



Product performance and specification

Tian wei xun antenna the research and development department

CUSTOMER NAME	Shenzhen AZW Technology Co., Ltd.		
Android Micro Material Number: AIN antenna: 14.02.0362000 ; AUX antenna: 14.02.03620001			
PRODUCT NAME	GTI14	BOARD MODEL	V3
Item number	TWX-069-085		

Client	Admit manufacturing party		
Customers confirmation	Quality department	R&D	Approval
		ME: RF:	
Date:	May 25, 2024		

Shenzhen Tianweixun Wireless Technology Co., Ltd

Indexes

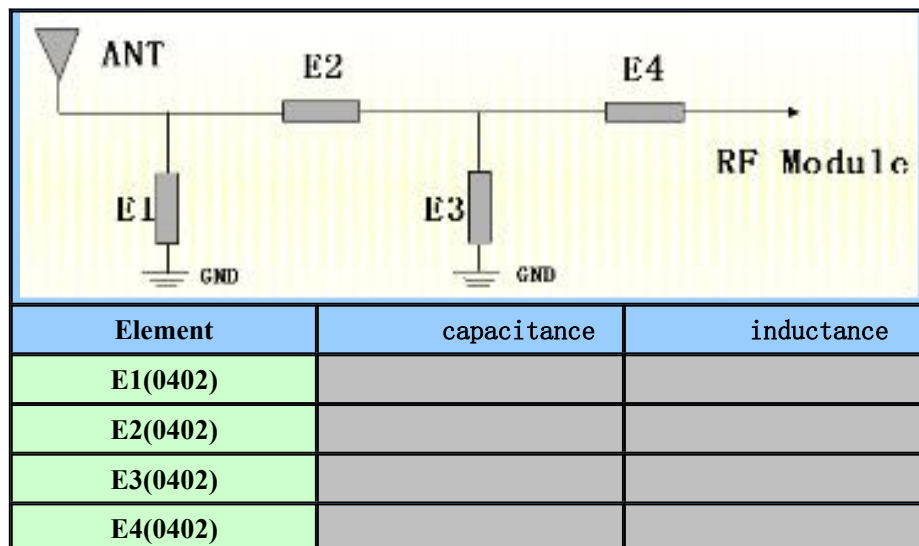
1.1 Project Diagram.....	2
1.1.1 Antenna matching diagram..	2
2.1 objective.....	3
3.1 Main antenna.....	3
3.1.1 Main antenna electrical specifications and materials.....	3
3.1.2 Antenna form.....	3
3.1.3 Antenna design working frequency band.....	3
3.1.4 Measurement data of the main antenna in the ETS-SG24SYSTEM 3D testing system.....	3
3.1.5 Passive standing wave and return loss of antenna.....	4
3.1.6 WiFi Actual test results of antenna.....	6
4.1 Product Design Drawing.....	5
5.1 Product assembly diagram.....	8
5.1.1 Antenna composition.....	8
5.1.2 Antenna assembly.....	8
5.1.3 The antenna assembly is shown in the diagram inside the entire machine.....	8
5.1.4 Environmental treatment diagram.....	8

1.1 Project Diagram



GTI14

1.1.1 Antenna matching diagram



Matching instructions: Match according to the original motherboard without any changes.

