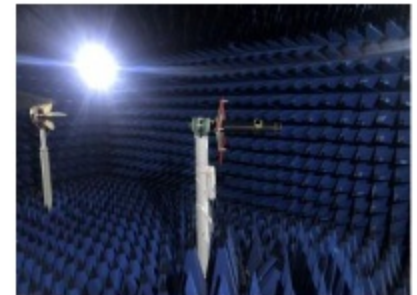


Qiwu KW330A Antenna Debugging Report

RF: Chen Kehong

Date: 2024-9-9

Contact: 19925137130



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Summary & Additional Notes

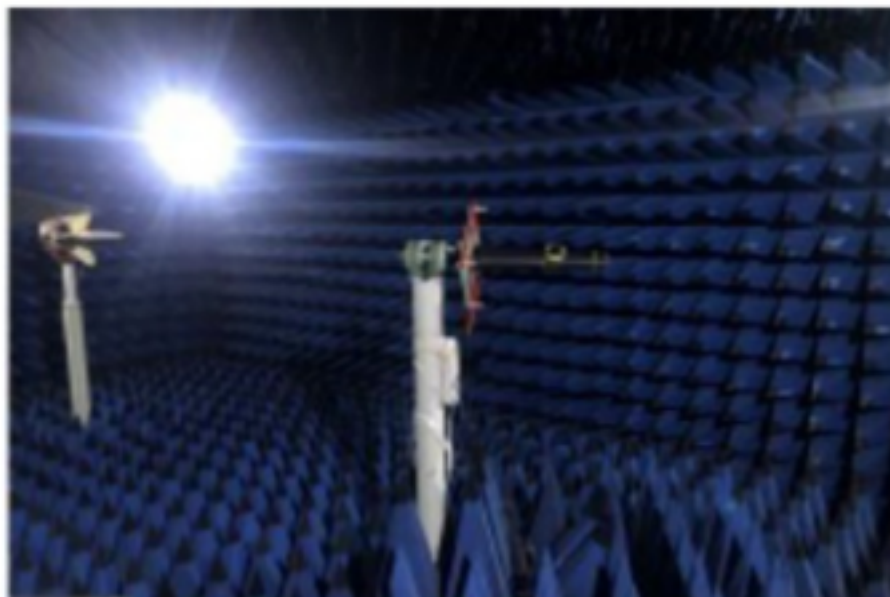


Shenzhen Yusheng Communications Equipment Co., Ltd.

Yusheng Communications-equipment Co.,LTD

Project development environment

We are moving from the Internet era to the smart era, and the country is building digital society and smart cities. There is huge potential for development in both the consumer electronics market and the Internet of Things market in the next 5-10 years. The field of wireless communication is very diversified, and in the future, Yishi will build on the customer platform strength of the antenna industry and its comprehensive strength to strive to provide customers with market-competitive professional-grade product solutions.



Yusheng Communications' products cover almost all antenna applications with no wired terminal equipment, including automotive antennas, high-precision measurement and mapping antennas; drone ground and satellite data navigation; high-precision positioning antennas. Wireless transmission of medical devices, consumer antennas (cell phone antennas, PADs, laptop antennas), base station / indoor distribution antennas; smart wear antennas (smartwatches, TWS earphones), security home antennas and smart device antennas for many kinds of wireless data transmission and wireless control.





Project Debugging
Introduction

Board Type				
Frequency Band and Antenna Material	Antenna	Frequency band		Material
		L1	1575. 42Mhz	Metal Frame
		BT	2. 4G-2. 5G	
Performance requirements	Execute as required by the customer			



