Shenzhen Lejin radio frequency technology Co., LTD

SPECIFICATIONS FOR APPROVAL

Customer Name: SHENZHEN ELECTRON TECHNOLOGY CO.,LTD

Product Name: WIFI Antenna

Product Model: NW2196T

Part Number: LJF02-22062308-R0A

Write By : Huxuwen

Issued Date: 2022-06-23

CUSTOMER

ENGINEER R&D DEPT	BUSSINESS DEPT	APPROVAL
		terry.wang

LEJIN

R&D DEPT	ENGINEER DEPT	APPROVAL
		mary.Li

REV	MODIFIED DESCRIPTION	DATE	REMARK
V1.0	Initial Draft Release	2022/06/23	

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	⩾35%
Impedance	50Ohm
Polarization	Linear
Gain(2.4GHz)	⩽2.27dB
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(White),LJWF51BAA
Cable Type	Φ1.13mm,L280mm,Black
Connector Type	IPX1
Dimension	40.0*20.mm
C. Environmental	
Operation Temperature	- 20 ˚C ~ + 70 ˚C
Storage Temperature	- 30 ˚C ~ + 85 ˚C
Humidity	40%~95%

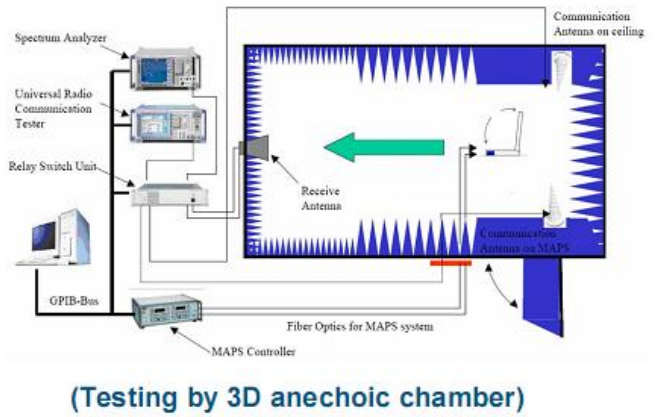
4.Test Equipment & Conditions

1.Network Analyzers Agilent 8753D/5071C

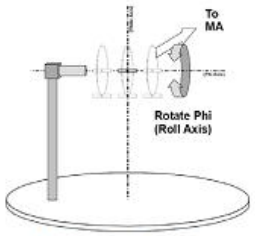
2.HSPA and LTE protocol test set R&S CMW500 -PT

3.Communications Test Set Agilent 8960

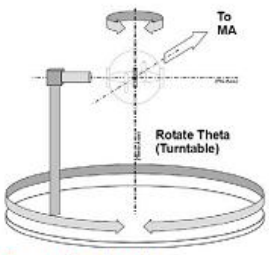
4.3D Chamber Test System



(Testing by 3D anechoic chamber)



Phi axis test



Theta axis test

Chart 1 Test topology

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5.Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

