



Shenzhen Lejin radio frequency technology Co., LTD

SPECIFICATIONS FOR APPROVAL

Customer Name: 深圳乐木骆科技有限公司

Product Name: WIFI/BT Antenna

Product Model: PLPC001

Part Number: LJF02-24110708-R0A

Write By : FUQIANG

Issued Date: 2024-11-07

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	2024/11/07	



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3.Product Specification

A. Electrical Characteristics	
Frequency	2400MHz ~2500 MHz 5150MHz ~5850 MHz
VSWR	<2.0
Efficiency	≥40%
Impedance	50Ohm
Polarization	Linear
Gain(2.4G)	≤3.50dBi
Gain(5G)	≤2.07dBi
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(Black),LJWF29B-R
Cable Type	Φ1.13mm,L65mm,Black
Connector Type	IPX1
Dimension	43.0*11.5mm
C. Environmental	
Operation Temperature	- 30 °C ~ + 80 °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 | |

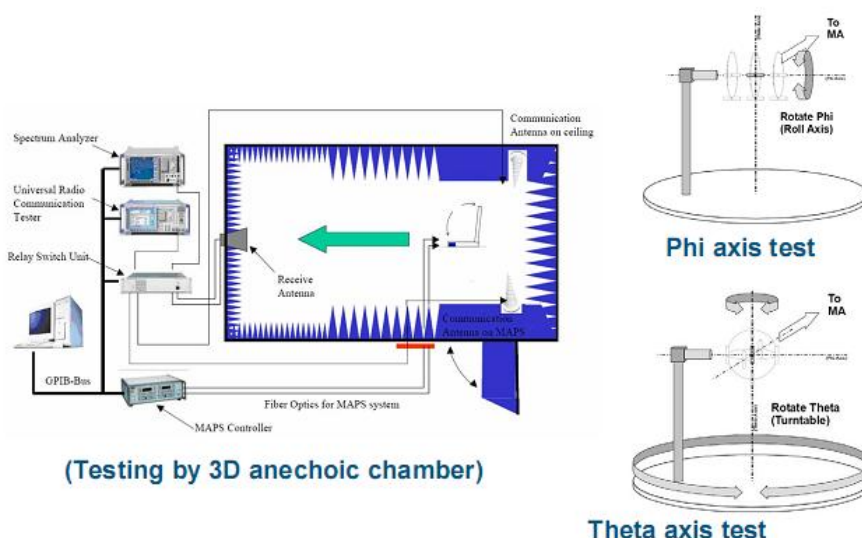


Chart 1 Test topology

5.Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

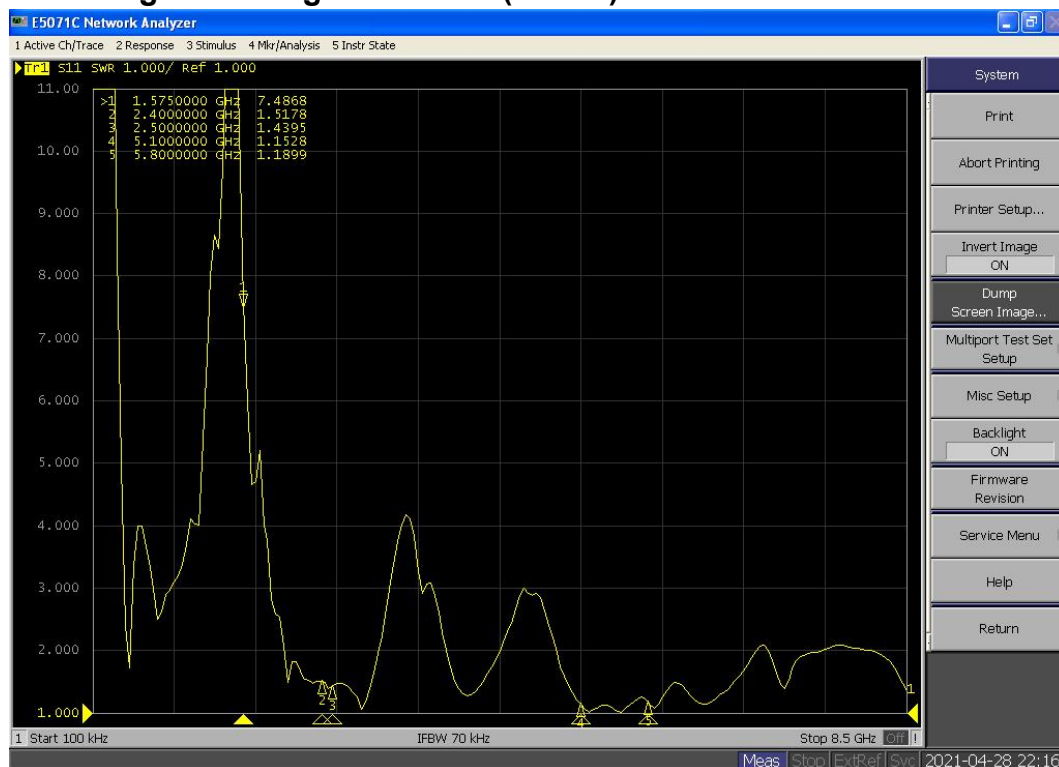


