



Antenna Datasheet

Product OC: Y0BMZ0CA2AA

Version: 1.0

Date: 2024-12-26

Product Name: WIFI FPC Antenna

Key Features:

Frequency Band: 2400–2500 MHz

Dimensions: 29.60 mm × 32.25 mm × 0.11 mm

Efficiency: Up to 35.39 %

RoHS Compliant

Manufacturer: Quectel Wireless Solutions (Dongguan Office) Co., Ltd.

Address: U-green Biotech Park, No. 16, Fenghuang 1st Road, Ludong Community, Humen Town, Dongguan City, Guangdong Province, China.

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1 Specification

Test Condition: Assembled in test device

1.1. Electrical

Electrical	
Frequency Range	2400–2500 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional
VSWR	≤ 3.3
Peak Gain	≤ 1.3 dBi

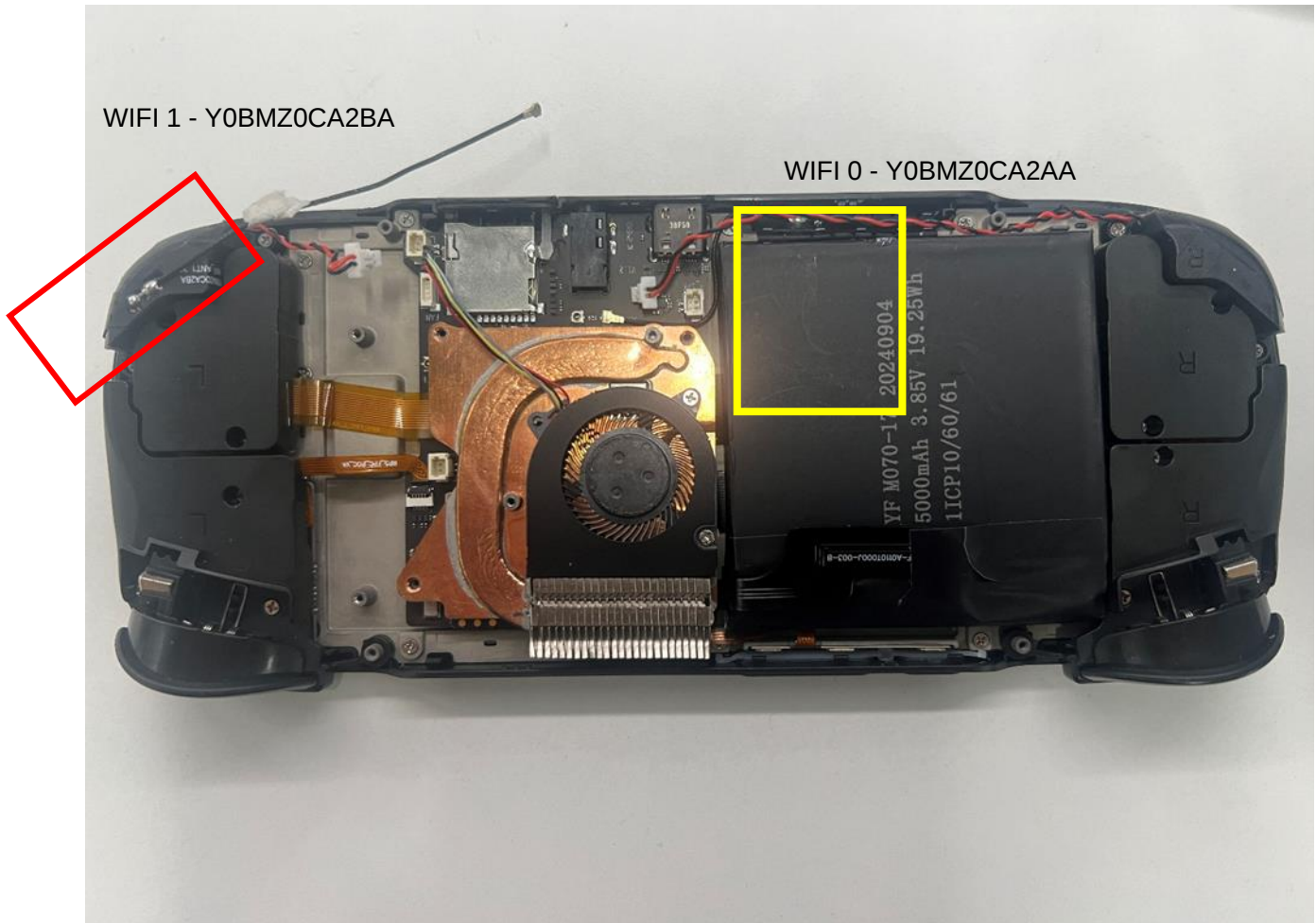
1.2. Supported Bands

WIFI		
Band	Frequency (MHz)	Max Peak Gain (dBi)
WIFI 2.4G	2400–2500	1.3

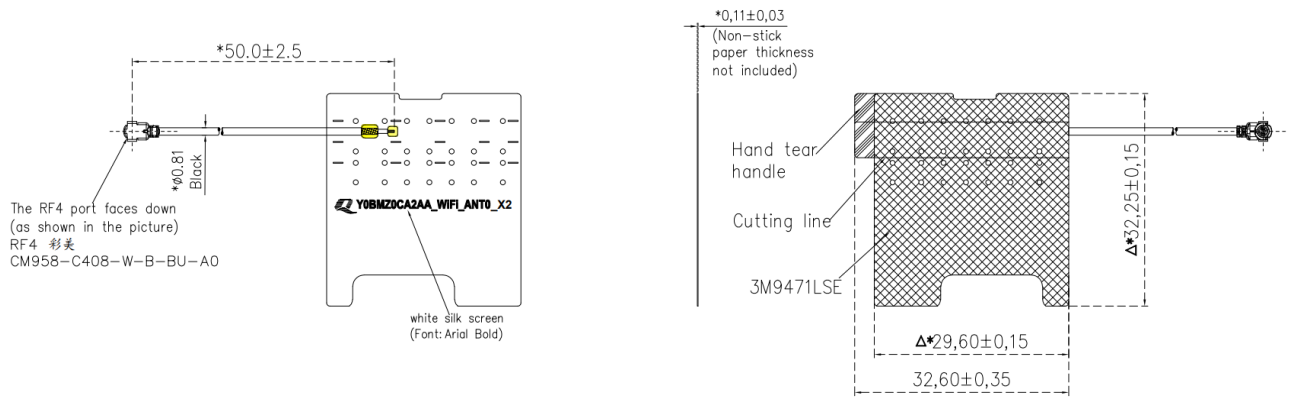
1.3. Mechanical & Environmental

Mechanical	
Antenna Dimensions	29.60 mm × 32.25 mm × 0.11 mm
Material & Color	FPC & Black
Mounting Type	Φ 0.81 & Black & 50 mm
Weight	RF 4
Mounting Type	Adhesive
Weight	Typ. 0.34 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
RoHS	Yes

