

Antenna specification

Antenna Sample Confirmation From

Name of supplier	ShenZhen Aihui Technology Co. , Ltd				
Customer name	Yi Gao				
Sample name	868				
model	tablet computer				
Sample size	Main antenna: 135mm 3rd generation terminals Triple antenna: 215mm 3rd generation terminals Diversity antenna: Pin type				
Inspection item	Performance test	Visual inspection	Structure	In the news	Test results
Notes					
Quality Audit		Project Audit		Business confirm ation	
The following is to be completed by the client					

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	GSM/LTE/WIFI /BT /GPS	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.	

1. Project Image
2. Test Fixture
3. Antenna matching circuit
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5. Antenna passive efficiency and gain
6. Darkroom test equipment and data
7. Schematic diagram of antenna assembly
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9. Antenna mass production index
10. Structural drawing

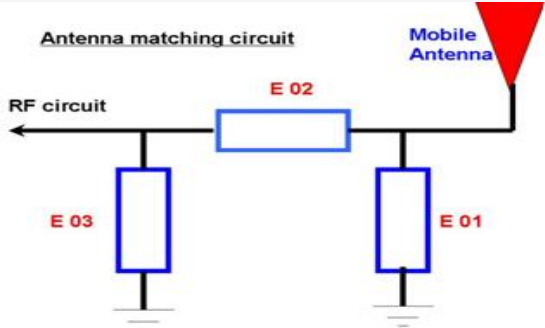
1.Project Image

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



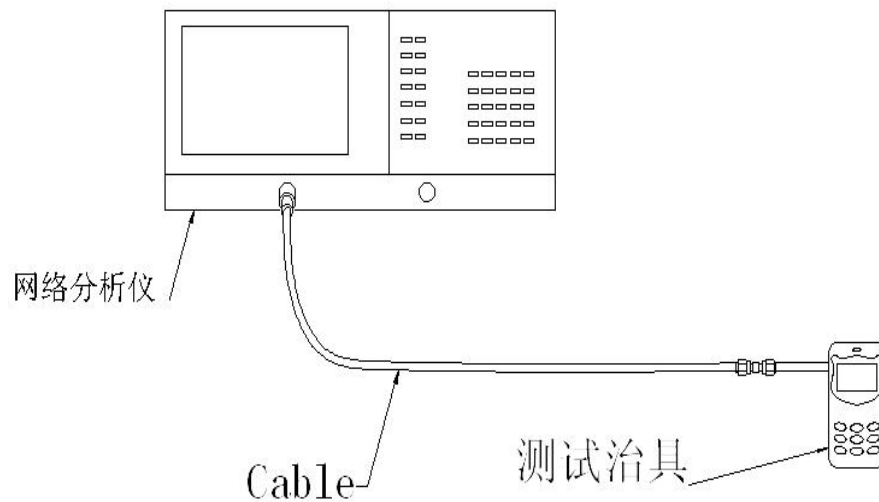
Modify

E01	E02	E03
No	No	No

Note: The match is unmodified.

4.S11 test

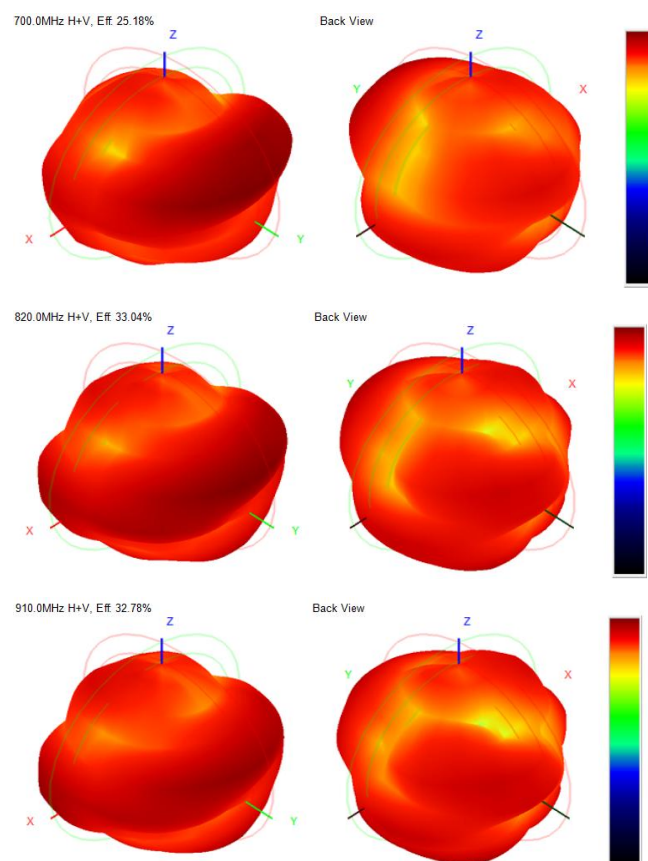
4.0 4.0s11 test method description of test equipment: Network Analyzer (E5071C) test method: a 50 ohm CABLE is used to export from the instrument test port. The SMA connector for connecting the handset is calibrated using a calibration piece, record the echo loss and standing wave ratio corresponding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



