Thorwald antenna debugging report

Customer name: Chengfeng

Project name: MO1019AE-10.1 inch metal shell-100 Nengda C863 motherboard -A523 master control

sun Date: March 11, 2024

Soward Communication Technology (Shenzhen) Co., Ltd

Building B, Hexi Hangcheng Industrial Zone, No. 135 Qianjin No. 2 Road, Baoan District, Shenzhen

Project contact information

Customer contact:

Hand mail

Machine:

Box:

Thorwald structure:

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Suowode RF: Xiao Chunyan

hand Machine:

electricity Words: 0755-29985185

箱：swdrd005@szsward.com

Project introduction

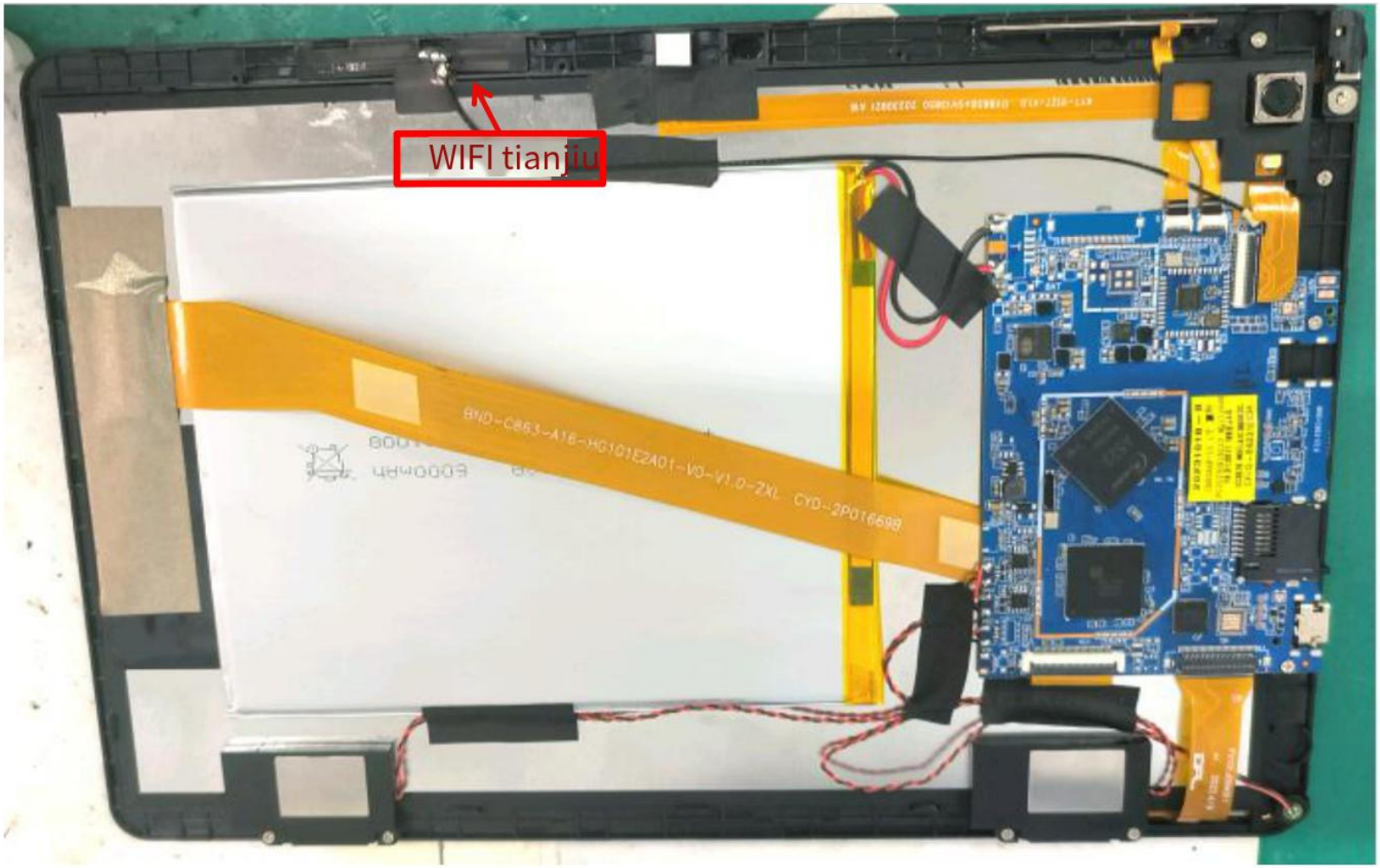
1. Brief introduction of the project

Number of project antennas	Machine type
one	WIFI tablet
Machine shell material: 10.1 inch metal shell.	

