

Sward Antenna Report

Manufacturer:Soward (Shenzhen) Communication
Technology Co., LTD

Customer: **Chengfeng**

Project : MO1097AD - Bainengda C863
motherboard - A523 main control

Report Date: 2024. 11. 19

Project Introduction

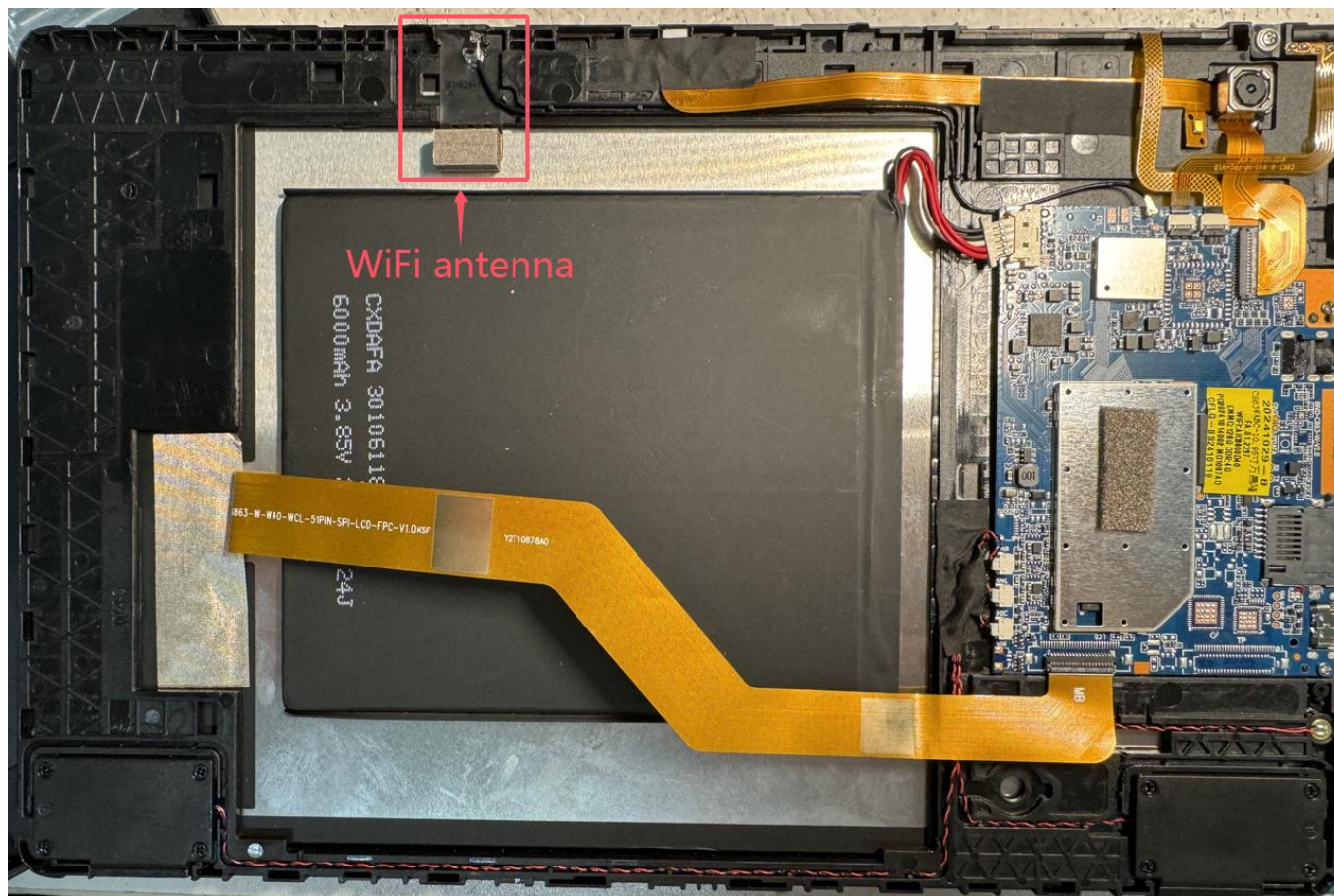
1.Resume

Antennas	Type
1	Flat
Shell Material: 10.95 inch Dingmeida W40 metal shell	

2.Description

Num.	Function	Frequency Band / MHz	Material / Structure
1	WIFI&BT&5Gwifi	2400MHz/2500MHz&5.8GHz	Internal Antenna