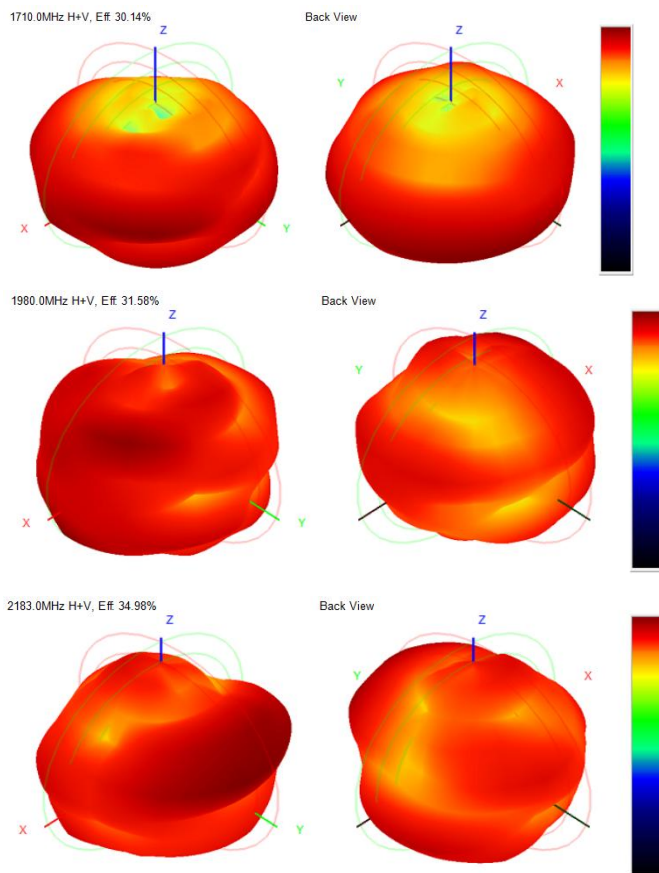
5.Darkroom test equipment and data

LTE:

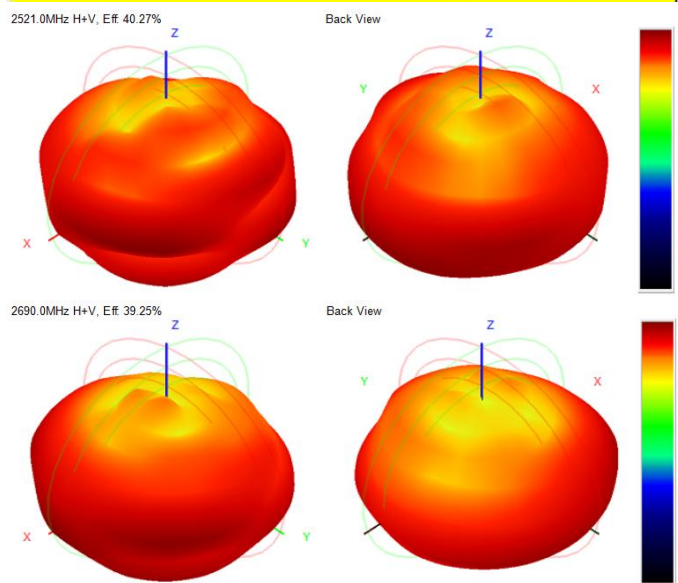
Gain&Efficiency 增益和效率			
frequency 频率(Hz)	gain 增益(dB)	efficiency 效率(dB)	efficiency 效率
700M	0.39	-4.54	25.18%
730M	0.63	-4.18	27.15%
760M	1.03	-3.38	30.88%
790M	0.96	-3.55	32.17%
820M	0.83	-3.73	33.04%
850M	1.25	-3.29	32.4%
880M	1.17	-3.34	34.88%
910M	0.66	-4.26	32.78%



