

## Antenna specification

### Antenna Sample Confirmation From

Name of supplier	ShenZhen Aihui Technology Co. , Ltd				
Customer name	Ji mo ke				
Sample name	DB20-1240P				
model	Integrated Antenna				
Sample size	The main antenna (0.81) is black with a line length of 95mm. (4 generation terminal) The secondary antenna (0.81) is gray with a length of 180mm. (4 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					

Customer feedback	
Customer signature/seal	<div>date:</div>

Antenna Test Report

Test Unit: Shenzhen Aihui Technology Co. , Ltd.			
Materials	FPC		
Antenna form	PIFA	Polarization mode	Linear
Application scenario	2400Mhz-2500Mhz 5100Mhz-5850Mhz		
Working band	2400Mhz-2500Mhz 5100Mhz-5850Mhz	VSWR	≤2

Power	Max: 2W	Impedance	50Ω
dBi	≥2dBi		
Test Equipment	HPE5071C、Shielding Room、3D automatic turntable		
<p><b>Antenna Description::</b></p> <p><b>1. Grounding processing and picture description: no</b></p> <p><b>2. Need to change the motherboard to match: no</b></p> <ul style="list-style-type: none"><li>● Test voltage: 3.6V, check the antenna contact is good before testing.</li><li>● The RF cable of the integrated tester is kept in a natural state and can not be curled.</li></ul> <p>Specification:test the specified power level, all indicators must conform to the specifications.</p>			

