



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 Antenna

Product Model: PLAF109

Part Number: LJF02-23082408-R0A

Write By : Huxuwen

Issued Date: 2023-08-24

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	2023/08/24	
V1.0	Update WIFI BAND	2024/01/22	



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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)	≤2.69dbi
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(Green),70B
Cable Type	Φ1.13mm,L145mm,Black
Connector Type	IPX1
Dimension	48.0*8.0mm
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

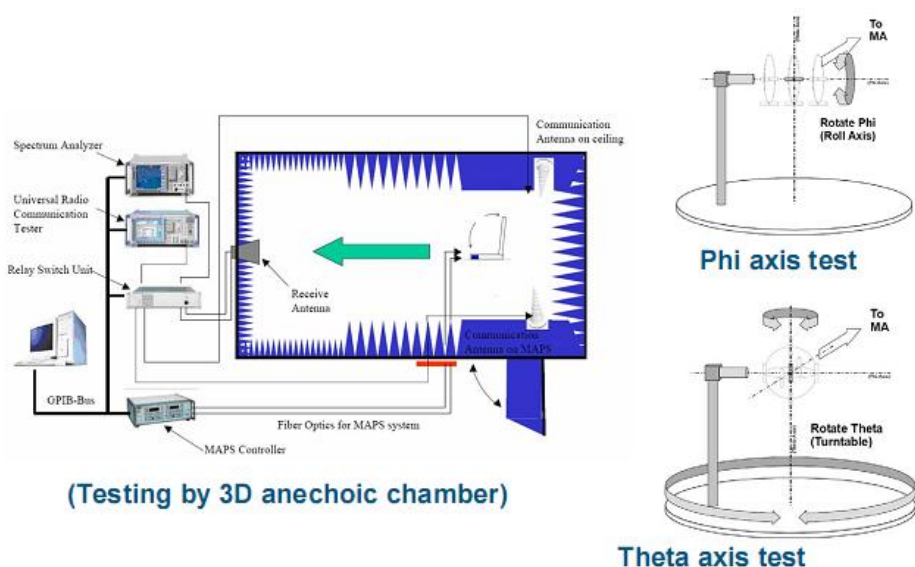


Chart 1 Test topology

5.Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

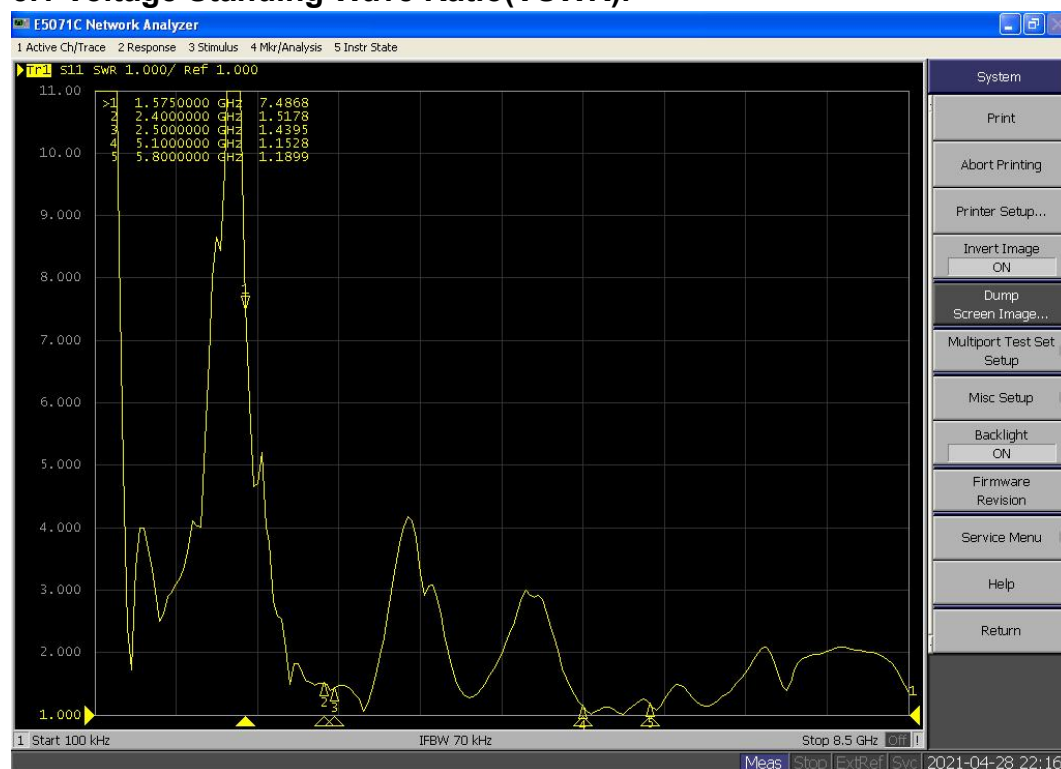
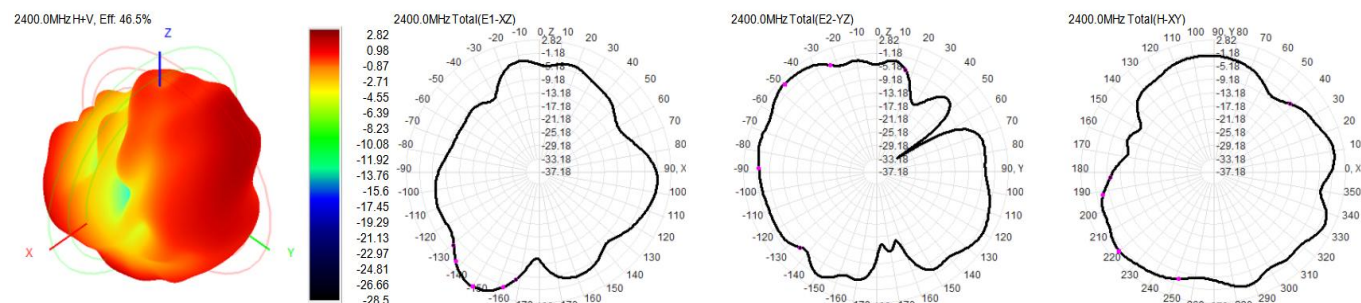