Gain&Efficiency 增益和效率			
frequency 频率(Hz)	gain 增益(dB)	efficiency 效率(dB)	efficiency 效率
1710M	0.96	-4.21	30.14%
1743M	0.76	-3.96	32.22%
1777M	1.01	-3.77	33.24%
1811M	1.3	-3.98	32.58%
1845M	0.99	-3.57	34.19%
1878M	0.82	-4.08	31.69%
1912M	1.21	-3.42	33.75%
1946M	1.33	-3.34	35.44%
1980M	1.03	-4.05	31.58%
2014M	0.68	-4.16	30.62%
2047M	0.85	-3.85	32.61%
2081M	0.91	-3.62	34.62%
2115M	1.13	-3.85	33.98%
2149M	1.45	-3.89	32.12%
2183M	0.89	-3.56	34.98%

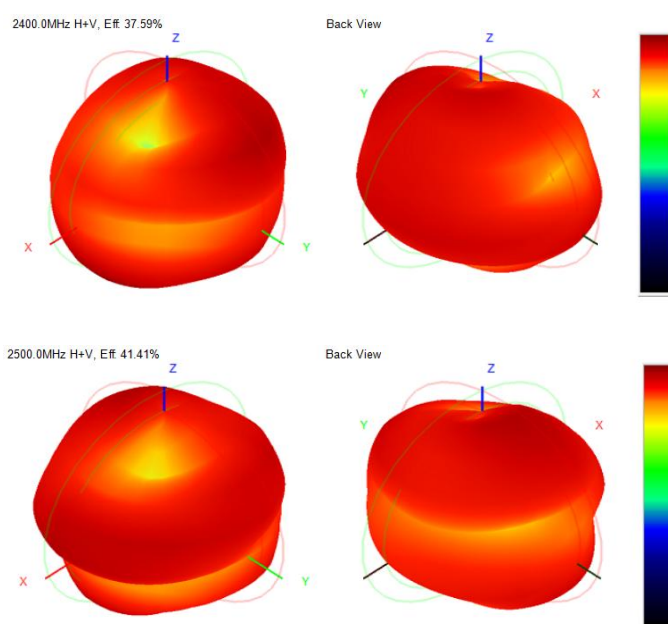


2521M	0.83	-3.95	40.24%
2554M	0.86	-3.9	40.72%
2588M	1.39	-4.13	38.65%
2622M	1.25	-4.23	37.73%
2656M	0.62	-4.31	37.1%
2690M	0.83	-39.99	39.25%

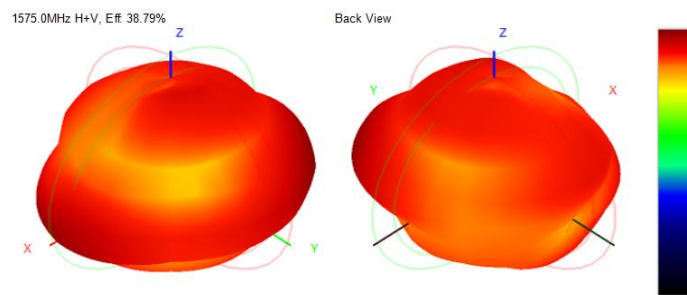


WIFI&BT&GPS

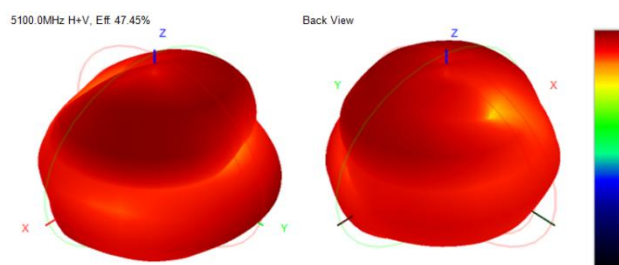
Gain&Efficiency 增益和效率			
frequency 频率(Hz)	gain 增益(dB)	efficiency 效率(dB)	efficiency 效率
2400M	0.86	-3.73	37.59%
2420M	1.16	-3.38	38.59%
2440M	1.27	-3.13	38.49%
2460M	0.96	-3.63	40.18%
2480M	1.24	-3.15	40.03%
2500M	1.53	-3.04	41.41%

