



SPECIFICATIONS FOR APPROVAL

Customer Name: 深圳乐木骆科技有限公司

Product Name: WIFI Antenna

Product Model: PLAF301

Part Number: LJP02-23082108-R0A

Write By : Huxuwen

Issued Date: 2023-08-21

CUSTOMER

ENGINEER R&D DEPT	BUSSINESS DEPT	APPROVAL

LEJIN

R&D DEPT	ENGINEER DEPT	APPROVAL

REV	MODIFIED DESCRIPTION	DATE	REMARK
V0.1	Initial Draft Release	2023/08/21	



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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(2.4GHz)	≤2.62dbi
Gain(5GHz)	≤2.69dbi
B. Material & Mechanical Characteristics	
Material of Radiator	PCB(Black)
Cable Type	Φ1.13mm,L100mm,Black
Connector Type	IPX1
Dimension	49.0*14.0mm
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

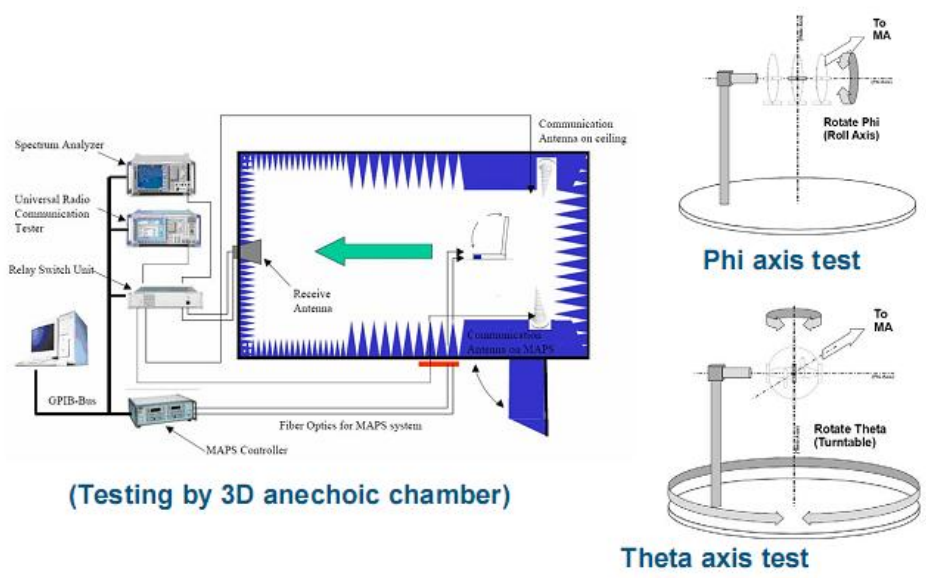


Chart 1 Test topology



5. Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

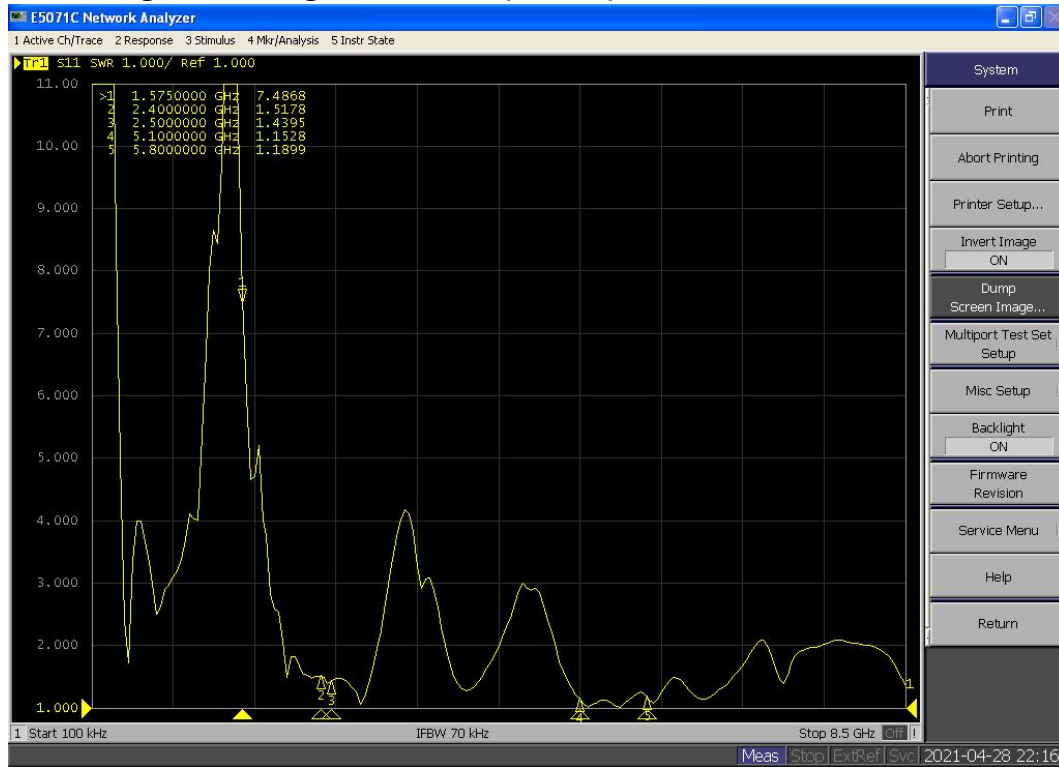


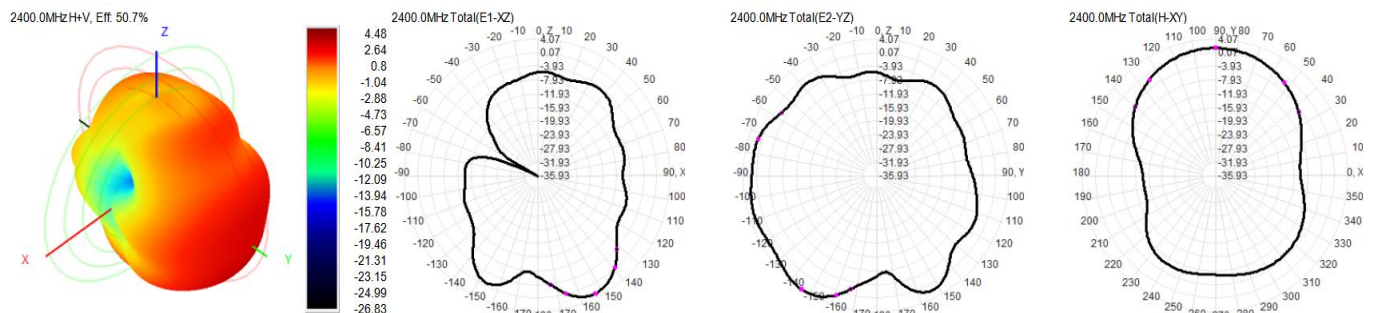
Chart 2 VSWR

5.2 Efficient and gain.

Passive	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Test	Effi(%)	50.71	53.03	53.58	54.57	56.24	56.11	57.12	58.21	59.29	58.70	59.57
	Gain(dBi)	2.24	2.36	2.40	2.48	2.58	2.58	2.62	2.49	2.54	2.52	2.49

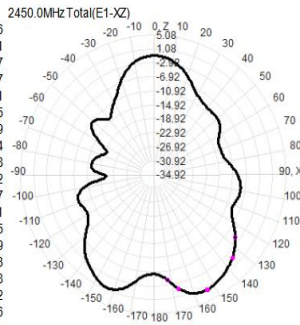
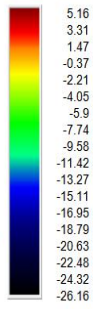
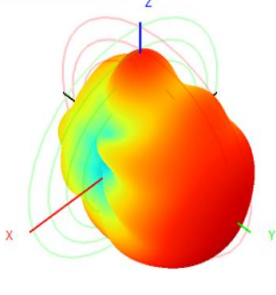
Passive	Freq(MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850
Test WIFI	Effi(%)	65.42	64.86	61.34	63.49	65.85	62.95	62.64	64.74	64.41	62.95	62.57	63.05	64.52	64.46	61.54
	Gain(dBi)	2.65	2.50	2.35	2.56	2.56	2.53	2.35	2.56	2.51	2.47	2.51	2.44	2.54	2.69	2.53

