

# Antenna Datasheet

**Product OC:** YMD00A0AA

**Version:** 1.0

**Date:** 2023-07-05

**Status:** Released

**Product Name:** Wi-Fi PCB Antenna

## Key Features:

Frequency Band: 2400–2500 MHz, 5150–5850 MHz

Dimensions: 40.0 × 18.80 × 0.6 mm

Efficiency: Up to 83.52 %

RoHS and REACH Compliant

Quectel Wireless Solutions Co., Ltd.

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# Overview

Quectel Wi-Fi antenna covers 2.4 GHz and 5 GHz dual-bands, fully satisfying customers' requirements for Wi-Fi 5 and Wi-Fi 6. 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: Free space

## 1.1. Electrical

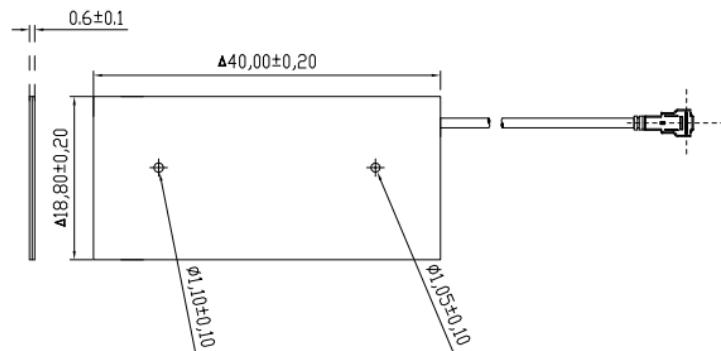
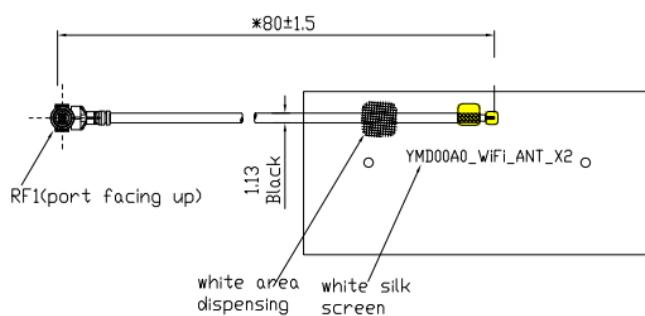
Electrical	
Frequency Range	2400–2500 MHz, 5150–5850 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional

Electrical - Detail													
Band	Band	B71	B12 /B13 /B28	B5 /B8 /B26	N74 /N75 /N76	B1 /B2 /B3	B40	Wi-Fi 2G	B38 /B41	B42 /B48 /N77	N79	Wi-Fi 5G	
SPEC	Freq. (MHz)	600– 700	700– 810	820– 960	1420– 1520	1700– 2170	2300– 2400	2400– 2500	2500– 2690	3300– 4200	4400– 5000	5150– 5850	
Max. VSWR		-	-	-	-	-	-	2.2	-	-	-	1.9	
Max. Return Loss (dB)		-	-	-	-	-	-	-8.5	-	-	-	-10.1	
AVG Eff. (%)		-	-	-	-	-	-	67.3	-	-	-	75.0	
AVG Gain (dB)		-	-	-	-	-	-	-1.7	-	-	-	-1.3	
Max. Peak Gain (dBi)		-	-	-	-	-	-	1.1	-	-	-	5.0	
VSWR							≤ 2.2						
Return Loss							≤ -8.5 dB						
Peak Gain							≤ 5.0 dBi						

## 1.2. Mechanical & Environmental

<b>Mechanical</b>	
<b>Antenna Dimensions</b>	40.0 × 18.80 × 0.6 mm
<b>Material &amp; Color</b>	PCB & Black
<b>Cable Type &amp; Color &amp; Length</b>	Φ 1.13 & Black & 80 mm
<b>Connector Type</b>	RF 1
<b>Weight</b>	Typ. 1.484 g
<b>Mounting Type</b>	Buckle
<b>Environmental</b>	
<b>Operation Temperature</b>	-40 °C to +85 °C
<b>Storage Temperature</b>	-40 °C to +85 °C
<b>RoHS &amp; REACH Compliant</b>	Yes

