

Sward Antenna Report

Customer: Estone Tecchnology

Project : SMART7B

Report Date: 2023. 05. 18

Project Introduction

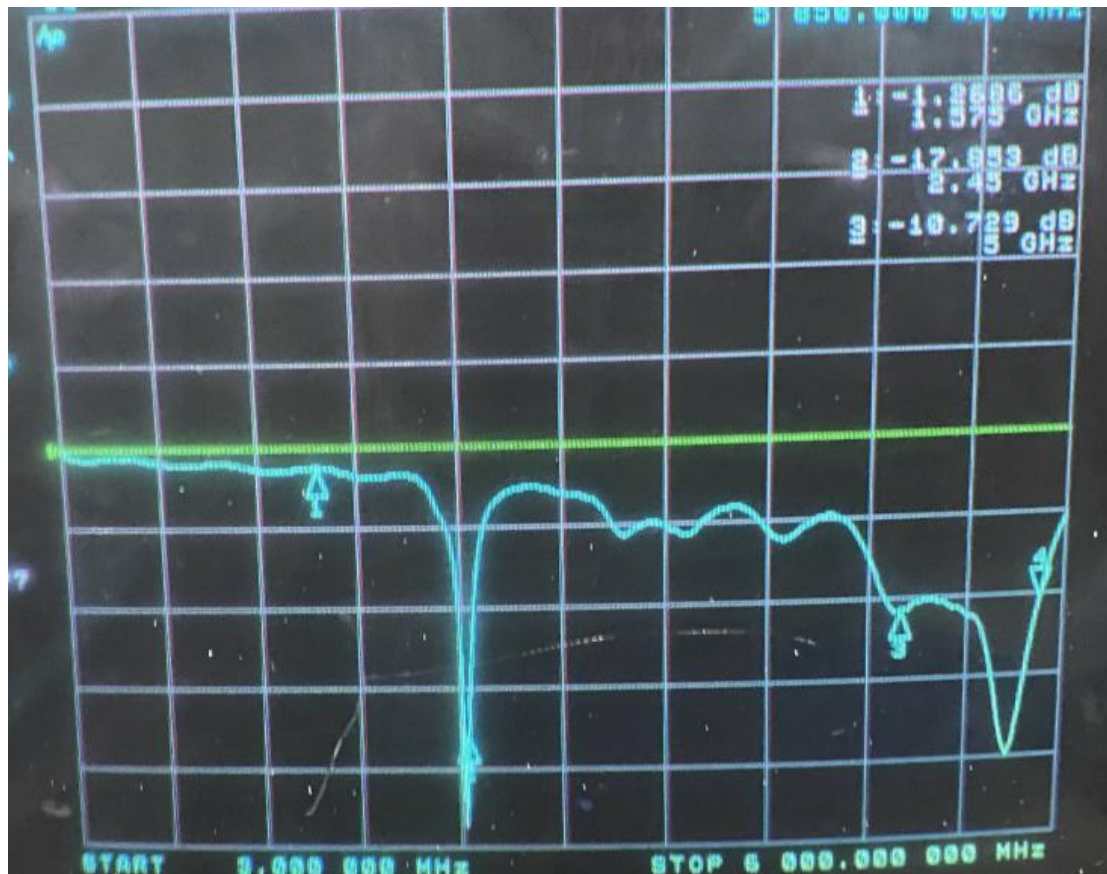
1.Resume

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



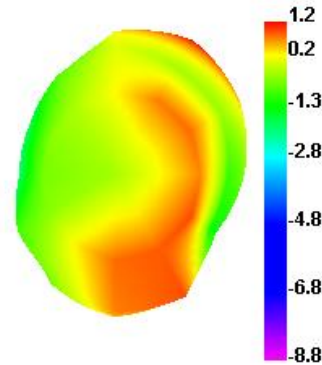
Antenna OTA Data

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

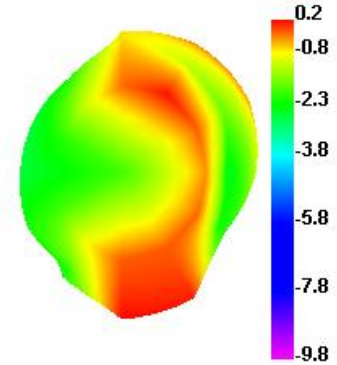
Antenna 2.4G Efficiency

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

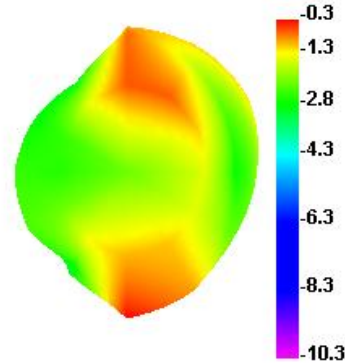
2400.000MHz



2450.000MHz



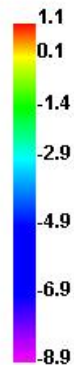
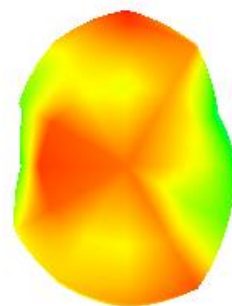
2500.000MHz



