

Soward Antenna Debugging Report

Customer Name: Bright color

project name: F801U8N (6.86-inch Recorder 8733BS Module)

Date: 2024. 10. 08

Project Contact Information

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Project Introduction

1. Project Overview

Number of project antennas	Machine type
1	WiFi Recorder
Material of the whole machine shell: 6.86-inch plastic shell with screen	

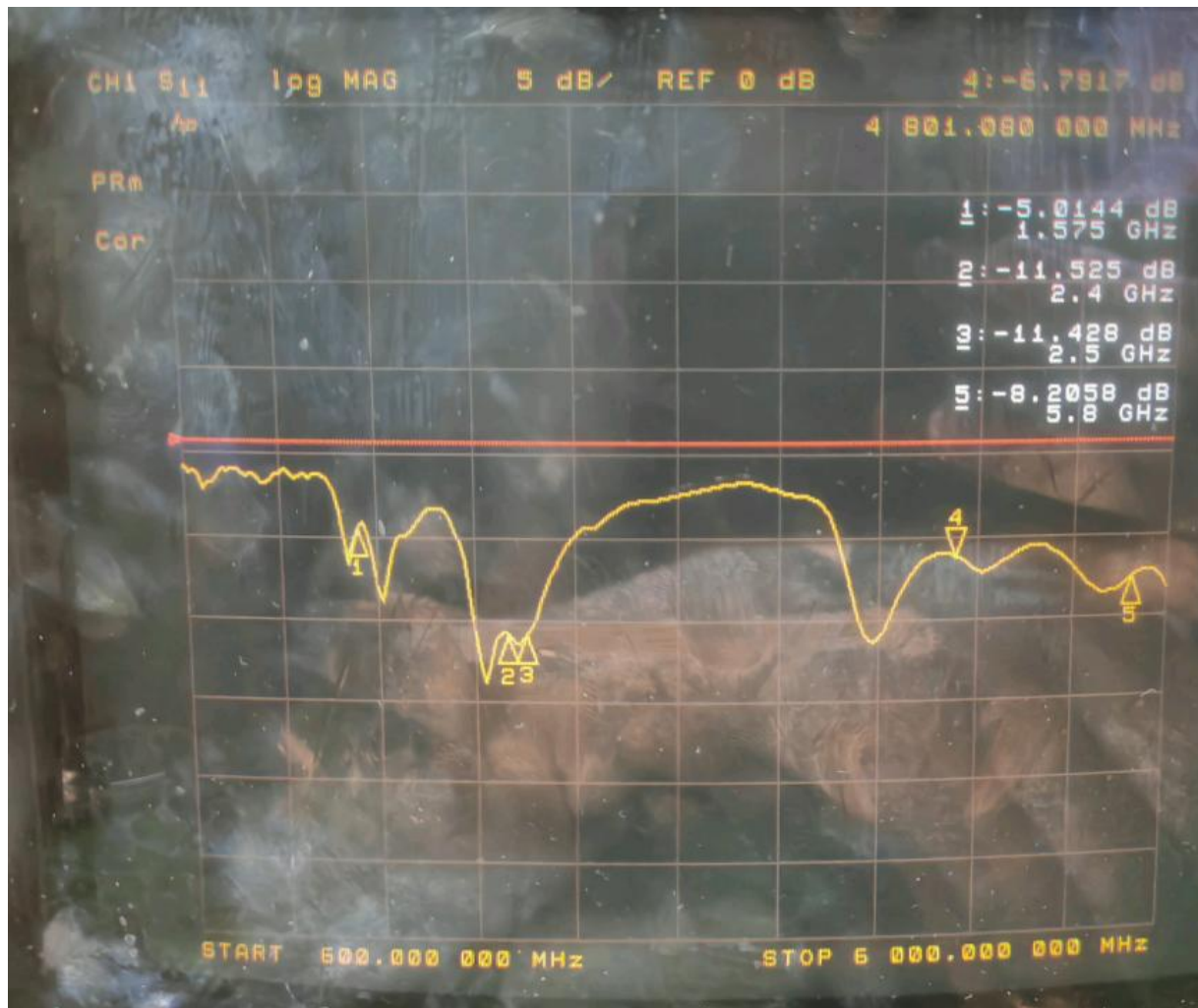
2. Antenna Overview

Antenna number	name	Working frequency band/MHz	Material/Struct ure
1	WIFI&BT&5Gwifi	2400MHz/2500MHz & 5.8GHz	FPC

