



Antenna Datasheet

Product OC: YEWN001AA

Version: 2.0

Date: 2023-05-05

Status: Released

Product Name: Wi-Fi Antenna

Key Features:

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

Dimensions: Φ 13 × 200 mm

Efficiency: Up to 79.6 %

RoHS Compliant

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

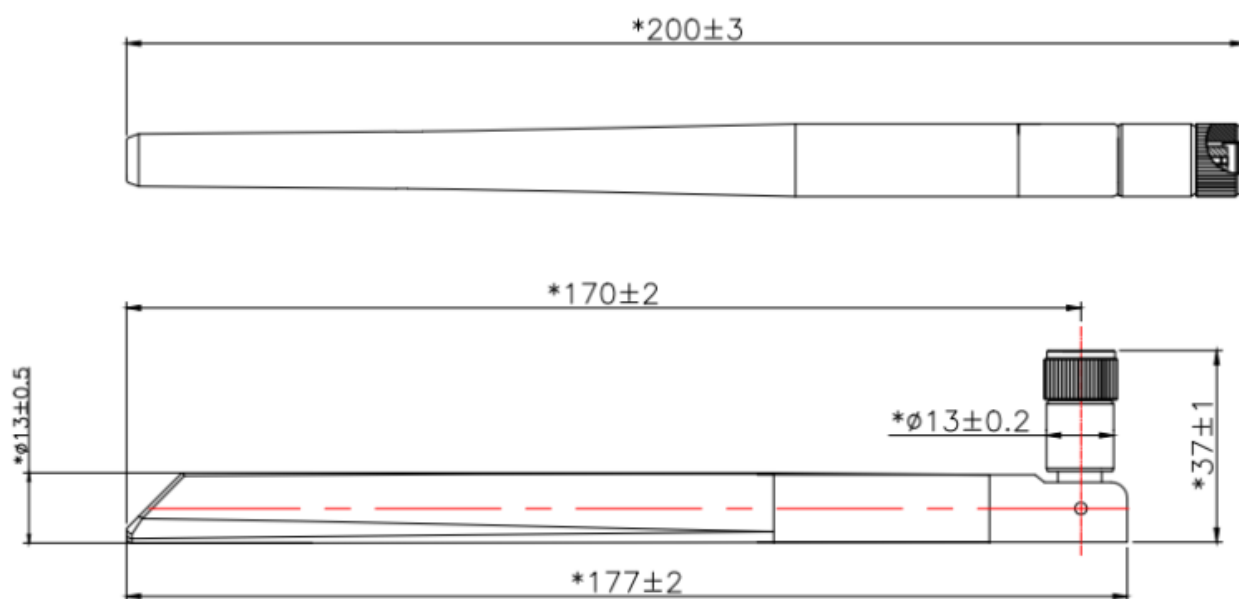
Electrical	
Frequency Range	2400–2500 MHz; 5150–5850 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional

Specification	Band	Band	Wi-Fi 2G	Wi-Fi 5G	Wi-Fi 7G
		Freq. (MHz)	2400 - 2500	5150 - 5850	5925 - 7125
Max. VSWR			1.9	1.7	-
Max. Return Loss (dB)			-10.2	-11.4	-
AVG Eff. (%)			75.7	58.3	-
AVG Gain (dB)			-1.2	-2.4	-
Max. Peak Gain (dBi)			4.1	2.8	-
VSWR			≤ 1.9		
Return Loss			≤ -10.2 dB		
Peak Gain			≤ 4.1 dBi		

1.2. Mechanical, Environmental & Storage

Mechanical	
Antenna Dimensions	Φ 13 × 200 mm
Casing Material & Color	TPEE & Black
Connector Type	RP-SMA Male
Mounting Type	Terminal
Weight	Typ. 19 g
Environmental	
Operation Temperature	-40 °C to +85 °C
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

