

Soward Antenna Debugging Report

Customer Name: Bright Color

Project Name: F900 Large Screen Recorder – V553 Platform

Antenna part number: SF1184I-1L1B-205-A

Date: September 2, 2024

Project Contact Information

Customer contact person:

Hand Mail

Machine:
Box:

Soward structure:

Handheld electronic mail

Machine:
Words: 0755-29985185
Box: yangwende@szsward.com

Soward RF: Xiao Chunyan

hand Machine:
Email Words: 0755-29985185
Box: swd005@szsward.com

Project Introduction

1. Project Overview

Number of project antennas	Machine type
1	Large screen recorder
Material of the whole machine shell: with screen recorder	

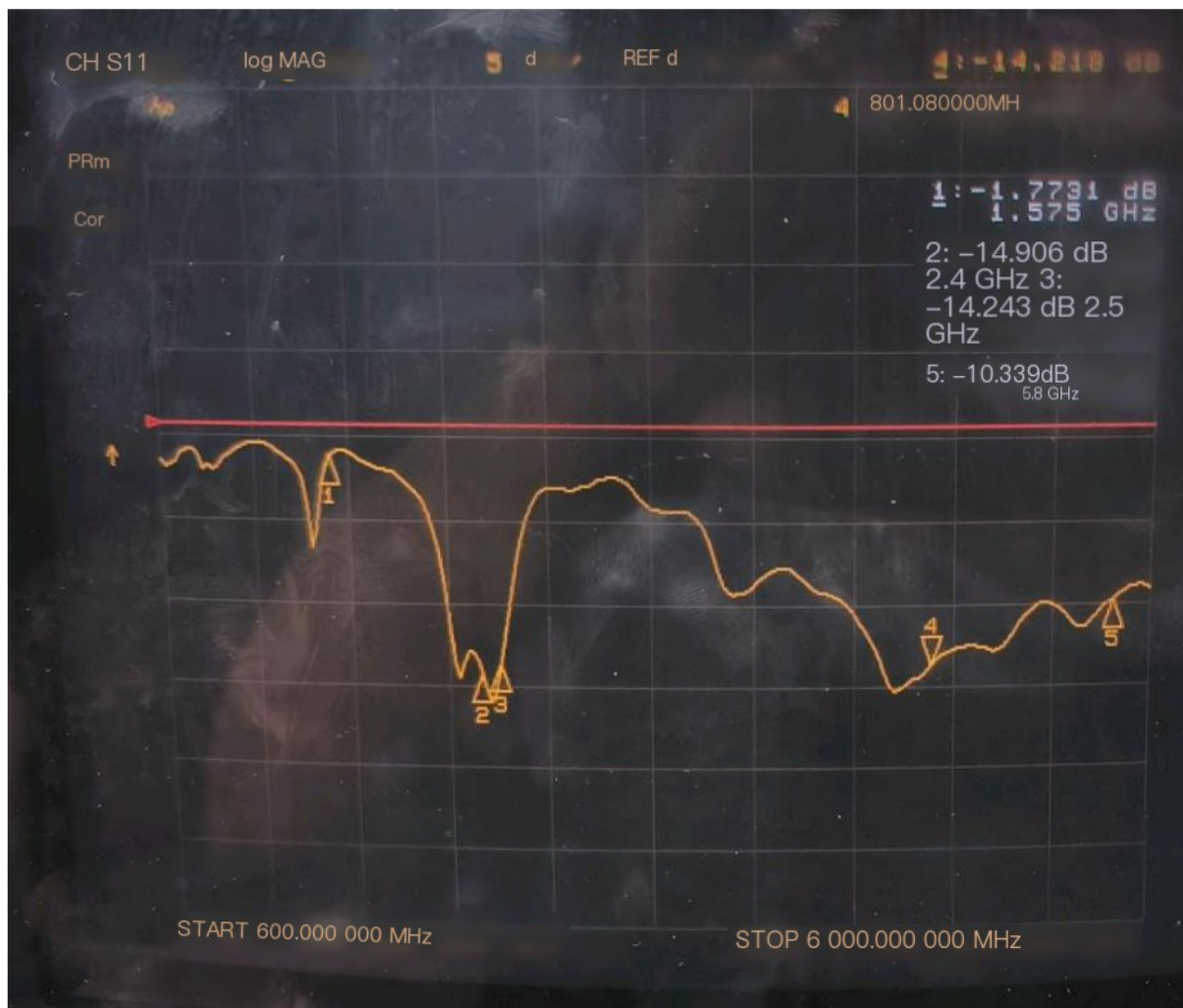
2. Antenna Overview

