Shenzhen Lejin radio frequency technology Co., LTD

SPECIFICATIONS FOR APPROVAL

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

Product Name: WIFI/BT Antenna

Product Model: PF012

Part Number: LJF02-24122708-R0A

Write By : FUQIANG

Issued Date: 2024-12-27

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	2024/12/27	

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
VSWR	<2.0
Efficiency	≥40%
Impedance	50Ohm
Type	Dipole
Polarization	Linear
Gain	≤3.50dBi
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(Black),LJWF35A-R
Cable Type	Φ1.13mm,L300mm,Black
Connector Type	IPX1
Dimension	34.0*10.0mm
C. Environmental	
Operation Temperature	- 30 ˚C ~ + 80 ˚C
Storage Temperature	- 30 ˚C ~ + 85 ˚C
Humidity	40%~95%

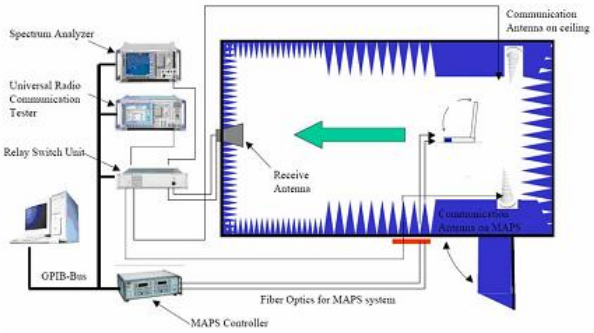
4.Test Equipment & Conditions

1.Network Analyzers Agilent 8753D/5071C

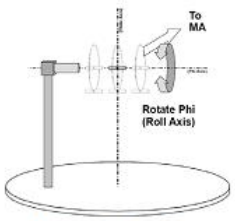
2.HSPA and LTE protocol test set R&S CMW500 -PT

3.Communications Test Set Agilent 8960

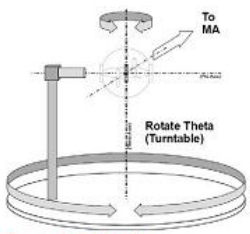
4.3D Chamber Test System



(Testing by 3D anechoic chamber)



Phi axis test



Theta axis test

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Chart 1 Test topology

5.Test Report

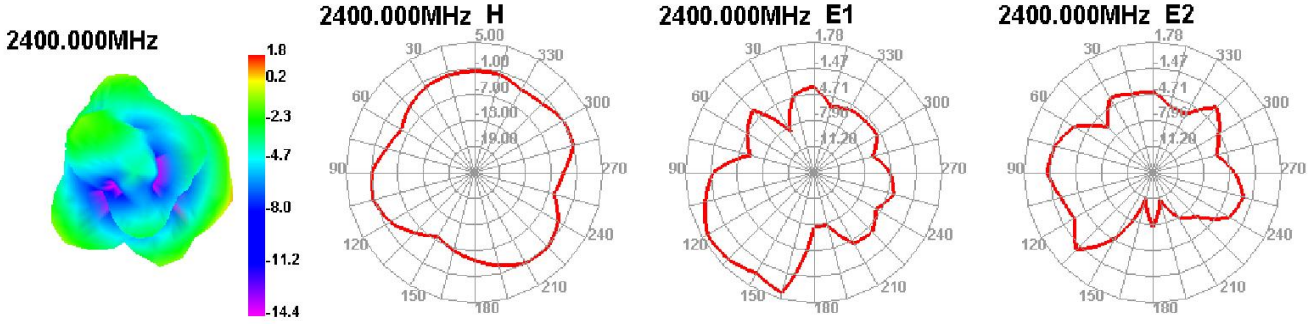
5.1 Voltage Standing Wave Ratio(VSWR).