5.3 Radiation pattern.

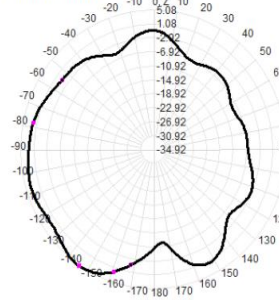




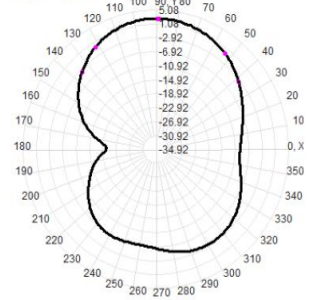
2450.0MHz H+V, Eff: 56.1%



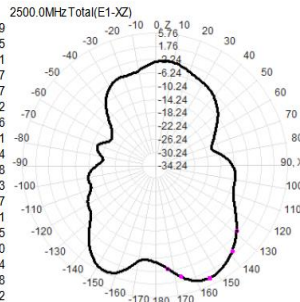
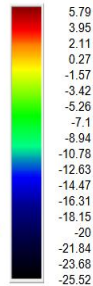
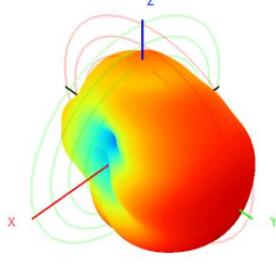
2450.0MHz Total(E2-YZ)



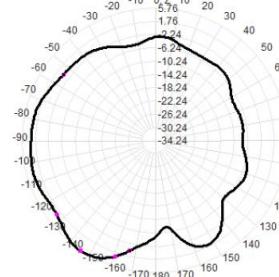
2450.0MHz Total(H-XY)



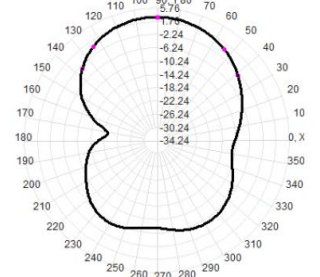
2500.0MHz H+V, Eff: 59.6%



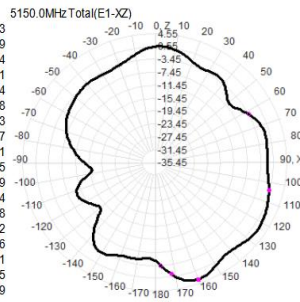
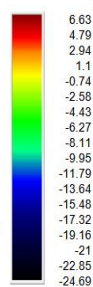
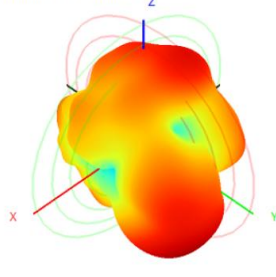
2500.0MHz Total(E2-YZ)



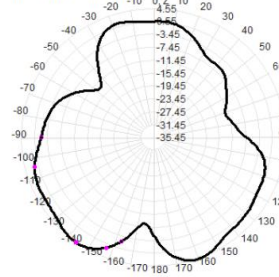
2500.0MHz Total(H-XY)



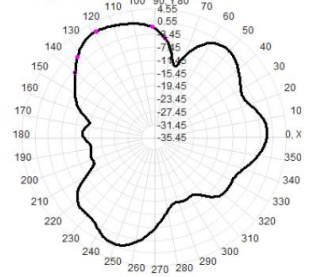
5150.0MHz H+V, Eff: 65.4%



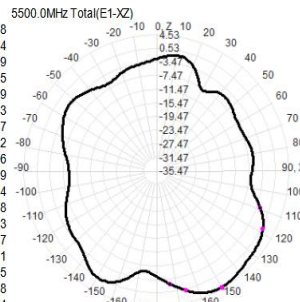
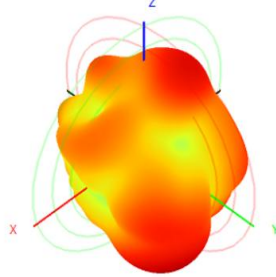
5150.0MHz Total(E2-YZ)



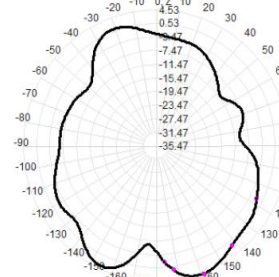
5150.0MHz Total(H-XY)



