



Shenzhen Lejin radio frequency technology Co., LTD

SPECIFICATIONS FOR APPROVAL

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

Product Name: NFC antenna

Product Model: PF012

Part Number: LJNF02-24082308-R1A

Write By : Limingjin

Issued Date: 2024-11-14

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	2024/11/24	
V1.1	Revise the length of cable,support PF012 model	2025/02/10	



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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	$\Phi 0.9\text{mm}$,twisted-pair,L100mm,Black
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 | |

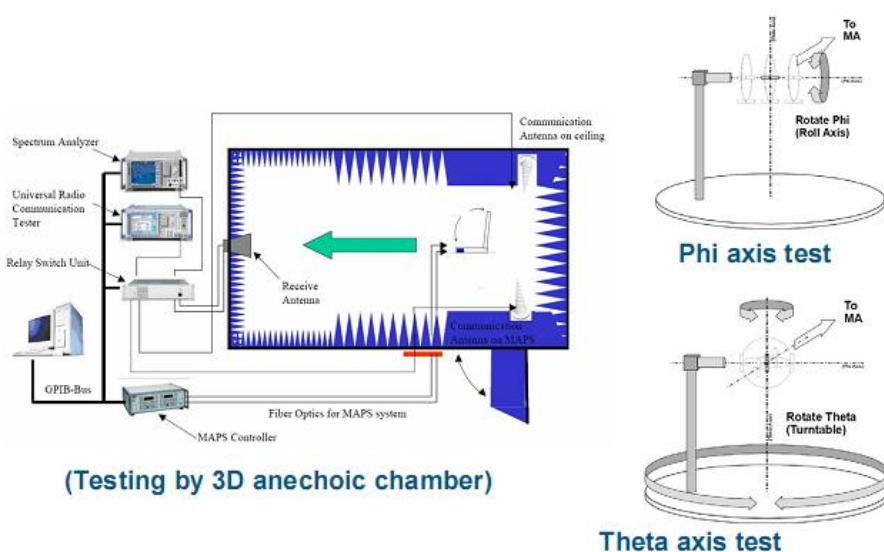
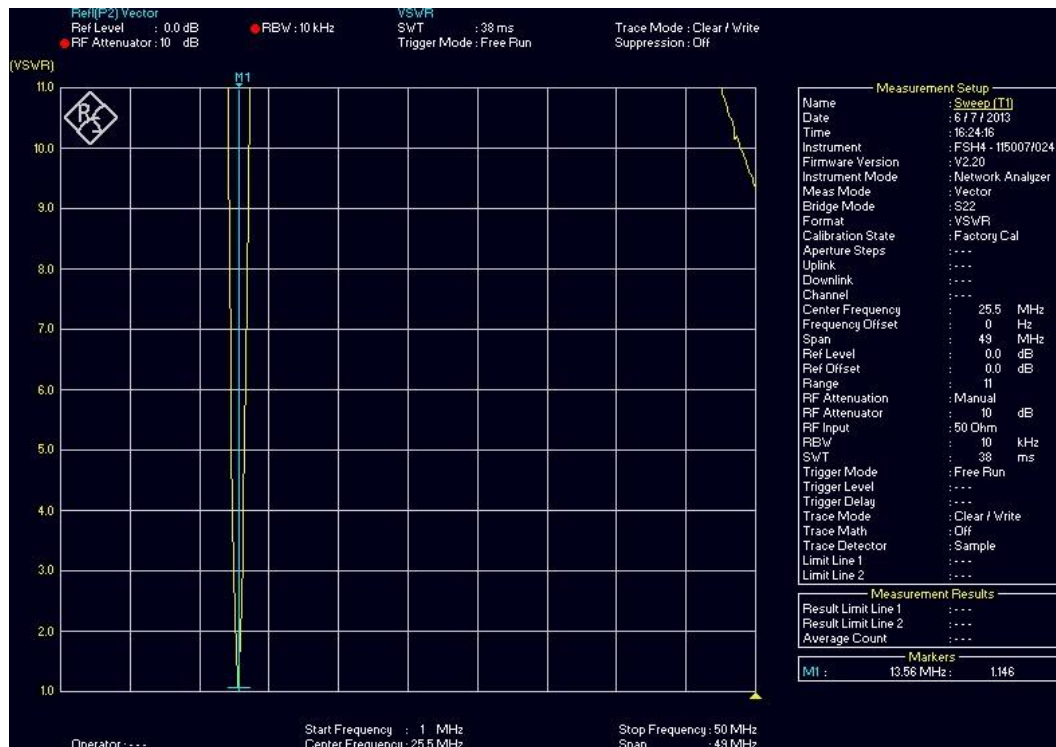


