



Antenna Datasheet

Product OC: YNR01A0AA

Version: 1.0

Date: 2023-03-28

Status: Preliminary

Product Name: WIFI FPC Antenna

Key Features:

Frequency Band: 2400-2500MHz 5150-5850MHz

Dimensions: 23.73 * 7.78 mm

Efficiency: Up to 60%

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

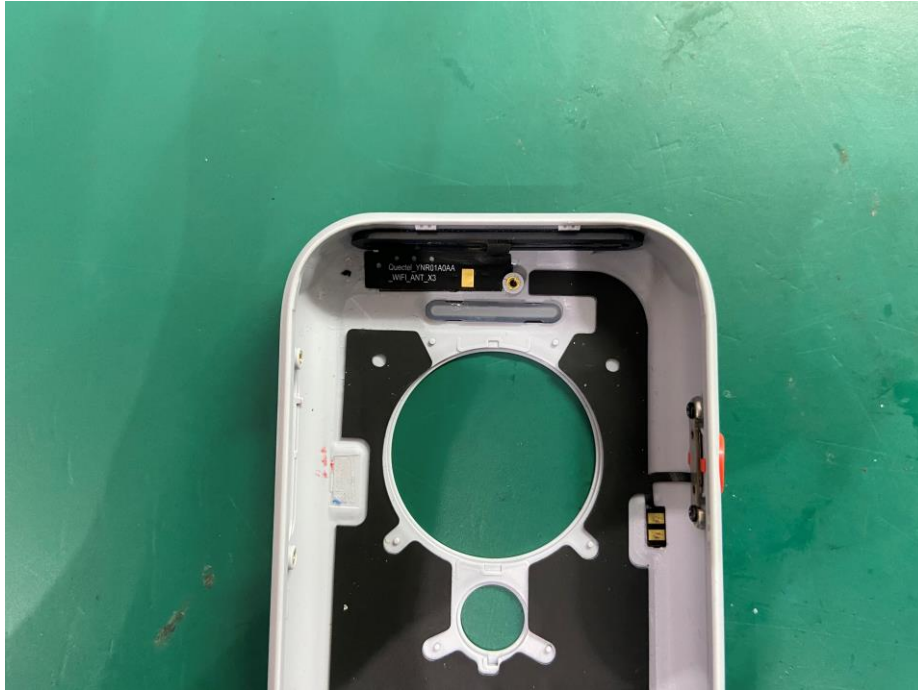
Electrical	
Frequency Range	2400-2500MHz, 5150-5850MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional

Specification	Band	Band	WIFI 2G	WIFI 5G	WIFI 7G
		Freq. (MHz)	2400 - 2500	5150 - 5850	5925 - 7125
Max. VSWR			5.1	3.3	-
Max. Return Loss (dB)			-3.4	-5.5	-
AVG Eff. (%)			24.1	48.6	-
AVG AVG Gain (dB)			-6.2	-3.2	-
Max. Peak Gain (dBi)			-0.7	2.2	-
VSWR			≤ 5.1		
Return Loss			≤ -3.4 dB		
Peak Gain			≤ 2.2 dBi		

