Shenzhen Lejin radio frequency technology Co., LTD

SPECIFICATIONS FOR APPROVAL

Customer Name: Shenzhen Lemu Luo Technology Co., Ltd.

Product Name: WIFI Antenna

Product Model: PLAF301S

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	

Add：Rm 301B,A4 Bld,Junfeng Innovation Park,Fuyong, Baoan Dist,Shenzhen. Tel:0755-27780515 Email:phxcler@szljrf.com

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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 Antenna(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%

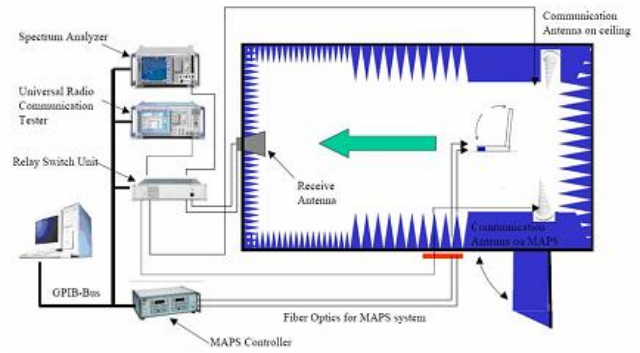
4.Test Equipment & Conditions

1.Network Analyzers Agilent 8753D/5071C

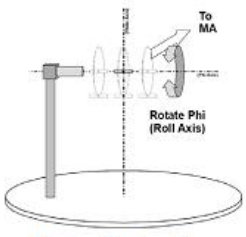
2.HSPA and LTE protocol test set R&S CMW500 -PT

3.Communications Test Set Agilent 8960

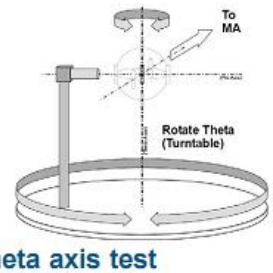
4.3D Chamber Test System



(Testing by 3D anechoic chamber)



