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

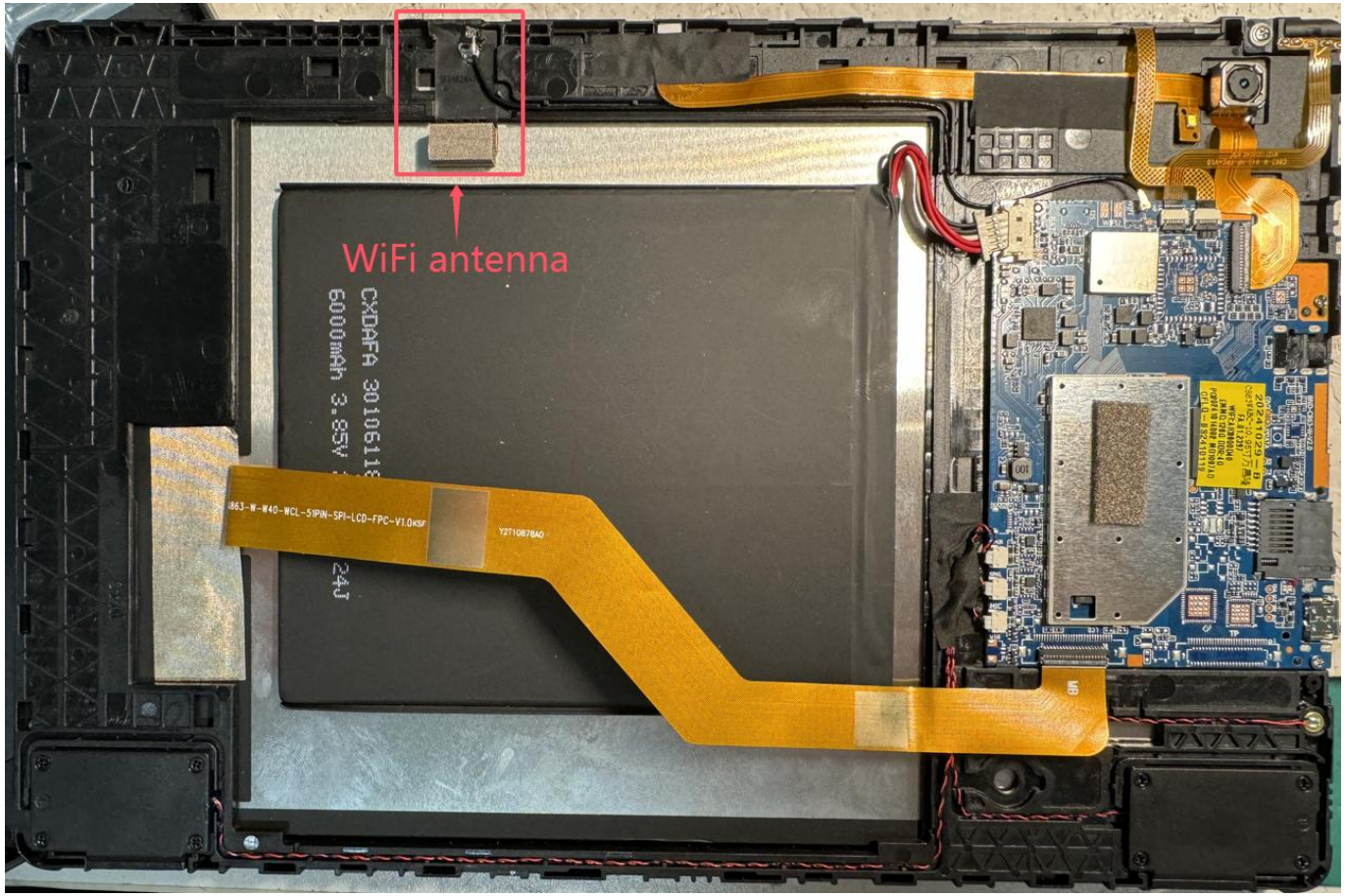
1.Resume

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

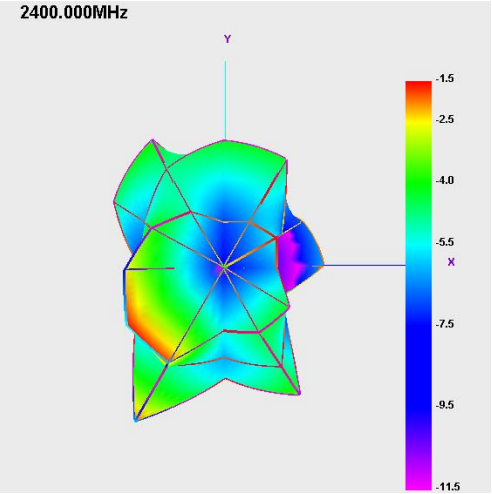
Antenna Position

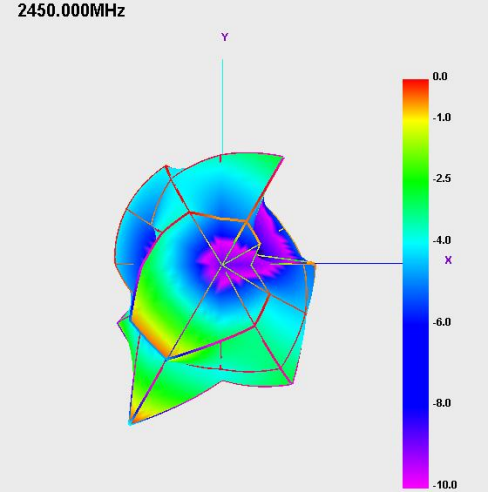


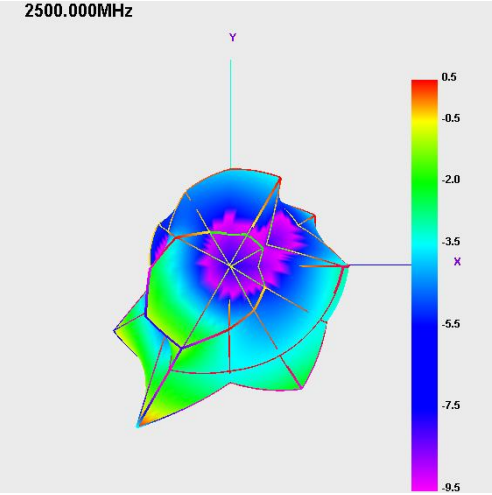