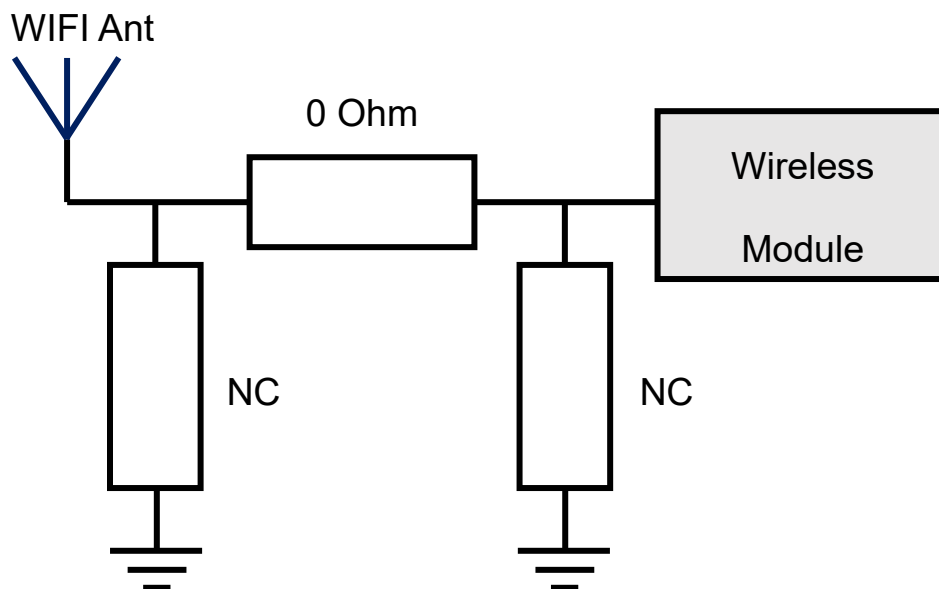
1.2. Mechanical, Environmental & Storage

Mechanical	
Antenna Dimensions	23.72 * 7.78 mm
Material & Color	FPC & Black
Mounting Type	Adhesive
Weight	Typ. 0.035g
Environmental	
Operation Temperature	-40 °C to +85 °C
RoHS & REACH Compliant	Yes

