Shenzhen Aihui Technology Co., LTD

Antenna Sample Confirmation From

Vendor Name	ShenZhen Aihui Technology Co., Ltd				
Customer Name	ZKDIGIMAX PTE. LTD.				
Sample Name	85-T310				
Part Number	85#				
Specification	Line: (0.81) Black Line:185MM. 4-generation terminals				
Inspection Item	Performance	Total Appearance	structure	Others	Inspection Result
	OK	OK	OK	OK	Pass
Remark	None				
QA Audit	Alan Wang	Engineer Audit	Andy Gao	Sales Confirm	Jack Bu
The following are filled by Customer					
Customer Evaluation	None				
Signation/ Chapter by Customer	Bob Zhang date: 2023/12/10				

Address: 402, Building C, Juxin Science and Technology Industrial Park, Nanchang Community, Gushu, Xixiang, Baoan District, Shenzhen

TEL: 0755-23203435 FAX: 0755-23203435

Test by: ShenZhen Aihui Technology Co., Ltd

Material	**FPC+**coaxial cable		
Antenna Type	**FPCB Type**	**Polarization mode**	**Linear**
Application			
Band	**2400Mhz-2500Mhz** **5100Mhz-5850Mhz**	**VSWR**	**≤2**
Power	**Max：2W**	阻抗 **Impedance**	**50Ω**
dBi	**≥1dBi**		
Test Equipment	**HPE5071C、Shielding Room、3D automatic turntable**		

Antenna Description:：

1. Grounding processing and picture description: no

2. Need to change the motherboard to match: no

- Test voltage: 3.6V, check the antenna contact is good before testing.
- The RF cable of the integrated tester is kept in a natural state and can not be curled.

Specification:test the specified power level, all indicators must conform to the specifications.

1、Project picture

2、Test tool

3、Antenna matching circuit

4、S11 testing

5、Antenna passive efficiency and gain

6、Darkroom test equipment and data

6.0 test equipment

6.1 Active test data

7、Antenna assembly diagram

8、Antenna environmental treatment

9、Antenna mass production index

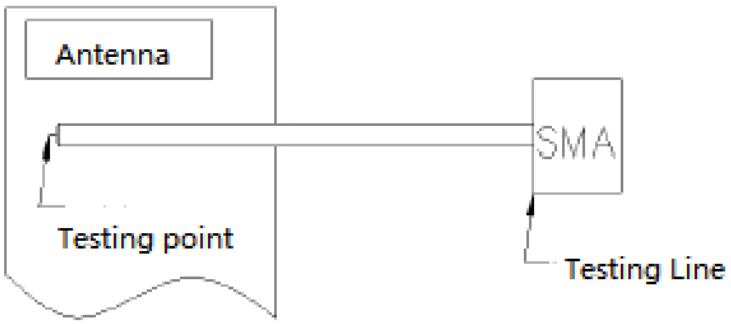
1、Project picture

Note: The customer's final verification antenna performance prototype is retained in our company for at least one year, which is convenient to analyze and solve the abnormal situation in the mass production of antennas, and ensure the quality of antenna delivery

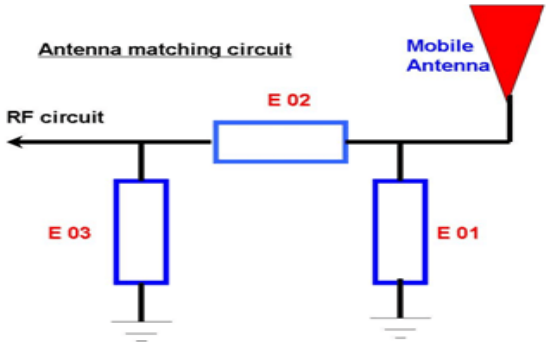
2、Test tool

Objective: To test the passive parameters of antenna as accurately as possible.

Production method: The hand mechanism is a 50 ohm coaxial cable, one end of which is connected to the test point at the back end of the matching circuit (front end of the RF test hole) of the mobile phone motherboard, and the other end is connected to the SMA connector. The diagram is as follows:



3、Antenna matching circuit



Modify

E01	E02	E03
No	No	No

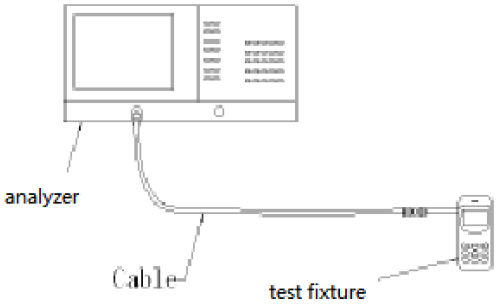
4. S11 testing

4.0 S11 Test method description

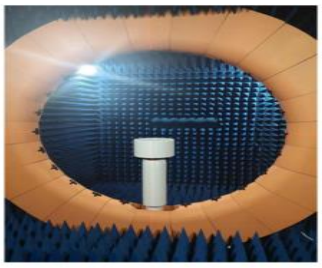
Test equipment: Network analyzer(E5071C)

Test method: A 50 ohm CABLE is exported from the instrument test port, and the SMA connector of the hand mechanism is connected after calibration with the calibration component. The return loss and standing wave ratio corresponding to the relevant frequency points are recorded.

