

A8M2-Antenna Test Report

Customer name: Bmorn

Project name: 8-inch metal shell-A537 platform

Issue: 2025.04.25

Project Contact Details

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PROJECT INTRODUCTION

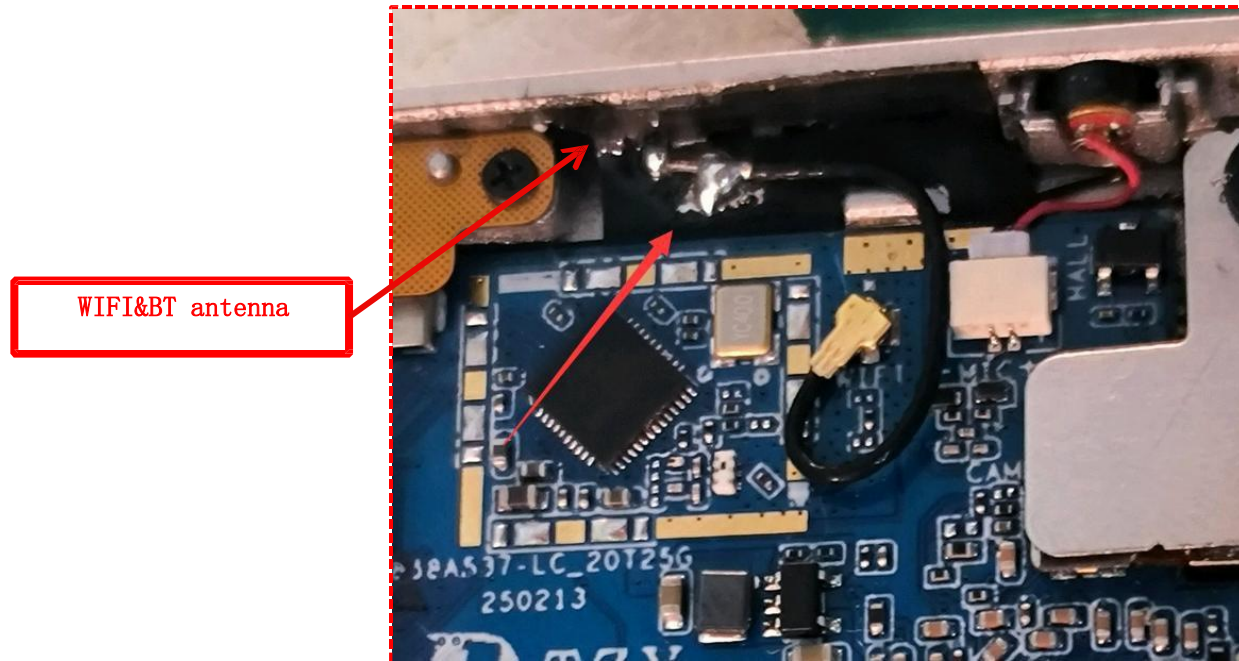
1. Project description

Number of project antennas	Machine type
2	Tablet
Machine housing material: 14-inch plastic shell	