图 1 test topology



5. Test Report



5.1 Matching network.

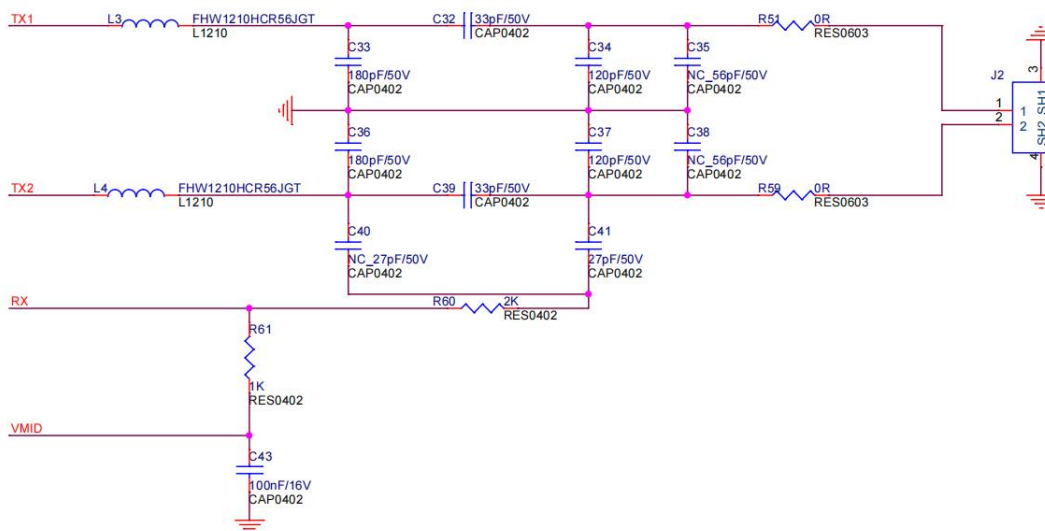


Chart 2 Matching network

5.2 NFC(13.56MHz) parameter.

Inductance: 1.47UH;

Capacitance: 43PF;

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.&Hum. 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.&Hum. 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. Real picture

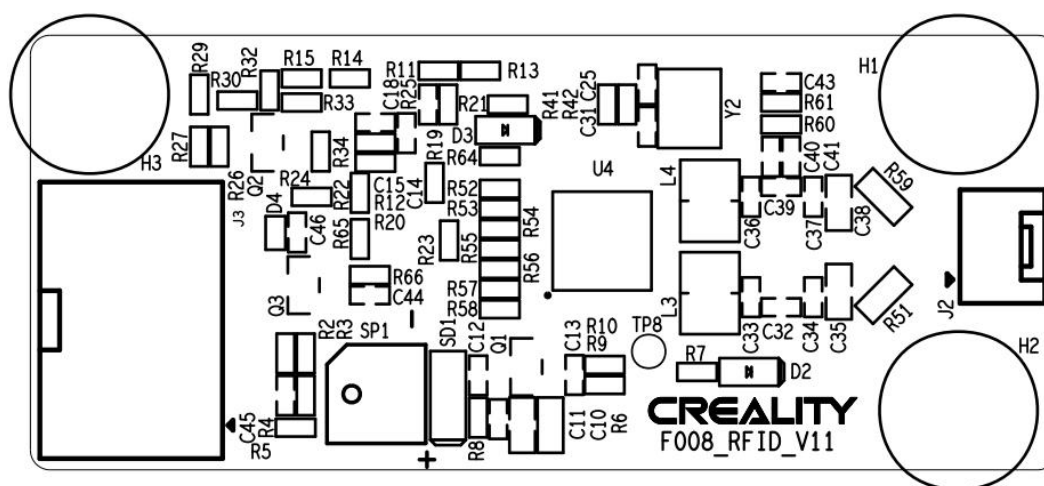


Chart 3 PCB layout

8. Product Drawing

1		2		3		4		5		6		7		8	
RoHS Compliant G P															

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A		B		C		D	

1		2		3		4		5		6		7		8	

A	
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