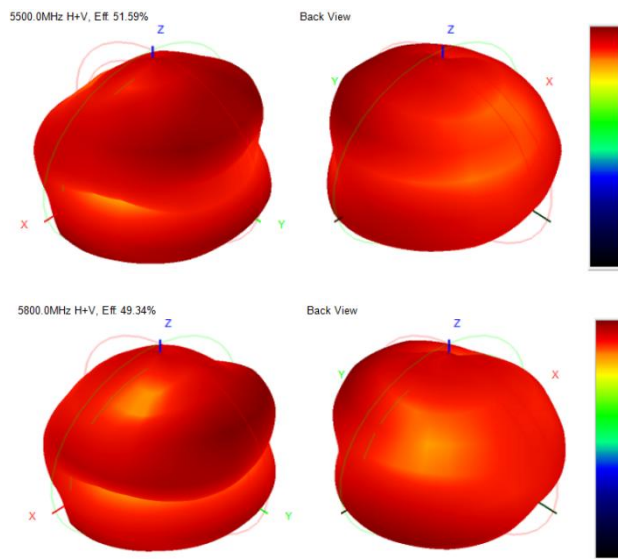


Gain&Efficiency 增益和效率			
frequency 频率(Hz)	gain 增益(dB)	efficiency 效率(dB)	efficiency 效率
1565M	0.98	-4.23	36.68%
1575M	0.86	-4.33	38.79%
1585M	0.93	-4.16	36.39%
1595M	0.83	-4.38	35.42%



Gain&Efficiency			
frequency 频率(Hz)	gain 增益(dB)	efficiency 效率(dB)	efficiency 效率
5050M	1.56	-3.47	48.34%
5100M	1.62	-3.43	47.45%
5150M	1.44	-3.86	49.29%
5200M	1.36	-3.17	50.43%
5250M	1.51	-2.97	52.42%
5300M	1.61	-3.13	51.47%
5350M	1.63	-3.55	50.33%
5400M	1.35	-3.02	52.14%
5450M	1.47	-3.34	50.17%
5500M	1.43	-3.43	51.19%
5550M	1.58	-3.24	48.69%
5600M	1.57	-3.61	49.51%
5650M	1.37	-3.88	48.13%
5700M	1.8	-3.79	50.87%
5750M	1.74	-4.1	52.09%
5800M	1.64	-4.22	49.34%
5850M	1.49	-4.31	50.19%



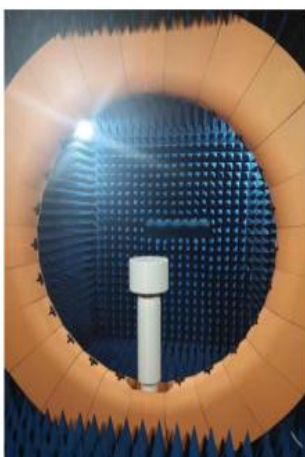


5.2. Test Equipment

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 AGILENT E5071C to test active data, use the omnibus CMW500



and
izhen

6.Active antenna test data

Frequency Band	GSM:850			1900		
channel	L	M	H	L	M	H
TRP	26.57	26.66	26.36	24.25	25.65	26.32
TIS			-102.35			-104.15
Frequency Band	GSM:900			1800		
channel	L	M	H	L	M	H
TRP	28.54	28.42	27.41	24.11	24.32	24.41
TIS			-103.30			-103.60

Frequency Band	WCDMA 1			WCDMA 8		
channel	L	M	H	L	M	H
TRP	18.66	18.74	19.62	17.54	17.44	18.11
TIS			-103.41			-102.91

Frequency Band	LTE B1			LTE B3		
channel	L	M	H	L	M	H
TRP	18.64	18.94	19.41	19.65	19.44	19.63
TIS			-92.35			-92.67
Frequency Band	LTE B5			LTE B7		
channel	L	M	H	L	M	H
TRP	17.54	17.88	18.52	19.65	19.41	19.44
TIS			-93.25			-92.71
Frequency Band	LTE B8			LTE B20		
channel	L	M	H	L	M	H
TRP	18.55	18.65	18.14	17.66	17.49	17.82
TIS			-93.71			-91.44

