



Shenzhen Lejin radio frequency technology Co., LTD
Building 16, Factory Area, Junfeng Industrial Park, Chongqing Road,
Heping Community, Fuhai Subdistrict, Bao'an District, Shenzhen City

Antenna specification sheet

Customer Name: Zhiwei

Product Name: WIFI 2.4G+5G

Product Model: NT108Y

Part Number: LJF02-210823002A-R0A

Write By : Li Mingjin

Issued Date: 2021/8/23

CUSTOMER				
ENGINEER R&D DEPT	BUSSINESS DEPT	APPROVED BY	DATE	Edition/Part number

LEJIN				
R&D DEPT	ENGINEER R&D DEPT	APPROVAL	DATE	Edition/Part number

ECN/ECR			



Index

- 1、 Cover
- 2、 Index
- 3、 Product Specification
- 4、 Test Equipment & Conditions
- 5、 Test Report
- 6、 Antenna Picture
- 7、 Transmission line Specification
- 8、 Product Drawing

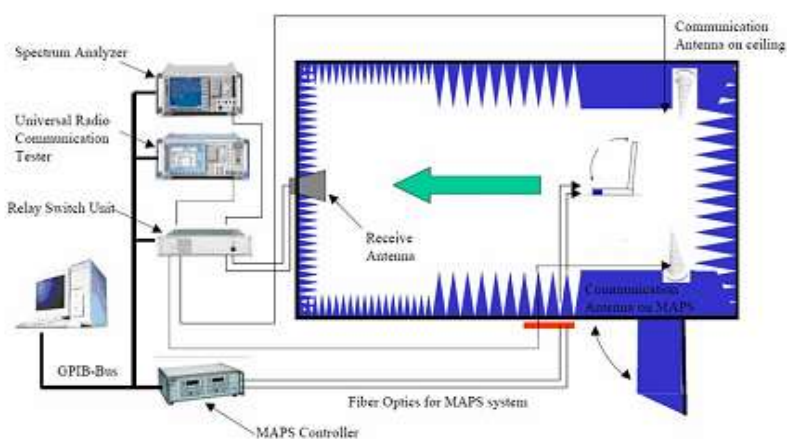
Electrical Characteristics

Frequency	VSWR	Efficiency	Impedance	Polarization	Gain
2400 MHz ~2500 MHz	<2	>45%	50 Ohm	Linear	≥ 1 DB
5100MHZ--5900 MHZ	<2.5	>50%	50 Ohm	Linear	≥ 1 DB

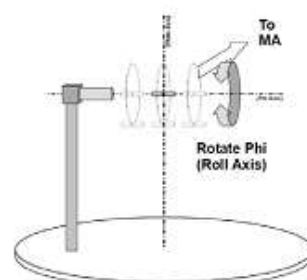
Material & Mechanical Characteristics				Environmental	
Material of Radiator	Cable Type	Connector Type	Dimension	Operation Temperature	Storage Temperature
FPC black	081Black	IPX_4		- 20 °C ~ + 50 °C	- 30 °C ~ + 80 °C

Test Equipment & Conditions

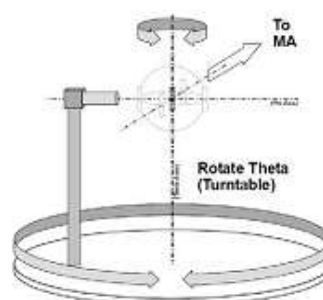
1. Network Analyzers :Agilent 8753SE 5071C
2. Communications Test Set:Agilent E5515C/CMW500
3. 3D Chamber Test System(ETS743)



(Testing by 3D anechoic chamber)