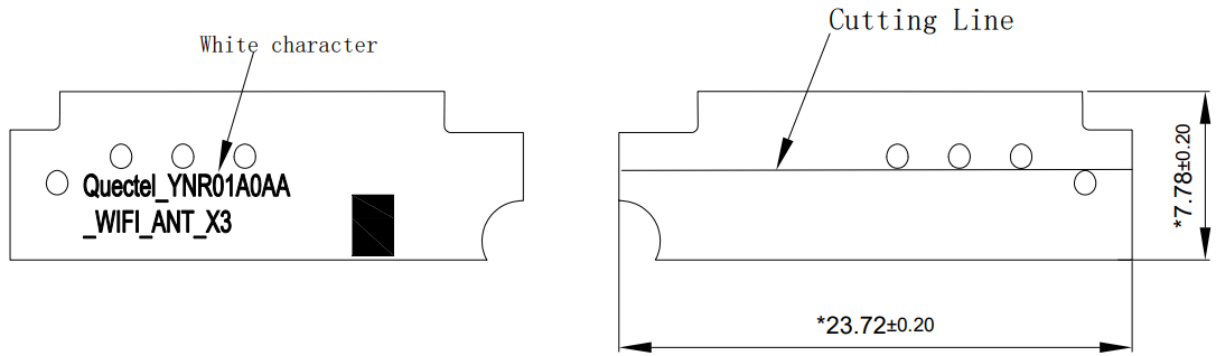
1.3. Antenna Assembly



1.4. Matching Circuit



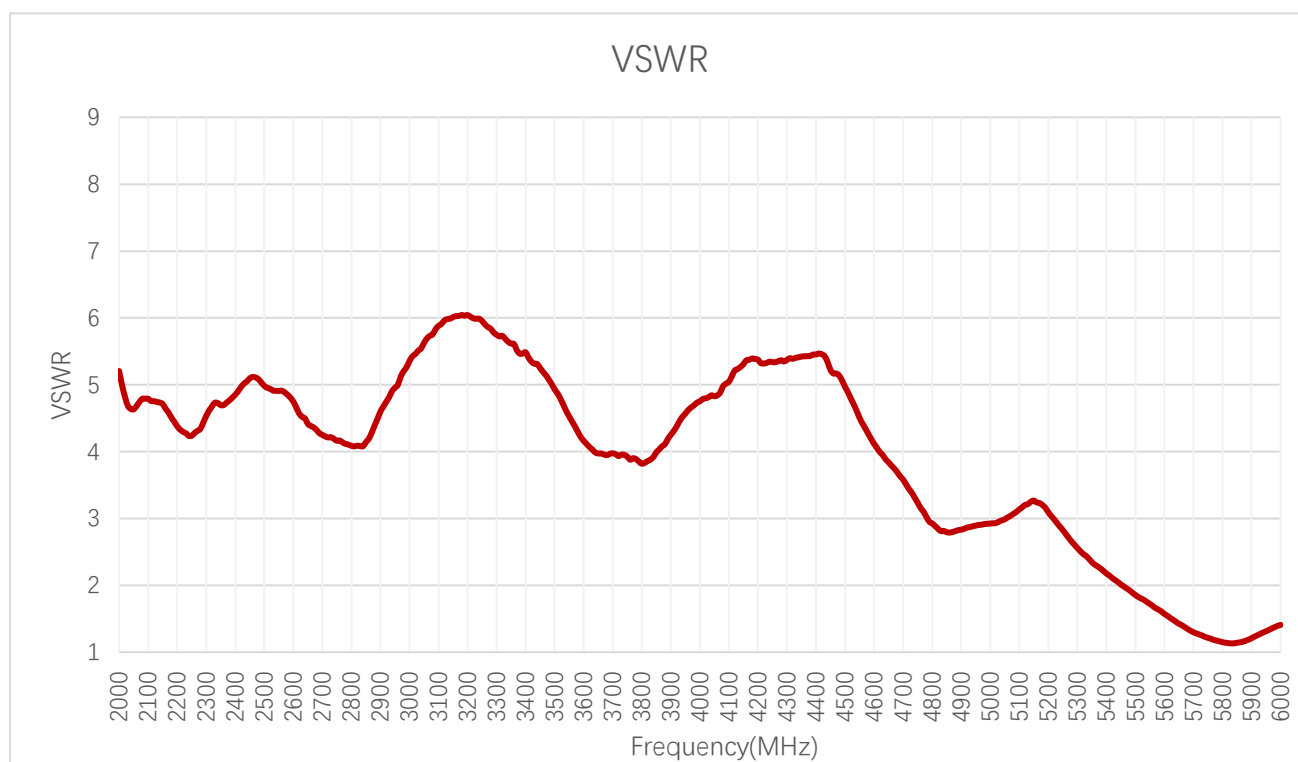
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

