Antenna Test report

Model Name：iec156 RK3568

Date: 20250616

Shenzhen Xinlingke Technology Co., Ltd.

www.kpantenna.com

Integrity and Gratitude

Catalogue

BTantenna

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01.Project Introducation and Photoes-Project Introducation

RF Engineer	Engineer Kong	Email	2532625702@qq.com
		Mobile	18477016343
Antenna Overview			
Status of Sample machine	Whole machine	Project Name	iec156 RK3568
Antenna Type	PIFA	Structure mode	FPC 1 generation terminal coaxial cable
Main Antenna			
Other Antenna	2.4/5GWIFI+BT		

02.Report Versions

Version	Report Time	Commissioning Overview
A0	**20250616**	Antenna Test Report
A1		
A2		
A3		
A4		
A5		
A6		
A7		
A8		
A9		
A10		

03.Introduction of Company and Test Environment- Company

Company Experience

Shenzhen Xinlingke Technology Co., Ltd. owns 12 years of experience in R & D and production of various mobile communication terminals. Company has established a joint RF device laboratory with universities. Company is proficient in antennas of 5G NSA and SA, ultra thin mobile phones, NB IOT / EMTC, and base station.

+

Product Range

The products of company cover many fields, such as smart home, Internet of vehicles, smart wear, mobile phones, pad, base station etc.

+

Core Task

Company has been committed to improving our long-term competitiveness by providing whole RF solution, insisted on taking customer demand as the first place.

04.Introduction of Company and Test Environment-Test Environment

The company owns several OTA darkrooms whose frequency bands covers from 400mhz to 8.5ghz.

- Providing OTA test for whole machine which include but not be limited to 5G NSA, SA(trp/tis), WiFi active test (supporting 11b/11g/11n/11ax mode), bluetooth/GPS active test
- Providing antenna gain and efficiency
- Providing2D pattern / Apple chart analysis
- Providing upper and lower hemisphere efficiency
- Providing mutual interference correlation coefficient test items.

05.WiFi antenna related data

802.11B : 11MBps

Wifi 2G TRP			Wifi 2G TIS
1	7	13	13
2412	2442	2472	2472
13.8	14.33	14.73	-80.02

802.11g : 54MBps

Wifi 2G TRP			Wifi 2G TIS
1	7	13	13
2412	2442	2472	2472
13.41	14.2	14.04	-68.2

802.11n : MCS7

Wifi 2G TRP			Wifi 2G TIS
1	7	13	13
2412	2442	2472	2472
13.74	14.3	13.53	-63.74

802.11a : 54MBps

Wifi 5G TRP			Wifi 2G TIS
36	132	165	165
5180	5660	5825	5825
13.11	9.37	13.77	-74.3