The test diagram is as follows:



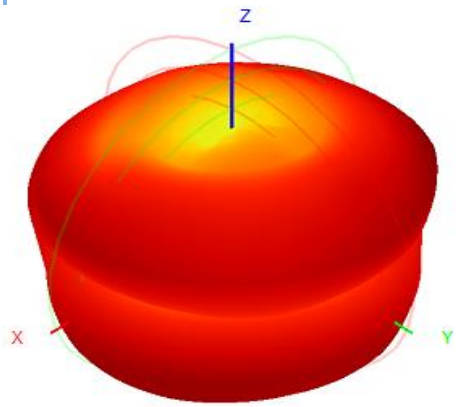
5、Darkroom test equipment and data

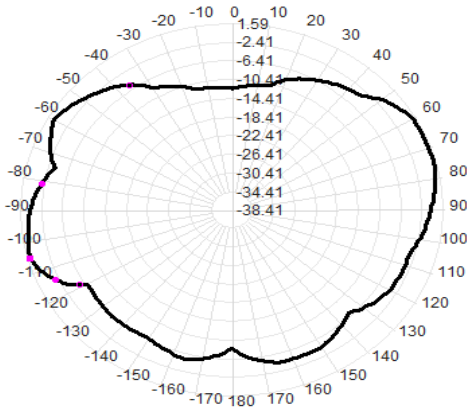


6.Antenna passive efficiency and gain

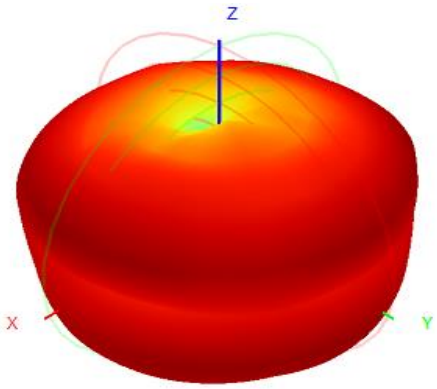
Frequency Band	2.4GWIFI-B			2.4WIFI-G		
channel	L	M	H	L	M	H
TRP	12.58	12.25	13.20	11.25	11.41	11.26
TIS	-80.54	-80.14	-81.54	-69.65	-68.41	-68.14
Frequency Band	2.4WIFI-N			5.8WIFI-A		
channel	L	M	H	L	M	H
TRP	10.31	10.41	10.05	11.25	10.41	11.54
TIS	-67.45	-68.54	-68.14	-69.65	-69.41	-68.71

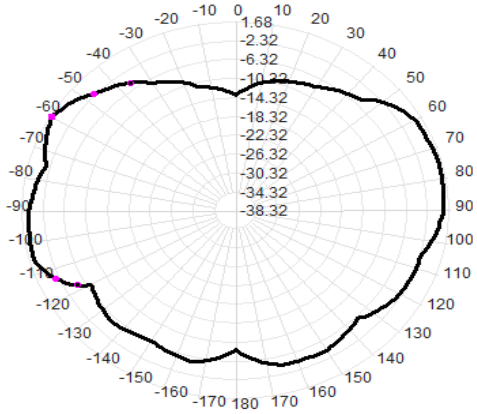
Testing data:		
2.4G		
Freq(MHz)	Efficiency (%)	Gain (dBi)
2400	54.85	1.25
2410	58.41	1.44
2420	59.65	1.59
2430	54.25	1.30
2440	55.32	1.25
2450	52.50	1.40
2460	53.54	1.55
2470	58.41	1.56
2480	57.49	1.41