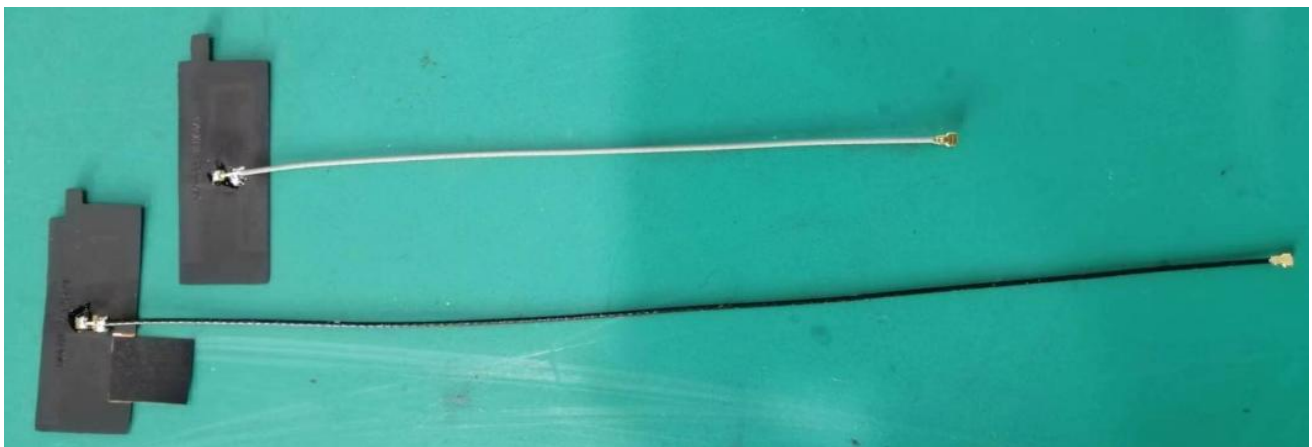
2.1 objective

Standardize the specifications and testing methods of mobile communication terminal antenna products produced by Shenzhen Tianweixun Wireless Technology Co., Ltd. to avoid errors caused by different testing conditions and methods.

3.1 Main antenna

3.1.1 Electrical specifications and materials of the main antenna

This report mainly provides the testing status of the structural performance parameters of the prototype antenna GTI14.



Physical image of antenna designed by Tianwei Xun

3.1.2 Antenna form

Implementation type: PIFA antenna

3.1.3 antenna design working frequency band

The working frequency band of the antenna is 2400MHz~2500MHz, 5100 MHz~ 5800MHz.