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

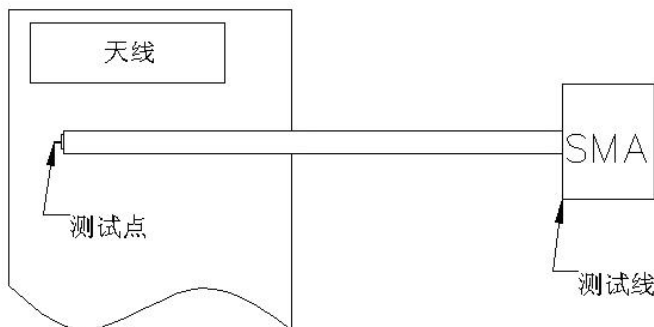
## 1.Project Image

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

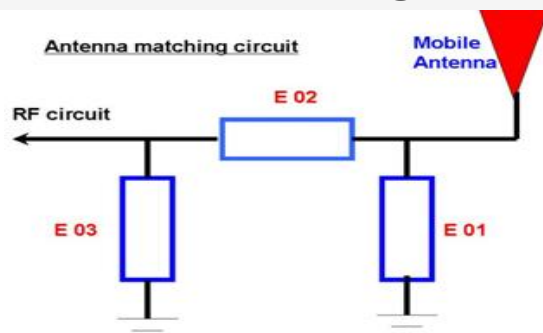
## 2.Test Fixture

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



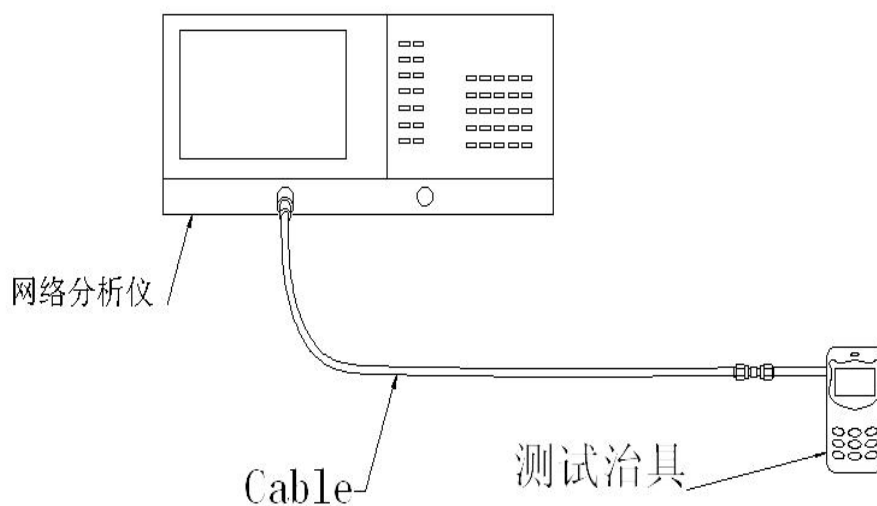
**Modify**

<b>E01</b>	<b>E02</b>	<b>E03</b>
<b>No</b>	<b>No</b>	<b>No</b>

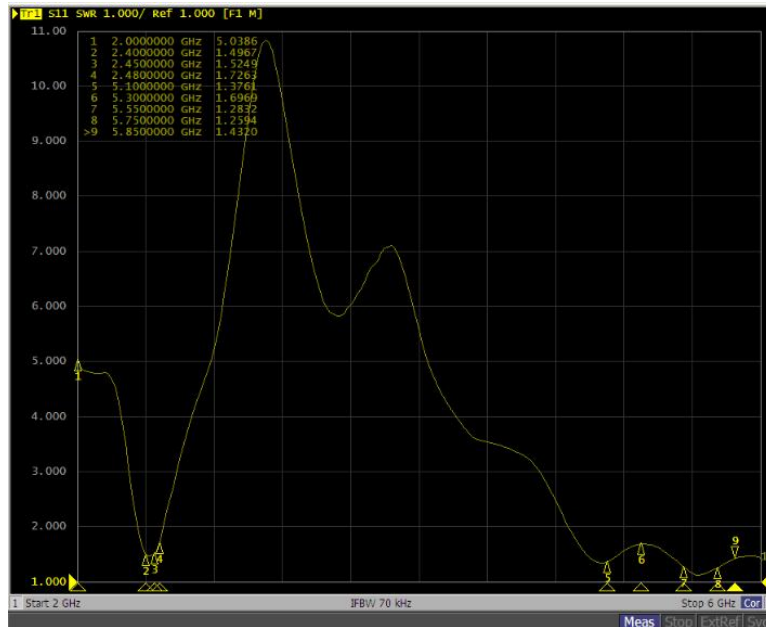
Note: The match is unmodified.

## 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:



## 4.1 SWR

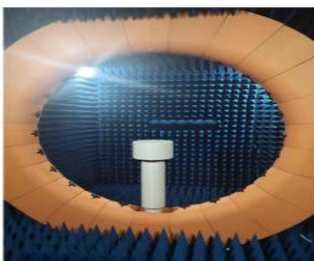


## 5. Test Equipment

Test system: shielded darkroom

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

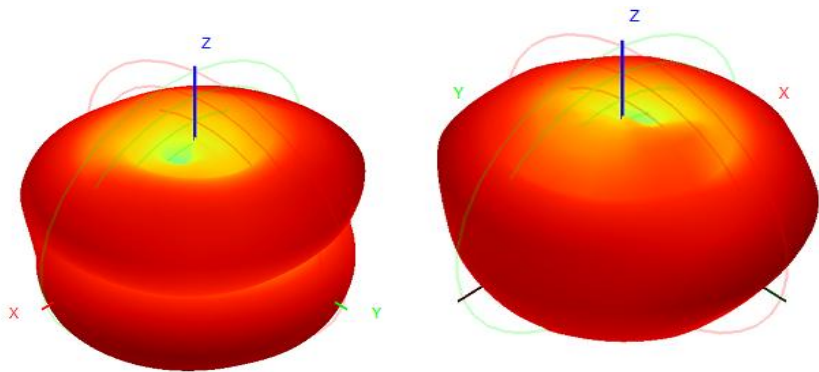
Test equipment: when testing passive data, use the Network analyzer AGILENTE5071C to test active data, use the omnibus CMW500



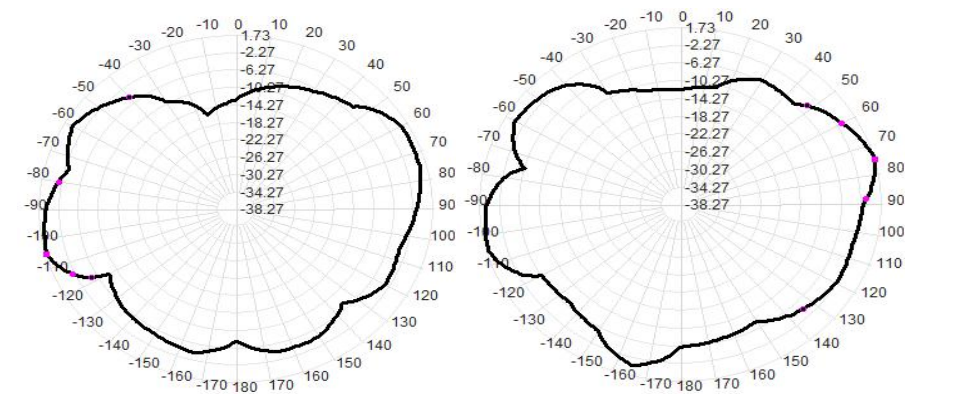
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6.Active antenna test data

