Shenzhen Lejin radio frequency technology Co., LTD

SPECIFICATIONS FOR APPROVAL

Customer Name: SHENZHEN ELECTRON TECHNOLOGY CO.,LTD

Product Name: WIFI Antenna

Product Model: NW2193

Part Number: LJF02-22051208-R0A

Write By : Huxuwen

Issued Date: 2022-05-12

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	2022/05/12	

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 5150MHz ~5850 MHz
VSWR	<2.0
Efficiency	⩾40%
Impedance	50Ohm
Polarization	Linear
Gain(2.4GHz)	⩽2.23dB
Gain(5.8GHz)	⩽2.64dB
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(Black),LJWF29A
Cable Type	Φ1.13mm,L255mm,Black
Connector Type	IPX1
Dimension	43.0*11.5mm
C. Environmental	
Operation Temperature	- 20 ˚C ~ + 70 ˚C
Storage Temperature	- 30 ˚C ~ + 85 ˚C
Humidity	40%~95%

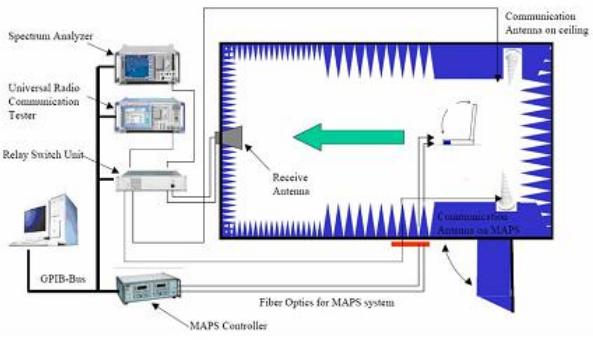
4.Test Equipment & Conditions

1.Network Analyzers Agilent 8753D/5071C

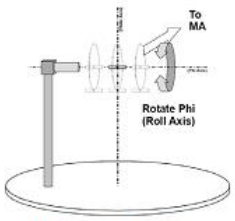
2.HSPA and LTE protocol test set R&S CMW500 -PT

3.Communications Test Set Agilent 8960

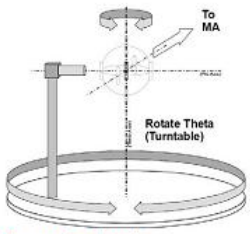
4.3D Chamber Test System



(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).