3.1.4 Measurement data of the main antenna in the ETS-SG24 SYSTEM 3D testing system

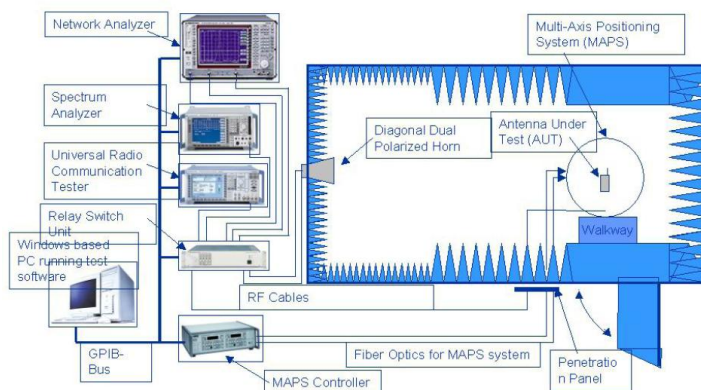


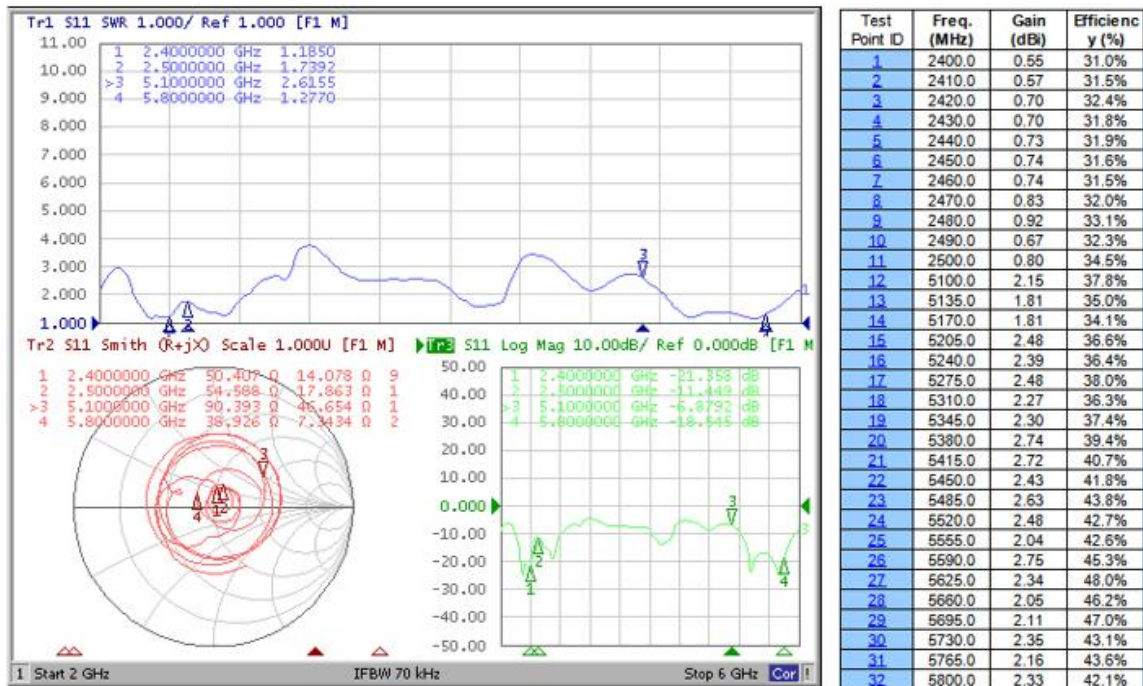
Figure (2) ETS Testing System



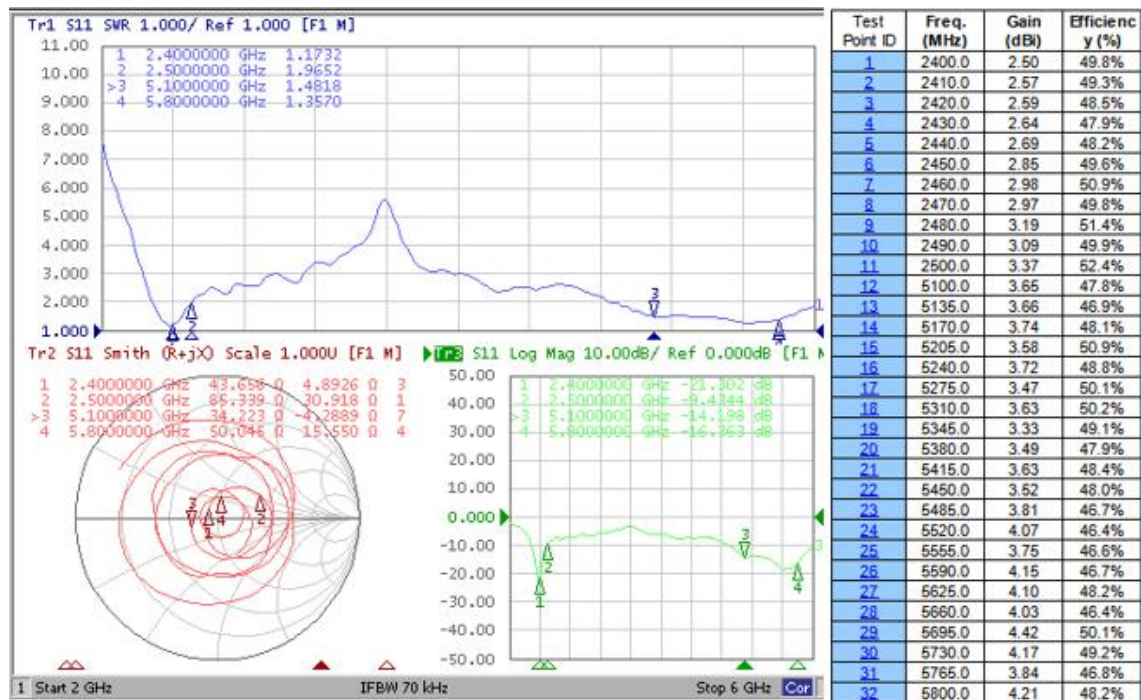
Figure (3) Three dimensional positioning device for mobile phone in darkroom

3.1.5 Antenna passive standing wave and return loss

MAIN passive data:



AUX Passive data:



