



Shenzhen Lejin radio frequency technology Co., LTD

SPECIFICATIONS FOR APPROVAL

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

Product Name: NFC antenna

Product Model:

Part Number: LJNF02-24060408-R0A

Write By : Limingjin

Issued Date: 2024-06-04

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	2024/06/04	



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3.Product Specification

A. Electrical Characteristics	
Frequency	13.56MHz
VSWR	≤ 3.0
Efficiency	N/A
Impedance	50~90Ohm
Polarization	N/A
Gain	N/A
B. Material & Mechanical Characteristics	
Material of Radiator	Internal FPC(M659A)
Cable Type	$\Phi 0.9\text{mm}$, { HYPERLINK
Connector Type	1.25Pin*2
Dimension	40.0mm*14.5mm
C. Environmental	
Operation Temperature	- 20 °C ~ + 50 °C
Storage Temperature	- 30 °C ~ + 80 °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.Spectrum analyzer RS FPS8 FSH4
- 4.3D Chamber Test System

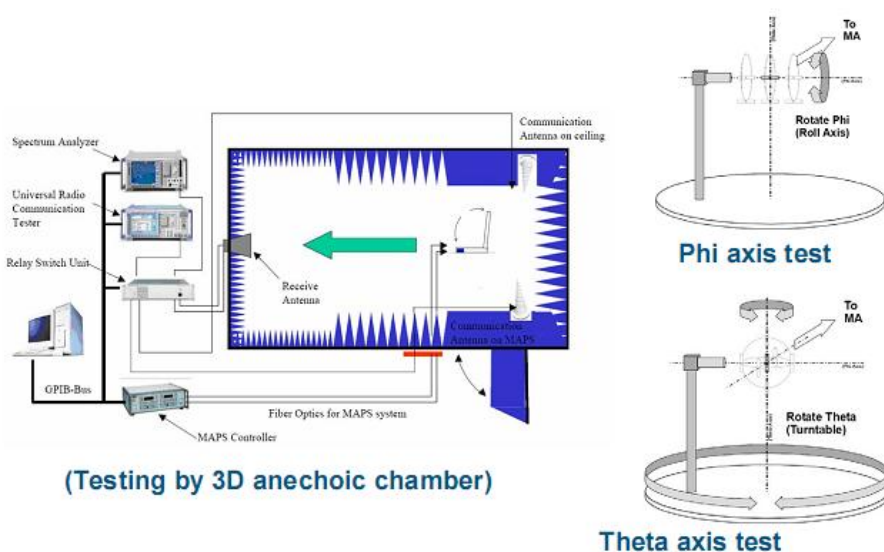
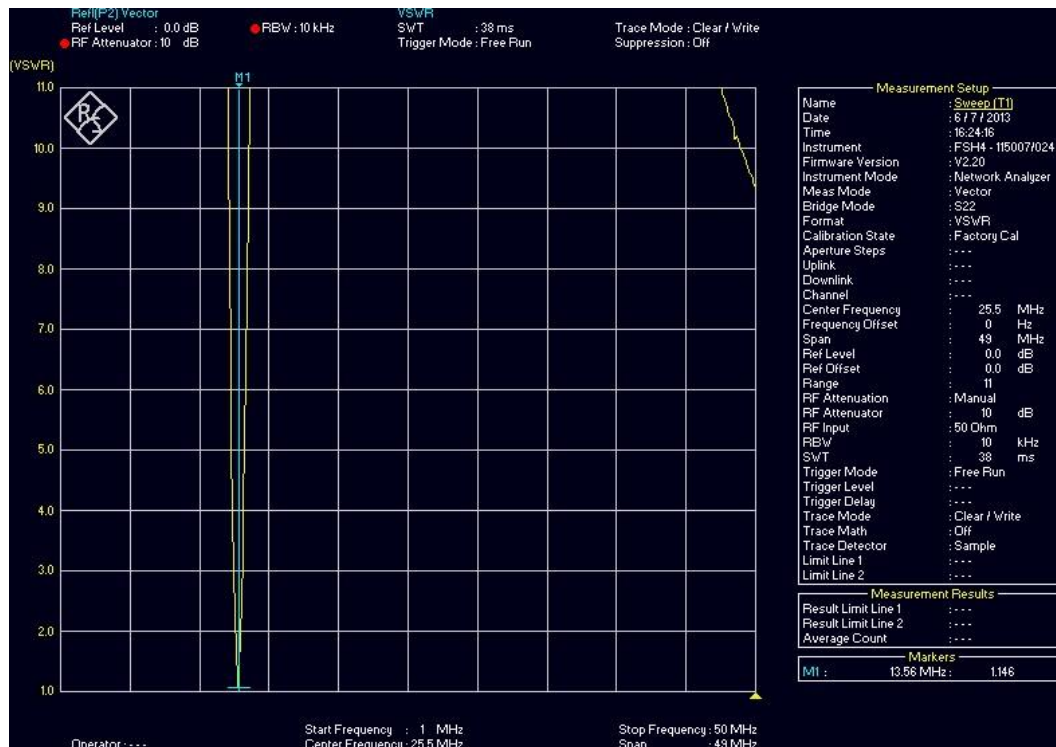


