

# Antenna Datasheet

**Product OC:** Y0YRX00A1FA

**Version:** 1.0

**Date:** 2024-06-29

**Status:** Preliminary

**Product Name:** Wifi/BT

**Key Features:**

Frequency Band: 2400-2500

Dimensions: 20\*14mm

Efficiency: Up to 42.7%

RoHS and REACH Compliant

# 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: Assembled in test device

## 1.1. Electrical

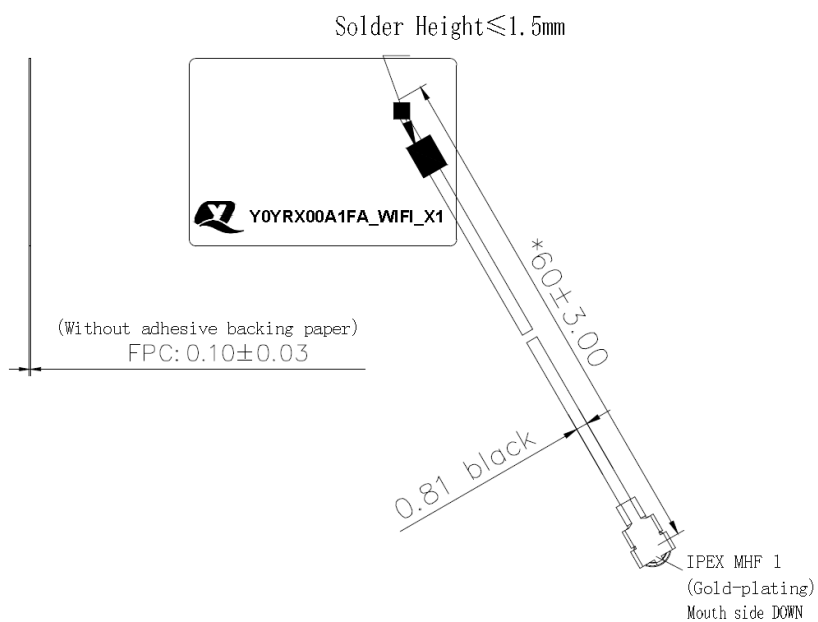
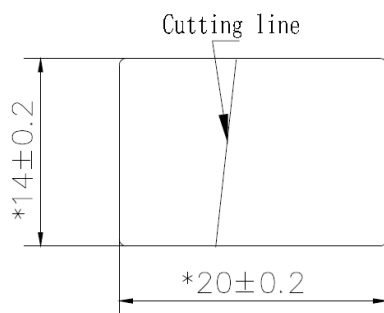
Electrical	
Frequency Range	2400-2500MHz
Impedance	50 $\Omega$
Polarization	Linear
Radiation Pattern	Omni-directional

Electrical – Detail													
SPEC	Band	Band	B71	B12 /B13 /B28	B5 /B8 /B26	N74 /N75 /N76	B1 /B2 /B3	B40	Wi-Fi/B T 2G	B38 /B41	B42 /B48 /N77	N79	Wi-Fi 5G
	Freq. (MHz)		600– 700	700– 810	820– 960	1420–1 520	1700–2 170	2300–2 400	2400–2 500	2500–2 690	3300–4 200	4400–5 000	5150–5 850
Max. VSWR			–	–	–	–	–	–	2.4	–	–	–	–
Max. Return Loss (dB)			–	–	–	–	–	–	–7.9	–	–	–	–
AVG Eff. (%)			–	–	–	–	–	–	40.3	–	–	–	–
AVG AVG Gain (dB)			–	–	–	–	–	–	–4.0	–	–	–	–
Max. Peak Gain (dBi)			–	–	–	–	–	–	2.2	–	–	–	–
VSWR							≤ 2.4						
Return Loss							≤ –7.9 dB						
Peak Gain							≤ 2.2 dBi						

## 1.2. Mechanical, Environmental

Mechanical	
Antenna Dimensions	20* 14 *0.1mm
Material & Color	FPC & Black
Cable Type & Color & Length	Φ0.81 & Black & 60mm
Connector Type	IPEX MHF 1
Mounting Type	Adhesive
Weight	Typ.0.3g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
RoHS & REACH Compliant	Yes