WIFI&BT Antenna S11

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

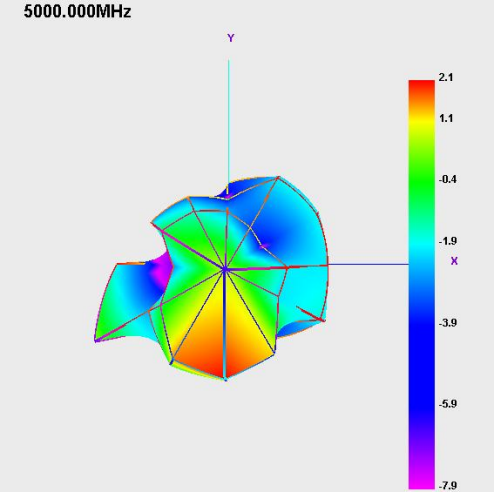


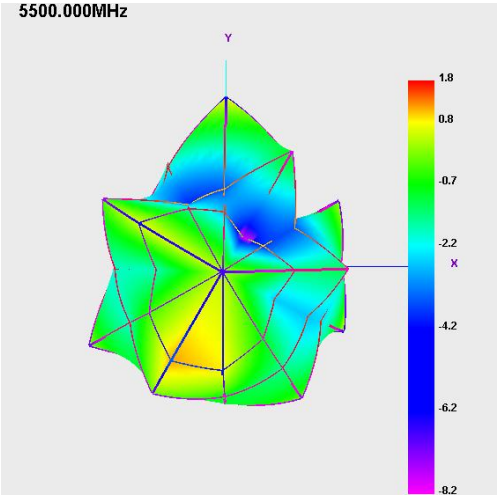


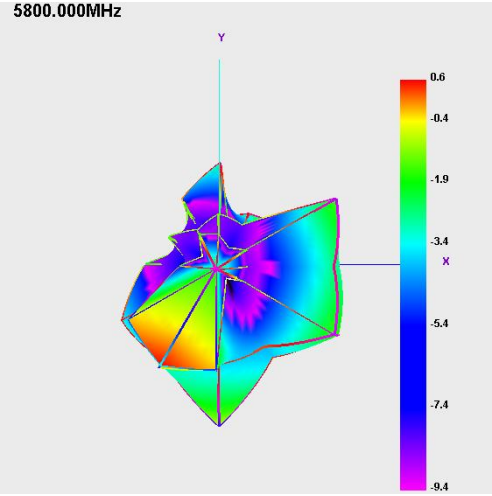


Antenna 5G Efficiency

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







