Antenna Sample Confirmation From

Vendor Name	ShenZhen Aihui Technology Co., Ltd				
Customer Name	Gather the men				
Sample Name	P8				
Part Number					
Specification	P8-4g-ah 4 terminal 225mm (0.81)				
Inspection Item	Performance	Total Appearance	structure	Others	Inspection Result
Remark					
QA Audit		Engineer Audit		Sales Confirm	
The following are filled by Customer					
Customer Evaluation					
Signation/ Chapter by Customer	date:2022.11.24				

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Shenzhen Aihui Technology Co. , Ltd.

Antenna Test Report

Test by： ShenZhen Aihui Technology Co.，Ltd			
Material	FPC coaxial line		
Antenna Type	**MonopoleType**	**Polarization mode**	**Linear**
Application			
Band	**WCDMA/B2.B4.B5/LTE/B2.B4.B5.B12.B66/B71/ 2.4G/5GWIFI.GPS.BT**	**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.

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1. Project Picture

2. Test fixture

3. Antenna matching circuit

4. S11 test 4.0S11 test method illustration

4.1S11 parameter picture

5. Darkroom test apparatus and data

5.0 test apparatus

5.1 active test data Passive efficiency data

6. Antenna assembly schematic diagram

7. Antenna Environment Treatment

8. Antenna mass production index

9. Structure drawing

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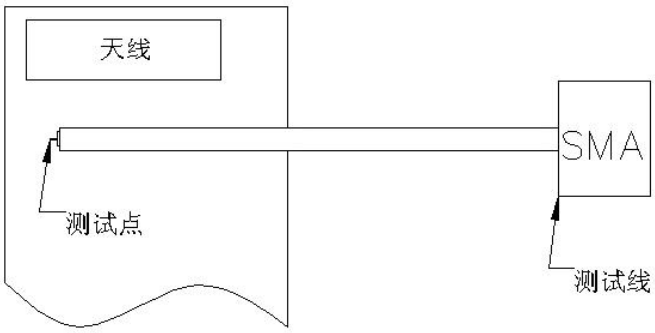
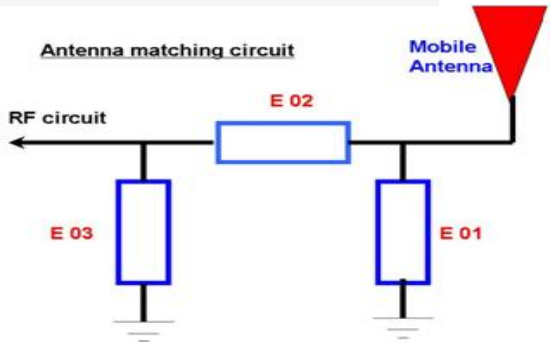
1. Project picture explanation:

the customer finally verifies the antenna performance prototype to keep in our company at least one year time, is convenient to analyze and solve the antenna mass production abnormal situation, ensure the antenna shipment quality

2, test system objective: to test the antenna passive parameters 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 theSMAjoint.Thediagramisasfollows:



3、Antenna matching circuit



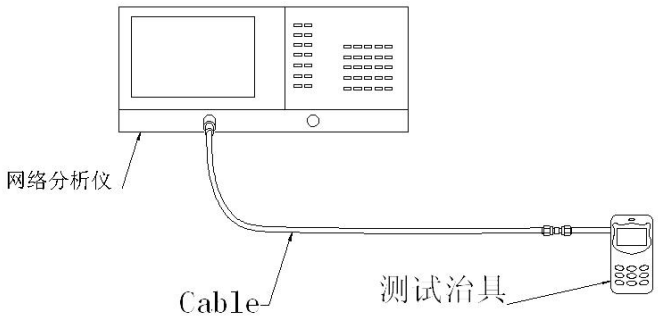
Modify

E01	E02	E03
No	No	No

Note: The match is unmodified.