Antenna layout



WIFI&BT antennaS11



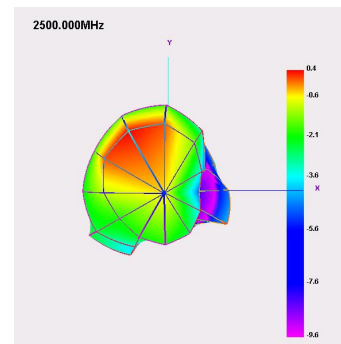
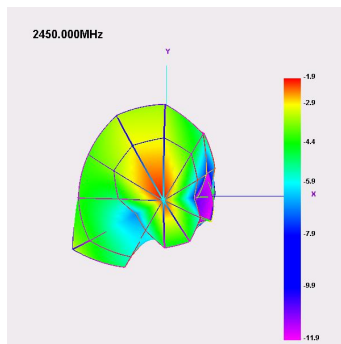
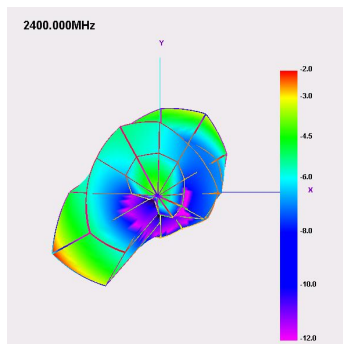
WIFI antenna measured distance

Tested effect of BT playing music	
Model number	1
testing environment	Soward R&D Center
Test equipment	Redmi K50 Pro
test distance	15 m

download rate	
Model number	1
testing environment	Soward R&D Center -1 meter
Test equipment	Redmi K50 Pro
test rate	-

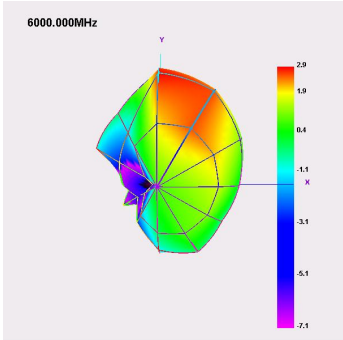
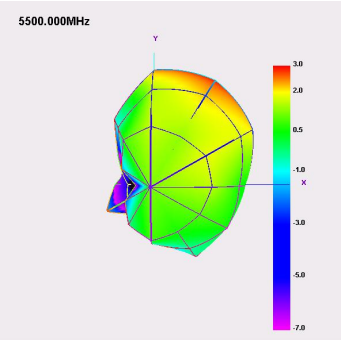
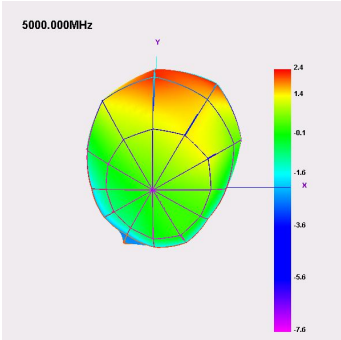
WIFI&BT Antenna efficiency

Passive Test For 2.4Gwifi								
Freq	Effi	Effi	Gain	Gain	UHS	DHIS	Max	Min
(MHz)	(%)	(dB)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)
2400	28.34	-5.48	-1.99	-4.14	9.735	13.03	-1.99	-12.59
2410	28.97	-5.38	-2.34	-4.49	9.891	12.708	-2.34	-12.18
2420	29.85	-5.25	-1.09	-3.24	12.649	15.69	-1.09	-11.34
2430	22.05	-6.57	-0.89	-3.04	13.357	15.611	-0.89	-12.23
2440	22.16	-6.54	-0.67	-2.82	14.193	15.657	-0.67	-12.57
2450	20.38	-6.91	-1.91	-4.06	10.851	11.204	-1.91	-14.17
2460	23.92	-6.21	-1.32	-3.47	11.132	11.029	-1.32	-15.12
2470	26.61	-5.75	-1.84	-3.99	10.369	10.011	-1.84	-15.78
2480	32.15	-4.93	-1.31	-3.46	12.368	11.556	-1.31	-15.11
2490	28.67	-5.43	-0.66	-2.81	13.962	12.65	-0.66	-14.21
2500	26.41	-5.78	0.36	-1.79	17.121	15.027	0.36	-13.18

