



Shenzhen Lejin radio frequency technology Co., LTD

SPECIFICATIONS FOR APPROVAL

Customer Name: Shenzhen Lejin radio frequency technology Co., LTD

Product Name: WIFI Antenna

Product Model: Ray5 mini

Part Number: LJF02-25010609-R0A

Write By : Huxuwen

Issued Date: 2025-02-06

CUSTOMER

ENGINEER R&D DEPT	BUSSINESS DEPT	APPROVAL

LEJIN

R&D DEPT	ENGINEER DEPT	APPROVAL

REV	MODIFIED DESCRIPTION	DATE	REMARK
V1.0	Initial Draft Release	2025/02/06	



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3.Product Specification

A. Electrical Characteristics	
Frequency	2400MHz ~2500 MHz
VSWR	<2.0
Efficiency	≥30%
Impedance	50Ohm
Polarization	Linear
Gain	≤2.68dBi
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(Black),LJWF20D-R
Cable Type	Φ1.13mm,L50mm,Black
AntennaType	PCB Antenna
Dimension	20.8*19.5mm
C. Environmental	
Operation Temperature	- 20 °C ~ + 70 °C
Storage Temperature	- 30 °C ~ + 85 °C
Humidity	40%~95%

4.Test Equipment & Conditions

- | | |
|----------------------------------|---------------------|
| 1.Network Analyzers | Agilent 8753D/5071C |
| 2.HSPA and LTE protocol test set | R&S CMW500 -PT |
| 3.Communications Test Set | Agilent 8960 |
| 4.3D Chamber Test System | |