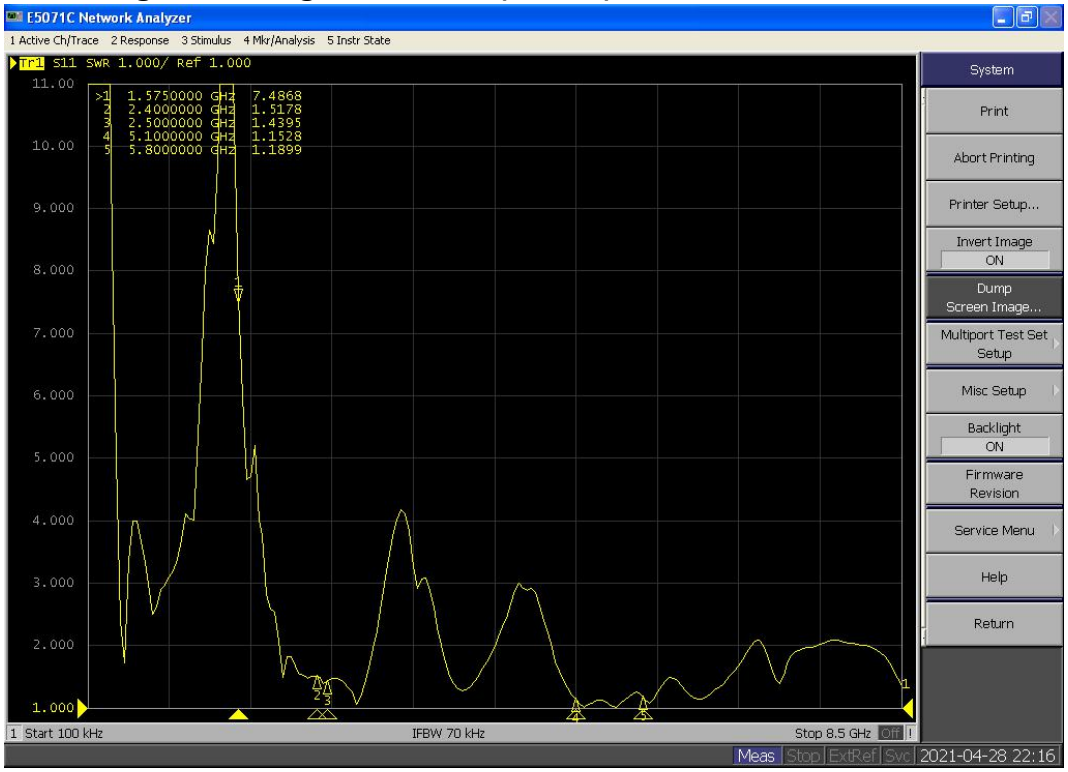


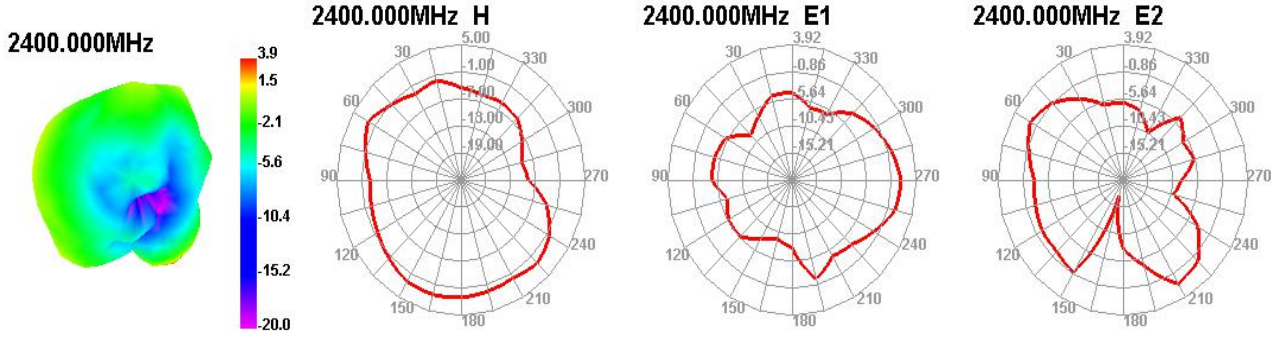
Chart 2 VSWR

5.2 Efficient and gain.

Passive Test For 2.4G	Freq(MHz)	**2400**	**2410**	**2420**	**2430**	**2440**	**2450**	**2460**	**2470**	**2480**	**2490**	**2500**
	Effi(%)	48.65	55.12	51.58	55.84	51.49	54.57	50.45	56.21	52.15	52.68	46.03
	Gain(dBi)	1.88	1.96	2.01	2.12	2.09	2.23	1.99	2.11	2.21	2.10	1.84

Passive Test For 5G	**Freq(MHz)**	**5150**	**5200**	**5250**	**5300**	**5350**	**5400**	**5450**	**5500**	**5550**	**5600**	**5650**	**5700**	**5750**	**5800**	**5850**
	Effi(%)	47.85	48.82	51.75	53.35	55.98	54.08	57.78	53.08	49.82	51.80	52.04	49.69	53.35	49.12	50.36
	Gain(dBi)	2.17	2.26	2.12	2.36	2.15	2.33	2.26	2.64	2.24	2.44	2.56	2.37	2.15	2.22	2.12

