SHENZHEN TLT COMMUNICATION CO.,LTD.

HV3126C antenna
Product Specification

Customer	Moxin	Frequency range	WIFI 2.40G
Mobile phone type	HV3126C	Version	Latest version
Project code	TLT4904	Approve	
RF designer	Mao Hangzhou	RD designer	Liang Jingshi
Date	2022-2-11	Date	2022-2-11
Customer Information:			

Content

1. Antenna Parameters

This report mainly provides test conditions and results for various electrical and structural properties in mobile phone testing.

1.1 Electrical parameters

1.1.1 Electrical performance evaluation

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

WIFI/BT Frequency Range			
Frequency Range	Frequency (MHz)	VSWR	Gain (dBi)
	TX		Free Space
WIFI	2.40G~2.48G	≤3	≥0dBi±0.75dBi

1.1.2 Matching circuit diagram

Use the original resistance matching circuit diagram on the PCB

1.2 Structural parameters

Structural drawings are attached as follows

1.2.1 Antenna Components

The antenna coaxial line is connected to the FPC composition

1.2.2 Performance test requirements

Test items	Describe	Acceptance criteries
1. **Low temperature test**	**Temperature:**-20 ℃ **Time:**24 hours	1. No visible damage 2. Electrical performance up to standard
2. High temperature test	**Temperature:**80℃ **Time:** 24 hours	1. No visible damage 2. Electrical performance up to standard
3. Salt spray test	5±0.1% salt spray PH value: 6.5-7.2 **Temperature:**35±1℃ **Time:** 24 hours	1. No color change 2. No obvious cracks in appearance
4. Environmental suitability test	Total value of Pb、Hg、Cr+6、Cd in packing materials is smaller thall 50PPM Pb、Hg、Cr+6、PBBs、PBDEs in components are smaller than 500PPM, Cd is smaller than 50PPM	

2. Test

The antenna is installed in the equipment provided by the customer for testing. Figure 3 depicts the electrical performance of the antenna as installed in the device test.

2.1 VSWR test

2.1.1 Test the connection

Equipment connection sequence for testing VSWR: AgilentE5062A network analyzer → test cable → customer-provided prototype

2.1.2 VSWR

The table below describes the VSWR values of the antenna at both ends of the frequency band, referring to the graphs related to return loss and VSWR.

	WIFI-2.4G	
Frequency (MHz)	**2.4G**	**2.48G**
VSWR	**1.78**	**1.52**
Return Loss	**-11.2**	**-13.3**

2.2 Gain and Power Test

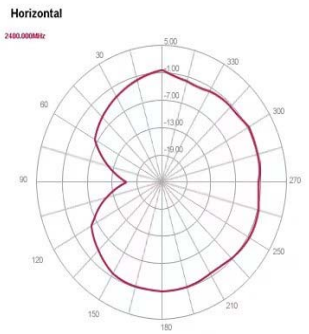
2.2.1 Test Environment

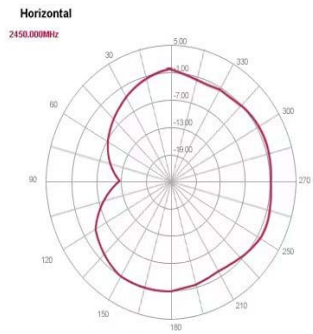
Tianlutong microwave anechoic chamber: The frequency range of the test is from 800MHz to 6GHz. In the 50cm diameter spherical area, the anechoic chamber reflects less than -50dB from 800MHz to 6GHz.

