

Antenna Datasheet

Product OC: YYH00A6BA

Version: 1.0

Date: 2023-02-23

Status: Preliminary

Product Name: WIFI Antenna

Key Features:

Frequency Band: 2.4GHz–2.5GHz

Dimensions: 30mm*9.6 mm

Efficiency: Up to 47.8%

RoHS and REACH 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: Assembled in test device

1.1. Electrical

Electrical	
Frequency Range	2.4GHz–2.5GHz
Impedance	50 Ω
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 2G	B38 /B41	B42 /B48 /N77	N79	Wi-Fi 5G
	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			-	-	-	-	-	-	2.9	-	-	-	-
Max. Return Loss (dB)			-	-	-	-	-	-	-6.3	-	-	-	-
AVG Eff. (%)			-	-	-	-	-	-	46.5	-	-	-	-
AVG. AVG. Gain (dB)			-	-	-	-	-	-	-3.4	-	-	-	-
Max. Peak Gain (dBi)			-	-	-	-	-	-	0.6	-	-	-	-
VSWR							≤ 2.9						
Return Loss							≤ -6.3dB						
Peak Gain							≤ 0.6 dBi						

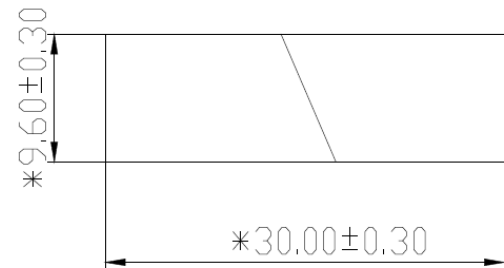
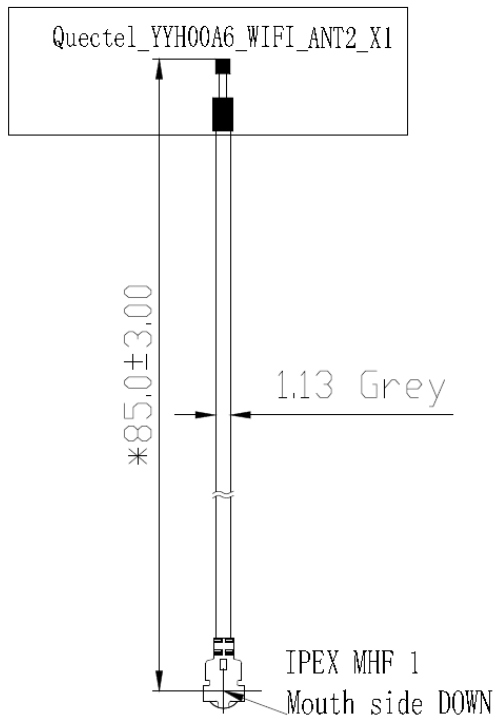
1.2. Mechanical, Environmental & Storage

Mechanical	
Antenna Dimensions	30 * 9.6mm
Material & Color	FPC & Black
Cable Type & Color & Length	Φ1.13 Grey & 85mm
Connector Type	IPEX MHF 1
Mounting Type	Adhesive
Weight	Typ: 2.3g
Environmental	
Operation Temperature	-40 °C to +85 °C
RoHS & REACH Compliant	Yes
Storage	
Storage Temperature	-40 °C to +85 °C
Humidity	Less than 75% RH
Storage Place	Away from corrosive gas and direct sunlight
Packaging	Antennas should be stored in unopened sealed manufacturer's plastic packaging.

