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深圳市艾汇科技有限公司

Antenna Specifications

Antenna Sample Confirmation From

Supplier Name Vendor Name	Shenzhen Aihui Technology Co., Ltd				
Customer Name Customer Name	Smart Cow				
Sample name Sample Name	WY-PTA				
Product Model Part Number	FPC+coaxial cable				
Sample specifications Specification	WIFI 1: 120MM **1st generation terminal block, black** silk screen: 505-1-WIFI-AH WIFI 2: 120MM **1st generation terminal block, black** silk screen: 505-1-WIFI-AH				
Inspection items Inspection Item	Performance Testing Performance	Appearance inspection Total Appearance	structure structure	other Others	Test results Inspection Result
Remark Remark					
Quality Audit QA Audit		Engineering Audit Engineer Audit	Caoyang	Business Confirmation Sales Confirm	
The following is filled in by the customer The following are filled by Customer					
Customer Opinion Customer Evaluation					
Customer signature/stamp Signation/ Chapter by Customer	Date:2025.08.12				

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Antenna Test Report

Test by : Shenzhen Aihui Technology Co. , Ltd			
Material **Material**	**FPC+coaxial cable**		
Antenna Type **Antenna Type**		Polarization **Polarization mode**	
Application Scenario **Application**			
Operating frequency band **Band**	**2.4G/5.8G**	**VSWR**	**ÿ1.5**
power **Power**	Maxÿ2W	impedance **Impedance**	**50ÿ**
Gain **dBi**	2400-2500 MHz: 1.5dBi ± 0.5dBi		
Test equipment **Test Equipment**	**HPE5071CÿShielding Roomÿ3D automatic turntable**		

Antenna Description:ÿ 1.

Grounding processing and picture description: no 2. Need to change the motherboard to match: no

ÿ Test voltage: 3.6V, check the antenna contact is good before testing. ÿ 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.

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1.1 Purpose: To

provide specifications and test methods for mobile communication terminal antenna products produced by Shenzhen Aihui Technology Co., Ltd.

1.2 Product Category and Product Model Overview This report mainly summarizes the electrical

results of the antenna designed for the WY-PTA project.

The line is designed for 2.4G/5.8G WIFI band.

1.3 Basic parameters and experimental equipment description

Basic parameters

Product electrical performance indicators	
Operating frequency range	2400-2500MHz 4900-5850MHz
Standing Wave Ratio	2400-2500 MHz: < 1.5 4900-5850MHz: < 1.5 2400-2500 MHz: 1.5dBi ± 0.5dBi
Antenna gain	4900-5850MHz: 1.5dBi ± 0.5dBi 2400-2500MHz: > 50% 4900-5850MHz: > 50%
Radiation efficiency	
impedance	50 ohm
Product Material Description	
copper pipe	brass
Coaxial cable	Braided wire
Product Environmental Description	
Operating temperature	- 30ÿC ~ + 85 ÿC
Storage temperature	- 30ÿC ~ + 85 ÿC

Experimental equipment description

List	Testing project	Equipment
1. S Parameters	1.Return loss 2. VSWR at	Network analyzer: Agilent 8753ES
2. Coupling power test	1. Transmission power 2. Receiving sensitivity	Comprehensive tester: Agilent 8960 E5515C
3. Radiation pattern and gain	1. Radiation pattern 2. Antenna gain	1. Darkroomÿ 7x4x3 m (3D) 2. Network analyzer ÿAgilent 8753ES

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Note: The customer's final antenna performance verification prototype will be retained in our company for at least one year to facilitate analysis and resolution of antenna mass production issues.

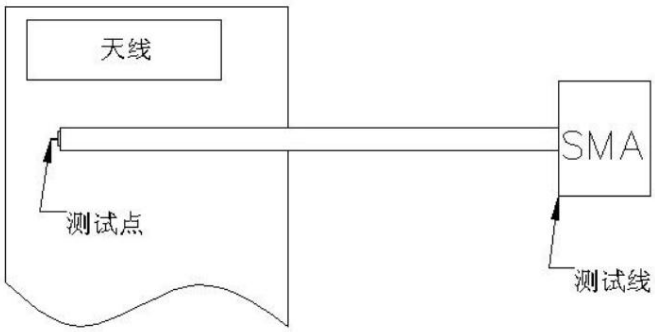
Abnormal situation, ensure the quality of antenna shipment