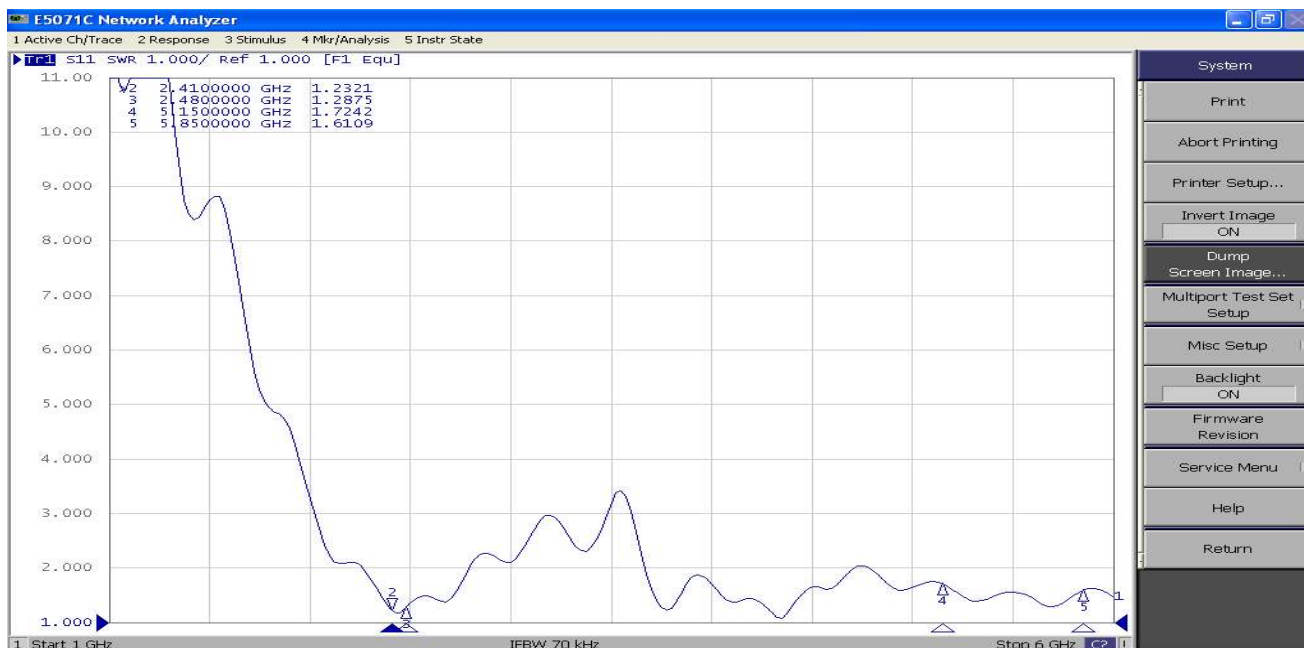


Phi axis test



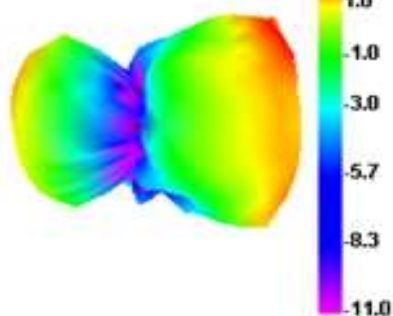
Theta axis test

Antenna Impedance: WIFI ANT A:

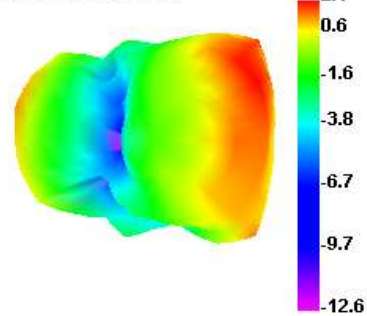


2.4G (Wifi and BT)	Freq (MHz)	2400	2410	2420	2430	2450	2460	2470	2480	2490	2500	ANT M
	Effi (%)	45.5	43.45	44.58	39.99	42.45	43.58	48.85	41.47	48.99	44.85	
	Gain (dBi)	2.25	2.35	2.48	3.07	3.35	2.78	3.85	2.44	2.56	2.98	
5G WIFI	Freq (MHz)	5150	5250	5350	5450	5550	5650	5750	5850	5950	6000	
	Effi (%)	48.71	49.95	45.8	50.2	49.97	58.51	55.53	56.58	55.45	57.65	
	Gain (dBi)	2.75	1.08	1.35	1.78	1.21	2.02	2.57	2.08	2.22	2.72	