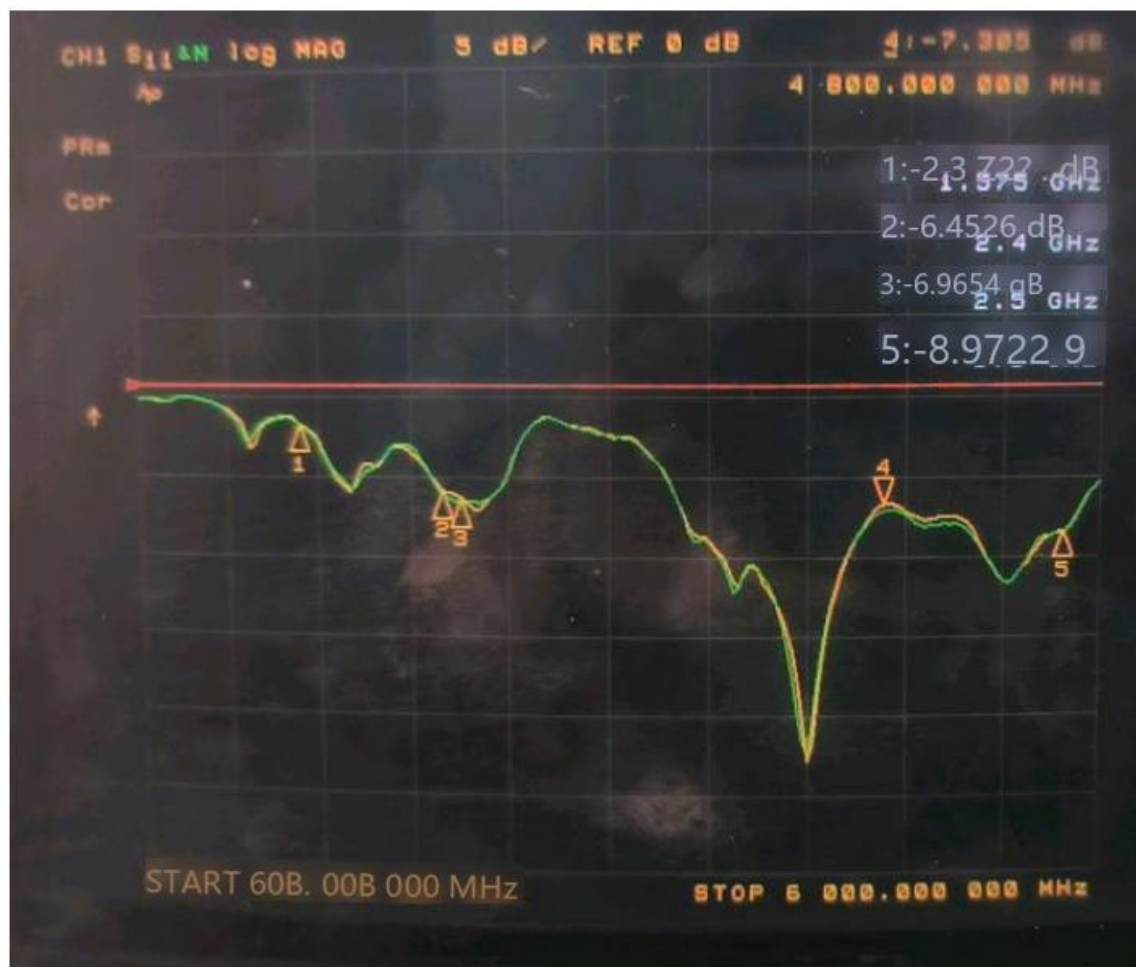
2. Antenna description

Antenna number	Name	Working frequency band/MHZ	Material/structure
1	WIFI&BT&5Gwifi	2400MHz/2500MHz&5. 8GHz	FPC
2	WIFI&BT&5Gwifi	2400MHz/2500MHz&5. 8GHz	FPC

Antenna layout

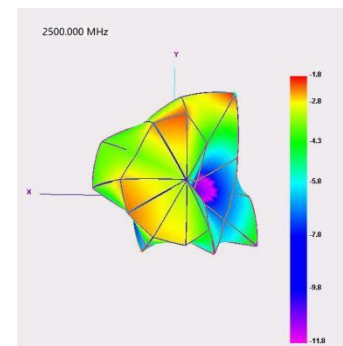
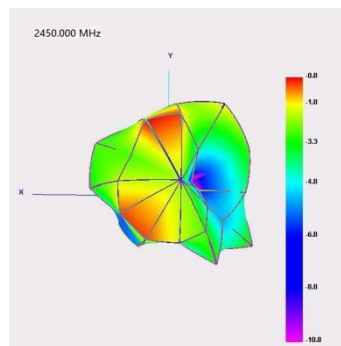
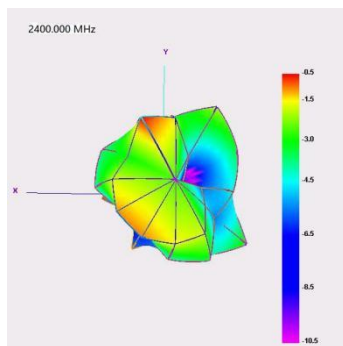