3.1.6 WiFi Actual test results of antenna

2.4G Throughput testing

5.8G Throughput testing

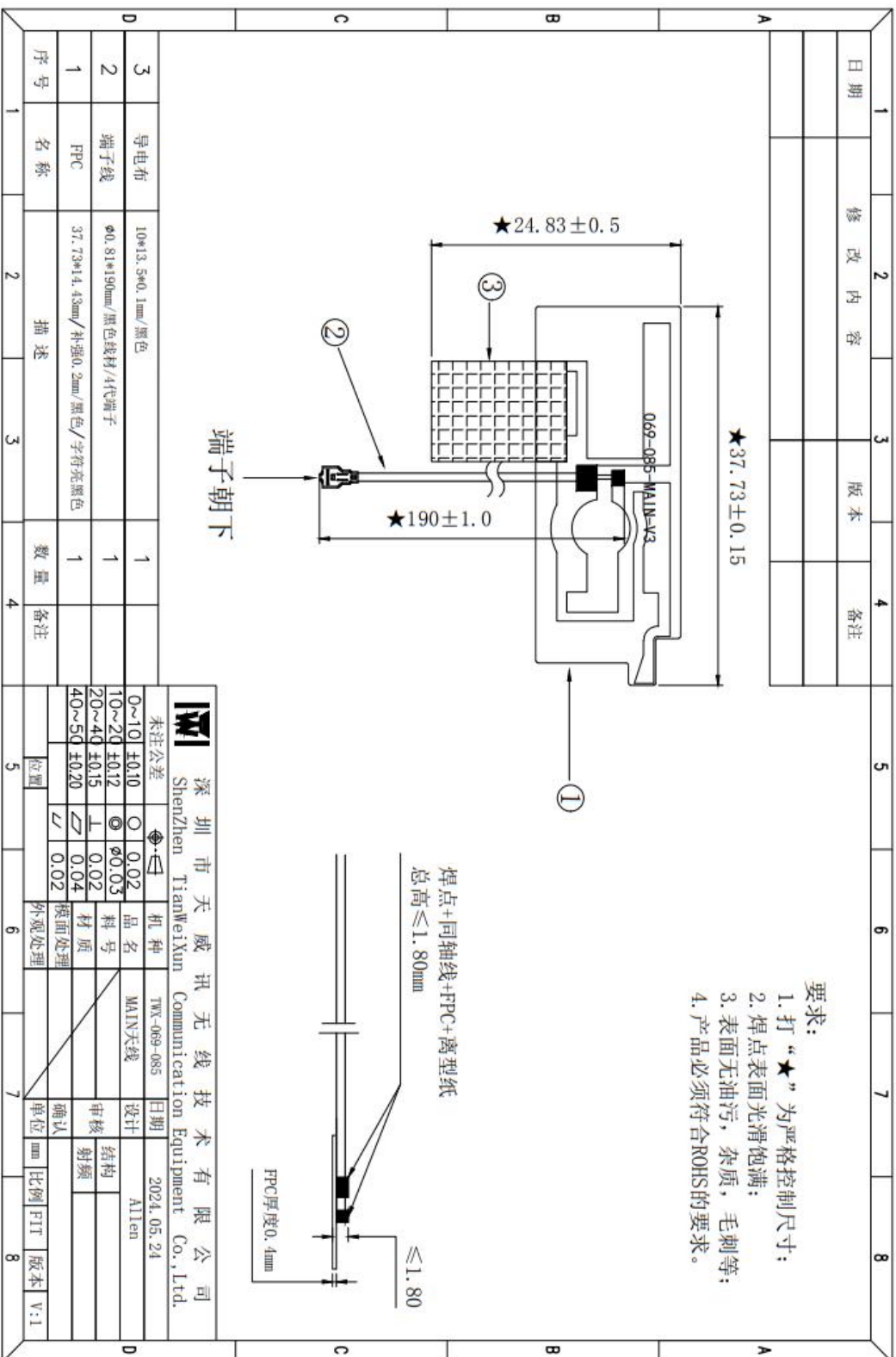
信道	throughput (MHZ)	hotSpot	channel	throughput (40MHZ)	throughput (80MHZ)	throughput (160MHZ)
1	20.7	6	36	201	313	319
2	28.5	1	40	194	291	319
3	30.6	1	44	150	308	320
4	35.8	1	48	224	308	331
5	38.6	1	52	230	312	320
6	19.9	9	56	230	317	314
7	35.5	3	60	240	317	329
8	32.6	2	64	327	307	316
9	30.5	2	149	158	299	
10	31.6	2	153	214	306	
11	31.3	8	157	135	310	
12	29.9	2	165	221	293	
13	17.4	2				