5.3 Radiation pattern.



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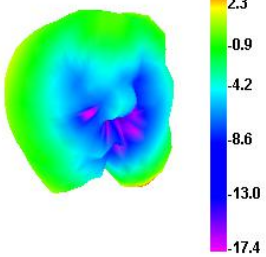
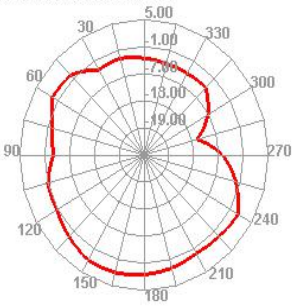
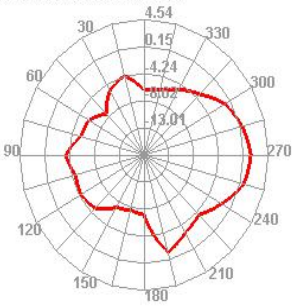
2450.000MHz



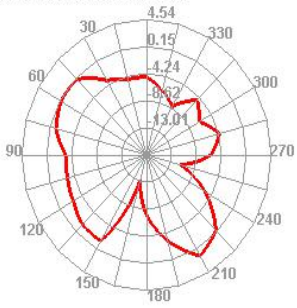
2450.000MHz H



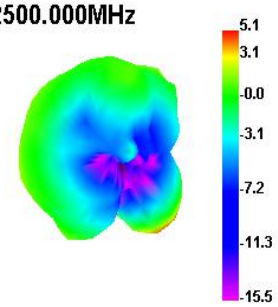
2450.000MHz E1



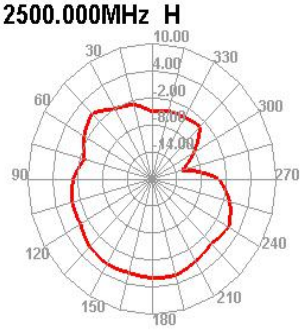
2450.000MHz E2



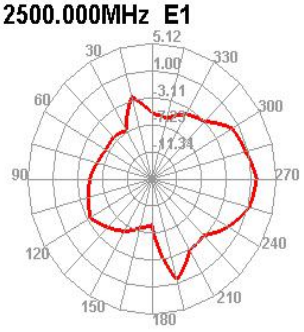
2500.000MHz



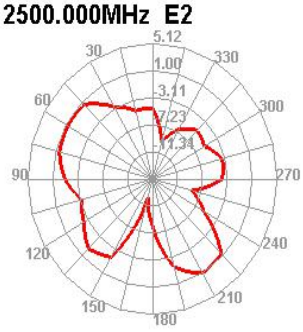
2500.000MHz H



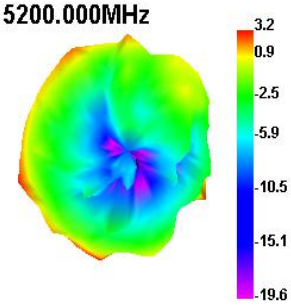
2500.000MHz E1



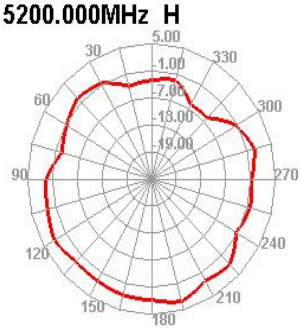
2500.000MHz E2



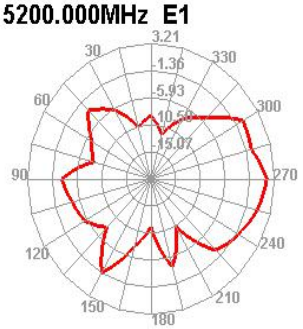