Phi axis test



Theta axis test

Chart 1 Test topology

5.Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

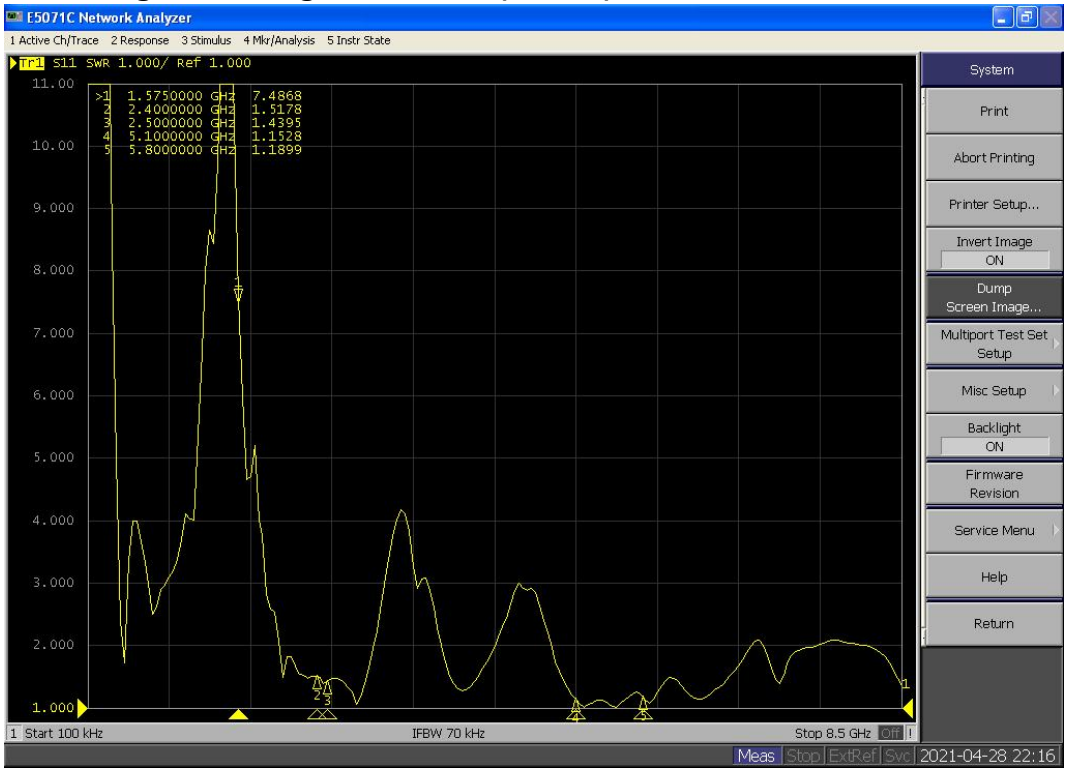


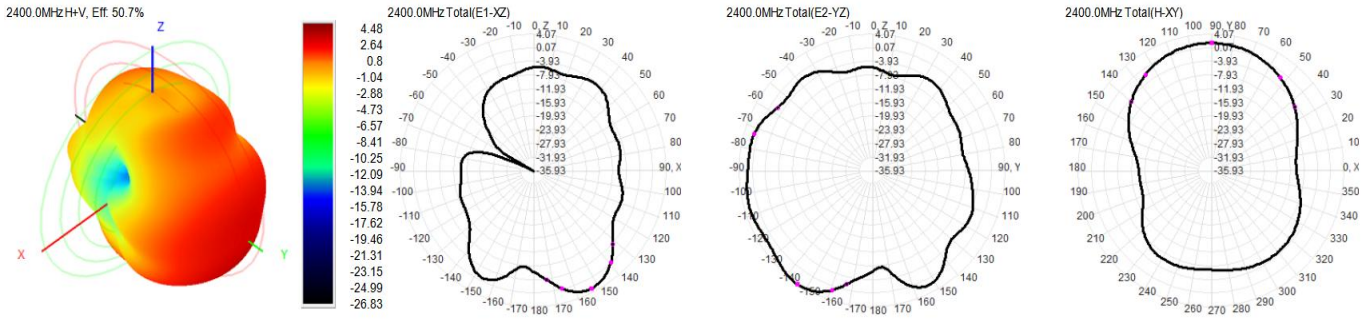
Chart 2 VSWR

5.2 Efficient and gain.

Passive Test 2.4GHz	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
	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 Test WIFI 5G	Freq(MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850
	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.



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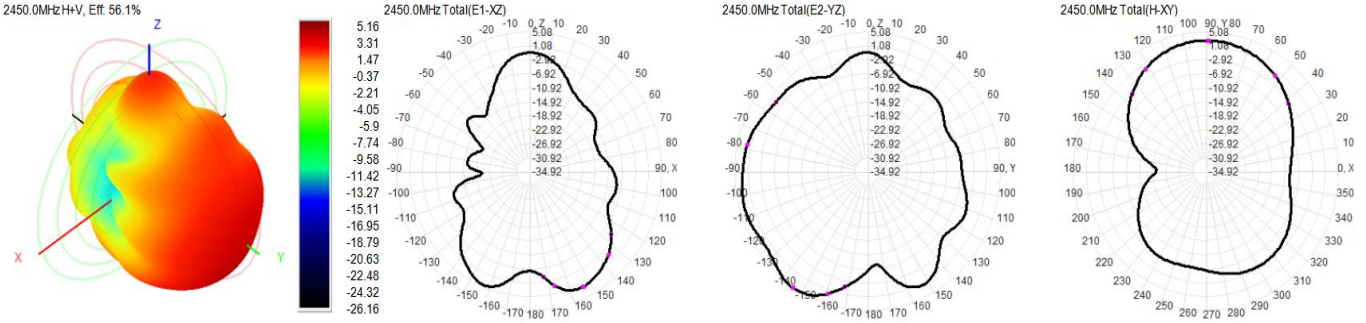

