SHENZHEN DIBITONG TELECOMMUNICATION TECHNOLOGY CO.,LTD.

WIFI antenna

Product design and manufacturing specifications

- Customer:
- Projec: V701
- Name: 5.8G WIFI Antenna
- Antenna materials: FPC+Cable+EVA
- Part no:
- Designer:
- Check:
- Approved:

Rm505, 8th building, Yungu 2nd period, pingshan No.1 Road, Xili Town,Nanshan District, ShenZhen , China
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Fax: 86-755-83763348
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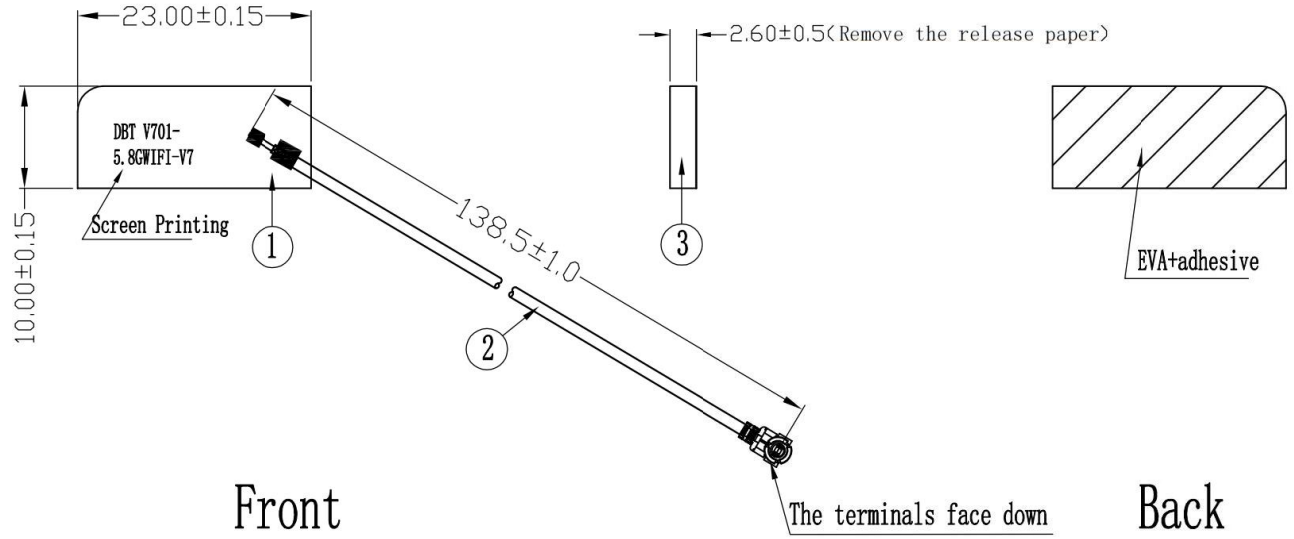
1. Antenna 2D diagram



Technical requirements:

1、Hit * for the key size, unmarked size reference 2D drawings;
2、The substrate is 12.5 μm, copper electrode is 18 μm;
3、FPC surface ink to be uniform, not wrinkle bad phenomenon;
4、Coaxial line can not have short-circuit, outside was scratched and so on;
5、Antenna solder joints to be full, no empty welding, leakage welding and other defects;
6、Products meet RoHS requirements。

NO.	Name	Specifications	Color	Dosage	Notes
③	Foam	EVA, Black, 23.0*10.0*2.5mm	Black	1	
②	Coaxial line	IPEX-1, Φ1.13 , Length 138.5MM	Black	1	
①	FPC	23.0mm*10.0mm*0.12mm	Black	1	

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Trigonometry			
Margin tolerance standard			0.02
Under 10	±0.10	◎	Ø0.03
10~20	±0.12	⊥	0.02
20~40	±0.15	▱	0.04
40以上	±0.20	∠	0.02