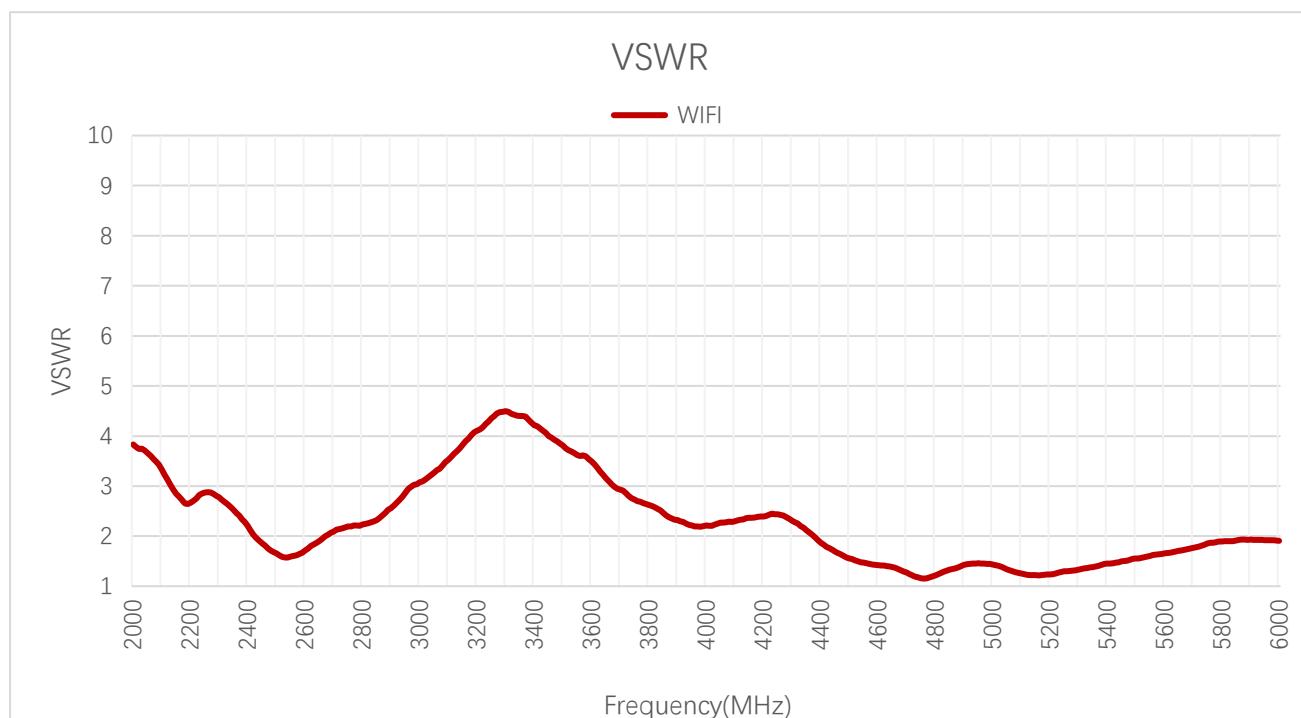
## 2 Drawing



## 3 Detailed Performance

### 3.1. S-Parameter Test

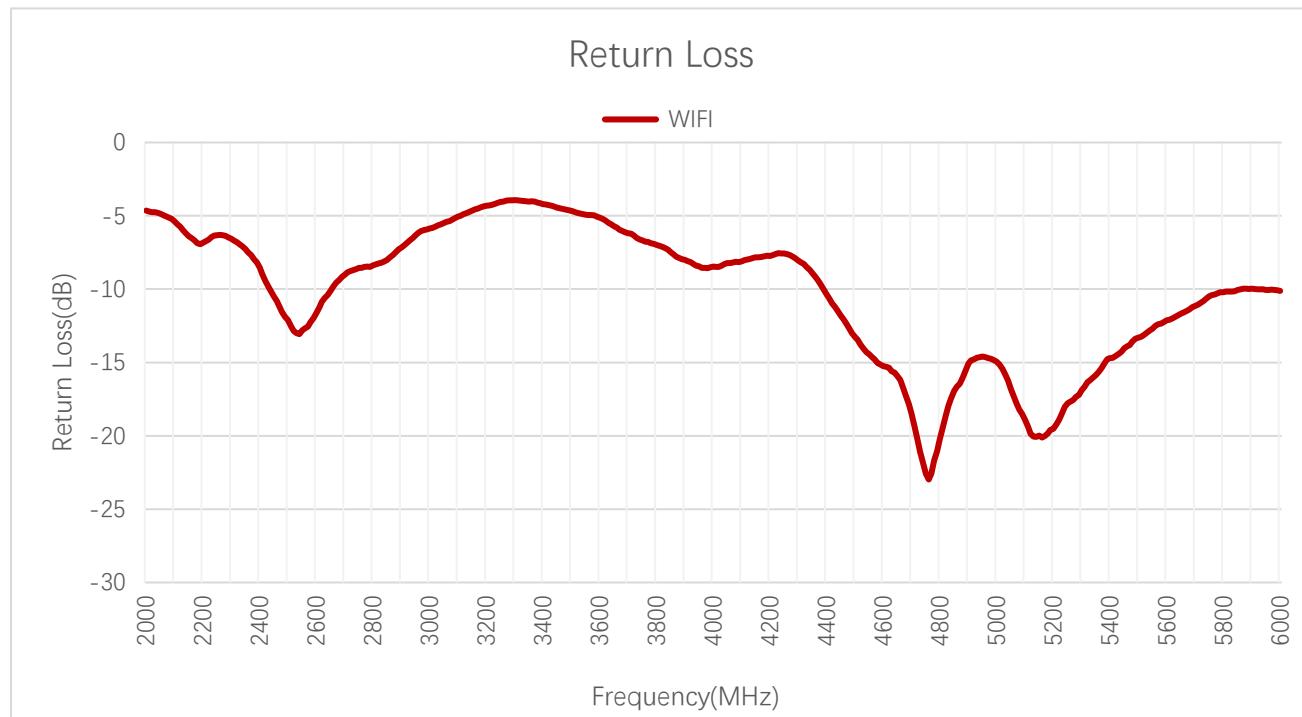
#### 3.1.1. VSWR



VSWR - Wi-Fi

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
VSWR	2.2	1.9	1.7	1.2	1.6	1.9	-	-	-	-