1.4. Antenna Assembly



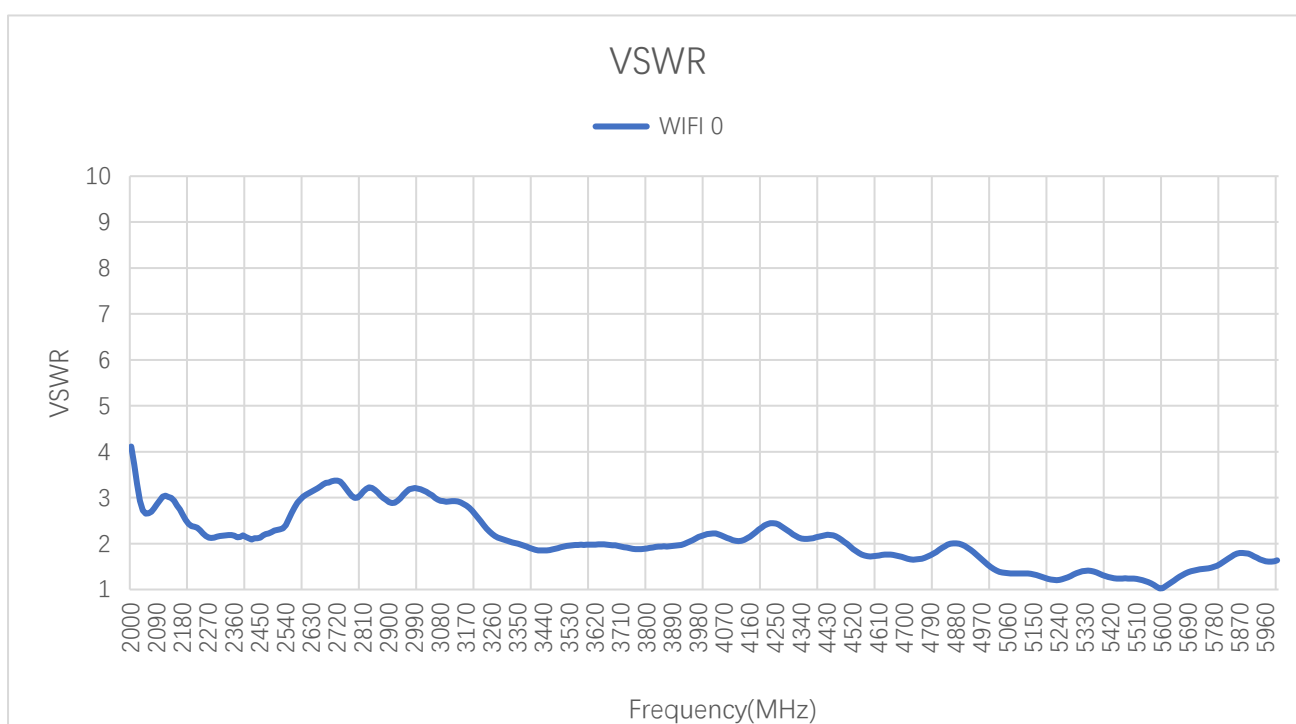
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

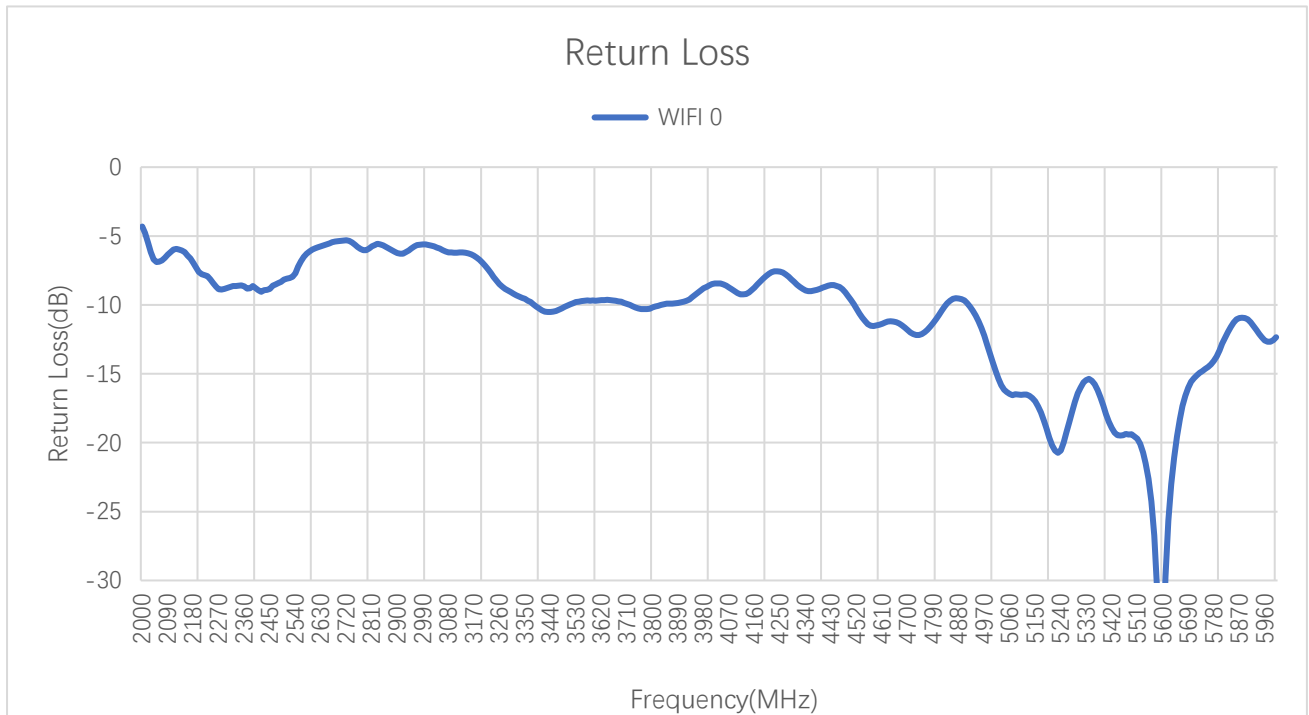
3.1.1. VSWR



VSWR – WIFI 0

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
VSWR	2.1	2.1	2.3	-	-	-	-	-	-

3.1.2. Return Loss



Return Loss(dB) – WIFI 0

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
VSWR	-8.8	-8.8	-8.2	-	-	-	-	-	-