5200.000MHz



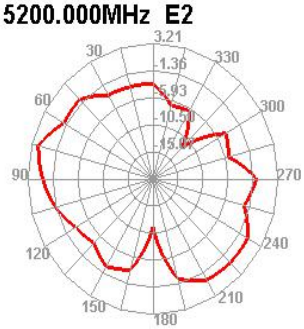
5200.000MHz H



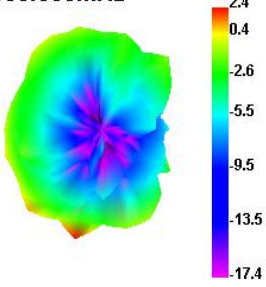
5200.000MHz E1



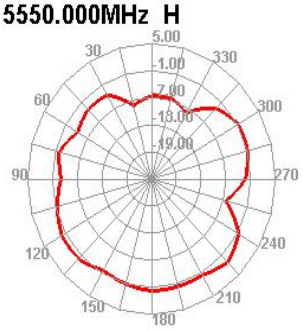
5200.000MHz E2



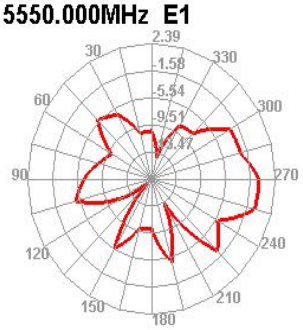
5550.000MHz



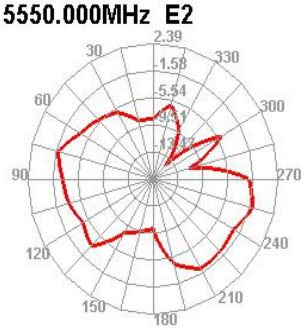
5550.000MHz H



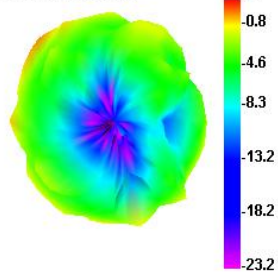
5550.000MHz E1



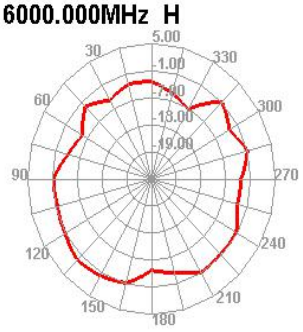
5550.000MHz E2



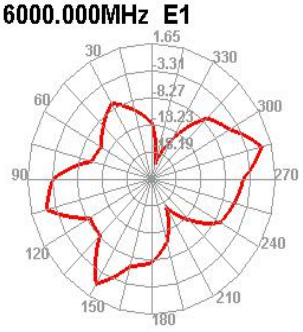
6000.000MHz



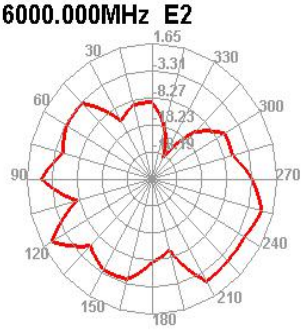
6000.000MHz H



6000.000MHz E1



6000.000MHz E2



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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