### 3.1.2. Return Loss

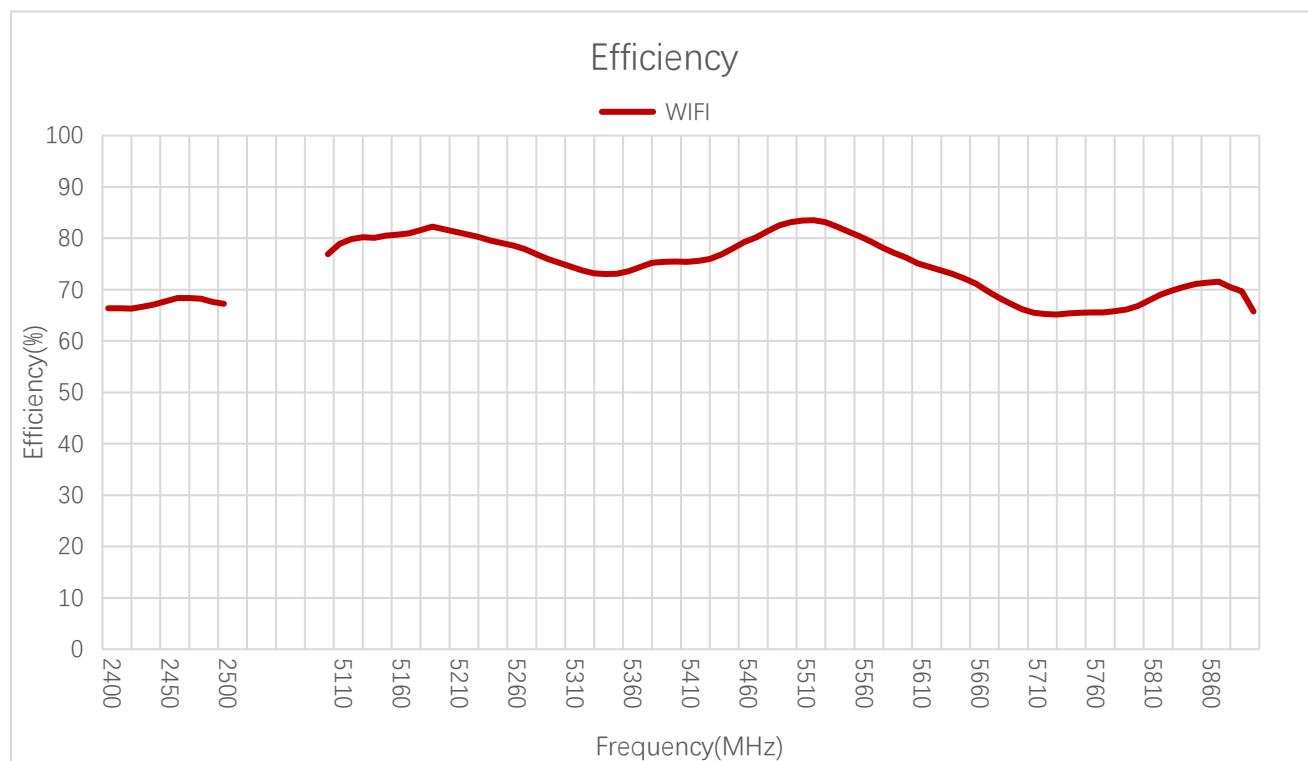


Return Loss - Wi-Fi

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Return Loss	-8.5	-10.5	-12.1	-20.0	-13.3	-10.1	-	-	-	-