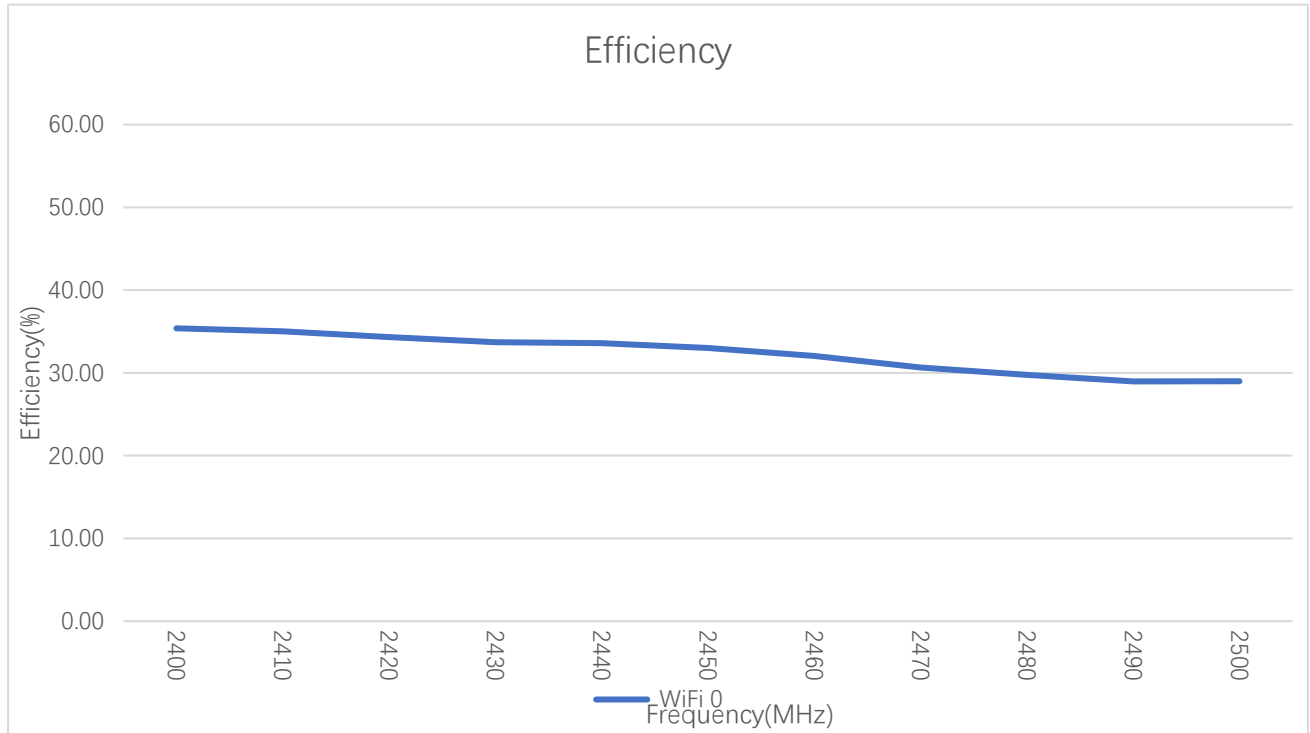
3.2. OTA Test Data

- Test Condition: Assembled in test device

Band		Channel	TRP (dBm)	Channel	TIS (dBm)
	WIFI_B (11M)	1	15.32	1	-83.04
		6	15.56	6	-82.84
		11	14.64	11	-82.29
	WIFI_G (54M)	1	15.35	1	-70.56
		6	14.13	6	-69.59
		11	14.06	11	-69.69
	WIFI_N (MCS7)	1	14.18	1	-69.84
		6	13.48	6	-69.63
		11	12.67	11	-68.71

3.3. Radiation Performance Test

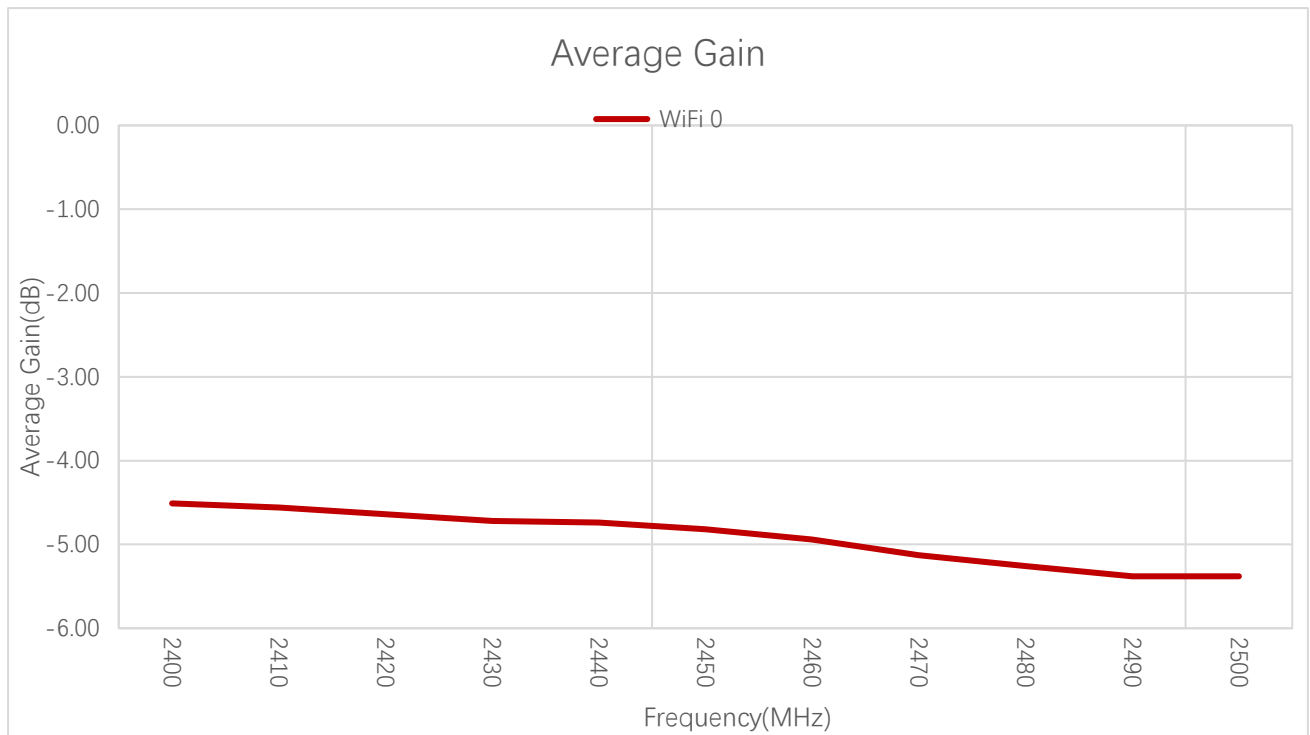
3.3.1. Efficiency



Efficiency (%) – WIFI 0

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
VSWR	35.4	33.0	29.0	-	-	-	-	-	-