Four. S11 test

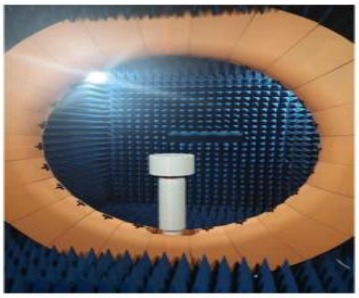
4.0S11 test method description of test equipment: Network Analyzer (E5071C) test method: export from the instrument test port using a 50 ohm CABLE, after calibration, the SMA Joint of the handset is connected to record the return loss and standing wave ratio corresponding to the relevant frequency points. The test schematic is asfollows:



Test schematic

5.ANECHOIC chamber test equipment and data

5.0 test equipment test system: SHIELDED ANECHOIC chamber test environment: temperature 22 ° C ± 3 ° C, humidity 50% ± 15% test equipment: Test passive data, when testing active data with the Network analyzer AGILENTE5071C, use the omnibus CMW500



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5.1Active antenna test data

Frequency Band	LTE B2			LTE B4		
channel	L	M	H	L	M	H
TRP	20.12	20.25	20.22	18.06	18.41	18.81
TIS			-93.33			-92.36
Frequency Band	LTE B5			LTE B12		
channel	L	M	H	L	M	H
TRP	17.24	17.22	16.81	13.15	13.54	13.73
TIS			-90.42			-90.33
Frequency Band	LTE B66			LTE B71		
channel	L	M	H	L	M	H
TRP	18.12	18.68	19.07	12.83	13.01	13.25
TIS			-93.85			-86.81
Frequency Band	WCDMA B2			WCDMA B4		
channel	L	M	H	L	M	H
TRP	19.35	19.17	18.91	17.46	18.18	18.42
TIS			-103.25			-102.38

Frequency Band	WCDMA B5					
channel	L	M	H			
TRP	16.73	16.28	16.83			
TIS			-102.91			
Frequency Band						
channel						
TRP						
TIS						

Passive efficiency data of main antenna

Gain&Efficiency			
frequency (Hz)	gain (dB)	efficiency (dB)	efficiency A
690M	0.76	-2.61	25.31%
710M	0.78	-2.72	26.43%
730M	0.81	-2.66	27.23%
750M	0.73	-2.81	26.10%
770M	0.73	-3.06	27.38%
790M	0.85	-2.91	28.16%
810M	0.91	-2.76	30.96%
830M	0.93	-2.95	33.66%
850M	1.34	-3.04	35.64%
870M	1.20	-2.82	36.26%
890M	1.06	-3.25	34.36%
910M	1.25	-3.47	35.96%
930M	1.54	-3.04	39.62%
950M	1.21	-3.19	36.16%
970M	0.82	-3.81	32.55%

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Gain&Efficiency			
frequency (Hz)	gain (dB)	efficiency (dB)	efficiency
1710M	1.61	-4.06	39.24%
1743M	1.73	-4.07	39.16%
1777M	2.03	-3.87	40.99%
1811M	1.69	-4.08	39.1%
1845M	1.53	-4.27	39.38%
1878M	2.08	-3.94	40.34%
1912M	2.23	-3.72	42.45%
1946M	2.07	-3.94	40.38%
1980M	2.2	-3.86	41.08%
2014M	2.24	-3.45	42.19%
2047M	2.16	-3.65	41.18%
2081M	2.05	-3.62	40.49%
2115M	1.73	-3.35	38.28%
2149M	1.23	-3.8	34.72%

Three-in-one antenna passive efficiency data

Gain&Efficiency			
frequency (Hz)	gain (dB)	efficiency (dB)	efficiency
2400M	1.71	-4.02	48.64%
2410M	2.1	-3.85	50.18%
2420M	2.25	-3.75	52.21%
2430M	2.37	-3.74	52.24%
2440M	2.27	-3.83	51.37%
2450M	2.21	-3.8	51.72%
2460M	1.8	-4.3	47.13%
2470M	1.69	-4.59	44.77%
2480M	1.79	-4.61	44.56%
2490M	1.74	-4.75	43.52%
2500M	1.73	-4.98	41.76%

Gain&Efficiency			
frequency (Hz)	gain (dB)	efficiency (dB)	efficiency
1570M	1.23	-6.02	41.64%
1572M	1.35	-5.85	40.18%
1574M	1.43	-5.75	42.21%
1576M	1.68	-4.74	42.24%
1578M	1.52	-5.83	41.37%
1580M	1.43	-5.88	41.72%