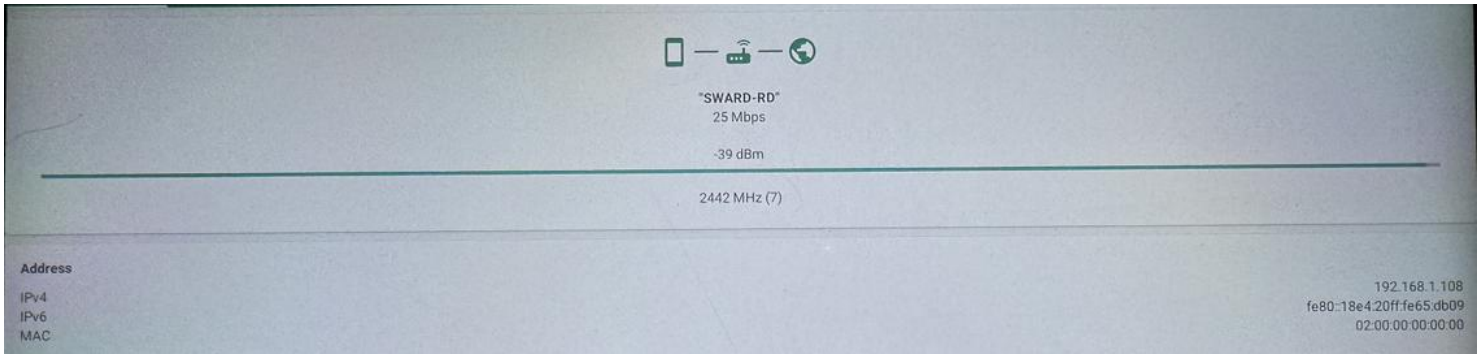
WiFi Throughput

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

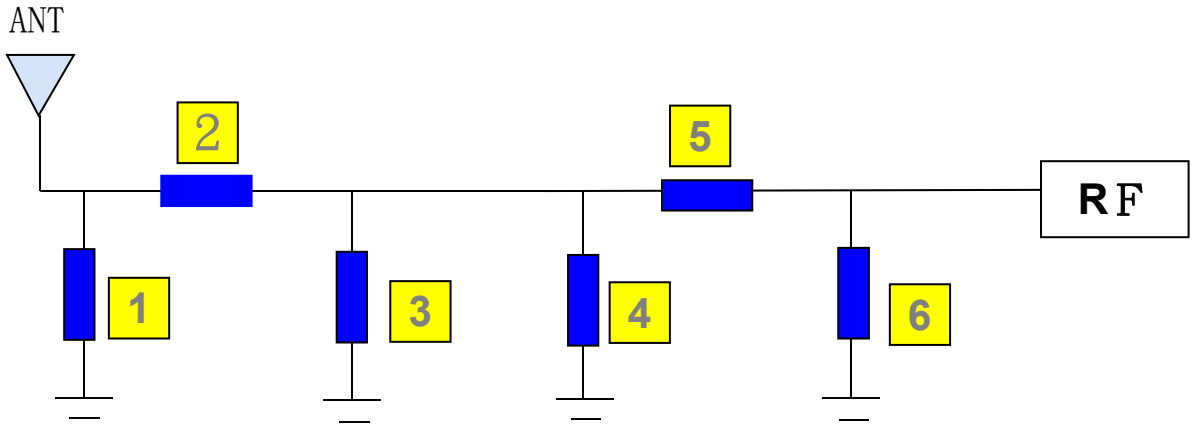
Actual test effect	
Model number	1
Testing Environment	Soward R&D Center
Test equipment	Huawei AM08
Test distance	10m≥