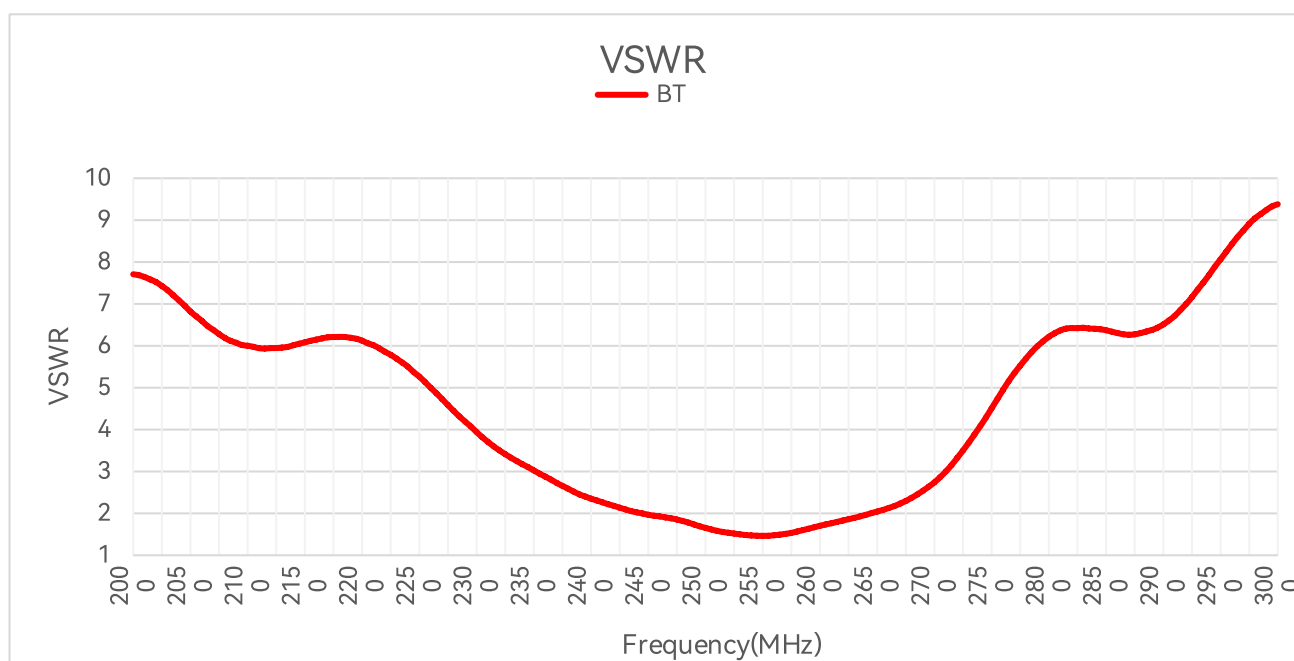
## 2 Drawing



# 3 Detailed Performance

## 3.1. S-Parameter Test

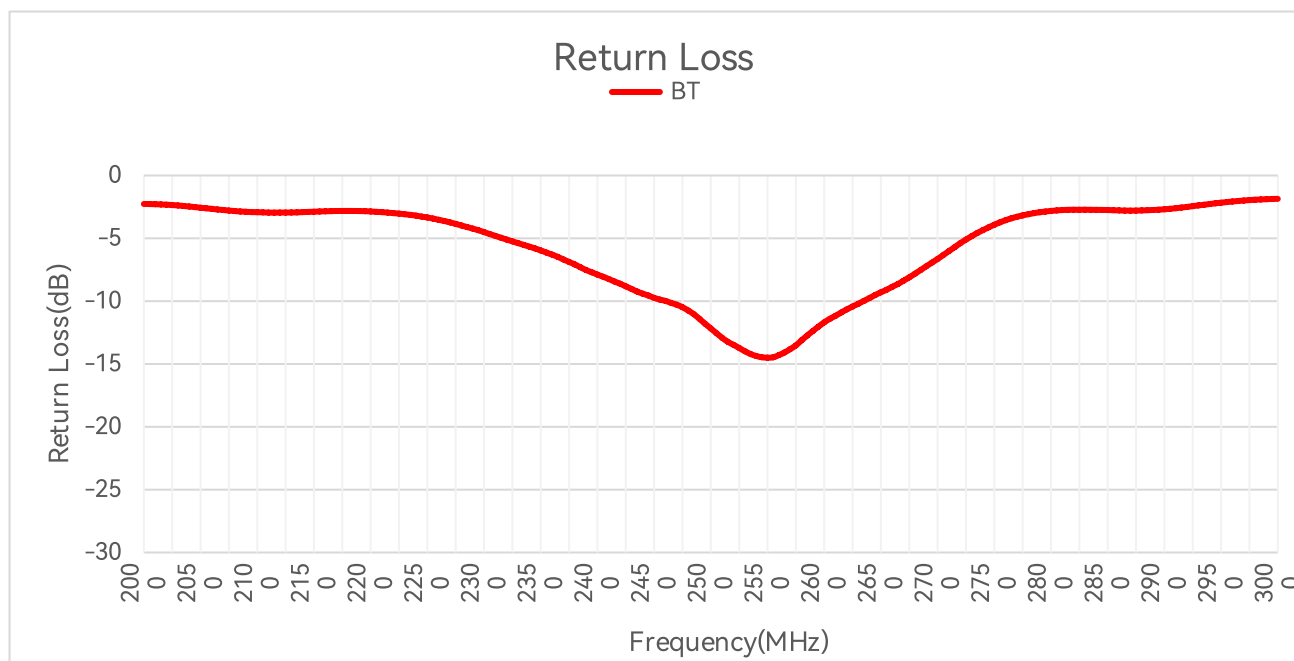
### 3.1.1. VSWR



**VSWR**

Frequency (MHz)	2400	2450	2500	-	-	-	-	-	-	-