## 3.2. Radiation Performance Test

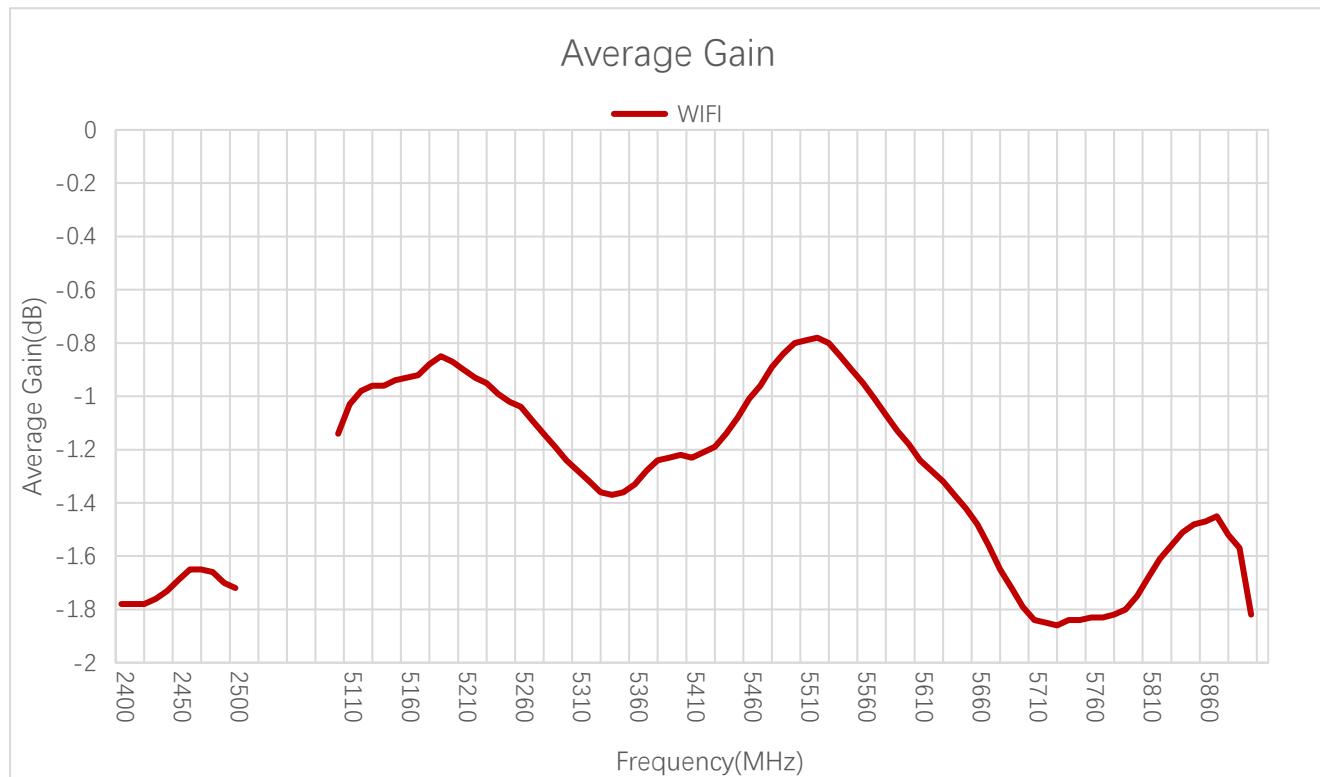
### 3.2.1. Efficiency



Efficiency (%) - Wi-Fi

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Efficiency (%)	66.4	67.8	67.3	80.6	83.1	71.1	-	-	-	-