Antenna Position

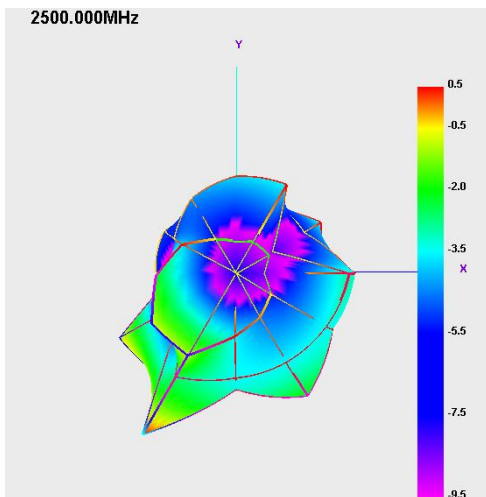
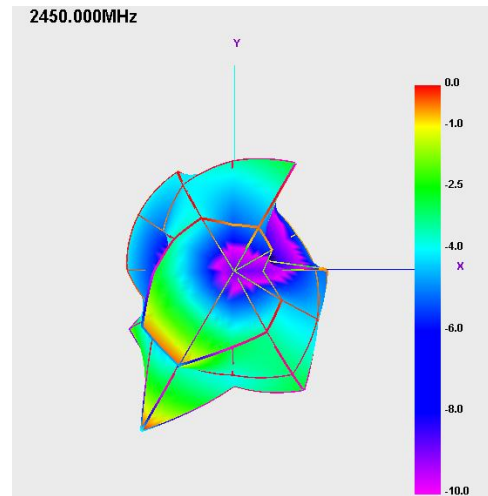
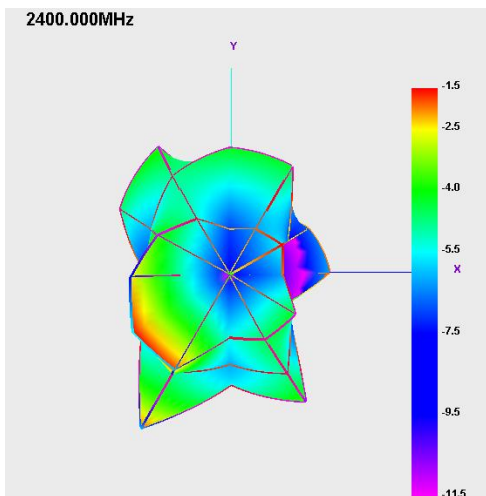


WIFI&BT Antenna S11



Antenna 2.4G Efficiency

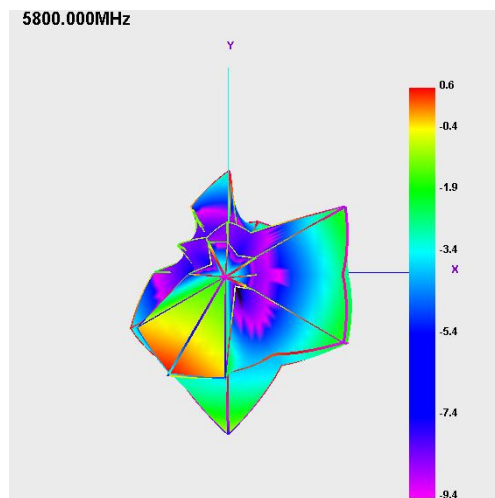
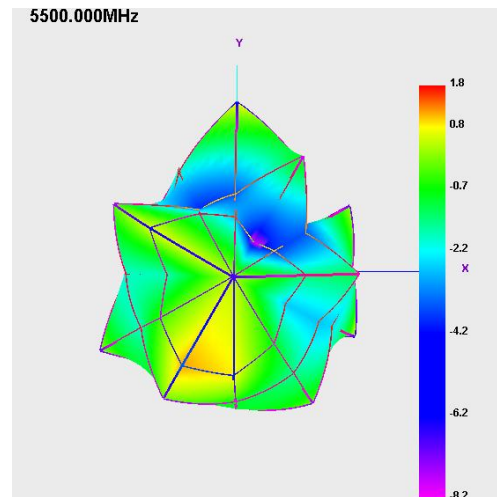
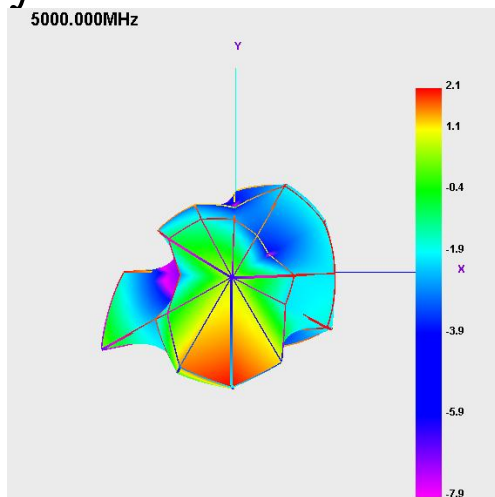
Passive Test For 2.4G			
Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)
2400	20.36	-6.91	-1.49
2410	22.74	-6.43	-1.16
2420	25.36	-5.96	-0.52
2430	26.9	-5.7	0.12
2440	26.95	-5.69	0.17
2450	25.25	-5.98	0.04
2460	25.41	-5.95	0.31
2470	24.57	-6.1	0.22
2480	25.09	-6.01	0.68
2490	25.58	-5.92	0.4
2500	25.99	-5.85	0.5