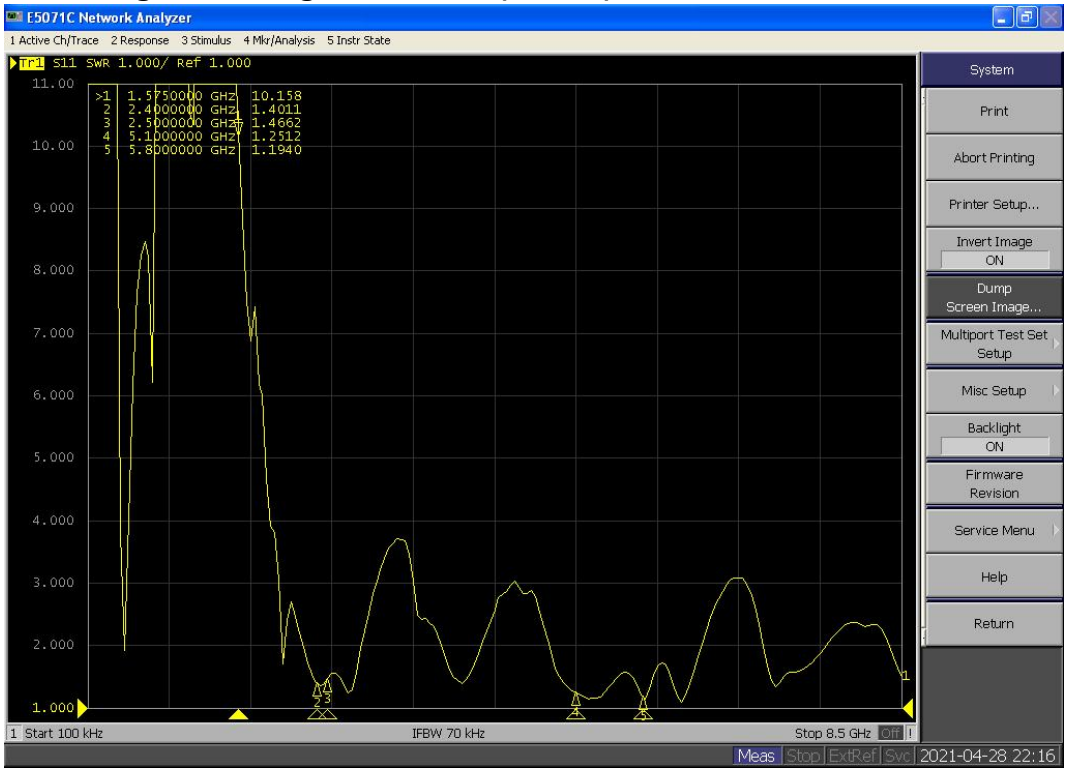
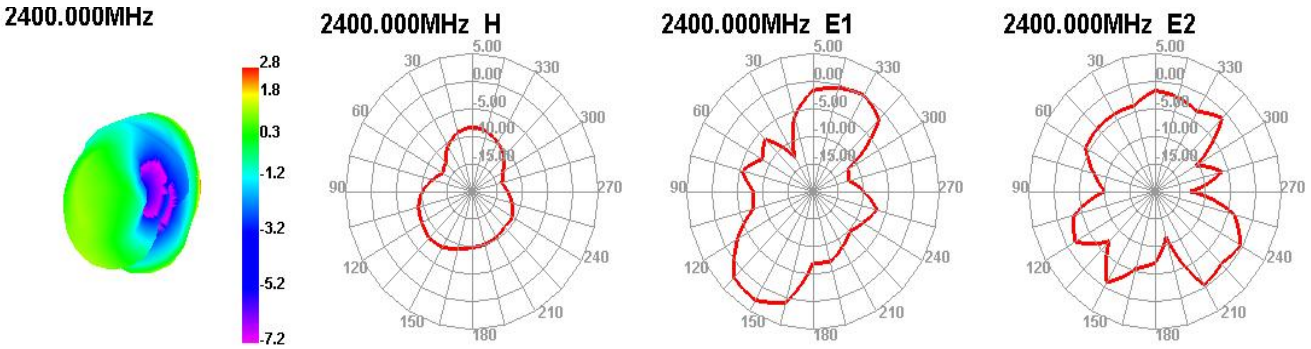


Chart 2 VSWR

5.2 Efficient and gain.

Passive Test For 2.4G	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
	Effi(%)	42.92	48.42	45.89	49.73	45.98	49.52	47.16	50.01	43.90	43.55	41.54
	Gain(dBi)	1.92	2.00	2.05	2.16	2.13	2.27	2.03	2.15	2.25	2.14	1.88