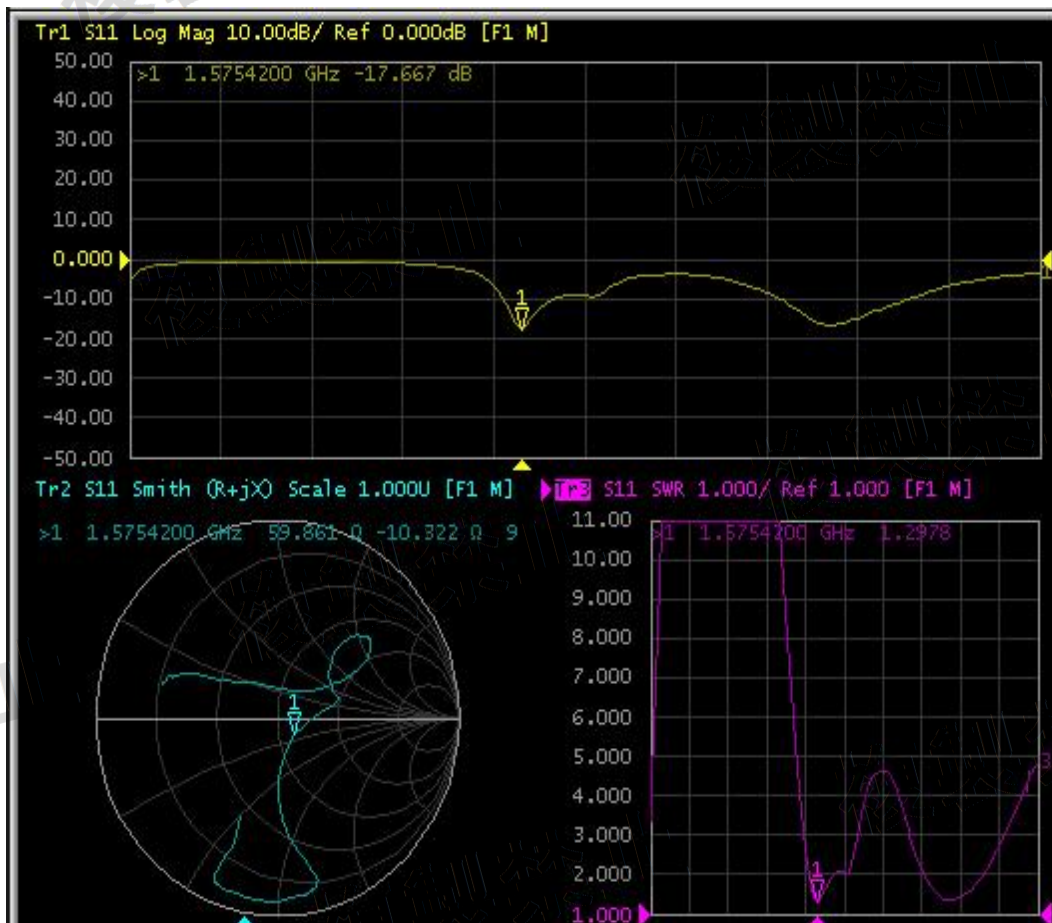
Shenzhen Yusheng Communications Equipment Co., Ltd.

Yusheng Communications-equipment Co.,LTD

Report Version Outline

Report Version	Report Date	Problems Solved by This Antenna R&D
V0. 1	2024-9-9	Mold Metal Frame Debugging Report

VSWR (L1)

