

Antenna specification

Antenna Sample Confirmation From

Name of supplier	ShenZhen Aihui Technology Co. , Ltd				
Customer name	HaoQing				
Sample name	X133				
model					
Sample size	Silk screen: X133-WIFI-AH, cable length 105mm, 3rd generation terminal, conductive fabric 5X15mm Silk screen: X133-WIFI-AH, cable length 105mm, 3rd generation terminal, conductive fabric 5X15mm				
Inspection item	Performance test	Visual inspection	Structure	In the news	Test results
Notes					
Quality Audit		Project Audit		Business confirmation	
The following is to be completed by the client					

Shenzhen Aihui Technology Co. , Ltd.

Customer feedback	
Customer signature/seal	date:

Antenna Test Report

Test Unit: Shenzhen Aihui Technology Co. , Ltd.			
Materials	FPC coaxial line		
Antenna type	MonopoleType	Polarization mode	Linear
Application scenario			
Working band	2400Mhz-2500Mh Z 5100Mhz-5850Mh Z	VSWR	≤2
Power	Max: 2W	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 Image
2. Test Fixture
3. Antenna matching circuit
4. S11 test
5. Antenna passive efficiency and gain
6. Darkroom test equipment and data
7. Schematic diagram of antenna assembly
8. Antenna environment handling
9. Antenna mass production index
10. Structural drawing

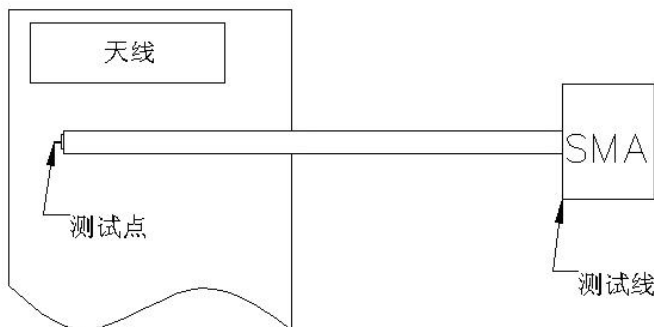
1.Project Image

The final verification antenna performance prototype in our company for at least one year, easy to analyze and solve the problem of antenna mass production, to ensure the quality of antenna shipment

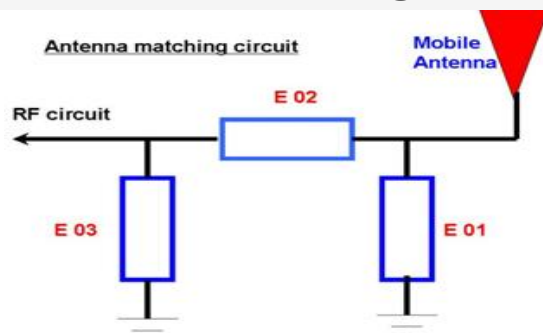
2.Test Fixture

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

Method: the handset is made of a 50 ohm coaxial cable, one end of which is connected to the test point of the back end of the matching circuit of the handset motherboard (front end of the RF test hole) , and the other end is connected to the SMA joint. The diagram is as follows:



3、 Antenna matching circuit



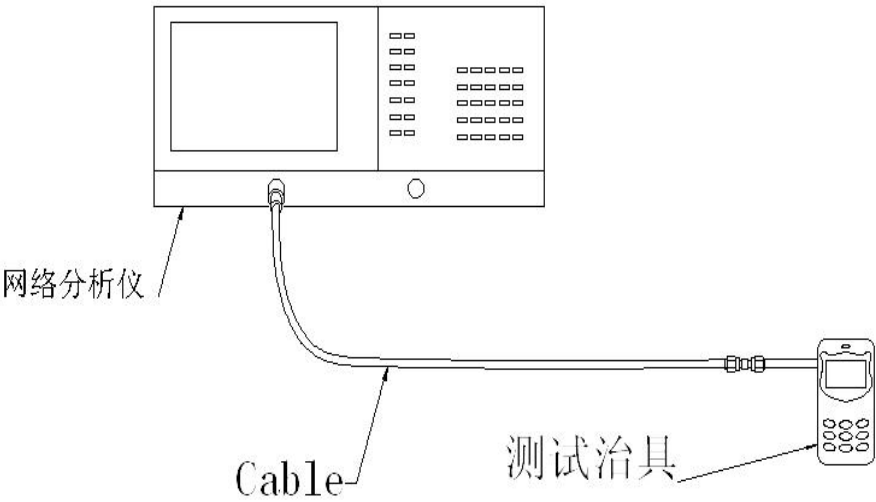
Modify

E01	E02	E03
No	No	No

Note: The match is unmodified.