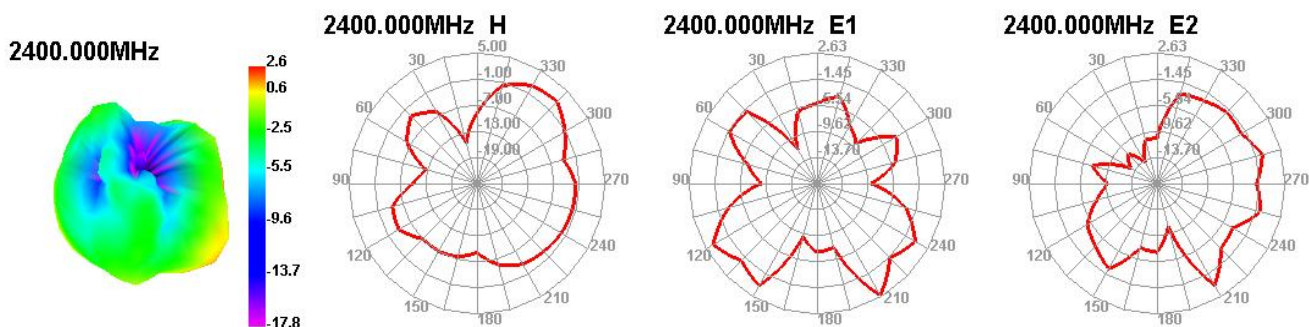
Chart 2 VSWR

5.2 Efficient and gain.

Passive	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Test	Effi(%)	57.00	58.65	60.41	61.53	58.99	62.19	62.03	65.84	55.44	62.97	58.75
2.4GHz	Gain(dBi)	2.63	2.82	2.94	3.09	2.85	3.18	3.20	3.50	2.63	3.27	2.89

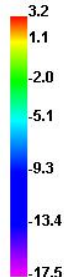
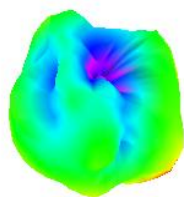
Passive	Freq(MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000
Test For	Effi(%)	51.26	47.36	58.02	60.29	65.33	67.97	64.96	57.23	51.35	56.76	54.44	57.81	56.27	53.04	58.34	53.24	53.51	51.21
5G	Gain(dBi)	2.07	1.83	1.71	1.54	1.31	1.26	0.80	0.79	0.59	0.85	0.73	0.77	1.07	0.99	0.82	0.79	0.93	0.76

5.3 Radiation pattern.

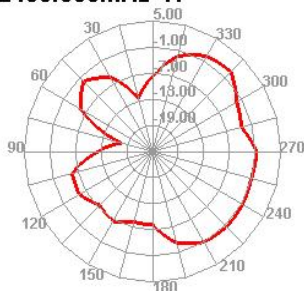




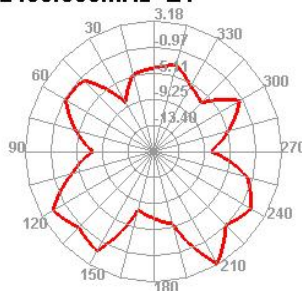
2450.000MHz



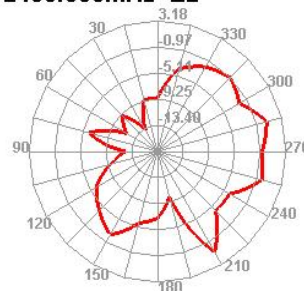
2450.000MHz H



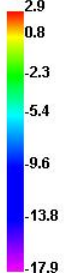
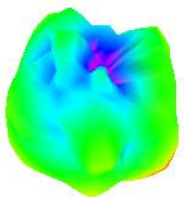
2450.000MHz E1



