

Antenna Datasheet

Product OC: Y0REB0CB9AA

Version: 1.0

Date: 2025-04-17

Product Name: Wi-Fi FPC Antenna

Key Features:

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

Dimensions: 31 mm × 22.42 mm

Efficiency: Up to 52%

RoHS, REACH and HF Compliant

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1 Specification

Test Condition: Assembled in test device

1.1. Electrical

Electrical	
Frequency Range	2400–2500 MHz, 5150–5850 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional
VSWR	≤ 3.7
Peak Gain	2.98 dBi

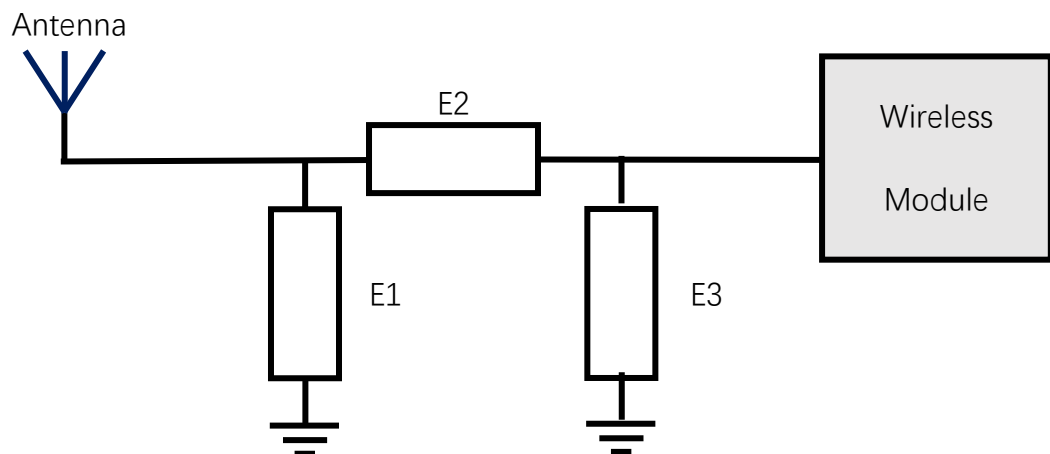
1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	31 mm × 22.42 mm
Material & Color & Cable	FPC & Black&
Cable Type & Color & Length	Φ 1.13 & Black & 110 mm
Connector Type	RF 4
Weight	Typ. 0.5 g
Mounting Type	Adhesive
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C

RoHS & REACH	Yes
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1.3. Antenna Assembly