2. Test fixture

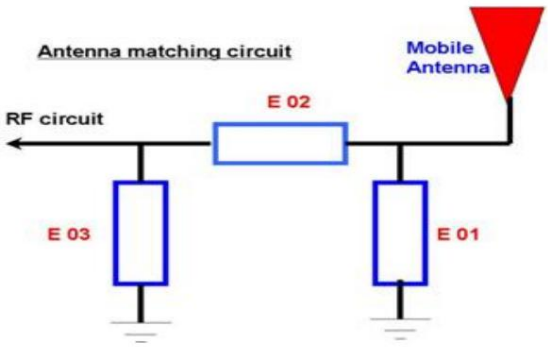
Purpose: To test the passive parameters of the antenna as accurately as possible.

Production method: The mobile phone tool is made of a 50 ohm coaxial cable, one end of which is connected to the matching circuit of the mobile phone motherboard.

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

Note: No modification is made to the match.

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4. S11 test

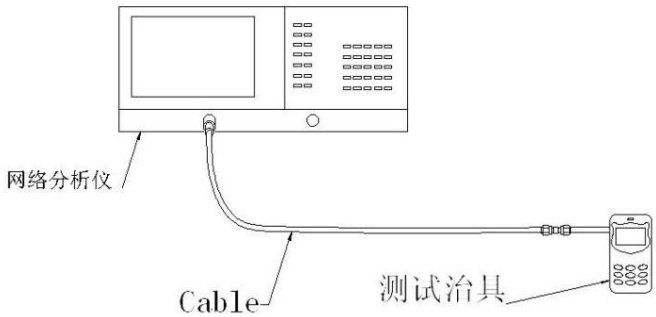
4.0 S11 Test Method Description

Test Equipment: Network Analyzer (E5071C)

Test Method: Use a 50 ohm cable to lead out from the instrument test port and use the calibration kit to calibrate the

After alignment, connect the SMA connector of the mobile phone tool and record the return loss and standing wave ratio corresponding to the relevant frequency

points. The test diagram is as follows:



Test diagram

5. Darkroom test equipment and data

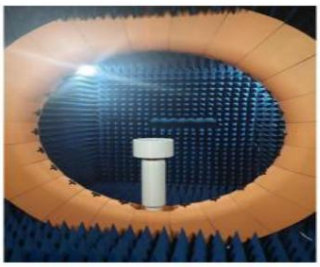
5.0 Test Equipment

Test System: Shielded

darkroom Test Environment: Temperature 22ÿ±3ÿ, Humidity 50%

±15% Test Equipment: When testing passive data, use network analyzer AgilentE5071C

When testing active data, use comprehensive tester CMW500



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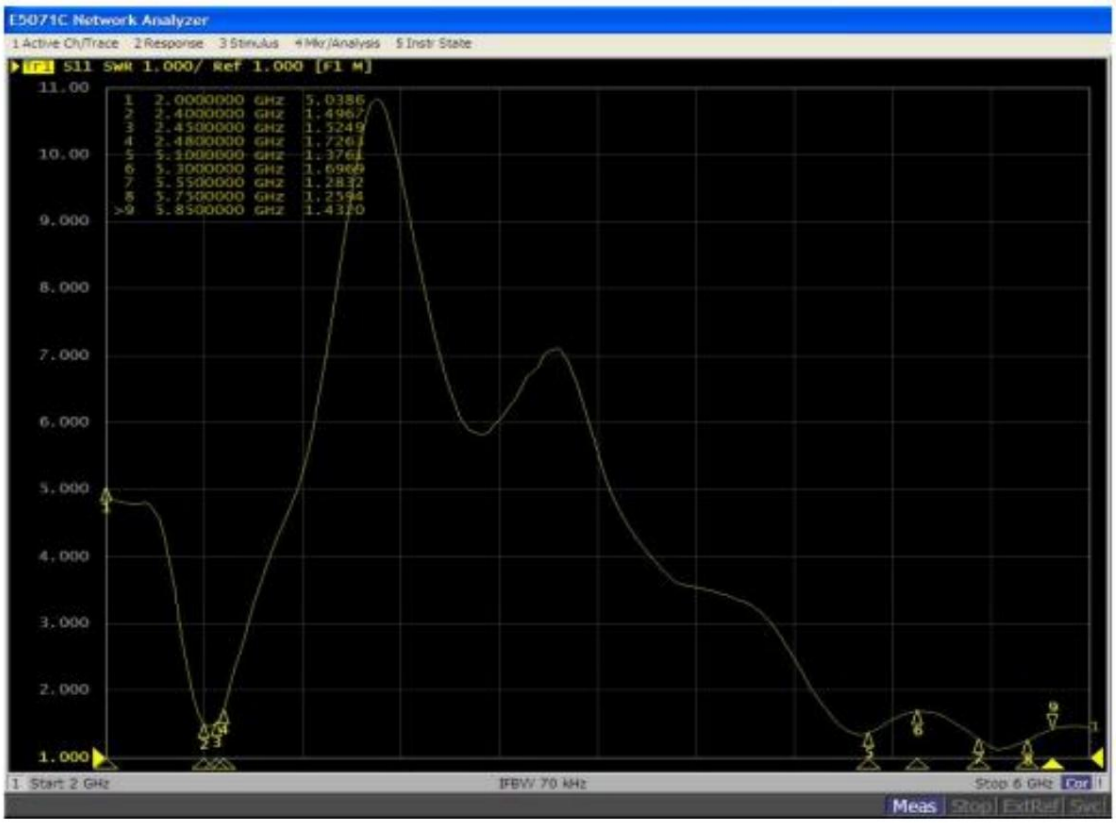
5.1 Antenna Passive Standing Wave Ratio



