

Material acknowledgement

product description	Manufacturer: Shenzhen Yusheng Communication Equipment Co., Ltd address: 407-411, Floor 4, Building 2, South Taiyun Chuangu Park, Southeast of intersection of Guangming Avenue and Dongchang Road, Guangming District, Shenzhen		Project model: CWS01		
	Material code: Version No. :		Sample delivery date: Note: (this cover needs with supplier seal)		
appendix	☐ sample ☐ Manufacturing flow chart / 2D diagram ☒ Electrical and Mechanical Property Description (Specification) ☐ Full-size measurement report ☐ CPK report ☐ QC schedule drawing		☐ Reliability test report ☐ packaging information ☐ List of raw materials / RoHS & REACH & HF Report ☐ Bill of Materials, MSDS ☐ Environmental material questionnaire		
Supplier audit	Proposed: review and approval (All of the above require manual signature, and printing is not allowed)				
The above is filled by the supplier, the following is filled by Xiao Che Technology					
discriminate	Confirmation of the person	Confirm content	Confirm the results	Signature of confirmation	Confirmati on date
Technical confirmation	ID	☐ Appearance ☐ color ☐ process ☐ material			
	structure	☐ Material ☐ dimension (including the key control dimension annotation) ☐ Specification and technical requirements ☐ adaptation verification			
	hardware	☐ Specification and technical requirements (including electrical performance parameters) ☐ Adaptation to verify the ☐ effect			
	quality	☐ RoHS materials ☐ Non-RoHS materials ☐ meet the requirements of REACH ☐ Compliance with halogen free requirements ☐ other environmental requirements ☐ test standard confirmation ☐ appearance ☐ normative dimension ☐			

		reliability confirmation			
Final confirmation	project	☐ Acknowledge the integrity of the document ☐ dimension dimensions ☐ Appearance ☐ Electrical performance parameter ☐ function ☐ effect			
condition of recognition:	☐ formal admission ☐ Limited recognition (Limited _____ PCS) ☐ disallow				
Distribution Department:	☐ Supplier ☐ Factory IQC ☐ Quality ☐ Project ☐ After-sales ☐ Customer ☐ Other _____				

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1. Overview

1.1 Scope of application

This requirement, specifies CWS01 Antenna technical requirements and material requirements specifications.

This requirement applies to CWS01 Antenna type selection, test, and acceptance.

1.2 Project basic information

Antenna name:	<u>CWS01</u>
Antenna frequency band:	BT+GPS
edition:	V0.3

2. Technical index requirements

2.1 Introduction of test items and equipment

inventory	test item	equipment
Active test	TRP,TIS	Integrated tester, microwave darkroom

2.2 Active Reporting

2.2.1 Test instructions

Test tools: Agilent8960 instrument, R & S CMW500, full wave far field ETS dark room, high precision positioning system and its controller and computer with automatic test program

Test environment: temperature $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$, humidity $50\% \pm 15\%$

Test method: DUT is fixed in the center of the turntable with H plane, on the same horizontal line as the center of the horn antenna.

The positioning system enables the DUT to rotate in the whole sphere to satisfy the high-precision 3 D positioning. Each RF instrument and turntable controller communicate with the PC with automatic test software through the GPIB interface.