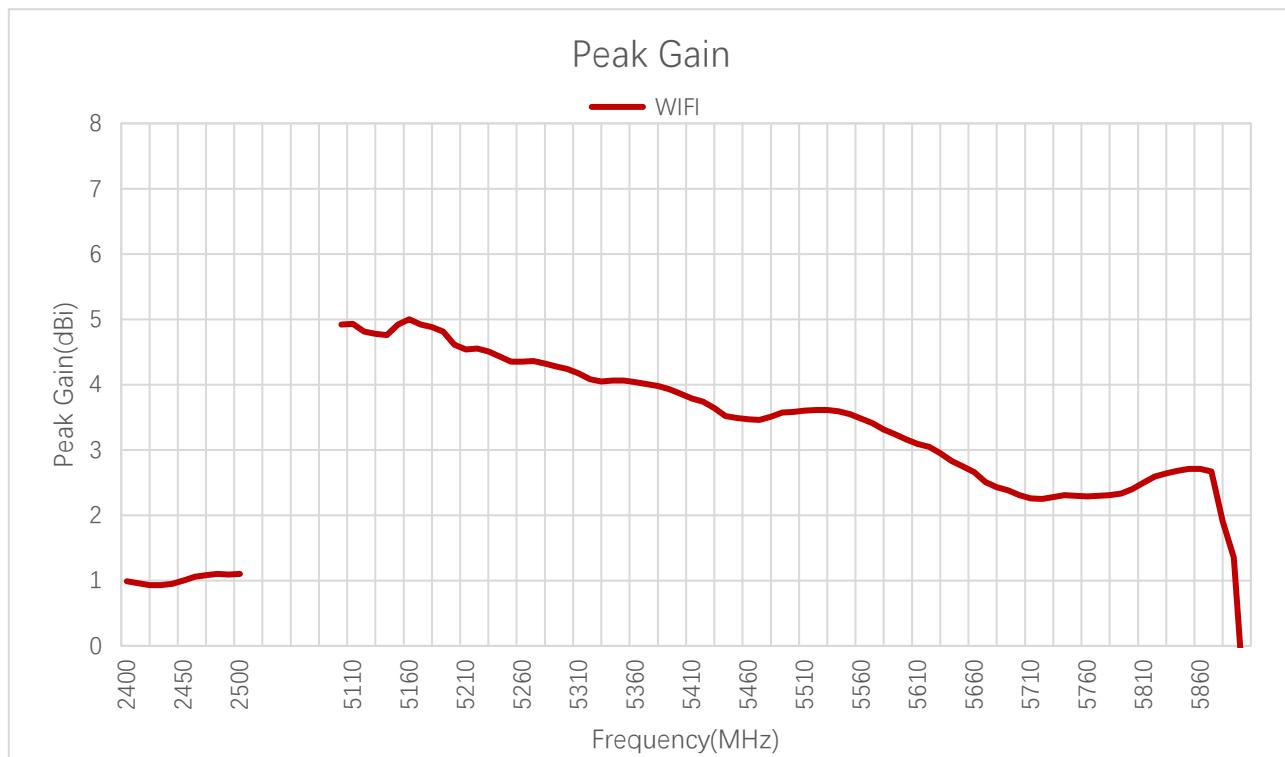
### 3.2.2. Average Gain



Average Gain (dB) - Wi-Fi

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Average Gain (dB)	-1.8	-1.7	-1.7	-0.9	-0.8	-1.5	-	-	-	-

