Shenzhen Aihui Technology Co. , Ltd.

Antenna specification

Antenna Sample Confirmation From

Name of supplier	ShenZhen Aihui Technology Co.，Ltd				
Customer name	Zhi niu				
Sample name	505-1 WiFi antenna				
model					
Sample size	120mm, first generation terminal				
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					

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Customer feedback	
Customer signature/seal	date：

Antenna specification

Test Unit: Shenzhen Aihui Technology Co. , Ltd.			
Materials	FPC coaxial cable		
Antenna form	PIFA	Polarization mode	Linear
Application scenario	Wifi /BT		

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Working band	2400Mhz-2500Mhz5 100Mhz-5850Mhz	VSWR	≤2
Power	Max：2W	Impedance	50Ω
dBi	≥		
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.

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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
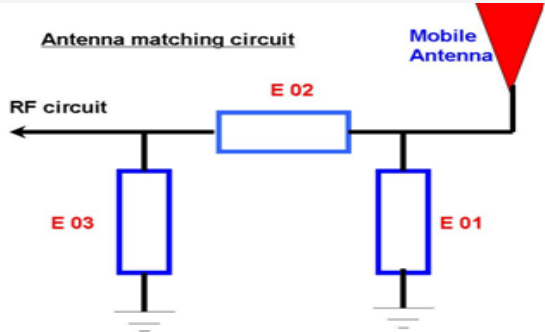
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1.Project Image

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

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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:

Cable

5.Darkroom test equipment and data


```
▶Tr1 S11 SWR 1.000/ Ref 1.000 [F1 M]
11.00
        1   2.0000000 GHz   5.0386
        2   2.4000000 GHz   1.4967
        3   2.4500000 GHz   1.5249
        4   2.4800000 GHz   1.7263
10.00   5   5.1000000 GHz   1.3761
        6   5.3000000 GHz   1.6969
        7   5.5500000 GHz   1.2832
        8   5.7500000 GHz   1.2594
9.000  >9   5.8500000 GHz   1.4320

8.000

7.000

6.000

5.000

4.000

3.000

2.000

1.000
1  Start 2 GHz                  IFBW 70 kHz              Stop 6 GHz  Cor
                                                         Meas Stop ExtRef Syc
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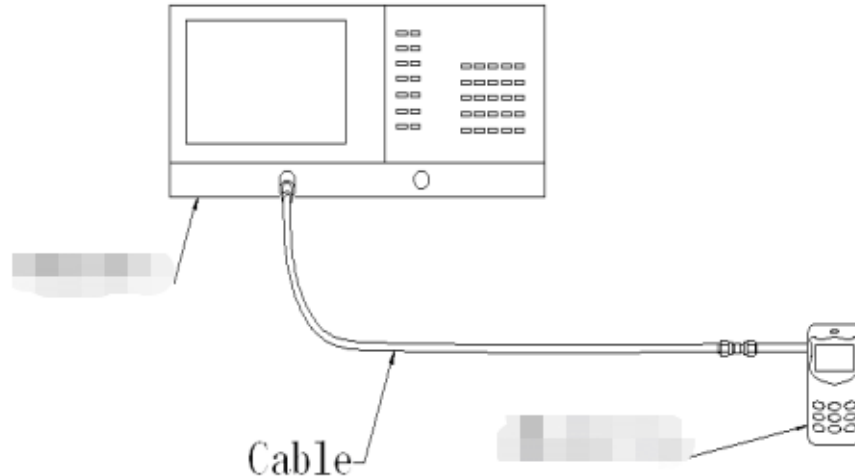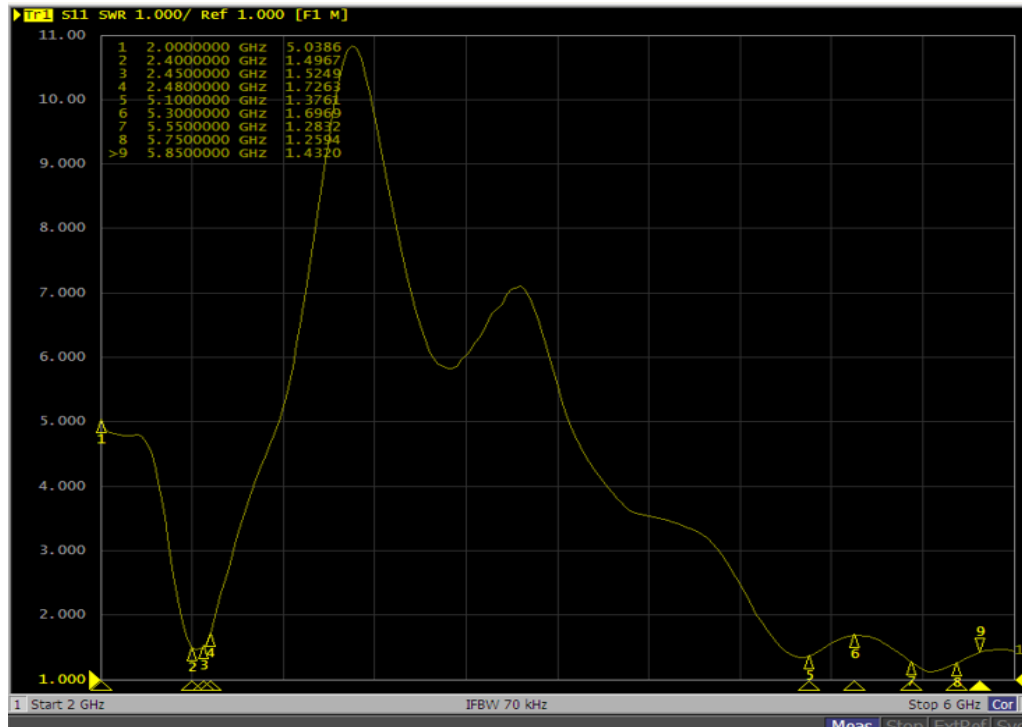
6.Test Equipment

Test system: shielded darkroom

The temperature was 22 ° C ± 3 ° C and the humidity was 50% ± 15%

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

nce and

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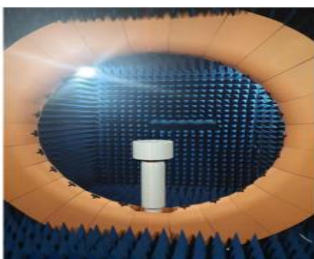
7.Active antenna test data

WIFI Test Data：

WIFI:　2.4G

Frequency（MHZ）	efficiency（%）	Gain（dbi）
2400	57.5	1.30
2410	58.6	1.52
2420	59.1	1.63
2430	57.6	1.47
2440	53.3	1.48
2450	52.5	1.91
2460	54.9	1.68
2470	55.1	1.52
2480	54.9	1.36
2490	55.6	1.80
2500	51.6	1.60

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WIFI Test Data：

WIFI: 5. 8G

Frequency（MHZ）	efficiency（%）	Gain（dbi）
4900	51.6	1.41
5000	52.7	1.30
5100	53.6	1.26
5200	55.2	1.36
5300	54.7	1.55
5400	52.3	1.60
5500	52.4	1.28
5600	59.6	1.71
5700	51.9	1.16
5800	54.4	1.60
5900	56.3	1.54

8.The panel matches the change schematic

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9.Antenna environment handling

The original environment, we do not do processing

10Antenna 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:

Frequency	Standard for volume production
2400 MHZ -2500MHZ	VSWR (Mass Production performance) & LT; VSWR(recognition performance) 0.5

5100Mhz-5850Mhz	VSWR (Mass Production performance) & LT; VSWR(recognition performance) 0.5

11.Structural drawings

Note 1 hit * as the key detection size, hole size to match as true. 2 unmarked fillet r = 0.30 mm, it is better to achieve the middle size in the drawing, other unmarked tolerances refer to the description in the drawing frame. 3. The material is electrolytic copper + Pi (half to half) , the whole thickness is less than 0.10 MM (not including 3m glue) . Four. Surface Black, back of the whole 3m 300lse adhesive. 5. Cross section section for Copper Line, part of the green diagonal section of copper, leaving the base material, play a connecting role. The overall shape follows the profile profile. 6. Do not scratch the surface of copper, poor plating, oxidation, notch, indentation, bubbles, tapered, burrs; and do not allow foreign body, dirty spots, deflection and other phenomena. Seven. Reference engineering seal sample. 8. Note the terminal port orientation.