Antenna 5G Efficiency

Passive Test For 5G-WIFI

Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)
5000	34.28	-4.65	2.08
5100	44.26	-3.54	3.7
5200	40.03	-3.98	3.5
5300	36.68	-4.36	3.1
5400	38.55	-4.14	2.53
5500	40.7	-3.9	1.75
5600	27.8	-5.56	-0.54
5700	26.24	-5.81	-0.13
5800	27.01	-5.68	0.6
5900	18.82	-7.25	-1.63
6000	21.69	-6.64	-1.64



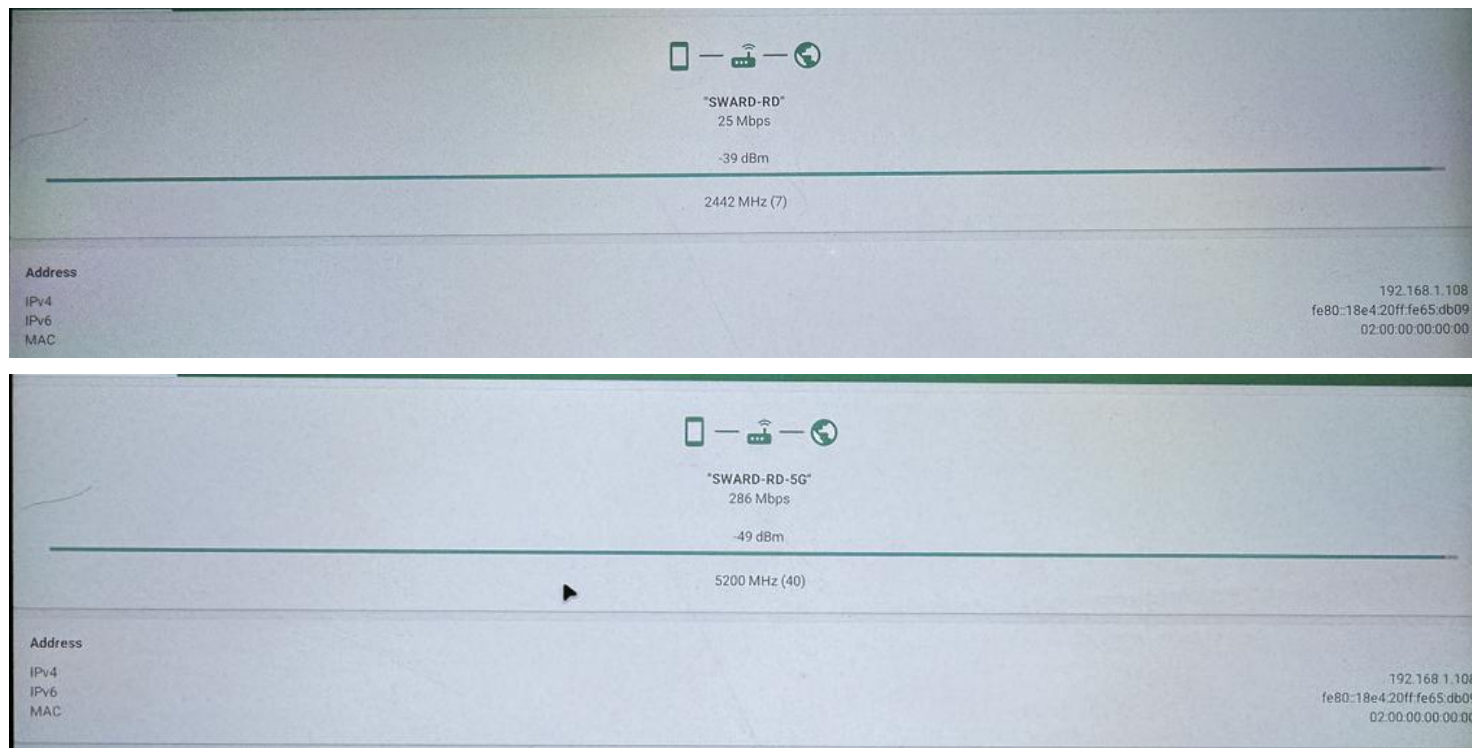
WiFi Throughput

Iperf Test for Throughput						
Type	Gatebox	Module	MT6771V	Software version	Windows_iperf	
No.	Freq.	Status	Angle	Average Value (TX) /1min	Average Value (RX) /1min	Remarks (Packet loss)
1	2.4G	2.4G WIFI (R&D 15m)	0°	34.3 Mbps	86.4 Mbps	0
			90°	35.7 Mbps	91.0 Mbps	0
			180°	32.9 Mbps	83.7 Mbps	0
			270°	35.3 Mbps	82.2 Mbps	0
	5G	5F WIFI (R&D 15m)	0°	163 Mbps	330 Mbps	0
			90°	170 Mbps	331 Mbps	0
			180°	150 Mbps	338 Mbps	0
			270°	166 Mbps	339 Mbps	0

BT antenna measured distance

Actual test effect	
Model number	1
Testing Environment	Soward R&D Center
Test equipment	Huawei AM08
Test distance	10m $\geq$

