



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
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LEJIN

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		mary.Li

REV	MODIFIED DESCRIPTION	DATE	REMARK
V1.0	Initial Draft Release	2022/05/12	



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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 | |

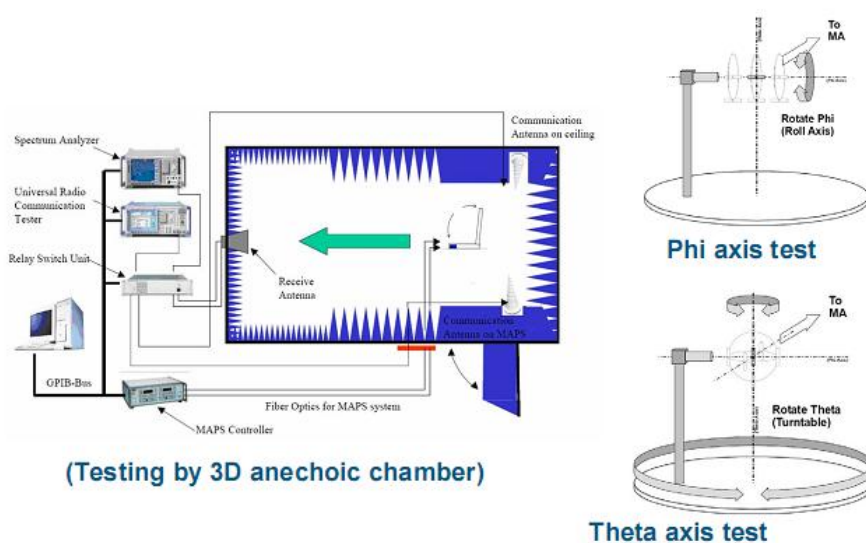


Chart 1 Test topology

5.Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

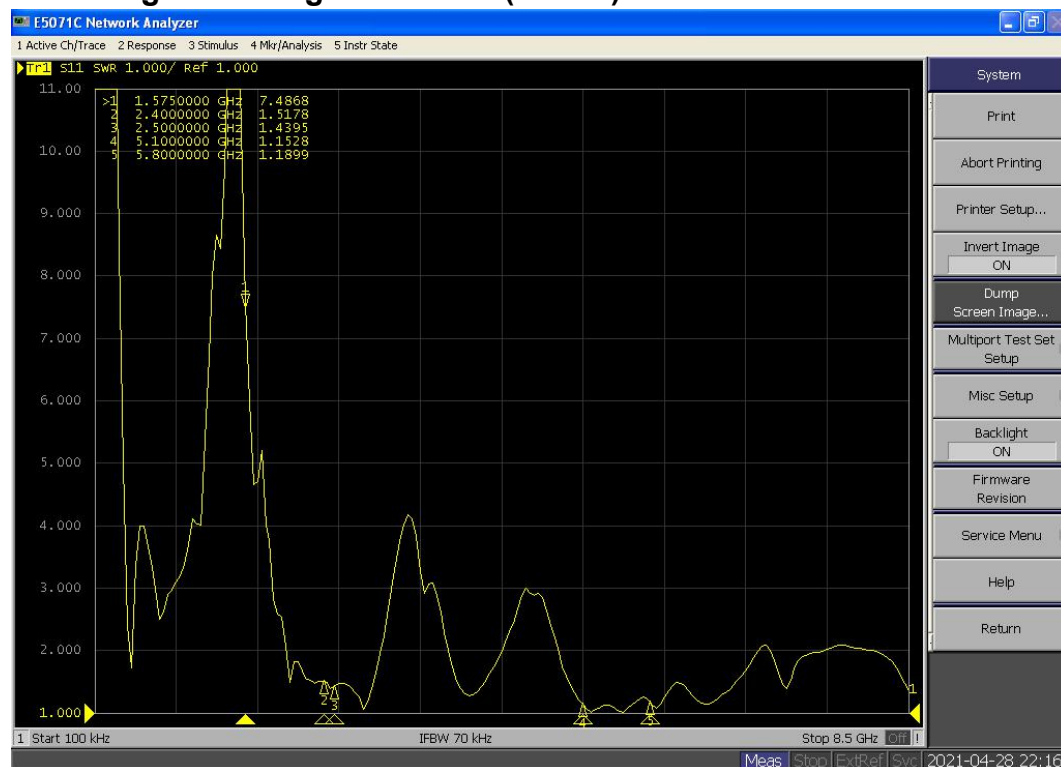


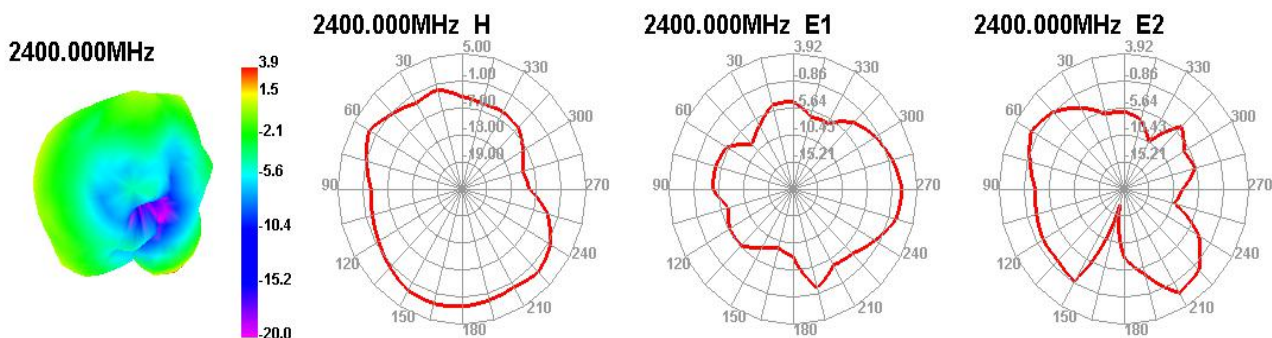
Chart 2 VSWR

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