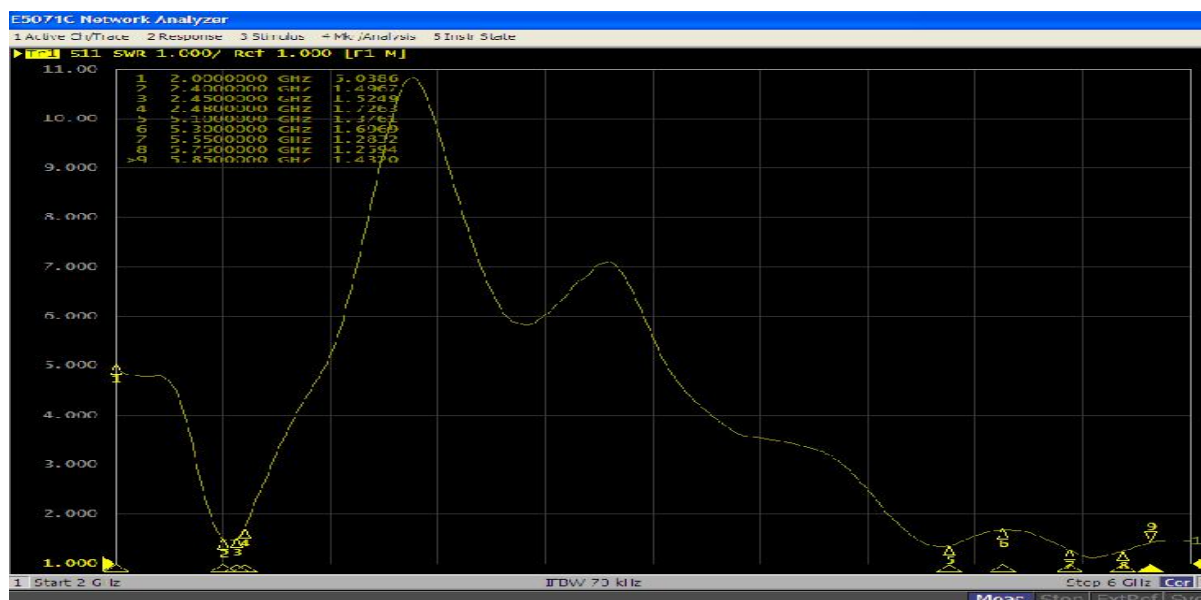
4.S11 test

4.0 4.0s11 test method description of test equipment: Network Analyzer (E5071C) test method: a 50 ohm CABLE is used to export from the instrument test port. The SMA connector for connecting the handset is calibrated using a calibration piece, record the echo loss and standing wave ratio corresponding to the relevant frequency points. The test schematic is as follows:



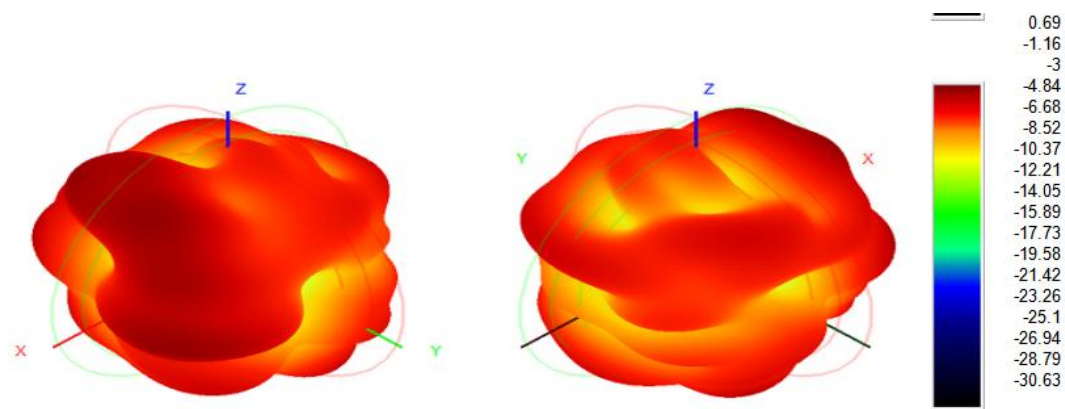
5.Darkroom test equipment and data

2. 4G	2. 4G/B			2. 4G/G		
Channel	1	6	12	1	6	12
TRP	11. 52	11. 41	11. 63	10. 63	10. 44	10. 63
TIS			-78. 25			-68. 41
2. 4G	2. 4G/N			5. 8G/A		
Channel	1	6	12	36	64	165
TRP	9. 65	9. 77	10. 63	10. 32	9. 55	9. 41
TIS			-67. 58			-69. 16