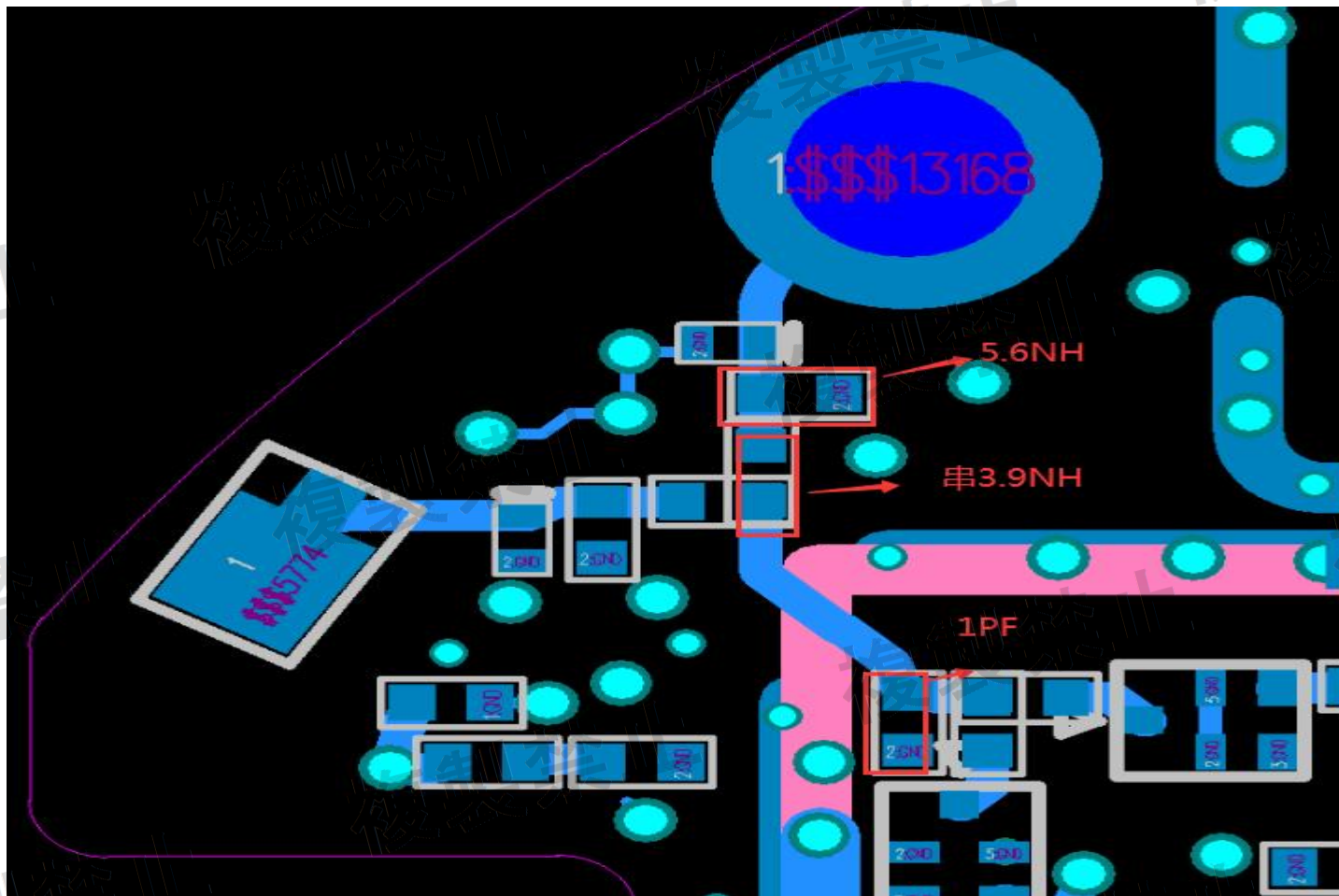


L1/BT-Antenna Efficiency and Gain

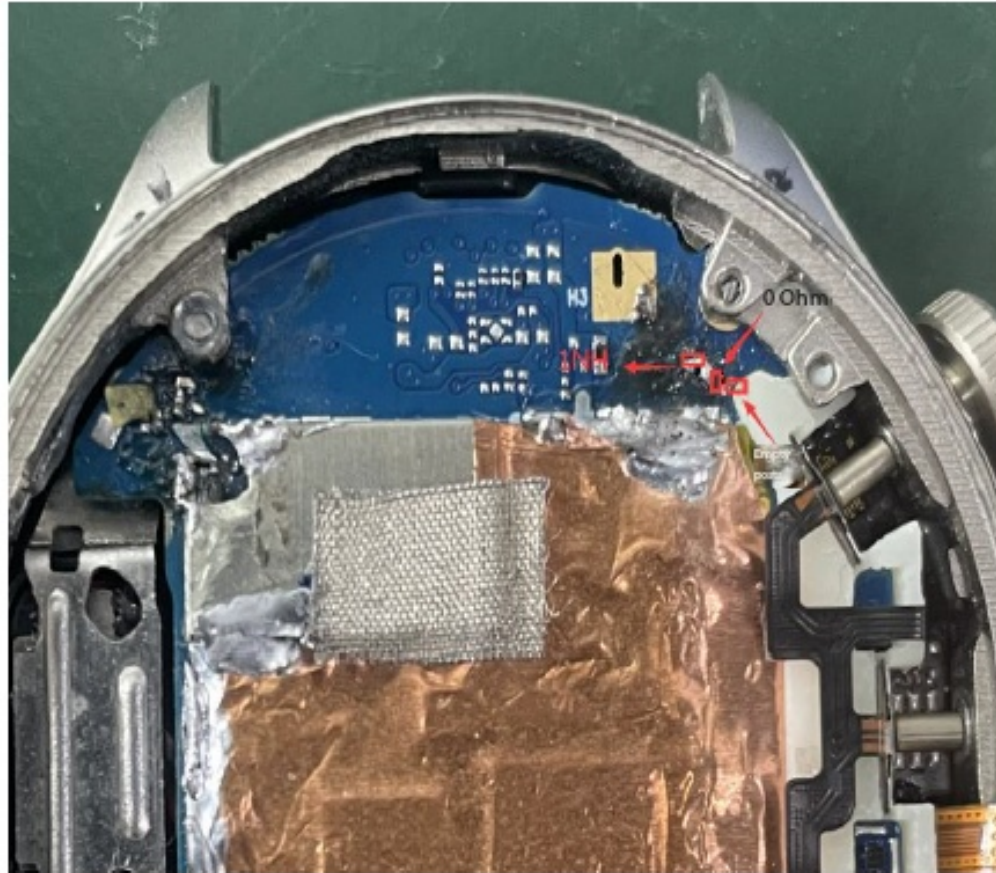
Arm、Passive Test For 1575MHz			
Freq	Effi	Gain	
(MHz)	(%)	(dBi)	
1550	3.5%	-5.4	
1555	4.6%	-5.3	
1560	4.9%	-5.1	
1565	5.8%	-4.9	
1570	6.5%	-4.8	
1575	6.3%	-4.9	
1580	5.8%	-5.0	
1585	5.2%	-5.2	
1590	4.1%	-5.1	

Arm、Passive Test For 2400MHz~2500MHz		
Freq	Effi	Gain
(MHz)	(%)	(dBi)
2400	2.3%	-6.2
2410	2.9%	-5.6
2420	3.0%	-5.5
2430	4.1%	-4.8
2440	4.8%	-4.9
2450	5.4%	-5.1
2460	5.9%	-5.3
2470	5.2%	-5.4
2480	4.5%	-5.9
2490	3.6%	-5.5
2500	3.5%	-5.8