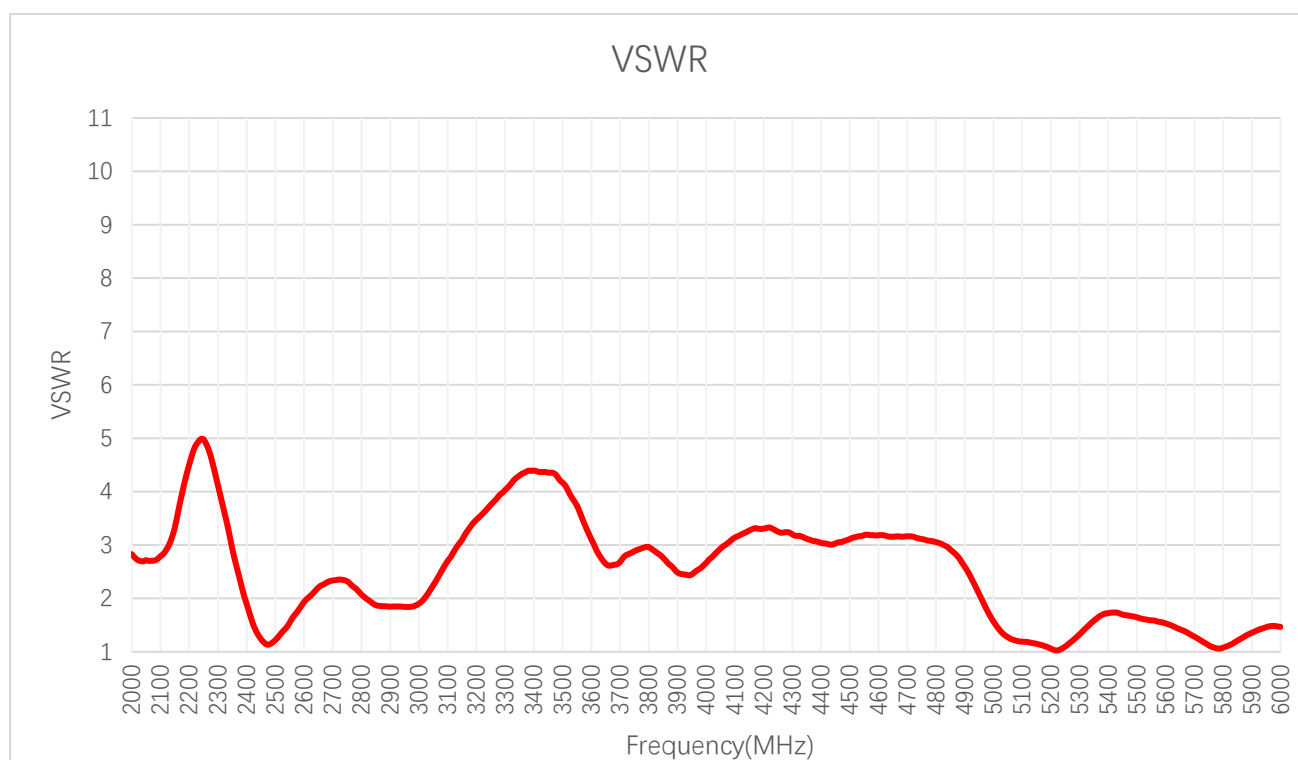
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