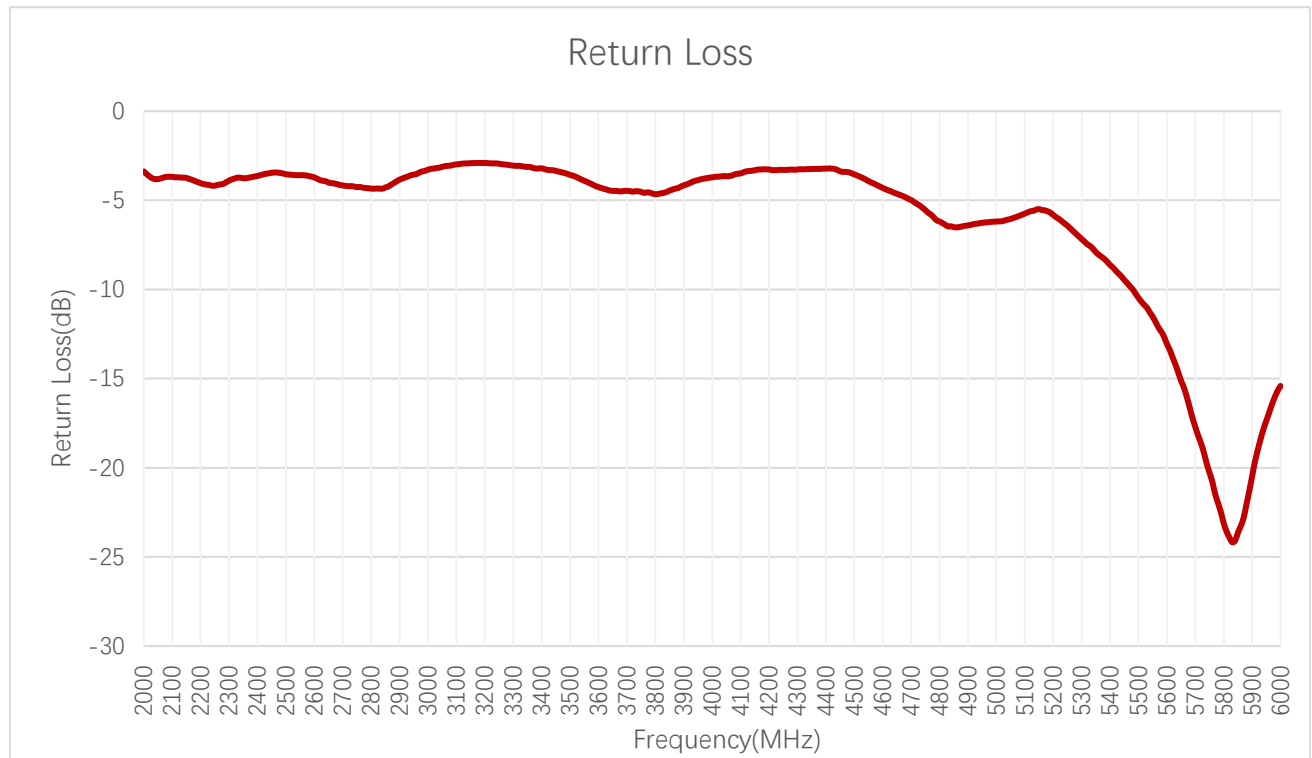
3.1.1. VSWR



VSWR-WIFI

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
VSWR	4.9	5.1	5.0	3.3	1.9	1.1	-	-	-	-