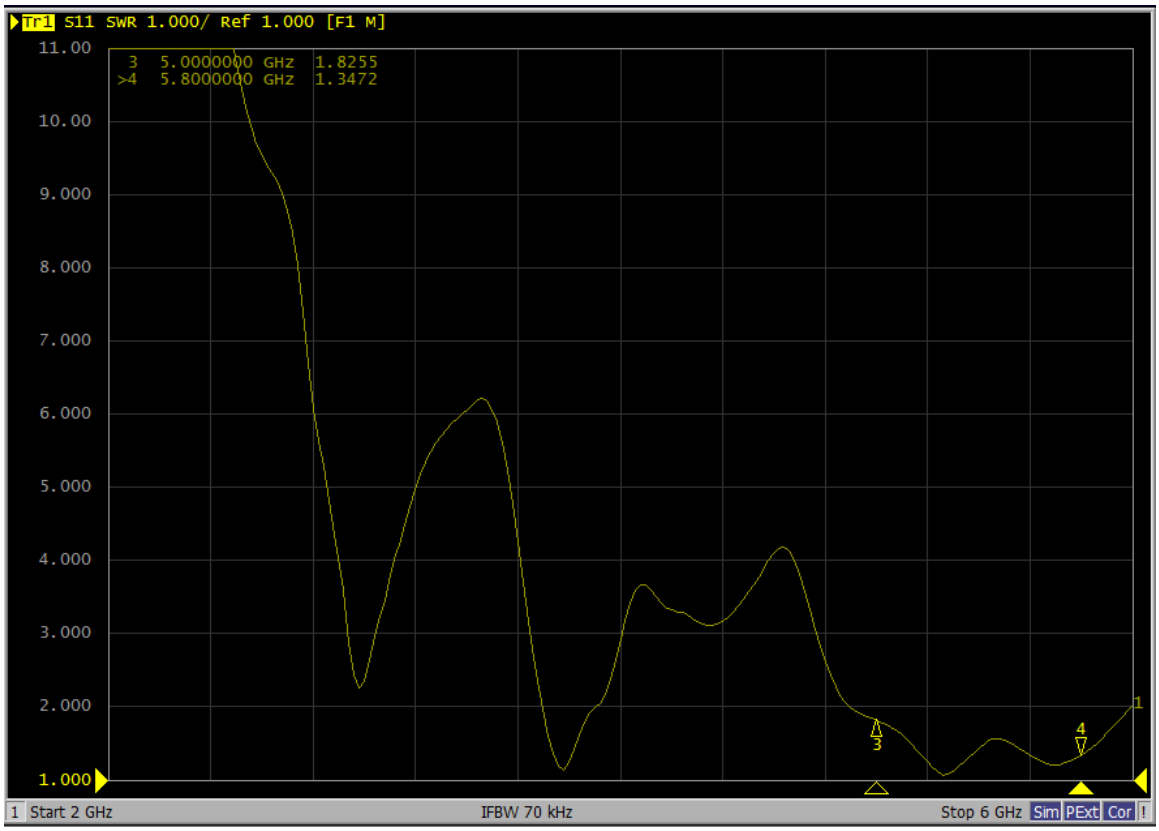
Model	V701-5.8GWIFI	Date	2024/04/08	Page	1/1
Name	Antenna Assembly	Design	YCQ		
Part No		Check	Engineering		
Material	FPC+CABLE+EVA		RF engineer	QB	
Die surface treatment		Verify			
Appearance treatment		Unit	mm	Scale FIT	Version R:A

Date	Modify the content	Version	Notes

2.Technical target

A. Electrical Parameter	
Frequency Range	**5000~5900 MHz**
VSWR	**5000~5900 MHz：≤2.5**
Gain（Max）	**5000~5900 MHz: 3.26 dBi**
Average radiation efficiency	**5000~5900 MHz : 44.4%**
Input Impedance	**50 ohm**
B. Material	
FPC+Cable+EVA	
C. Environmental Science	
Working Temperature	**- 30˚C ~ + 85 ˚C**
Storage temperature	**- 30˚C ~ + 85 ˚C**