2.2.2 GPS / BT passive map



2.2.3 Antenna efficiency parameters test situation

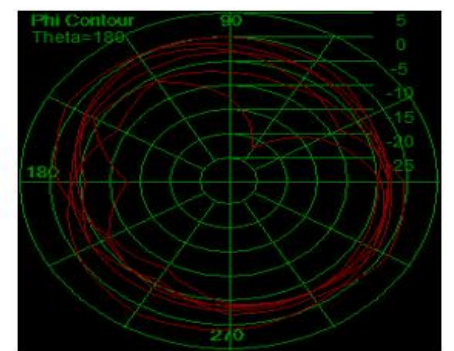
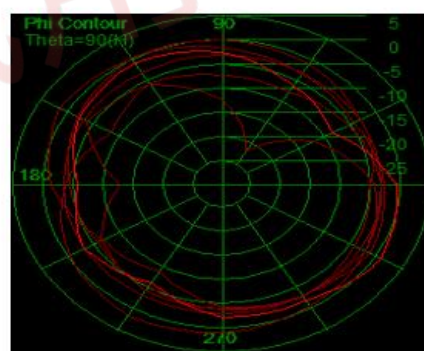
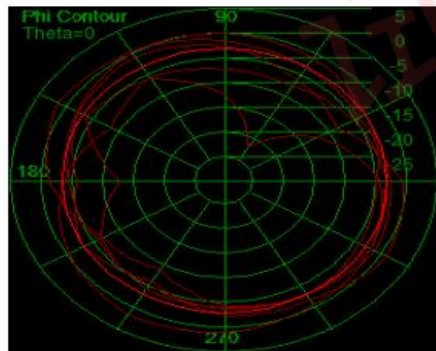
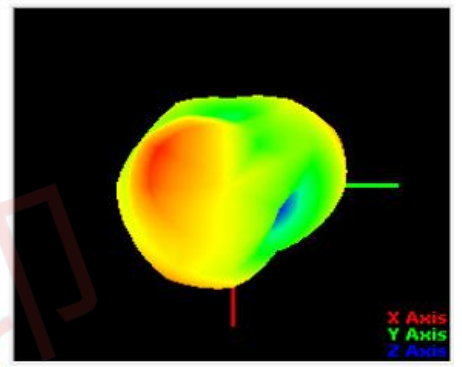
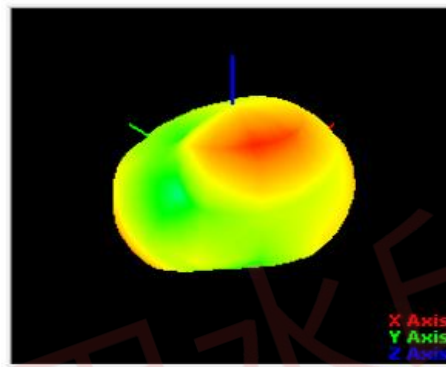
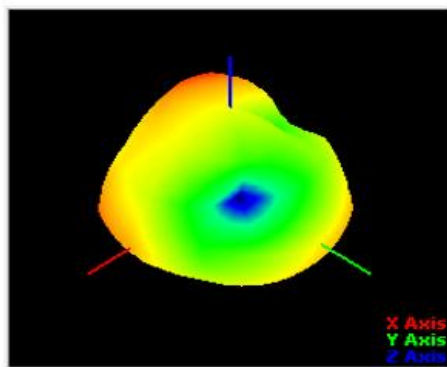
	frequency point	productiveness%	productiveness db	gain
BT Arm	2400	6%	-12.4	-5.6
	2410	6%	-12.1	-5.4
	2420	6%	-12.1	-5.1
	2430	7%	-11.4	-4.7
	2440	7%	-11.4	-4.3
	2450	8%	-10.8	-4.1
	2460	8%	-10.9	-3.5
	2470	7%	-11.3	-4.6
	2480	6%	-12.5	-4.8
	2490	6%	-12.4	-5.0
	2500	6%	-12.3	-5.3

	frequency point	productiveness%	productiveness db	gain
GPS Arm	1550	5%	-13.2	-4.6
	1555	5%	-12.7	-4.1
	1560	6%	-12.4	-3.9
	1565	7%	-11.9	-3.6
	1570	7%	-11.4	-3.4
	1575	8%	-10.8	-3.2
	1580	7%	-11.7	-3.6
	1585	6%	-12.1	-3.8
	1590	5%	-12.8	-4.4

