

Antenna debugging report



Client	和成东	PM	何工
Project name	S800 PLUS	frequency band	2.4G/5G
Antenna type	FPC+ Coaxial wire	Date	2023. 11. 30
RF Engineer	胥佳军	TEL	15813851395

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1、Brief introduction

Client		和成东	Project name	S800 PLUS
NO.		DETAILS		
1	Frequency band	2.4G-11B 5G-11A		
2	Pruduct type	cash register		
3	Available antenna space	Bottom shell		
4	Antenna form	PIFA		
5	Prototype status	Commission machine		
6	Antenna matching	No change		
7	Environmental Treatment	No change		
RF		胥佳军	18818581882	
MD		吴旺	19520521174	



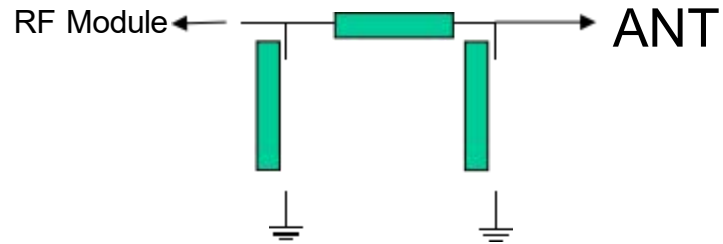
2、Report version summary

Version	Date	Content Overview
V1	20231130	初版天线调试数据



四、The main antenna matches the changed position

Element	(0402)	(0402)	(0402)
Value			



五、Antenna Active testing data of WIFI2.4G-11B/5G-11A

2.4G	channel	TRP-MAX	TRP	TIS-MAX	TIS
11B	1	16.14	11.89	-84.98	-80.73
	6	17.38	12.98	-82.41	-78.01
	13	17.59	12.73	-83.92	-79.06
5G	channel	TRP-MAX	TRP	TIS-MAX	TIS
11A-54	36	17.52	11.96	-76.64	-69.08
	56	17.69	11.49	-78.32	-70.12
	165	16.93	10.15	-79.99	-71.21