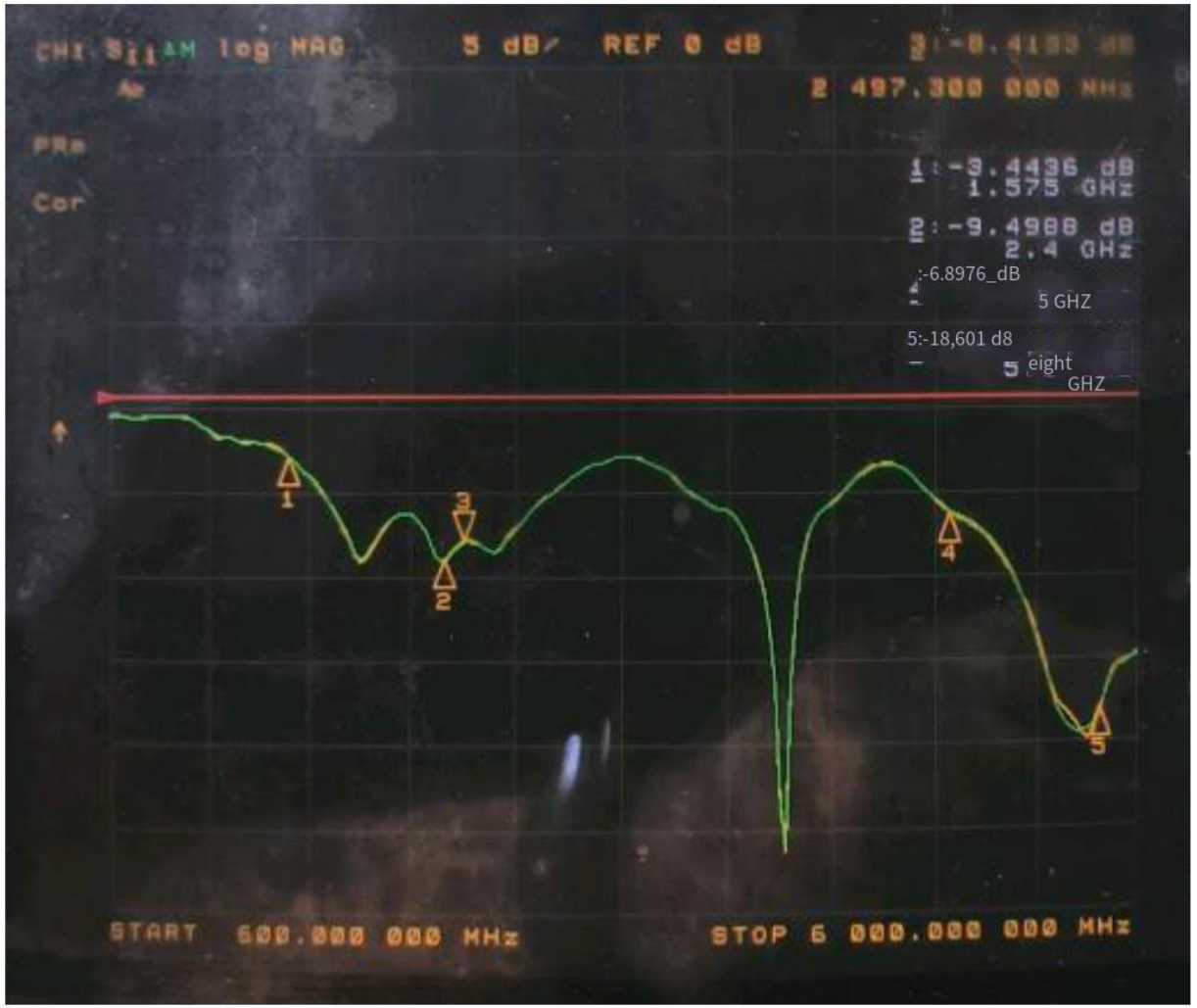
2. Brief description of antenna

Antenna number	name	Operating band /MHZ	Material/structure
one	WIFI&BT&5Gwifi&WiFi6	2400MHz/2500MHz&5. 8GHz&WiFi6	FPC

Antenna layout



WIFI antenna S11

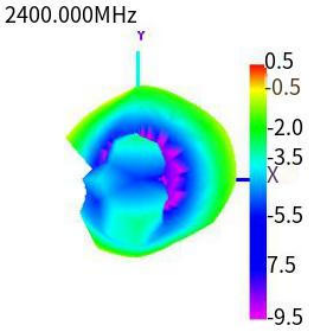


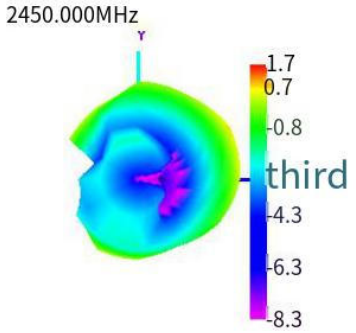
Measured distance of BT antenna

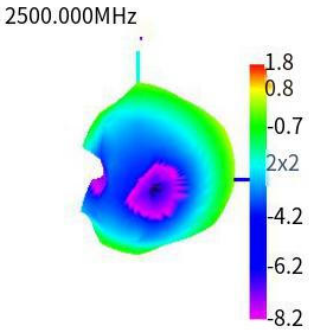
Measured effect	
Model number	one
testing environment	Suowode research and development center
testing equipment	Huawei AM08
Test distance	> 10m

WIFI&BT antenna efficiency

Passive Test For 2.4Gwifi			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	39.25	-4.06	0.52
2410	39.99	-3.98	0.48
2420	38.11	-4.19	0.42
2430	37.31	-4. 28	0.56
2440	40.86	-3.89	1.24
2450	43.29	-3.64	1.74
2460	41.5	-3.82	1.82
2470	37.77	-4. 23	1.59
2480	35.7	-4. 47	1.49
2490	37.51	-4.26	1.76
two thousand and five hundred	38.3	-4.17	1.82