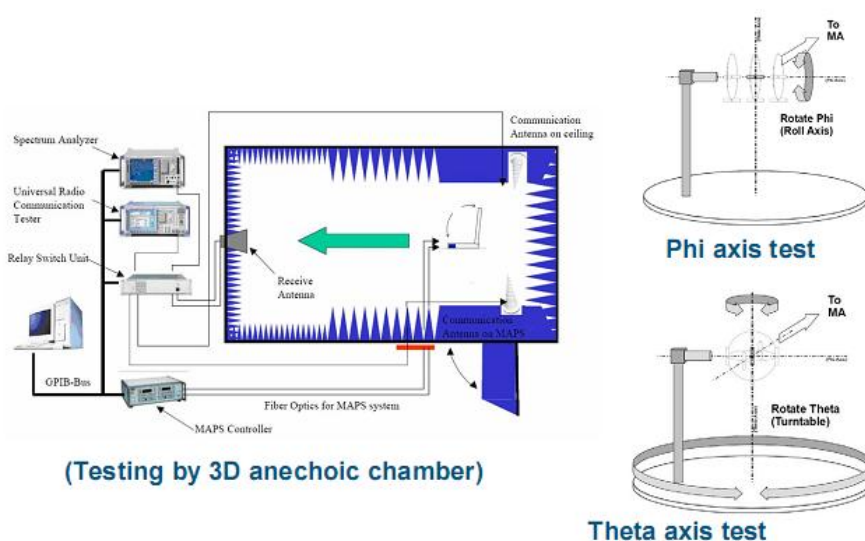


Chart 1 Test topology

5.Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

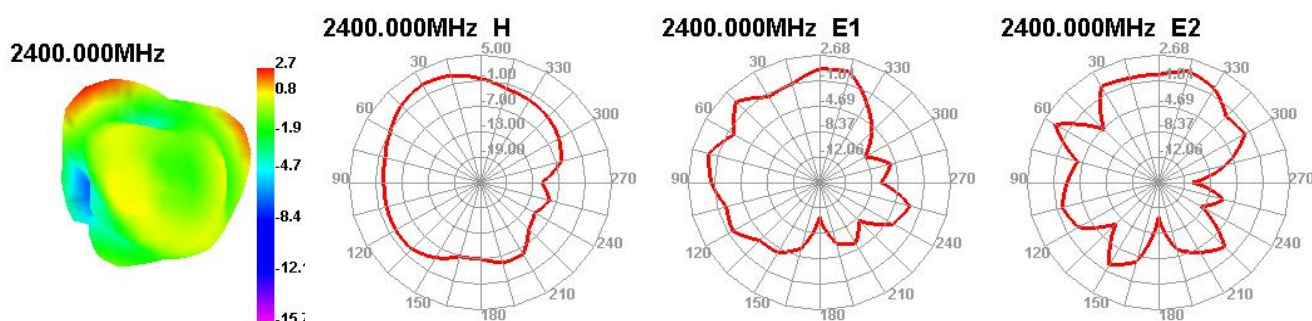


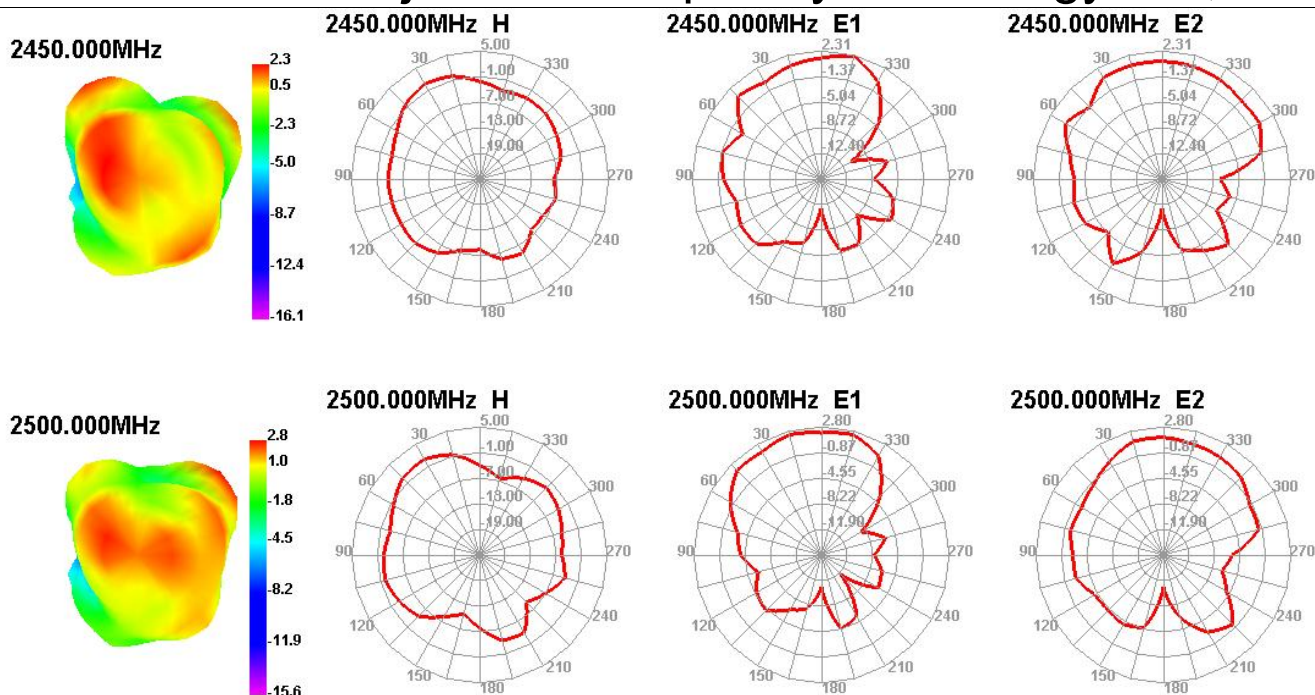
Chart 2 VSWR

5.2 Efficient and gain.

Passive Test	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
	Effi(%)	49.68	44.55	47.59	44.88	53.49	51.97	54.57	52.36	55.45	54.57	53.42
	Gain(dBi)	2.68	2.12	1.92	1.64	2.32	2.31	2.53	2.33	2.67	2.86	2.80

5.3 Radiation pattern.





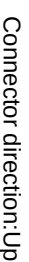
6. Reliability Test

Test Item		Test condition	Equipment	Specification	Result
1	Low Temp. Storage Test	Temperature: -30℃, Time: 48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-down the temp. to -30℃ in one hour, store antenna for 44 hours; step-up temp to 25℃, test antenna after 2 hours.	Temp.&Humidity Tester	No material deformation is allowed. Electronic Performance is ok.	PASS
2	High Temp./High Humid Storage Test	Temperature: 85℃ Humidity: 85% RH Time: 48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-up the temp. to 80℃ and the humidity up to 85% in one hour, store antenna for 44 hours; step-down temp to 25℃, test antenna after 2 hours.	Temp.&Humidity Tester	No material deformation is allowed. Electronic Performance is ok.	PASS
3	Salt-Spray Test	Placing antenna in the Salt-Spray Tester, set the test condition, Temp: 35±2℃ Humidity: 85% NaCl salt spray :5±1%. PH value :6.5~7.2 Testtime: 24hours	Salt-Spray Tester	No color change No appear rusting	PASS

7. Assemble type(omit)

8. Product Drawing

Compliant

 $50.0 \pm 2.0 \text{ mm}$ 

1. FPC material: Electrolytic copper.

2.Backing in behind:3M300LSE.

3. Tolerance: Cutting die: $\pm 0.1\text{mm}$; Circuit on FPC: $\pm 0.05\text{mm}$; others are $\pm 0.05\text{mm}$.

4.ROHS:(Pb,Hg,Cr+6,PBBS,PBDES)<1000ppm; Cd,<100ppm.

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Approved by _____

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