3.S11 SWR/ Impedance test results

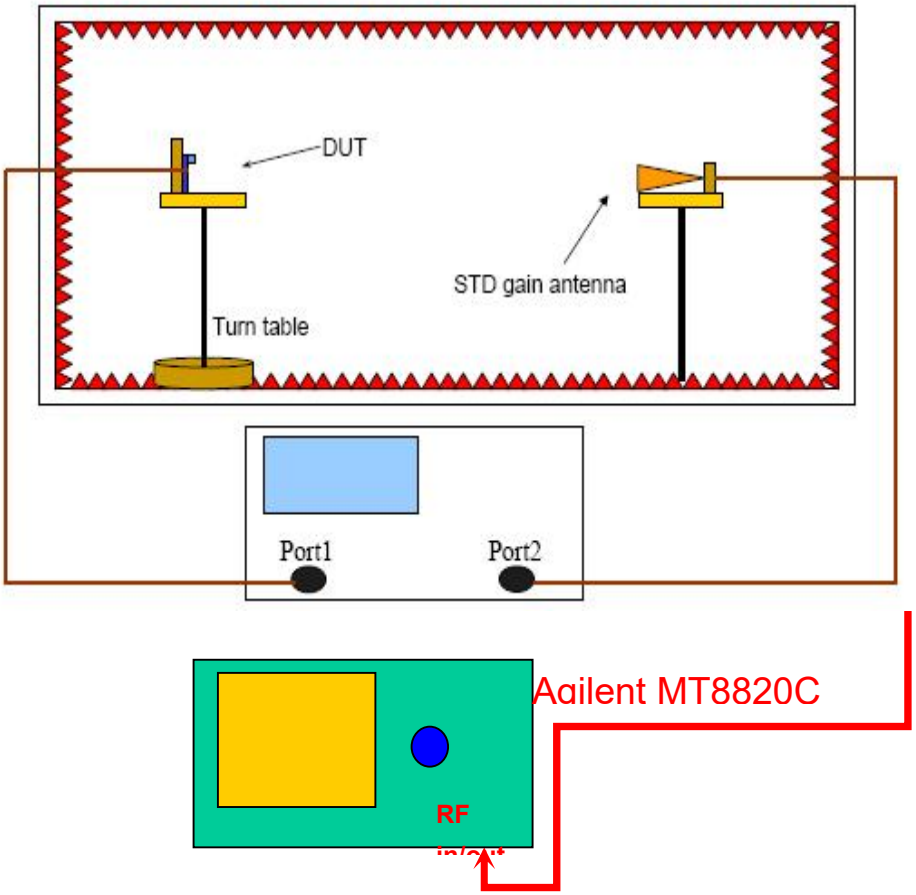


VSWR: 5000-5900MHz ⩽ 2.5

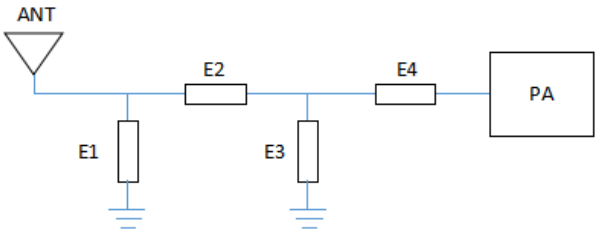
Input Impedance: 50 Ohm

4.Dynamic test instructions - Antennas are placed in electronic scales

Testing instrument：**Anrits CMW500+ Anechoic Chamber 6X4X3m(3D-OTA)**



5.Matching Circuit



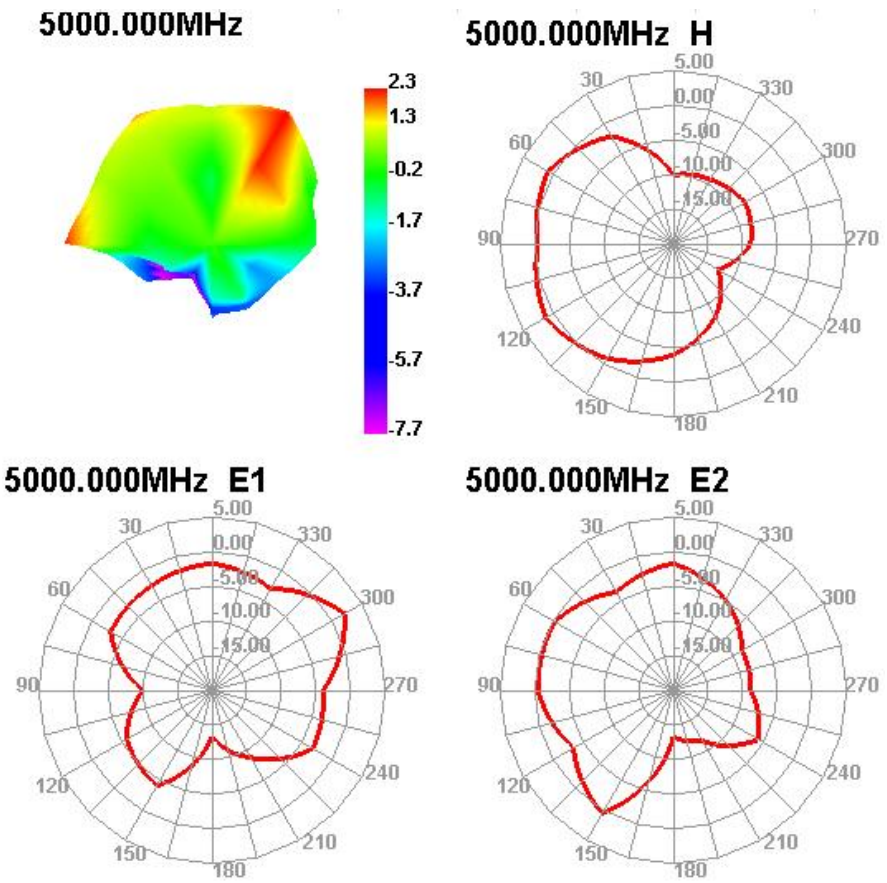
Element	2. 4G	5.8G		
E1	N/C	N/C		
E2	0Ω	0Ω		
E3	N/C	N/C		
E4		0Ω		