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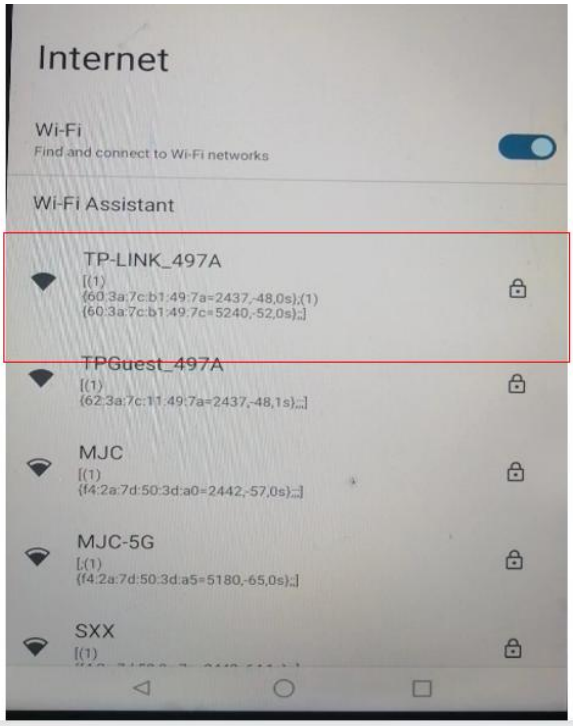
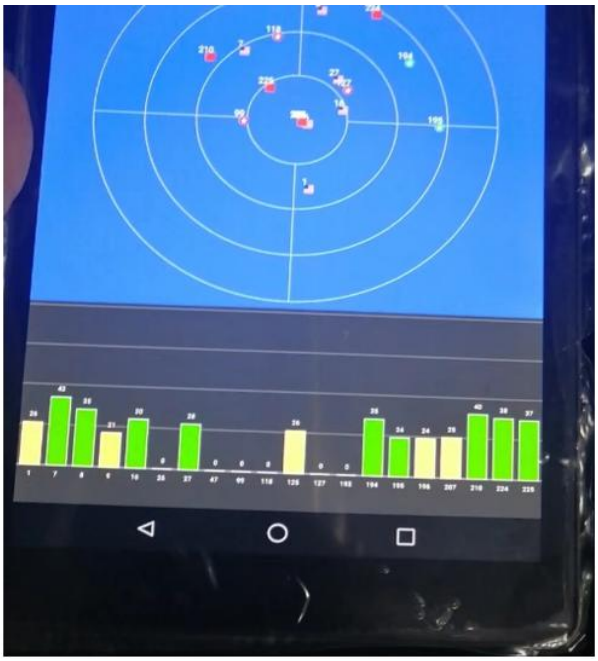
Gain&Efficiency			
frequency (Hz)	gain (dB)	efficiency (dB)	efficiency
5050M	2.86	-4.25	55.58%
5100M	2.79	-3.82	54.50%
5150M	2.7	-3.98	53.03%
5200M	2.88	-4.51	55.42%
5250M	2.96	-4.55	56.10%
5300M	2.34	-3.92	57.31%
5350M	2.53	-3.81	56.82%
5400M	2.61	-4.46	54.58%
5450M	2.54	-3.99	56.18%
5500M	2.43	-5.2	55.18%
5550M	2.44	-4.65	56.24%
5600M	2.73	-4.29	53.26%
5650M	2.17	-4.08	55.10%
5700M	2.18	-4.48	56.67%
5750M	3.44	-4.7	59.88%
5800M	2.89	-5.48	55.34%

5. 2 WIFI/GPS measurements

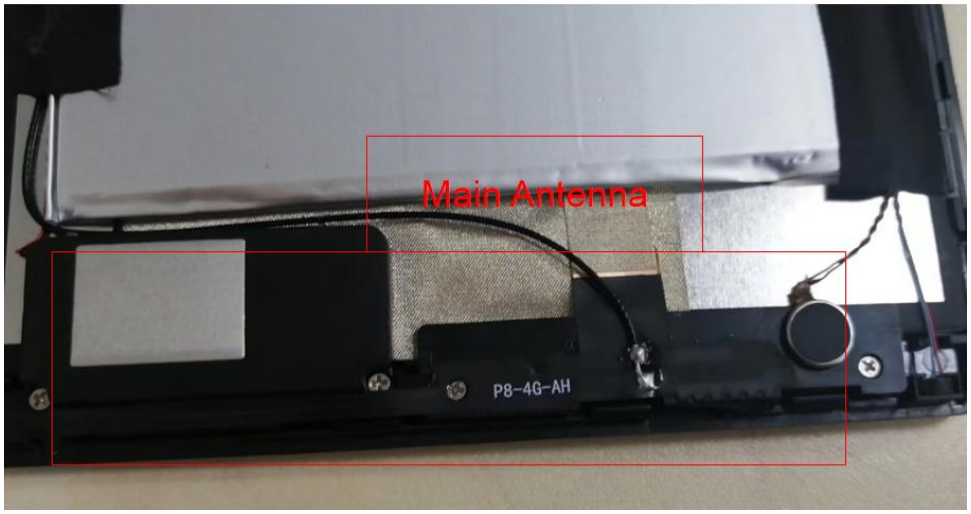
WIFI measurement; 10 meters from the router, full signal, the effect is normal