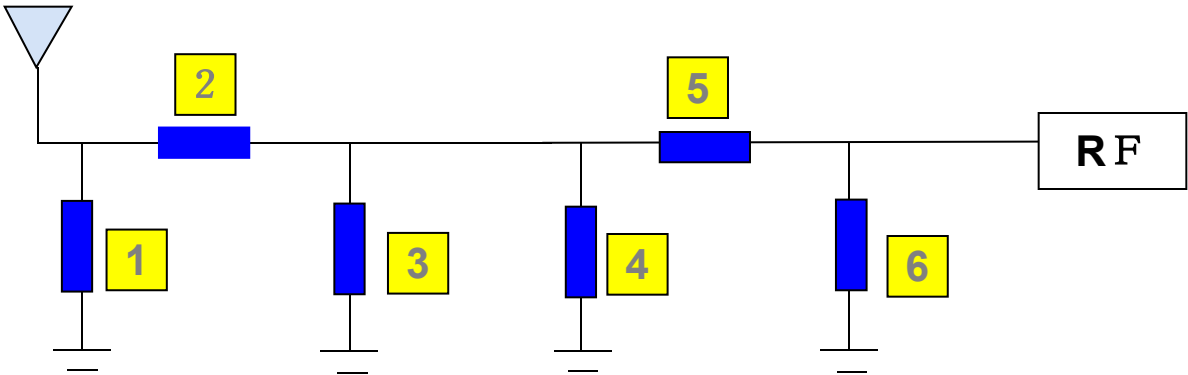


5GWIFI Antenna efficiency

Passive Test For 5Gwifi								
Freq	Effi	Effi	Gain	Gain	UHS	DHIS	Max	Min
(MHz)	(%)	(dB)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)
5000	38.84	-4.11	2.44	0.29	24.828	14.014	2.44	-21.12
5100	35.65	-4.48	2.73	0.58	22.564	13.087	2.73	-21.5
5200	28.24	-5.49	1.82	-0.33	17.766	10.471	1.82	-24.08
5300	33.6	-4.74	2.87	0.72	20.7	12.9	2.87	-26.29
5400	39.34	-4.05	3.51	1.36	24.115	15.226	3.51	-22.77
5500	38.76	-4.12	2.98	0.83	24.675	14.085	2.98	-20.08
5600	31.16	-5.06	1.98	-0.17	21.273	9.891	1.98	-17.91
5700	27.22	-5.65	2.39	0.24	19.59	7.635	2.39	-19.69
5800	30.47	-5.16	2.3	0.15	21.112	9.354	2.3	-18.74
5900	25.29	-5.97	1.02	-1.13	17.525	7.768	1.02	-22.61
6000	34.71	-4.6	2.95	0.8	23.79	10.915	2.95	-22.02



antenna matching



No antenna matching has been changed.

main	1	2	3	4	5	6	备注
Original matching							
Change Matching							

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

Cannot be changed arbitrarily;

If there are any changes in the materials used in the prototype, please promptly provide feedback to our company for further verification;

3. List of sensitive components:

TP (Material, Coating, Wiring, etc.)

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

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

Motherboard (motherboard conduction, RF circuit matching, PA, dual power, filtering, etc.)

LNA, Power supply circuit, etc

Camera, battery, motor MIC、Fingerprint recognition module, etc

4. Due to the small number or only one sample testing machine, some probabilistic issues cannot be fully identified. It is recommended to conduct a small batch trial production before mass production to investigate the problem points (such as flashing screens, speaker noise, TP jump points, black screen crashes, signal drops, etc.)