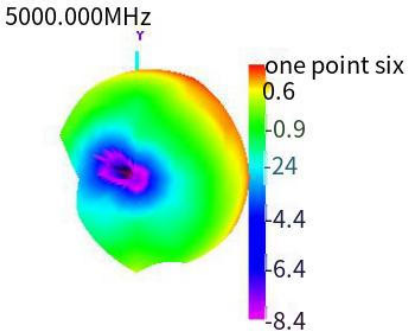


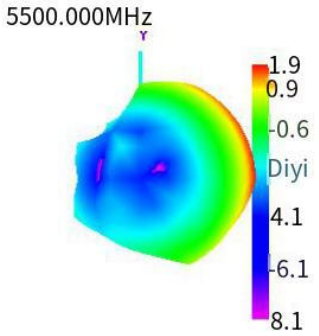


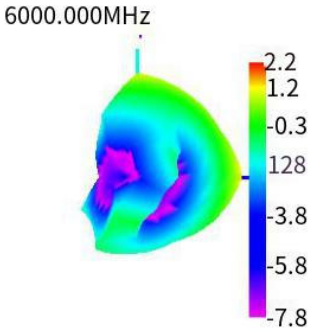


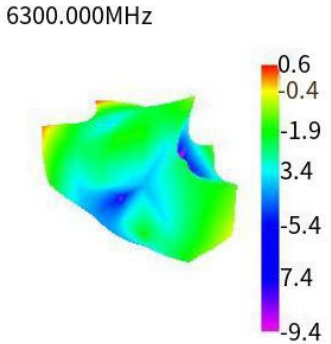
WiFi5, WiFi6 antenna efficiency

Passive Test For 5Gwifi			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5000	43.59	-3.61	1.59
5100	44. forty-four	-3.52	0.82
5200	49.03	-3.1	1.25
5300	42.05	-3.76	1.22
5400	41.11	-3.86	2.42
5500	37.19	-4.3	1.91
5600	43.92	-3.57	1.7
5700	56.45	-2. 48	2.98
5800	46.08	-3.36	3.19
5900	46.21	-3.35	3.09
6000	52.78	-2.77	2.21
6100	55. 47	-2.56	4.13
6200	44.42	-3.52	2.78
6300	32.53	-4. 88	0.63







