

Shenzhen Aihui

Antenna datasheet

Antenna Sample Confirmation From

Vendor name	Shenzhen Aihui Technology Co., Ltd				
Customer name	Jay Hong				
Sample name	CZ960RW01				
Product model Part Number					
Sample specifications	main antenna; CZ960RW01-3G-AH cable length; 155mm (0.81) two-end stripping wire dipping tin three-in-one; CZ960RW01-WGB-				
Inspection items	Performance testing Performance	Visual inspection Total Appearance	structure structure	other Others	Inspection Result
remark					
QA Audit		Engineering audits Engineer Audit	Chen Yichu	Sales Confirm	
The following is filled in by the customer The following are filled by Customer					
Customer Evaluation					
Signation/Stamp by the client by Customer	Date: 2023.08.22				

Antenna Test Report

Test unit: Shenzhen Aihui Technology Co., Ltd Test by: ShenZhen Aihui Technology Co., Ltd			
material	FPC		
Antenna type	Monopole Type	Polarization mode Polarization mode	Linear
Application scenarios			
Operating frequency band	GSM/WCDMA/ 2.4 WiFi/BT/GPS	VSWR	≤2
power Power	Max: 2W	impedance Impedance	50Ω
gain dBi	≥1dBi		
Test the equipment Test Equipment	HPE5071C、Shielding Room、3D automatic turntable		
<p>Antenna Description::</p> <p>1. Grounding processing and picture description: no</p> <p>2. Need to change the motherboard to match: no</p> <ul style="list-style-type: none">● 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. <p>Specification:test the specified power level, all indicators must conform to the specifications.</p>			

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1. Project

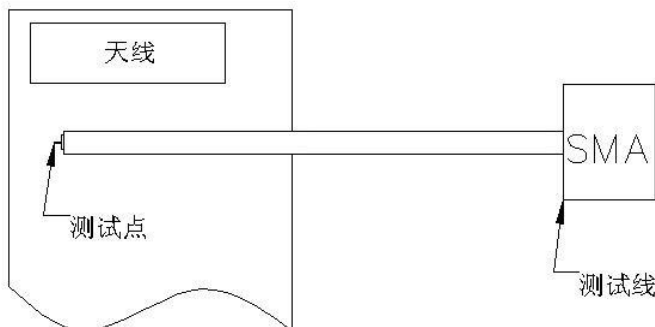
picture None

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

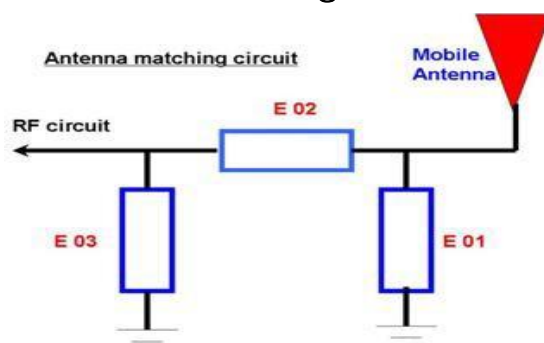
2. Test tools

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

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



3. Antenna matching circuit



Modify point/Modify

E01	E02	E03
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No	No	No
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Note: The match is not modified.

4. S11 test

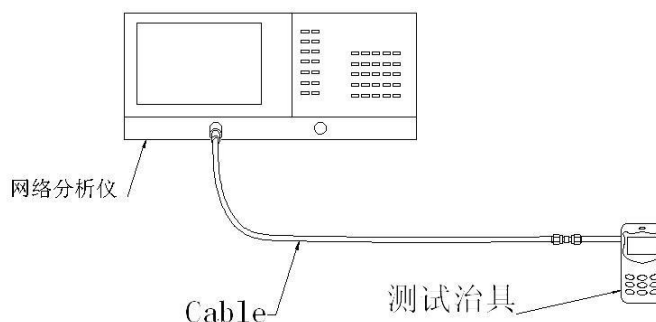
4.0 S11 Test Method

Description Test equipment:

Network analyzer (E5071C).

Test method: Exit a 50 ohm CABLE cable from the instrument test port, use calibration pieces to connect the SMA connector of the handset, and record the return loss and VSWR corresponding to the relevant frequency point.