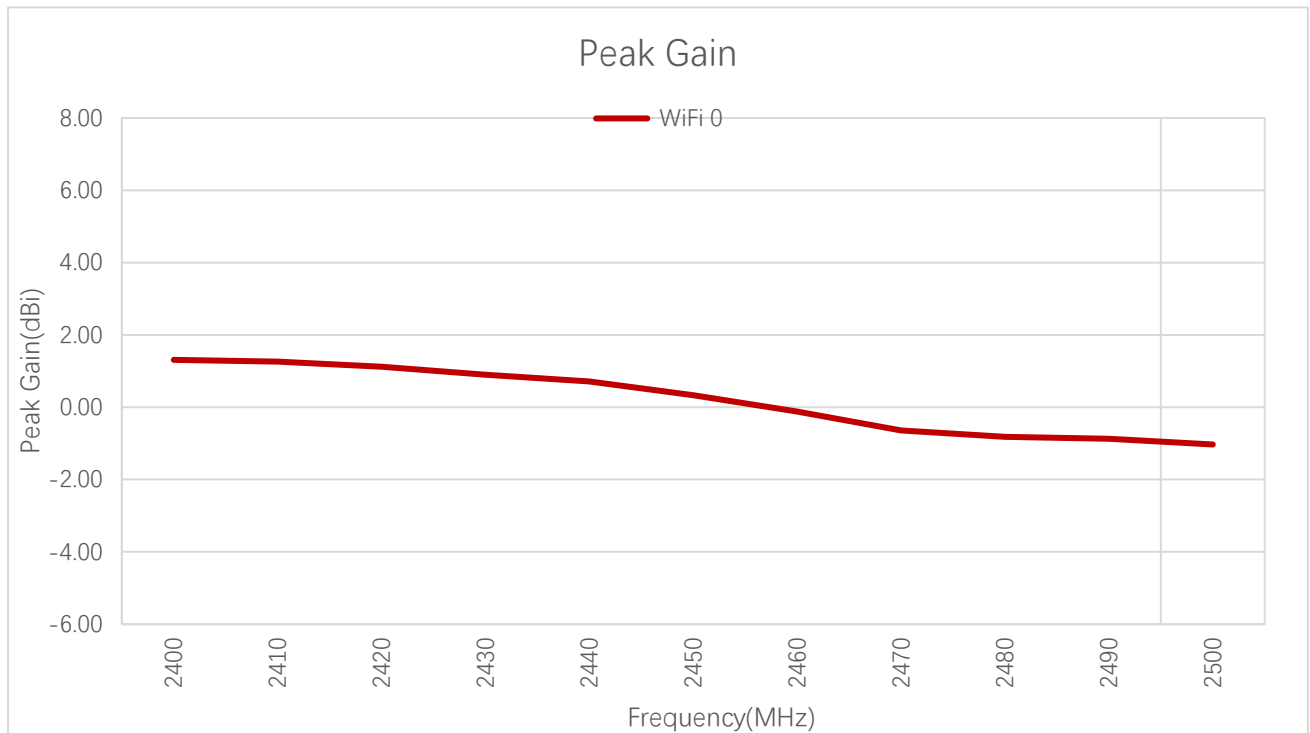
3.3.2. Average Gain



Average Gain (dB) – WIFI 0

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
VSWR	-4.5	-4.8	-5.4	-	-	-	-	-	-

3.3.3. Peak Gain

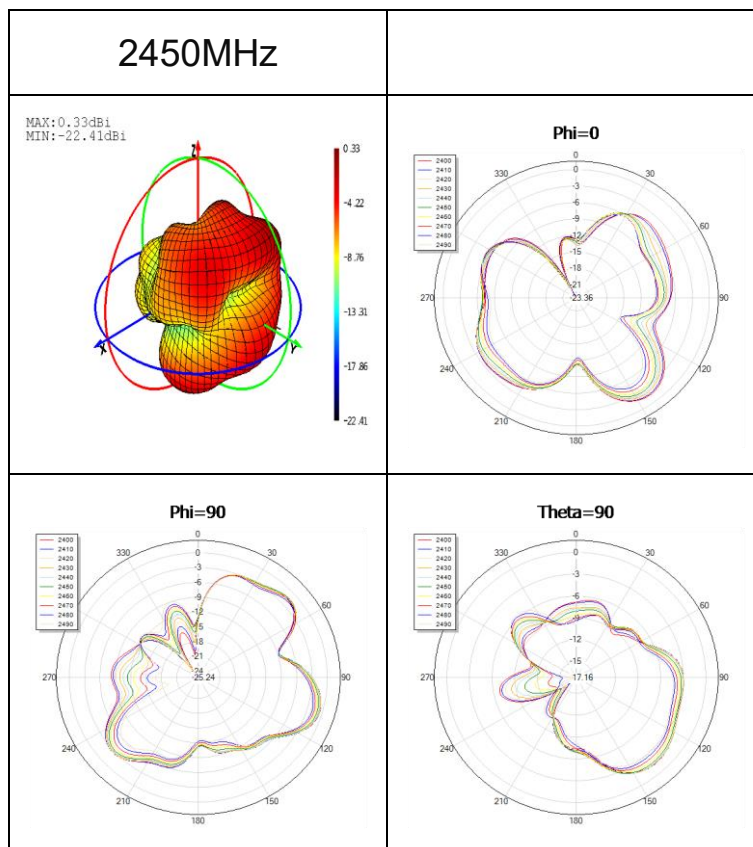
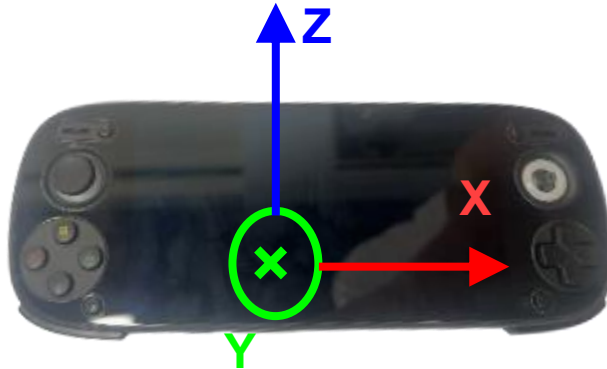


Peak Gain (dBi) – WIFI 0

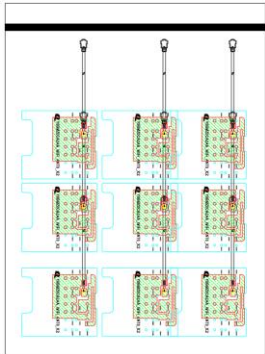
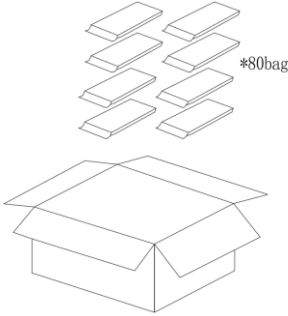
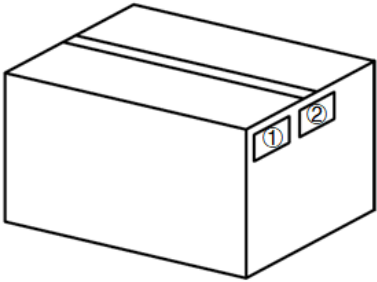
Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
VSWR	1.3	0.3	-1.0	-	-	-	-	-	-

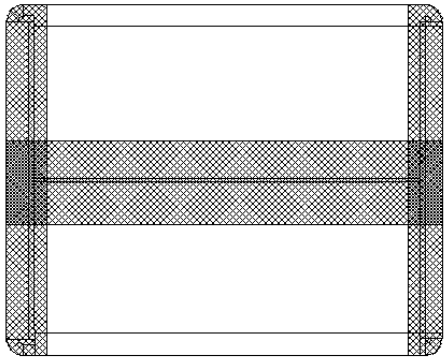
3.3.4. 2D Radiation Pattern

- Test Condition: Assembled in test device
- Test Chamber: SZ-S-1



4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		100 pcs antenna products in a PE bag. (100 PCS / PE Bag)
2		(80 PE Bags / Carton Box) (8000 PCS Antennas / Carton Box) Estimated quantity Products that cannot fill the entire carton box are packed in a suitable size carton box. Carton Size: $L \times W \times H = 325 \times 325 \times 200 \text{ mm}$
3		Position for Attaching Labels ① Carton Label ② Quality Label

4		Sealing Cartons H-shaped sealing cartons
Note	The initial packaging method described above is for reference only, and the final actual packaging method shall be subject to the actual shipping packaging.	

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Email: info@quectel.com

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Revision History

Version	Date	Author	Note
-	2024-11-01	Qinming PENG/ Shea LI/ David LIU/ Aria CHU	Creation of the document
1.0	2024-11-01	Qinming PENG/ Shea LI/ David LIU/ Aria CHU	First official release



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Antenna Datasheet

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Version: 1.0

Date: 2024-12-26

Product Name: WIFI FPC Antenna

Key Features:

Frequency Band: 2400–2500 MHz

Dimensions: 38.38 mm × 12.21 mm × 0.11 mm

Efficiency: Up to 36.56 %

RoHS Compliant

Manufacturer: Quectel Wireless Solutions (Dongguan Office) Co., Ltd.