### 3.2.3. Peak Gain

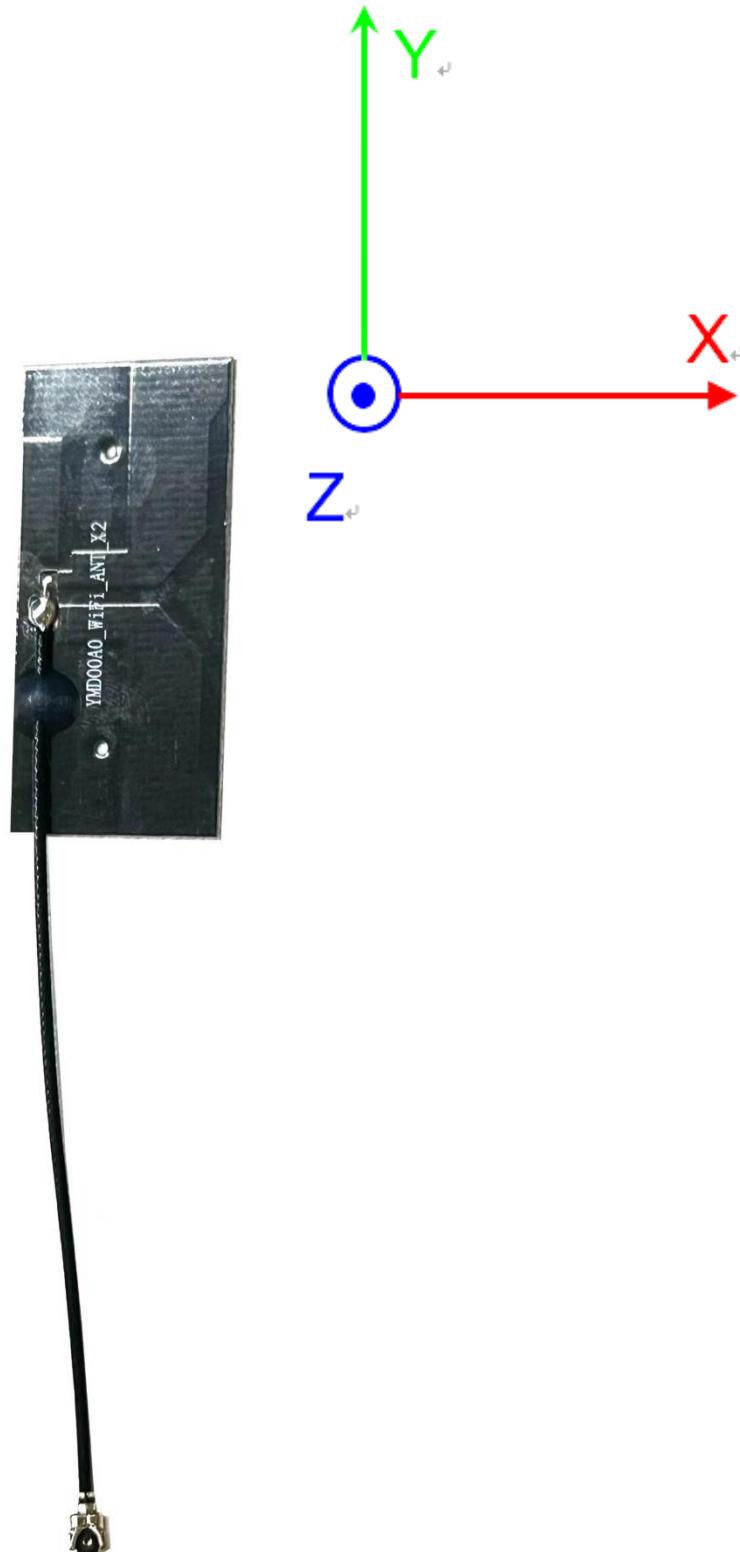


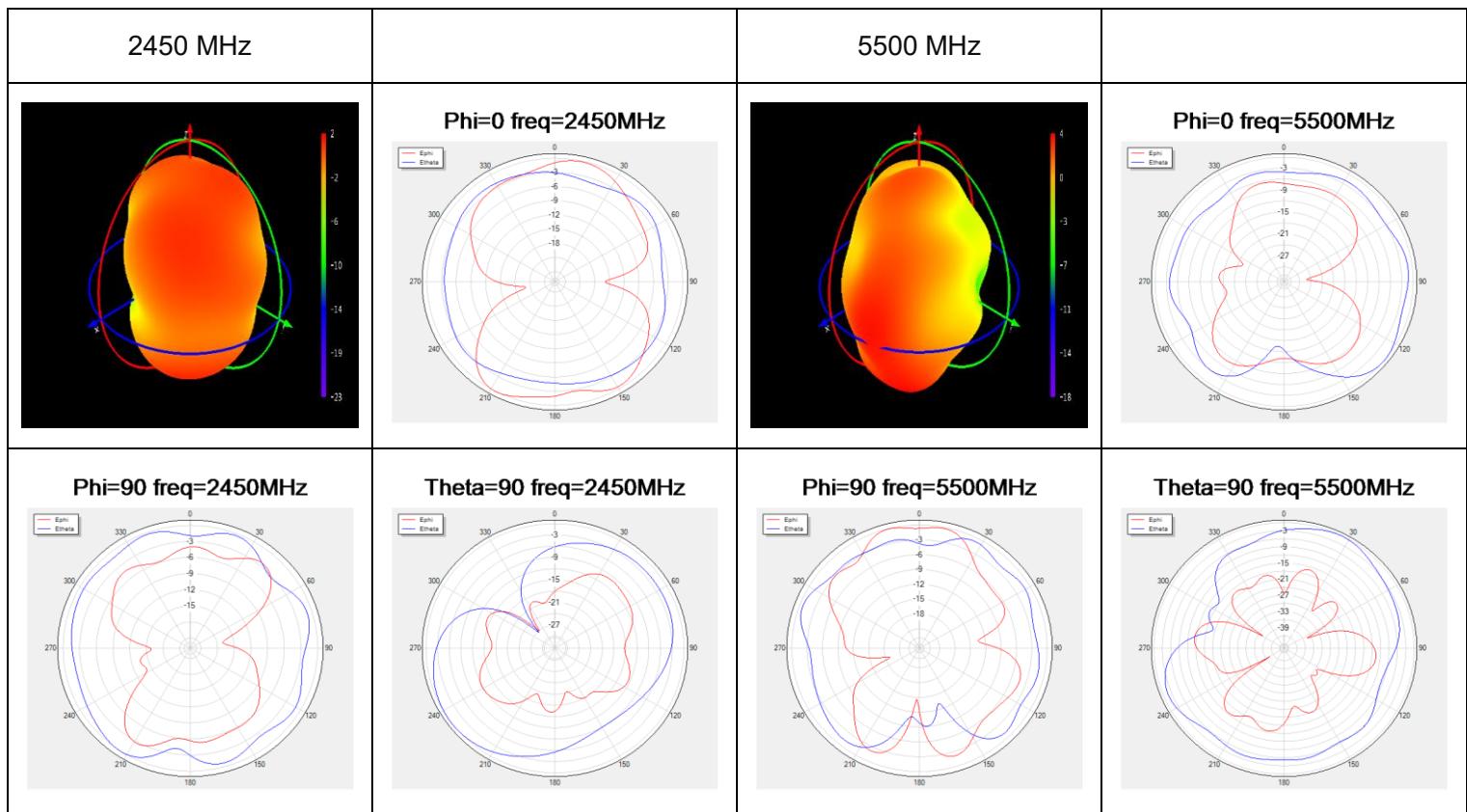
Peak Gain (dB) - Wi-Fi

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Peak Gain (dB)	1.0	1.0	1.1	4.9	3.6	2.7	-	-	-	-

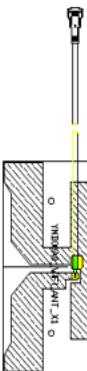
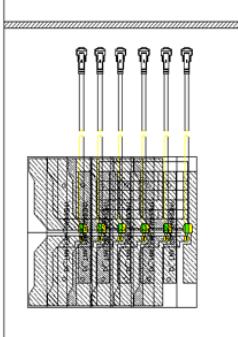
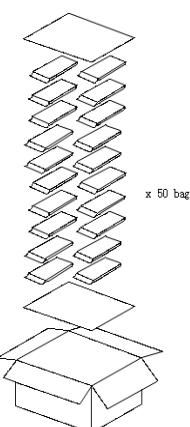
### 3.2.4. 3D & 2D Radiation Pattern

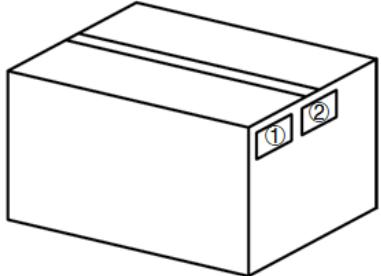
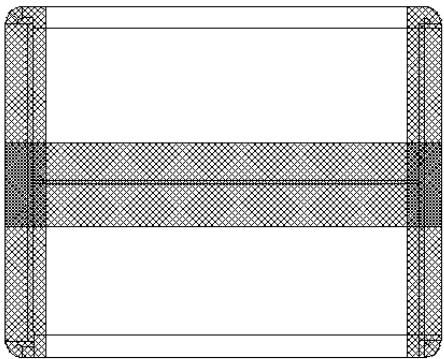
- Test Condition: Free space
- Test Chamber: SZ-S-1





# 4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		Product drawing
2	 200pcs/bag	200 pcs antenna products in a PE bag; (200 pcs antennas per PE bag) <u>PE Bag Size: <math>L \times W = 250 \times 150 \text{ mm}</math></u>
3		Place a clapboard at the bottom and top; (50 PE bags per carton box) (10000 pcs antennas per carton box) Estimated quantity <u>Carton Size:</u> <u><math>L \times W \times H = 325 \times 325 \times 200 \text{ mm}</math></u>

4		<p><b>Position for Attaching Labels</b></p> <p>① Carton Label ② Quality Label</p>
5		<p><b>Sealing Cartons</b> “工” 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:**

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

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# Revision History

Version	Date	Author	Note
-	2023-07-05	Qinming PENG/ Shea LI/ David LIU/ Bunny ZHANG	Creation of the document
1.0	2023-07-05	Qinming PENG/ Shea LI/ David LIU/ Bunny ZHANG	First official release



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