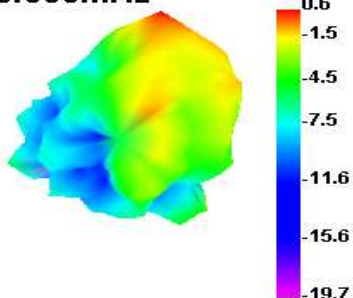
2400.000MHz



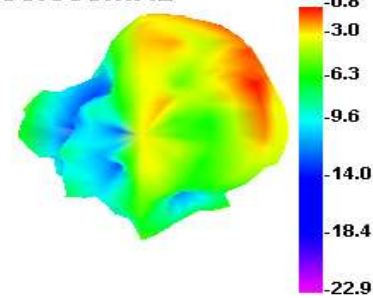
2480.000MHz



5150.000MHz



5350.000MHz

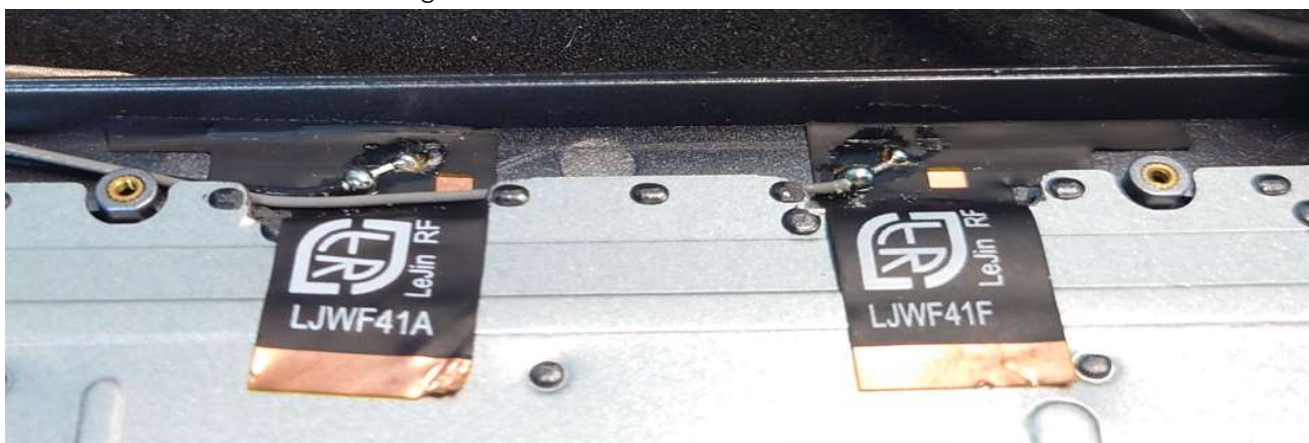


OTD_DATA:(The following OTD_DATA was obtained through testing of the antennas in this specification. If the antenna is replaced or the installation method of the antenna is changed, the following OTD_DATA will become invalid. When testing WIFI, Bluetooth is in a disabled state.)

2.4G 802.11.B @11Mbit		
Frequency	TRP (dBm)	TIS (dBm)
1 (2412MHz)	14.38	-77.25
6 (2437MHz)	13.85	-76.37
13 (2472MHz)	12.22	-74.25

2.4G 802.11.A(ODF) @54		
Frequency	TRP (dBm)	TIS (dBm)
1 (2412MHz)	12.14	-63.68
6 (2437MHz)	11.08	-63.25
13 (2472MHz)	12.28	-64.09