六、Antenna Passive Test Data of 2.4G WiFi

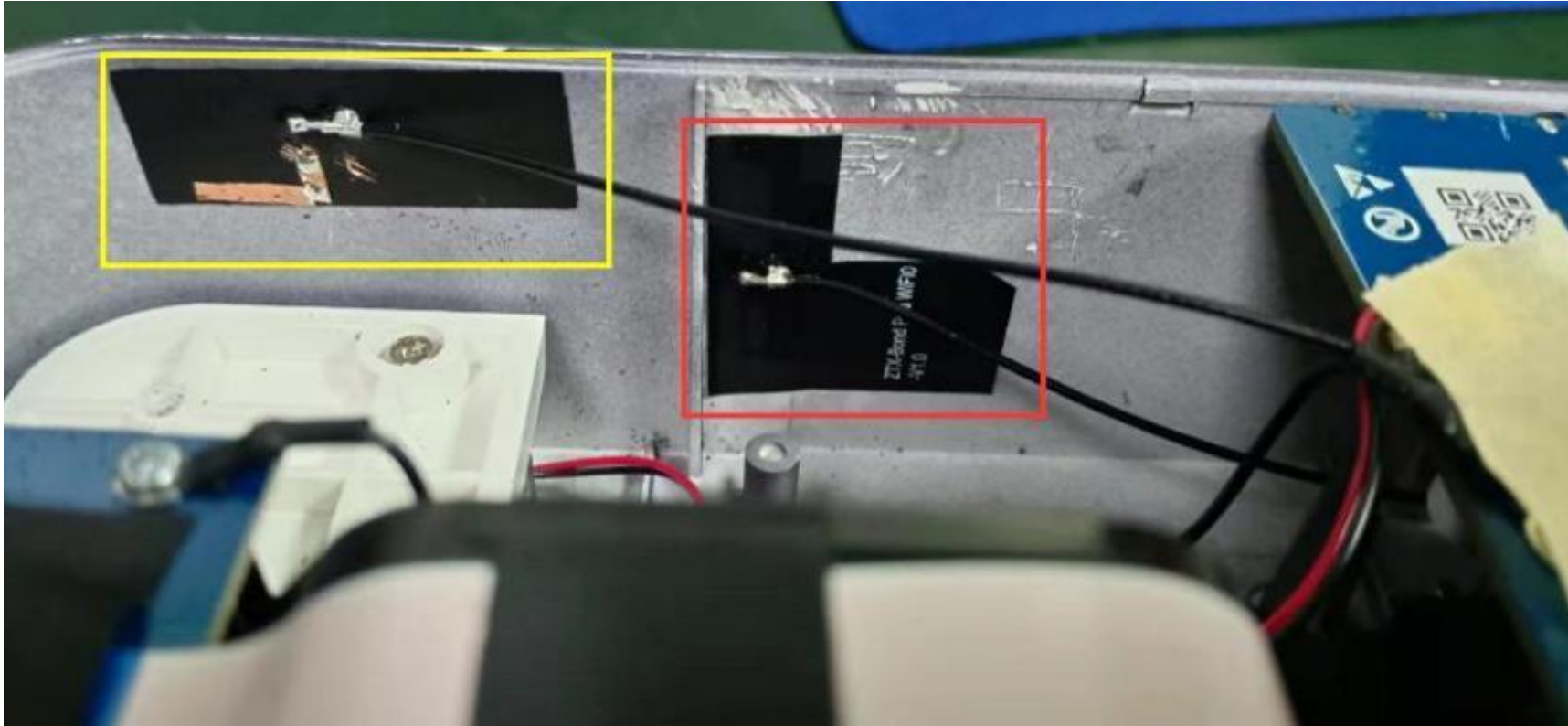
Test Point ID	Freq. (MHz)	TRP (dBm)	Gain (dBi)	Directivity (dBi)	Efficiency (%)	Efficiency (dB)
1	2400.0	2400.00	3.65	6.53	51.5%	-2.89
2	2410.0	2410.00	3.82	6.58	52.9%	-2.76
3	2420.0	2420.00	4.01	6.71	53.7%	-2.70
4	2430.0	2430.00	4.21	6.80	55.0%	-2.59
5	2440.0	2440.00	4.32	6.90	55.2%	-2.58
6	2450.0	2450.00	4.42	6.97	55.6%	-2.55
7	2460.0	2460.00	4.41	7.08	54.0%	-2.68
8	2470.0	2470.00	4.65	7.23	55.3%	-2.58
9	2480.0	2480.00	4.55	7.39	52.1%	-2.83
10	2490.0	2490.00	4.52	7.47	50.7%	-2.95
11	2500.0	2500.00	4.32	7.50	48.2%	-3.17
12	5150.0	5150.00	3.01	8.21	30.2%	-5.19
13	5170.0	5170.00	2.33	7.71	29.0%	-5.37
14	5190.0	5190.00	1.93	7.15	30.1%	-5.21
15	5210.0	5210.00	0.88	7.04	24.2%	-6.16
16	5230.0	5230.00	1.46	6.75	29.6%	-5.29
17	5250.0	5250.00	1.69	7.30	27.4%	-5.62
18	5270.0	5270.00	2.91	7.82	32.2%	-4.92
19	5290.0	5290.00	1.99	7.48	28.2%	-5.50
20	5310.0	5310.00	1.96	7.33	29.1%	-5.36
21	5330.0	5330.00	1.99	7.18	30.2%	-5.20
22	5350.0	5350.00	1.78	7.15	29.0%	-5.37
23	5370.0	5370.00	1.81	7.10	29.6%	-5.28
24	5390.0	5390.00	0.99	6.90	25.6%	-5.91
25	5410.0	5410.00	0.75	6.39	27.2%	-5.65
26	5430.0	5430.00	1.42	6.90	28.3%	-5.48
27	5450.0	5450.00	2.05	7.11	31.2%	-5.06
28	5470.0	5470.00	2.38	7.60	30.1%	-5.22
29	5490.0	5490.00	2.78	7.55	33.3%	-4.77
30	5510.0	5510.00	1.64	6.98	29.2%	-5.34

31	5530.0	5530.00	1.37	7.00	27.4%	-5.63
32	5550.0	5550.00	0.60	6.82	23.9%	-6.22
33	5570.0	5570.00	0.83	6.57	26.6%	-5.75
34	5590.0	5590.00	0.93	6.88	25.4%	-5.95
35	5610.0	5610.00	1.20	6.96	26.5%	-5.77
36	5630.0	5630.00	1.33	6.99	27.2%	-5.66
37	5650.0	5650.00	0.99	6.88	25.7%	-5.90
38	5670.0	5670.00	1.49	6.98	28.3%	-5.49
39	5690.0	5690.00	1.27	6.99	26.8%	-5.73
40	5710.0	5710.00	1.67	7.40	26.7%	-5.73
41	5730.0	5730.00	1.14	7.25	24.5%	-6.11
42	5750.0	5750.00	0.75	6.70	25.4%	-5.95
43	5770.0	5770.00	0.55	6.55	25.1%	-6.00
44	5790.0	5790.00	1.27	7.06	26.3%	-5.79
45	5810.0	5810.00	1.77	7.42	27.2%	-5.65
46	5830.0	5830.00	2.07	7.42	29.2%	-5.35
47	5850.0	5850.00	1.23	7.00	26.4%	-5.78