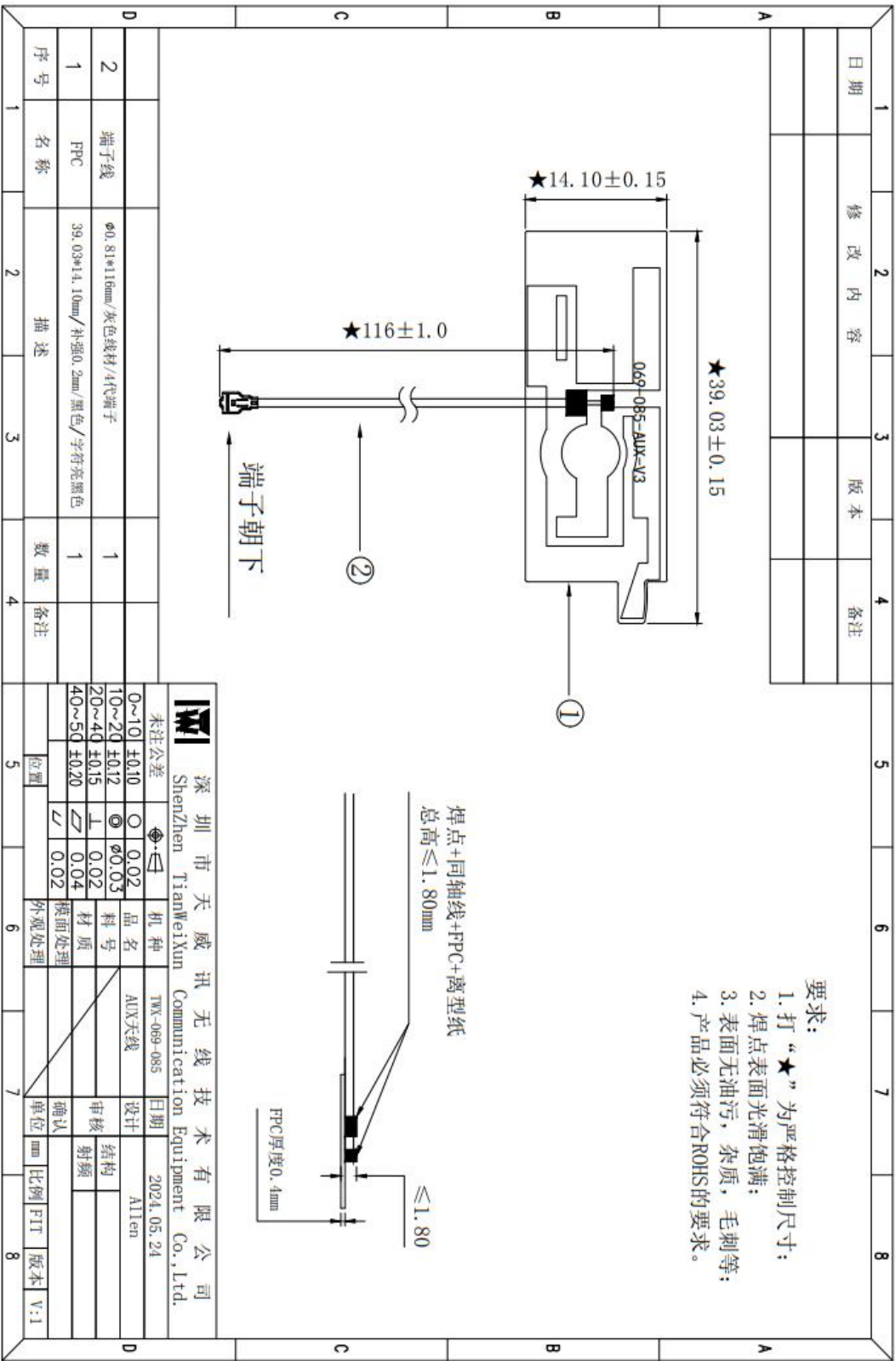
Table 3-10: Antenna Performance

Antenna Performance				
		Channel No.	TRP (dBm)	TIS (dBm)
WiFi	2.4G	1	13.2	-71.4
		6	13.3	-70.9
		13	12.9	-71.5
	5G	36	11.3	-67.9
		64	11.4	-67.9
		149	10.4	-67.4
		157	10.4	-67.6
		165	9.3	-68.9

Note: Use the GTI14 machine to connect to our Huawei Bluetooth speaker and test that music playback does not lag at a distance of 10 meters.