Antenna installation and handling



main antenna

diversity antenna



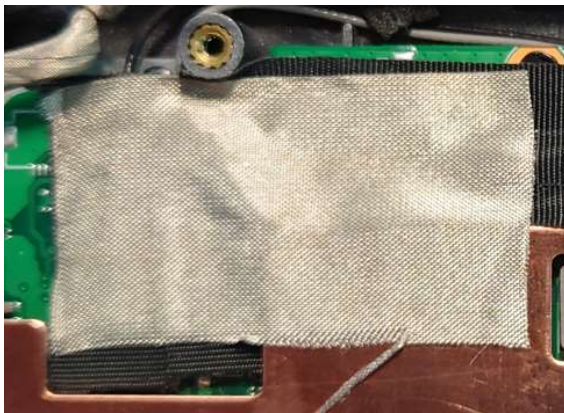
The RF cables of the diversity antenna need to be placed strictly as shown in the diagram to avoid touching the bandwidth lines or radiation arms of the main antenna.



After installing the motherboard, secure the RF cables with EVA to prevent any movement.



Isolate the WIFI module and the component pads on the PCB with insulating cloth.



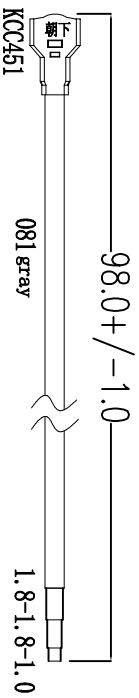
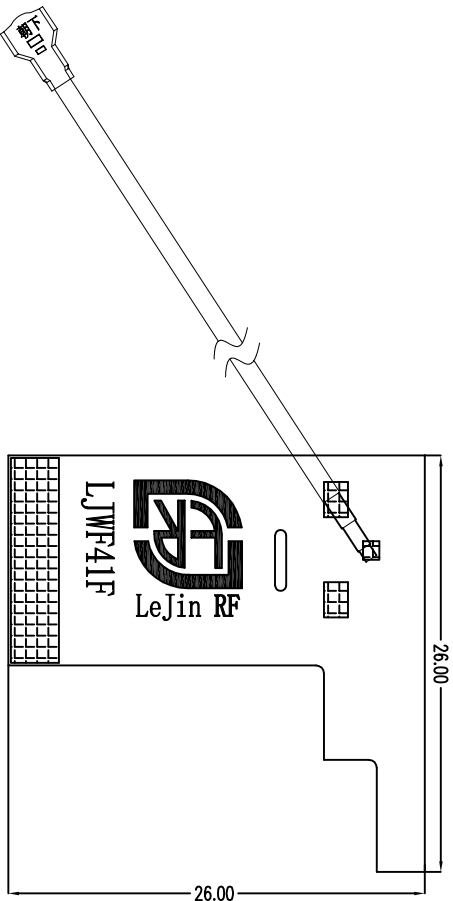
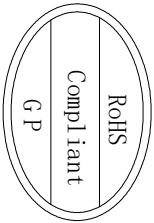
WIFI module shielding and connection to the heat sink

Shield the LCD cable and sensor connection line and then lower them all to the heat sink.



The processing method of the mainboard

Antenna engineering drawing



SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD

0~10	±0.05	○	0.02	Project	ZW-PC-NT108Y	Date	2021-08-23
------	-------	---	------	---------	--------------	------	------------

10~18	±0.10	◎	Ø0.03	Part Name	WIFI_A	Designed by	
-------	-------	---	-------	-----------	--------	-------------	--

18~30	±0.12	⊥	0.02	Part No.		Checked by	MD
-------	-------	---	------	----------	--	------------	----

30~40	±0.15	∇	0.04	Material	LJF01-210823002B-R0A	RF	
-------	-------	---	------	----------	----------------------	----	--

40~	±0.20	Angle	±0.5°	Treatment	LJF02-210823002A-R0A	Approved by	
-----	-------	-------	-------	-----------	----------------------	-------------	--

Location	5	6	7	8
----------	---	---	---	---

Rev	1	2	3	4	5	6	7	8
-----	---	---	---	---	---	---	---	---