802.11ac : 54MBps

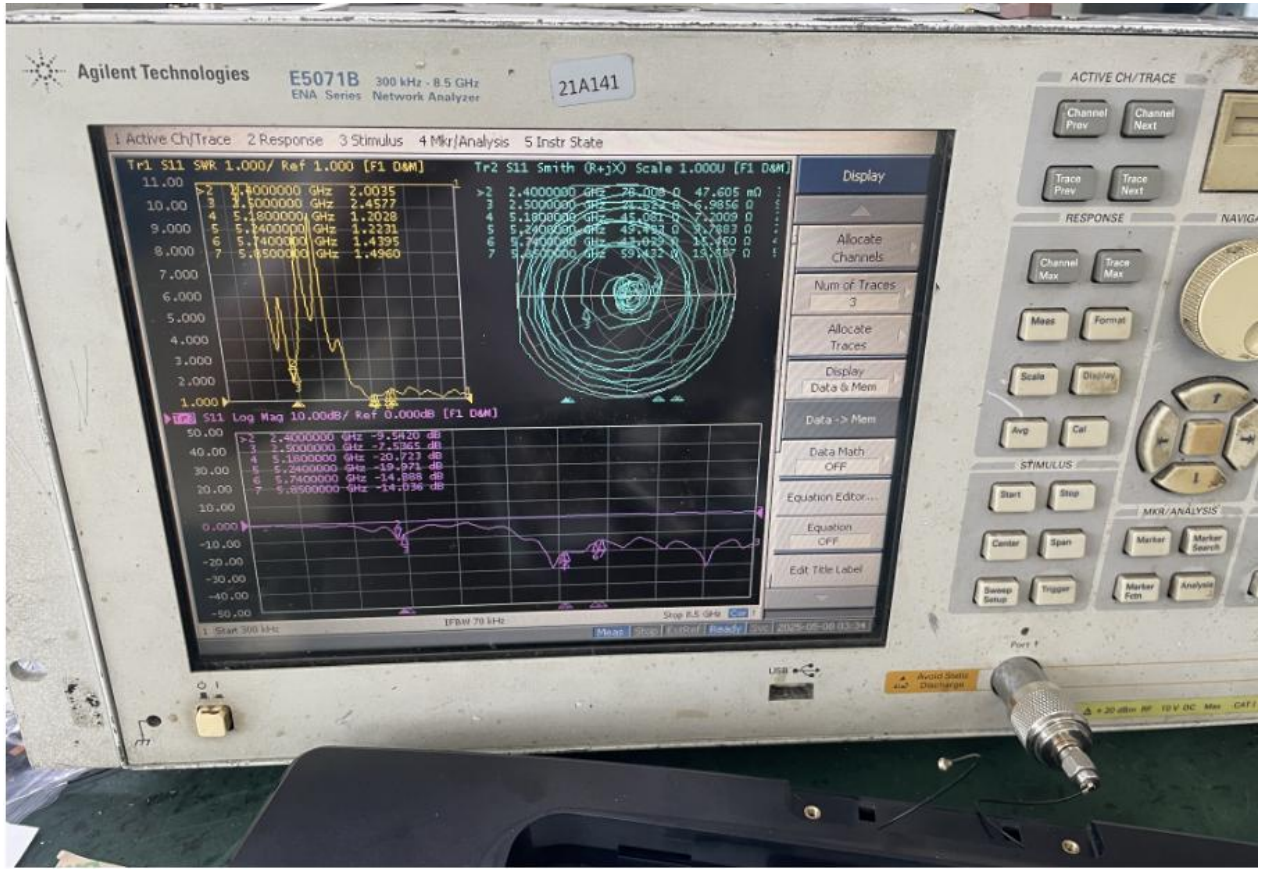
Wifi 5G TRP			Wifi 2G TIS
36	132	165	165
5180	5660	5825	5825
9.8	8.76	9.62	-73.15

802.11n : MCS7

Wifi 5G TRP			Wifi 2G TIS
36	132	165	165
5180	5660	5825	5825
10.66	9.5	8.74	-69.36

WiFi antenna related data

WiFi-2 antenna standing wave return loss



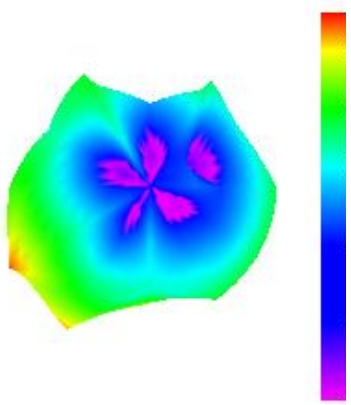
WiFi-2 antenna efficiency

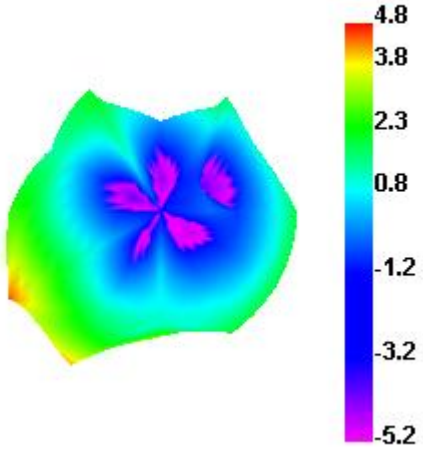
Passive Test For WIFI2.4		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	40.08	3.33
2410	46.3	4
2420	44.81	3.98
2430	41	3.7
2440	42.2	4.55
2450	45.8	4.84
2460	50.54	4.45
2470	50.74	3.74
2480	48.12	4.25
2490	44.14	4.01
2500	46.84	3.54

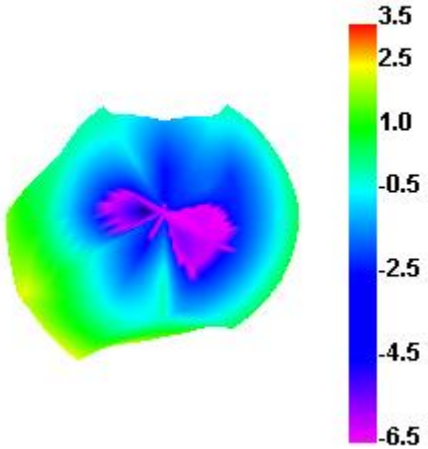
Passive Test For WIFI5.8		
Freq (MHz)	Effi (%)	Gain (dBi)
5150	44.47	2.88
5200	38.78	2.19
5250	43.45	3.21
5300	38.88	2.85
5350	38.53	3.17
5400	39.99	3.34
5450	43.37	3.32
5500	49.43	3.38
5550	45.3	2.97
5600	39.61	2.43
5650	36.06	1.92
5700	51.61	3.38
5750	40.15	1.94
5800	37.9	1.95
5850	37.25	1.89