Frequency Band	WiFi-2.4G-B模			WiFi-2.4G-C模		
channel	L	M	H	L	M	H
TRP	12.21	11.45	12.30	11.15	11.30	11.15
TIS			-80.35			-68.41
Frequency Band	WiFi-2.4G-N模			WiFi-5.8G-A模		
channel	L	M	H	L	M	H
TRP	10.35	10.44	10.25	10.44	10.65	9.82
TIS			-67.14			-68.19

7.Real-time WiFi results

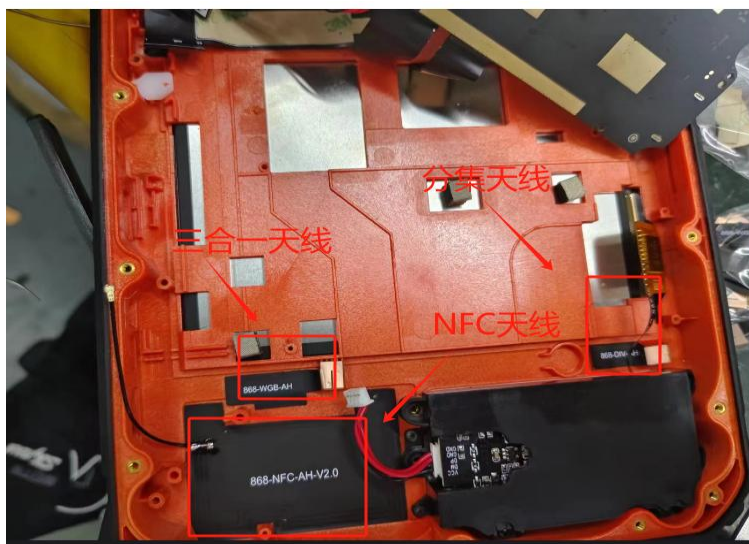
测试地点为我司
窗台，星值40以
上2-3颗



测试距离