1.3. Antenna Assembly



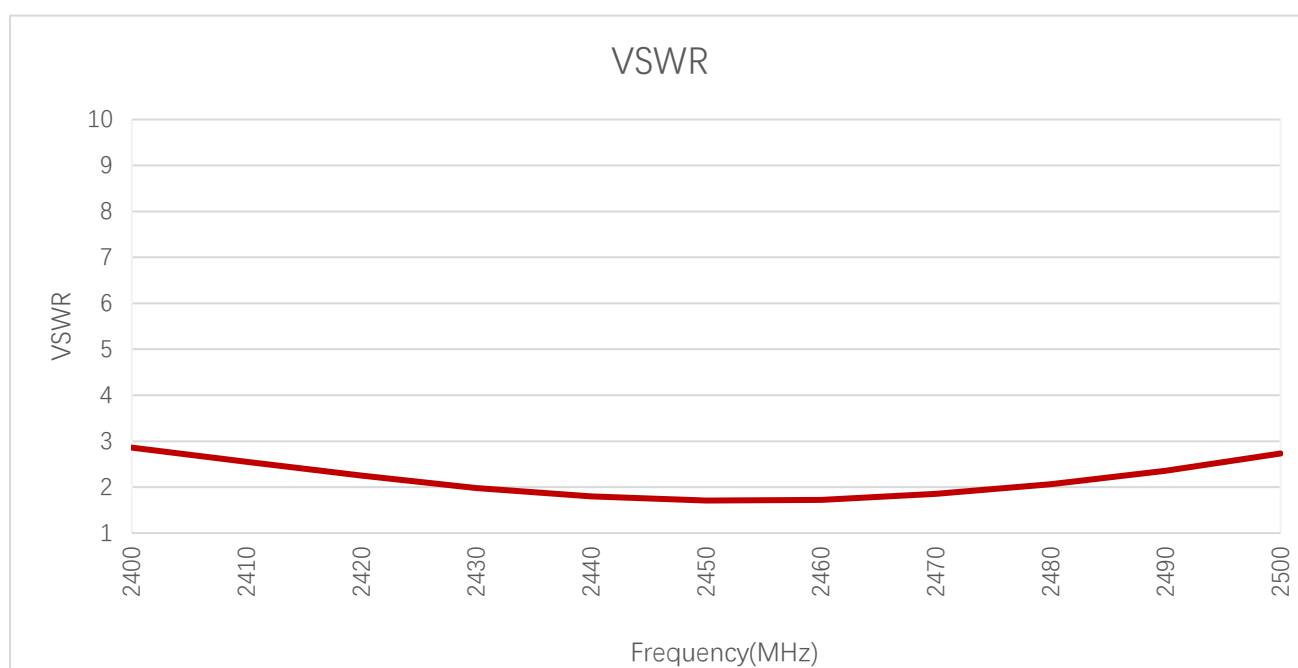
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