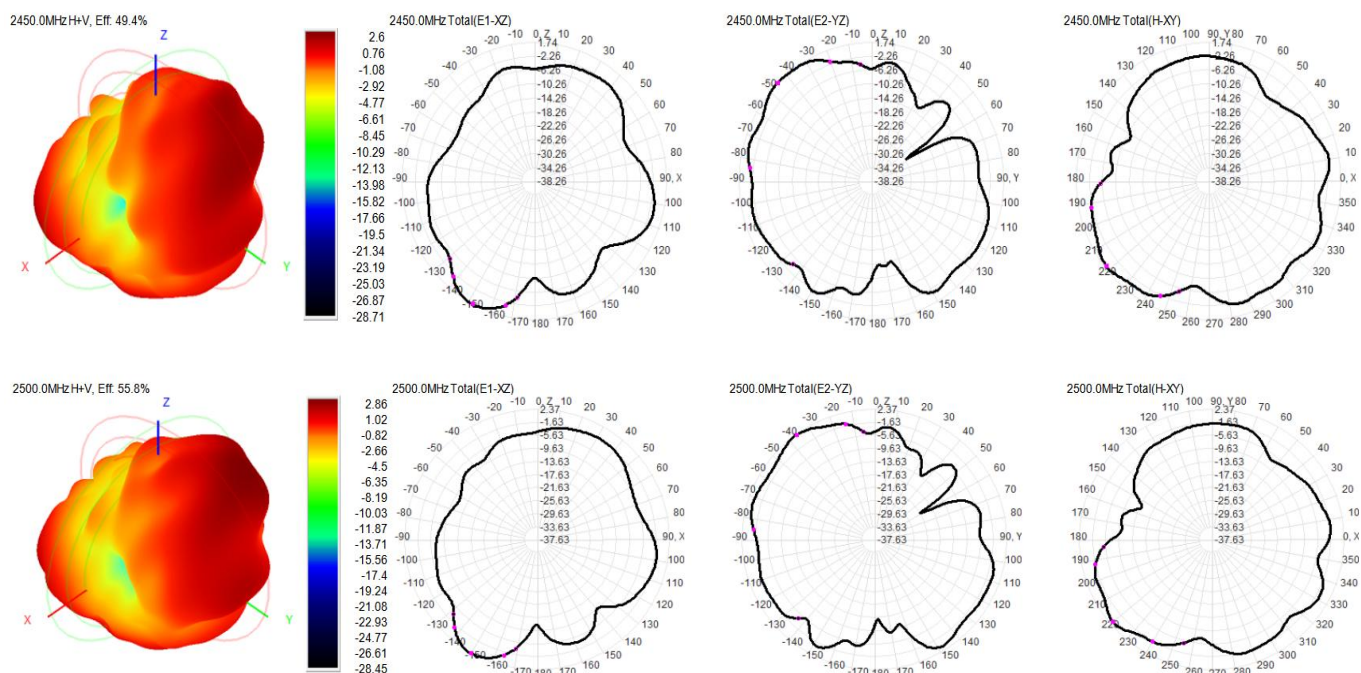
Chart 2 VSWR

5.2 Efficient and gain.

Passive	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Test	Effi(%)	46.49	47.08	45.74	46.32	48.76	49.42	51.51	51.61	51.66	53.68	55.79
2.4GHz	Gain(dBi)	2.52	2.61	2.09	2.11	2.47	2.60	2.53	2.43	2.43	2.69	2.46

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 Test time: 24 hours	Salt-Spray Tester	No color change No appear rusting	PASS