3.1.2. Return Loss

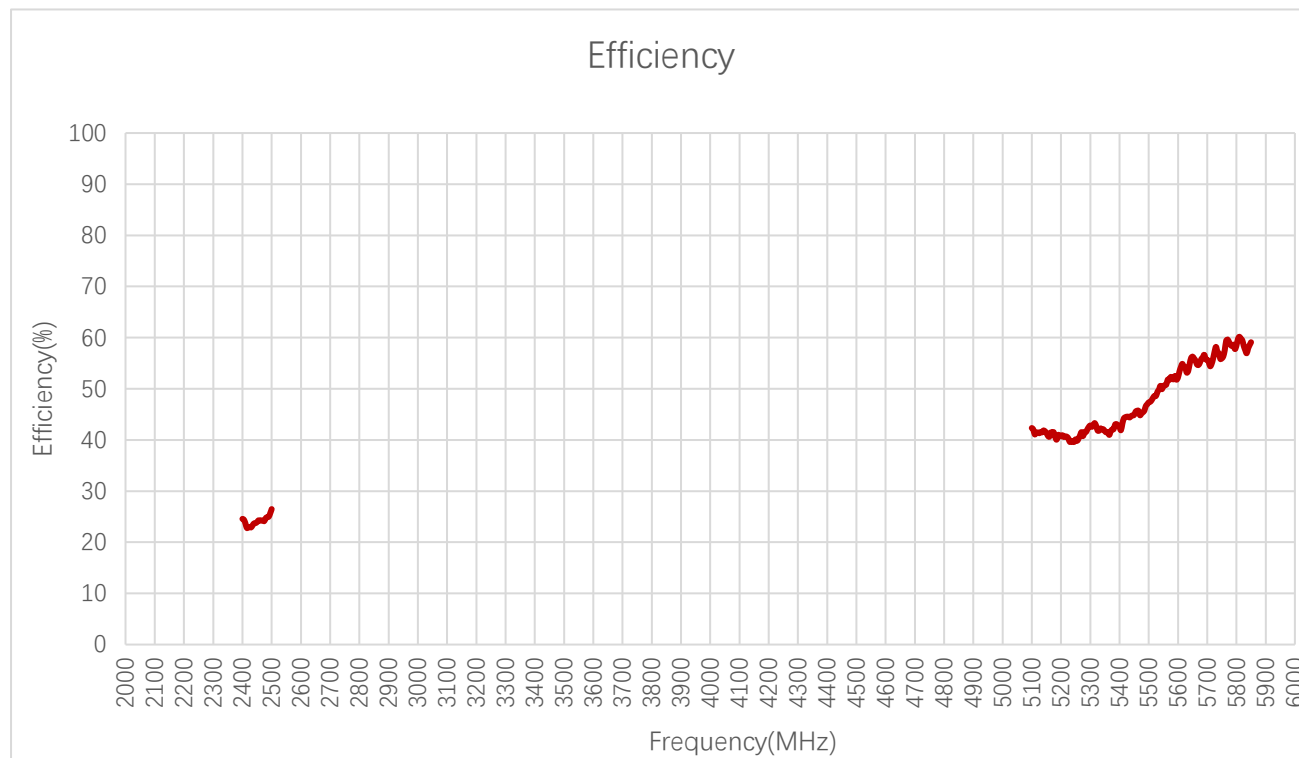


Return Loss-WIFI

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Return Loss(dB)	-3.6	-3.5	-3.5	-5.5	-10.5	-23.6	-	-	-	-

3.2. Radiation Performance Test

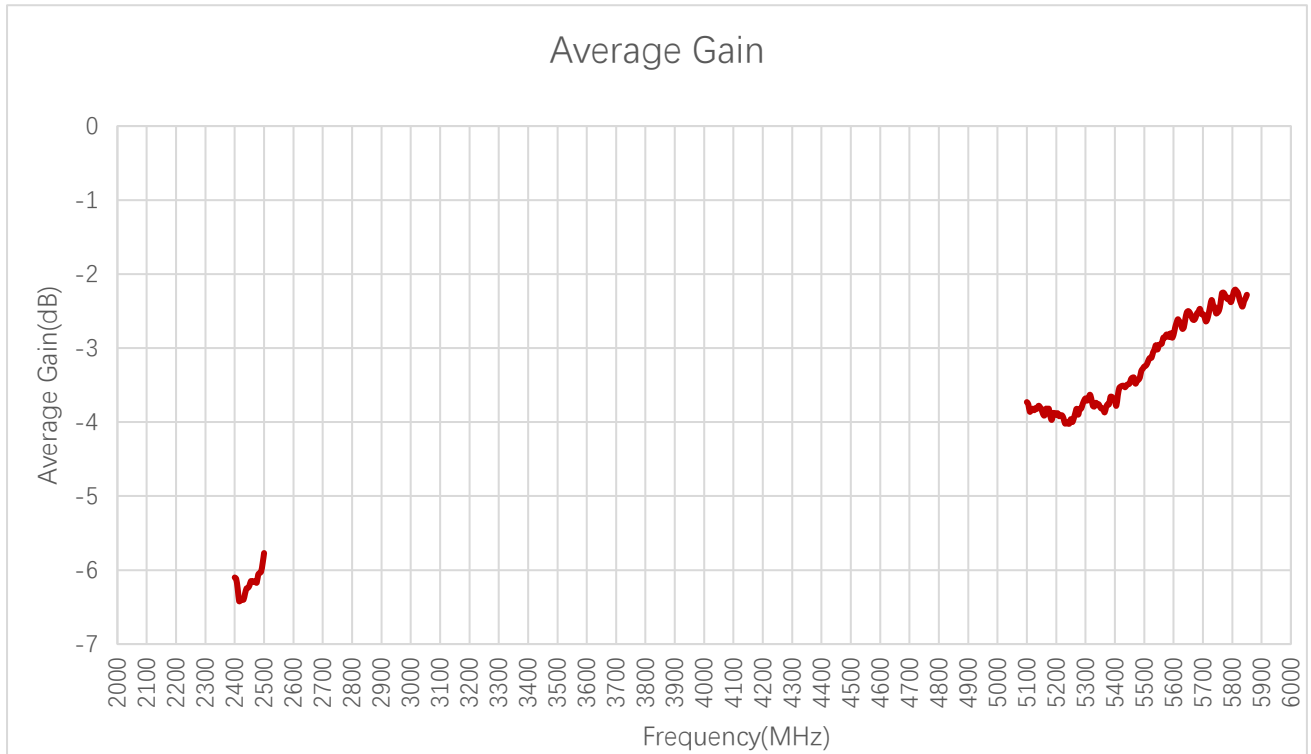
3.2.1. Efficiency



Efficiency (%) - WIFI

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Efficiency (%)	24.6	23.9	26.5	41.4	47.4	59.1	-	-	-	-