Frequency Band	2.4GWIFI-B模			2.4WIFI-G模		
channel	L	M	H	L	M	H
TRP	17.77	17.28	18.15	16.23	16.51	17.22
TIS			-75.23			-65.45
Frequency Band	2.4WIFI-N模			5.8WIFI-A模		
channel	L	M	H	L	M	H
TRP	16.38	16.77	17.73	16.37	16.6	15.13
TIS			-64.48			-68.18

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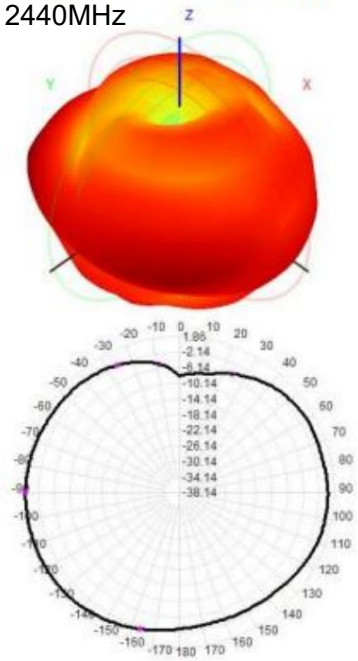
4.1 天线无源数据

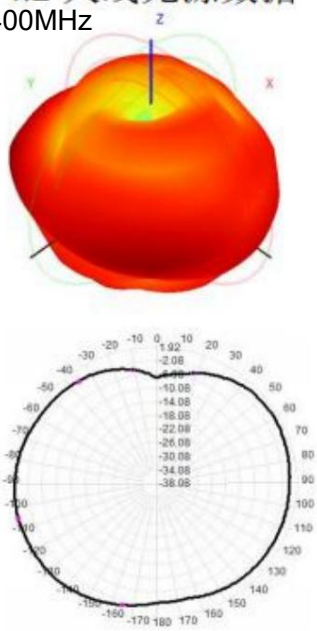
2440MHz



测试数据：		
WIFI 2.4G		
Freq(MHz)	Efficiency (%)	Gain (dBi)
2400	55.31	1.54
2410	53.14	1.67
2420	51.91	1.21
2430	56.42	1.67
2440	57.19	1.86
2450	54.31	1.62
2460	53.17	1.51
2470	54.91	1.43
2480	51.38	1.11

4.2 天线无源数据

5400MHz



测试数据：		
WIFI 5.8G		
Freq(MHz)	Efficiency (%)	Gain (dBi)
5000	53.31	1.41
5100	54.17	1.53
5200	55.24	1.59
5300	56.71	1.87
5400	57.32	1.92
5500	56.10	1.67
5600	55.39	1.58
5700	54.21	1.50
5800	54.73	1.56
5850	53.81	1.39

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8.Structural drawings