



Shenzhen Lejin radio frequency technology Co., LTD

SPECIFICATIONS FOR APPROVAL

Customer Name: Shenzhen Creality 3D Technology Co.,LTD

Product Name: WIFI Antenna

Product Model: SONIC-L

Part Number: LJF02-22060908-R1A

Write By : Huxuwen

Issued Date: 2022-06-09

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	2022/06/09	
V1.1	Revise the length of cable	2022/07/28	



Index

1. Cover	1
2. Index	2
3. Product Specification	3
4. Test Equipment & Conditions	3
5. Test Report	4
6. Reliability Test	5
7. Assemble type	6
8. Product Drawing	7

3.Product Specification

A. Electrical Characteristics	
Frequency	2400MHz ~2500 MHz
VSWR	<2.0
Efficiency	≥40%
Impedance	50Ohm
Polarization	Linear
Gain(2.4GHz)	≤2.0dB
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(Black),LJWF27BF
Cable Type	Φ1.13mm,L70mm,Black
Connector Type	IPX1
Dimension	26.0*18.8mm
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 | |

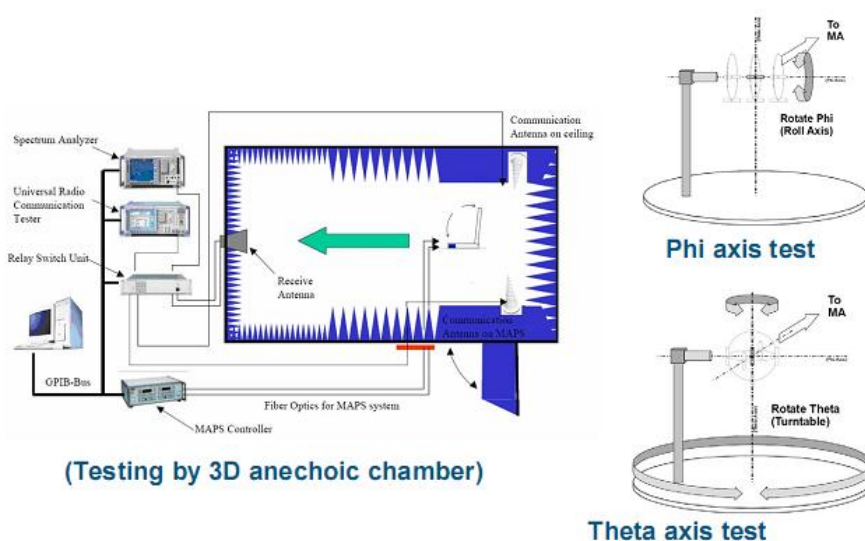


Chart 1 Test topology

5.Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

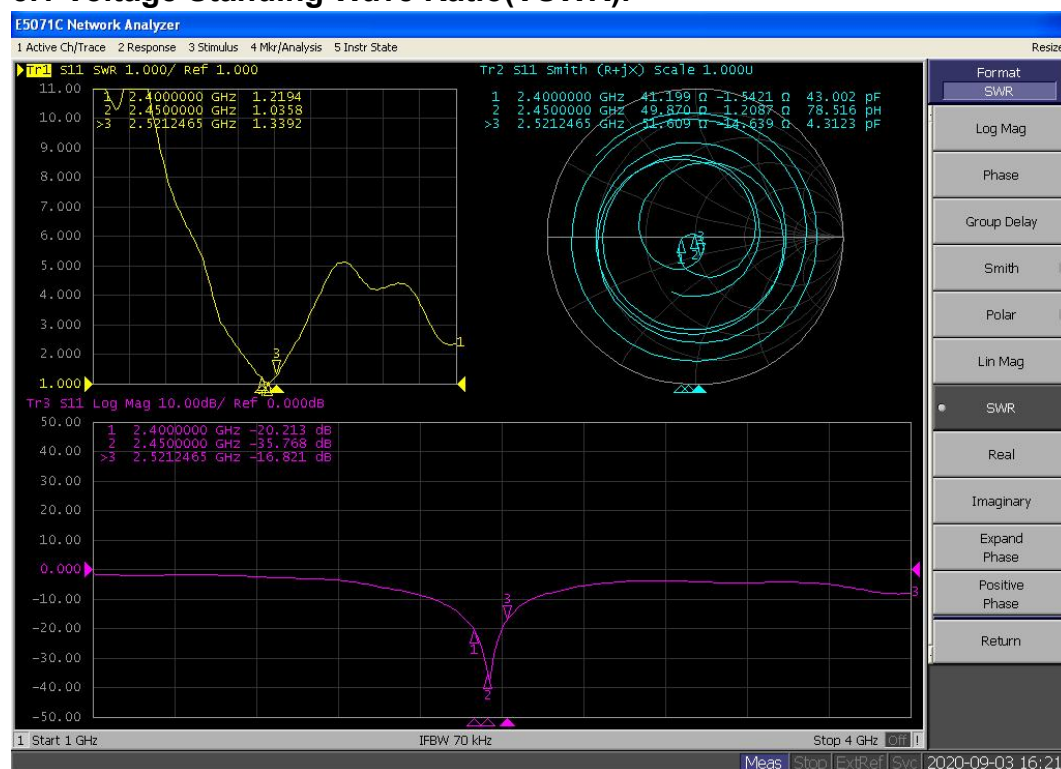
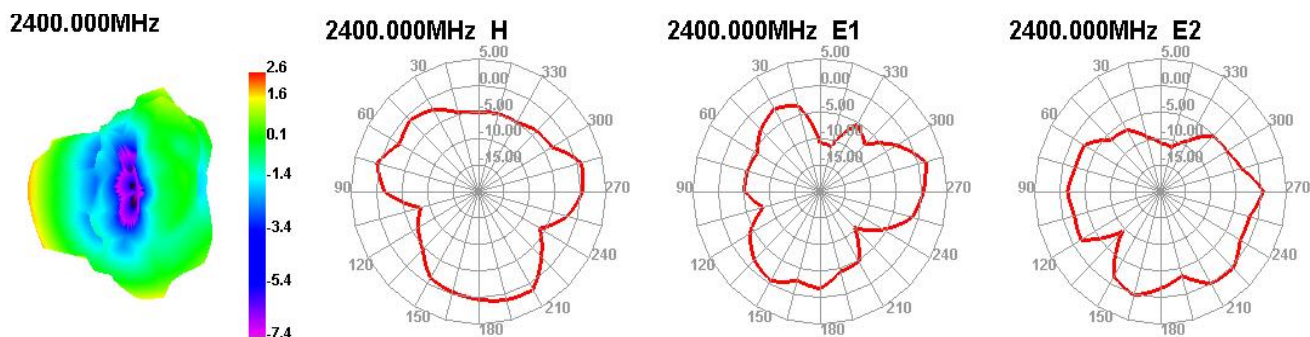


