Shenzhen Tianlu Tong Electronics Co., Ltd

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SHENZHEN TLT COMMUNICATION CO.,LTD.

A 863-7 JLS antenna

Product recognition

customer	Wei heng	Band range	WIFI 2.4G
Mobile phone types	A 863-7JLS	edition	latest version
Project code	TLT 4607	ratify	
RF credence	Mao Hangzhou	RD credence	Tang Chunzheng
date	2020-10-14	date	2020-10-14

metric

1. The antenna parameters

This report provides test conditions for various electrical and structural performance in mobile phone testing.

Electrical parameters

1.1.1 Assessment of electrical performance

The frequency band range of the antenna is 2.40 G to 2.48 G. The table below is the basic parameters of the electrical performance of the antenna.

WIFI Frequency Range			
Frequency Range	Frequency (MHz)	V SWR	Gain (dBi)
	T X		Free Space
WIF I	2.40G~2.48G	≤3	≥0dBi ±0.5dBi

1.1.2, matching circuit diagram

Using the original matching circuit diagram on the PCB board

1.2, and the structural parameters

The structure diagram file is attached below

1.2.1 Antenna assembly

The antenna ial axial connection FPC composition

1.2.2, Performance test requirements

test item	description	Acceptance criteries
1. Low temperature test	**temperature:-20℃** **Time: 24 hours**	1. No obvious damage 2. The electrical performance meets the standard
2. High-temperature test	temperature.: 80℃ **Time: 24 hours**	1. No obvious damage 2. The electrical performance meets the standard
3. Salt spray test	**5 ± 0.1% salt spray** **PH value: 6.5-7.2** **temperature:35±1℃** **Time e: 24 hours**	1. No color change 2. No obvious cracks in the appearance
4. Environmental adaptability test	**Total value of Pb < Hg < Cr+6 < Cd in packing materials is smaller thall 50PPM** **Pb < Hg < Cr+6 < PBB s < PBDEs in components are smaller than 500PPM, Cd is smaller than 50PPM**	

2. Test

The antenna is installed in the customer-provided equipment for testing. FIG. 3 describes the electrical performance of the antenna as installed in the equipment
test.

summary

VSWR test

test connection

Device connection sequence for testing VSWR: AgilentE 5062A, network analyzer test the prototype provided by the customer

.1.22 VSWR

The following table below describes the value of the voltage wave ratio of the antenna at both endpoints of the frequency band, involving the figure of the return loss and the wave ratio, please refer to Figure 4.

WIFI VSWR		
Freq uency (MHz)	**2.40G**	**2.48G**
V SWR	**2.2**	**1.4**
Return Loss	**-8.4**	**-14.9**

.22 Gain and power testing

2.2.1 Test environment

Tianlux microwave dark chamber: the test frequency range is 800MHz to 6GHz, reflecting less than-50dB from 800 MHz to 6GHz in a 50cm diameter spherical area.

2.2.2 Test the equipment

Agilent 8960 (5515C), Network Analyzer (E 5062A) Communication test device, dipole antenna, French Satimo antenna test system, printer, etc.

Freque ncy (GHz)	**2.40G**	**2.45G**	**2.48G**
Gain (dBi)	1.34	1.98	1.92
Efficiency (%)	35.96	40.84	40.44

3. Summary

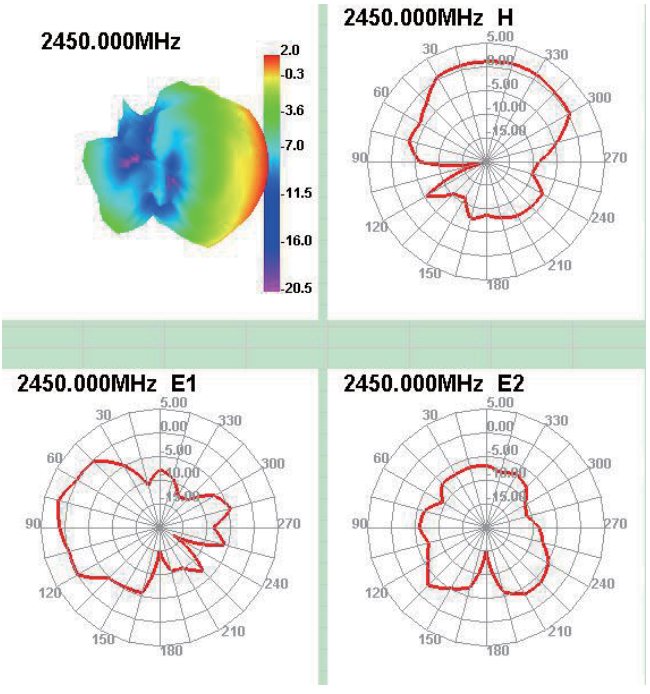
The antenna is designed according to the mobile phone sample provided by the customer. The electrical parameters and result performance of the antenna meet the standard, so we believe that you will be satisfied.