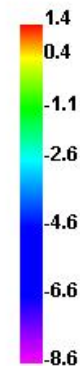
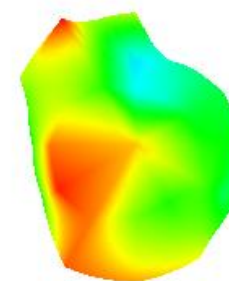
Antenna 5G Efficiency

Passive Test For 5G-WiFi			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (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

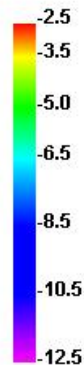
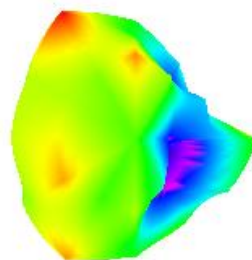
5000.000MHz



5500.000MHz



6000.000MHz



Antenna 2.4G Signal Strength



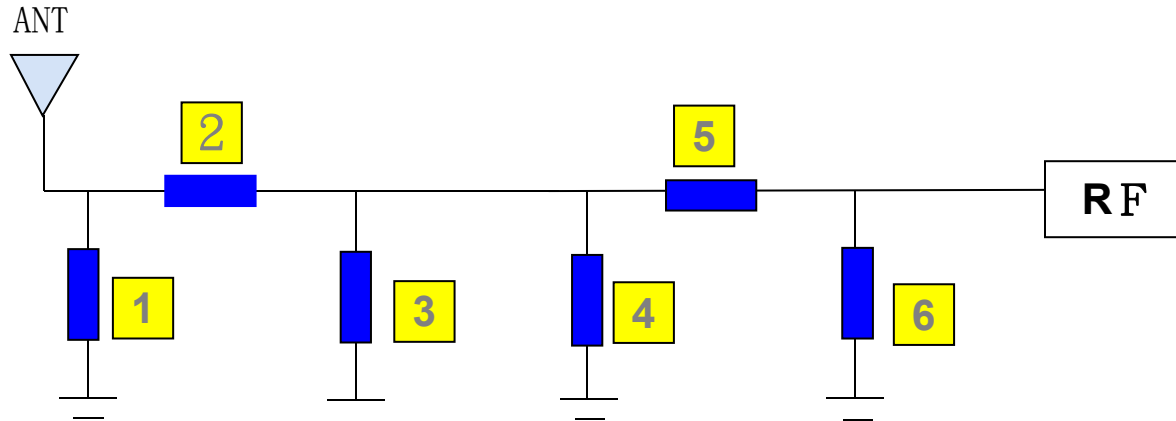
Test Location: R & D of Sward

Test Time : 14:00-14:30

Test Distance: 10-15 meters

Test Result : -43dbm to -40dbm

Antenna Matching Network



Antenna matching has not been changed.