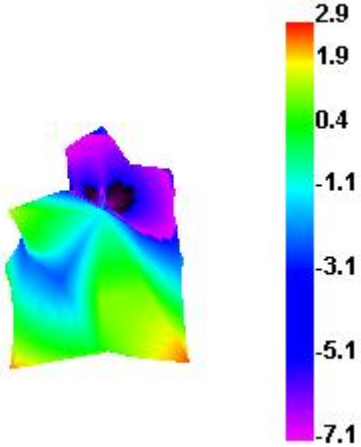
WiFi antenna related data

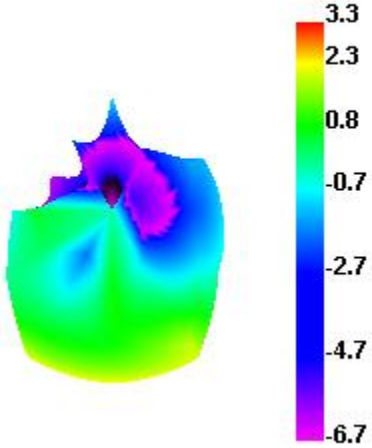
WiFi-2 antenna apple picture

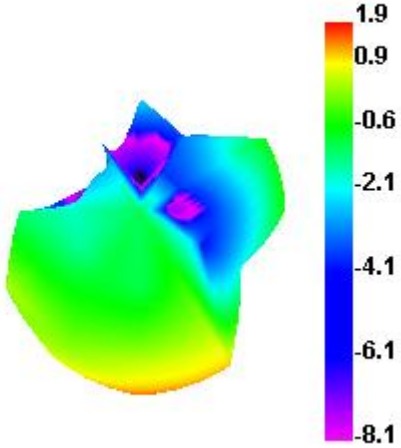


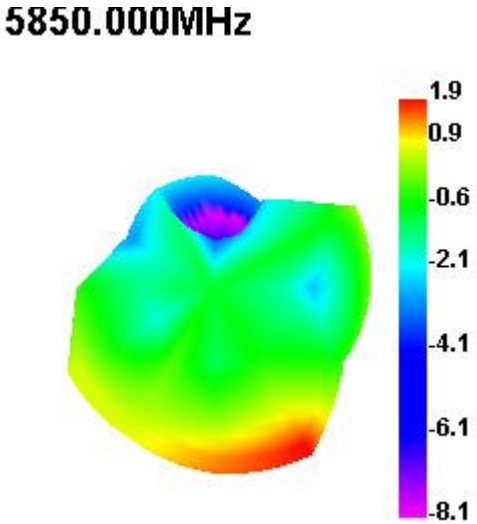






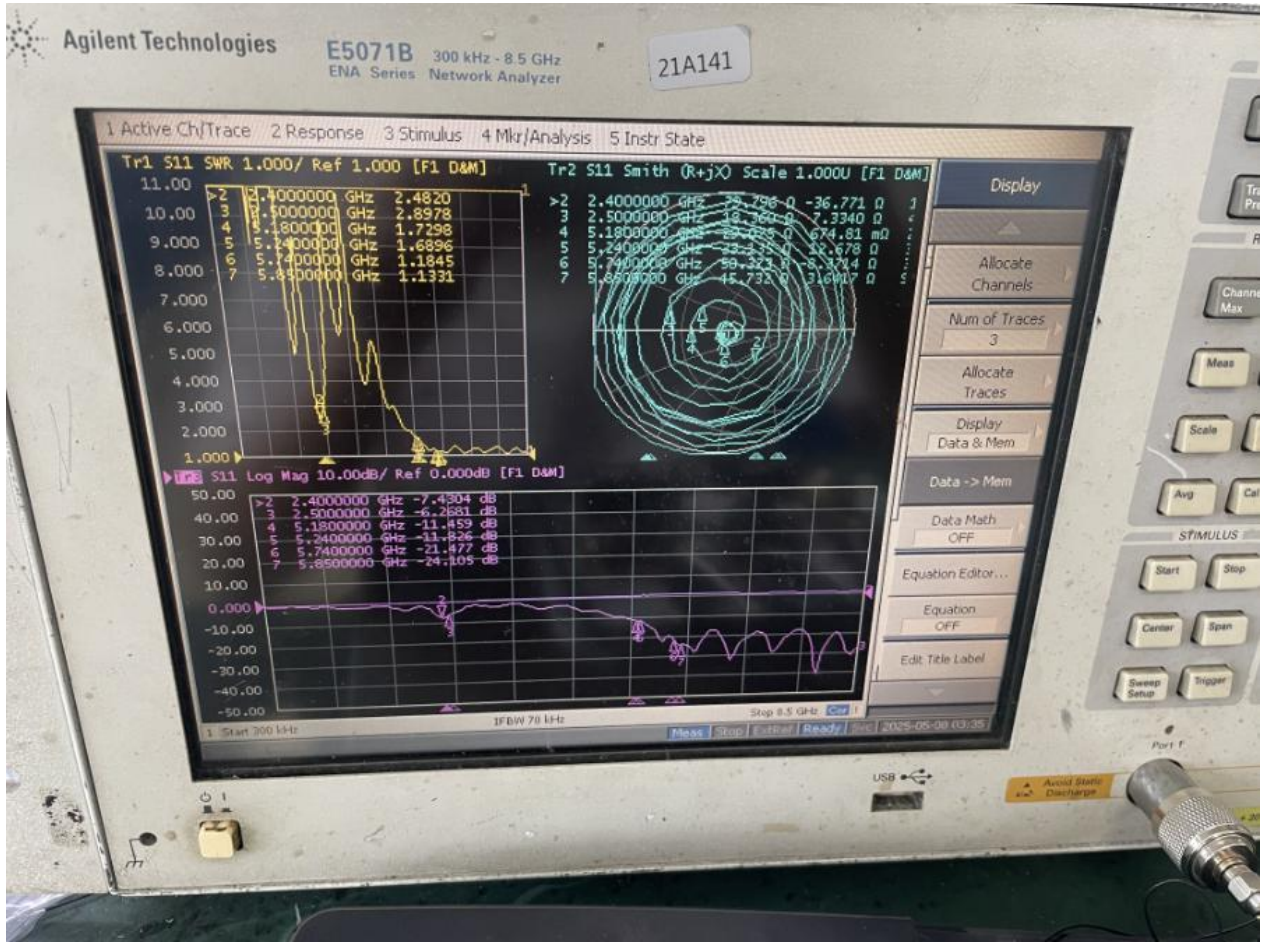






WiFi antenna related data

WiFi-1 antenna standing wave return loss



WiFi-1 antenna efficiency

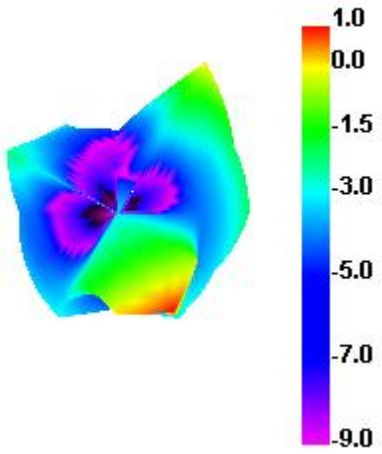
Passive Test For WIFI2.4		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	28.44	1.05
2410	35.41	1.74
2420	34.58	1.28
2430	32.39	0.75
2440	41.19	1.73
2450	44.98	2.01
2460	38.69	1.37
2470	30.55	0.36
2480	38.16	1.24
2490	33.56	0.5
2500	26.5	-0.7

Passive Test For WIFI5.8		
Freq (MHz)	Effi (%)	Gain (dBi)
5150	48.63	4.16
5200	34.6	1.7
5250	37.95	2.51
5300	36.25	2.14
5350	33.4	1.55
5400	33.57	1.18
5450	36.68	1.51
5500	42.31	2.4
5550	42.93	2.98
5600	37.31	1.96
5650	36.79	1.7
5700	55.61	3.77
5750	40.31	2.31
5800	38.69	1.82
5850	44.55	3.42