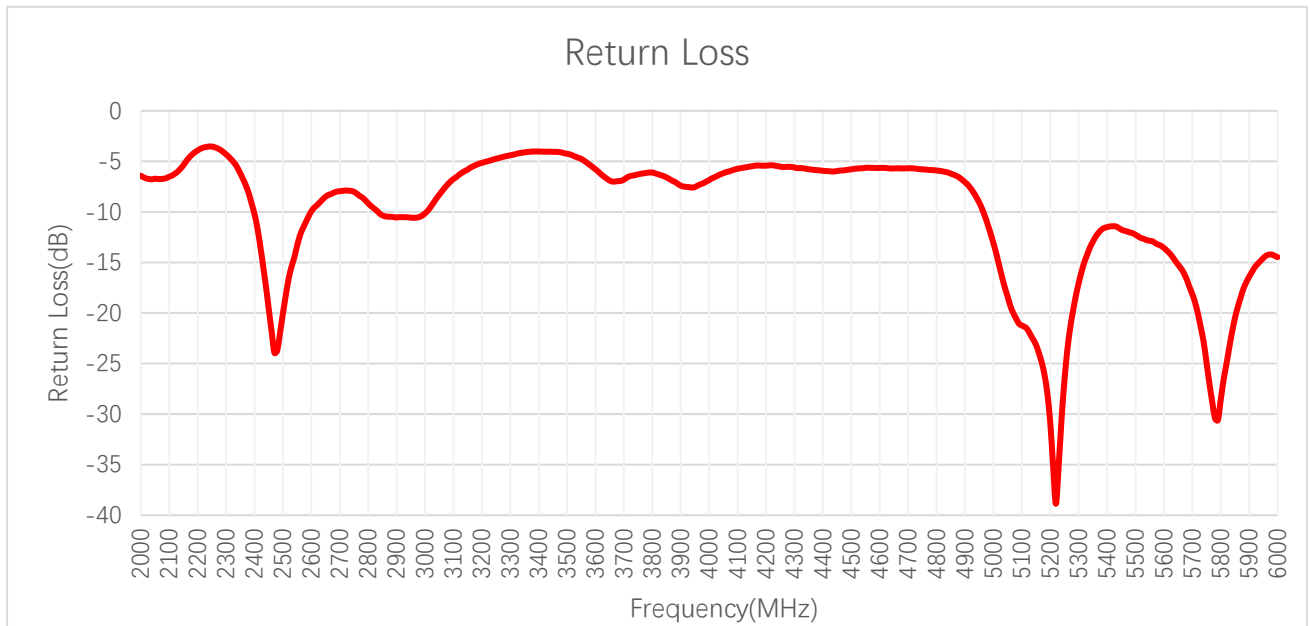
3.1.1. VSWR



VSWR

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
VSWR	1.9	1.2	1.2	1.1	1.6	1.2	-	-	-	-

3.1.2. Return Loss

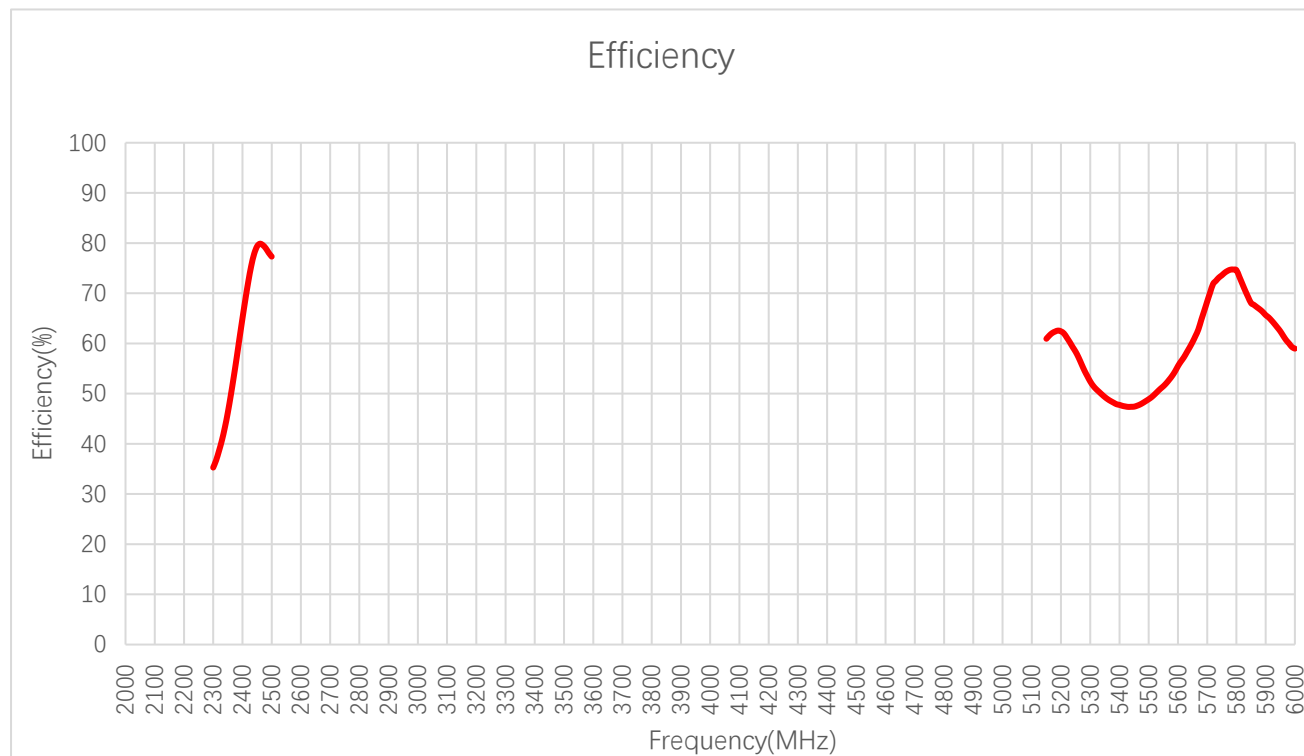


Return Loss (dB)