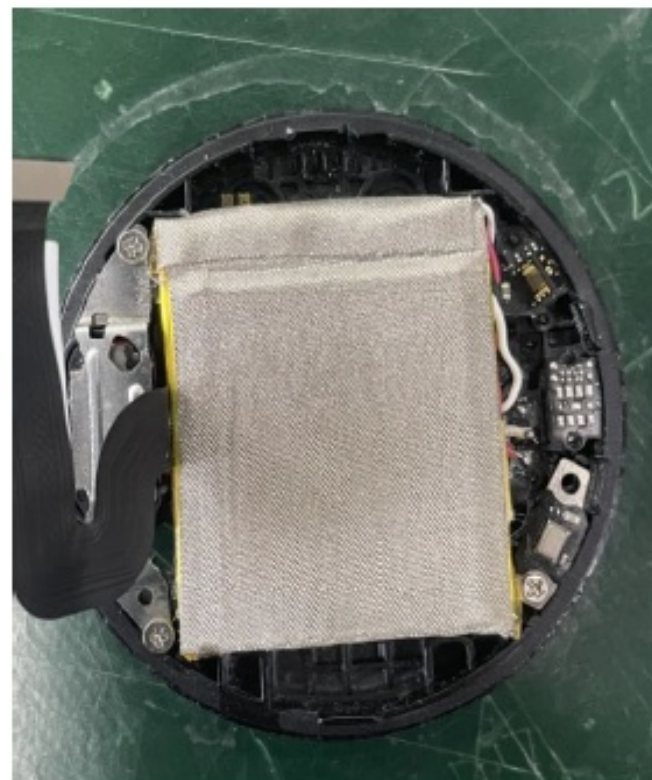
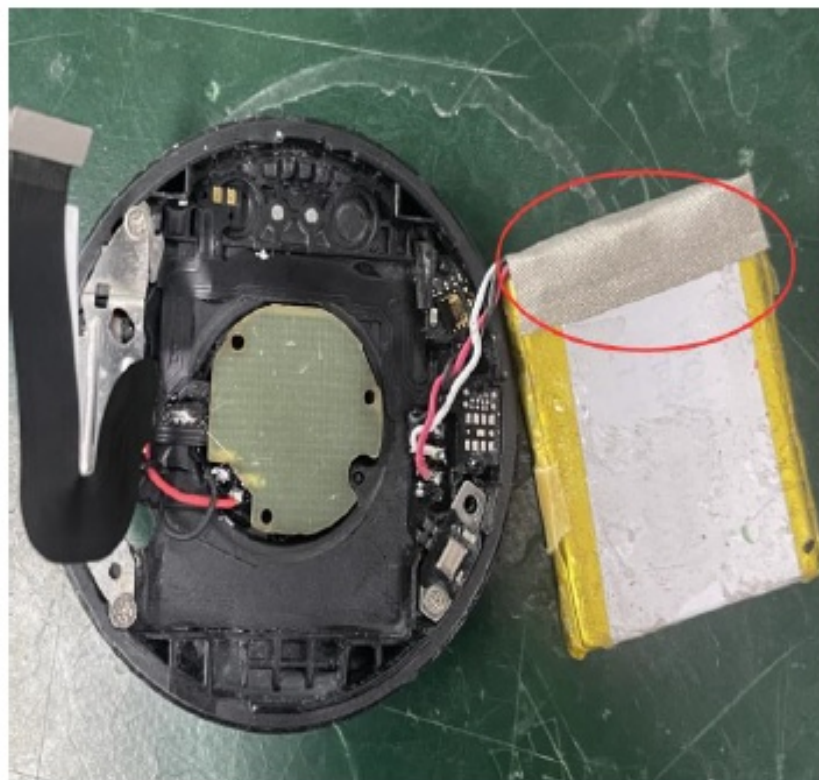
L1 Matching – Main Route