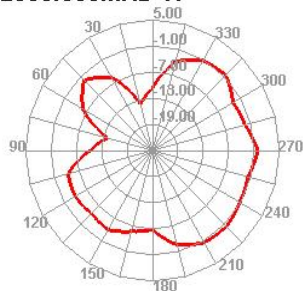
2450.000MHz E2



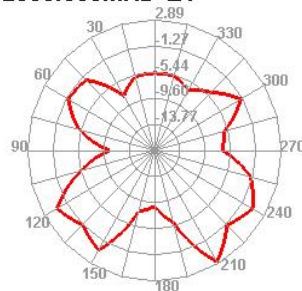
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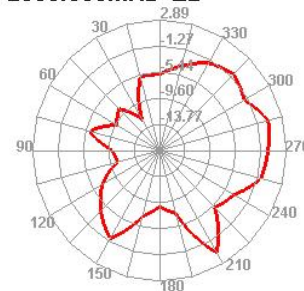
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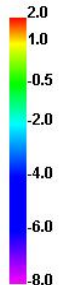
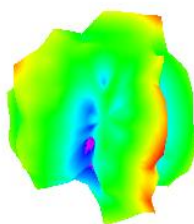
2500.000MHz E1



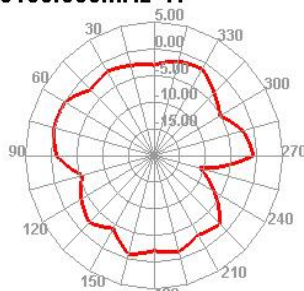
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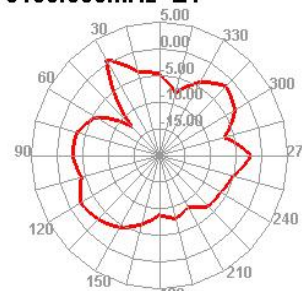
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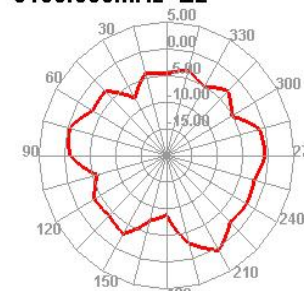
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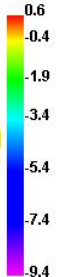
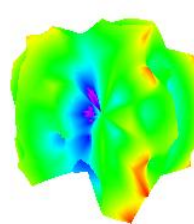
5150.000MHz E1



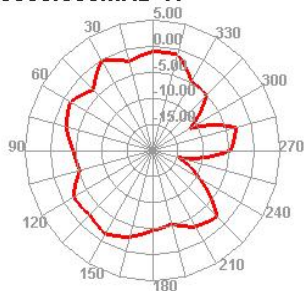
5150.000MHz E2



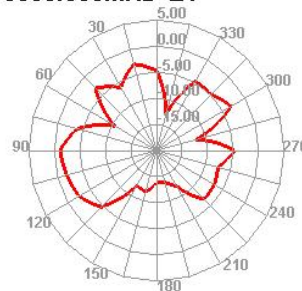
5550.000MHz



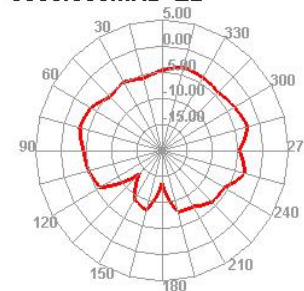
5550.000MHz H



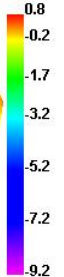
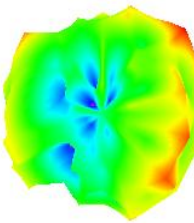
5550.000MHz E1



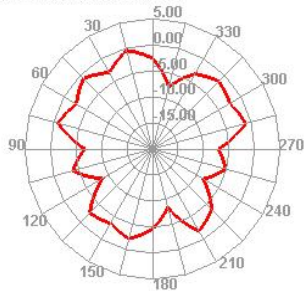
5550.000MHz E2



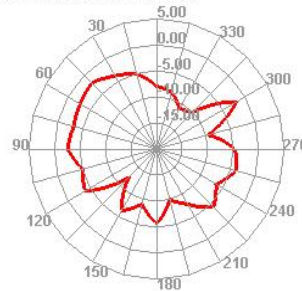
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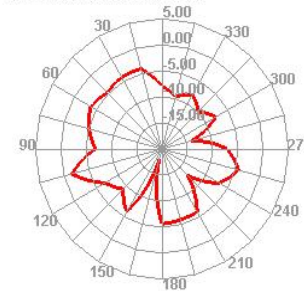
6000.000MHz H