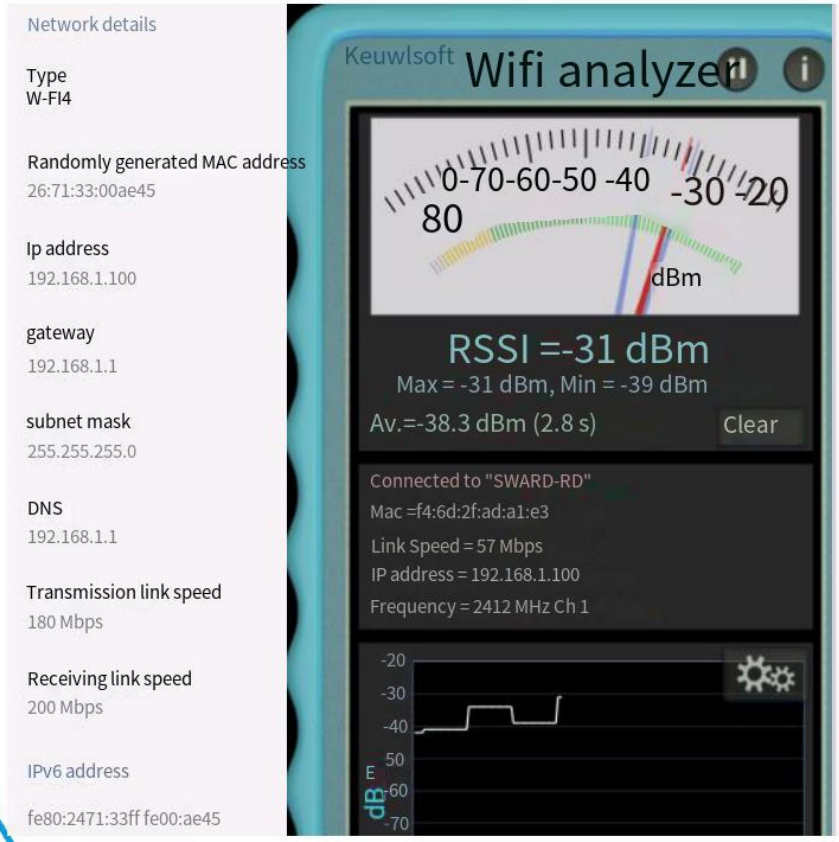


WiFi throughput

Lperf throughput test

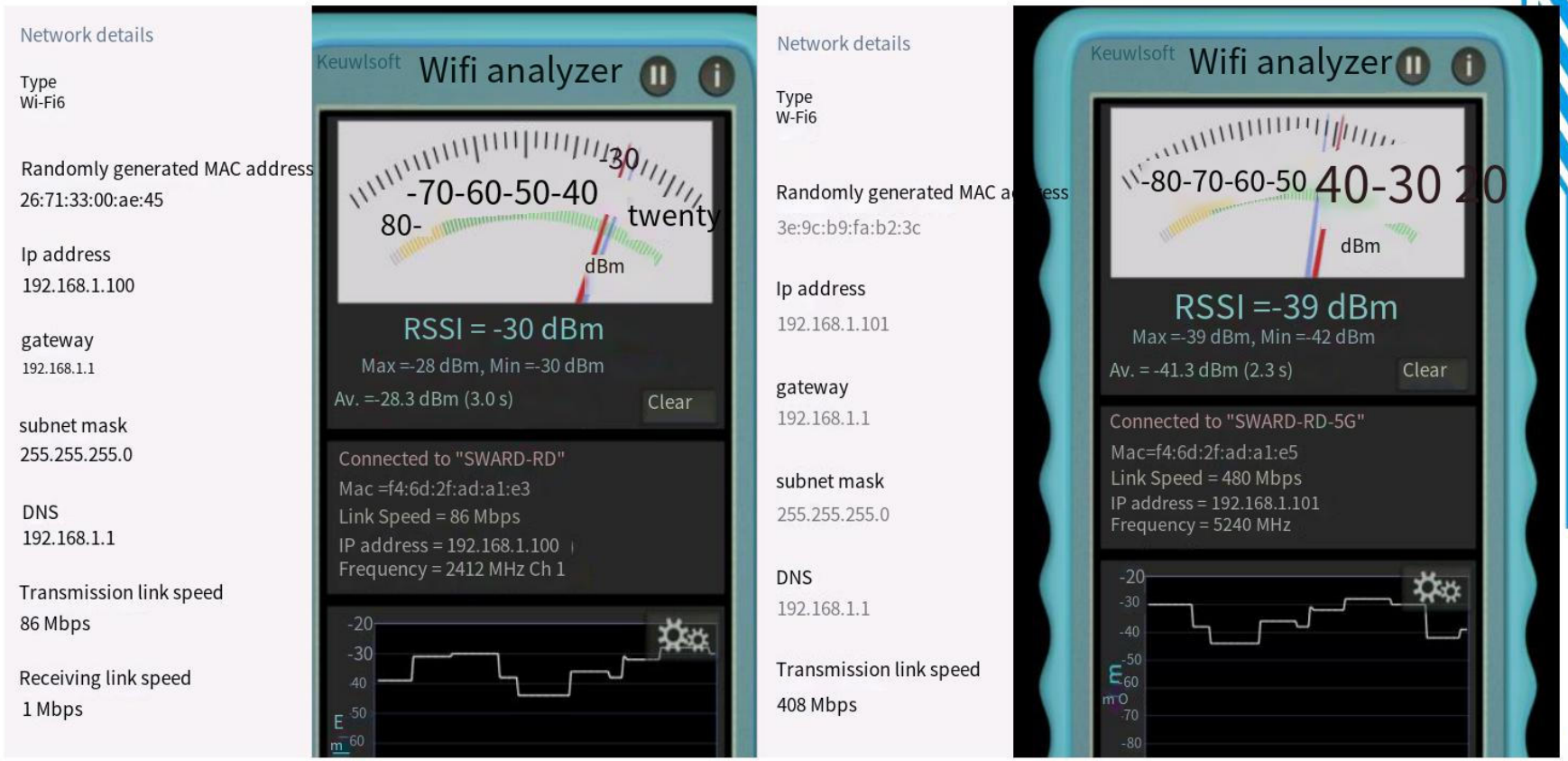
type	MO1019AE-Bainengda C863 motherboard	module	A523 master control	software release	Magic_Iperf	
Model number	frequency band	distance	Test angle	Test data (TX)1min average/mean value	Test data (RX) 1min mean	Remarks (number of times of switching)
one	wifi6-2.4G	2. 4GWIFI (R&D distance 15m)	0°	62.7 Mbps	108 Mbps	0
			90°	68.1 Mbps	107 Mbps	0
			180°	81. 8 Mbps	102 Mbps	0
			270°	74. 4 Mbps	115 Mbps	0
	wifi6-5FWIFI	5FWIFI (R&D distance 15m)	0°	210 Mbps	290 Mbps	0
			90°	223 Mbps	294 Mbps	0
			180°	207 Mbps	298 Mbps	0
			270°	210 Mbps	255 Mbps	0
	wifi4-2.4G	2. 4GWIFI (R&D distance 15m)	0°	42. 0 Mbps	93. 3 Mbps	0
			90°	48. 6 Mbps	93. 1 Mbps	0
			180°	54. 5 Mbps	93. 2 Mbps	0
			270°	56.7 Mbps	97. 2 Mbps	0
	wifi5-5FWIFI	5FWI FI (R&D distance 15m)	0°	228 Mbps	270 Mbps	0
			90°	214 Mbps	300 Mbps	0
			180°	222 Mbps	303 Mbps	0
			270°	223 Mbps	295 Mbps	0