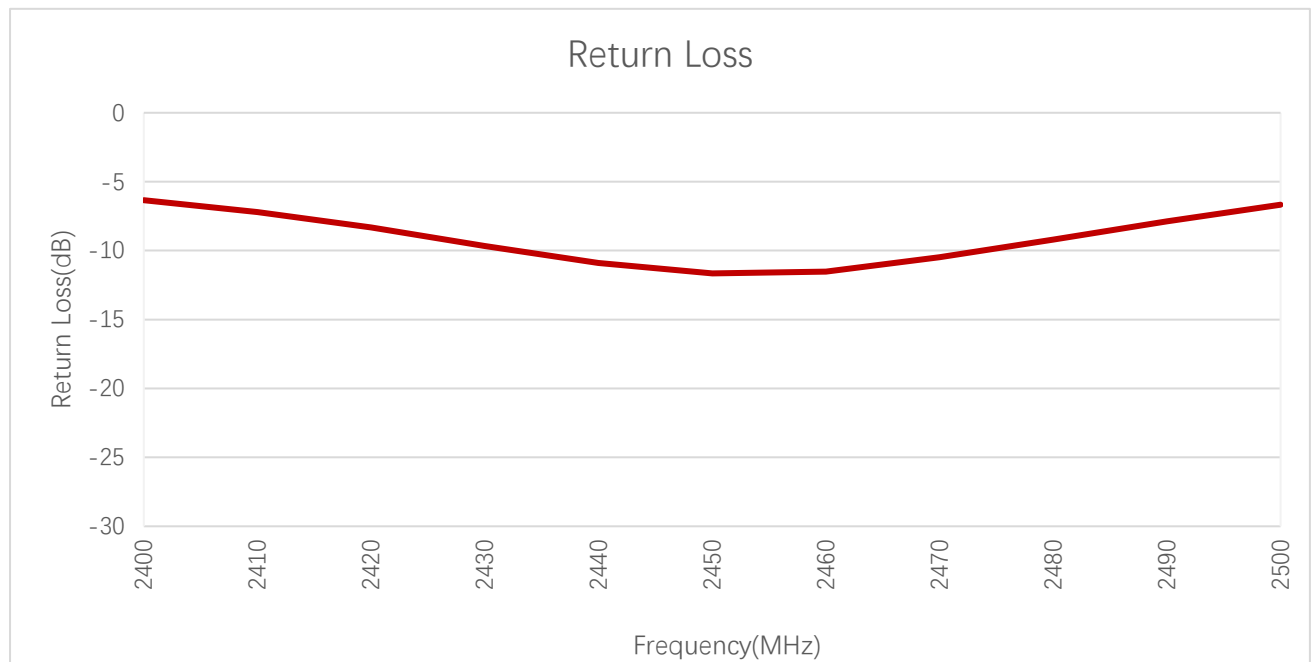
3.1.1. VSWR



VSWR

Frequency (MHz)	2400	2450	2500	5150	5550	5850	5925	6350	6700	7125
VSWR	2.9	1.7	2.7	-	-	-	-	-	-	-

3.1.2. Return Loss

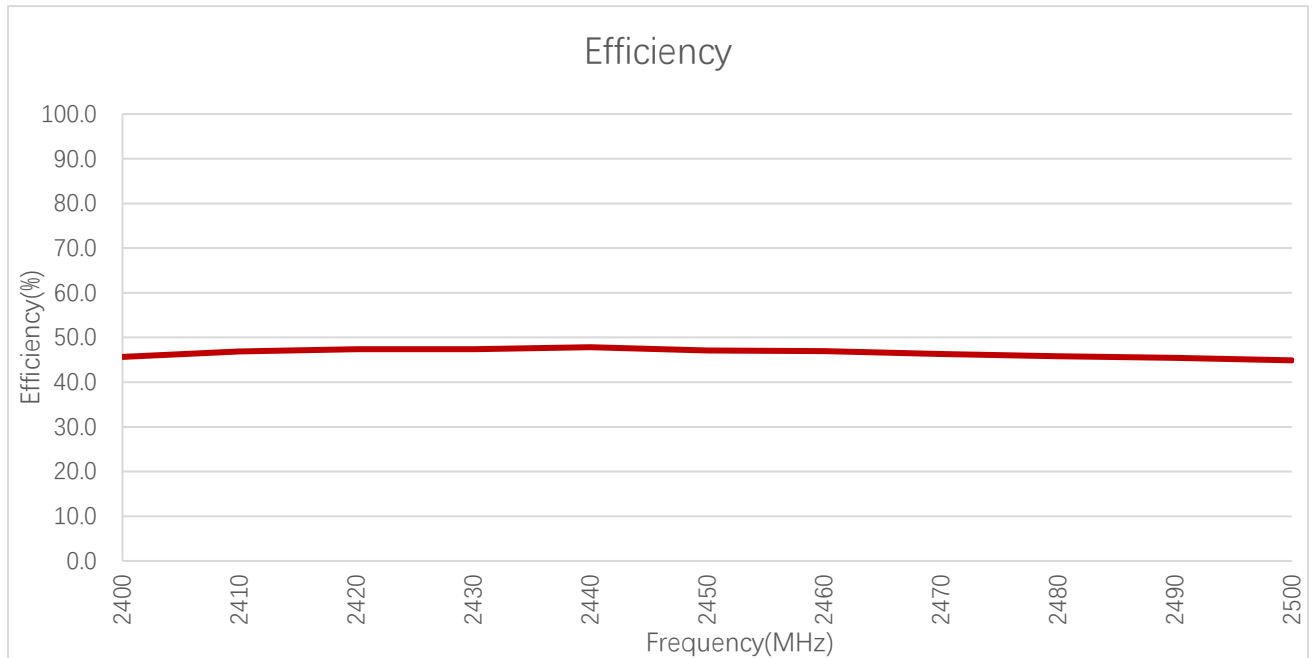


Return Loss (dB)