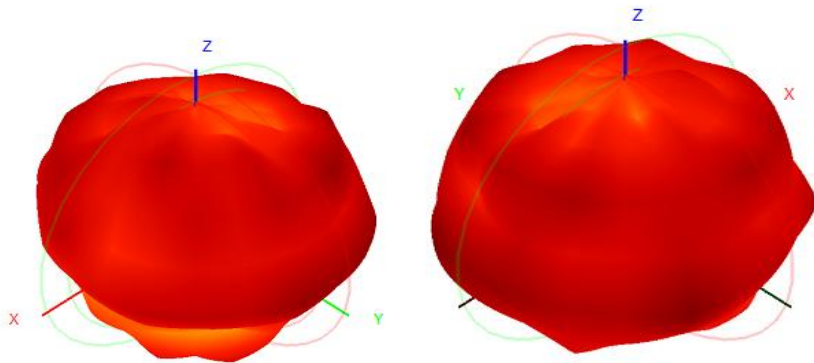
Test data:		
WIFI 2.4G		
Freq(MHz)	Efficiency (%)	Gain (dBi)
2400	50.5	1.30
2410	51.5	1.25
2420	56.5	1.09
2430	57.6	1.03
2440	52.3	1.30
2450	53.1	1.41
2460	54.2	1.58
2470	55.3	1.60
2480	52.6	1.25
2490	54.3	1.30
2500	51.3	1.14

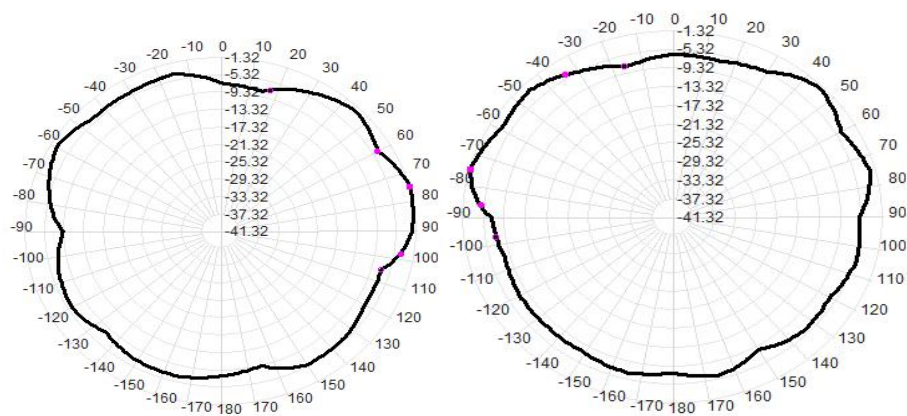






Test data:		
WIFI 5.8G		
Freq(MHz)	Efficiency (%)	Gain (dBi)
5100	49.5	1.25
5200	48.5	1.30
5300	47.9	1.40
5400	48.6	1.25
5500	50.5	1.13
5600	51.4	1.12
5700	52.3	0.96
5800	52.4	0.87
5850	51.3	0.98





Frequency Band	2. 4GWIFI-B			5GWIFI-A		
channel	L	M	H	L	M	H
TRP	11.5	12.5	12.6	12.5	11.6	12.3
TIS			-71.5			-70.5
Frequency Band	2. 4GWIFI-G			2. 4GWIFI-N		
channel	L	M	H	L	M	H
TRP	11.5	10.8	11.6	11.5	11.2	10.6
TIS			-67.5			-65.3