5.3 Radiation pattern.



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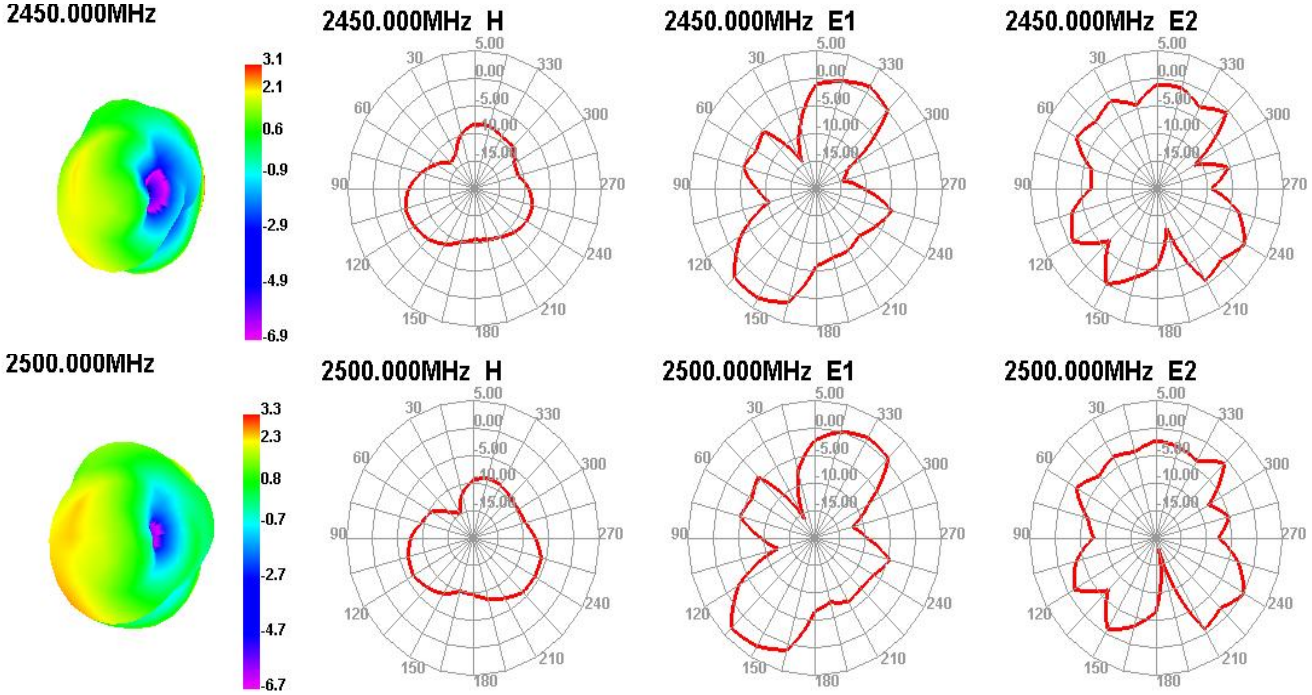

6.Reliability Test

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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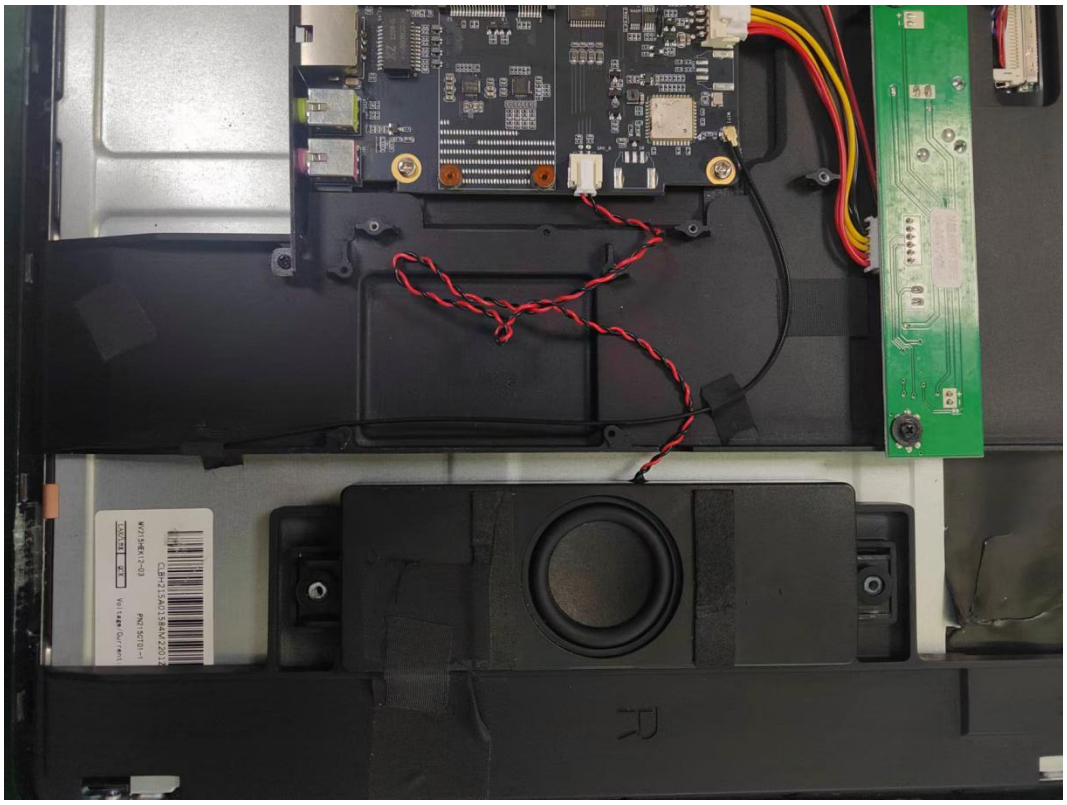

