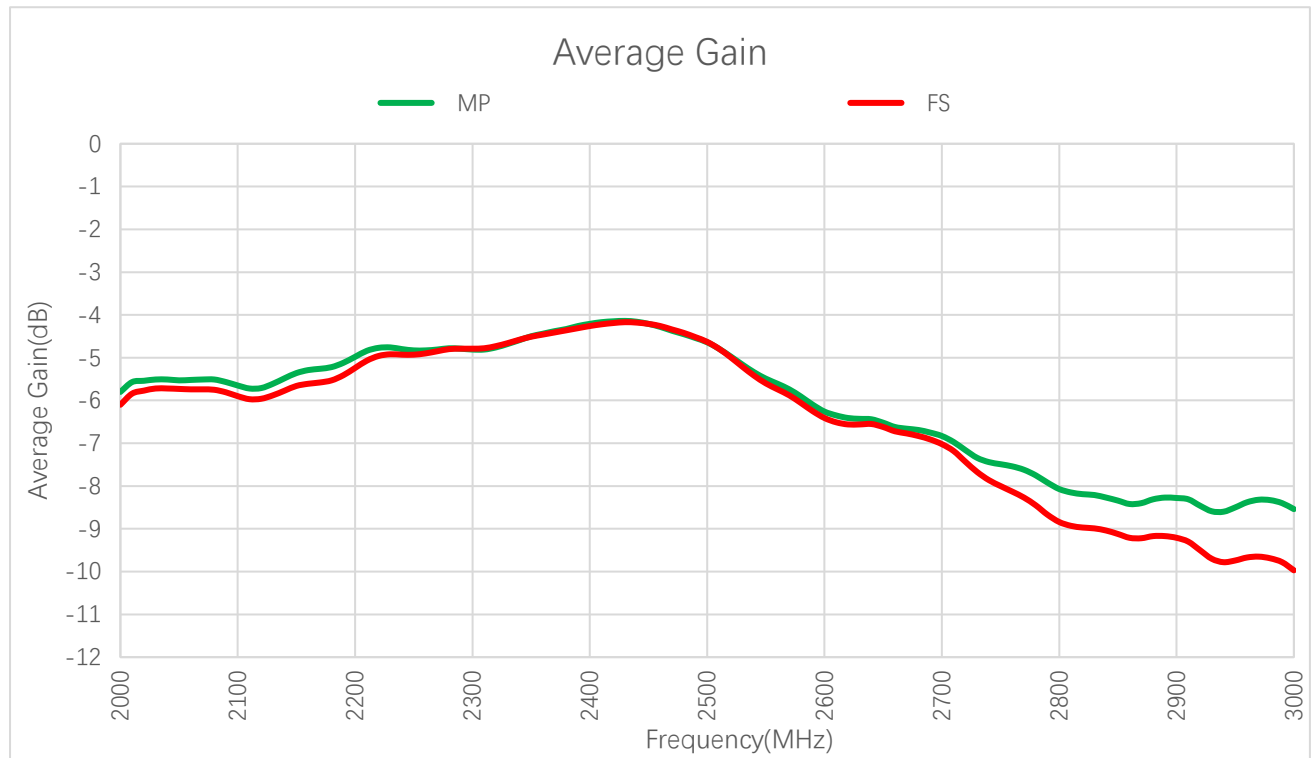
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)		2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Efficiency (%)	MP	38.0	37.9	34.3	-	-	-	-	-	-	-
	FS	37.5	38.0	34.5	-	-	-	-	-	-	-