（The match has not changed）

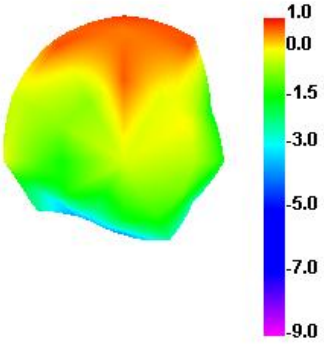
6.Antenna test report

Passive Efficiency/Gain/Pattern

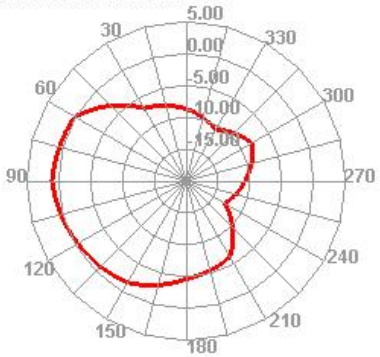
Freq (MHz)	Effi (%)	Gain (dBi)
5000	47.35	2.33
5100	48.13	3.26
5200	47.12	3.24
5300	39.08	0.98
5400	40.11	1.01
5500	43.73	1.97
5600	49.78	2.69
5700	41.48	1.5
5800	43.01	1.9
5900	44.62	2.14