4.1 Product Design Drawing

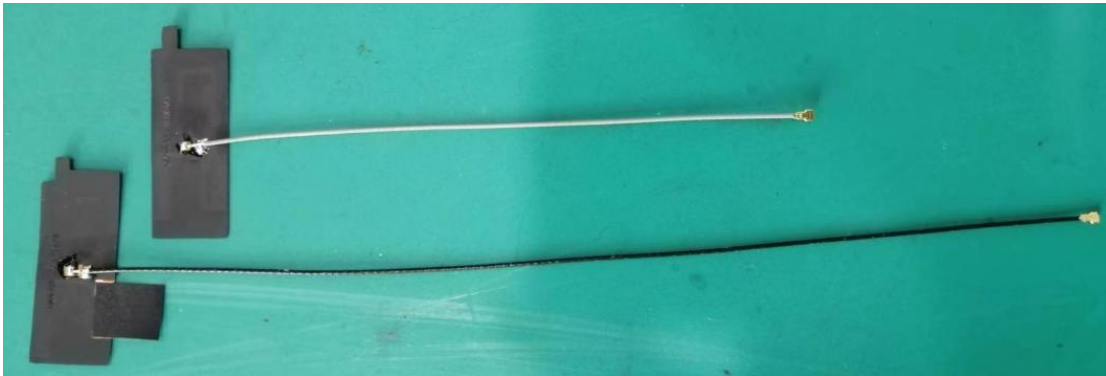




5.1 Product assembly diagram

5.1.1 Antenna composition:

The antenna is a combination of FPC antenna and coaxial cable. As shown in the figure below, weld the coaxial line with the MIA port facing downwards and the AUX port facing downwards.



5.1.2 Antenna assembly

FPC The antenna is attached to the bracket as shown in the diagram. Please attach it to the middle position of the bracket as shown in the diagram, and then place the coaxial line according to the diagram. The conductive cloth of the antenna needs to be gently pressed and pasted onto the metal sheet to ensure sufficient grounding. (Note: This is for reference only. The placement method of the coaxial line can be adjusted according to the actual assembly convenience. The antenna should be pasted as close to the edge as possible. If the FPC antenna is far away from the outer edge or has a deviation position when pasting, it will affect the antenna performance.)



5.1.3 The antenna assembly is shown in the diagram inside the entire machine

After attaching the antenna, install it into the entire machine according to the diagram.