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

Antenna layout



WIFI&BT antenna S11



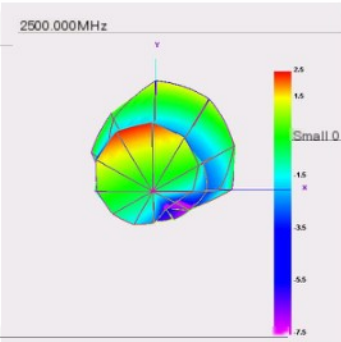
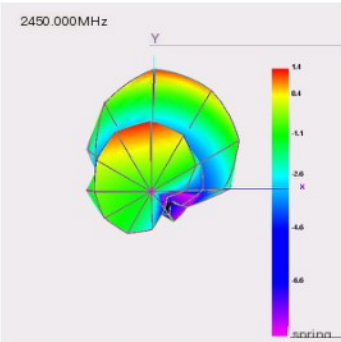
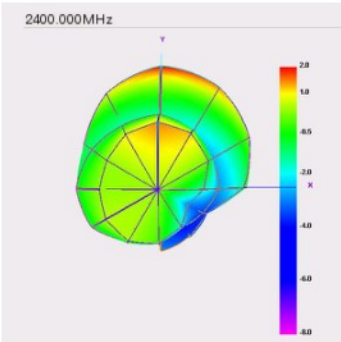
WIFI antenna measured distance&download speed

Actual test effect	
Test project	2.4G Bluetooth playback
testing environment	Soward R&D Center
Testing equipment	Redmi K50 Pro
Test distance	>10 meters

Download speed	
Model number	5G Connection Preview
testing environment	Soward R&D Center/about 1m
Testing equipment	Redmi K50 Pro
Test speed	About 6.8 MBps

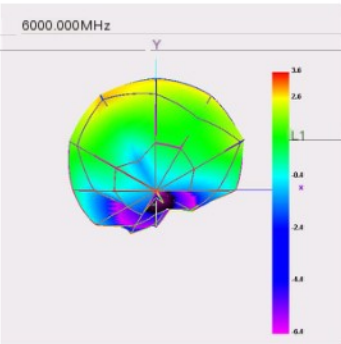
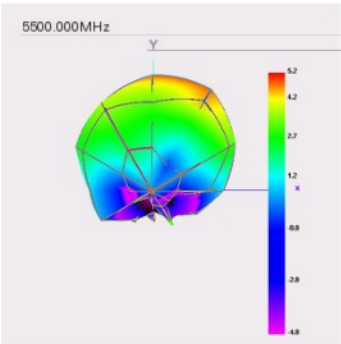
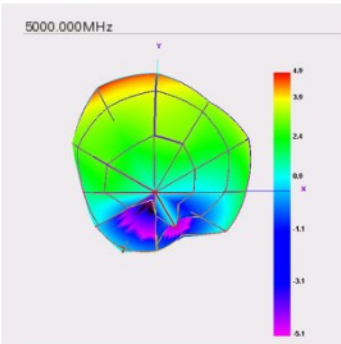
WIFI&BT antenna efficiency