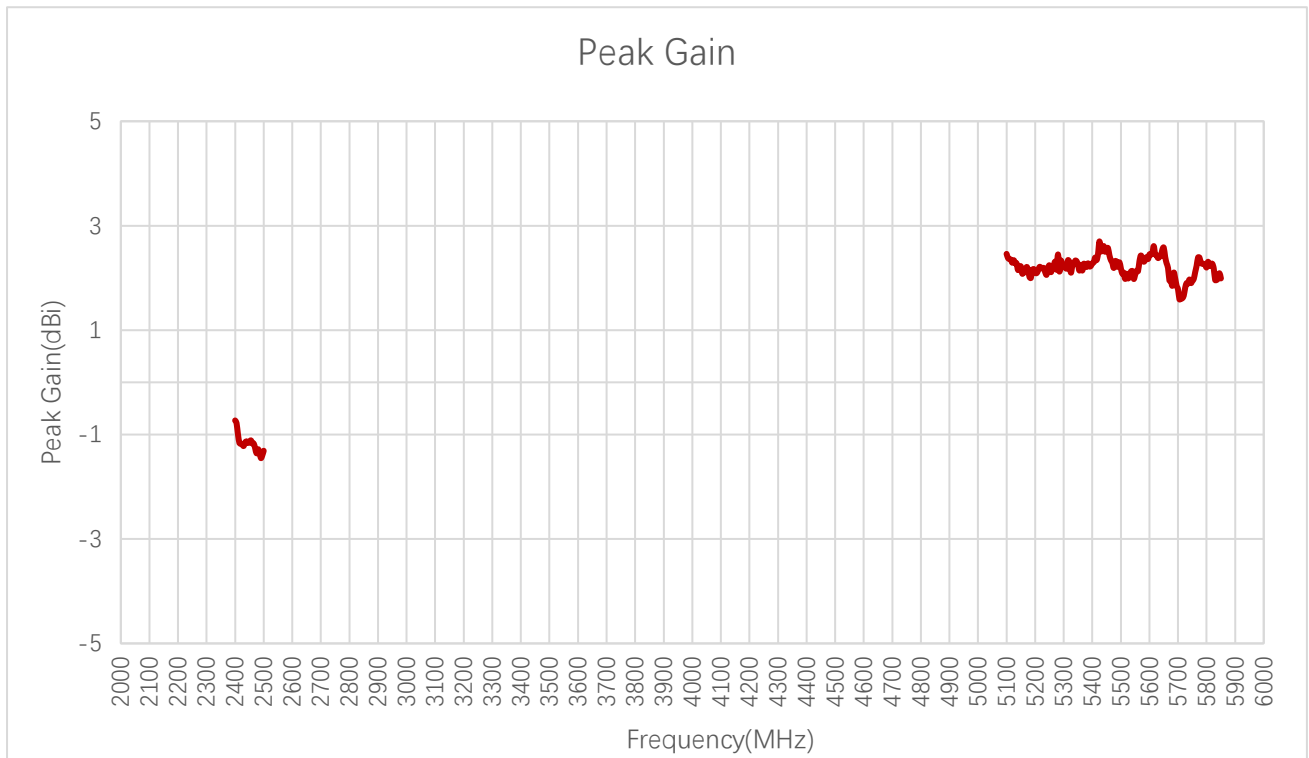
3.2.2. Average Gain



Average Gain (dB) - WIFI

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Average Gain (dB)	-6.1	-6.2	-5.8	-3.8	-3.3	-2.3	-	-	-	-