图 1 test topology



5. Test Report



5.1 Matching network.

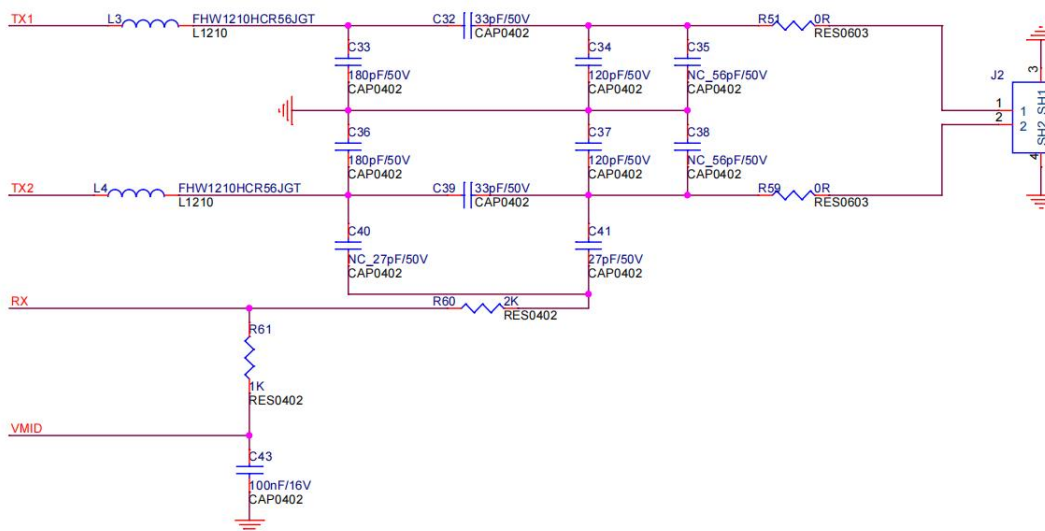


Chart 2 Matching network

5.2 NFC(13.56MHz) parameter.

Inductance: 1.59UH;

Capacitance: 39PF;

Quality factor: 39;

Impedance: 1.26 Ω

Performance: Class A/B/F card: 0.1% Error rate.

