

Sward Antenna Report

Customer: Estone Tecchnology

Project : SMART7B

Report Date: 2023. 05. 18

Project Introduction

1.Resume

Antennas	Type
2	Tablet
Shell Material: 8-Inch-Plastic	

2.Description

Num.	Function	Frequency Band / MHz	Material / Structure
1	WIFI&BT&5Gwifi	2400MHz/2500MHz&5.8GHz	PCB
2	WIFI&BT&5Gwifi	2400MHz/2500MHz&5.8GHz	PCB

WIFI&BT Antenna S11



深圳市宝安区西乡街道润东晟工业区13栋4楼A

A, floor 4, building 13, rundongsheng Industrial Zone, Xixiang street, Bao'an District, Shenzhen City, Guangdong Province

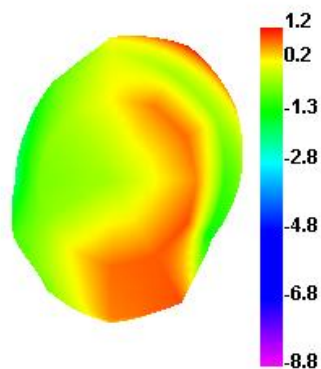
Antenna OTA Data

Num.	Channel	802.11b : 11MBps		802.11g : 54MBps		802.11n : MCS7)		802.11a : 54MBps	
		TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS
1	1	12.18		11.02		11.71		NA	NA
	7	12.57		11.57		11.36		NA	NA
	13	12.59	-77.16	11.17	-69.49	11.05	-66.49	NA	NA
	36	NA	NA	NA	NA	NA	NA	11.62	-69.42
	149	NA	NA	NA	NA	NA	NA	11.57	-69.75
	161	NA	NA	NA	NA	NA	NA	11.63	-69.25

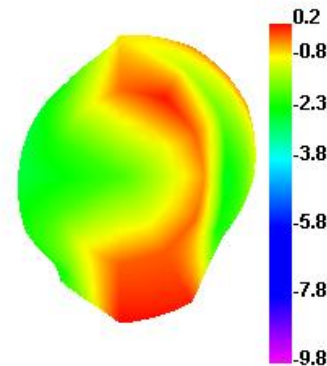
Antenna 2.4G Efficiency

Passive Test For 2.4G-WiFi-BT			
Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)
2400	52.02	-2.84	1.19
2410	50.4	-2.98	0.83
2420	53.67	-2.7	0.92
2430	55.61	-2.55	1.05
2440	51.2	-2.91	0.69
2450	45.89	-3.38	0.18
2460	42.31	-3.74	-0.14
2470	39.81	-4	-0.43
2480	40.6	-3.91	-0.29
2490	40.49	-3.93	-0.24
2500	40.9	-3.88	-0.28

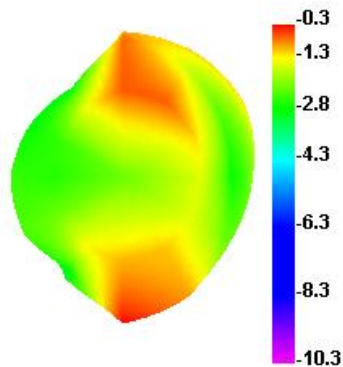
2400.000MHz



2450.000MHz

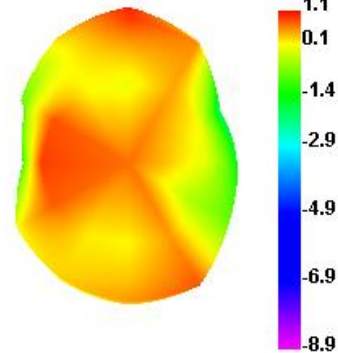
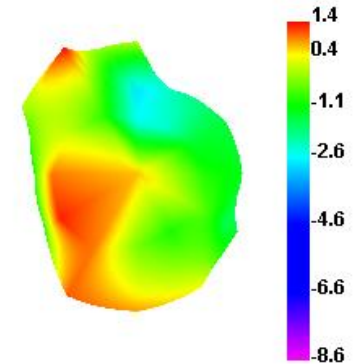
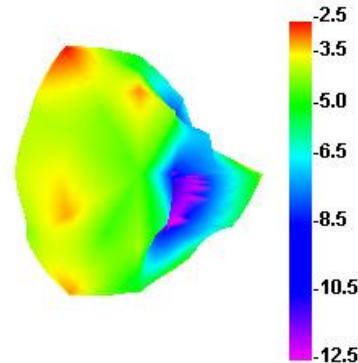


2500.000MHz



Antenna 5G Efficiency

Passive Test For 5G-WiFi			
Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)
5000	55.84	-2.53	1.14
5100	72.73	-1.38	2.54
5200	69.25	-1.6	2.87
5300	67.87	-1.68	3.32
5400	56.53	-2.48	2.26
5500	51.67	-2.87	1.38
5600	57.55	-2.4	2.06
5700	59.9	-2.23	2.15
5800	52.23	-2.82	1.53
5900	37.52	-4.26	-0.33
6000	21.43	-6.69	-2.47