六、Antenna Passive Test Data of 2.4G bluetooth

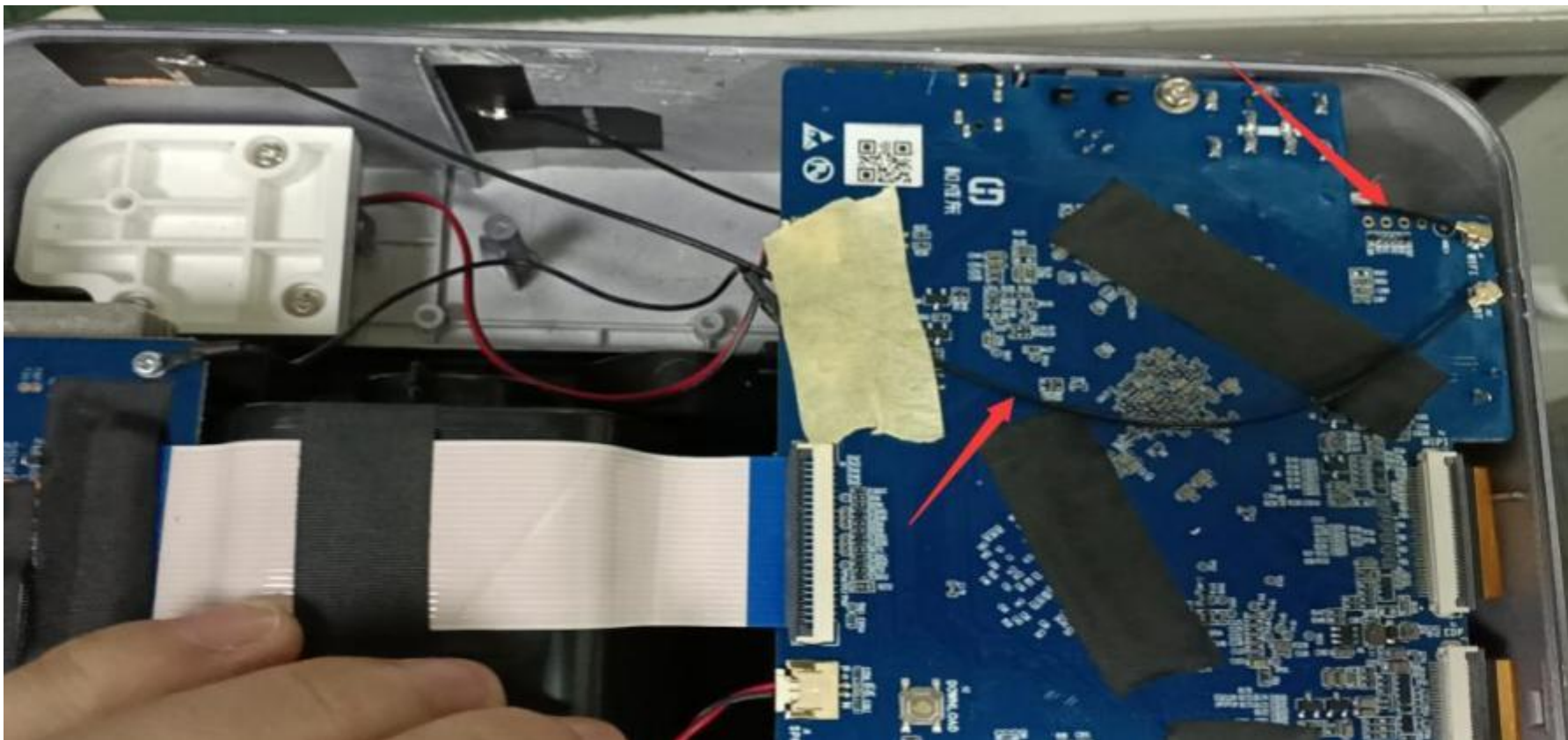
Test Point ID	Freq. (MHz)	TRP (dBm)	Gain (dBi)	Directivity (dBi)	Efficiency (%)	Efficiency (dB)	Max (dBm)	Theta of Max	Phi of Max	Min (dBm)	Theta of Min	Phi of Min	AVG (dBm)	Max/Min (dB)	Max/AVG (dB)	Min/AVG (dB)
20	2395.0	2395.00	3.65	6.53	51.5%	-2.89	3.65	15000	12000	-27.47	18000	15000	-3.07	31.11	6.72	-24.40
21	2400.0	2400.00	3.65	6.51	51.9%	-2.85	3.65	15000	12000	-28.93	18000	15000	-3.02	32.59	6.67	-25.91
22	2405.0	2405.00	3.64	6.49	52.0%	-2.84	3.64	15000	12000	-30.76	18000	15000	-2.99	34.41	6.63	-27.78
23	2410.0	2410.00	3.53	6.39	51.8%	-2.86	3.53	15000	12000	-30.85	18000	15000	-2.99	34.38	6.52	-27.86
24	2415.0	2415.00	3.38	6.29	51.2%	-2.91	3.38	15000	12000	-31.29	18000	15000	-3.03	34.67	6.41	-28.26
25	2420.0	2420.00	3.24	6.24	50.2%	-3.00	3.24	15000	3000	-28.98	18000	15000	-3.10	32.22	6.34	-25.89
26	2425.0	2425.00	3.34	6.37	49.8%	-3.03	3.34	15000	3000	-27.28	18000	15000	-3.11	30.62	6.45	-24.17
27	2430.0	2430.00	3.53	6.51	50.3%	-2.98	3.53	15000	3000	-27.64	18000	15000	-3.05	31.17	6.58	-24.59
28	2435.0	2435.00	3.67	6.60	50.9%	-2.94	3.67	15000	3000	-28.93	18000	15000	-2.99	32.59	6.66	-25.93
29	2440.0	2440.00	3.71	6.66	50.7%	-2.95	3.71	15000	3000	-29.93	18000	15000	-3.00	33.64	6.70	-26.93
30	2445.0	2445.00	3.60	6.61	50.0%	-3.01	3.60	15000	3000	-29.71	18000	9000	-3.06	33.31	6.66	-26.65
31	2450.0	2450.00	3.49	6.53	49.7%	-3.04	3.49	15000	3000	-28.93	18000	9000	-3.09	32.43	6.58	-25.85
32	2455.0	2455.00	3.55	6.54	50.2%	-2.99	3.55	15000	3000	-26.79	18000	9000	-3.03	30.34	6.58	-23.76
33	2460.0	2460.00	3.49	6.45	50.6%	-2.96	3.49	15000	3000	-26.23	18000	9000	-3.00	29.72	6.49	-23.23
34	2465.0	2465.00	3.19	6.20	50.0%	-3.01	3.19	15000	3000	-28.50	18000	0	-3.07	31.69	6.26	-25.43
35	2470.0	2470.00	3.04	6.04	50.2%	-3.00	3.04	15000	3000	-31.37	18000	0	-3.05	34.41	6.09	-28.32