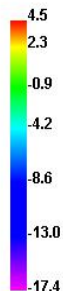
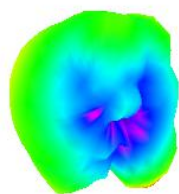
Passive Test For 5G	Freq(MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850
	Effi(%)	47.85	48.82	51.75	53.35	55.98	54.08	57.78	53.08	49.82	51.80	52.04	49.69	53.35	49.12	50.36
	Gain(dBi)	2.17	2.26	2.12	2.36	2.15	2.33	2.26	2.64	2.24	2.44	2.56	2.37	2.15	2.22	2.12

5.3 Radiation pattern.

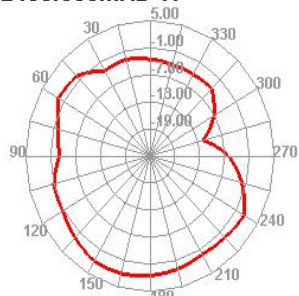




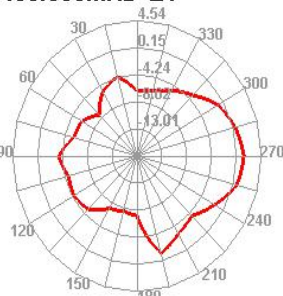
2450.000MHz



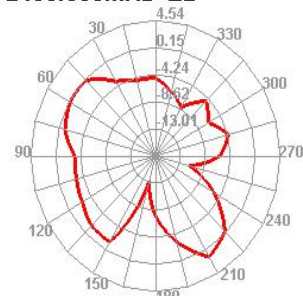
2450.000MHz H



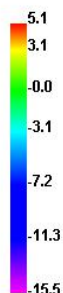
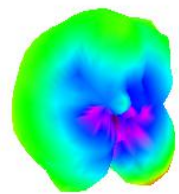
2450.000MHz E1