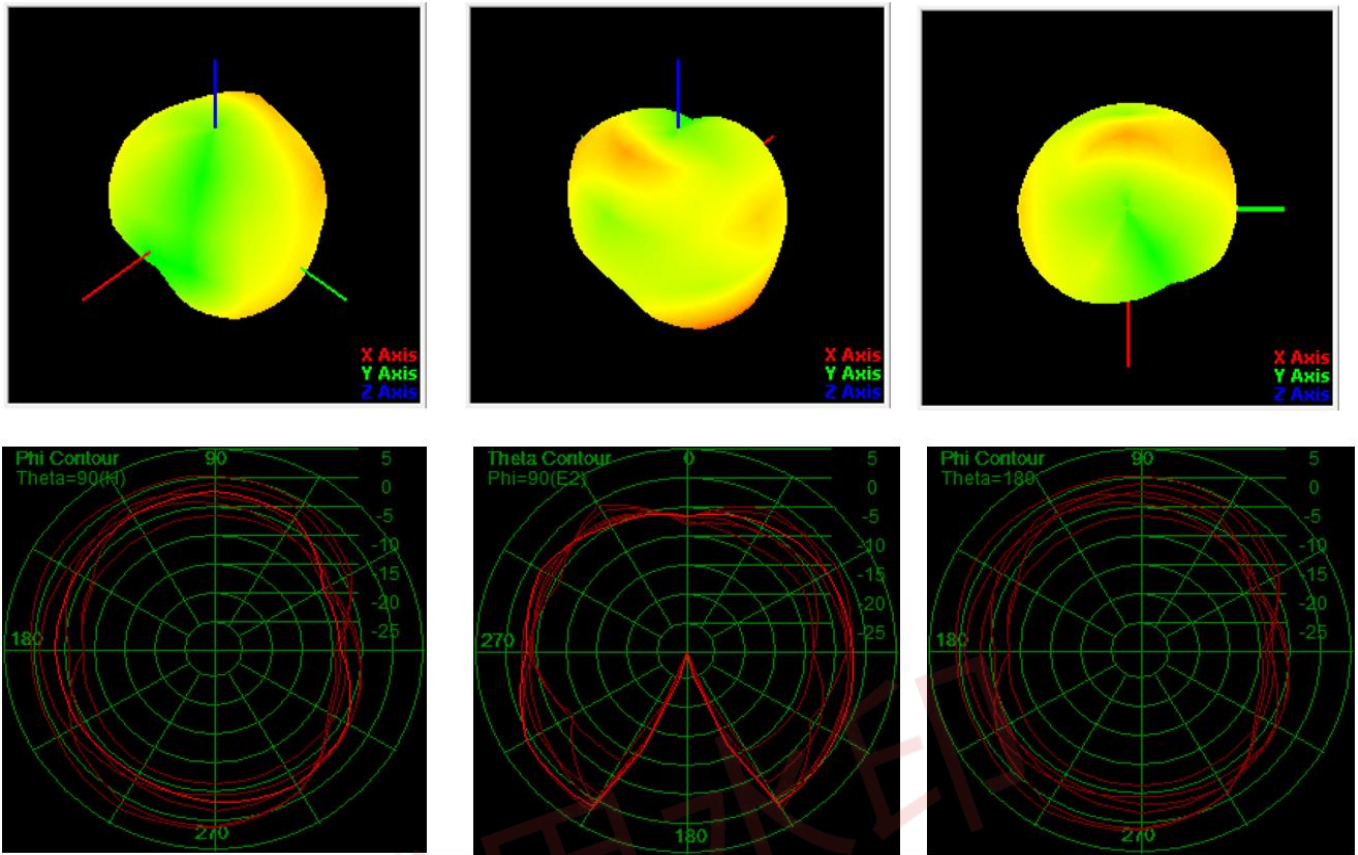
2.2.4 OTA test of the whole machine

OTA test	TXdBm)	RXdBm)
CH0	-1.45	-83.63
CH39	-1.68	-83.92
CH78	-1.77	-83.55

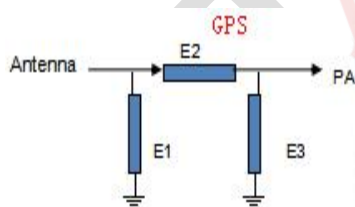
2.2.5 1575MHZ passive direction diagram/field pattern diagram



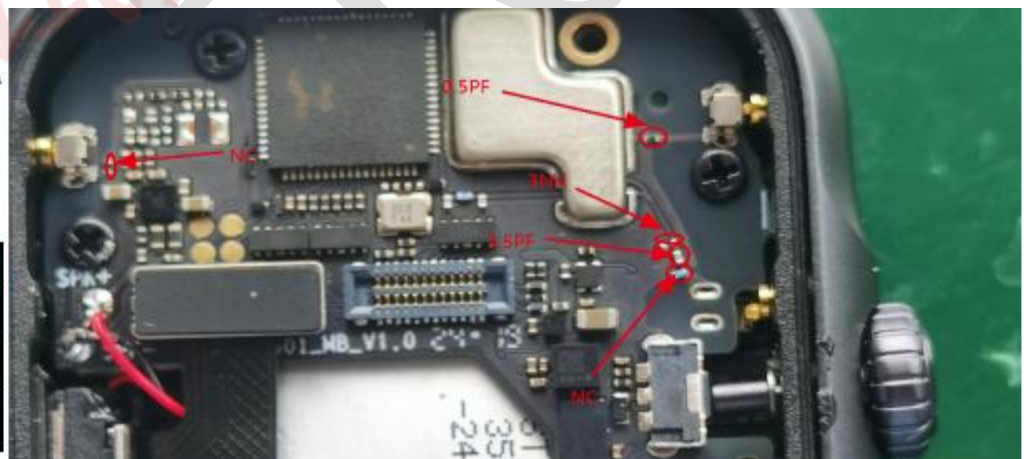
2.2.6 2450 MHZ passive direction diagram/field pattern diagram