The test diagram is as follows:



Test schematic

5. Darkroom test equipment and data

5.0 Test Equipment

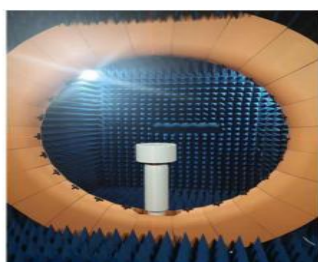
Test System:

Shielded chamber

Test environment: temperature $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$, humidity $50\% \pm 15\%$.

Test equipment: When testing passive data, use the network analyzer AgilentE5071C

When testing active data, use the CMW500



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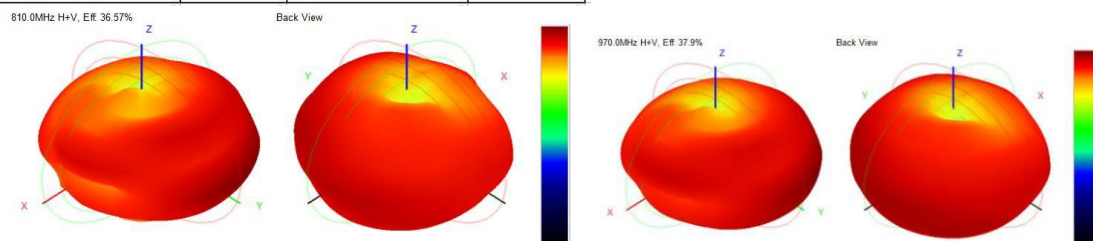
5.1 Antenna active test data

Frequency Band	GSM850			900		
channel	L	M	H	L	M	H
TRP	25.2	25.41	26.37	26.81	26.47	25.7
TIS			-104.4			-102.29
Frequency Band	1800			1900		
channel	L	M	H	L	M	H
TRP	26.12	26.36	26.59	26.14	26.36	25.48
TIS			-103.65			-104.72
Frequency Band	W2			W5		
channel	L	M	H	L	M	H
TRP	17.61	17.43	16.86	16.89	17.18	17.48
TIS			-104.2			-102.22
Frequency Band	2.4G-WIFI B模			2.4G-WIFI G模		
channel	L	M	H	L	M	H
TRP	9.76	9.72	9.89	8.14	8.05	8.17
TIS			-79.68			-67.47
Frequency Band	2.4G-WIFI N模					
channel	L	M	H			
TRP	8.08	8.31	8.18			
TIS			-67.55			

5.1 Antenna passive test data

Main antenna

增益和效率			
frequency 频率(Hz)	gain 增益(dB)	efficiency 效率(dB)	efficiency 效率
810M	1.34	-3.57	36.57%
830M	1.25	-3.14	35.86%
850M	1.37	-3.35	37.36%
870M	1.41	-3.07	39.74%
890M	1.21	-3.27	37.16%
910M	1.31	-3.43	38.55%
930M	1.47	-3.01	40.20%
950M	1.26	-3.23	38.30%
970M	1.23	-3.16	37.90%



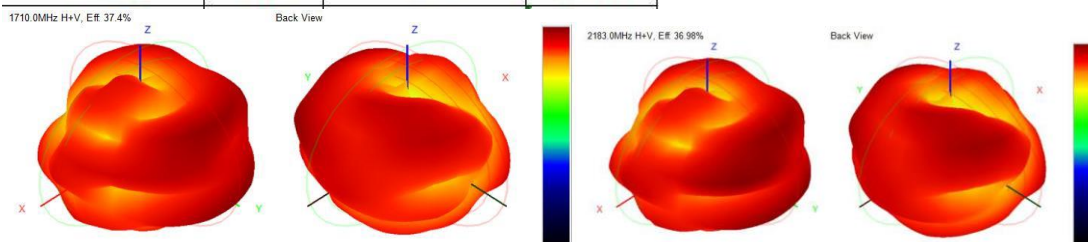
Address: Shenzhen Baoan District Xixiang Gushu Nanchang

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Gain&Efficiency 增益和效率			
frequency 频率(Hz)	gain 增益(dB)	efficiency 效率(dB)	efficiency 效率
1710M	1.14	-4.25	37.40%
1743M	1.3	-4.12	39%
1777M	1.26	-3.03	38.47%
1811M	1.38	-3.98	38.60%
1845M	1.63	-3.76	40.10%
1878M	1.42	-3.86	40.50%
1912M	1.53	-3.79	41.10%
1946M	1.47	-3.91	39.83%
1980M	1.51	-3.83	38.67%
2014M	1.43	-3.73	39.75%
2047M	1.61	-3.67	40.45%
2081M	1.63	-3.69	41.19%
2115M	1.47	-3.87	38.26%
2149M	1.32	-4.05	38.82%
2183M	1.17	-4.32	36.98%



