

Soward Antenna Debugging Report

Customer Name: Hengchen

Project name: DPF1086 (10 inch plastic case-MT8167)

Date: 2025.07.07

Project Contact Information

Customer contact:

Hand machine :

post chest :

Sovard structure:

Hand machine :

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Sovard Radio Frequency: Xiao Chunyan

Hand machine :

Tel: 0755-29985185

Mailbox: swdrd005@szsward.com

project brief

1 Project Description

| | |
|---|------------------|
| Number of project antennas | Type of machine |
| 1 | wifi photo frame |
| Whole machine shell material: 10 inch plastic shell | |

2. Brief Description of the Antenna

| Antenna number | name | Working frequency band/MHZ | Material/structure |
|----------------|-----------|----------------------------|--------------------|
| 1 | WIFI & BT | 2400MHz / 2500MHz | FPC |
| | | | |

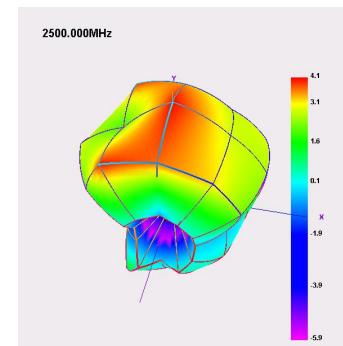
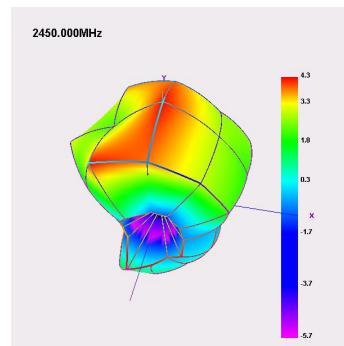
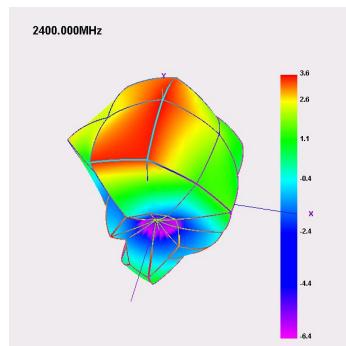
Active data for WIFI antenna (Bluetooth is off))

| pattern | Machine status/channel | Bright screen | |
|----------------------|------------------------|---------------|-------------|
| | | power | sensitivity |
| b pattern (11MHz) | 1 | 15.98 | -79.25 |
| | 7 | 17.03 | -81.73 |
| | 13 | 17.39 | -82.51 |
| g pattern (54MHz) | 1 | 15.08 | -70.4 |
| | 7 | 15.74 | -70.6 |
| | 13 | 14.99 | -70.4 |
| n pattern (MCS7) | 1 | 16.05 | -67.98 |
| | 7 | 15.34 | -67.99 |
| | 13 | 16.13 | -68.61 |