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1 Specification

Test Condition: Assembled in test device

1.1. Electrical

Electrical	
Frequency Range	2400–2500 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional
VSWR	≤ 3.0
Peak Gain	≤ -0.5 dBi

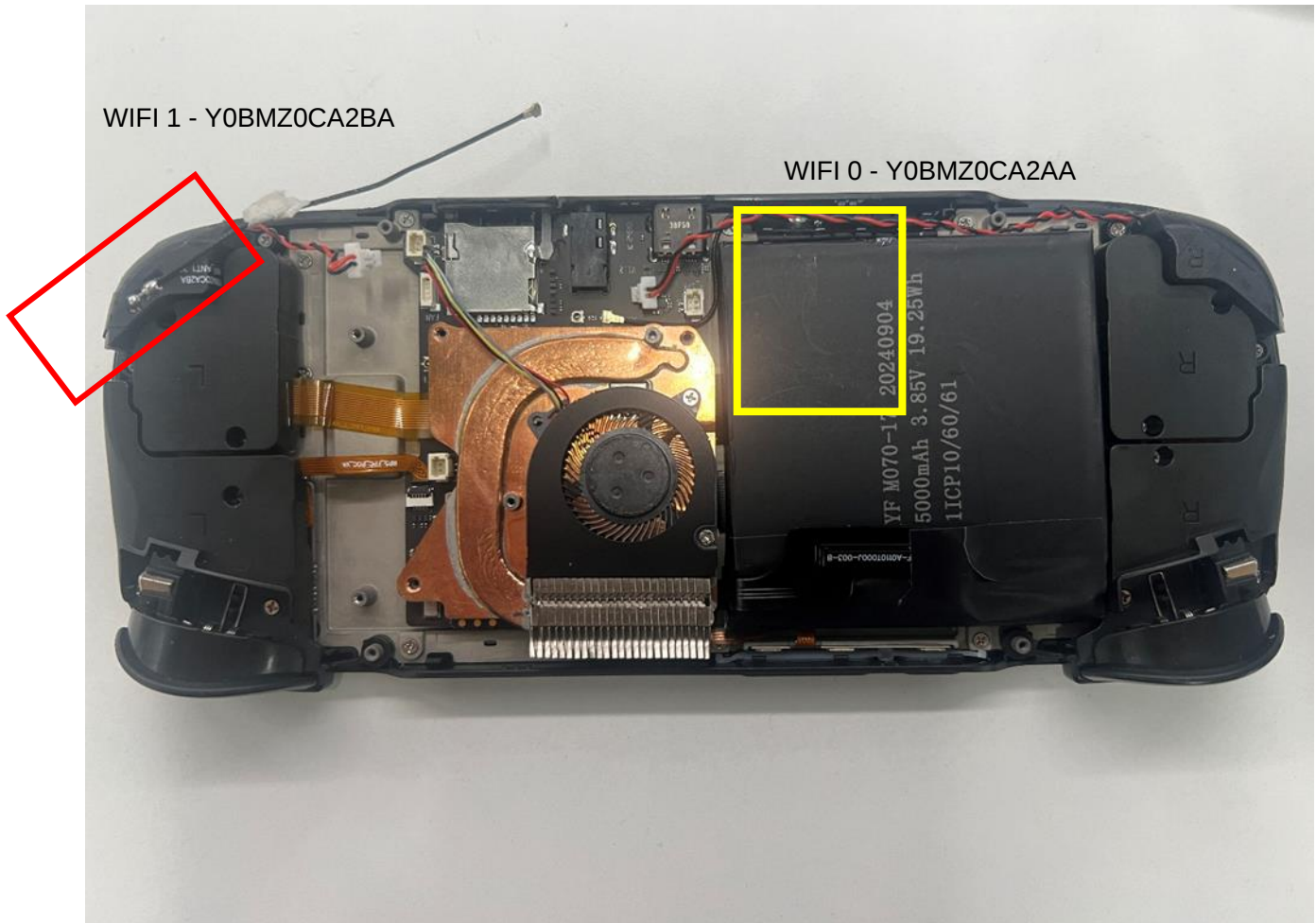
1.2. Supported Bands

WIFI		
Band	Frequency (MHz)	Max Peak Gain (dBi)
WIFI 2.4G	2400–2500	0.1

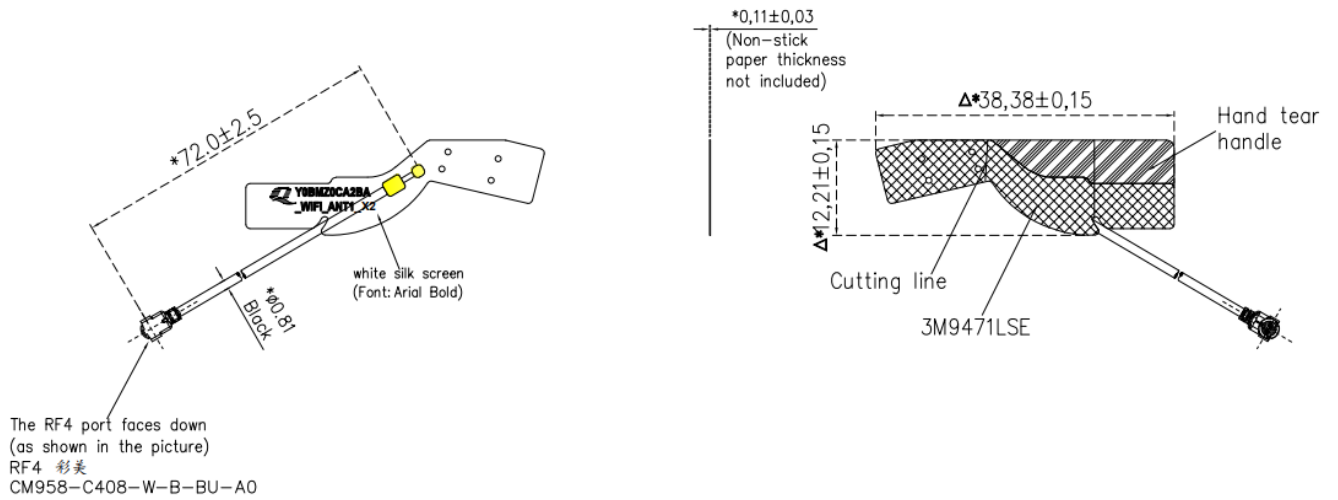
1.3. Mechanical & Environmental

Mechanical	
Antenna Dimensions	38.38 mm × 12.21 mm × 0.11 mm
Material & Color	FPC & Black
Mounting Type	Φ 0.81 & Black & 72 mm
Weight	RF 4
Mounting Type	Adhesive
Weight	Typ. 0.25 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
RoHS	Yes