Chart 2 VSWR

5.2 Efficient and gain(estimating conducted by Lejin in Jan,2021,using 3D drawing document that provided by Creality.)

Passive Test 2.4GHz	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
	Effi(%)	45.81	44.26	47.82	47.20	53.84	47.12	46.80	50.33	48.06	62.25	53.04
	Gain(dBi)	1.78	1.71	1.66	2.32	1.93	1.89	1.55	2.08	2.10	2.41	2.37

5.3 Radiation pattern.



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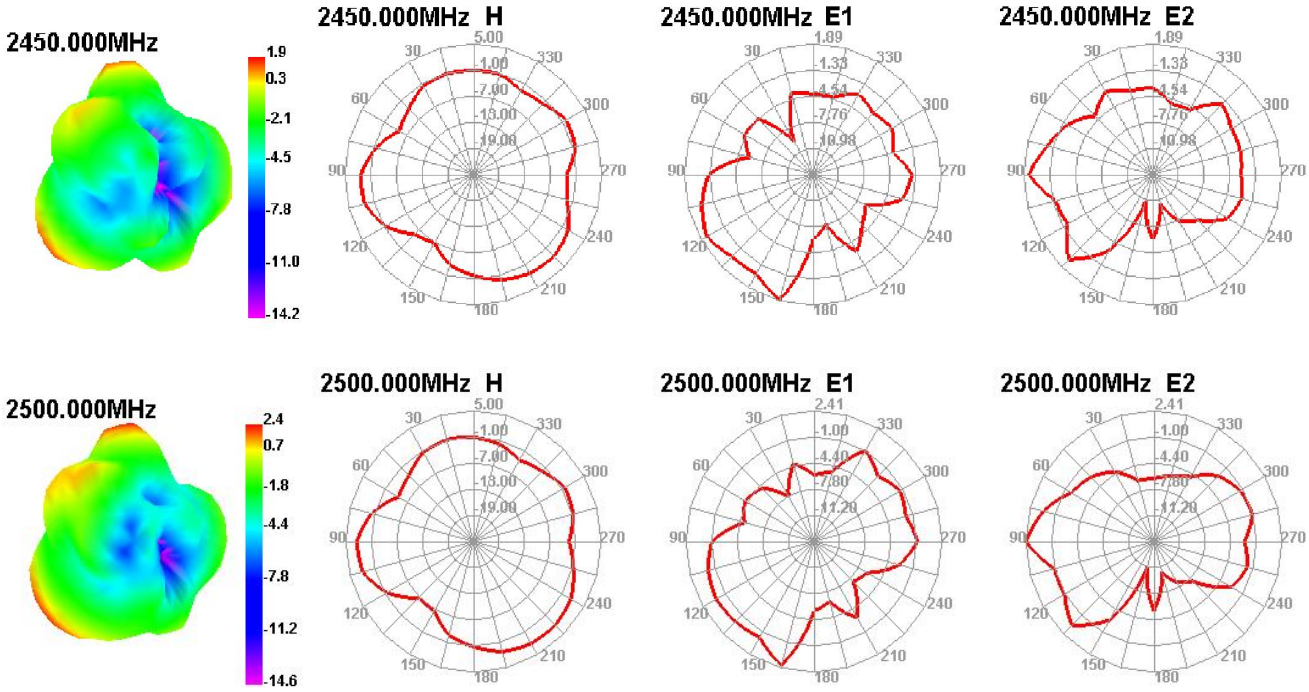