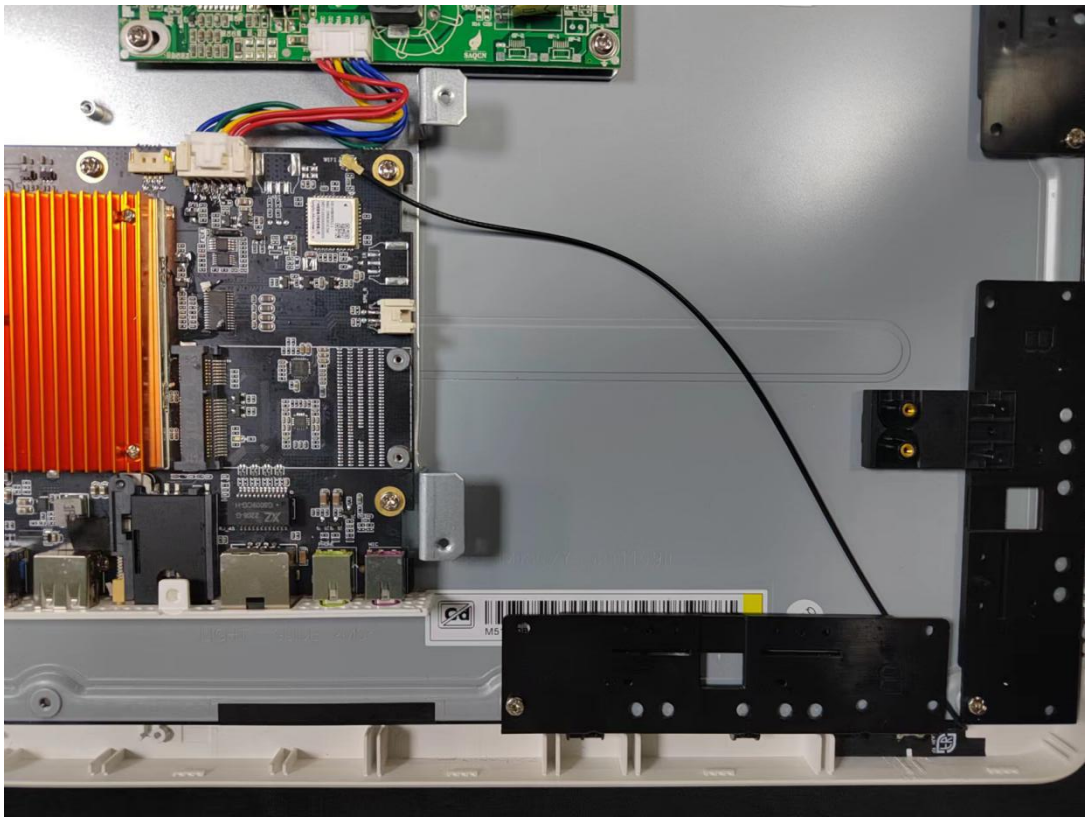

Chart 3 NW2493 assemble type

8.Product Drawing

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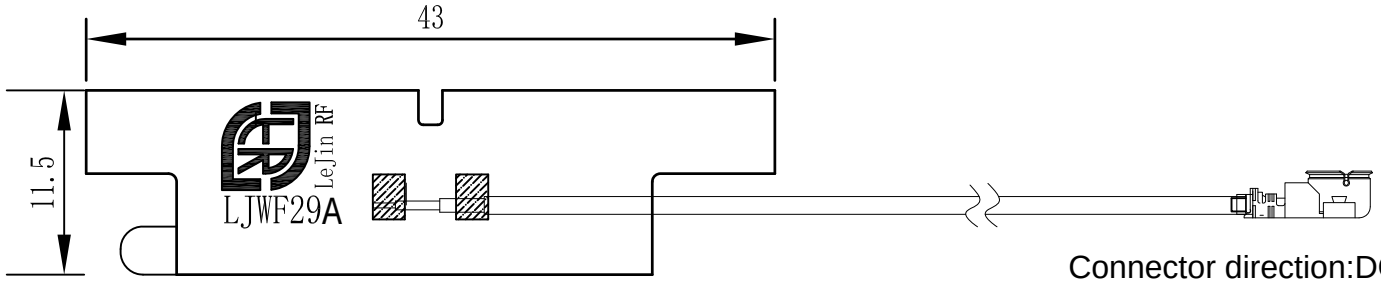
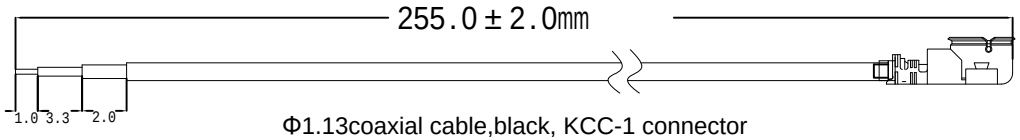
RoHS
Compliant
G P



Connector direction:DOWN



Φ1.13coaxial 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.

Revise record				
	1			
	2			
	3			

Rev	Description	Date	Remark
A	New drawing		

SHEN ZHEN LEJIN RADIO FREQUENCY CO.,LTD

Third Angle			
0～10	±0.05	○	0.02
10～18	±0.10	◎	⌀0.03
18～30	±0.12	⊥	0.02
30～40	±0.15	▱	0.04
40～	±0.20	Angle	±0.5°
Location			

Project	ELC	Date	2018-10-27
Part Name	WIFI ANT	Designed by	
Part No.	NW2493	Checked by	MD / RF
Material			
Treatment	LJF02-22051208-R0A	Approved by	
		Unit: mm	Scale: FIT / Rev: A