WIFI&BT main antenna S11



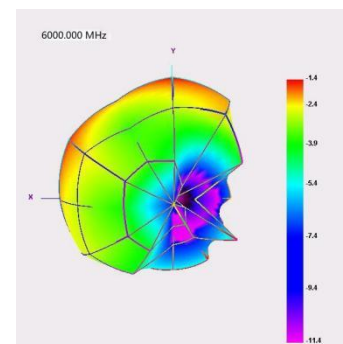
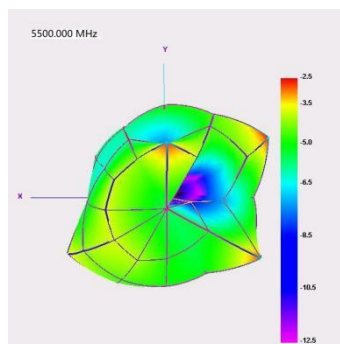
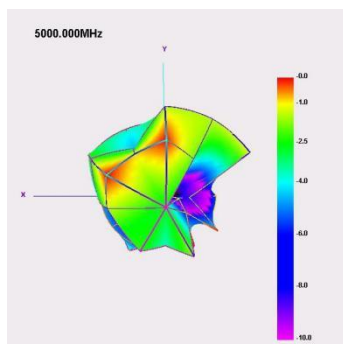
WIFI&BT antenna efficiency

Passive Test For 2.4Gwifi								
Freq	Effi	Effi	Gain	Gain	UHS	DHIS	Max	Min
(MHz)	(%)	(dB)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)
2400	31.48	-5.02	-0.52	-2.67	10.204	17.377	-0.52	-12.1
2410	34.02	-4.68	-0.81	-2.96	9.977	16.914	-0.81	-12.59
2420	31.84	-4.97	-0.97	-3.12	10.1	16.938	-0.97	-12.77
2430	27.58	-5.59	-0.8	-2.95	10.758	18.19	-0.8	-12.19
2440	26.89	-5.7	-0.78	-2.93	10.88	18.591	-0.78	-12.04
2450	27.04	-5.68	-0.83	-2.98	10.83	18.589	-0.83	-11.86
2460	28.95	-5.38	-0.96	-3.11	10.44	17.867	-0.96	-12
2470	29.47	-5.31	-1.9	-4.05	8.4	14.36	-1.9	-12.74
2480	29.42	-5.31	-2.66	-4.81	7.142	12.207	-2.66	-13.81
2490	28.31	-5.48	-2.7	-4.85	7.198	12.441	-2.7	-13.91
2500	22.76	-6.43	-1.76	-3.91	8.248	14.334	-1.76	-13



5G WIFI antenna efficiency

Passive Test For 5Gwifi								
Freq	Effi	Effi	Gain	Gain	UHS	DHIS	Max	Min
(MHz)	(%)	(dB)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)
5000	28.79	-5.41	-0.01	-2.16	12.738	16.054	-0.01	-14.24
5100	26.9	-5.7	0.17	-1.98	11.893	15.011	0.17	-14.08
5200	22.68	-6.44	-0.01	-2.16	9.856	12.827	-0.01	-14.74
5300	26.32	-5.8	-0.25	-2.4	11.375	14.949	-0.25	-13.14
5400	22.94	-6.39	-1.43	-3.58	9.571	13.368	-1.43	-14.17
5500	18.66	-7.29	-2.54	-4.69	7.759	10.902	-2.54	-20.99
5600	17.72	-7.52	-3.33	-5.48	7.599	10.119	-3.33	-16.12
5700	20.25	-6.94	-1.03	-3.18	8.558	11.689	-1.03	-17.26
5800	20.64	-6.85	-0.78	-2.93	8.249	12.396	-0.78	-16.91
5900	21.66	-6.64	-0.38	-2.53	8.291	13.368	-0.38	-18.71
6000	20.55	-6.87	-1.4	-3.55	7.828	12.717	-1.4	-20.14