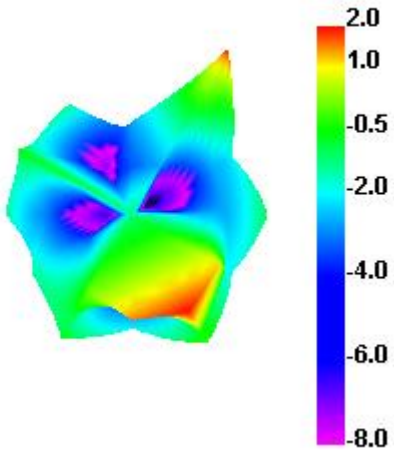
WiFi antenna related data

WiFi-1 antenna apple picture

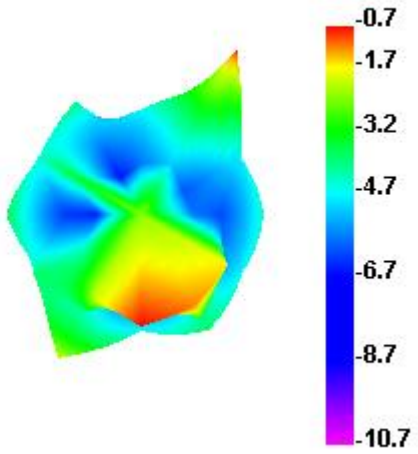
2400.000MHz



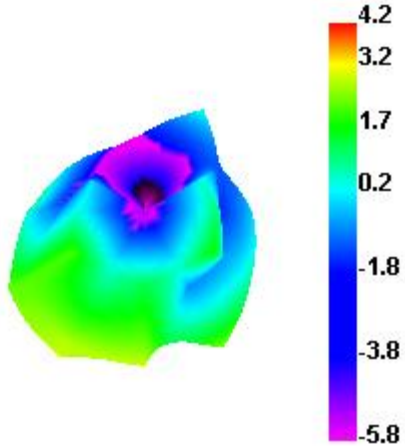
2450.000MHz



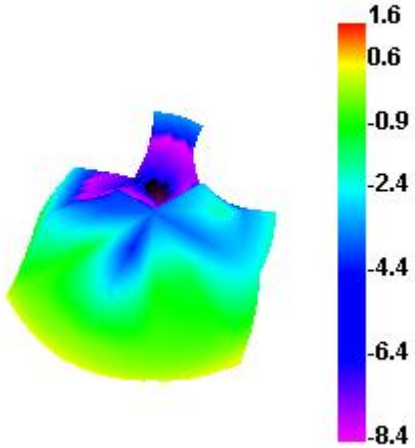
2500.000MHz



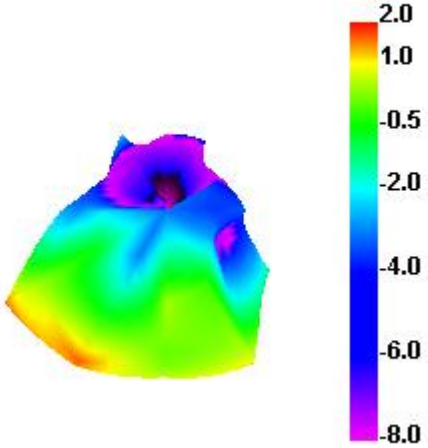
5150.000MHz



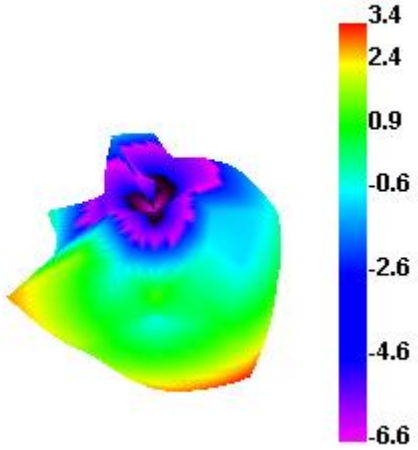
5350.000MHz



5600.000MHz