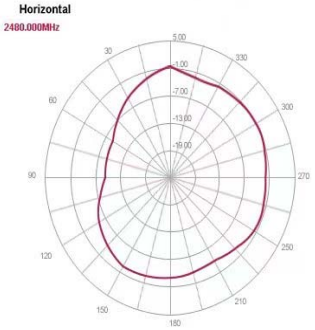
3.1 WIFI/BT天线增益效率

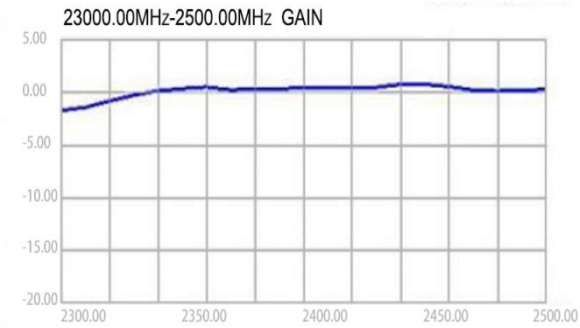
Passive Test For wifi

Freq (MHz)	Eff1 (%)	Eff1 (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
2300	26.93	-5.7	-1.73	-3.88	10.422	16.51	-1.73	-15.38	46.93	46.52
2310	29.22	-5.34	-1.44	-3.59	11.401	17.815	-1.44	-14.57	47.37	46.94
2320	31.9	-4.96	-0.82	-2.97	12.565	19.336	-0.82	-14.48	47.62	47.2
2330	34.53	-4.62	-0.29	-2.44	13.679	20.851	-0.29	-14.56	48.25	47.83
2340	37.04	-4.31	0.13	-2.02	14.767	22.27	0.13	-14.88	48.53	48.1
2350	37.72	-4.23	0.34	-1.81	15.114	22.605	0.34	-15.33	48.8	48.46
2360	38.65	-4.13	0.49	-1.66	15.537	23.113	0.49	-15.74	48.76	48.45
2370	36.61	-4.36	0.22	-1.93	14.779	21.835	0.22	-16.64	48.78	48.53
2380	38.1	-4.19	0.32	-1.83	15.376	22.727	0.32	-16.77	48.87	48.67
2390	38.86	-4.11	0.33	-1.82	15.599	23.258	0.33	-17.08	49.05	48.85
2400	40.15	-3.96	0.41	-1.74	16.111	24.043	0.41	-17.21	49.11	49.02
2410	40.72	-3.9	0.4	-1.75	16.262	24.462	0.4	-17.32	49.18	49.04
2420	40.92	-3.88	0.41	-1.74	16.24	24.678	0.41	-16.1	49.14	48.96
2430	40.51	-3.92	0.46	-1.69	15.958	24.55	0.46	-15.2	49.23	48.96
2440	42.41	-3.73	0.74	-1.41	16.686	25.723	0.74	-14.51	49.37	49.06
2450	41.78	-3.79	0.75	-1.4	16.45	25.33	0.75	-14.09	49.57	49.23
2460	39.76	-4.01	0.52	-1.63	15.728	24.031	0.52	-13.79	49.47	49.1
2470	36.84	-4.34	0.21	-1.94	14.67	22.174	0.21	-14.35	49.49	49.11
2480	35.78	-4.46	0.13	-2.02	14.227	21.549	0.13	-14.51	49.56	49.11
2490	35.56	-4.49	0.21	-1.94	14.123	21.437	0.21	-14.57	49.57	49.2
2500	32.87	-4.83	0.27	-1.88	12.966	19.903	0.27	-14.53	49.4	48.96









2.2.2 Test equipment

Agilent 8960 (5515C), network analyzer (E5062A) communication test device, dipole antenna, France Satimo antenna test system, printer, etc.

3. Summary

The antenna is designed according to the mobile phone samples provided by the customer. The electrical parameters and performance of the antenna are up to the standard. We believe that you will be satisfied.

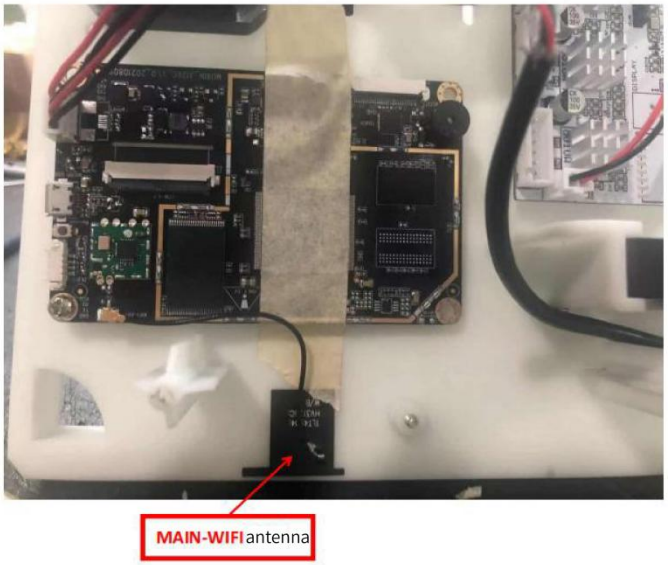
3. WIFI and BT test data

3.1 WIFI field test: test environment: open environment, 15 meters away from our router, the test is as follows:

2.4G-wifi display -41dBm; full signal

Product Number：TLT4904-HV3126C
Product Name：MID Phone Antenna

4.Antenna assembly and processing drawings



Product Number：TLT4904-HV3126C
Product Name：MID Phone Antenna

Antenna 2D file：