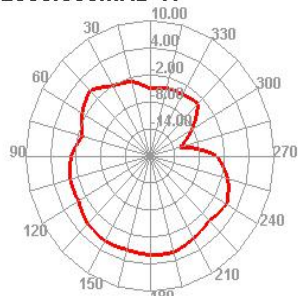
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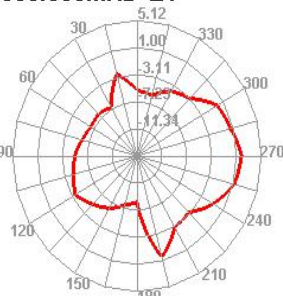
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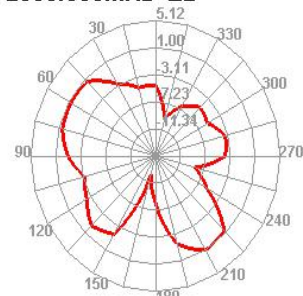
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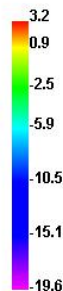
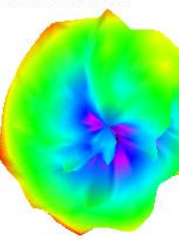
2500.000MHz E1



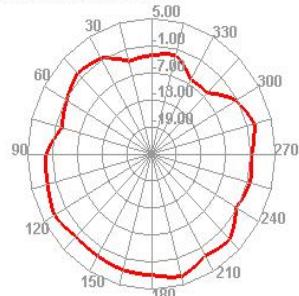
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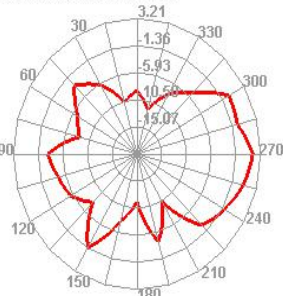
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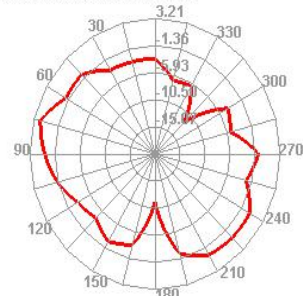
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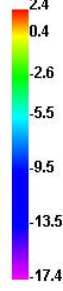
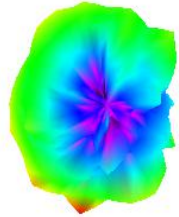
5200.000MHz E1



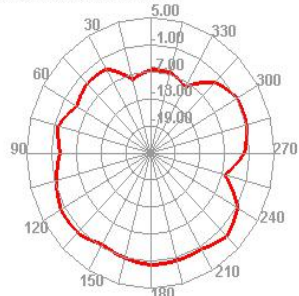
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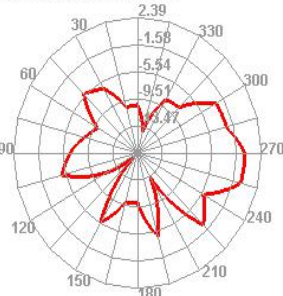
5550.000MHz



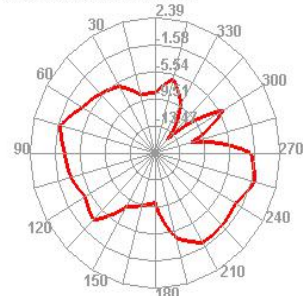
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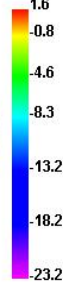
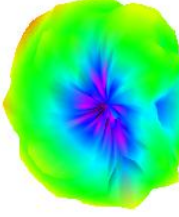
5550.000MHz E1



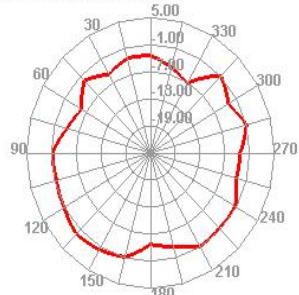
5550.000MHz E2



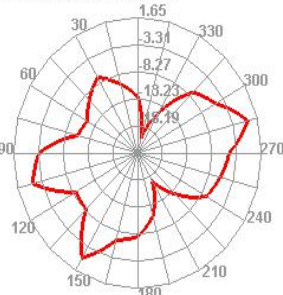
6000.000MHz



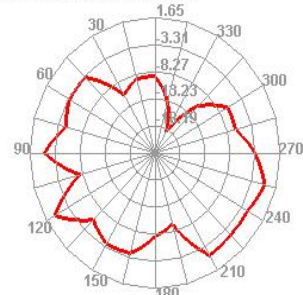
6000.000MHz H



6000.000MHz E1



6000.000MHz E2



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.&Humidity 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.&Humidity Tester	No material deformation is allowed. Electronic Performance is ok.	PASS
3 Salt-Spray 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 appearance rusting	PASS