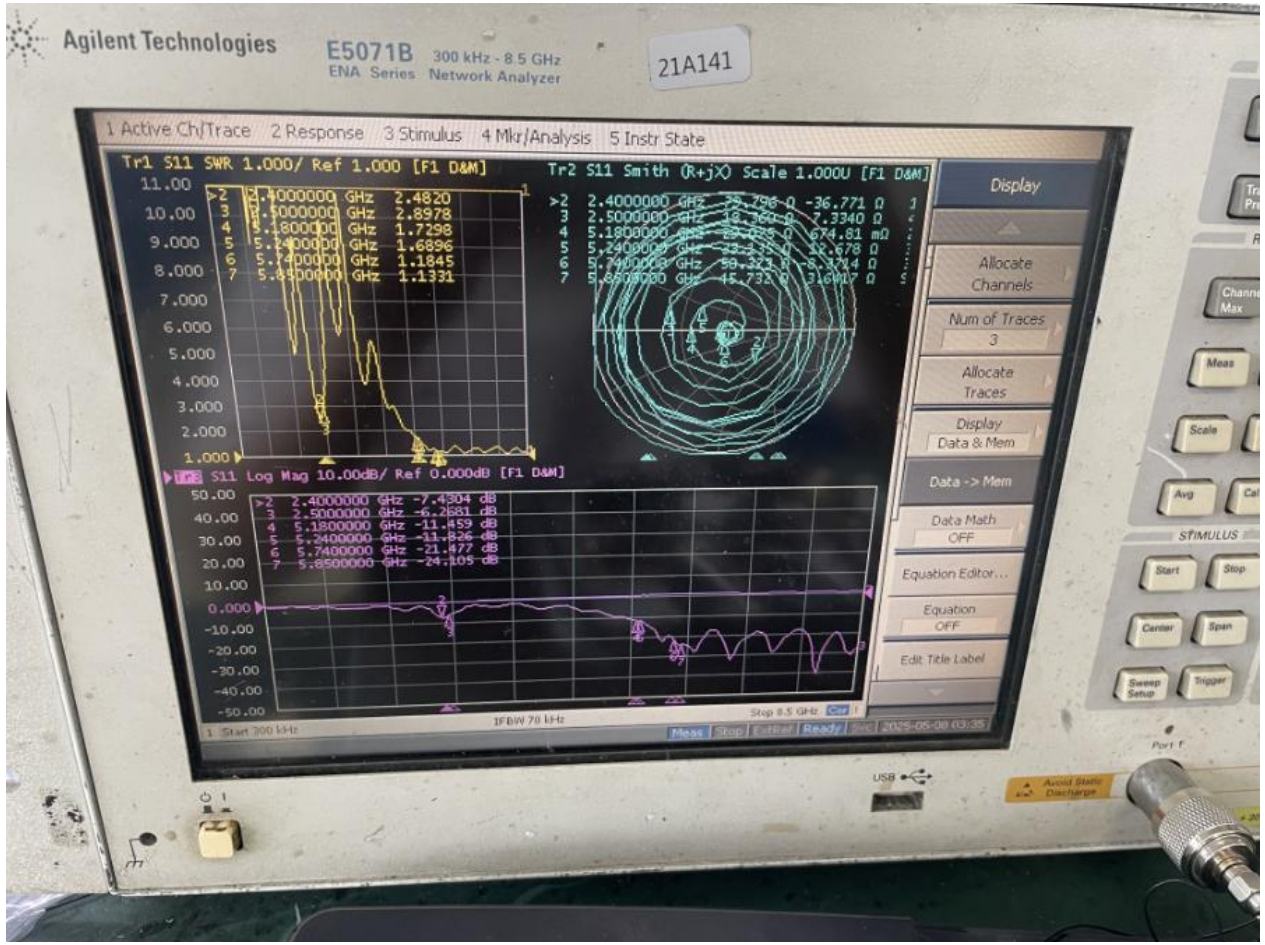


5850.000MHz



WiFi antenna related data

Bluetooth antenna standing wave return loss



Bluetooth antenna efficiency

Passive Test For WIFI2.4		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	28.44	1.05
2410	35.41	1.74
2420	34.58	1.28
2430	32.39	0.75
2440	41.19	1.73
2450	44.98	2.01
2460	38.69	1.37
2470	30.55	0.36
2480	38.16	1.24
2490	33.56	0.5
2500	26.5	-0.7