1.4. Antenna Assembly



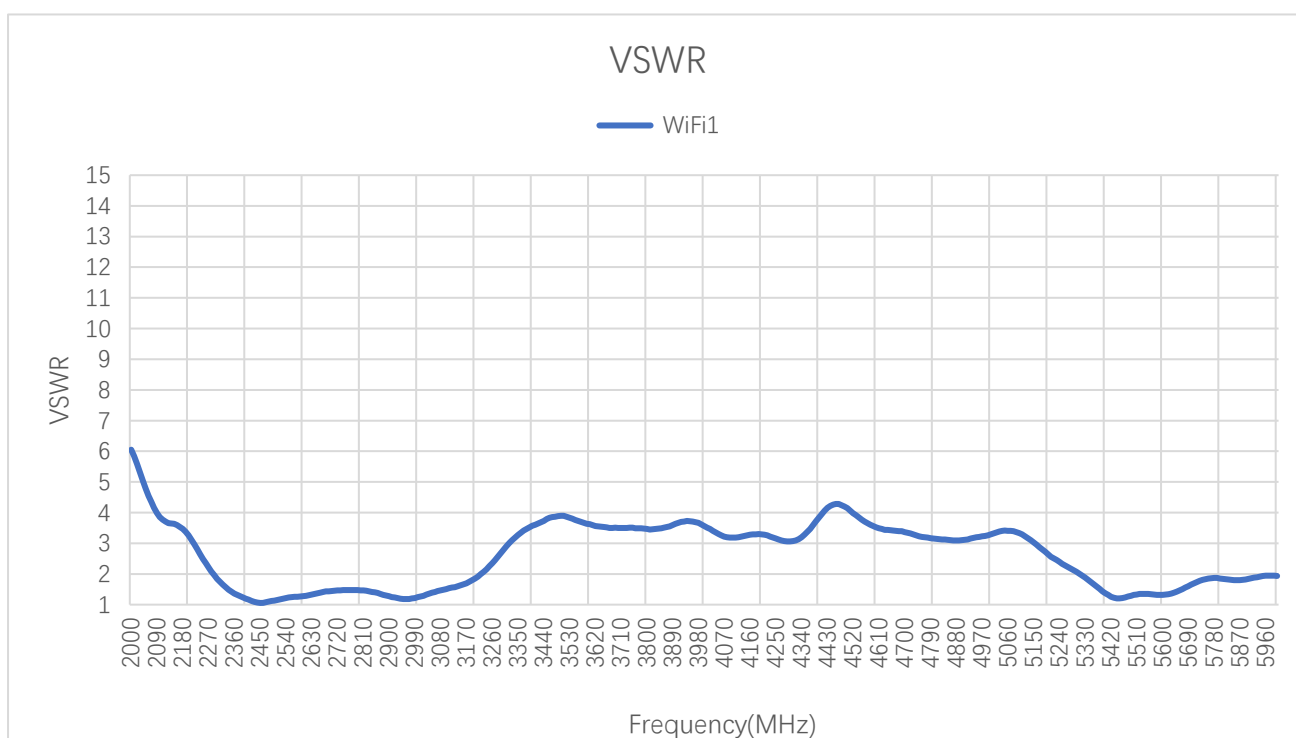
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

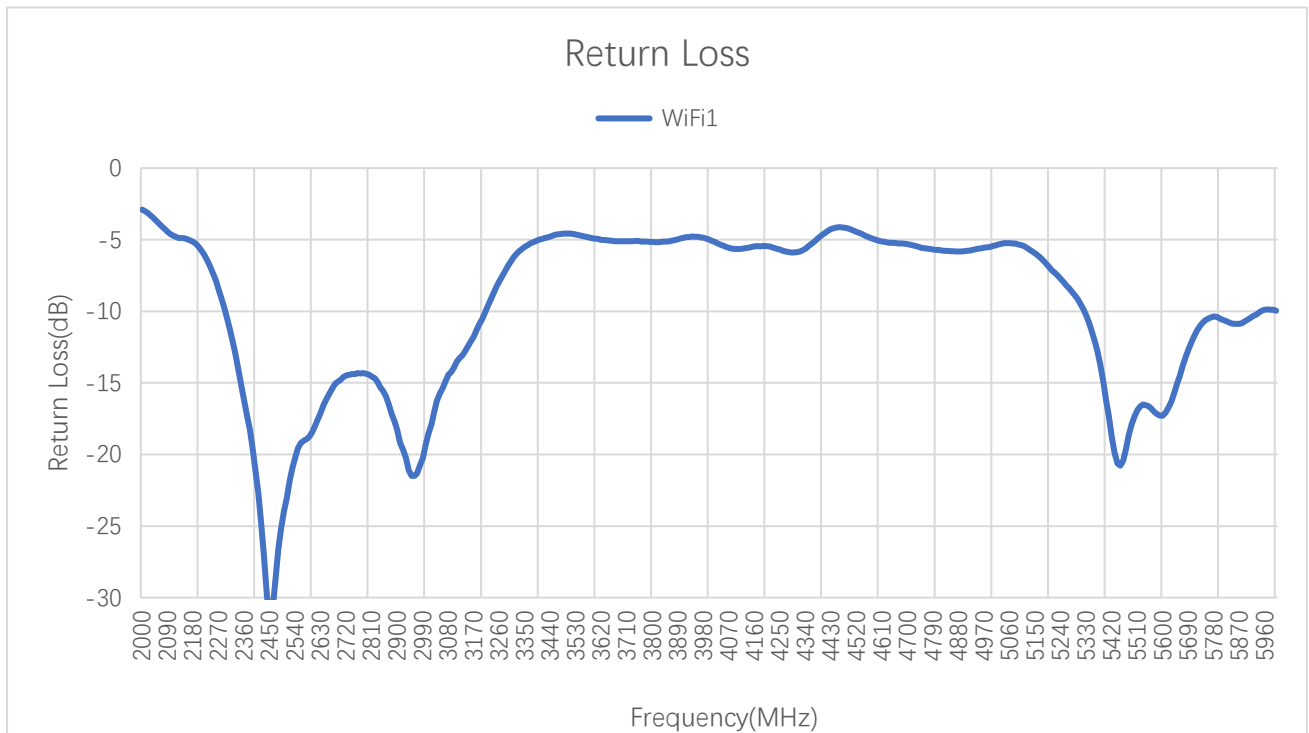
3.1.1. VSWR



VSWR – WIFI 1

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
VSWR	1.2	1.1	1.1	-	-	-	-	-	-

3.1.2. Return Loss



Return Loss(dB) – WIFI 1

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
VSWR	-21.3	-31.4	-24.0	-	-	-	-	-	-