7. Assemble type

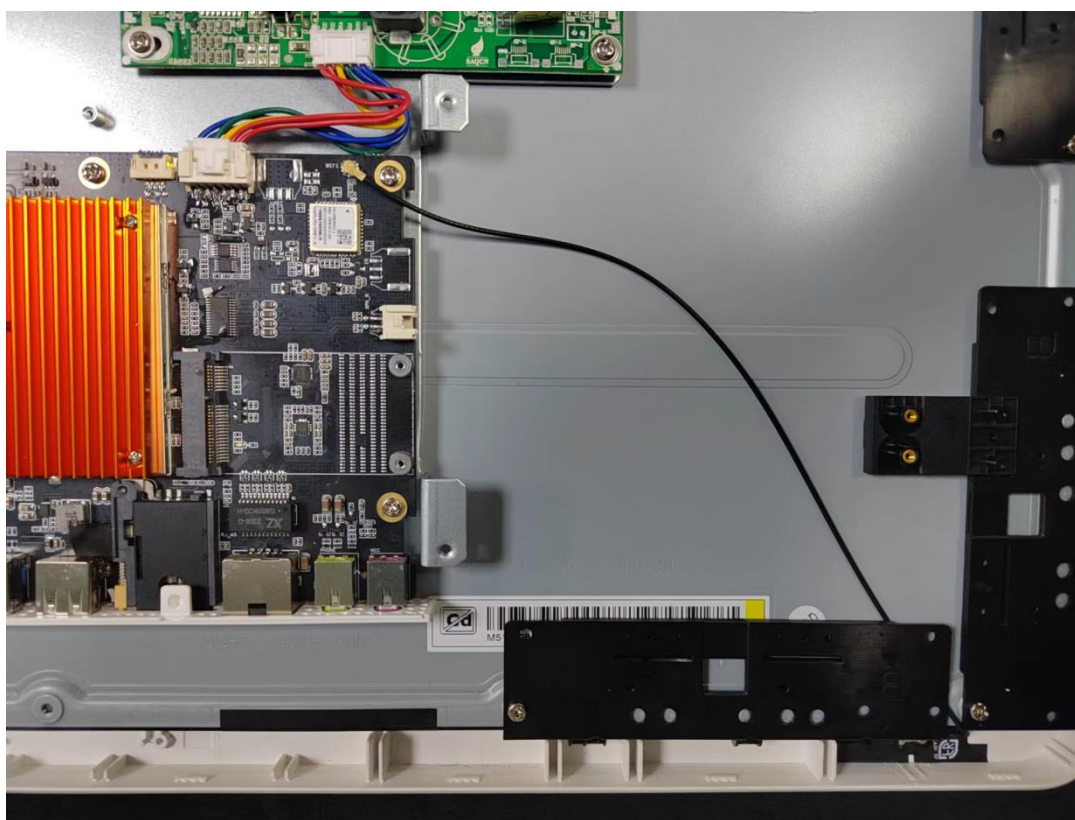
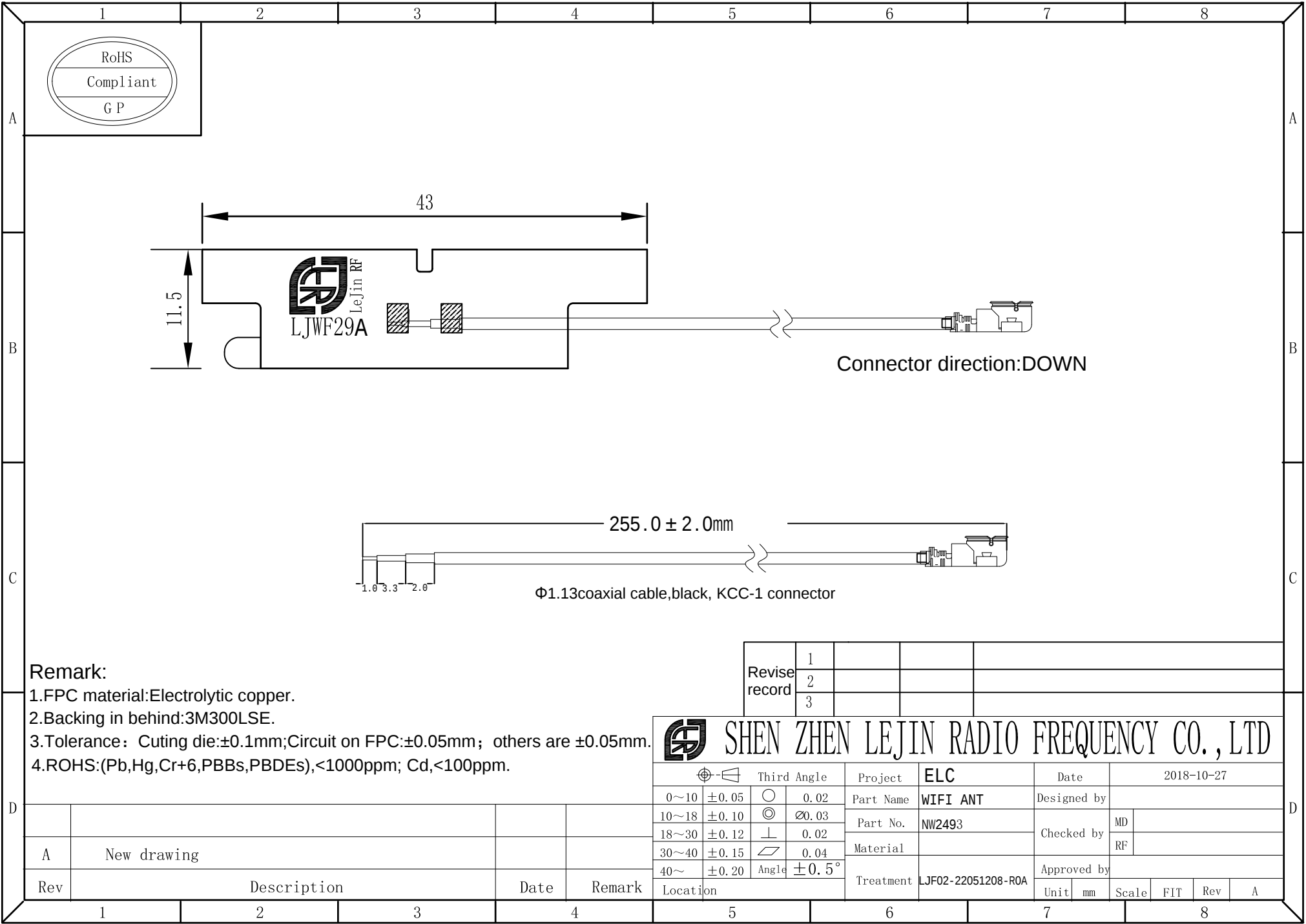


Chart 3 NW2493 assemble type

8. Product Drawing



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.

Revise record	1			
	2			
	3			

		SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD			
	Third Angle	Project	ELC	Date	2018-10-27
0~10	±0.05	○	0.02	Part Name	WIFI ANT
10~18	±0.10	◎	Ø0.03	Part No.	NW2493
18~30	±0.12	⊥	0.02	Material	
30~40	±0.15	▤	0.04		
40~	±0.20	Angle	±0.5°	Treatment	LJF02-22051208-ROA
Location				Approved by	
		Unit	mm	Scale	FIT
				Rev	A

A	New drawing			
Rev	Description	Date	Remark	