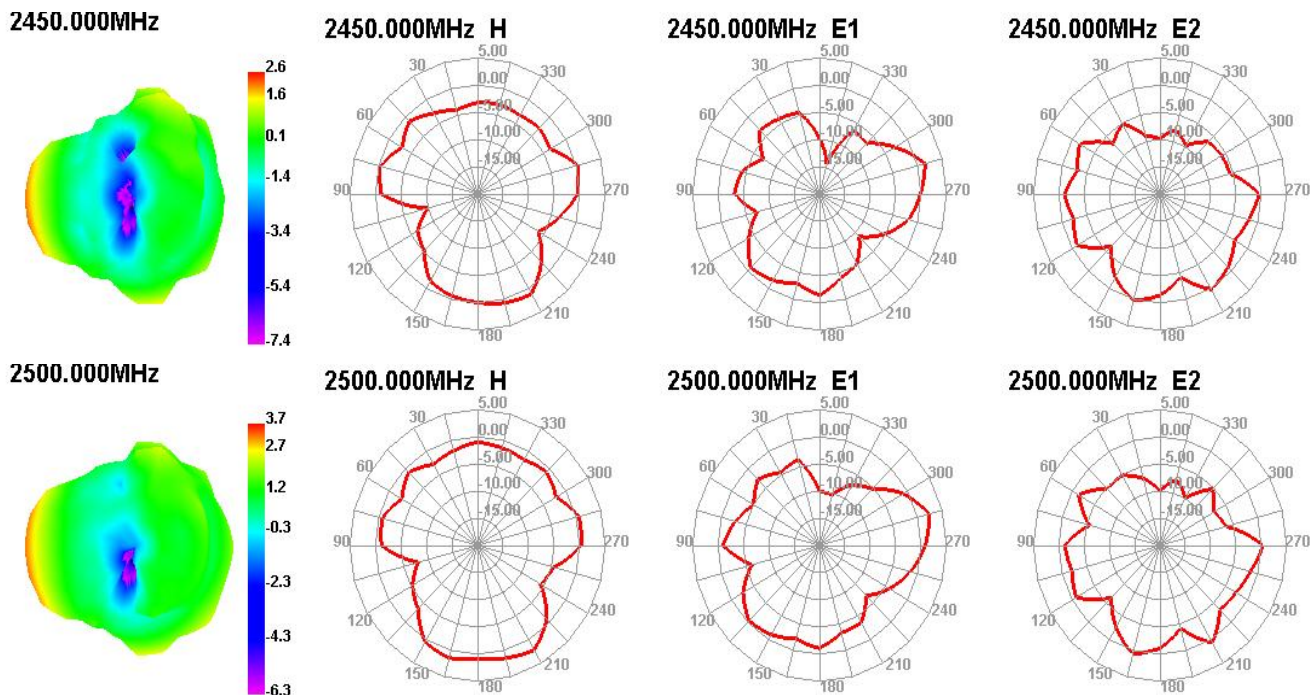
Chart 2 VSWR

5.2 Efficient and gain.

Passive Test For WIFI BT	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
	Effi(%)	52.06	50.62	50.83	51.23	54.27	51.77	54.68	50.10	55.88	46.01	41.10
	Gain(dBi)	1.93	1.99	2.05	2.16	2.05	2.14	2.04	2.04	1.94	1.94	1.82

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
	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.		No material deformation is allowed. Electronic Performance is ok.	
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