10M 信号满
格 上网正常。



8.Schematic diagram of antenna assembly



8.1. Antenna environment handling

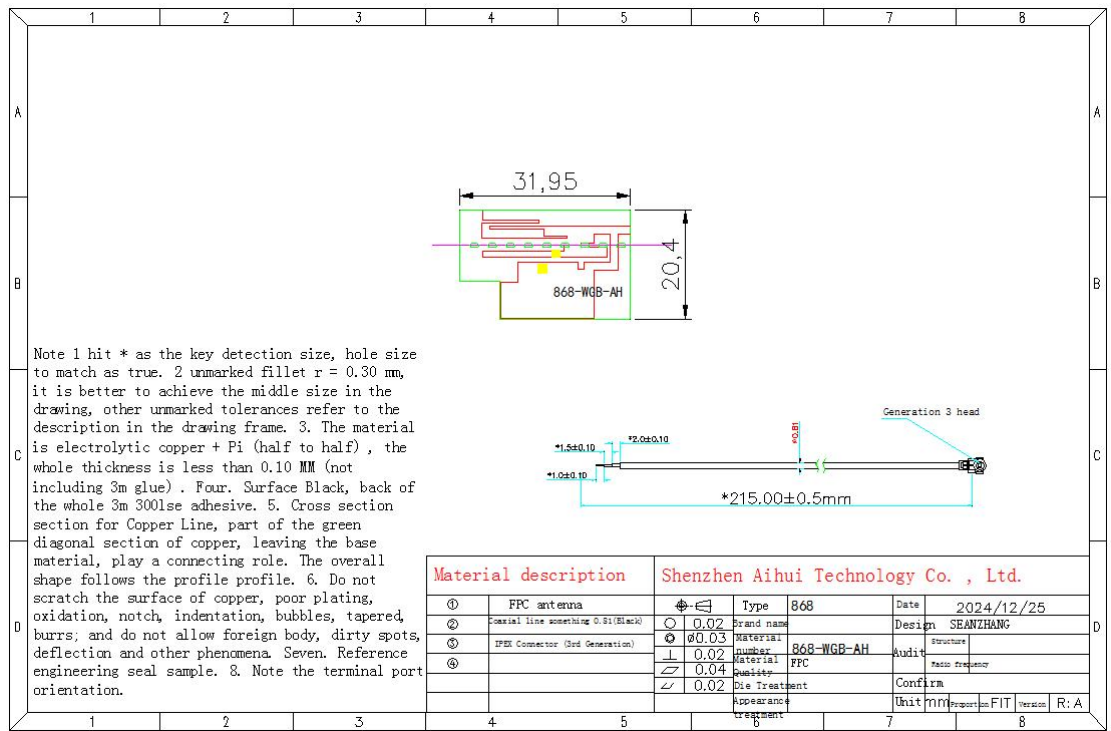
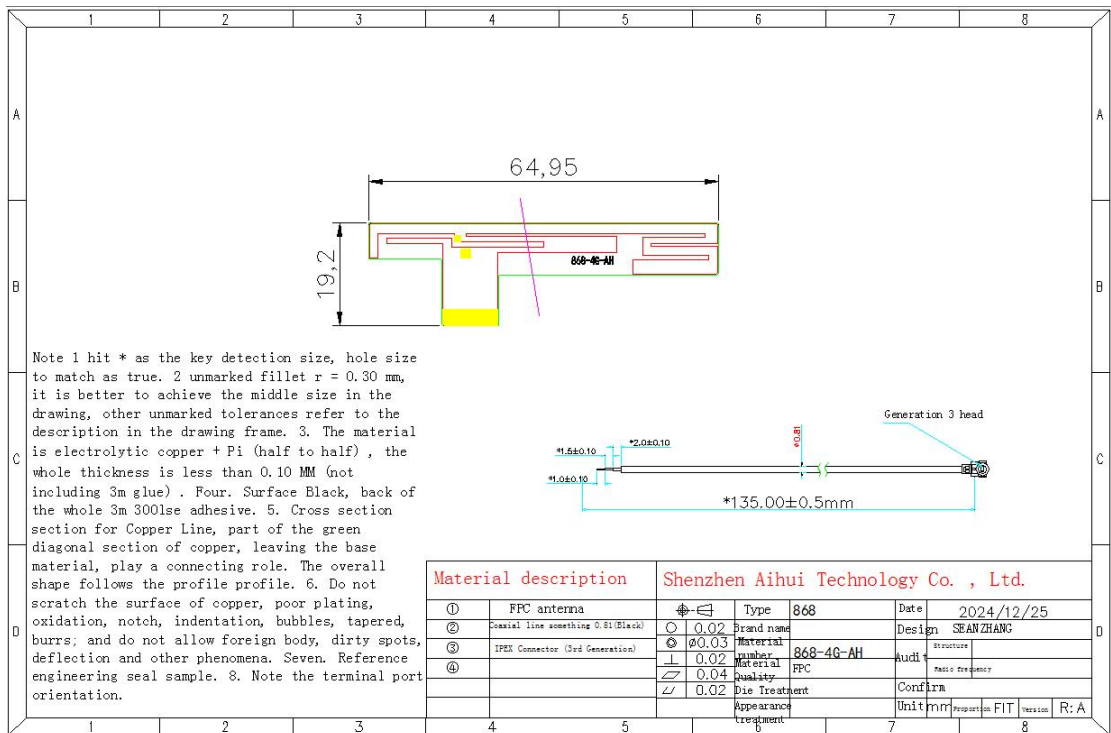


9.Antenna mass production index

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
680MHZ-2700Mhz	VSWR (Mass Production performance) & LT; VSWR(recognition performance) 0.5