VSWR	2.4	2.0	1.7	-	-	-	-	-	-	-

### 3.1.2. Return Loss



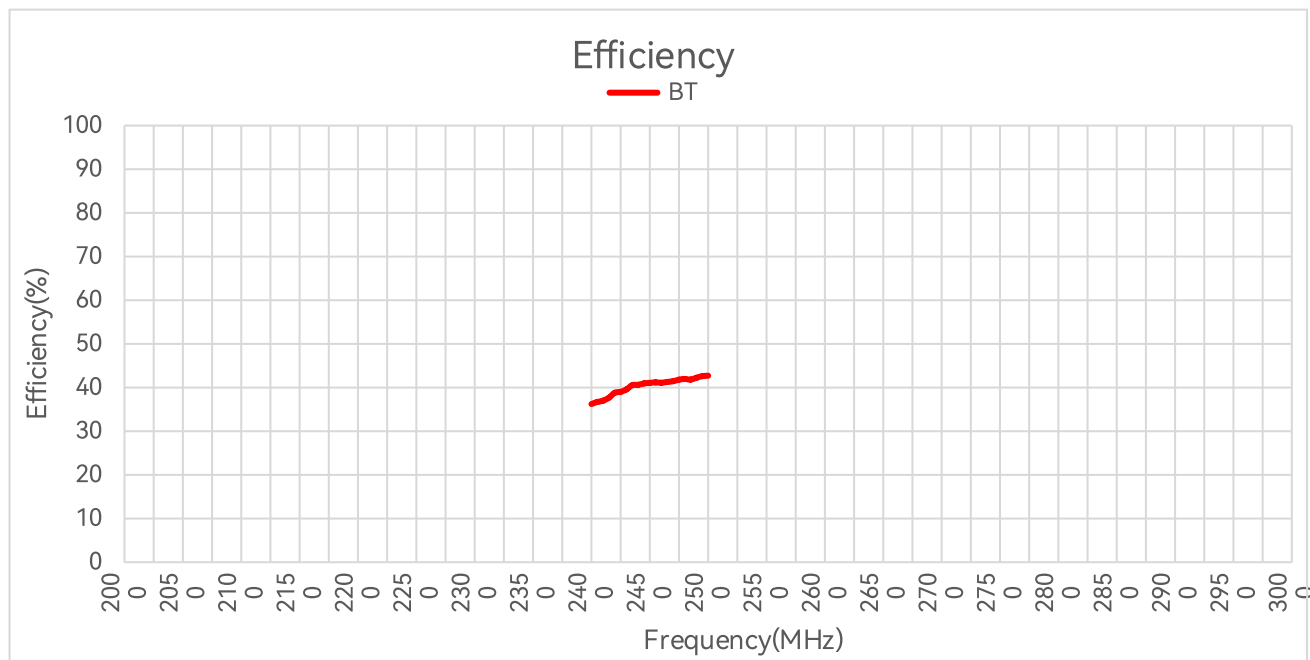
**Return Loss (dB)**

Frequency (MHz)	2400	2450	2500	-	-	-	-	-	-	-
Return Loss (dB)	-7.9	-9.7	-12.2	-	-	-	-	-	-	-