Frequency (MHz)	2400	2450	2500	5150	5550	5850	5925	6350	6700	7125
Return Loss (dB)	-6.3	-11.7	-6.7	-	-	-	-	-	-	-

3.2. Radiation Performance Test

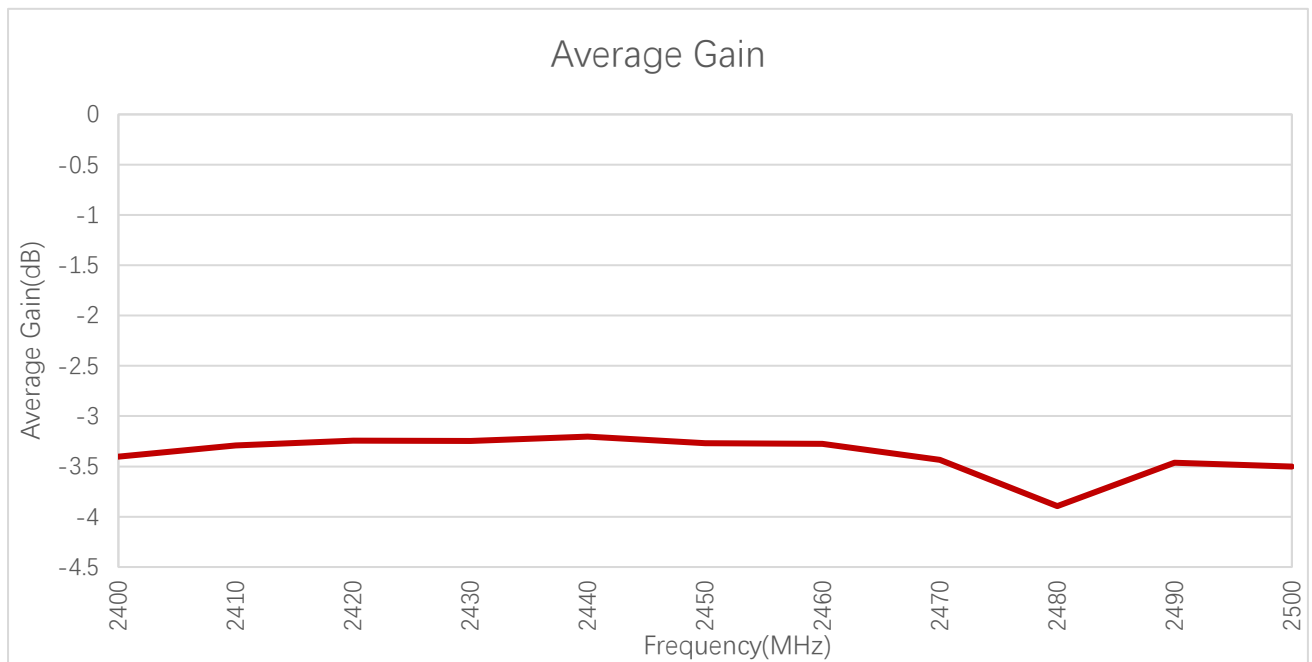
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	2400	2450	2500	5150	5550	5850	5925	6350	6700	7125
Efficiency (%)	45.7	47.1	44.9	-	-	-	-	-	-	-