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Return Loss (dB)	-10.2	-19.5	-20.1	-23.1	-12.3	-20.5	-	-	-	-

3.2. Radiation Performance Test

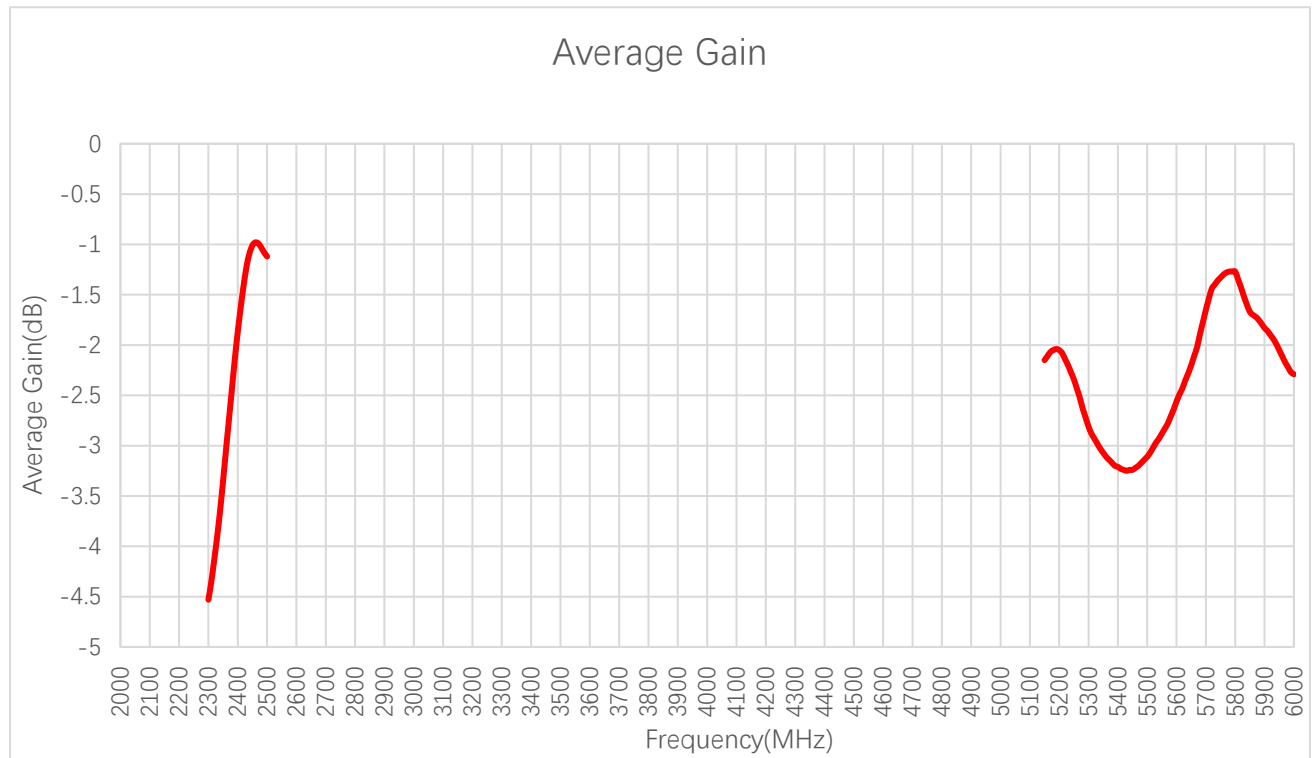
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Efficiency (%)	65.0	79.3	77.3	60.9	48.9	68.1	-	-	-	-