Passive Test For 2.4Gwifi								
Freq	Effi	Effi	Gain	Gain	UHS	DHIS	Max	Min
(MHz)	(%)	(dB)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)
2400	44.26	-3.54	2	-0.15	18.73	25.526	2	-21.34
2410	44.66	-3.5	1.9	-0.25	18.938	25.723	1.9	-19.33
2420	49.09	-3.09	2.18	0.03	20.796	28.295	2.18	-15.52
2430	48.29	-3.16	2.02	-0.13	20.505	27.786	2.02	-14.5
2440	46.99	-3.28	1.83	-0.32	19.956	27.039	1.83	-14.59
2450	42.2	-3.75	1.44	-0.71	17.962	24.234	1.44	-14.17
2460	44.22	-3.54	1.85	-0.3	18.861	25.36	1.85	-12.95
2470	45.71	-3.4	2.16	0.01	19.499	26.215	2.16	-13.12
2480	48.64	-3.13	2.55	0.4	20.81	27.829	2.55	-13.05
2490	49.06	-3.09	2.66	0.51	21.141	27.917	2.66	-13.4
2500	46.51	-3.32	2.46	0.31	20.349	26.156	2.46	-13.27

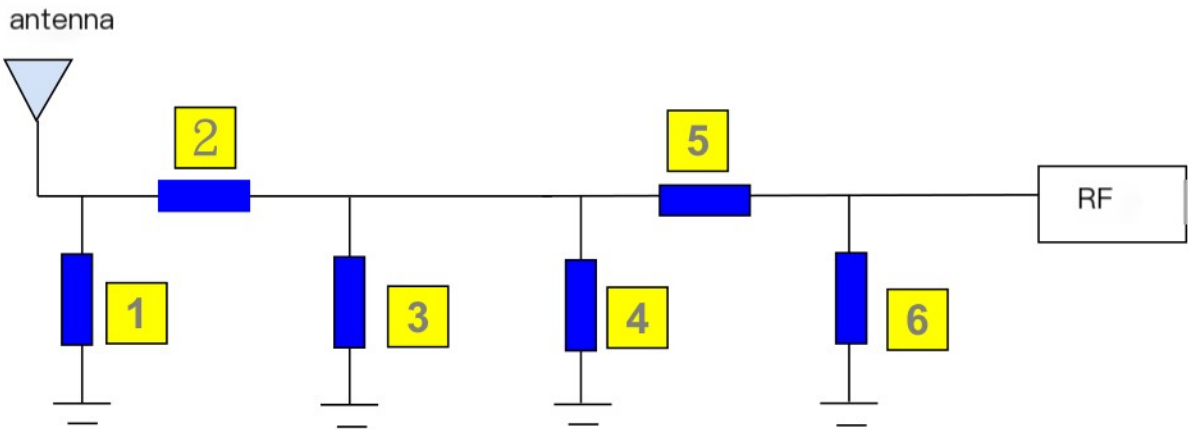


5G WIFI antenna efficiency

Passive Test For 5Gwifi								
Freq	Effi	Effi	Gain	Gain	UHS	DHIS	Max	Min
(MHz)	(%)	(dB)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)
5000	64.23	-1.92	4.88	2.73	32.531	31.696	4.88	-20.85
5100	68.09	-1.67	4.8	2.65	35.511	32.58	4.8	-17.2
5200	60.93	-2.15	3.8	1.65	31.976	28.953	3.8	-14.77
5300	65.35	-1.85	4.22	2.07	33.418	31.928	4.22	-16.3
5400	67.06	-1.74	4.83	2.68	34.628	32.432	4.83	-17.72
5500	65.38	-1.85	5.22	3.07	33.531	31.846	5.22	-15.03
5600	53.87	-2.69	4.47	2.32	26.798	27.069	4.47	-28.56
5700	57.1	-2.43	4.3	2.15	28.662	28.44	4.3	-21.06
5800	61.84	-2.09	4.44	2.29	32.084	29.761	4.44	-14.95
5900	54.31	-2.65	4.05	1.9	27.825	26.483	4.05	-13.24
6000	54.16	-2.66	3.62	1.47	27.289	26.875	3.62	-15.6



Antenna matching



The antenna matching has not been changed.

Main antenna	1	2	3	4	5	6	remarks
Original Match							
Change Matching							

Note: 1. This report is based on the actual debugging and testing of the prototype, and the 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.)