1.4. Matching Circuit



		E1	E2	E3
WIFI	Default Matching	NA	0 ohm	NA
	Tolerance	NA	NA	NA

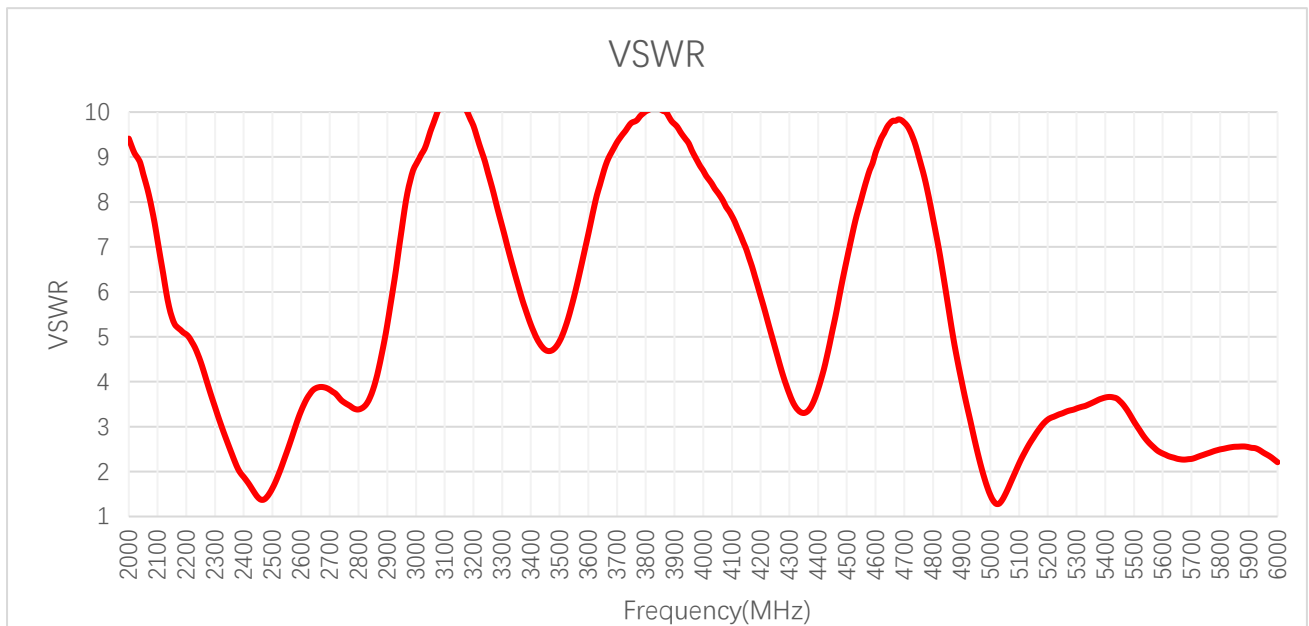
2 Drawing

3 Detailed Performance

- Network Analyzer: Keysight E5071C (Device number: QTB6331E; Calibration date: 2024-08-27; Due date:2025-04-26)
- Chamber: OTA RayZone 2800 GTS (Device number: QTA0709; Calibration date: 2024-07-14; Due date:2025-07-13)
- Testing Software: Libra
- Antenna Tpye: PIFA
- Product name: Wi-Fi FPC Antenna
- Test Engineer: *Damon Zhang*

3.1. S-Parameter Test

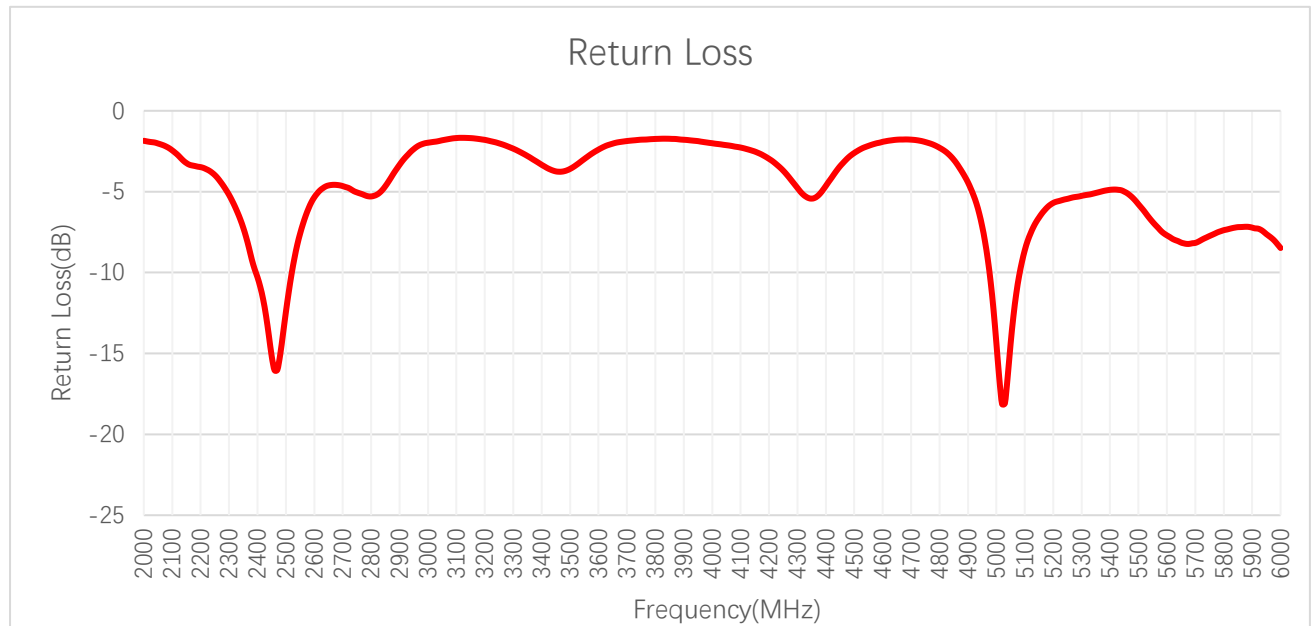
3.1.1. VSWR



VSWR

Frequency (MHz)	2400	2450	2500	5150	5300	5400	5500	5700	5850
VSWR	1.9	1.4	1.6	2.8	3.4	3.7	3.1	2.3	2.6

3.1.2. Return Loss



Return Loss (dB)									
Frequency (MHz)	2400	2450	2500	5150	5300	5400	5500	5700	5850
Return Loss (dB)	-10.3	-15.2	-12.4	-6.6	-5.3	-4.9	-5.8	-8.2	-7.2