GPS Real Measurement; GSP in my division window star search real measurement, star value up to 40 have 2-3, the weather is fine



6. Schematic diagram of antenna assembly



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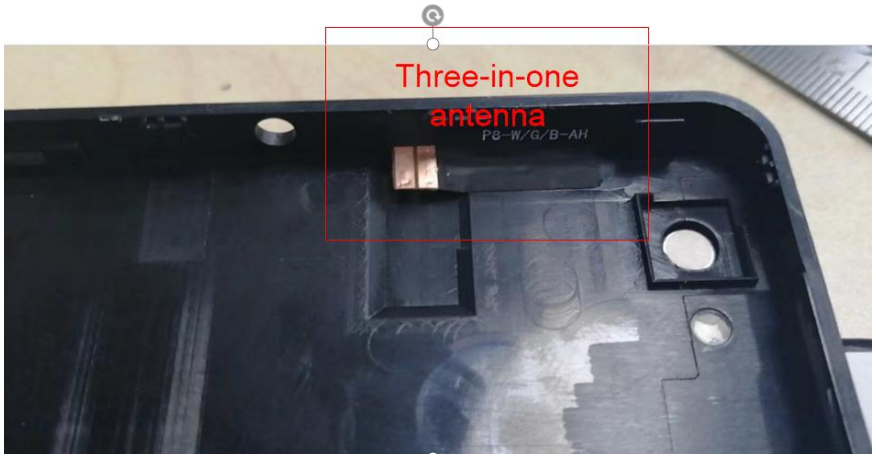
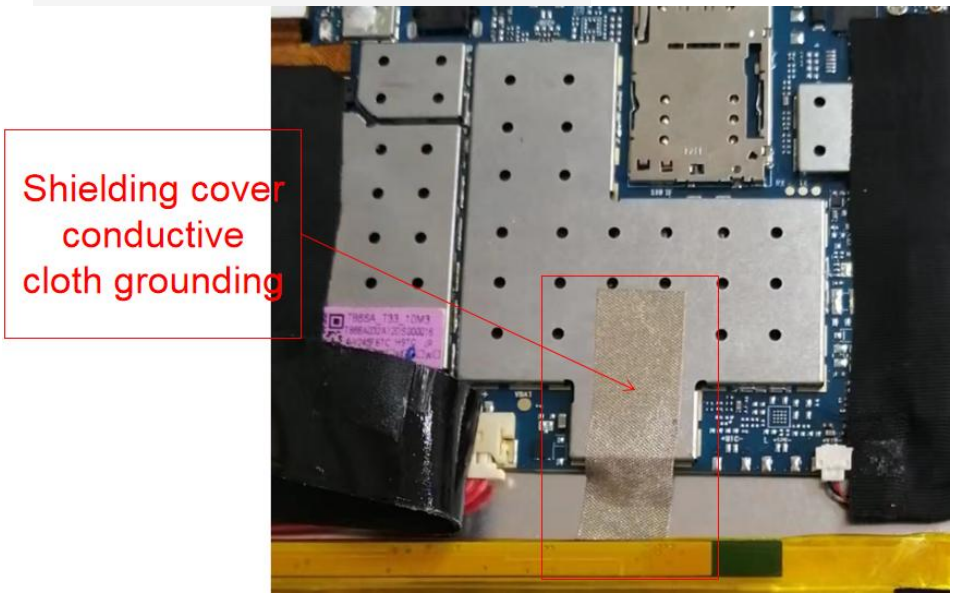