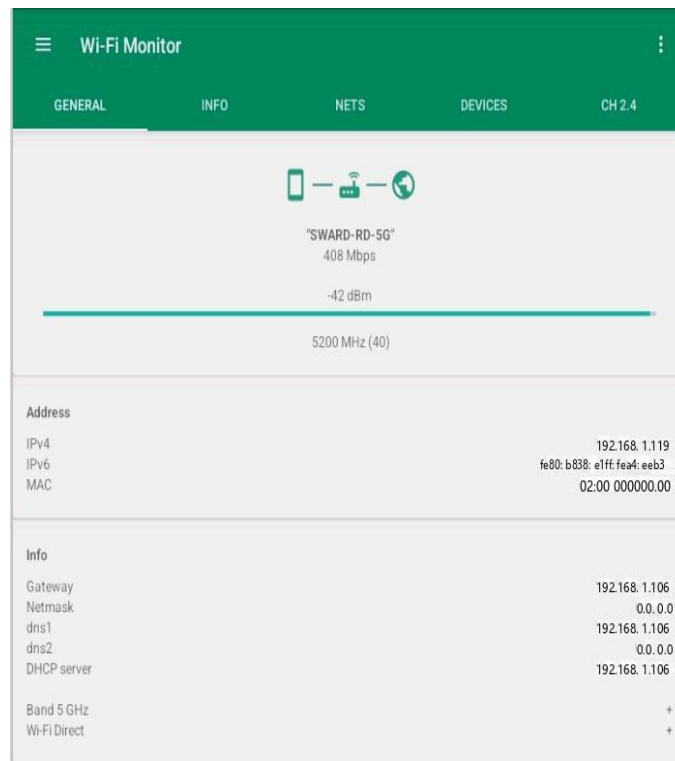
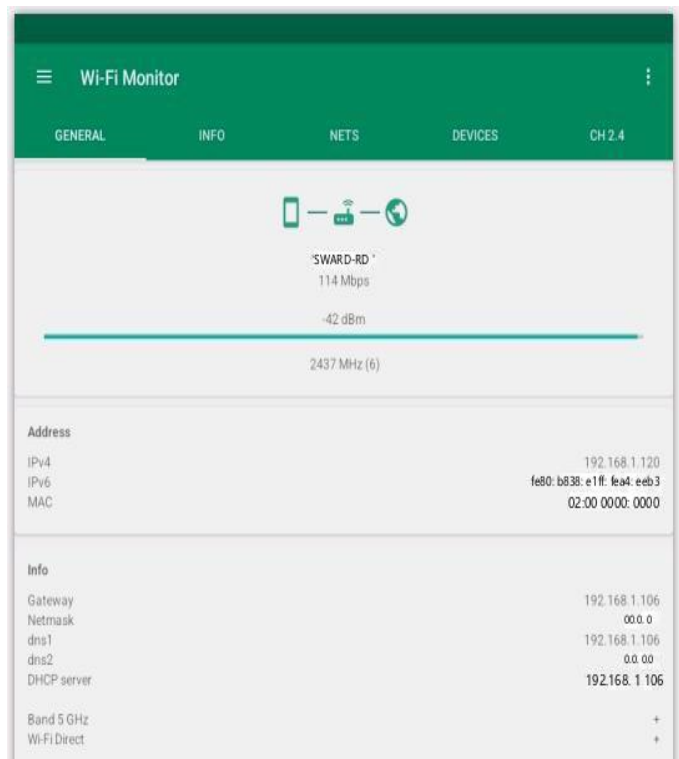
WiFi Throughput

Iperf throughput test						
Model	AF0802 -A537 platform	Module	With motherboard	Software version	iPerf2 for Android	
Model number	Frequency band	Distance	Test angle	Test data (TX) 1min average	Test data (RX) 1min average	Notes (number of packet drops)
1	2. 4G	2. 4G WIFI (Research and development distance of 15m)	0°	48.2 Mbps	73.6 Mbps	0
			90°	60.4 Mbps	75.9 Mbps	0
			180°	57.9 Mbps	80.9 Mbps	0
			270°	49.0 Mbps	61.1 Mbps	0
	5G	5F WIFI (Research and development distance of 15m)	0°	254 Mbps	257 Mbps	0
			90°	252 Mbps	258 Mbps	0
			180°	243 Mbps	250 Mbps	0
			270°	248 Mbps	247 Mbps	0