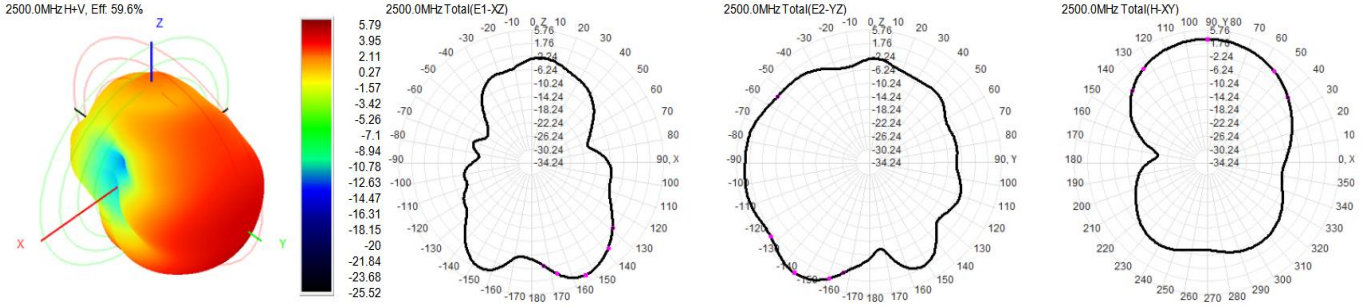

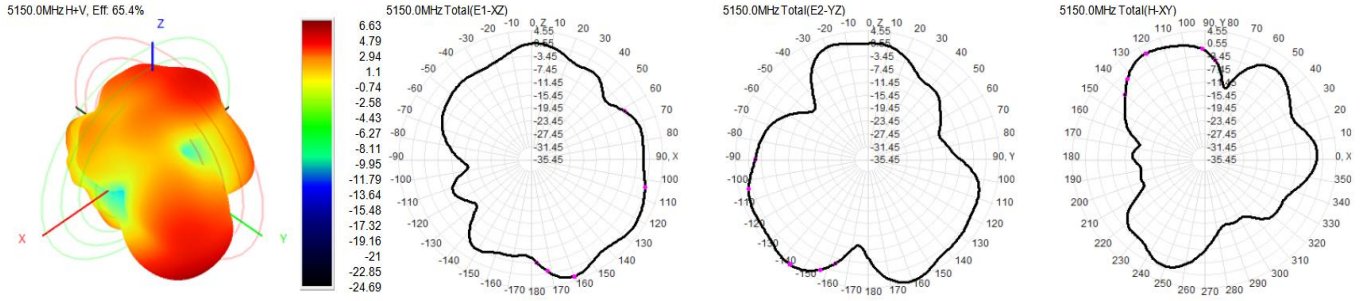

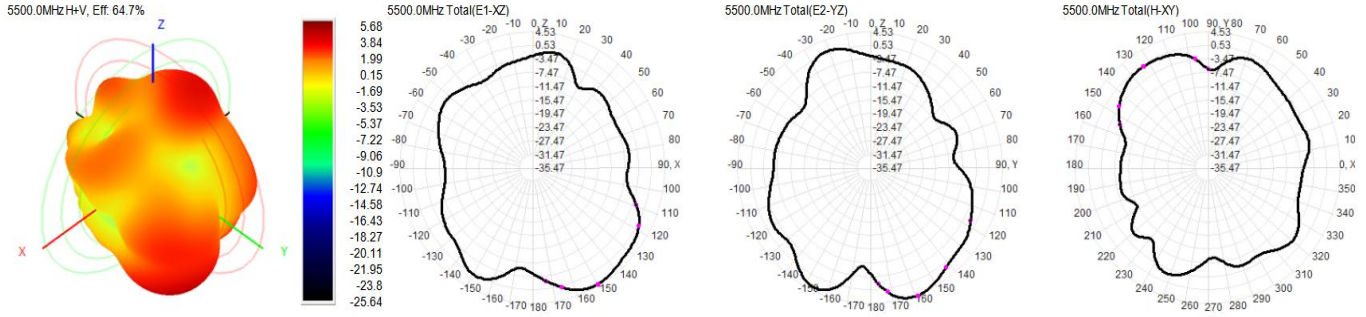

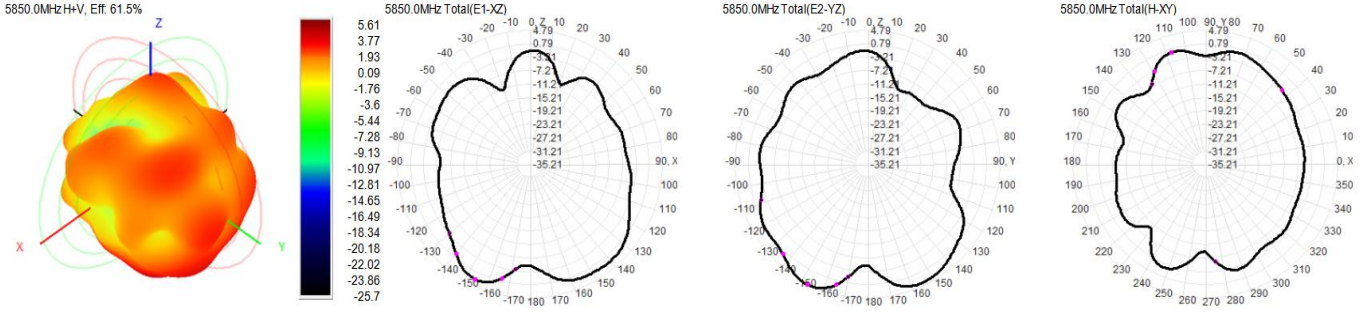

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6.Reliability Test

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 for44 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 tempto 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±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

Chart 3 PLAF301 real picture

8.Product Drawing

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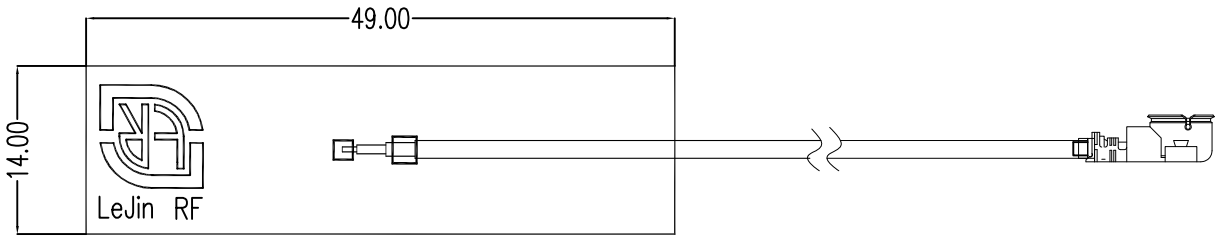
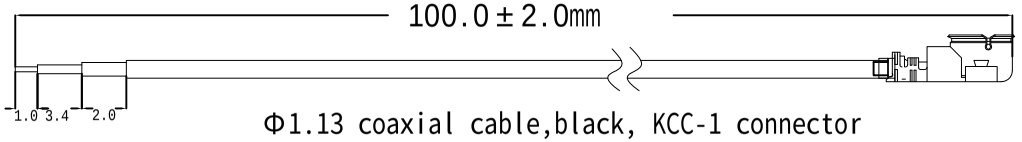
RoHS
Compliant
G P



with backing gum



Φ1.13 coaxial cable,black, KCC-1 connector

Remark:
1.PCB material:FR4.
2.Backing in behind:gum.
3.Tolerance：Cuting die:±0.1mm;Circuit on FPC:±0.05mm；others are ±0.05mm.
4.ROHS:(Pb,Hg,Cr+6,PBBs,PBDEs),<1000ppm; Cd,<100ppm.

Revise record				
	1			
	2			
	3			

Rev	Description	Date	Remark
A	New drawing		

SHEN ZHEN LEJIN RADIO FREQUENCY CO.,LTD

Third Angle				Project	乐木骆	Date	2023-08-21
0～10	±0.05	○	0.02	Part Name	WIFI/BT	Designed by	
10～18	±0.10	◎	⌀0.03	Part No.	ANT	Checked by	MD
18～30	±0.12	⊥	0.02	Material	PLAF301		RF
30～40	±0.15	▱	0.04	Treatment	LJP02-23082108-R0A	Approved by	
40～	±0.20	Angle	±0.5°			Unit mm	Scale FIT Rev A
Location							