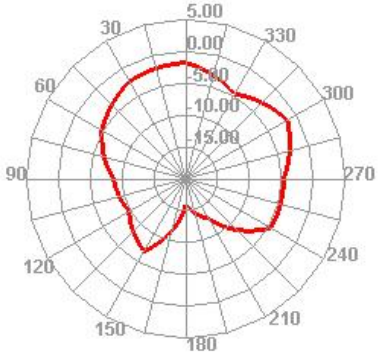
5400.000MHz



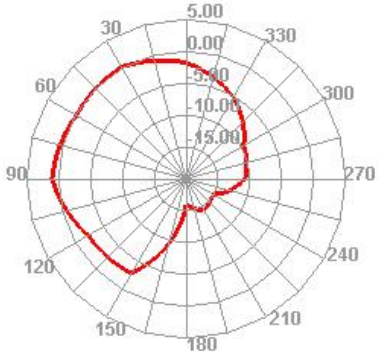
5400.000MHz H



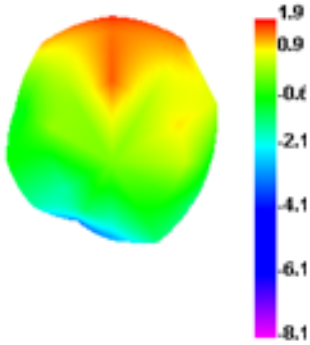
5400.000MHz E1



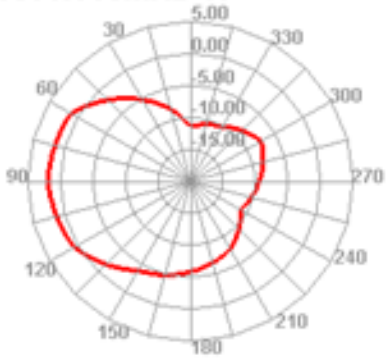
5400.000MHz E2



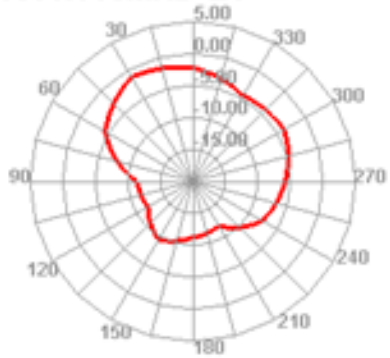