3.2. Radiation Performance Test

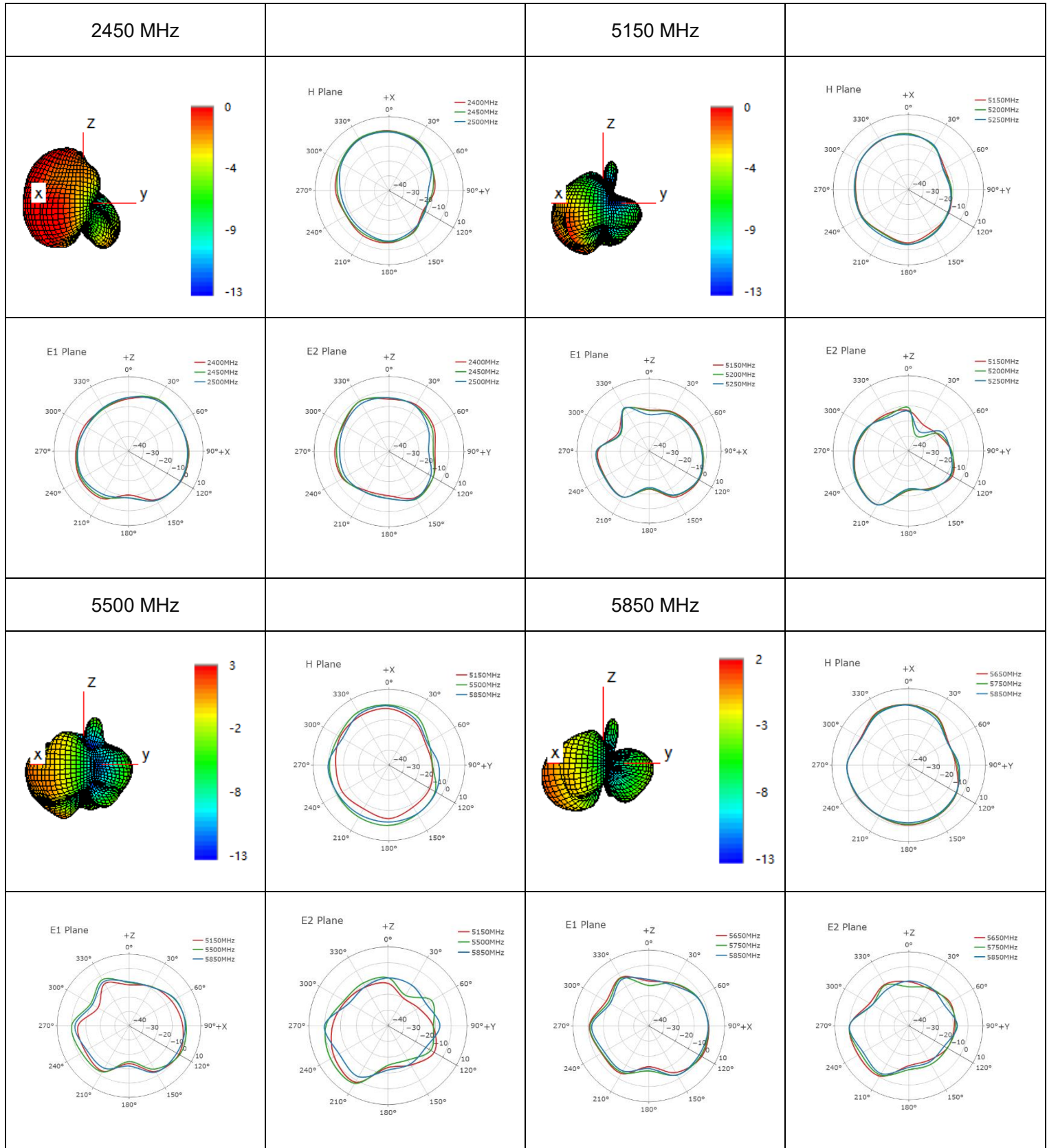
3.2.1. Efficiency & Peak Gain

Frequency (MHz)	Peak Gain (dBi)	Efficiency (%)	Frequency (MHz)	Peak Gain (dBi)	Efficiency (%)
2400	1.59	48.36	5150	-1.57	30.72
2410	0.99	47.79	5200	-0.73	32.54
2420	0.59	48.09	5250	-0.02	34.73
2430	0.27	47.29	5300	0.42	36.65
2440	0.04	46.26	5350	1.16	38.81
2450	-0.04	45.98	5400	1.8	43.93
2460	-0.1	45.56	5450	1.68	44.82
2470	-0.21	45.55	5500	2.35	49.58
2480	-0.37	43.69	5550	2.43	50.76
2490	-0.5	42.45	5600	2.98	52.24
2500	-0.5	41.81	5650	2.34	50.02
MAX	1.59		5700	2.28	50.08
			5750	2.57	49.57
			5800	2.09	42.8
			5850	1.64	38.39
			MAX	2.98	

3.2.2. 3D & 2D Radiation Pattern

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

● **WIFI**



Contact Us

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Revision History

Version	Date	Author	Note
-	2025-04-17	Damon ZHANG/ Steven MO/ Rainey LIAO	Creation of the document
1.0	2025-04-17	Damon ZHANG/ Steven MO/ Rainey LIAO	First official release



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1.2 NFC Antenna

NFC Frequency Band : 13.553 - 13.567 MHz

Modulation Type : ASK

Supported Card Type : A / B

NFC Antenna Type : Loop Antenna

NFC Antenna size : 73.08 * 59 * 4.85mm

NFC Antenna location : at the back of device screen