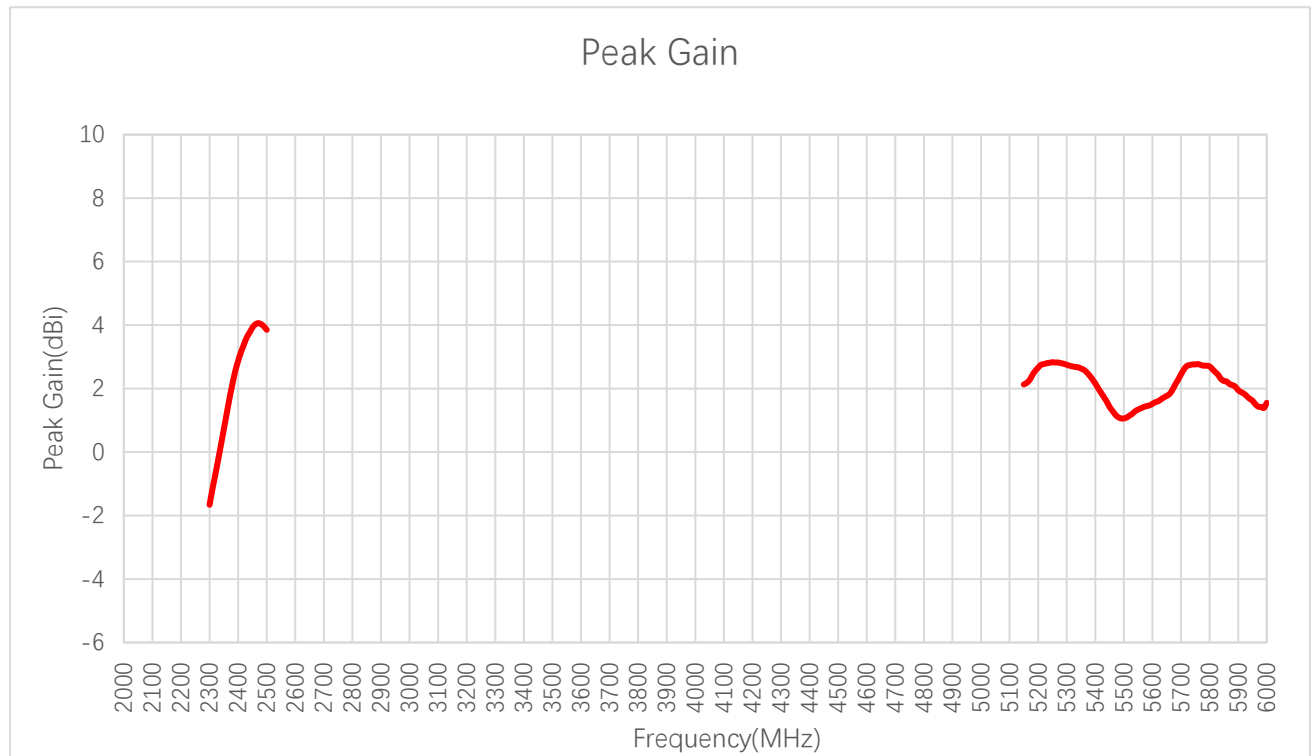
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Average Gain (dB)	-1.9	-1.0	-1.1	-2.2	-3.1	-1.7	-	-	-	-

3.2.3. Peak Gain

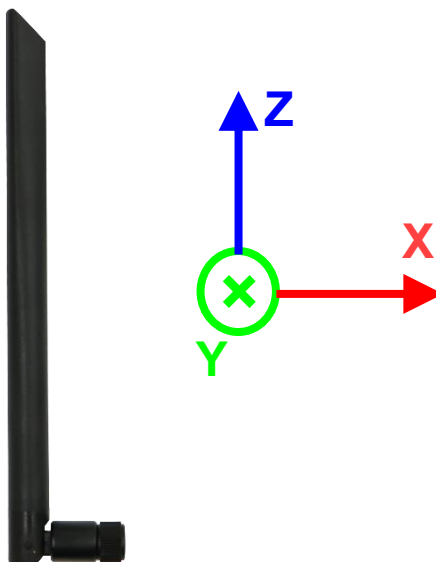


Peak Gain (dBi)

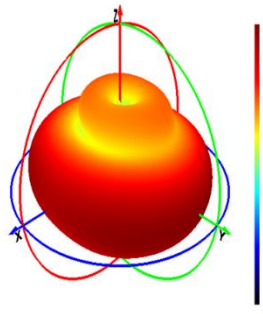
Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Peak Gain (dBi)	2.9	3.9	3.9	2.1	1.1	2.2	-	-	-	-