5800.000MHz



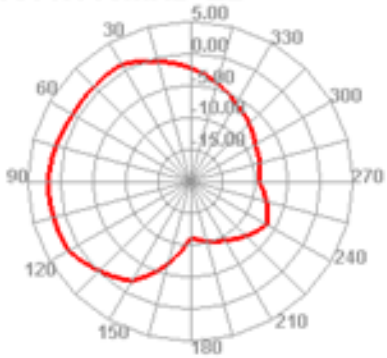
5800.000MHz H



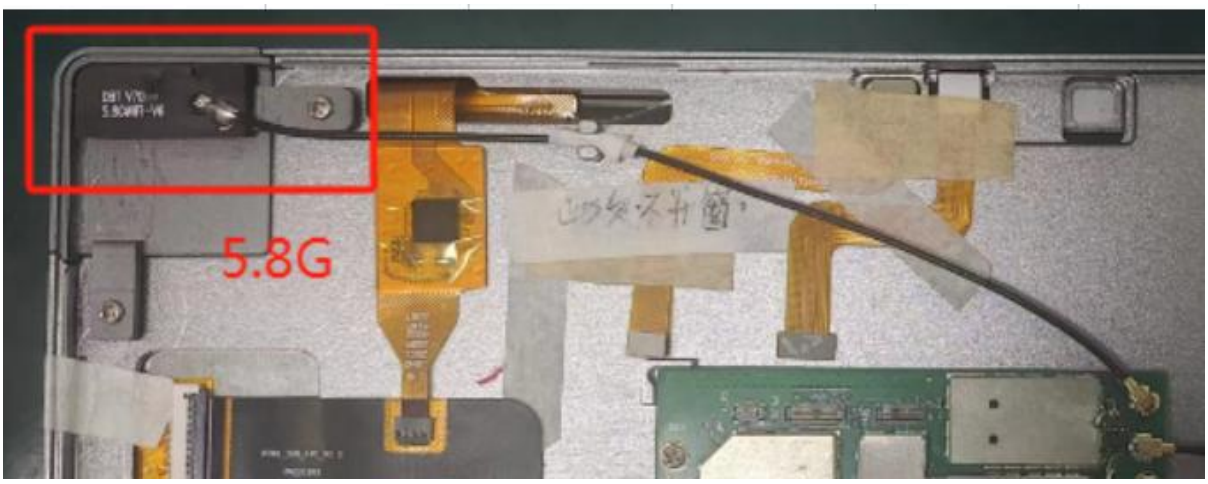
5800.000MHz E1



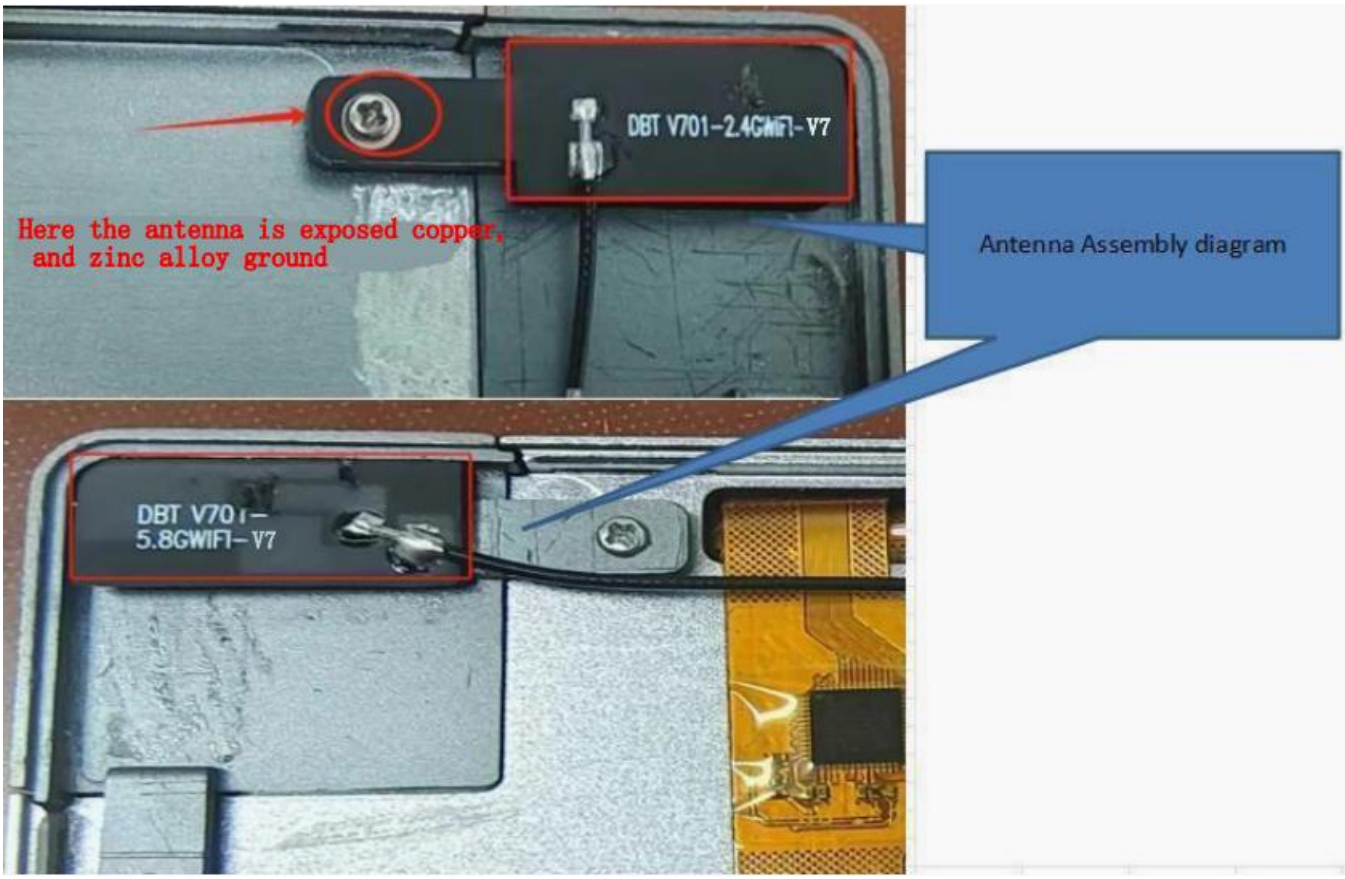
5800.000MHz E2



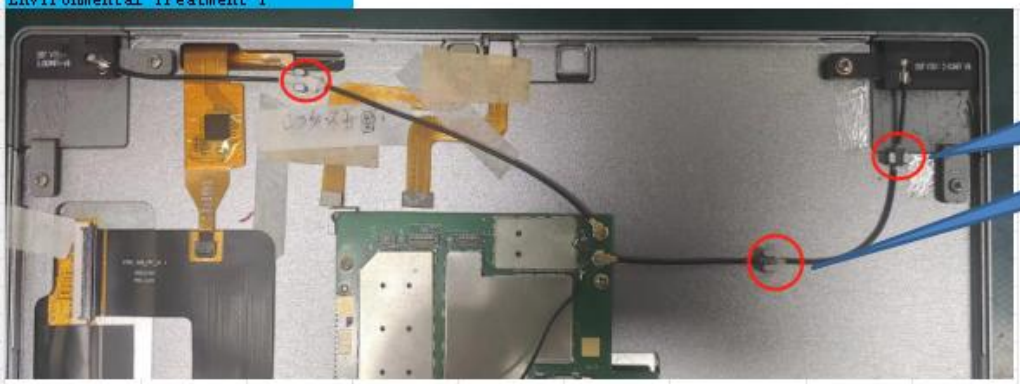
7.Environmental treatment



(Antenna position)