BT antenna measured distance

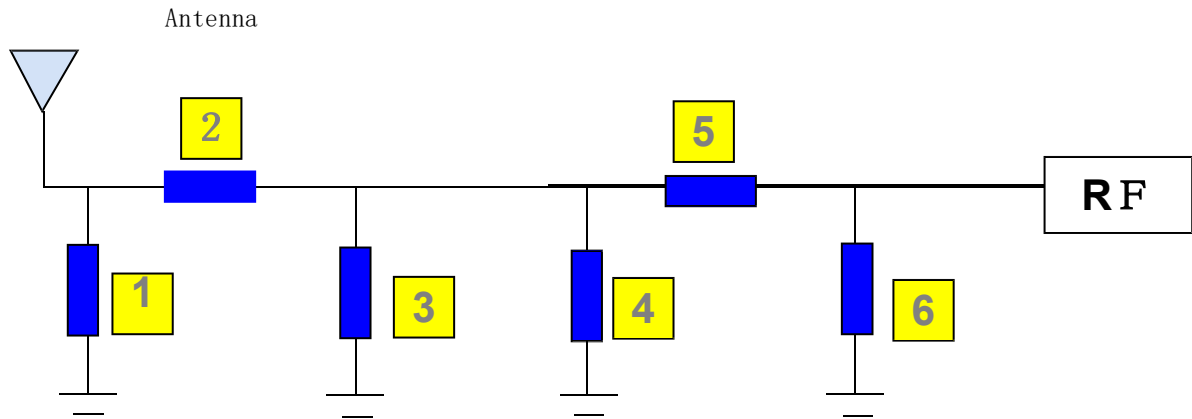
Test results	
Model number	1
Test environment	Soward R&D Center
Test equipment	Huawei AM08
Test distance	-

WIFI antenna signal strength measurement picture (data)



Test location	Our R&D office					
Test group	2.4G/5G-Distance 15 meters		2.4G/5G-Distance 10 meters		2.4G/5G-Distance 5 meters	
Test frequency	2.4Gwifi	5Gwifi	2.4Gwifi	5Gwifi	2.4Gwifi	5Gwifi
Signal strength	-42 dBm	-42 dBm	-38 dBm	-38 dBm	-30dBm	-28dBm

Antenna matching



Antenna matching is not changed.

Main antenna	1	2	3	4	5	6	Remarks
Original							
Change matching							

Debugging records

1. 2025.03.06, received the prototype shell material + motherboard (the machine has no battery, no screen), debugged antenna;
2. 2025.03.10, arranged for the first version of the antenna to be sent for sampling;
3. 2025.04.14, received the trial production prototype, received the structural modification requirements, etc., arranged optimization and testing, etc.;
4. 2025.04.16, debugging OK, effect testing OK, arrange for trial production antenna sampling;
5. 2025.04.19, Received antenna return sample, retested effect OK, confirmed antenna effect and arranged for trial production;
6. 2025.04.23, antenna test results are OK, arrange for sample return to the machine;

Note: 1. This report is based on the actual debugging and testing of the debugging prototype. The environmental treatment, antenna position and assembly position of each c

2. If there is any change in the materials used in the prototype, it is necessary to promptly feedback to our company for re-verification;

3. List of sensitive components: TP (material, coating, routing, etc.)

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

Shell material (antenna assembly method, structural interference, shell material, antenna position height and area, etc.)

Mainboard (mainboard conduction, RF circuit matching, PA, duplexer, filtering, LNA, power circuit, etc.) Camera, battery, motor, MIC, fingerprint recognition module, etc.

4. Due to the small number of debugging prototypes or only one, some probabilistic problems cannot be completely found. It is recommended to conduct a small batch t
production to check for problems (such as screen flashing, speaker noise, TP jump point, black screen crash, signal diving, etc.)