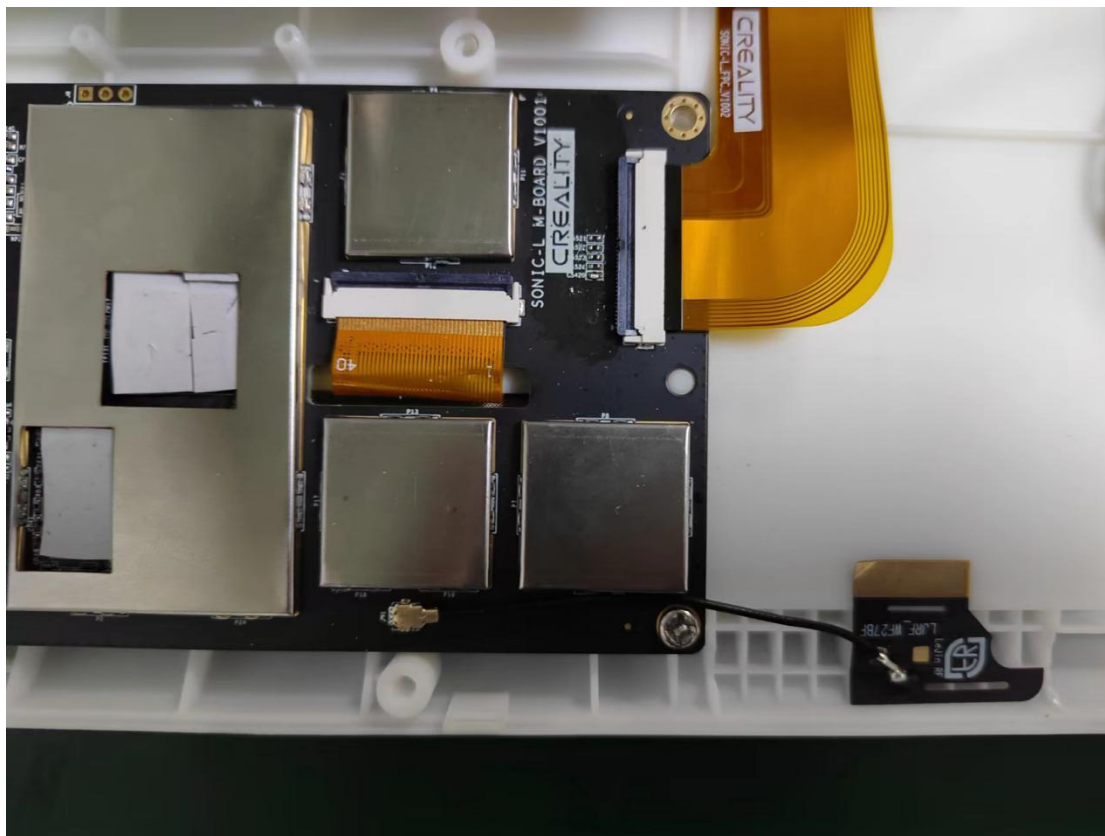
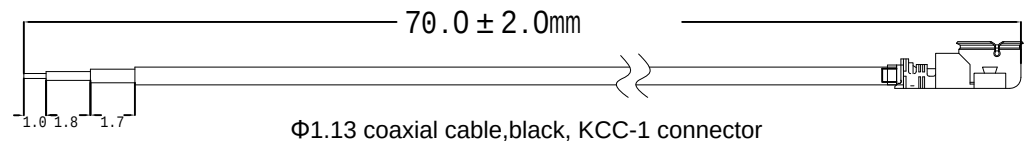
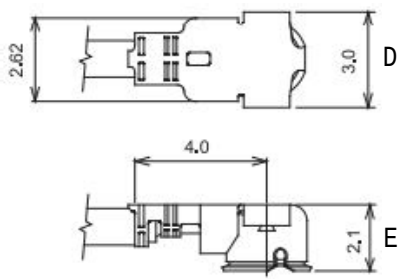
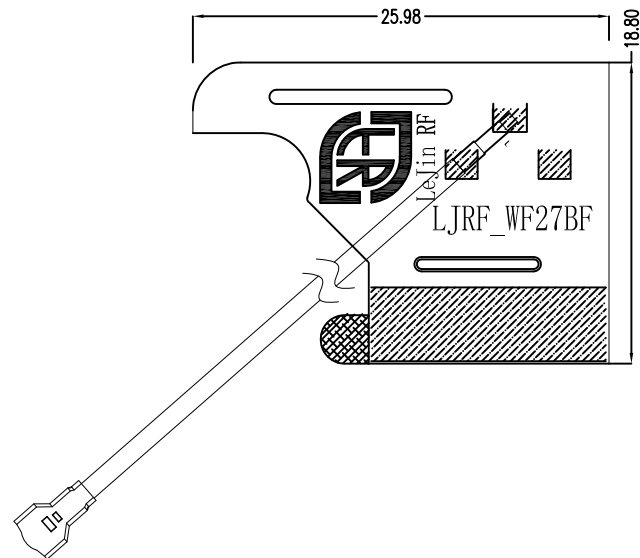
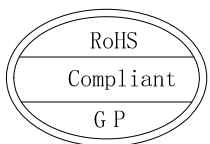


Chart 3 SONIC-L assemble type

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	Creatity 3D	Date		2022-07-28	
0~10		±0.05	○	0.02	Part Name	WIFI ANT	Designed by		
10~18		±0.10	◎	Ø0.03	Part No.	SONIC-L	Checked by		MD
18~30		±0.12	⊥	0.02	Material		RF		
30~40		±0.15	∕	0.04	Treatment	LJF02-22060908-R1A	Approved by		
40~		±0.20	Angle	±0.5°			Unit	mm	Scale
Location							FIT	Rev	A

A	New drawing				
Rev	Description			Date	Remark