WIFI&BT antenna S11

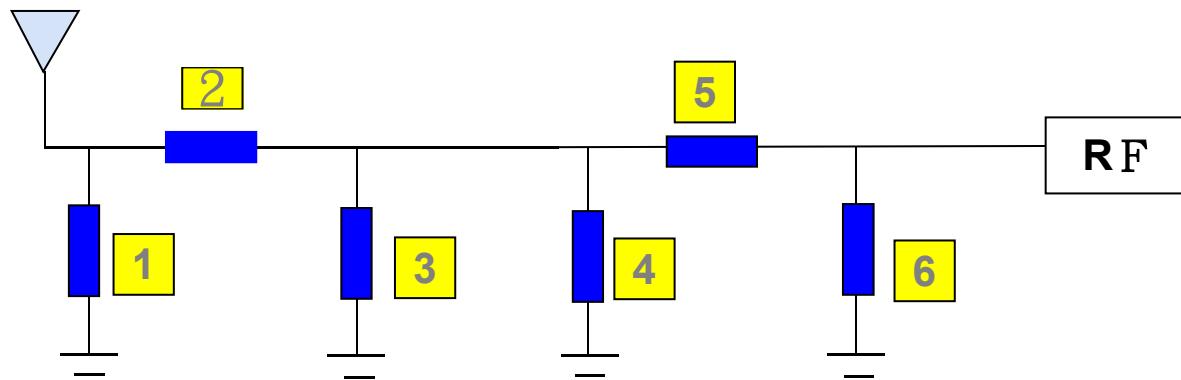
WIFI&BT antenna efficiency

| Passive Test For 2.4Gwifi | | | | | | |
|---------------------------|-------|-------|-------|-------|------|--------|
| Freq | Effi | Effi | Gain | Gain | Max | Min |
| (MHz) | (%) | (dB) | (dBi) | (dBd) | (dB) | (dB) |
| 2400 | 53.83 | -2.69 | 3.57 | 1.42 | 3.57 | -15.3 |
| 2410 | 53.26 | -2.74 | 3.63 | 1.48 | 3.63 | -16.52 |
| 2420 | 57.6 | -2.4 | 4.22 | 2.07 | 4.22 | -16.9 |
| 2430 | 54.89 | -2.61 | 4.59 | 2.44 | 4.59 | -16.65 |
| 2440 | 52.16 | -2.83 | 4.73 | 2.58 | 4.73 | -17.01 |
| 2450 | 43.89 | -3.58 | 4.28 | 2.13 | 4.28 | -17.28 |
| 2460 | 44.59 | -3.51 | 4.21 | 2.06 | 4.21 | -16.99 |
| 2470 | 42.48 | -3.72 | 3.68 | 1.53 | 3.68 | -17.59 |
| 2480 | 44.61 | -3.51 | 3.51 | 1.36 | 3.51 | -18.42 |
| 2490 | 41.08 | -3.86 | 3.65 | 1.5 | 3.65 | -19.33 |
| 2500 | 35.5 | -4.5 | 4.07 | 1.92 | 4.07 | -20.31 |



Antenna Loading Coil

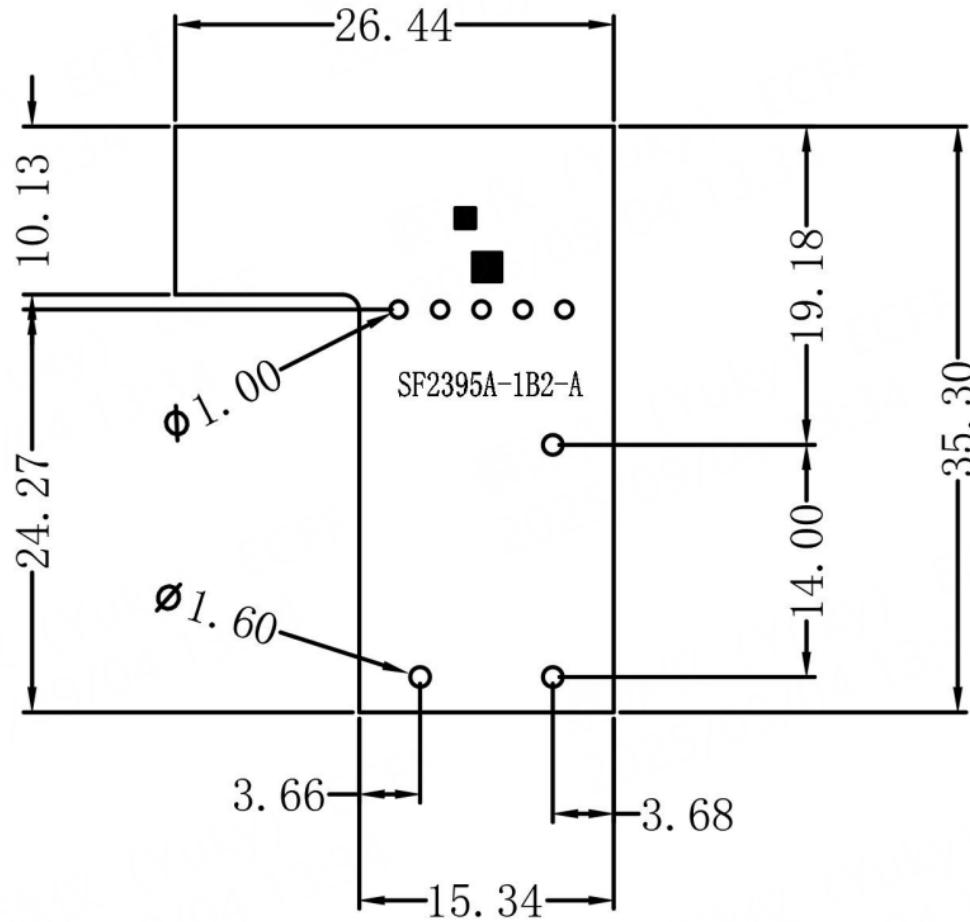
antenna



The antenna match has not been changed.

| main antenna | 1 | 2 | 3 | 4 | 5 | 6 | remarks |
|-----------------|---|---|---|---|---|---|---------|
| Original match | | | | | | | |
| Change matching | | | | | | | |

Antenna Profile



It is recommended to add positioning columns
accordingly.

6th Floor, Building B, Hexi Hangcheng Industrial Zone, No.135 Qianjin 2nd Road, Baoan District, Shenzhen

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Note: 1. This report is based on the actual debugging and testing of the debugging prototype, in which the environmental treatment, antenna position and assembly position of each device cannot be changed at will;

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

3. List of sensitive components:

TP (material, coating, routing, etc.)

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

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

Mainboard (mainboard conduction, RF circuit matching, PA, dual power supply, filter, LNA, power supply 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 can not be completely found out. It is recommended to conduct a small batch trial production before mass production to troubleshoot the problem points (such as flash screen and flower screen, speaker noise, TP jump point, black screen and crash, signal dive, etc.)