Bluetooth Matching

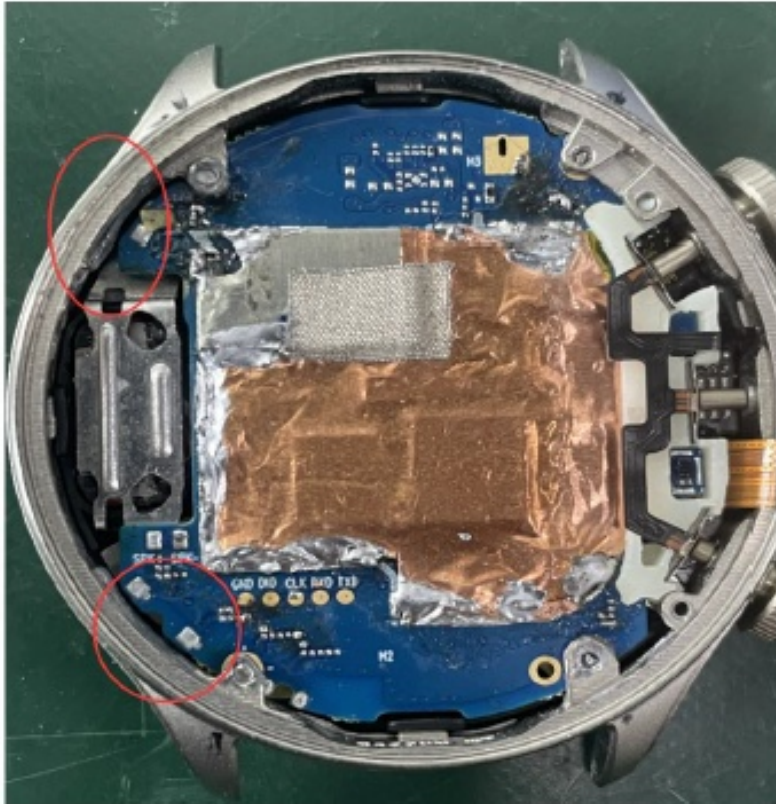


Environmental treatment



1. Handle both sides of the battery as shown in the figure, heart rate cable not handled
2. Cut the speaker wire as short as possible without affecting soldering.

Environmental
treatment



1. As shown in the two figures, the metal frame prominent platform is cut flat.
2. The large shield cover must be fully covered (copper skin coverage area)

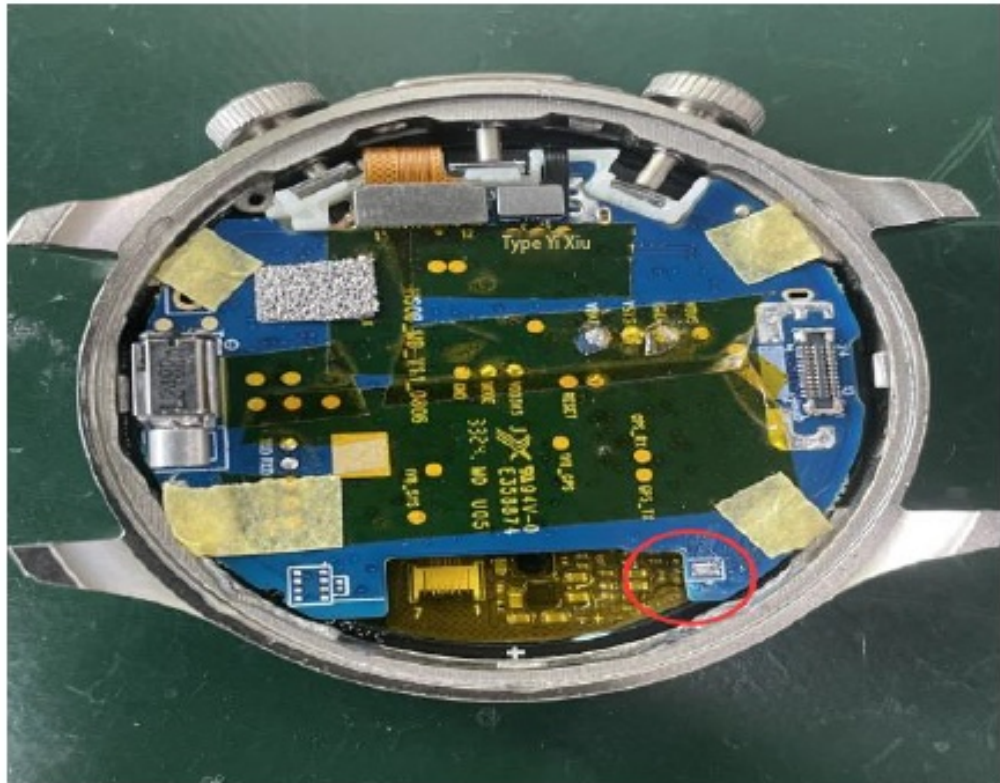
Environmental treatment



1. Examples include motherboard copper leakage and electrically conducted sponges and battery grounding

2. It is recommended to apply an insulating tape over four screw columns to prevent contact with the battery (you can also increase the distance from the battery slightly)

Overall machine considerations:



1. Add conductive sponge between speaker and reinforcement steel sheet for conduction
2. Remove grounding spring from right figure, and do not ground steel plate

Actual Star Search Test



Thank you!



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