36	2475.0	2475.00	3.07	6.01	50.8%	-2.94	3.07	15000	3000	-34.49	18000	0	-2.99	37.56	6.06	-31.49
37	2480.0	2480.00	2.90	5.87	50.5%	-2.97	2.90	15000	3000	-33.03	18000	0	-3.05	35.93	5.94	-29.99
38	2485.0	2485.00	2.55	5.64	49.1%	-3.09	2.55	15000	3000	-32.93	18000	0	-3.16	35.48	5.71	-29.77
39	2490.0	2490.00	2.39	5.53	48.6%	-3.14	2.39	15000	3000	-31.28	18000	0	-3.20	33.67	5.59	-28.08
40	2495.0	2495.00	2.34	5.46	48.8%	-3.11	2.34	15000	3000	-30.82	18000	0	-3.19	33.17	5.53	-27.64
41	2500.0	2500.00	2.19	5.35	48.3%	-3.16	2.19	15000	3000	-32.73	18000	0	-3.24	34.92	5.43	-29.49

七、WIFI antenna Placement



marked by yellow boxes: **BT** antenna; marked by red boxes: **WIFI** antenna

八、Coaxial line placement



To avoid interference, wifi Coaxial line needs to be placed under the mainboard ,BT Coaxial line needs to be placed on the mainboard

9、Additional

- ◆Please carefully check whether the matching circuit mentioned in the report has been modified and whether environmental treatment has been introduced, which will directly affect the antenna performance.
- ◆The parameters provided in this report are only the parameters given by the customer to our company's commissioning prototype, and do not represent the final mass production status of your company's final project.
- ◆If your company has the latest trial production, or updated status (change materials, update software, change environment, etc.) prototype, please submit it to our company for verification as soon as possible to confirm whether the antenna performance is affected.)
- ◆If your company needs to send it to a third party for re-testing or to a customer for testing, please be sure to hand over the machine that needs to be tested to our company for testing and confirmation, because of the consistency of the motherboard, the consistency of the assembly, and the antenna Factors such as assembly differences may lead to deviations in antenna parameters.