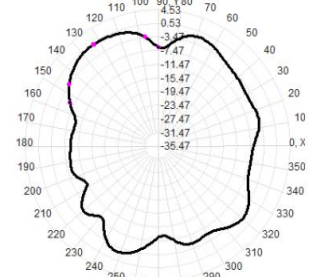
5500.0MHz H+V, Eff: 64.7%



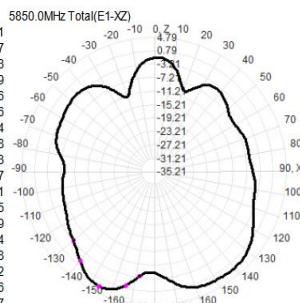
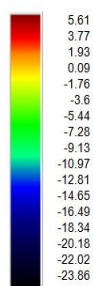
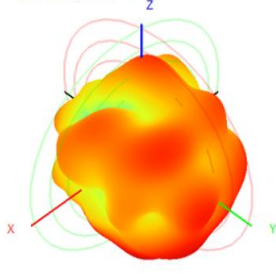
5500.0MHz Total(E2-YZ)



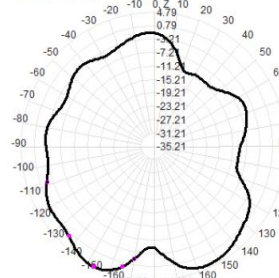
5500.0MHz Total(H-XY)



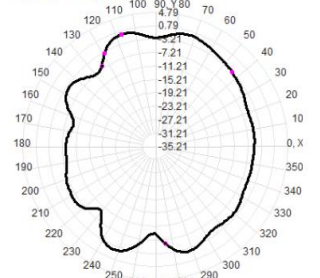
5850.0MHz H+V, Eff: 61.5%



5850.0MHz Total(E2-YZ)



5850.0MHz Total(H-XY)





6. Reliability Test

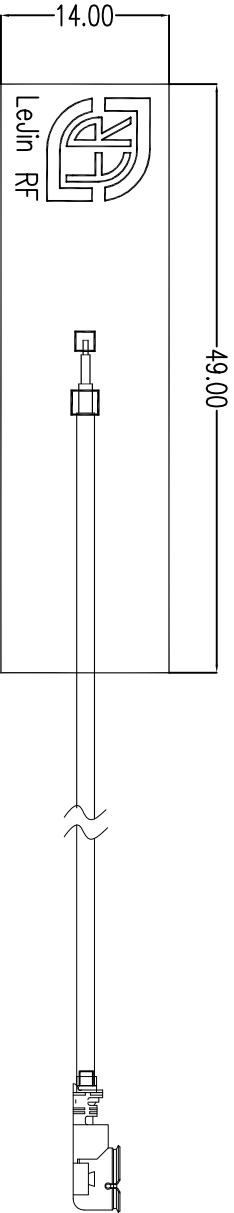
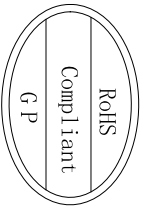
Test Item	Test condition	Equipment	Specification	Result
1 Low Temp. Storage Test	Temperature: -30℃, Time:48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-down the temp. to -30℃ in one hour, store antenna for 44 hours; 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 appearance rusting	PASS

7. Assemble type

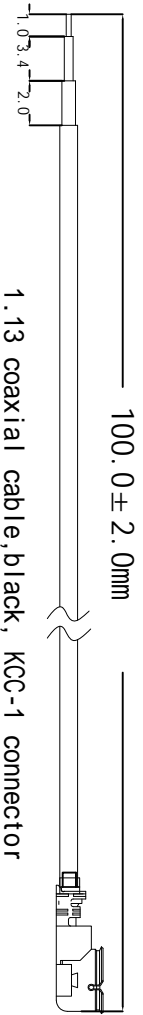


Chart 3 PLAF301 real picture

8. Product Drawing



with backing gum



1.13 coaxial cable, black, KCC-1 connector

Remark:

- 1.PCB material:FR4.
- 2.Backing in behind:gum.
- 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.

1			
Revise record	2		
	3		

SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD

乐木骆

Project	乐木骆	Date	2023-08-21
Part Name	WiFi/BT	Designed by	
Part No.	ANT	Checked by	MD
Material	PLAF301	RF	

Third Angle	0.02	Project	乐木骆
0~10	±0.05	Part Name	WiFi/BT
10~18	±0.10	Part No.	ANT
18~30	±0.12	Material	PLAF301
30~40	±0.15	Angle	±0.04
40~	±0.20	Location	±0.5°

Treatment	LJP02-23082108-R0A	Unit	mm	Scale	FIT	Rev	A
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Rev	Description	Date	Remark
1	New drawing		