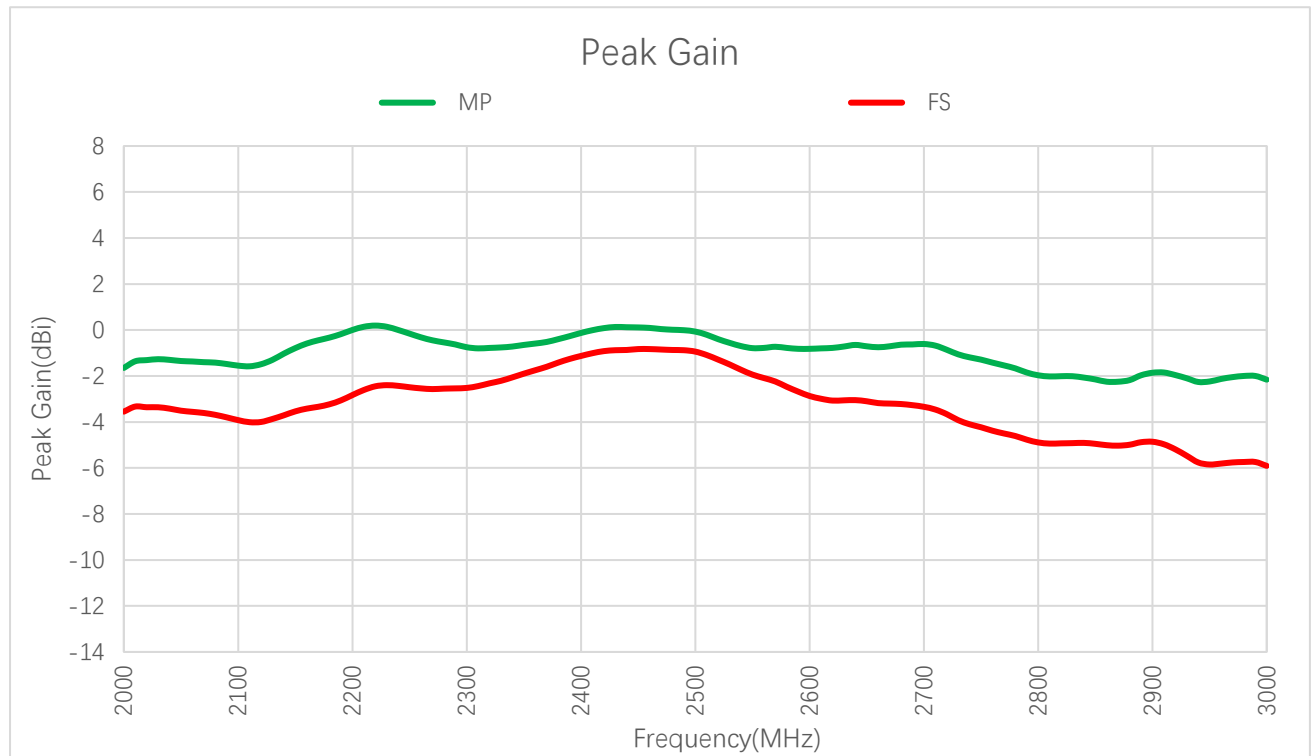
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)		2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Average Gain (dB)	MP	-4.2	-4.2	-4.6	-	-	-	-	-	-	-
	FS	-4.3	-4.2	-4.6	-	-	-	-	-	-	-