3.2.3.1. Test Condition: Free Space

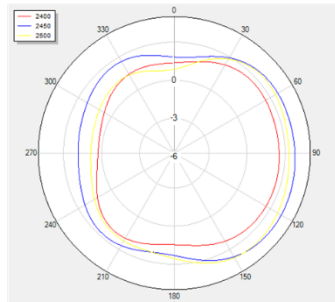
- Test Chamber: GL-S-1



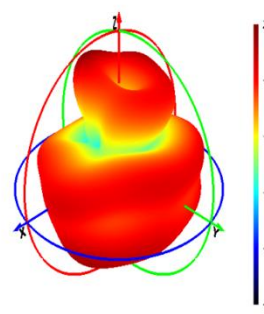
2450 MHz



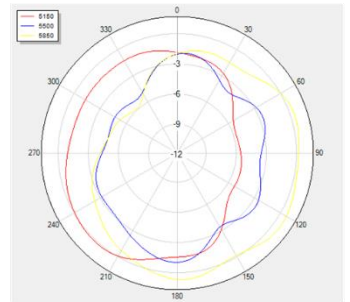
Theta=90



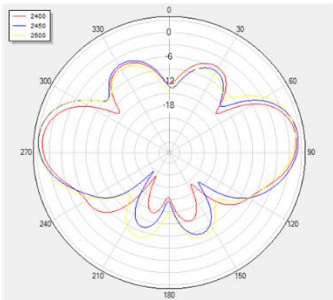
5500 MHz



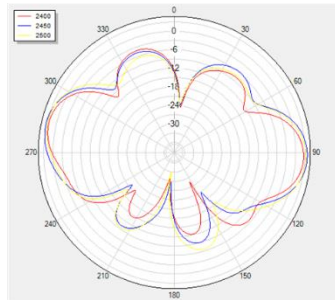
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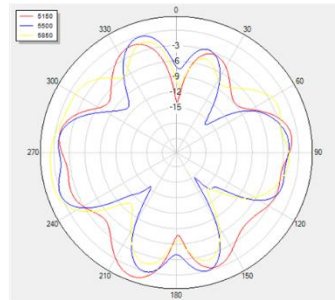
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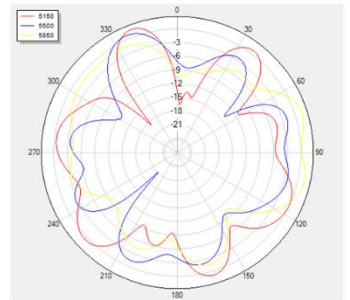
Phi=90



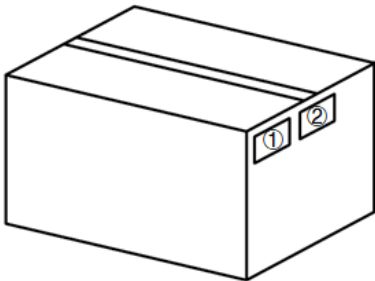
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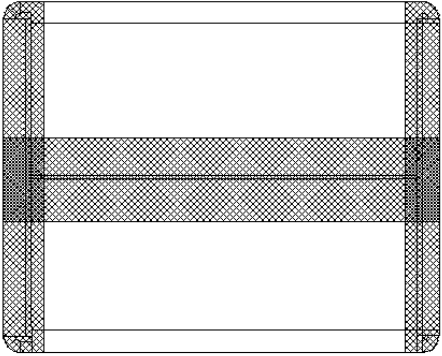


Phi=90



4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		20 pcs antenna products in a PE bag; (20 pcs antennas per PE bag)
2		(30 PE bags per carton box) (600 pcs antennas per carton box) <u>Carton Size:</u> <u>L × W × H = 450 × 240 × 290 mm</u>
3		Position for Attaching Labels ① Carton Label ② Quality Label

4		Sealing Cartons “工” type sealing cartons
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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
-	2021-05-11	Kenny YIN/ Aria CHU	Creation of the document
1.0	2021-05-11	Kenny YIN/ Aria CHU	First official release
1.1	2021-07-25	Kenny YIN/ Aria CHU	Updated working temperature (Chapter 3).
1.2	2021-11-30	Kenny YIN/ Aria CHU	Updated the product description (Chapter 1).
1.3	2022-10-17	Aria CHU	Deleted the IP rating.
2.0	2023-05-05	Mikael ZHONG/ Lucky FENG/ David LIU/ Aria CHU	Updated all data and datasheet template.



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