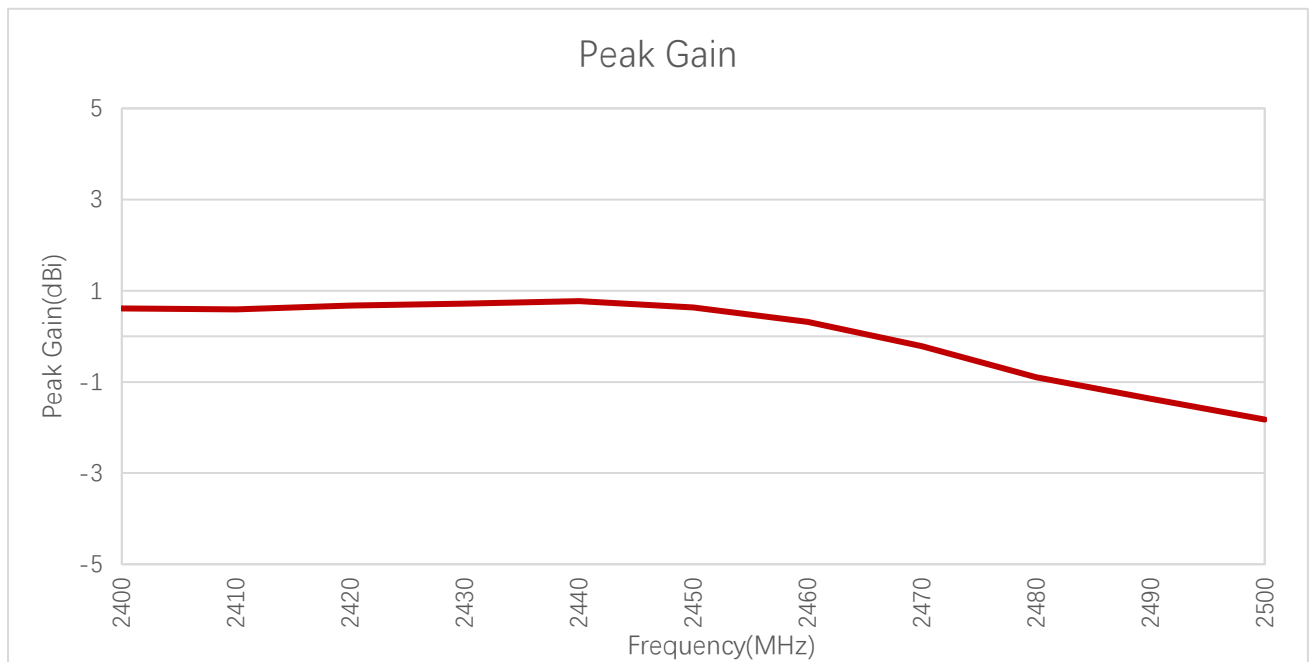
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)	2400	2450	2500	5150	5550	5850	5925	6350	6700	7125
Average Gain (dB)	-3.4	-3.3	-3.5	-	-	-	-	-	-	-

3.2.3. Peak Gain



Average Gain (dB)

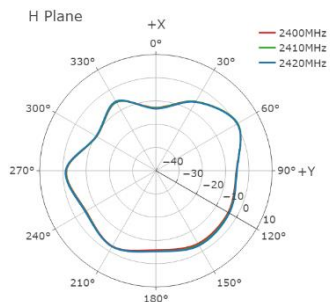
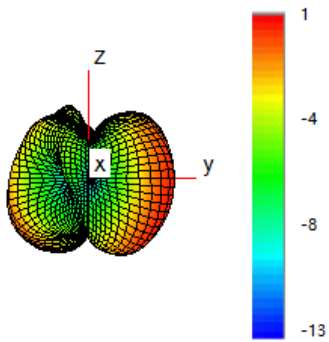
Frequency (MHz)	2400	2450	2500	5150	5550	5850	5925	6350	6700	7125
Peak Gain (dBi)	0.6	0.6	-1.8	-	-	-	-	-	-	-