3.2.3. Peak Gain



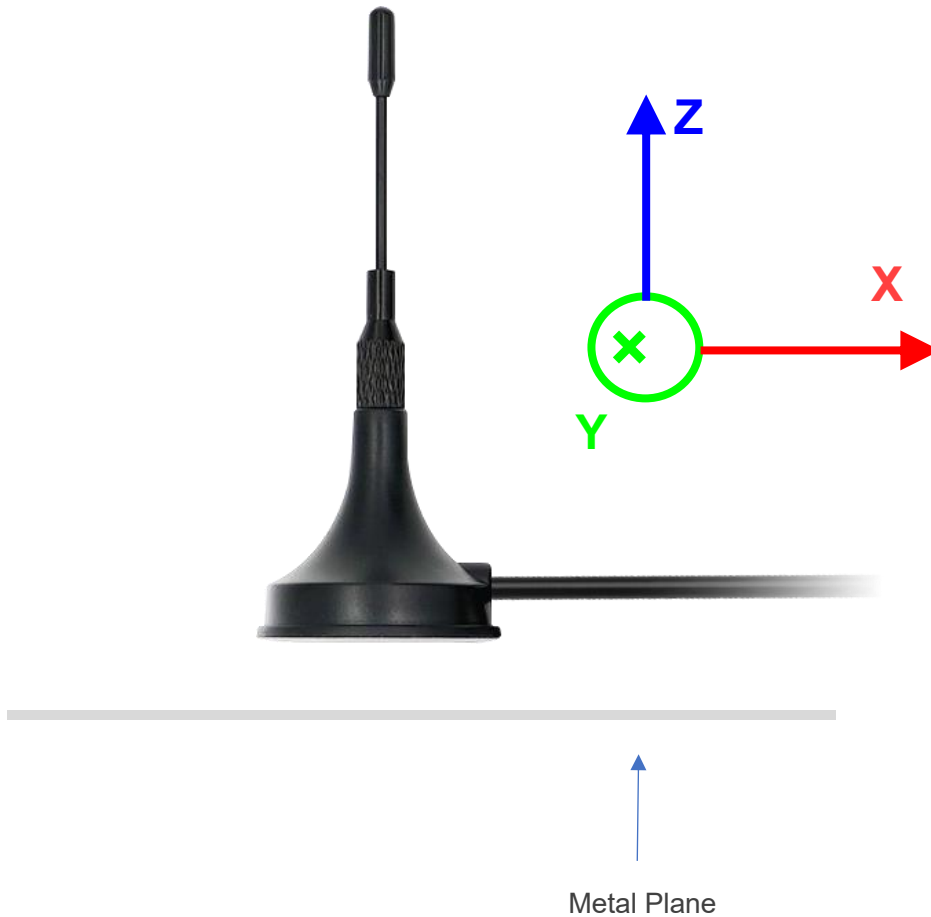
Peak Gain (dBi)

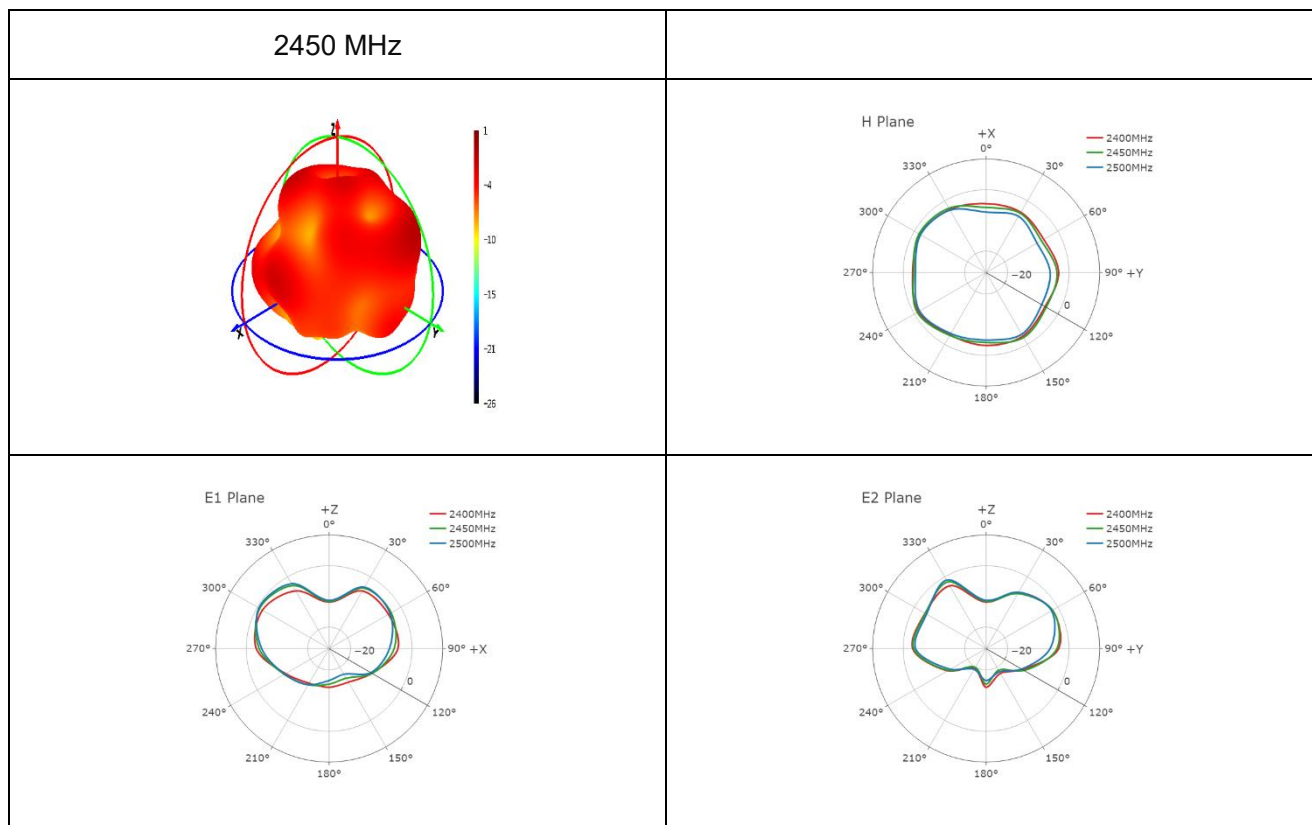
Frequency (MHz)		2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Peak Gain (dBi)	MP	-0.1	0.1	-0.1	-	-	-	-	-	-	-
	FS	-1.1	-0.8	-0.9	-	-	-	-	-	-	-