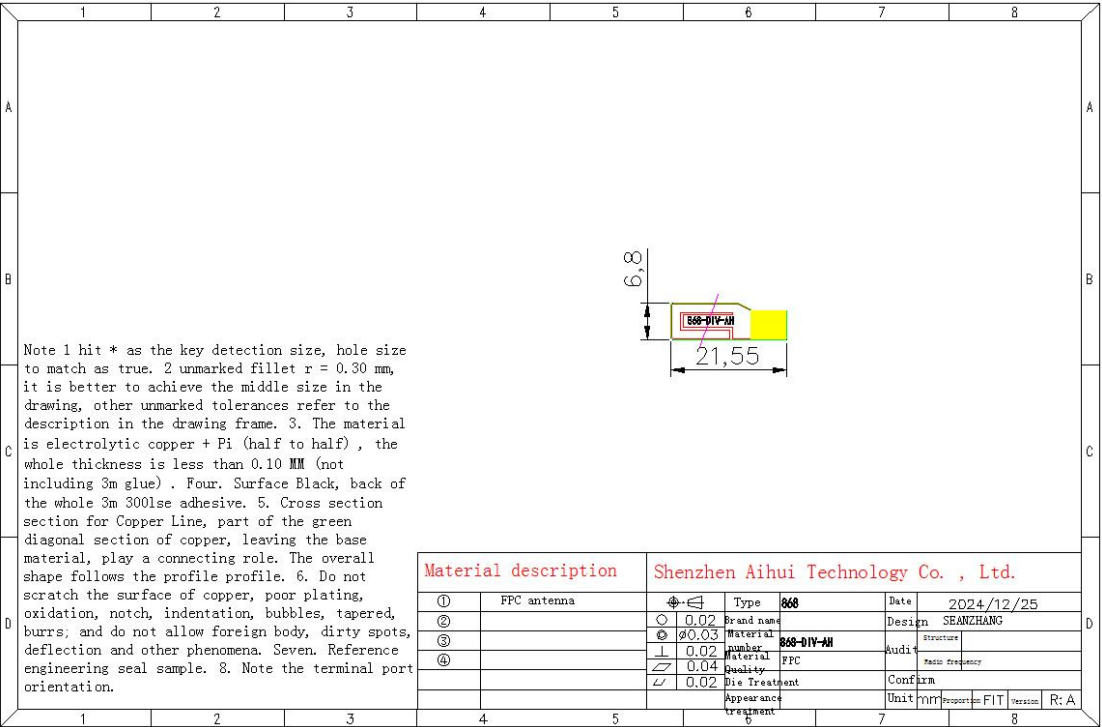
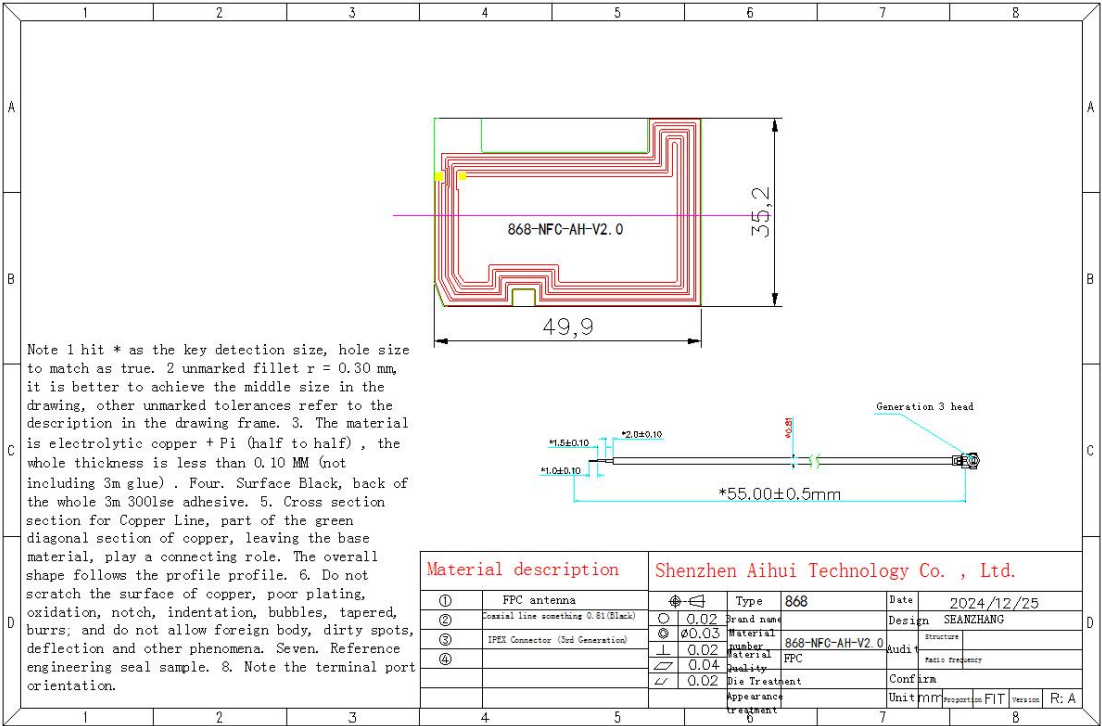
10. Structural drawings

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