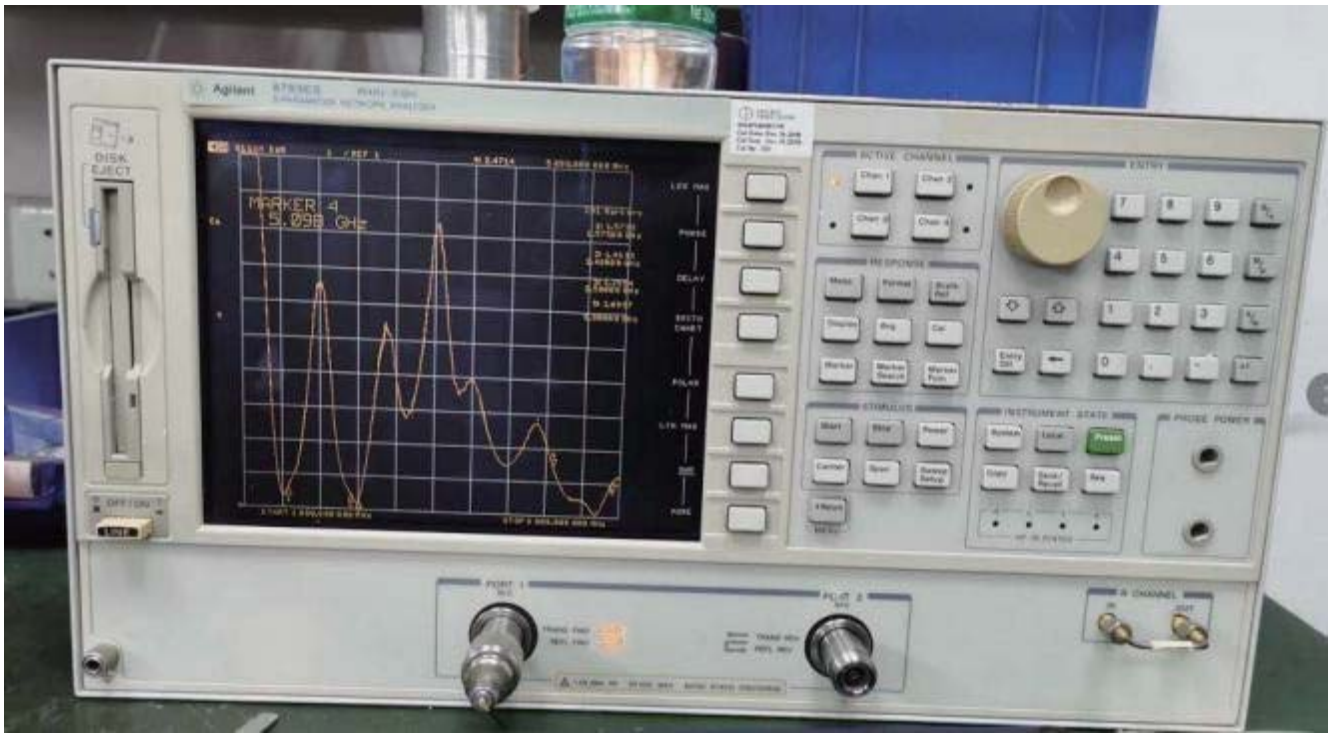
4. Additional graphics

4.1 Drawing of return loss and voltage standing wave ratio parameters

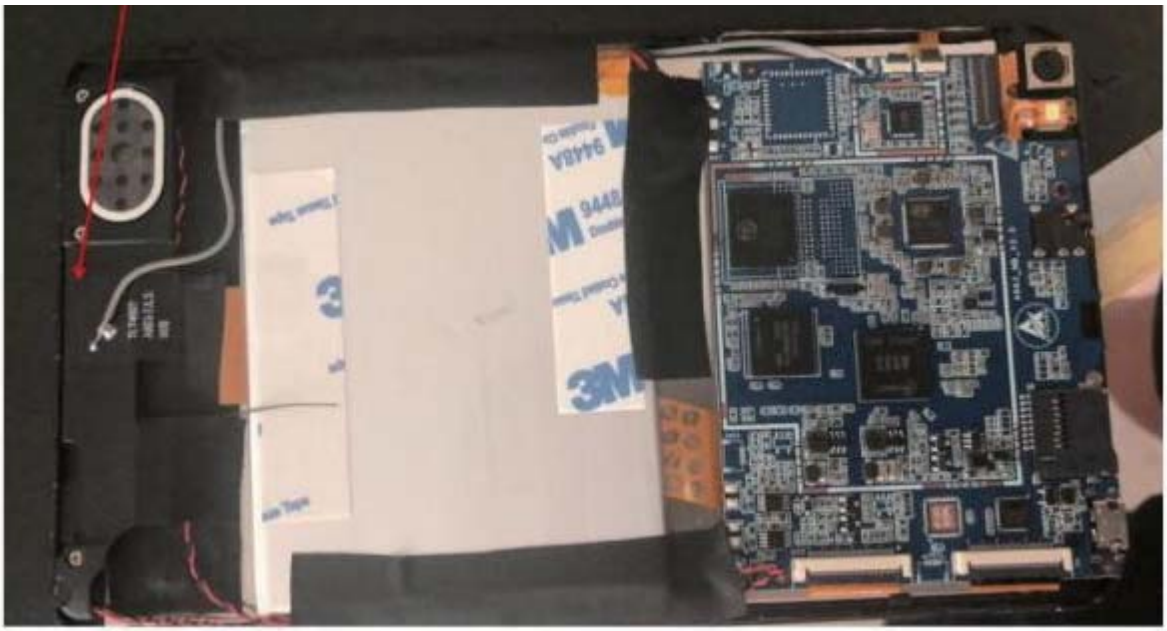
5-3.WIFI Antenna Gain/Efficiency/Radiation Pattern of 3D

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	35.96	-4.44	1.34
2410	39.59	-4.02	1.79
2420	38.03	-4.2	1.61
2430	39.68	-4.01	1.85
2440	38.52	-4.14	1.78
2450	40.84	-3.89	1.98
2460	38.38	-4.16	1.7
2470	41	-3.87	1.9
2480	40.44	-3.93	1.92




Agilent
DISK EJECT
MARKER 4
5.098 GHz

3.1WIFI 场测：测试环境：空旷环境，距离我司路由器 18 米，测试如下：



4.3 Structure 2D Fig