Passive Test For WIFI5.8		
Freq (MHz)	Effi (%)	Gain (dBi)
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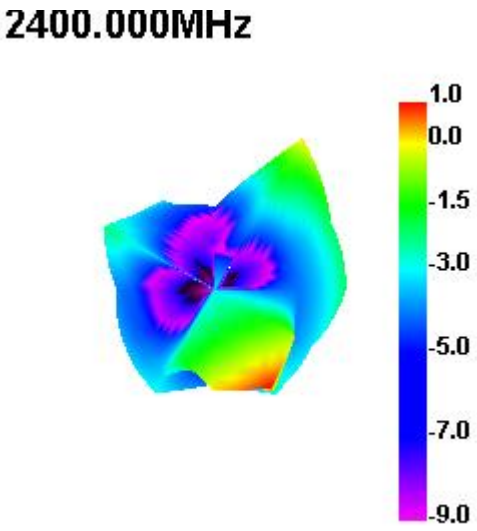
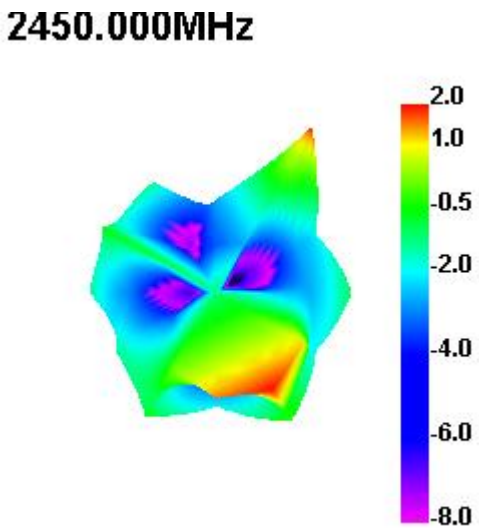
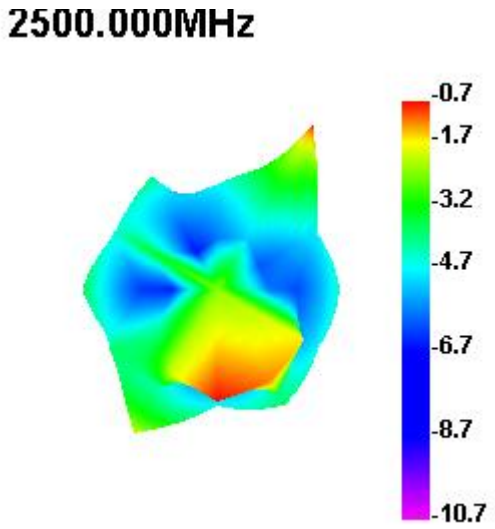
5550	42.93	2.98
5600	37.31	1.96
5650	36.79	1.7
5700	55.61	3.77
5750	40.31	2.31
5800	38.69	1.82
5850	44.55	3.42