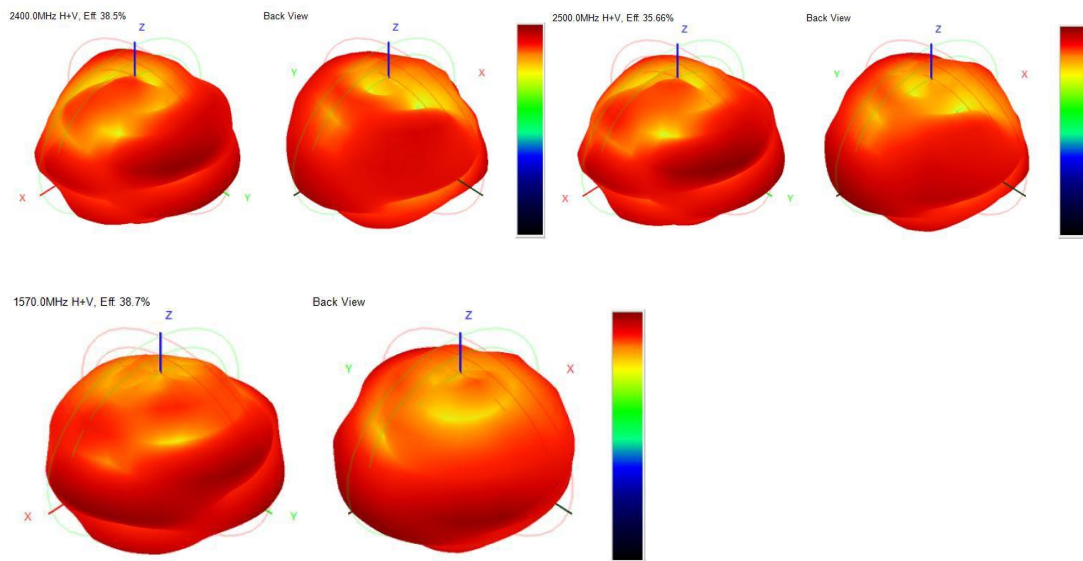
Three-in-one daytime

Gain&Efficiency 增益和效率			
frequency 频率(Hz)	gain 增益(dB)	efficiency 效率(dB)	efficiency 效率
2400M	1.45	-3.66	38.50%
2410M	1.28	-3.96	37.68%
2420M	1.34	-3.86	39.47%
2430M	1.43	-3.9	37.56%
2440M	1.28	-3.96	39.47%
2450M	1.35	-3.84	38.62%
2460M	1.56	-3.53	39.55%
2470M	1.49	-3.61	37.86%
2480M	1.54	-3.57	38.37%
2490M	1.36	-3.83	36.28%
2500M	1.27	-3.99	35.66%

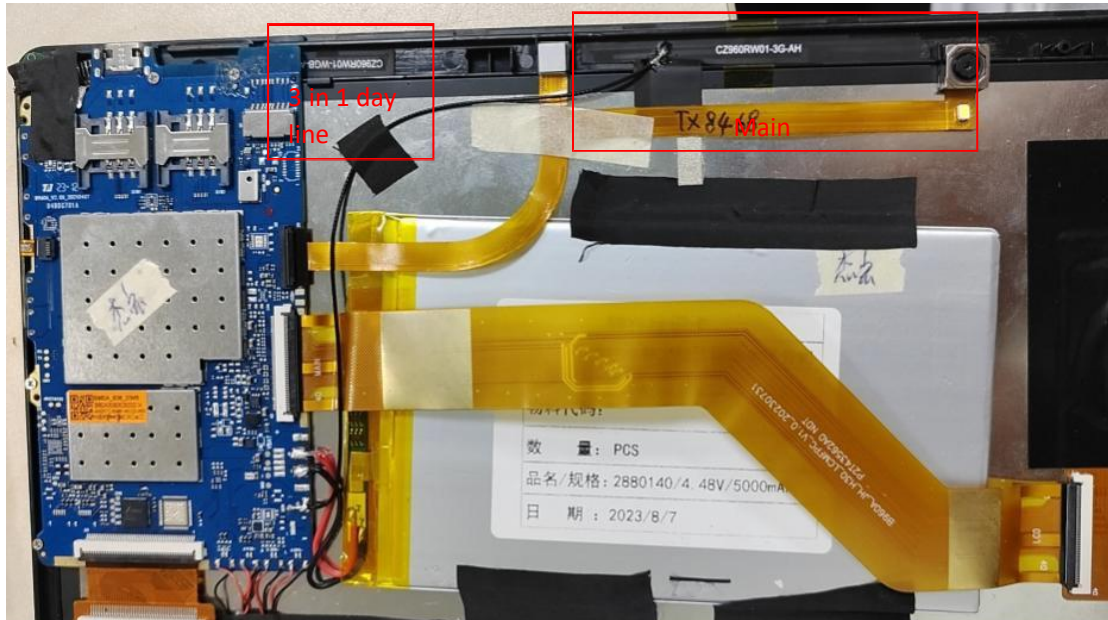
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Gain&Efficiency 增益和效率			
frequency 频率(Hz)	gain 增益(dB)	efficiency 效率(dB)	efficiency 效率
1560M	1.65	-3.59	39.30%
1570M	1.67	-3.61	38.70%
1580M	1.53	-3.73	38.61%