## 3.2. Radiation Performance Test

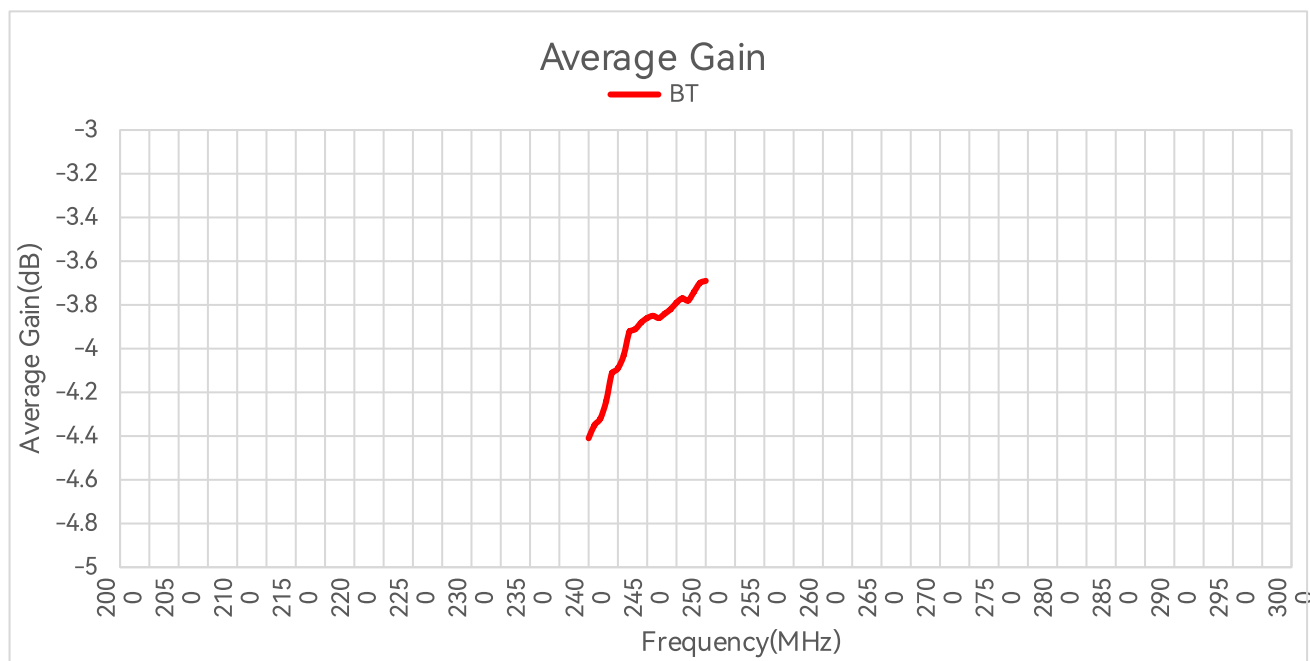
### 3.2.1. Efficiency



**Efficiency (%)**

Frequency (MHz)	2400	2450	2500	-	-	-	-	-	-	-
Efficiency (%)	36.2	41.1	42.7	-	-	-	-	-	-	-