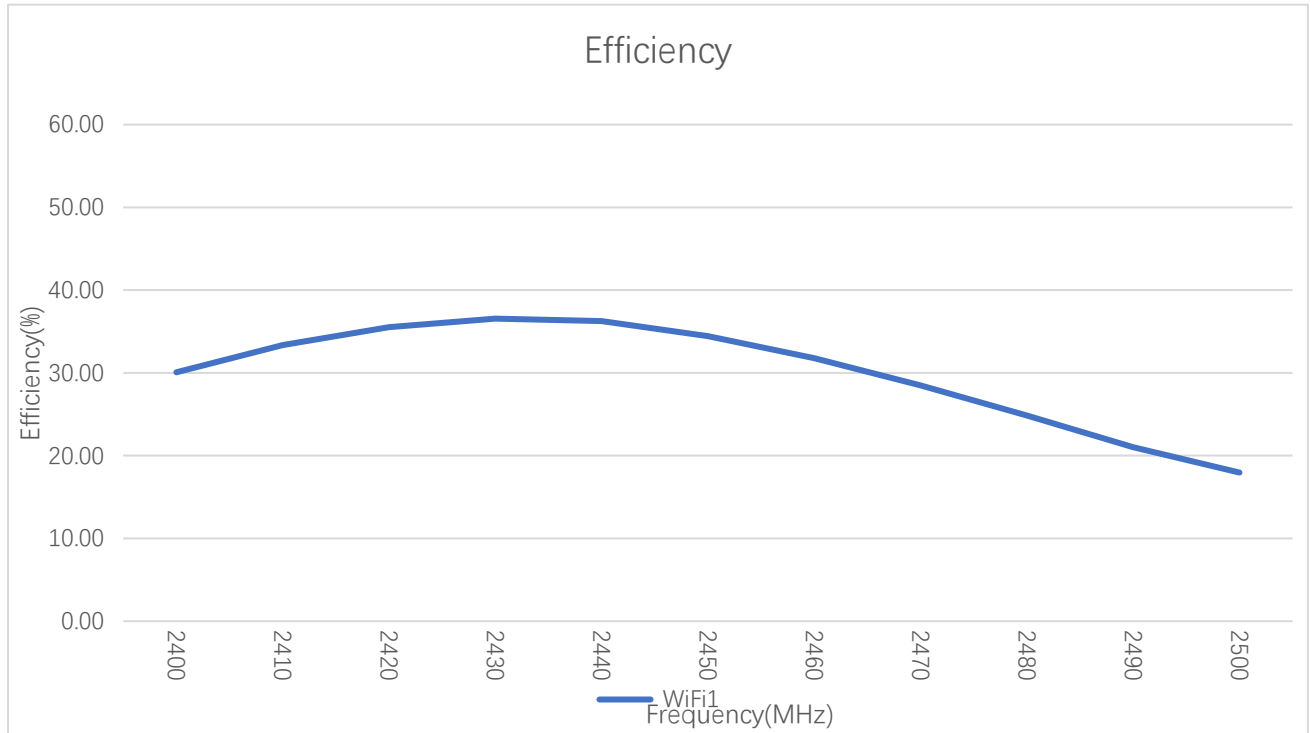
3.2. OTA Test Data

- Test Condition: Assembled in test device

Band		Channel	TRP (dBm)	Channel	TIS (dBm)
	WIFI_B (11M)	1	15.32	1	-83.04
		6	15.56	6	-82.84
		11	14.64	11	-82.29
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		6	14.13	6	-69.59
		11	14.06	11	-69.69
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		6	13.48	6	-69.63
		11	12.67	11	-68.71

3.3. Radiation Performance Test

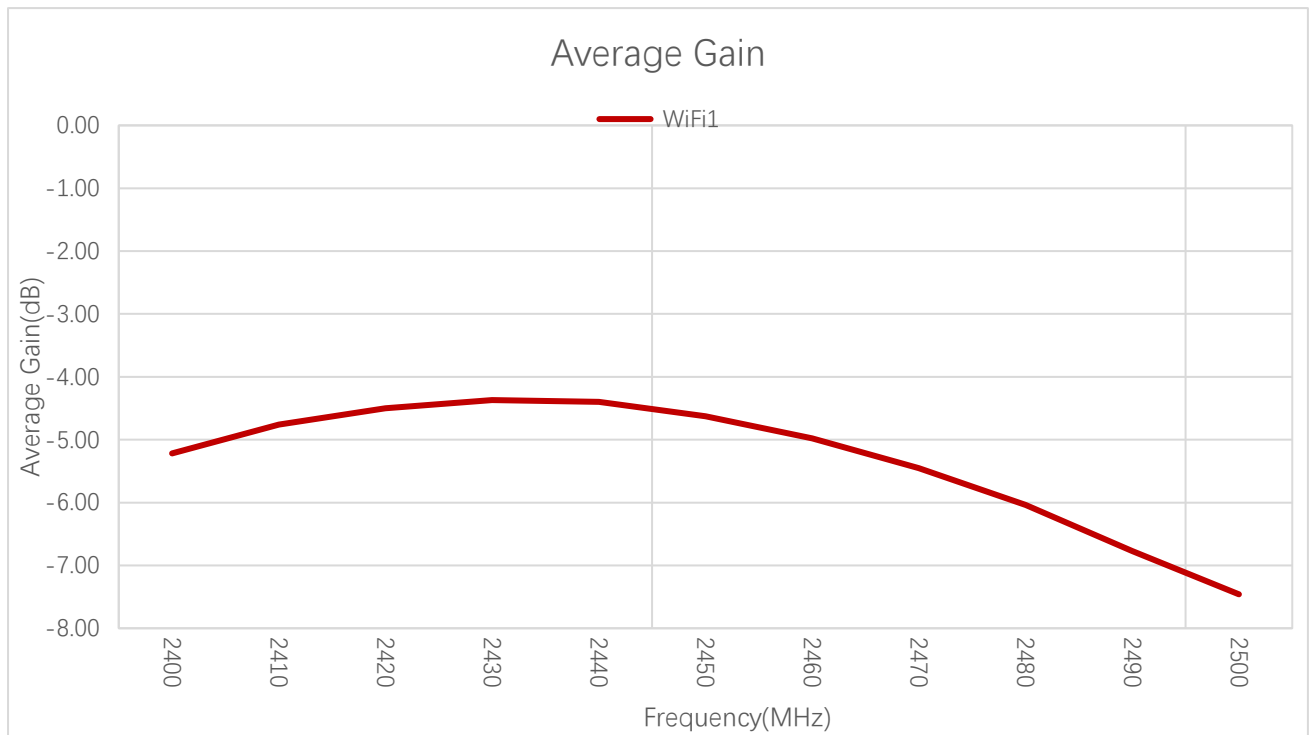
3.3.1. Efficiency



Efficiency (%) – WIFI 1

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
VSWR	30.1	34.5	18.0	-	-	-	-	-	-