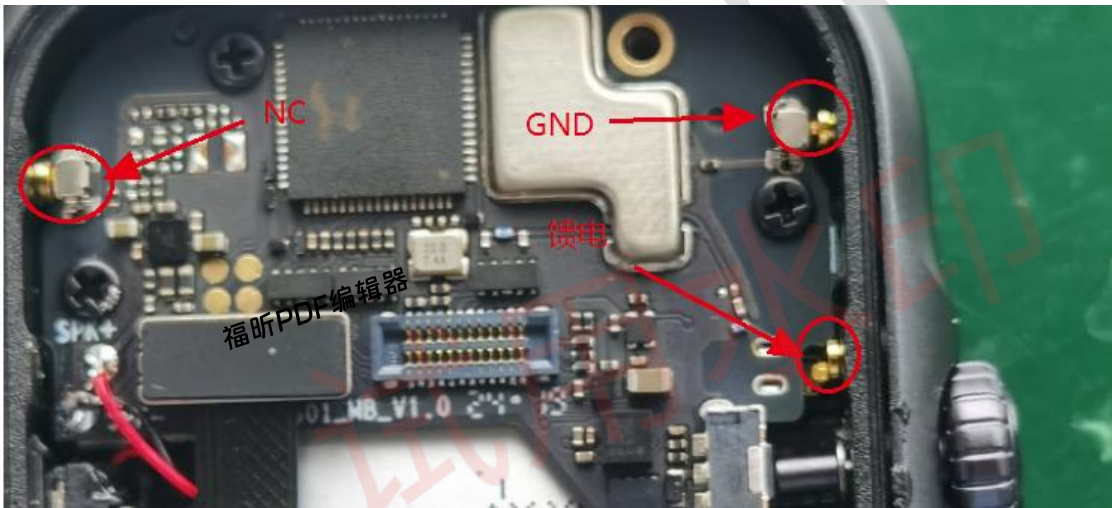
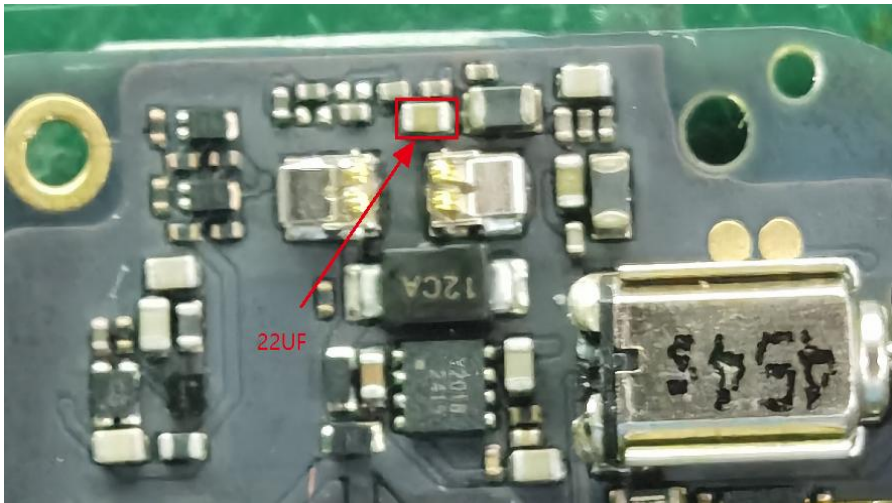
2.2.7 GPS Match



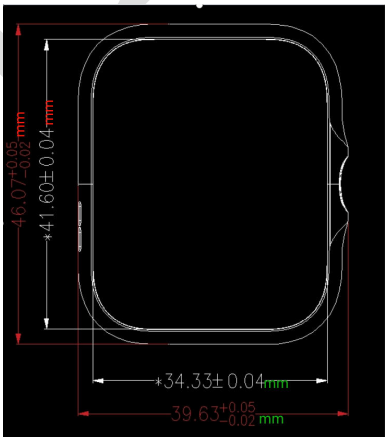
Element	Value
E1(0201)	NC
E2(0201)	3.5PF
E3(0201)	3NH