## 7. Antenna environment handling

The original environment, we do not do processing

## 8. 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:

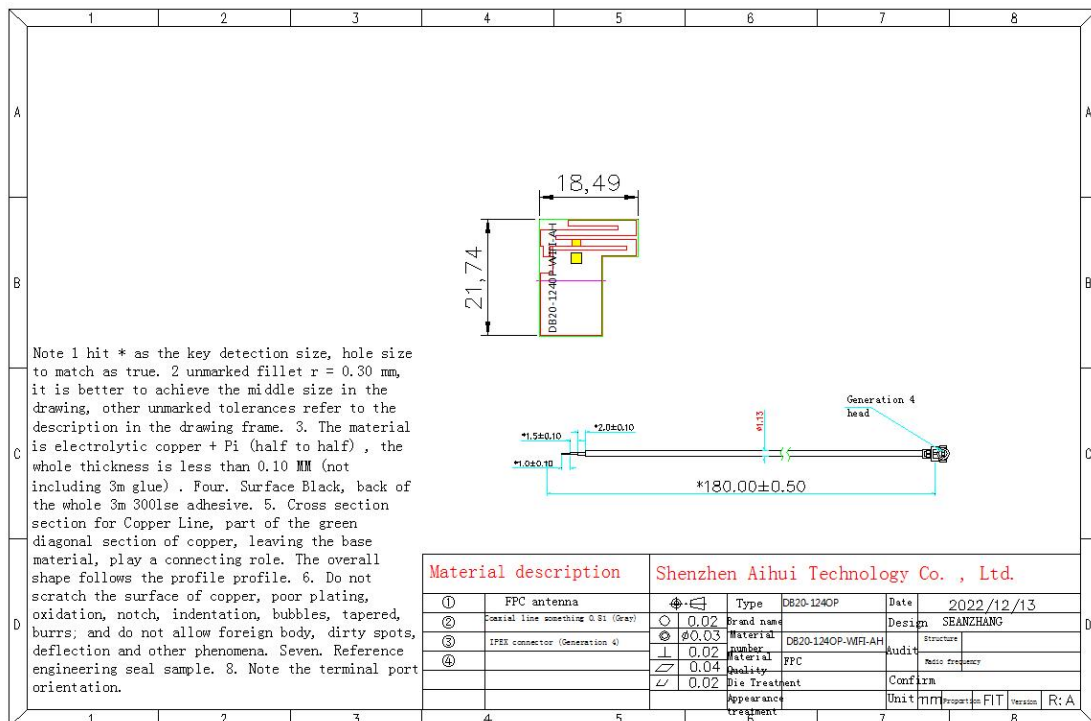
Frequency	Standard for volume production
2400 MHZ -2500MHZ 5100 MHZ-5850 MHZ	VSWR (Mass Production performance) & LT; VSWR(recognition performance) 0.5

# Shenzhen Aihui Technology Co. , Ltd.

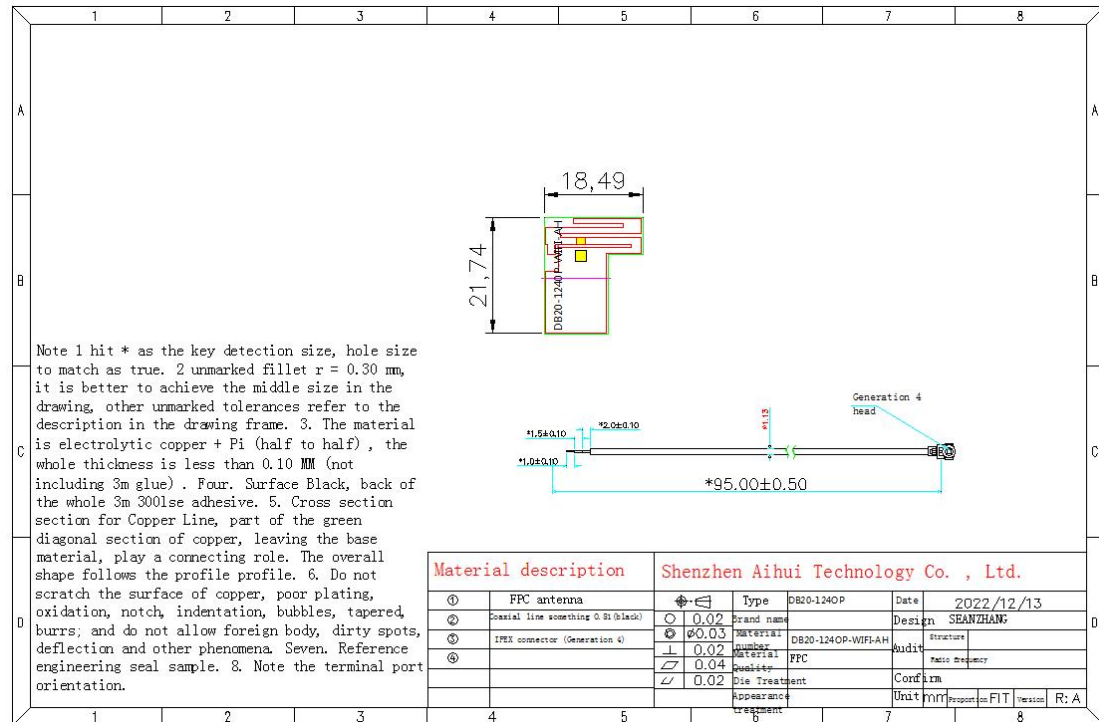
1575 MHZ -5800MHZ

VSWR (Mass Production performance) &  
LT; VSWR(recognition performance) 0.5

## 10. Structural drawings



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