Measured picture of WIFI antenna signal strength (data)



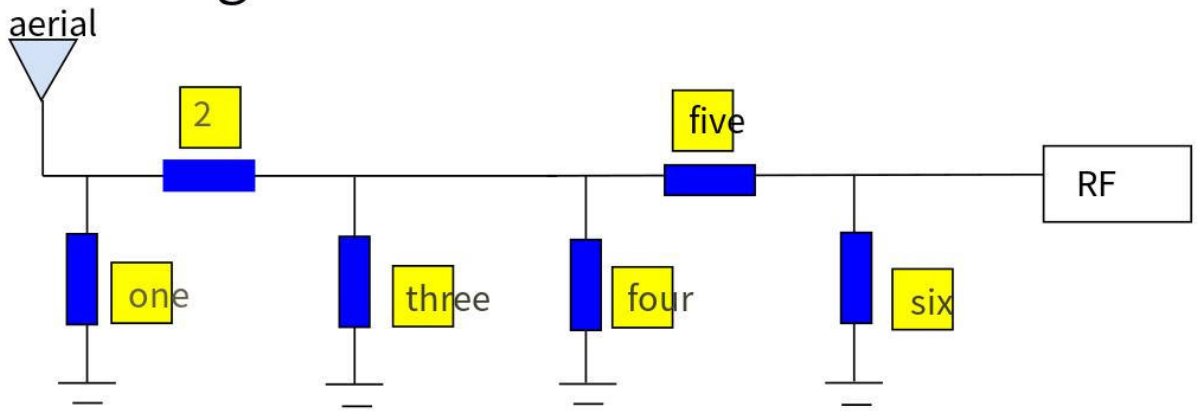
Test location: R&D office of our company.
Test time: 10: 00 -11: 30.
Test distance: 10m-15m.
Signal strength: -41dBm to -31dBm

Measured picture of WIFI antenna signal strength (data)



Test location: R&D office of our company.
Test time: 10: 00 -11: 30.
Test distance: 10m-15m.
Signal strength: -41dBm to -28dBm