2.2.8 Main board matching and shrapnel



2.2.9 Environmental treatment



Antenna size

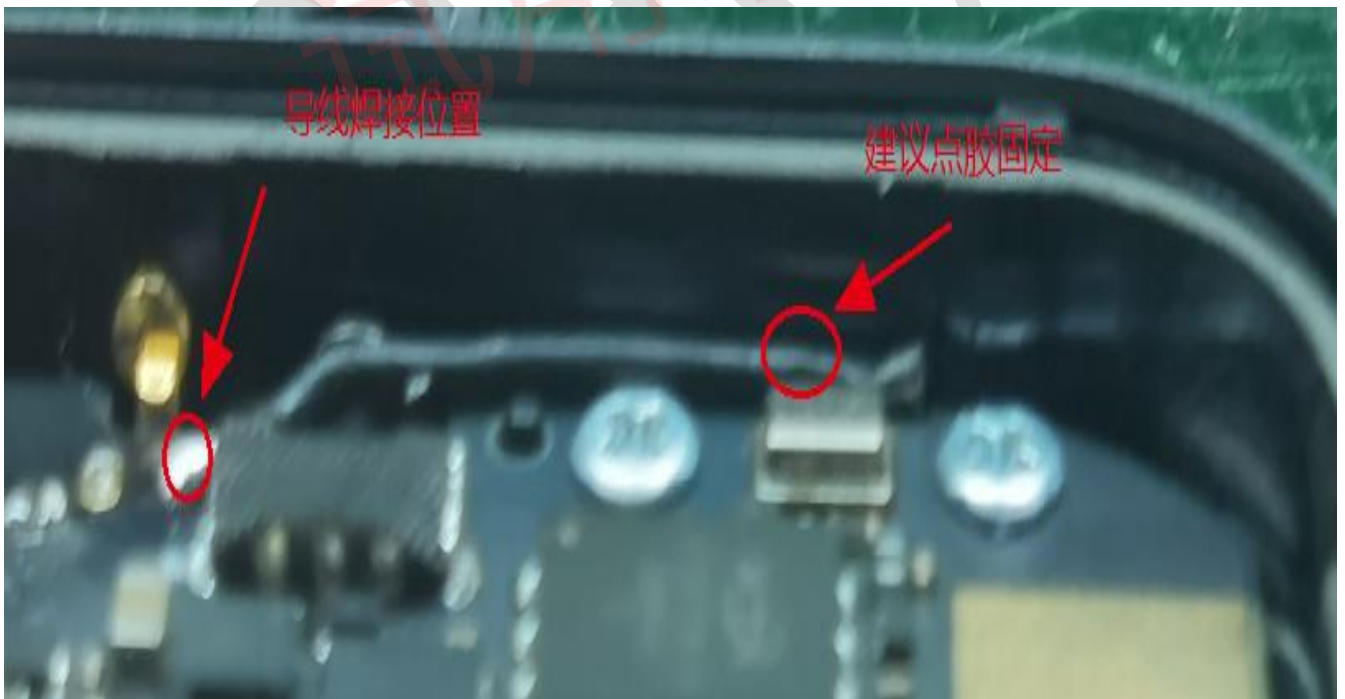
1, the horn and the heart rate board



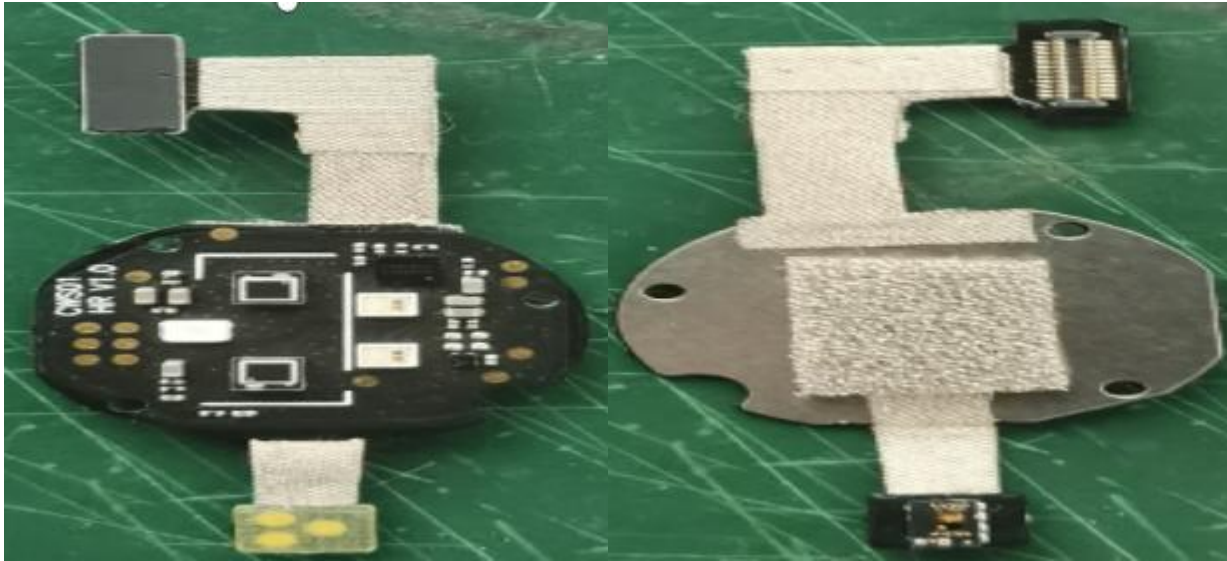
2, the conductive cloth to shield the battery and grounding