6000.000MHz E1



6000.000MHz E2



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. & Humi. 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. & Humi. Tester	No material deformation is allowed. Electronic Performance is ok.	PASS
3	Salt-Spray 6 pray Test	Placing antenna in the Salt-Spray Tester, set the test condition, Temp: $35 \pm 2^\circ\text{C}$ Humidity: 85% NaCl salt spray: $5 \pm 1\%$. PH value: 6.5~7.2 Testtime: 24 hours	Salt-Spray Tester	No color change No appear rusting	PASS

7. Assemble type

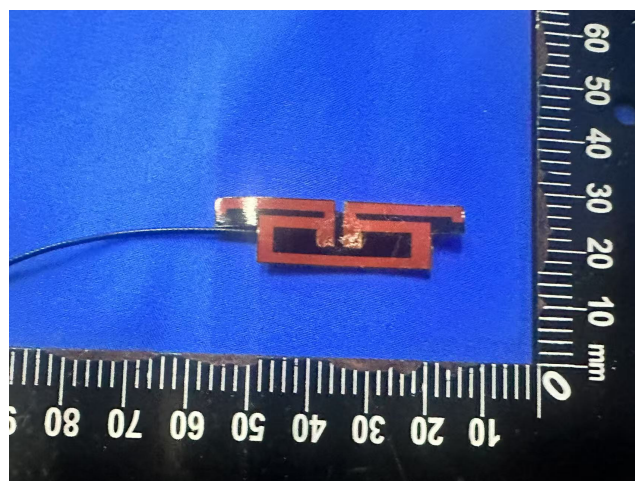
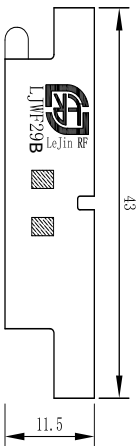
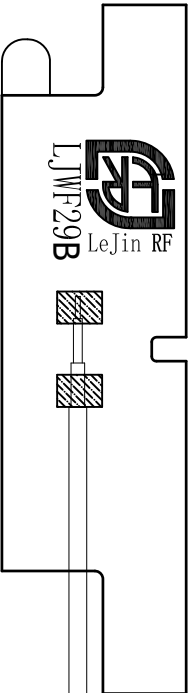
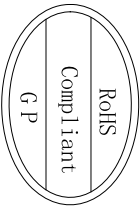
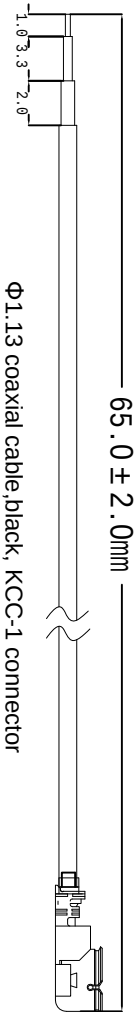


Chart 3 Assemble type

8. Product Drawing



Connector direction: DOWN



Remark:

- 1.FPC material:Electrolytic copper.
- 2.Backing in behind:3M300LSE.
- 3.Tolerance: Cutting die:±0.1mm;Circuit on FPC:±0.05mm; others are ±0.05mm.
- 4.ROHS:(Pb,Hg,Cr+6,PBBs,PBDEs),<1000ppm; Cd,<100ppm.



SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD

1					
Revise	2				
record	3				

Third Angle	Project	LEMULUO	Date	2024-11-08
0~10 ±0.05	Part Name	WiFi/BT ANT	Designed by	
10~18 ±0.10	Part No.	PLPC001	Checked by	MD
18~30 ±0.12	Material		RF	
30~40 ±0.15				
40~ ±0.20	Angle	±0.5°	Approved by	
Location	Treatment	LJF02-24110708-R0A	Unit	mm
			Scale	FIT
			Rev	A

1	2	3	4	5	6	7	8
A							
B							
C							
D							
Rev	Description		Date	Remark			
A	New drawing						
1	2	3	4	5	6	7	8