Chart 3 NW2196 assemble type(overall,wifi1)

Chart 4 NW2196 assemble type(wifi1)

8.Product Drawing

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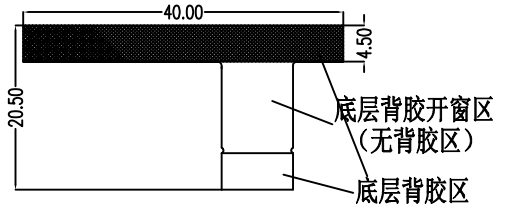
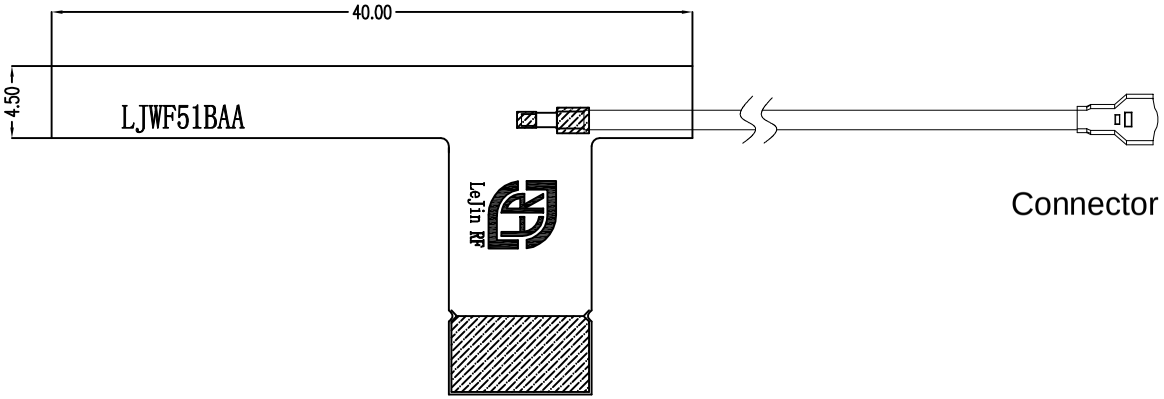
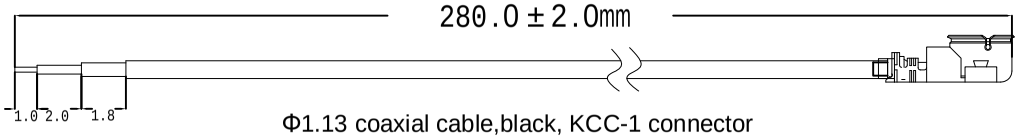
RoHS
Compliant
G P

底层补强板（补强板需带背胶）尺寸：4.5*40*0.25 FR4





Connector direction:DOWN



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

Remark:

1.FPC material:Electrolytic copper，PCB：FR4.

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.

Revise record				
	1			
	2			
	3			

Rev	Description	Date	Remark
A	New drawing		

SHEN ZHEN LEJIN RADIO FREQUENCY CO.,LTD

Third Angle				Project	ELC	Date	2022-06-18
0～10	±0.05	○	0.02	Part Name	WIFI ANT	Designed by	
10～18	±0.10	◎	⌀0.03	Part No.	NW2193/2198	Checked by	MD
18～30	±0.12	⊥	0.02	Material			RF
30～40	±0.15	▱	0.04	Treatment	LJF02-22062308-R0A	Approved by	
40～	±0.20	Angle	±0.5°			Unit mm	Scale FIT Rev A
Location							