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. Real picture

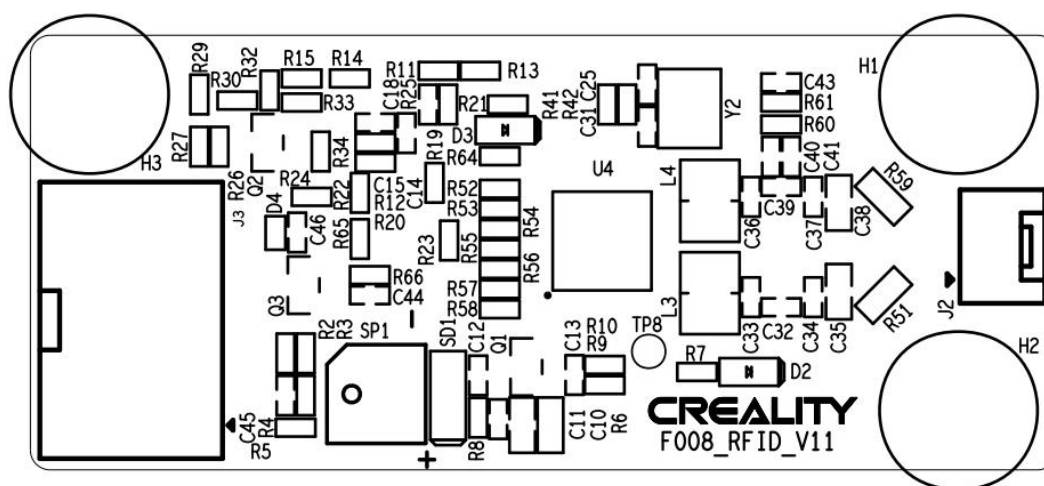
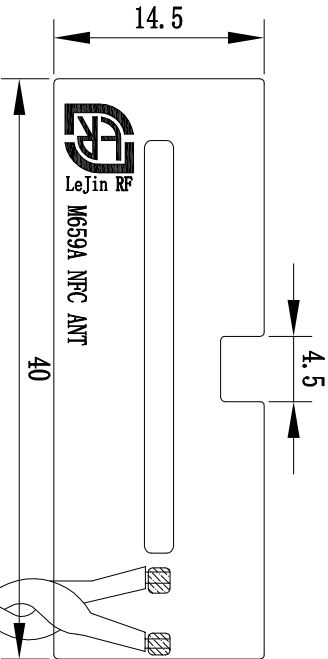


Chart 3 PCB layout

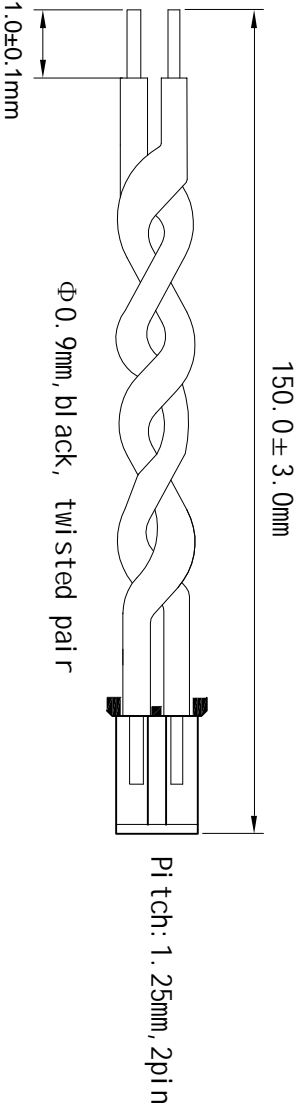
8. Product Drawing

A



A

B



C

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.

D

A	New drawing			
Rev	Description	Date	Remark	
1				
2				
3				
4				

 深圳乐进射频科技有限公司

SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD

	Third Angle	Project	Creat i ty 3D	Date	2024-06-04
0~10	±0.05	○	0.02	Part Name	NFC ANT
10~18	±0.10	◎	0.03	Part No.	
18~30	±0.12	⊥	0.02	Material	
30~40	±0.15	∇	0.04	Checked by	MD
40~	±0.20	Angid	±0.5°	Approved by	RF
Location		Treatment	UJNF02-24060408-ROA	Unit	mm
5		6		7	8