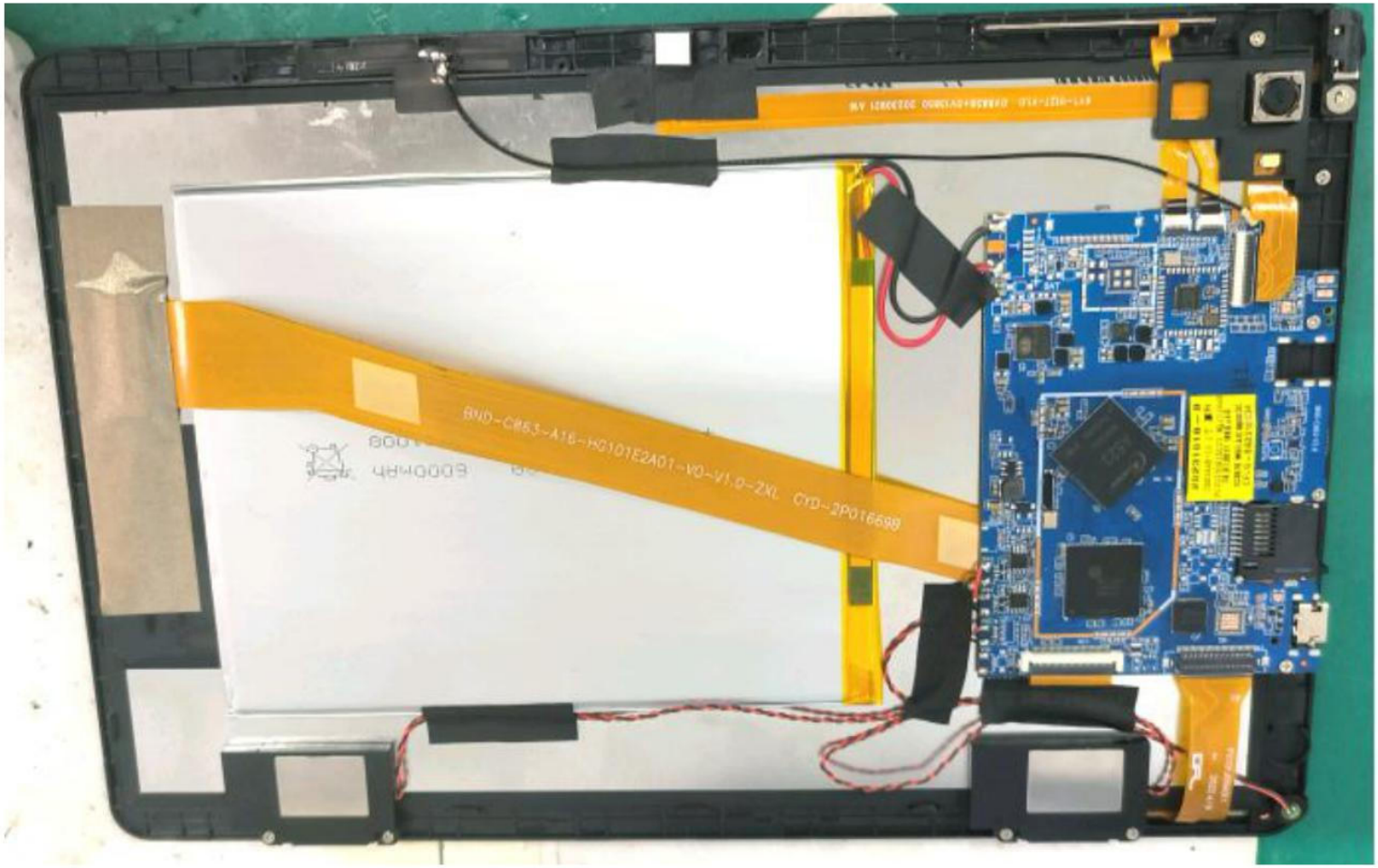
Antenna matching



Antenna matching has not been changed.

Main antenna	one	2	three	four	five	six	remarks
Original matching							
Change matching							

Environmental treatment and assembly instructions



The original machine environment treatment has not been changed;

Note: 1. This report is based on the actual debugging and testing of the debugging prototype, including environmental treatment, antenna position and assembly position of various devices.