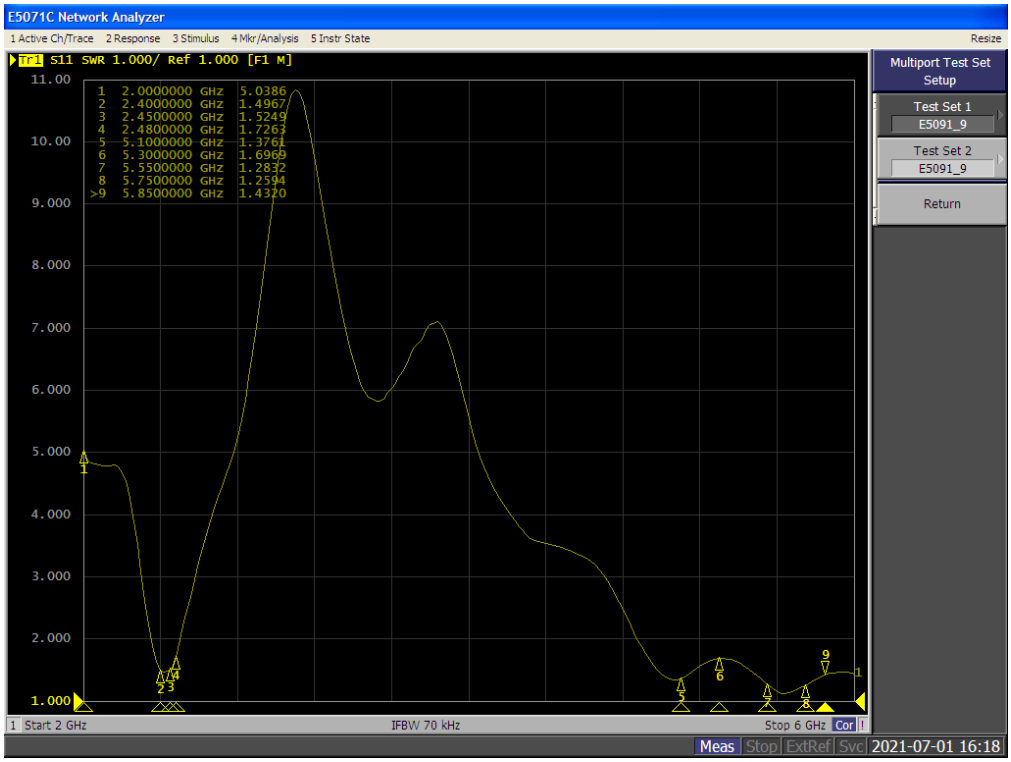


testing data:		
5.8G		
Freq(MHz)	Efficiency (%)	Gain (dBi)
5000	57.55	1.40
5100	58.65	1.55
5200	59.14	1.68
5300	57.25	1.54
5400	55.25	1.28
5500	56.25	1.47
5600	54.15	1.32
5700	57.25	1.47
5800	59.63	1.58
5850	54.12	1.60