7.Antenna environment handling



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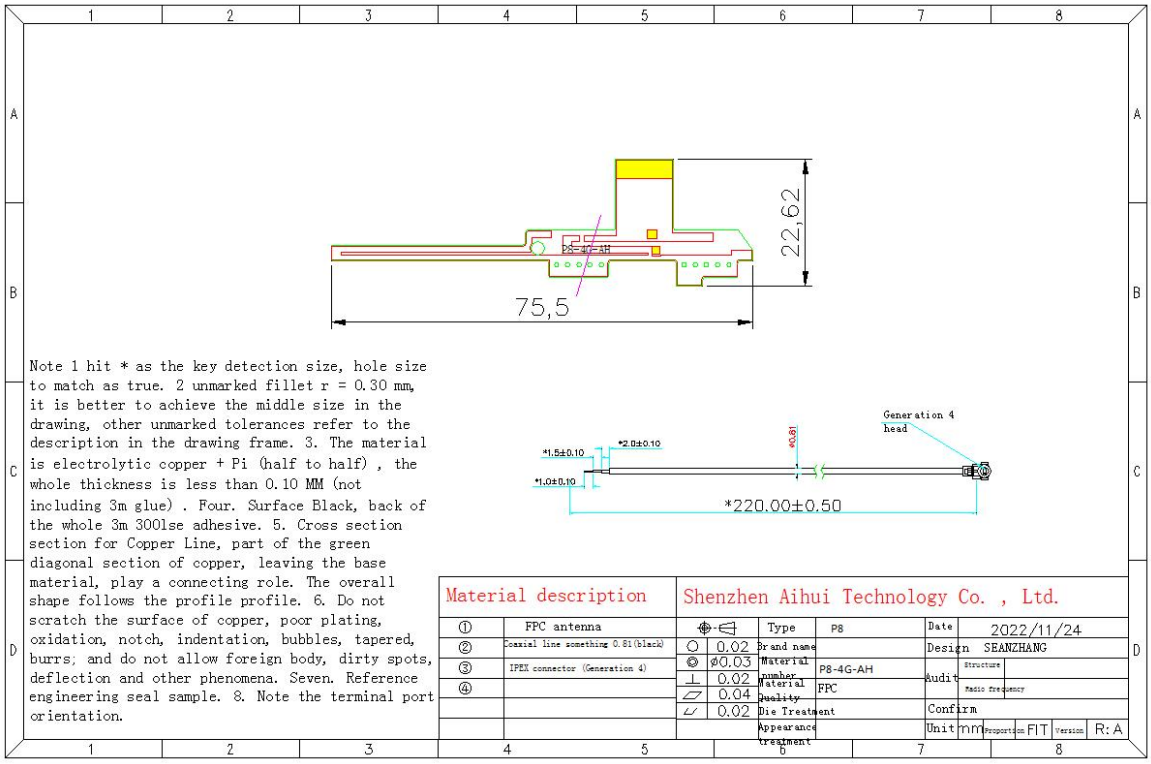
8、antenna production index

When the antenna is mass-produced, the standing wave ratio is taken as the mass-produced test standard。

According to the differences of the project itself, the following criteria are given：

Frequency	Standard for volume production
824-2690MHZ	VSWR(MassProductionperformance)< VSWR(recognitionperformance) 0.5

9. Structural drawings



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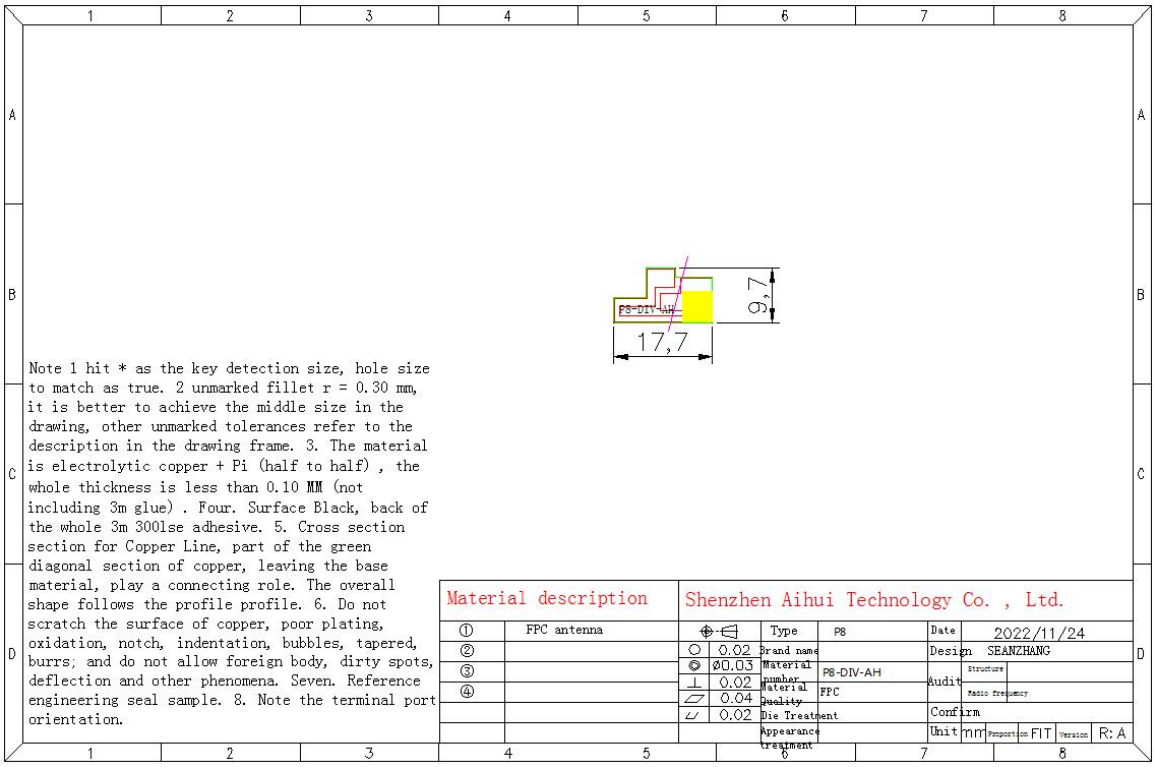