6.Reliability Test

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

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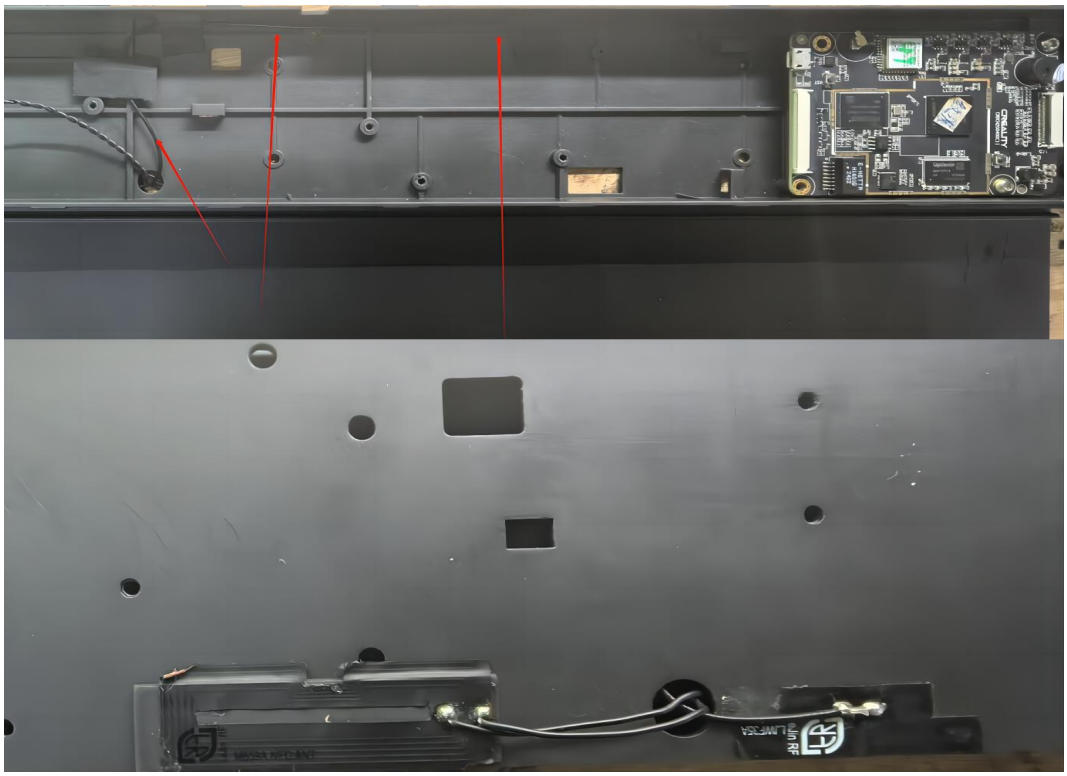

Chart 3 Assemble type

8.Product Drawing

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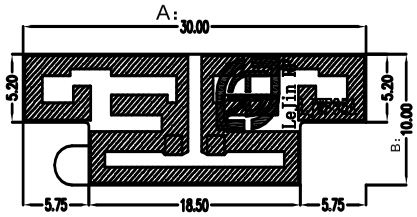
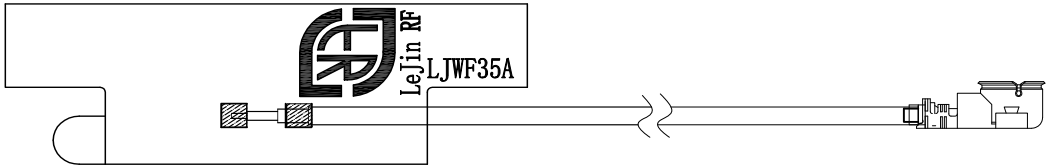
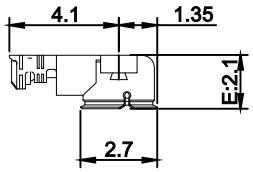
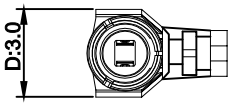
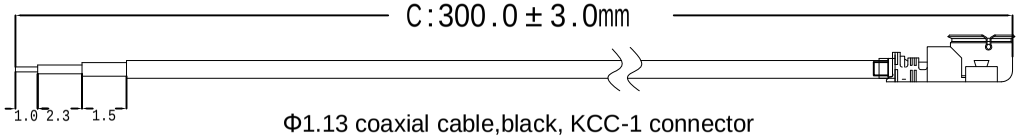
RoHS
Compliant
G P











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

Remark:

1.FPC material:Electrolytic copper.
2.Backing in behind:3M300LSE.
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.

Rev	Description	Date	Remark
A	New drawing		

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SHEN ZHEN LEJIN RADIO FREQUENCY CO.,LTD

Third Angle				Project	Creality 3D	Date	2024-12-27
0～10	±0.05	○	0.02	Part Name	WIFI ANT	Designed by	
10～18	±0.10	◎	∅0.03	Part No.		Checked by	MD
18～30	±0.12	⊥	0.02				RF
30～40	±0.15	▱	0.04	Material			
40～	±0.20	Angle	±0.5°	Treatment	LJF02-24122708-R0A	Approved by	
Location						Unit mm	Scale FIT Rev A