3.2.4. 3D & 2D Radiation Pattern

3.2.4.1. Test Condition: On 300 × 300 mm Metal Plane

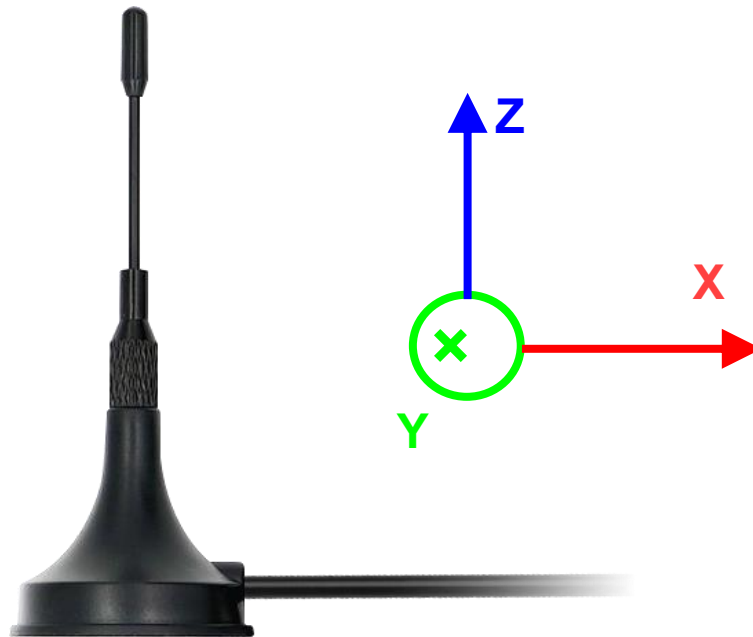
- Test Chamber: GL-S-1

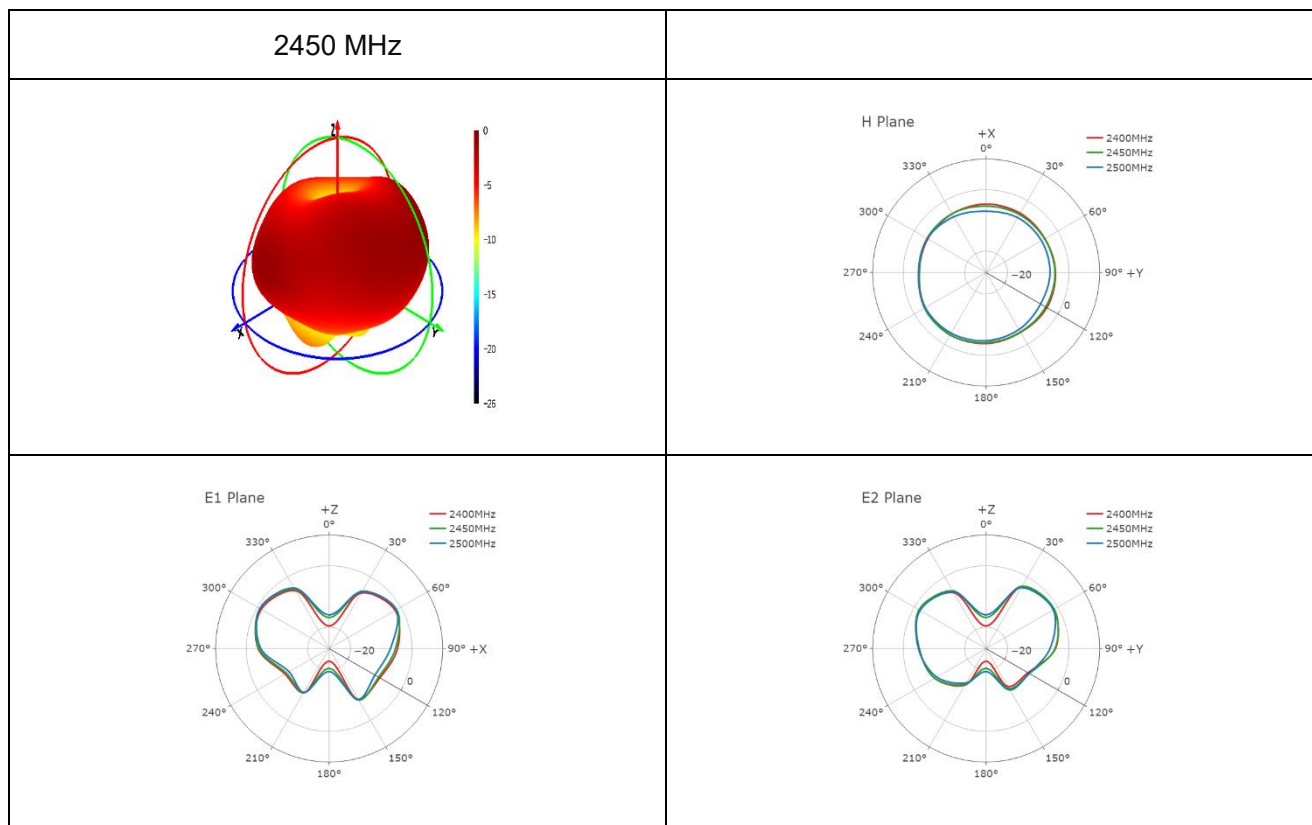







3.2.4.2. Test Condition: In Free Space

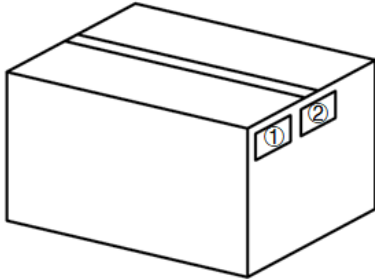
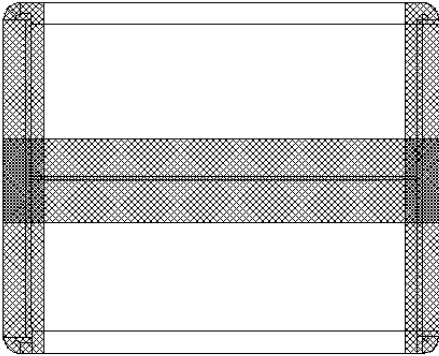
- Test Chamber: GL-S-1





4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		1 pc antenna product in a small PE bag; (1 pc antenna per small PE bag)
2		50 pcs antenna products in a big PE bag; (50 pcs antennas per big PE bag)
3		(5 big PE bags per carton box) (250 pcs antennas per carton box) <u>Carton Size:</u> <u>L × W × H = 370 × 370 × 295 mm</u>

4		<p>Position for Attaching Labels</p> <p>① Carton Label</p> <p>② Quality Label</p>
5		<p>Sealing Cartons</p> <p>“Γ” type sealing cartons</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:

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
-	2021-06-21	Aria CHU	Creation of the document
1.0	2021-06-21	Aria CHU	First official release
1.1	2021-11-30	Aria CHU	Updated the product description (Chapter 1).
2.0	2023-06-25	Black LI/ Lucky FENG/ David LIU/ Aria CHU	Updated all test data and template.



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