Antenna 2.4G& 5G Signal Strength



Test Location: R & D of Sward

Test Time : 11:30-12:30

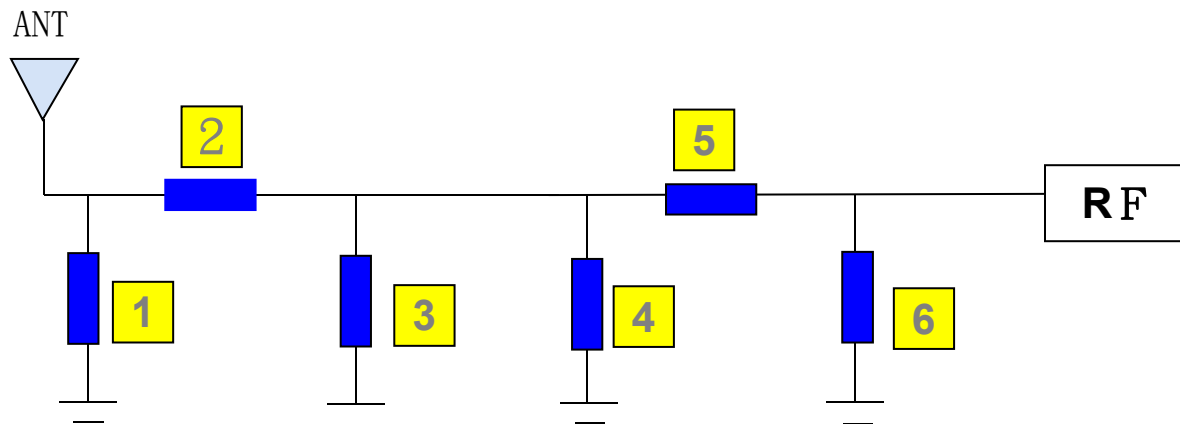
Test Distance: 10-15 meters

Test Result : -50dbm to -39dbm

深圳市宝安区前进二路135号河西航城工业区B栋6楼

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

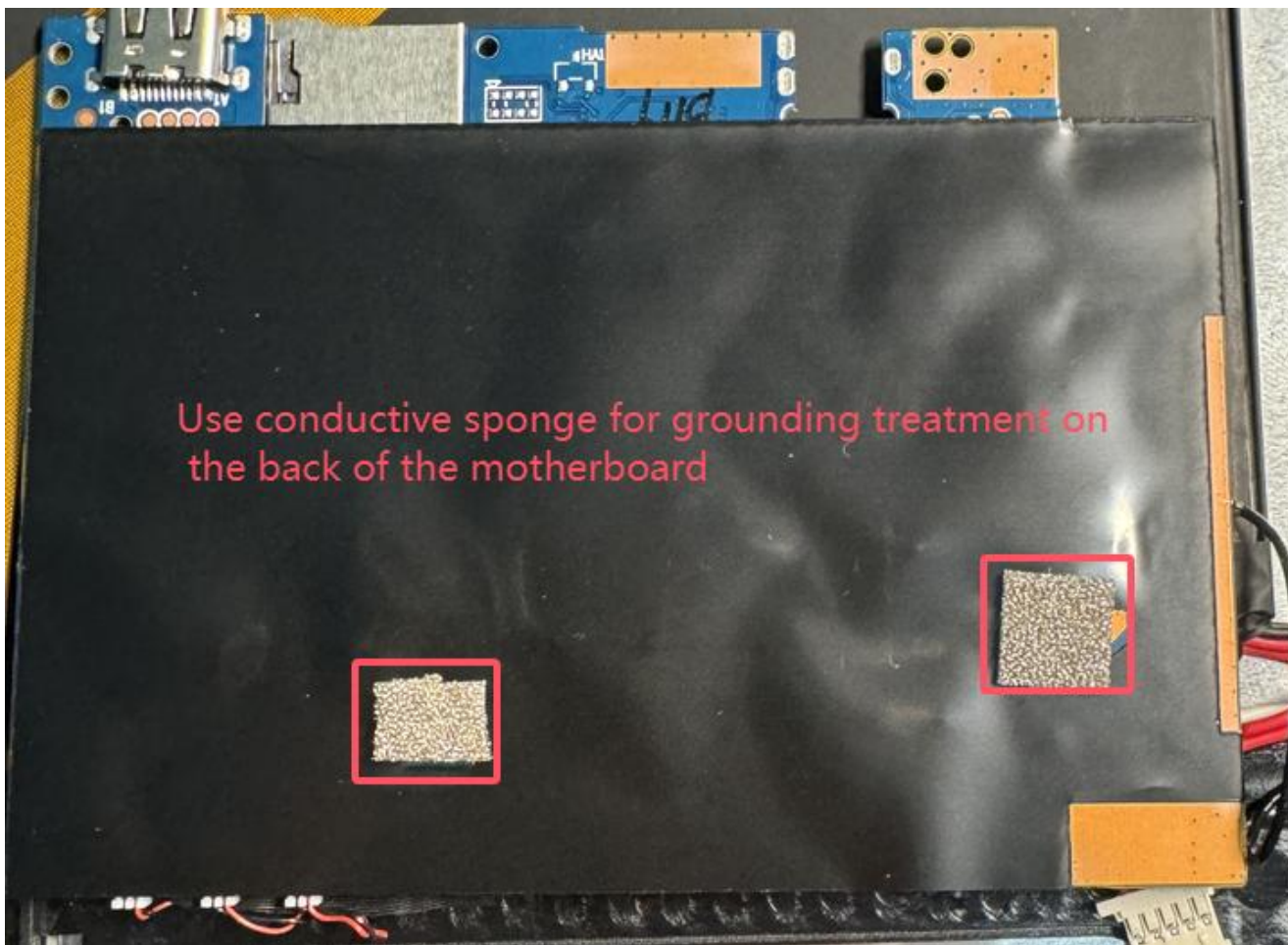
Antenna Matching Network



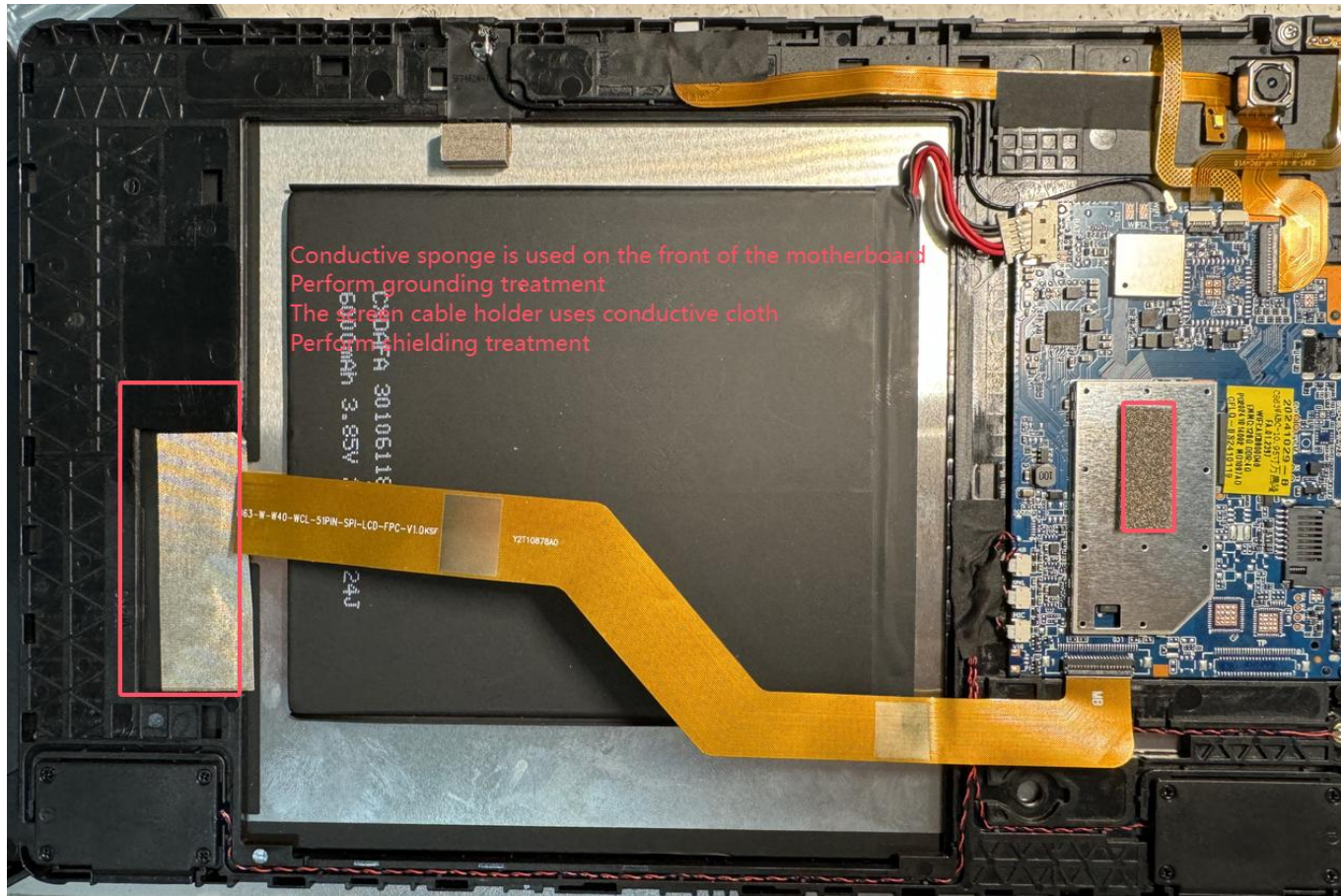
Antenna matching has not been changed.

Main Ant	1	2	3	4	5	6	Remarks
Original Match	—	—	—	—	—	—	—
Changed Match	—	—	—	—	—	—	—

Assembly Instructions



Assembly Instructions



Notes:

1. This report is based on the actual commissioning and testing of the commissioning prototype, including the assembly instructions, antenna position and assembly position of each device. **It cannot be changed at will;**
2. If there is **any change** in the materials used in the prototype, it is necessary to timely feed back to our company for **re-verification**;
3. List of sensitive devices:
 - TP** (material, coating, wiring, etc.)
 - Screen** (amplification circuit, led, cable layout design, etc.)
 - Shell material** (antenna assembly method, structural interference, shell material, antenna position height and area, etc.)
 - Mainboard** (mainboard conduction, RF circuit matching, PA, duplex, filter, LNA, power circuit, etc.)
 - Camera, battery, motor, MIC, fingerprint identification module, etc.**
4. Due to the small number or only one sample adjusting machine, some probabilistic problems cannot be completely found. **It is recommended to Check the problem points in small batch trial production before mass production**(screen flashes , horn noise, TP jump point, black screen OR crash, signal diving, etc.).