7. Assemble type

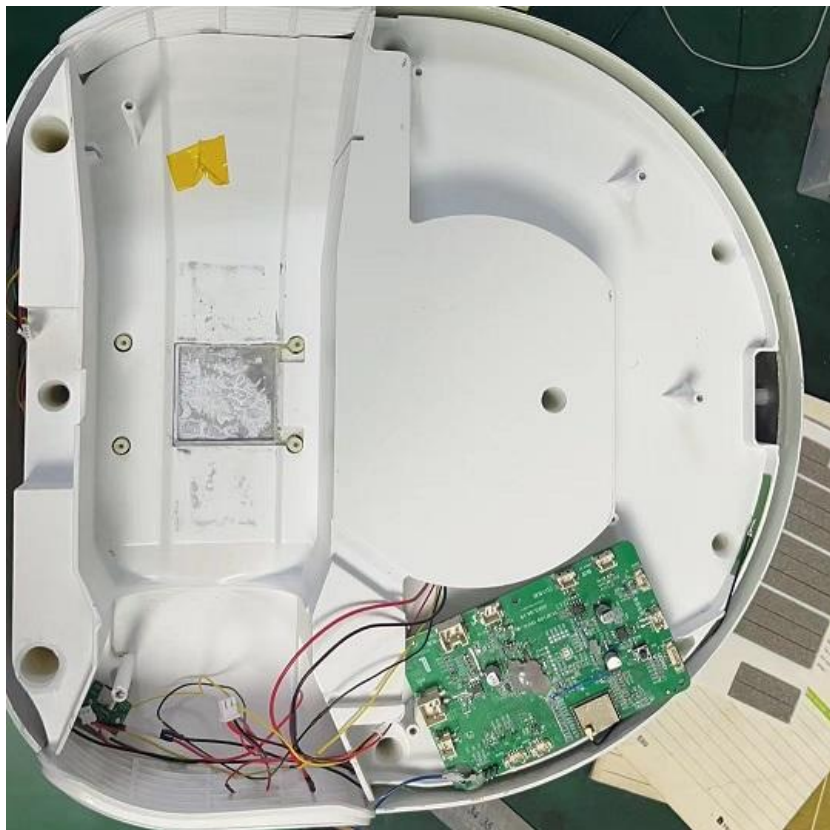
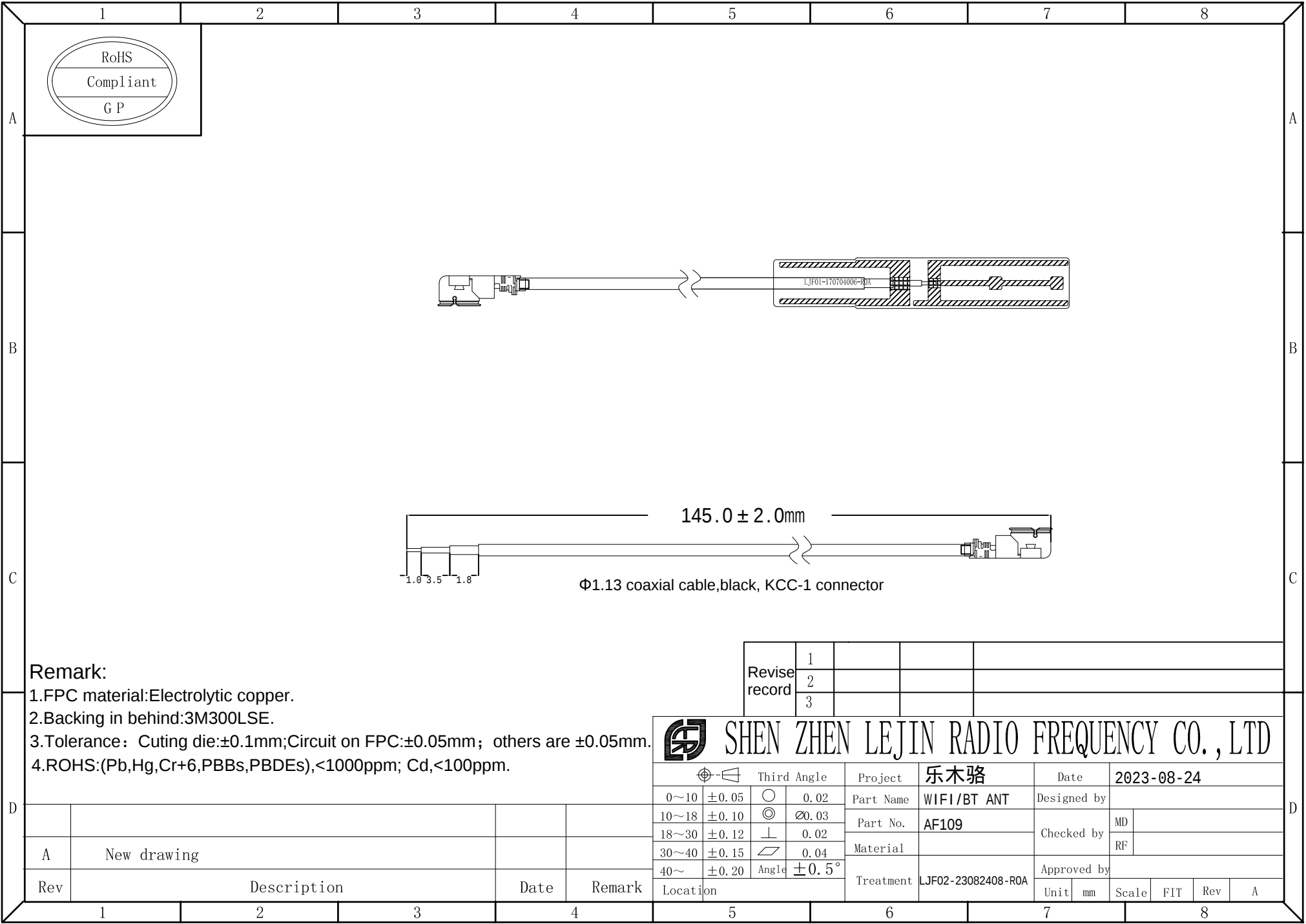


Chart 3 PLAF301 assemble type

8.Product Drawing



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.

Revise record	1			
	2			
	3			

 SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD											
		Third Angle		Project		乐木骆		Date		2023-08-24	
0~10		±0.05				0.02		Part Name		WIFI/BT ANT	
10~18		±0.10				Ø0.03		Part No.		AF109	
18~30		±0.12				0.02		Checked by		MD	
30~40		±0.15				0.04				RF	
40~		±0.20		Angle		±0.5°		Material			
Location						Treatment		LJF02-23082408-R0A		Approved by	
								Unit		mm	
								Scale		FIT	
								Rev		A	

A	New drawing		
Rev	Description	Date	Remark