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

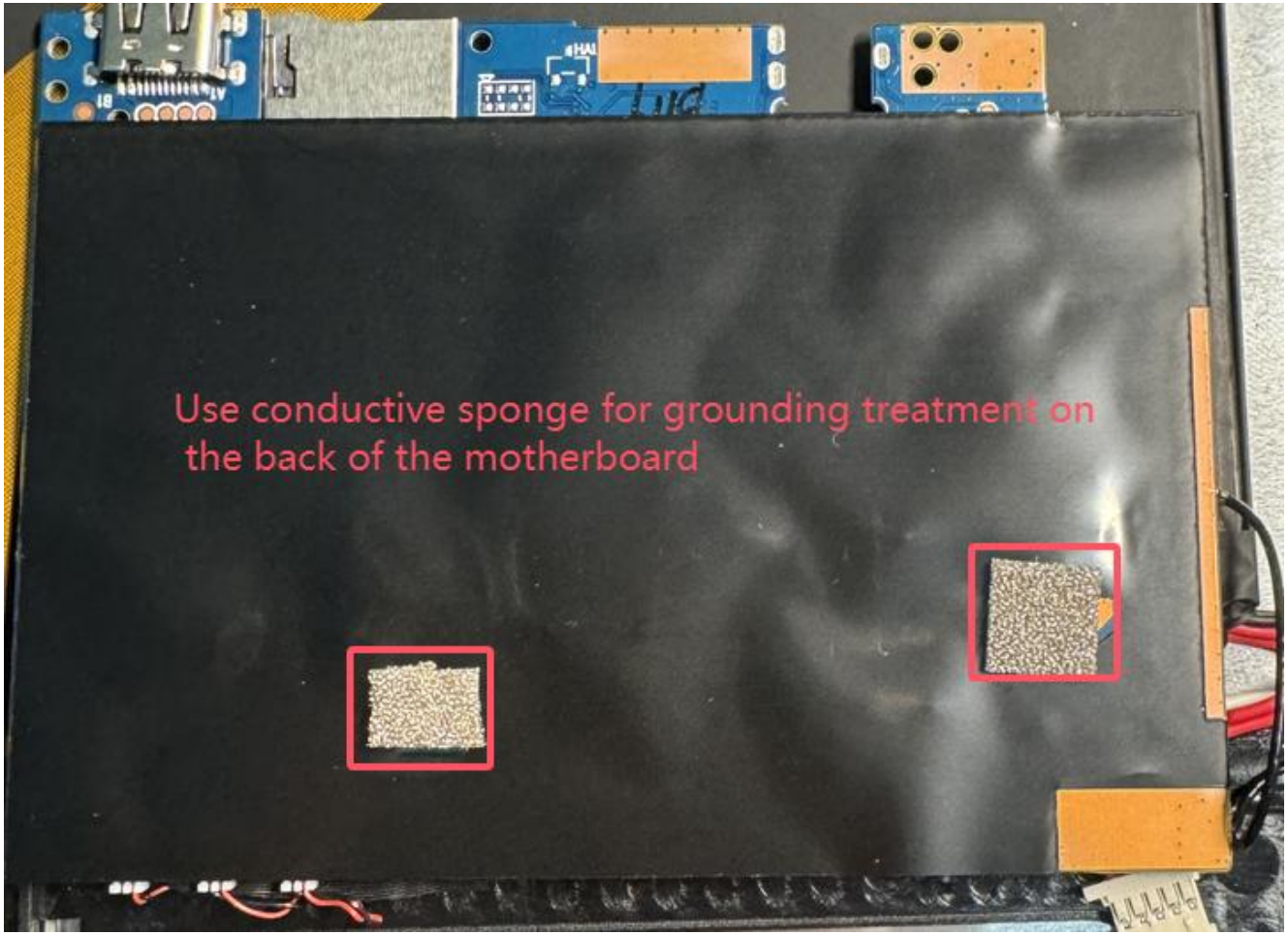
Antenna Matching Network



Antenna matching has not been changed.