5000.000MHz**5500.000MHz****6000.000MHz**

Antenna 2.4G Signal Strength



Test Location: R & D of Sward

Test Time : 14:00-14:30

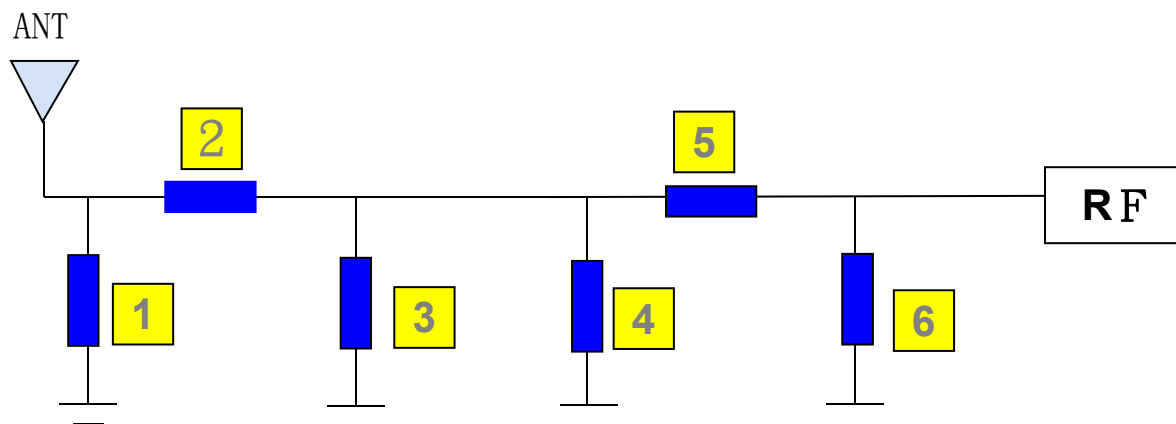
Test Distance: 10-15 meters

Test Result : -43dbm to -40dbm

深圳市宝安区西乡街道润东晟工业区13栋4楼A

A, floor 4, building 13, rundongsheng Industrial Zone, Xixiang street, Bao'an District, Shenzhen City, Guangdong Province

Antenna Matching Network



Antenna matching has not been changed.

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

The 2 generation terminals

155⁺²₋₀

Motherboard welding

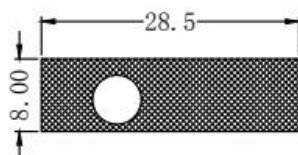
0.81±0.05

Tin

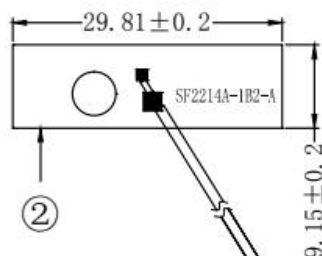
1.00±0.2

1.50±0.2

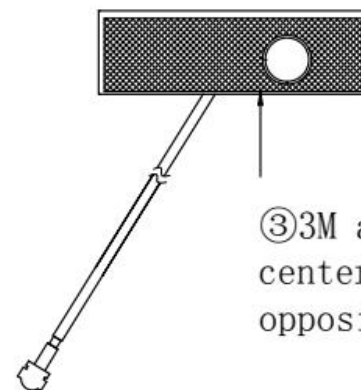
2.00±0.2



3M300 Adhesive backing



①Terminal facing outward



③3M adhesive centered on the opposite side

technical requirements:

- 1.* for critical dimensions;
- 2.Size conform to the requirements of the drawings;
- 3.No virtual welding welding point, false welding. Require full welding points.
- 4.Network test pass.
- 5.No marked tolerance according toSJ/T 10628 1995 6classes;

5										
4										
3	adhesive backing	yellow	1	28.5*8mm		signatures	date	mass	signatures	date
2	PCB	black	1	SF2214A-2B3-A	RD	YWD	2023.05.19	Q C		
1	coaxial line	black	1	φ=0.81mm	RF					
	name	color	quantity	specifications	audits			approval		

SWARD

ShenZhen SWARD Communication Technology Co.Ltd

SF2214A-2R22B-155-A

time markup

percentage

1 A 1:1

ROHS

The 2 generation terminals

30^{+2}_{-0}

Motherboard welding

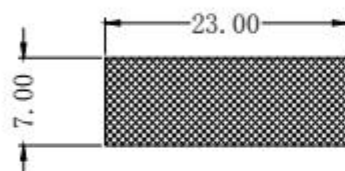
0.81 ± 0.05

Tin

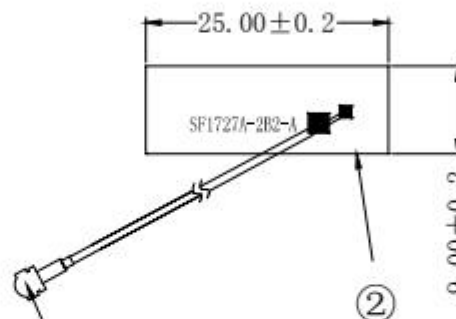
1.00 ± 0.2

2.00 ± 0.2

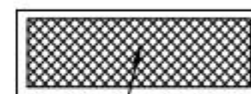
2.00 ± 0.2



Double sided adhesive backing



①Terminal facing inward



Double sided adhesive tape centered on the back



technical requirements:

1.* for critical dimensions;

2.Size conform to the requirements of the drawings;

3.No virtual welding welding point, false welding. Require full welding points.

4.Network test pass.

5.No marked tolerance according toSJ/T 10628 1995 6classes;

5										
4										
3	Adhesive backing	yellow	1	23*7mm	RD	YWD	2023.05.19	Q C		
2	FPC	black	1	SF1727A-2B2-A						
1	coaxial line	black	1	φ=0.81mm						
	name	color	quantity	specifications	audits			approval		

SWARD

ShenZhen SWARD Communication Technology Co.Ltd

SF1727A-2R22B-030-A

time markup

percentage

1 1 A 1 : 1

ROHS

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.).