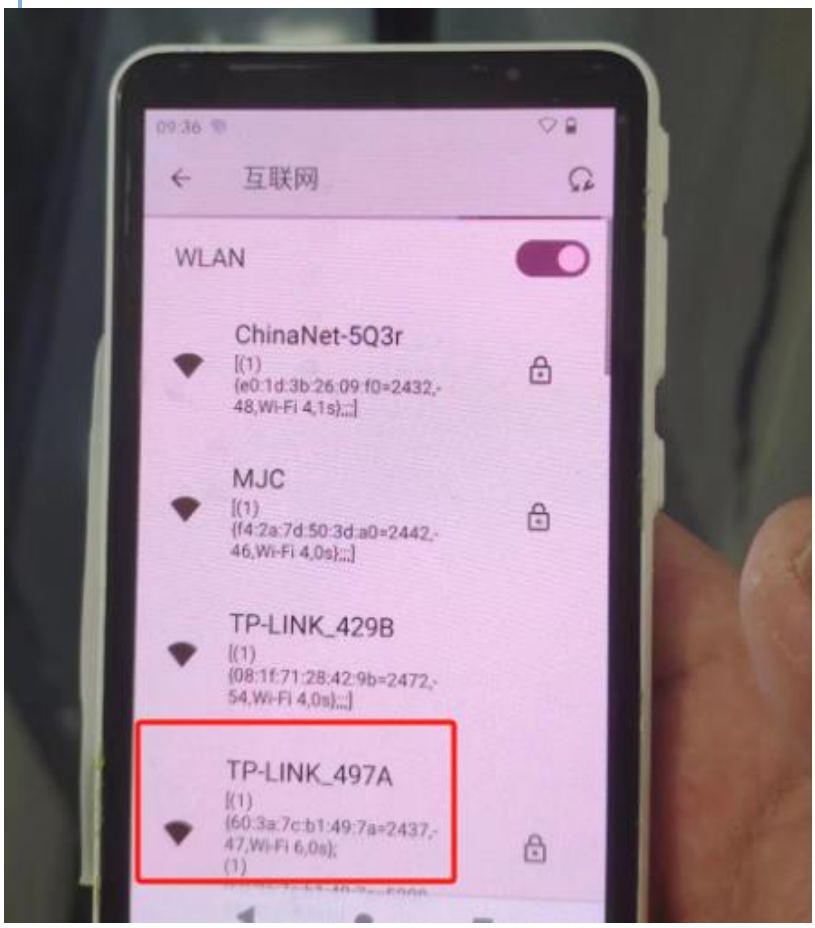




SWR



7. Antenna assembly diagram

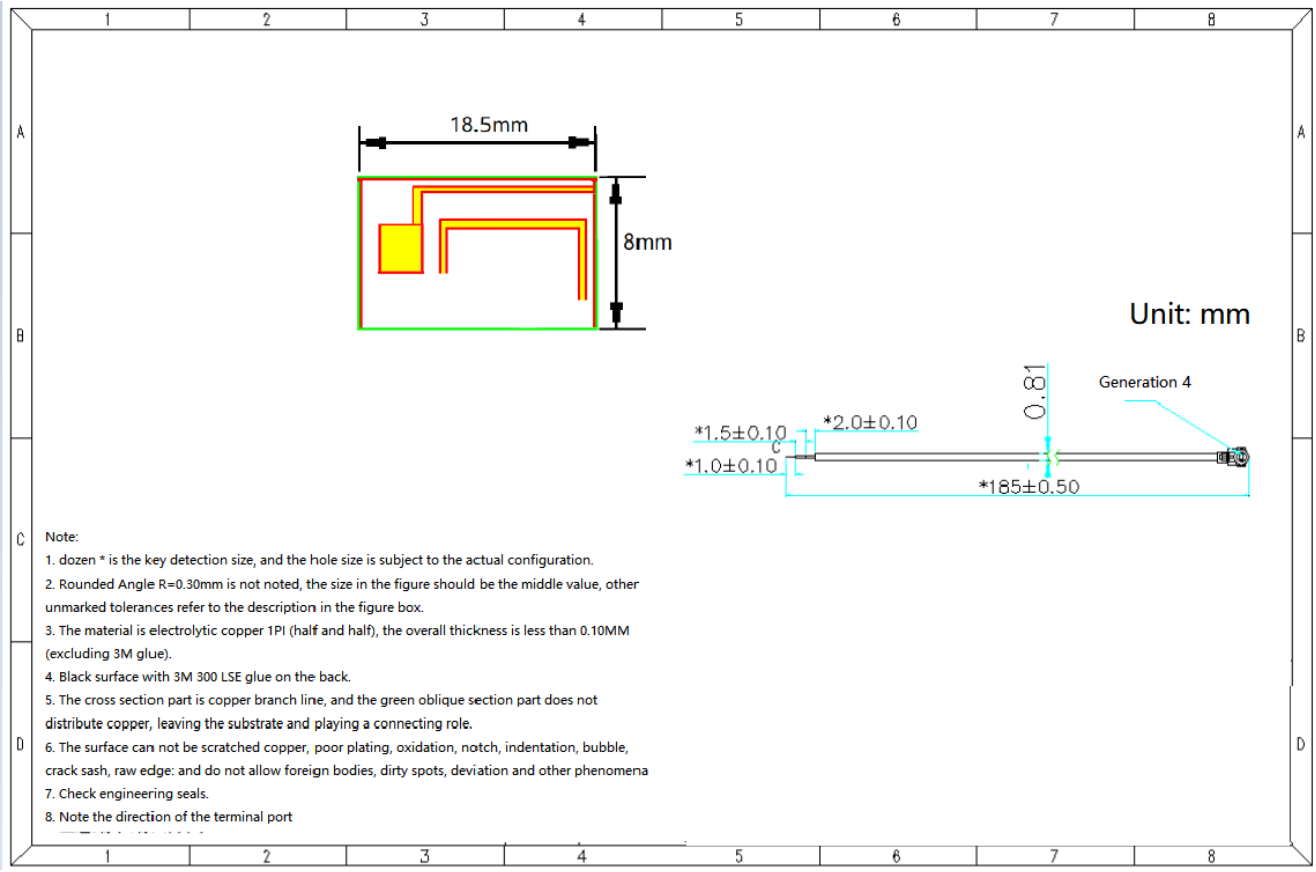

09:36
互联网
WLAN
ChinaNet-5Q3r
[(1)
{e0:1d:3b:26:09:f0=2432,-
48,Wi-Fi 4,1s};...]
MJC
[(1)
{f4:2a:7d:50:3d:a0=2442,-
46,Wi-Fi 4,0s};...]
TP-LINK_429B
[(1)
{08:1f:71:28:42:9b=2472,-
54,Wi-Fi 4,0s};...]
TP-LINK_497A
[(1)
{60:3a:7c:b1:49:7a=2437,-
47,Wi-Fi 6,0s};
(1)

8、Antenna environmental treatment

/

9、Antenna mass production index

In the mass production of antenna, the standing wave ratio is used as the test standard. According to the differences of the project itself, the following criteria are given:

frequency	target level of product quality
2400MHZ -5850MHZ	VSWR<VSWR+0.5

10. structural drawings