3, conductive cloth shielding screen FPC

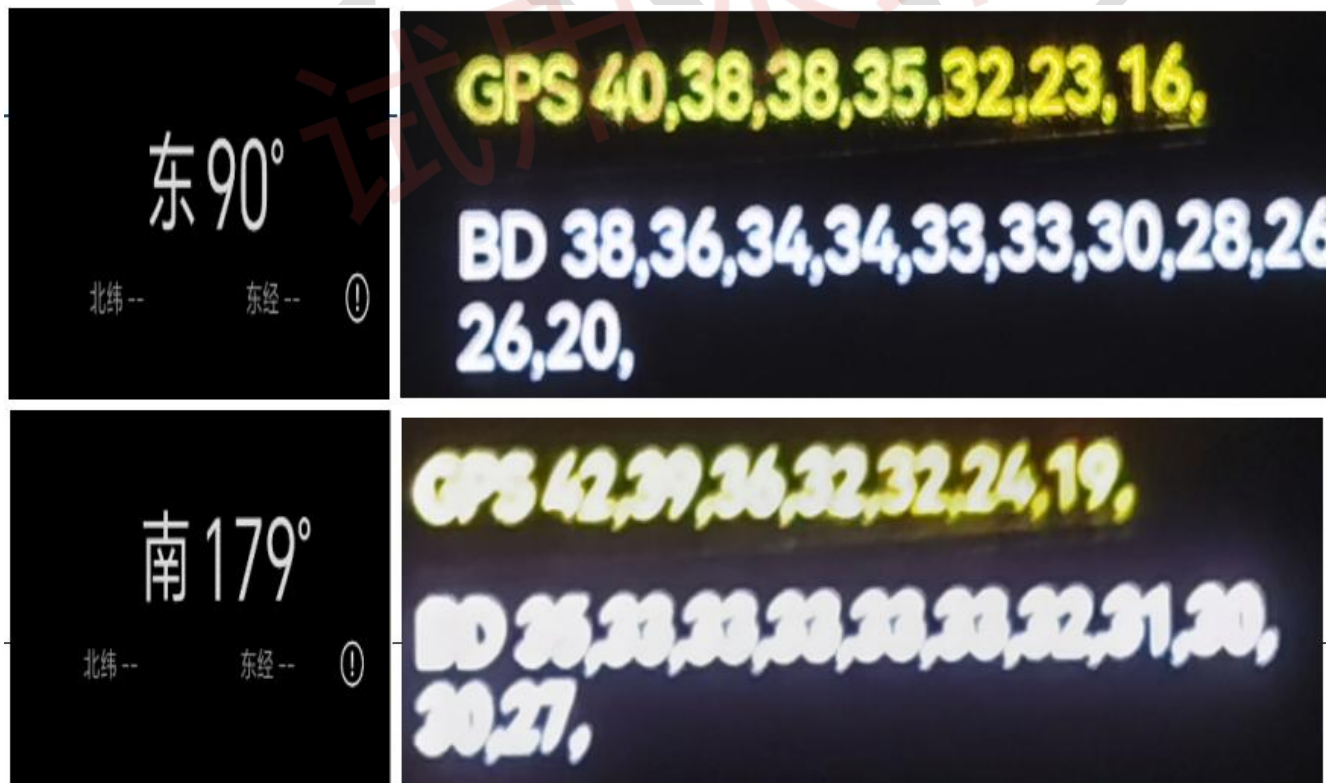
2.3.0 New wires and wires are placed in the motherboard plane



2.3.1 Heart rate plate affects the arm 8 db, which needs to be improved together



2.3.2 The N-value test of the whole machine





2.3.3 Antenna test environment