WiFi antenna related data

Bluetooth antenna apple picture

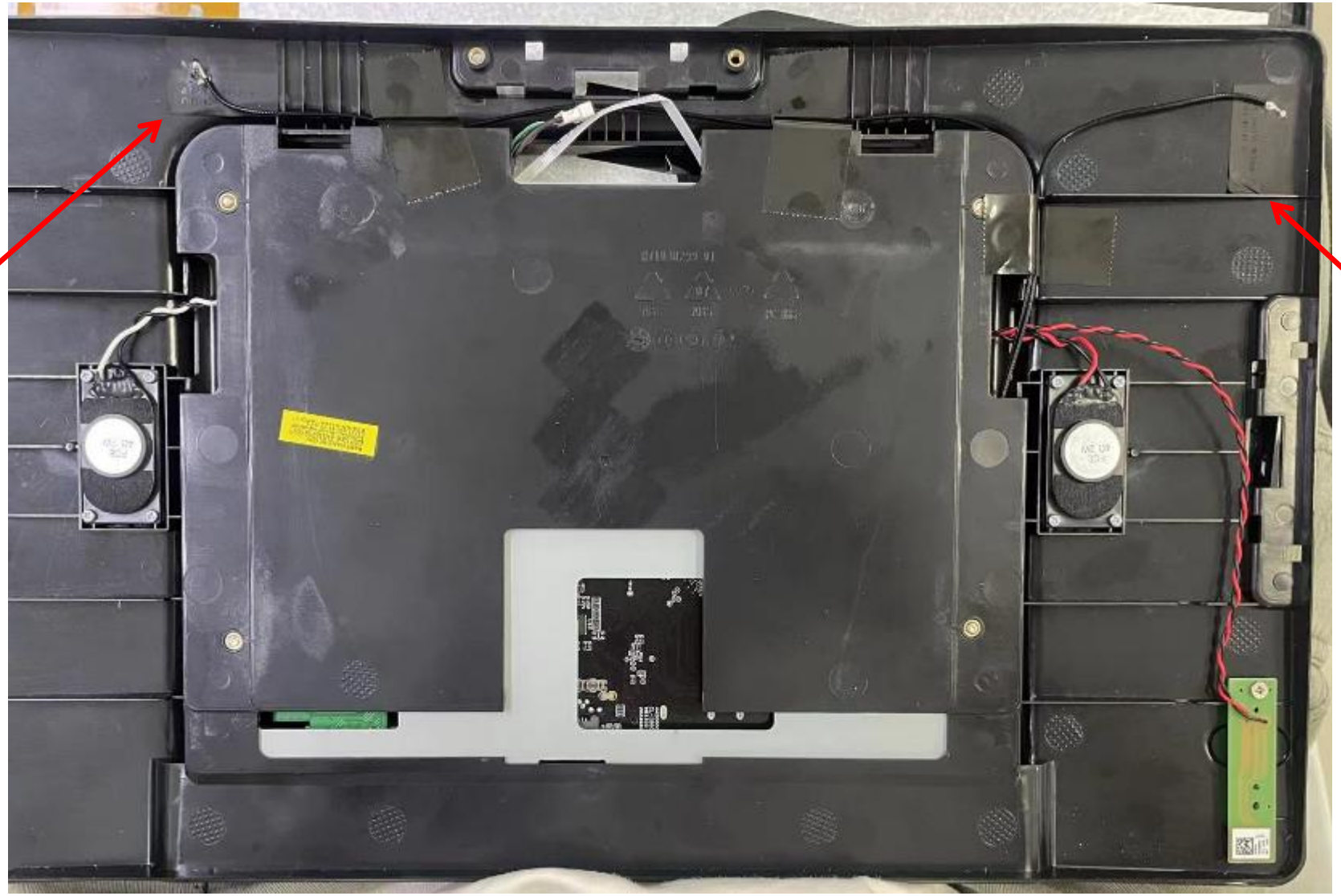






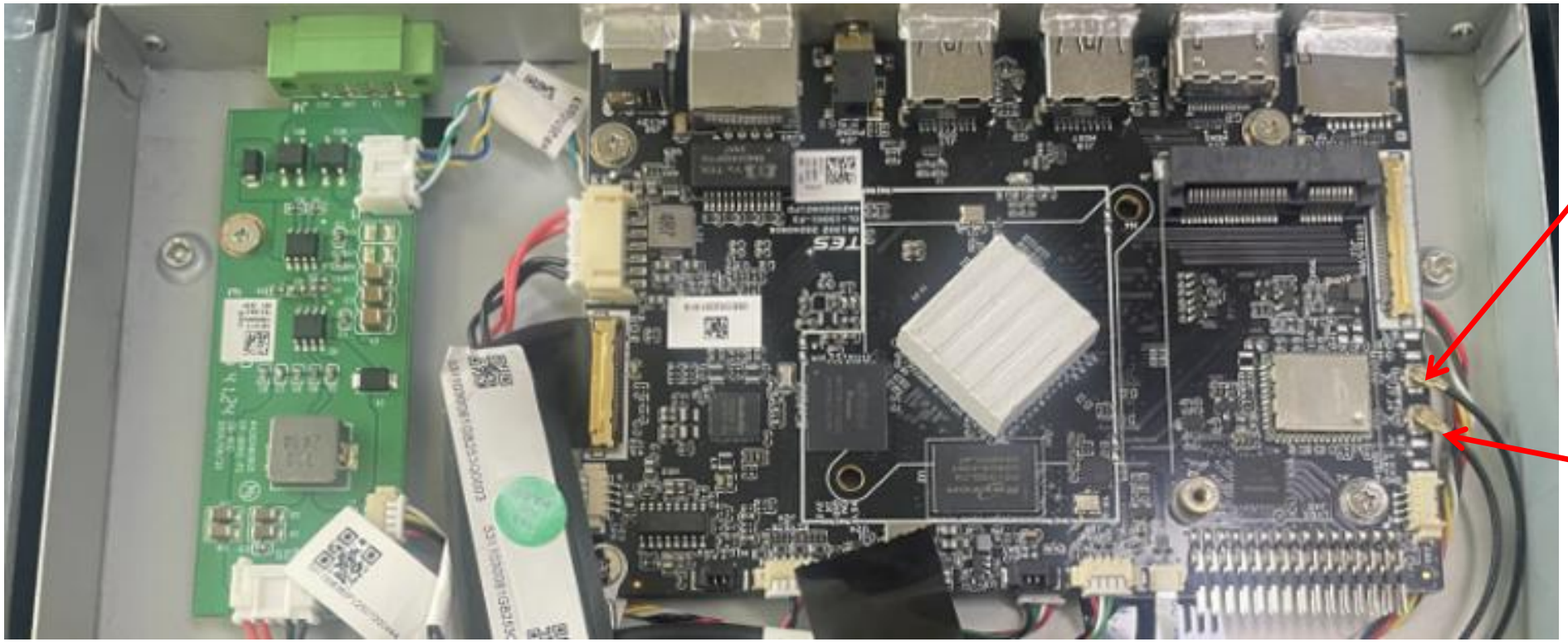
06.Antenna position diagram

WiFi-W1 antenna



WiFi-W2 antenna

06.Antenna position diagram



WiFi-W2 antenna port

WiFi-W1 antenna port

THANKS!

Shenzhen Xinlingke Technology Co., Ltd.

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