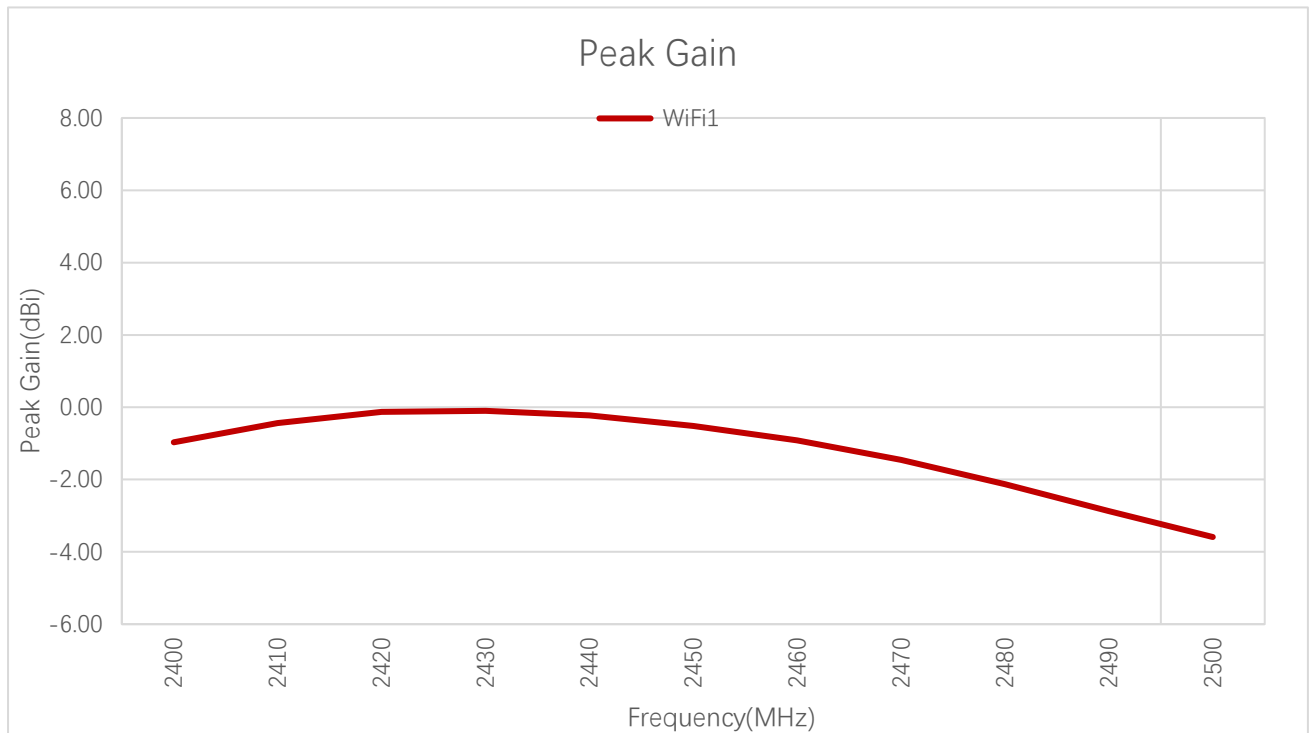
3.3.2. Average Gain



Average Gain (dB) – WIFI 1

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
VSWR	-5.2	-4.6	-7.5	-	-	-	-	-	-

3.3.3. Peak Gain

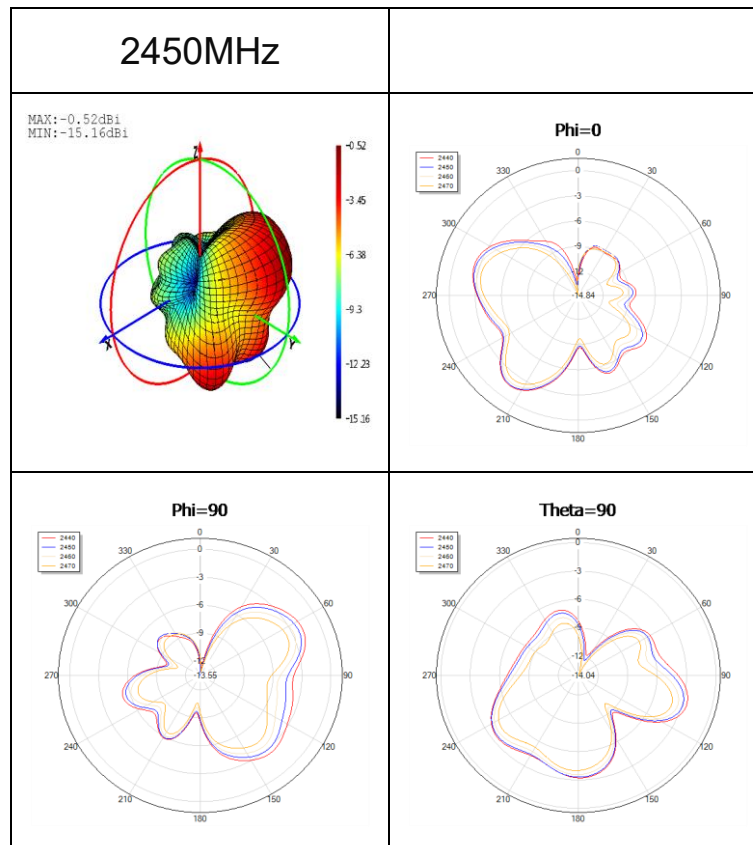
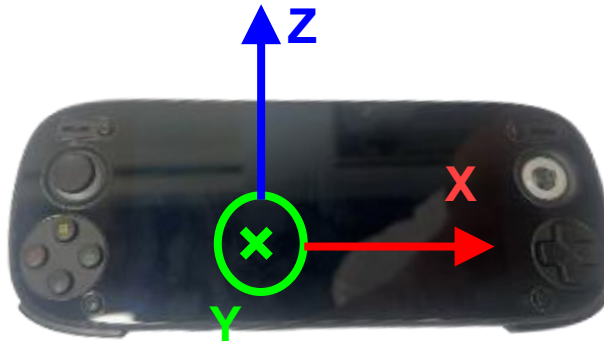


Peak Gain (dBi) – WIFI 1

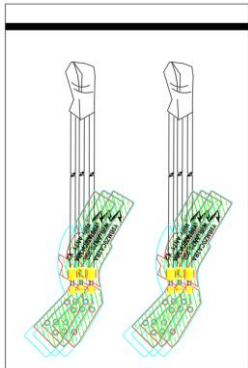
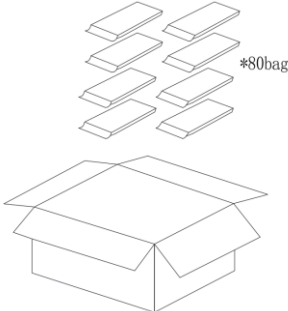
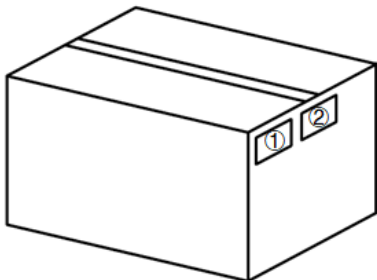
Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6525	7125
VSWR	-1.0	-0.5	-3.6	-	-	-	-	-	-

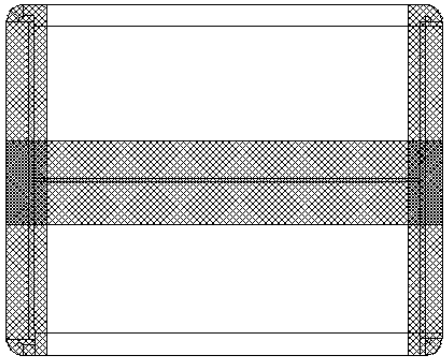
3.3.4. 2D Radiation Pattern

- Test Condition: Assembled in test device
- Test Chamber: SZ-S-1



4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		100 pcs antenna products in a PE bag. (100 PCS / PE Bag)
2		(80 PE Bags / Carton Box) (8000 PCS Antennas / Carton Box) Estimated quantity Products that cannot fill the entire carton box are packed in a suitable size carton box. <u>Carton Size:</u> <u>L × W × H = 325 × 325 × 200 mm</u>
3		Position for Attaching Labels ① Carton Label ② Quality Label

4		Sealing Cartons H-shaped sealing cartons
Note	The initial packaging method described above is for reference only, and the final actual packaging method shall be subject to the actual shipping packaging.	

Contact Us

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Revision History

Version	Date	Author	Note
-	2024-11-01	Qinming PENG/ Shea LI/ David LIU/ Aria CHU	Creation of the document
1.0	2024-11-01	Qinming PENG/ Shea LI/ David LIU/ Aria CHU	First official release



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