3.2.4. 3D & 2D Radiation Pattern

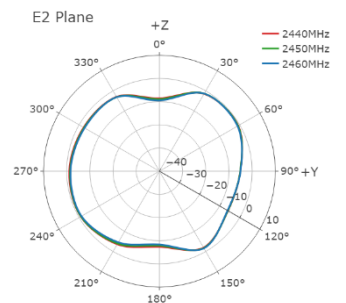
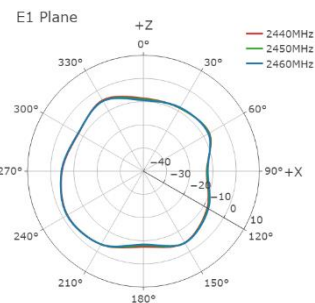
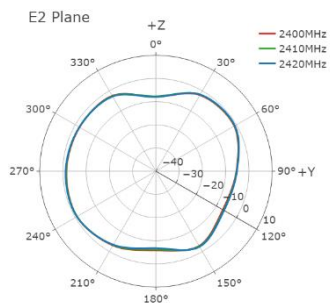
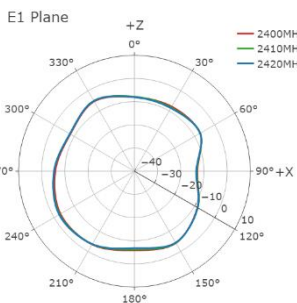
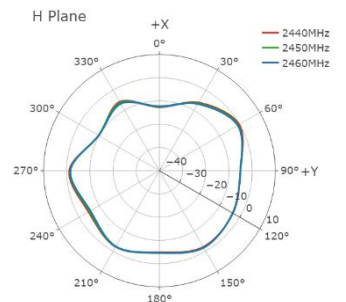
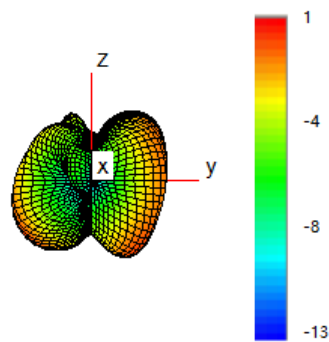
- Test Condition: Assembled in test device
- Test Chamber: HF-G-1



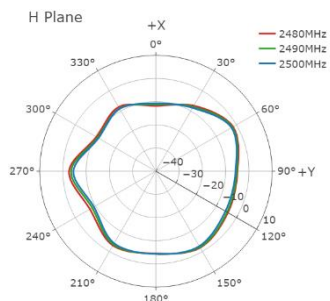
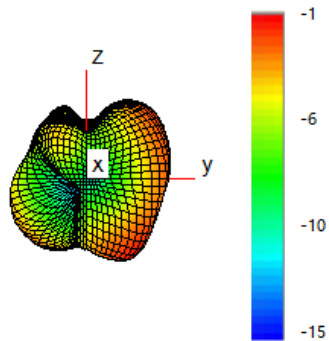
2400MHz



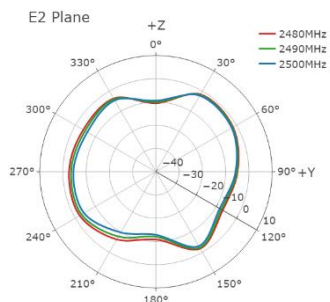
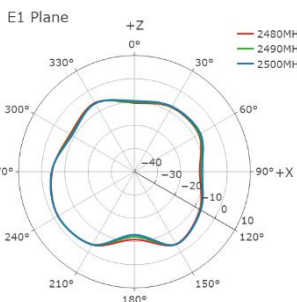
2450 MHz



2500 MHz



5150 MHz



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
-	2023-02-23	Simon Sheng Joye Wang David Liu Vinnie Liu	Creation of the document
1.0	2023-02-23	Simon Sheng Joye Wang David Liu Vinnie Liu	First official release



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