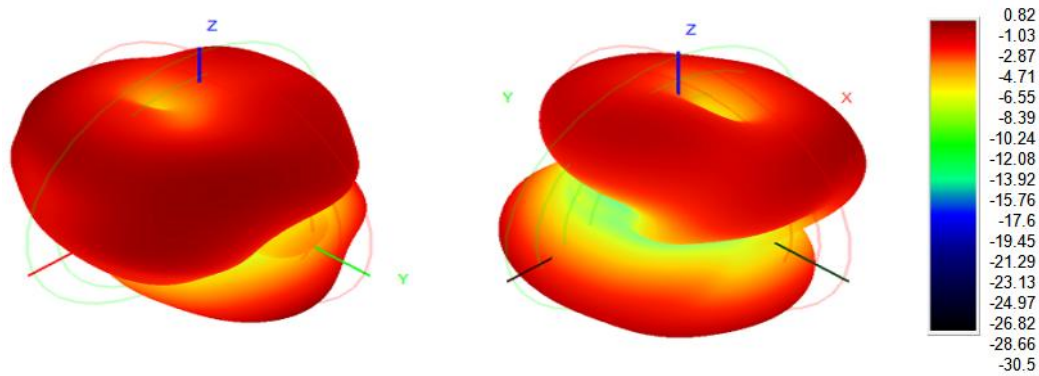
Test Data:		
WIFI 2.4G		
Freq(MHz)	Efficiency (%)	Gain (dBi)
2400	32.52	0.15
2410	31.63	0.69
2420	31.65	0.41
2430	33.61	0.24
2440	34.25	0.33
2450	35.15	0.25
2460	32.64	0.99
2470	31.62	0.18
2480	31.77	0.52

Radiation Pattern: Antenna 1.XZ Plane at f=2.41 G



Test Data:		
WIFI 5.8G		
Freq(MHz)	Efficiency (%)	Gain (dBi)
5000	35.2	0.15
5100	34.5	0.24
5200	36.3	0.52
5300	37.5	0.66
5400	39.8	0.82
5500	39.6	0.41
5600	38.7	0.31
5700	31.2	0.15
5800	32.5	0.11
5850	33.1	0.21