1、按图示位置粘贴FPC天线，左则是MAIN天线，右则是AUX天线，按红色线定位粘贴。



备注：如图所示，天线的导电布粘贴在支架金属条上需要轻轻压紧。

2、按图示,把MAIN天线的同轴线固定在支架槽内。

天线同轴线按图示位置增加卡位, 并摆放整齐

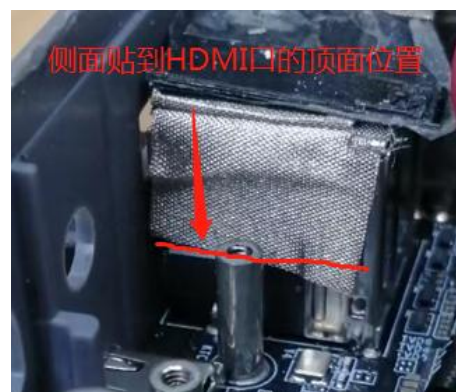


3、按图示,支架上贴一个导电泡棉与网口金属接地。

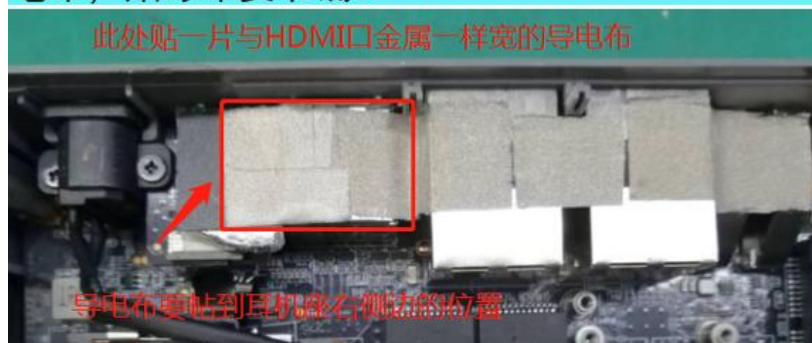
4、按图示摆线, 天线端子扣接示意。



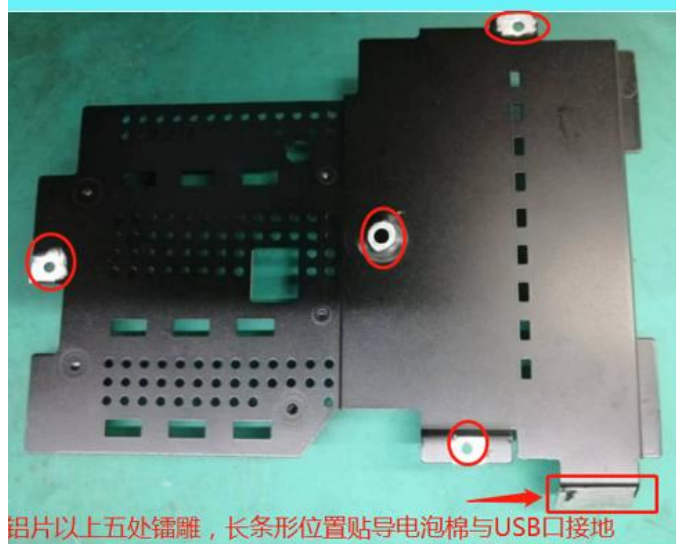
5、按图示,USB口至到HDMI贴一片导电布, HDMI侧面如图贴到金属壳的上边。



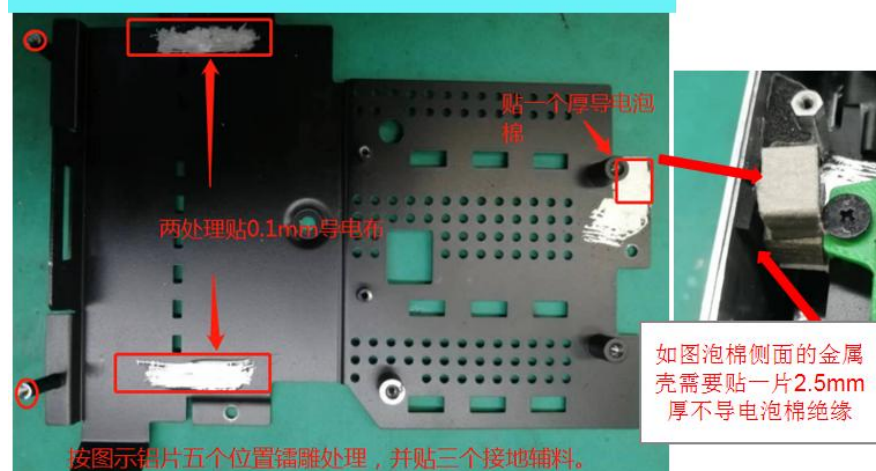
6、按图示，DHMI口到耳机座之间要贴一片导电布，贴导布要准确。



7、按图示，铝片接地处理。



8、按图示，铝片五处理镭雕接地处理。

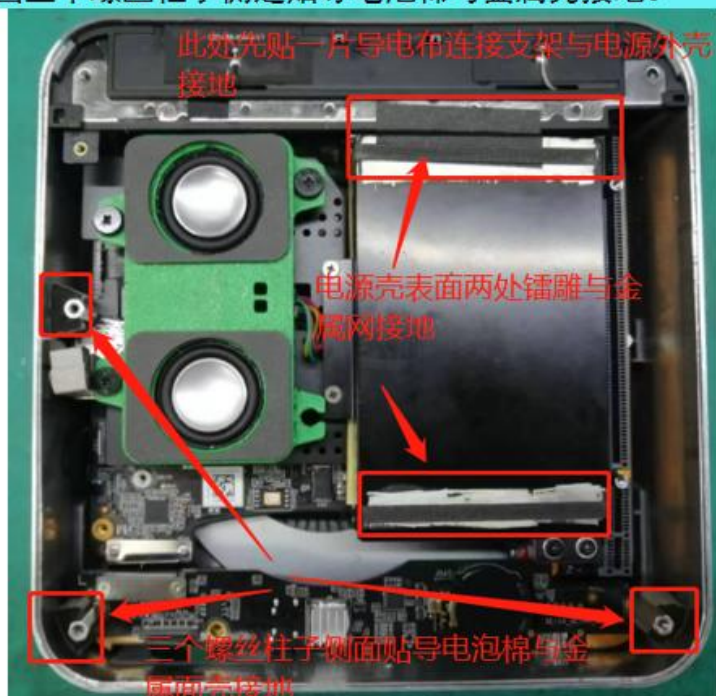


9、按图示，电源金属壳底部两处镭雕与铝片对应位置接地。



10、按图示，

- 1) 天线支架与电源壳之间贴一片导电布连接接地。
- 2) 电源金属壳表面两处镭雕与金属网对应位置接地。
- 3) 如图三个螺丝柱子侧面贴导电泡棉与金属壳接地。



11、按图示，电源金属壳底部两处镭雕与铝片对应位置接地。