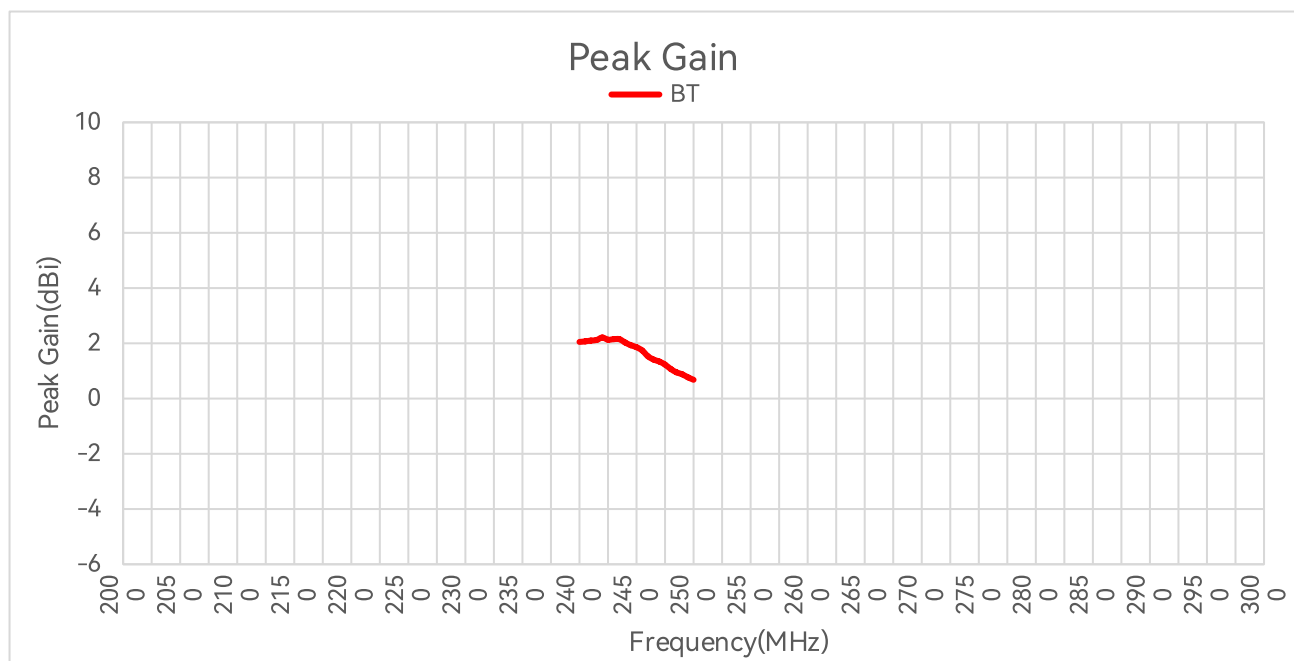
### 3.2.2. Average Gain



**Average Gain (dB)**

Frequency (MHz)	2400	2450	2500	-	-	-	-	-	-	-
Average Gain (dB)	-4.4	-3.9	-3.7	-	-	-	-	-	-	-