3.2.3. Peak Gain



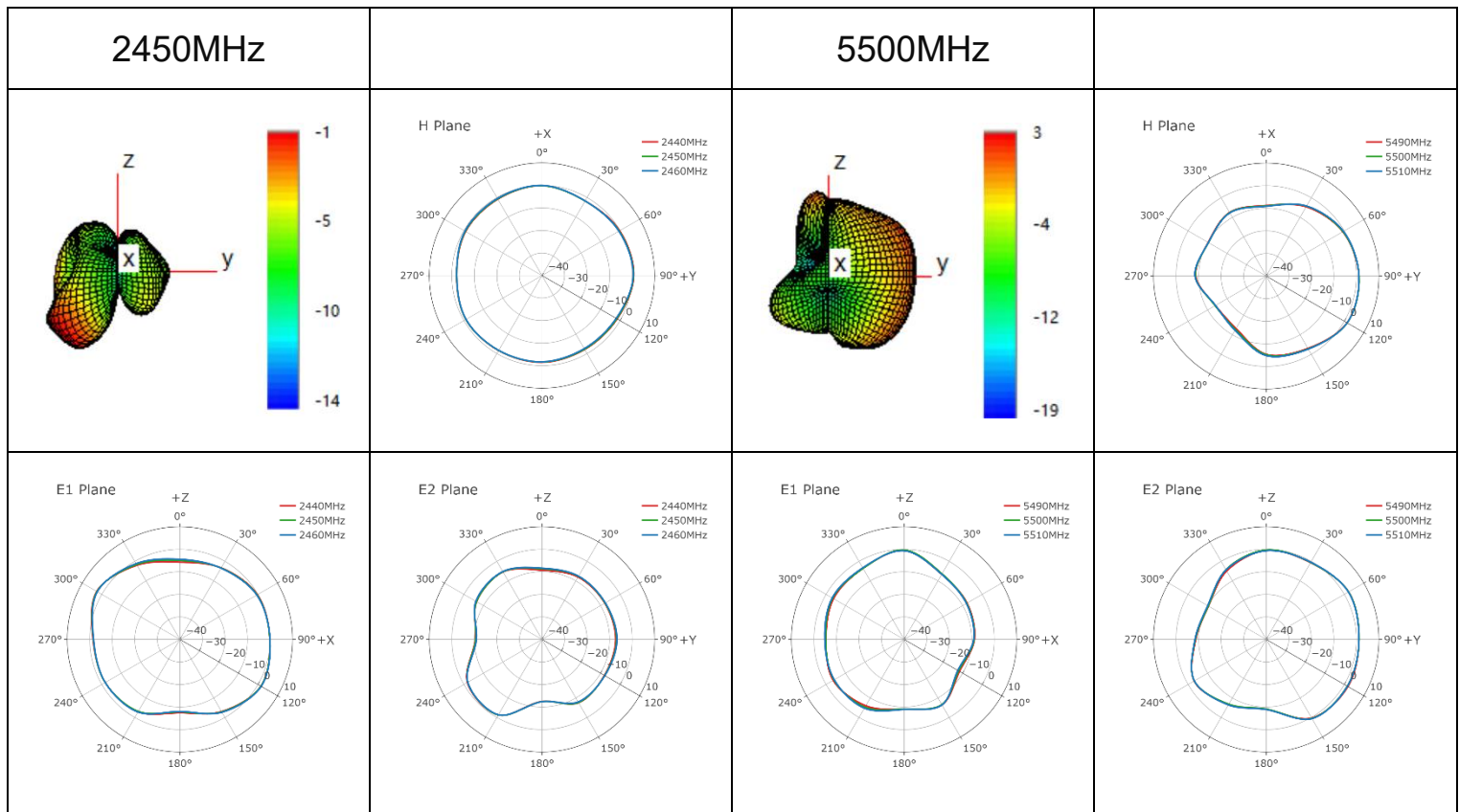
Peak Gain (dB) - WIFI

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Peak Gain (dBi)	-0.7	-1.2	-1.3	2.0	1.9	2.2	-	-	-	-

3.2.4. 3D & 2D Radiation Pattern

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





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
-	2023-03-28	Jim Luo Blake Xiang Aria Chu	Creation of the document
1.0	2023-03-28	Jim Luo Blake Xiang Aria Chu	First official release



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