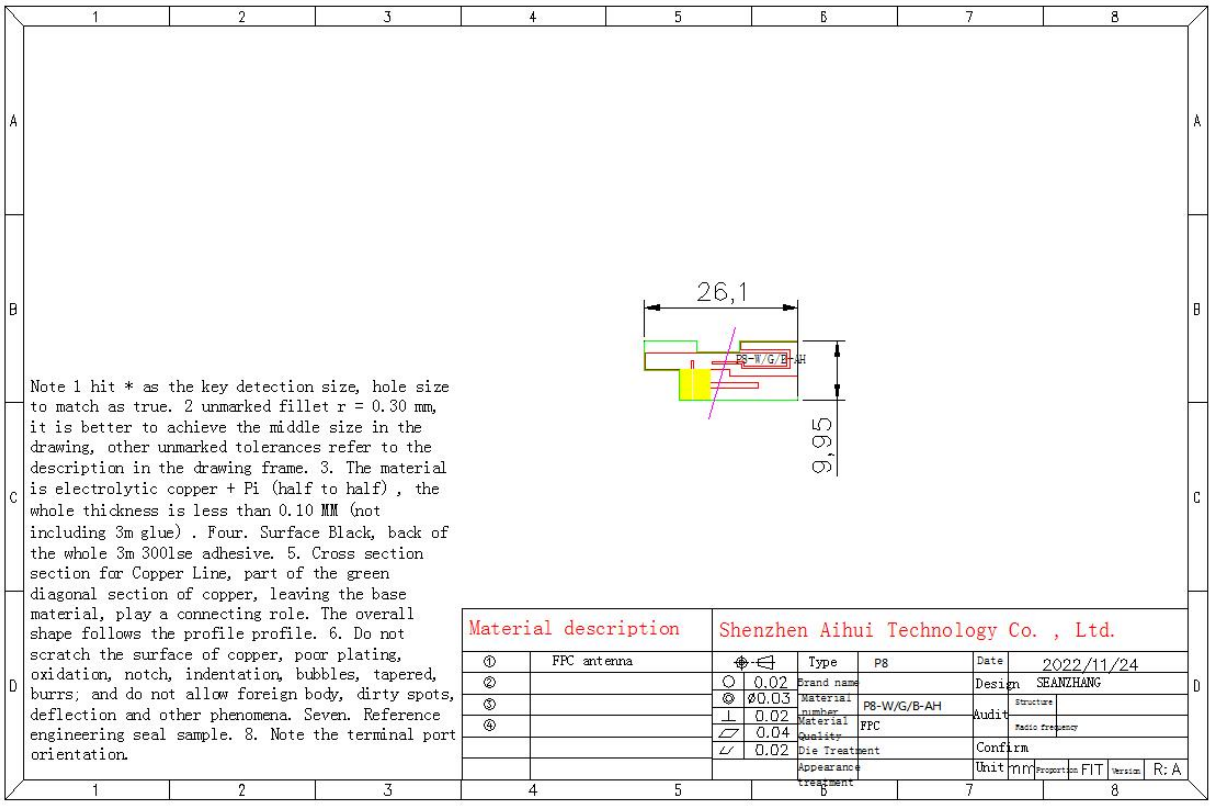

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