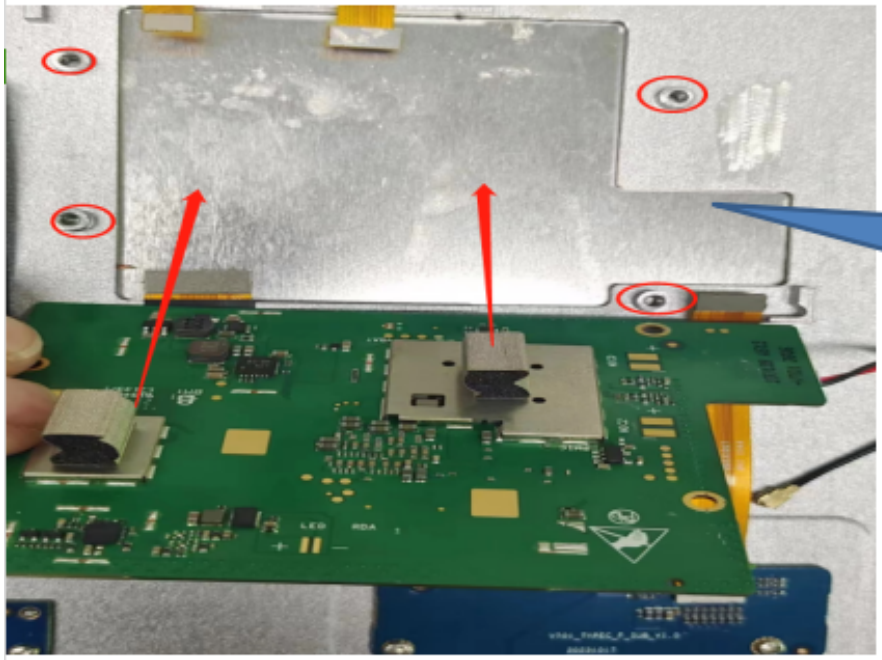
Environmental Treatment 1



2.4 G coaxial line ground in two slot positions

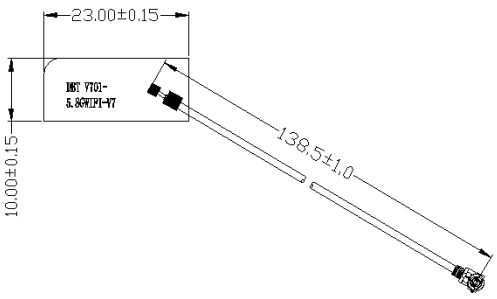
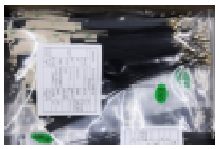
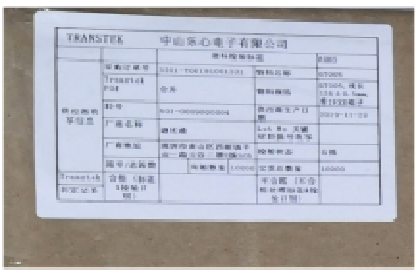
Three clamp location to narrow (coaxial line diameter 1.13 mm) , currently unable to fix coaxial line. To do narrow slot after the radium carving, for coaxial line ground fenestration. Currently only 2.4 G coaxial grounding, reducing the coaxial line effect

Environmental Treatment 2



Zinc alloy screw bit laser grounding motherboard motherboard grounding screen

8.Packing method

<table>
<tr><td colspan="2">1.2D drawing of the product</td><td rowspan="3">The product material number</td><td rowspan="3"></td></tr>
<tr><td colspan="2"> 
</td></tr>
<tr><td colspan="2">Product name</td><td>V701_2.4GWIFI</td></tr>
<tr><td colspan="2"></td><td>Product version</td><td>V7</td></tr>
<tr><td>2.Photos of all stacked layers in the box</td><td>3. Photo of the whole case after sealing</td><td></td><td></td></tr>
<tr><td> </td><td> </td><td>Number of full pages</td><td>200PCS</td></tr>
<tr><td colspan="2"></td><td colspan="2">Remarks: the quantity of each box shall be actual, the picture on the left side shall be for reference, and the actual goods shall be regarded as standard.</td></tr>
<tr><td>4. A whole pack of photos</td><td>5.A photograph of the label on the surface of the entire case</td><td colspan="2" rowspan="2">Storage conditions:between -10 ° to 30 ° , humidity 70% Rh below the indoor.</td></tr>
<tr><td>  </td><td> 
</td></tr>
<tr><td colspan="4">Note: the picture in the picture above is only used for packing standard demonstration, not for final data audit.</td></tr>
</table>

Confirmer	Yang Xiaoping		Date	2024-4-8		