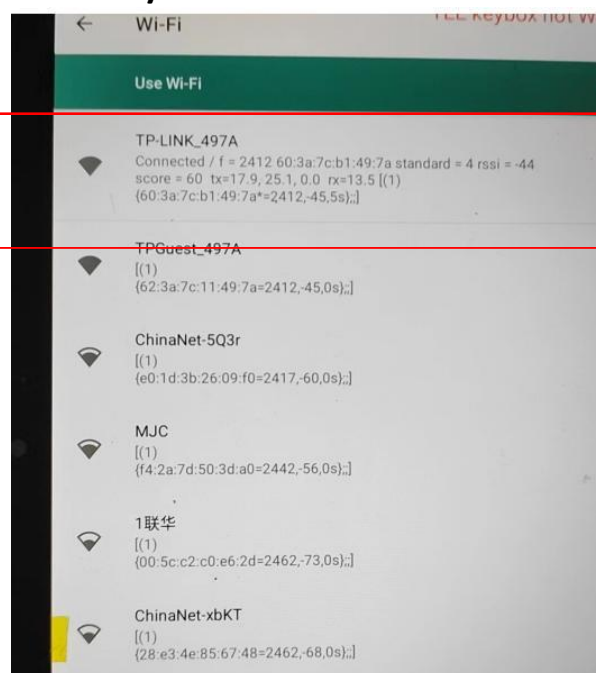
6.1 Antenna Location



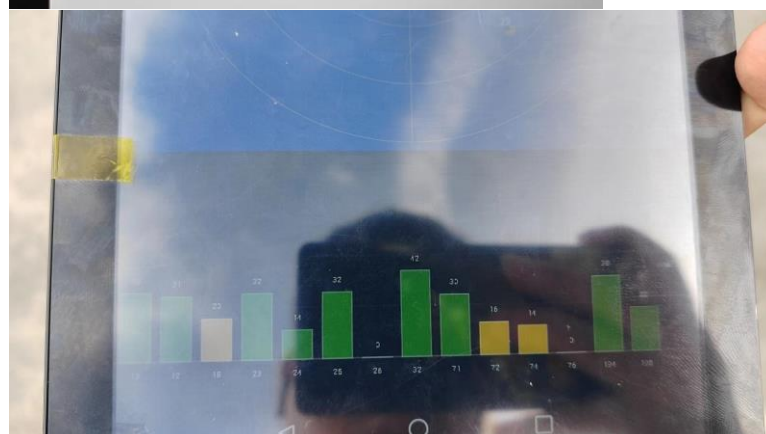
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6.2 WIFI/GPS measurement



10m from the router
signal full



GPS searches for stars on the roof of our building
There are 1-2 stars with a star value of 40, fixed at time 60s, the weather is sunny.

7. Environmental treatment

/ None

8. Antenna mass production indicators

When the antenna is mass-produced, the VSWR is used as the mass production test standard. According to the differences of the project itself, The following criteria are given:

Frequency rate	Mass production standards
824MHZ -2170MHZ	V SW R (PRODUCTION PERFORMANCE) < VSW R
1575MHZ	V SW R (PRODUCTION PERFORMANCE) < VSW R
2400MHZ -2500MHZ	V SW R (PRODUCTION PERFORMANCE) < VSW R

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9. Structural drawings