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

Assembly Instructions



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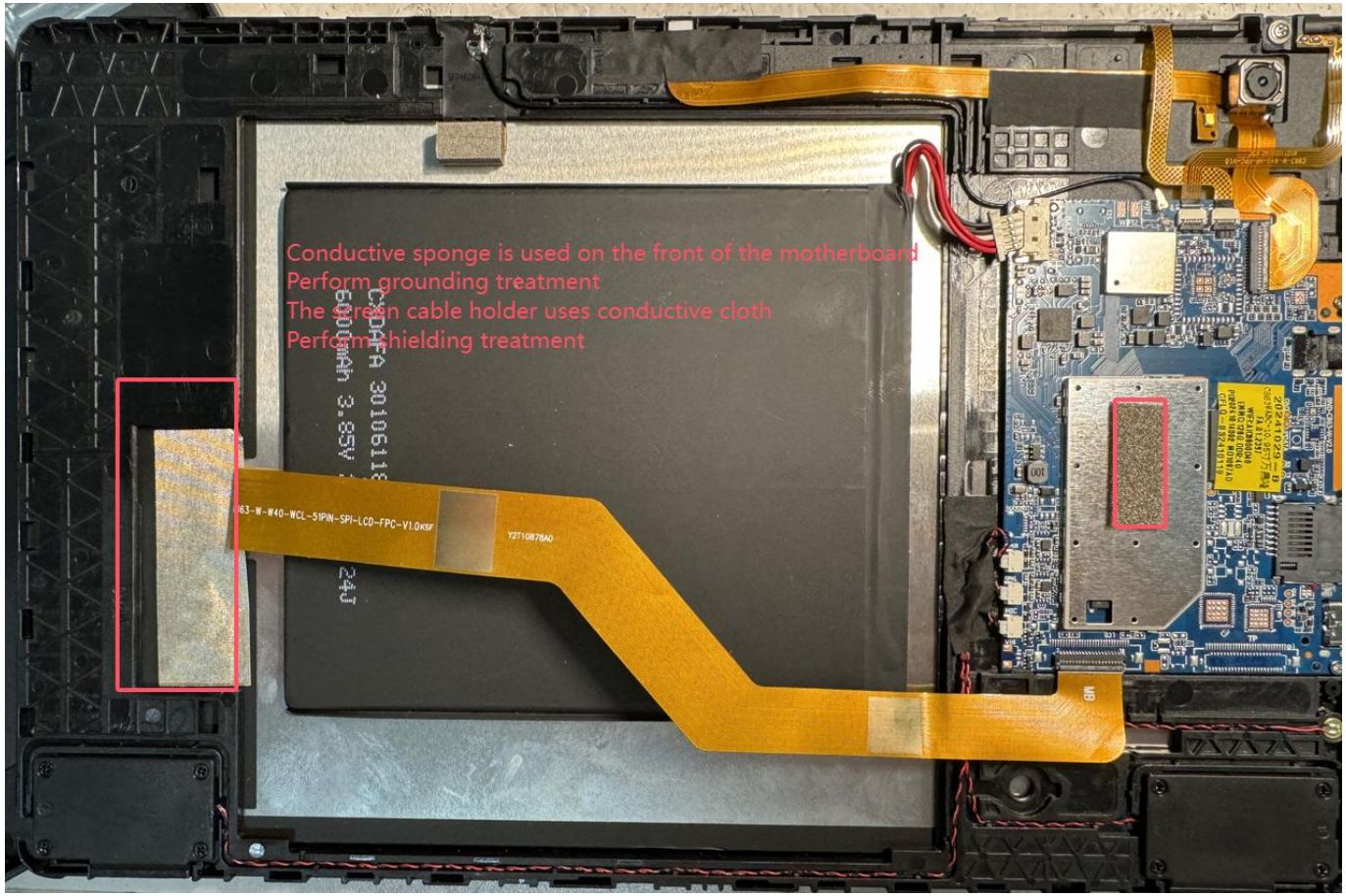


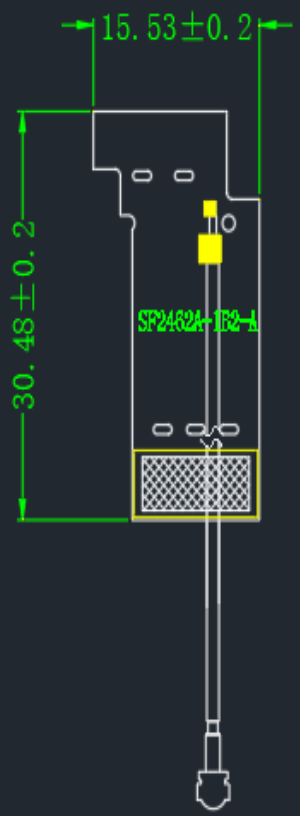
Notes:

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.).


15.53±0.2
30.48±0.2
SP2462A-IR2-A