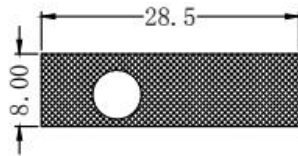
Main Ant	1	2	3	4	5	6	Remarks
Original Match	-	-	-	-	-	-	-
Changed Match	-	-	-	-	-	-	-

The 2 generation terminals

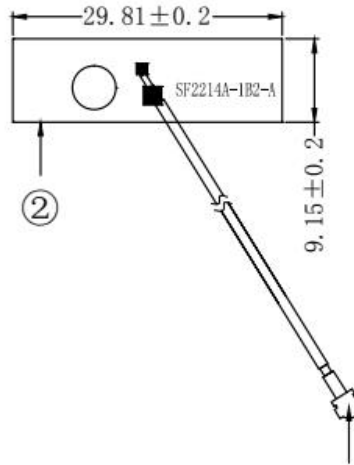
155⁺²₀
0.81 ± 0.05

Motherboard welding

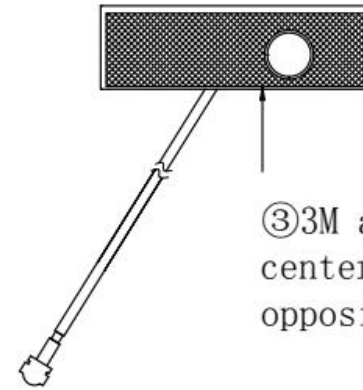
Tin
1.00 ± 0.2
1.50 ± 0.2
2.00 ± 0.2



3M300 Adhesive backing



① Terminal facing outward



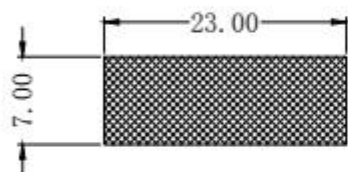
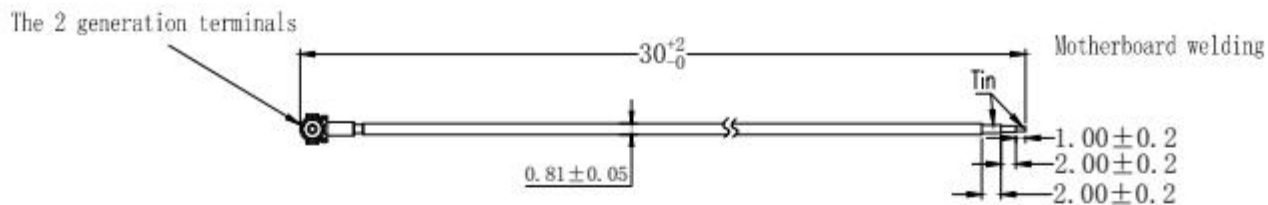
③ 3M adhesive centered on the opposite side

technical requirements:

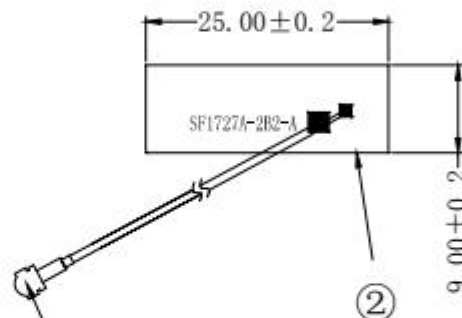
- 1.* for critical dimensions;
- 2.Size conform to the requirements of the drawings;
- 3.No virtual welding welding point, false welding. Require full welding points.
- 4.Network test pass.
- 5.No marked tolerance according toSJ/T 10628 1995 6classes;

no	name	color	quantity	specifications	audits	signatures	date	mass	signatures	date	approval
5											
4											
3	adhesive backing	yellow	1	28.5*8mm							
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						

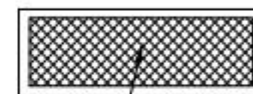
SWARD				ShenZhen SWARD Communication Technology Co.Ltd			
				SF2214A-2R22B-155-A			
time markup		percentage					
1		A		1 : 1			
				ROHS			



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;



SWARD		ShenZhen SWARD Communication Technology Co.Ltd	
		SF1727A-2R22B-030-A	
time markup		percentage	
1	A	1 : 1	
approval		ROHS	

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

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.).