### 3.2.3. Peak Gain

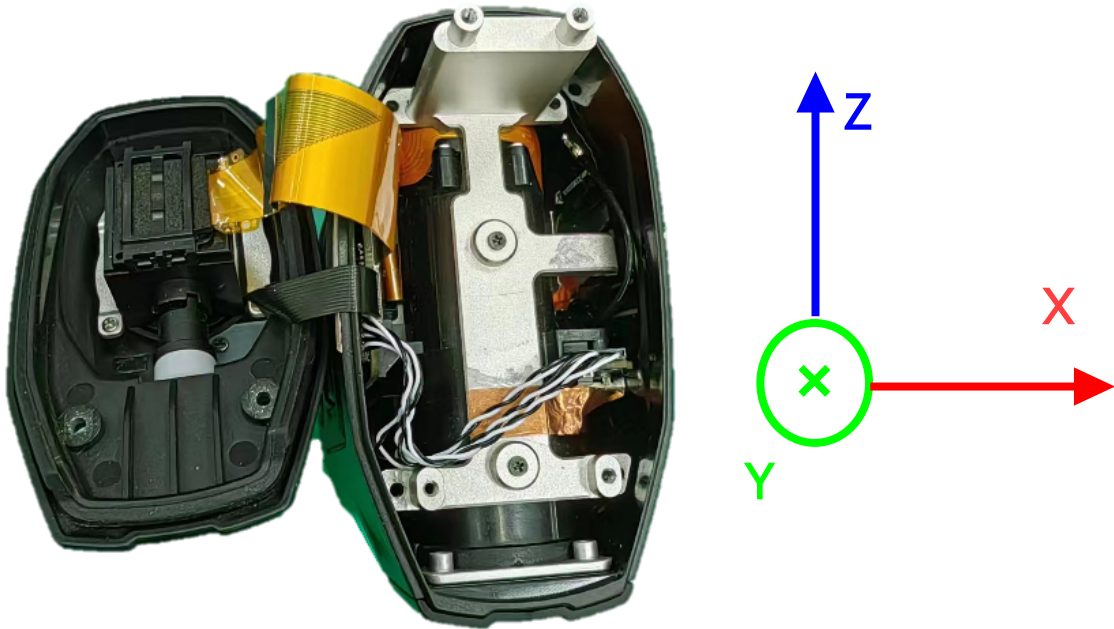


**Peak Gain (dBi)**

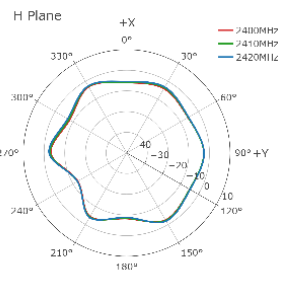
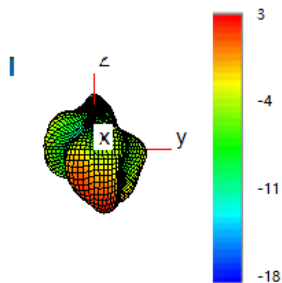
Frequency (MHz)	2400	2450	2500	-	-	-	-	-	-	-
Peak Gain (dBi)	2.1	1.9	0.7	-	-	-	-	-	-	-

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

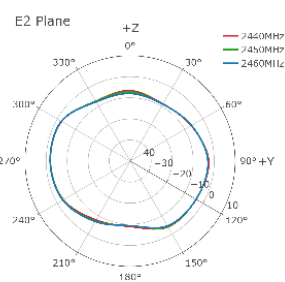
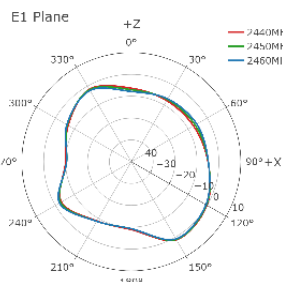
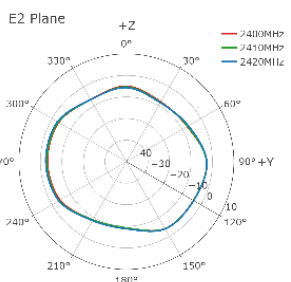
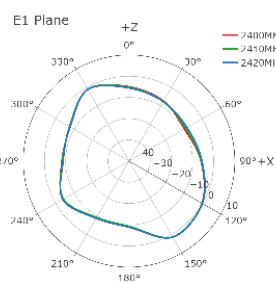
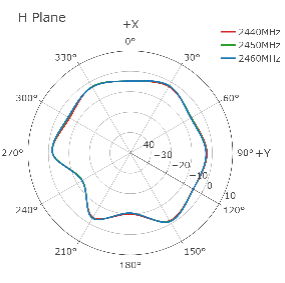
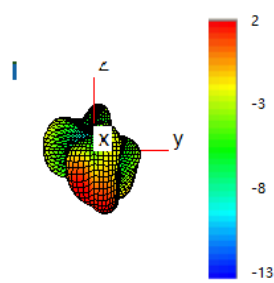
- Test Condition: Assembled in test device
- Test Chamber: HF-G-1



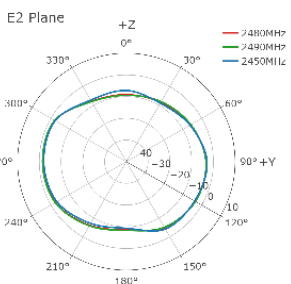
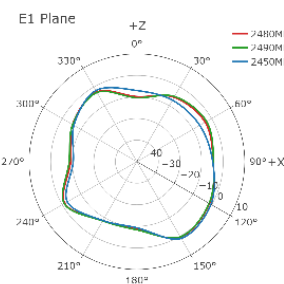
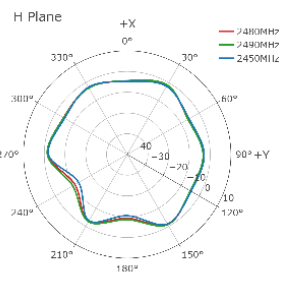
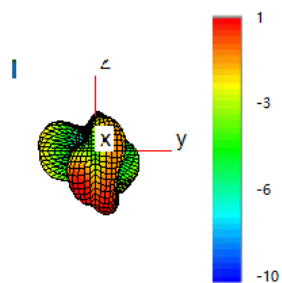
2400MHz



2450MHz



2500MHz



# 4 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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## Revision History

Version	Date	Author	Note
-	2023-11-02	Raoul Rao Vinnie Liu	Creation of the document
1.0	2023-11-02	Raoul Rao Vinnie Liu	First official release