Can not be changed at will;

2. If there is any change in the materials used in the prototype, it needs to be reported to our company in time for re-verification;

3. List of sensitive devices:

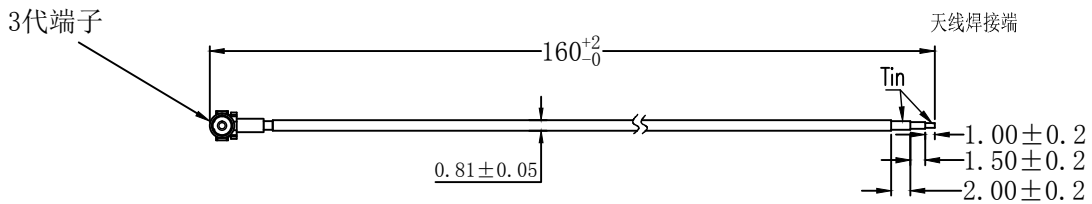
TP (material, coating, wiring, etc.)

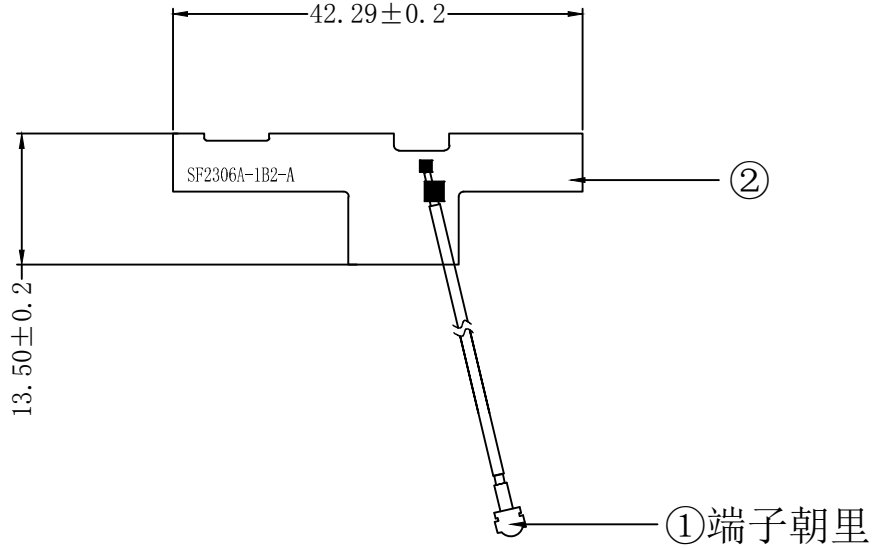
Screen (amplifier circuit, LED, cable design, etc.)

Shell material (antenna assembly mode, structural interference, shell material, antenna position height and area, etc.) motherboard (motherboard conduction, RF circuit matching, PA, diplexer, filter, LNA, power supply circuit, etc.)

Camera, battery, motor, MIC, fingerprint identification module, etc.

4. Because the number of debugging prototypes is small or only one, some probabilistic problems can't be completely found out. It is suggested that the problems (such as flashing screen, speaker noise, TP jump, black screen crash, signal diving, etc.) should be investigated in small batches before mass production.





技术要求：

1.打*为重点尺寸;

2.尺寸符合图纸要求;

3.焊点无虚焊、假焊。要求圆润、饱满。

4.网分测试通过（出现指定波形）。

5.线形尺寸未注公差按照SJ/T 10628 1995 6级，公差值由上下偏差均分;

序号	名称	材料	颜色	数量	描述	审核			批准		
5											
4											
3							签名	年月日	量产	签名	年月日
2	FPC		黑色	1	SF2306A-1B2-A	RD	YWD	2023.11.27	Q C		
1	同轴线	3代端子	黑色	1	φ=0.81mm	RF					

SWARD

索沃德通讯技术有限公司

SF2306A-1R23B-160-A

阶段标记		比例
1	A	1 : 1

共1张 第1张

ROHS