Radiation Pattern: Antenna 1.XZ Plane at f=5.4 G



6.Test Equipment

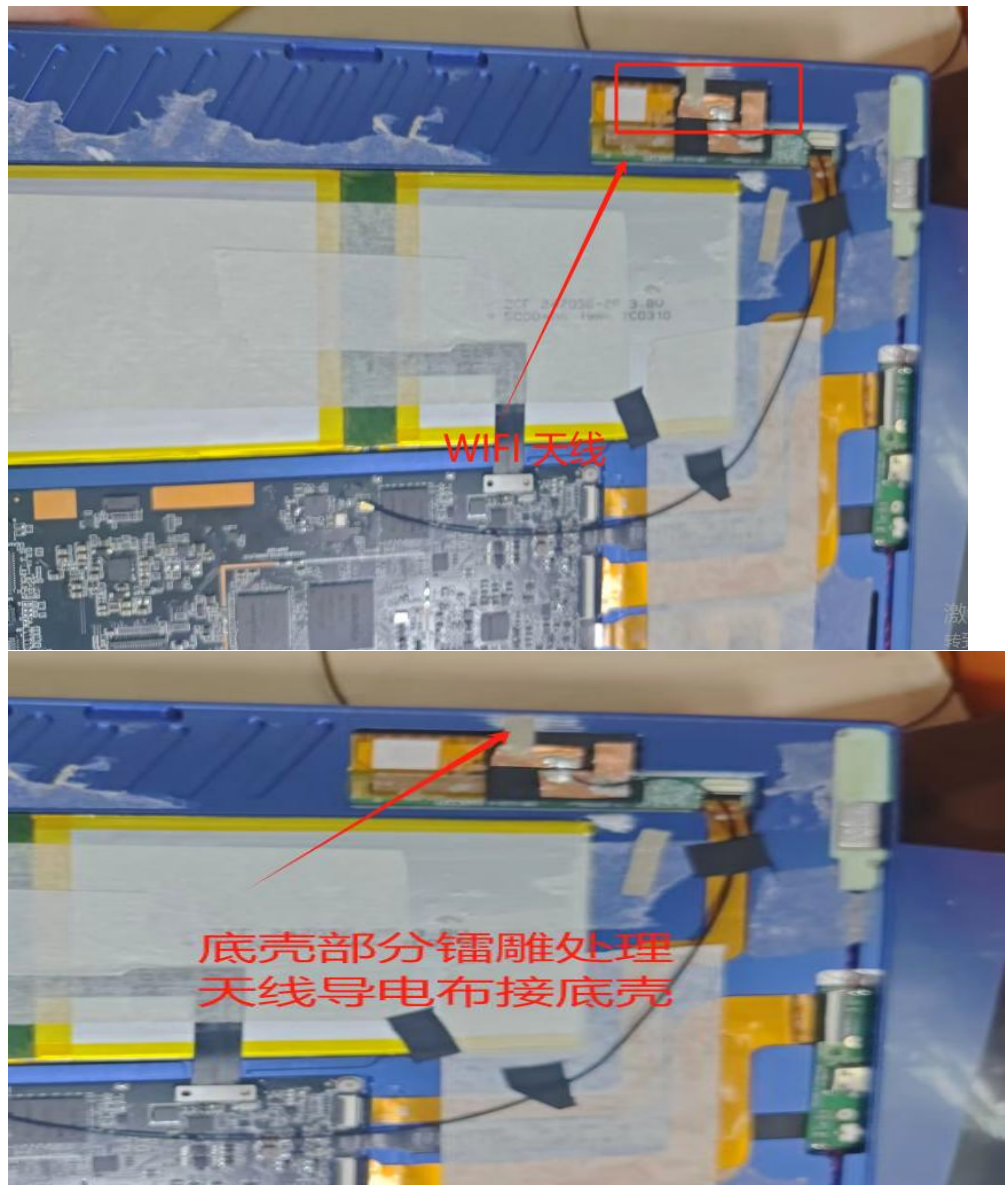
Test system: shielded darkroom

The temperature was $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and the humidity was $50\% \pm 15\%$

Test equipment: when testing passive data, use the Network analyzer AGILENTE5071C to test active data, use the omnibus CMW500



7.Active antenna test data



8.Schematic diagram of antenna assembly

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9.Antenna environment handling

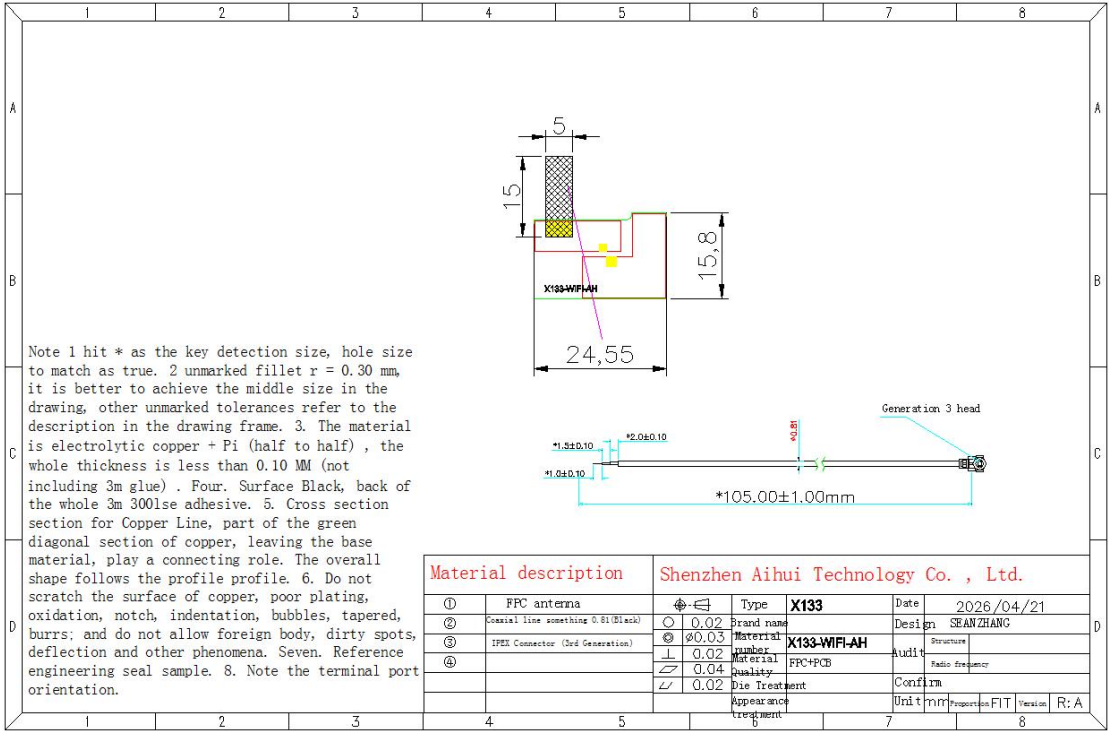
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10.Antenna mass production index

When the antenna is mass-produced, the standing wave ratio is taken as the mass-produced test standard. Based on the differences of the project itself, the following criteria are given:	Standard for volume production
2400 MHZ -2500MHZ 5100MHZ-5850MHZ	VSWR (Mass Production performance) & LT; VSWR(recognition performance) 0.5

10.1 Structural drawings

Shenzhen Aihui Technology Co. , Ltd.



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