Antenna Test report

Model Name: XLK-W46-WT-S866T-6769-MB

Date: July 14, 2025

Shenzhen Xinlingke Technology Co., Ltd.

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CONTENT

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	**XLK-W46-WT-S866T-6769-MB**
Antenna Type	PIFA	Structure mode	FPC 3rd generation terminal coaxial cable
Main Antenna	2G: 2 3 5 8 3G: 2 5 4G: B2 3 4 5 7 8 28A		
Other Antenna	Diversity; Tri-fold		

02.Report Versions

Version	Report Time	Commissioning Overview
A0	**July 14, 2025**	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.

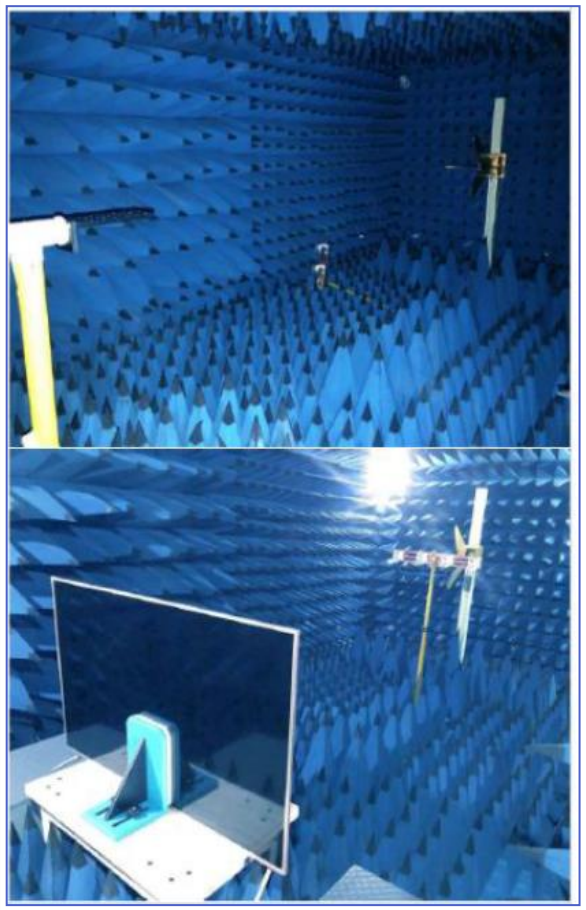
Product Range

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

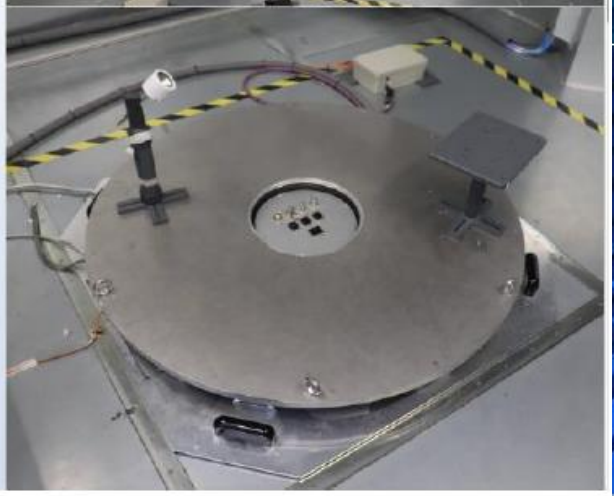
Core Task

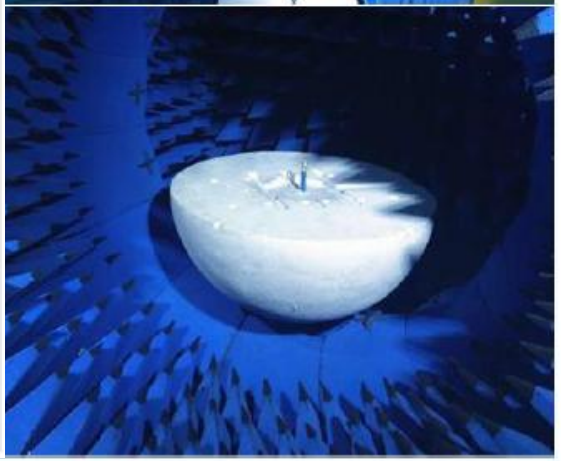
Company has been committed to improving our long-term competitiveness by providing whole RF solution, insisted on taking customer demand as the first place.

03.Introduction of Company and Test Environment-Test Environment





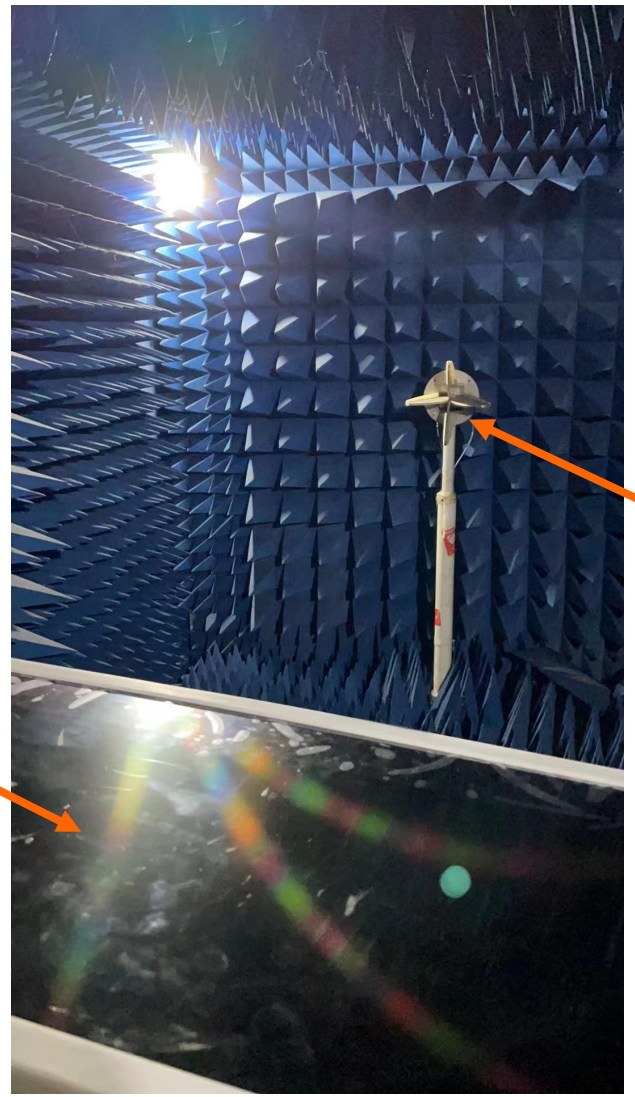





The company owns several OTA darkrooms whose frequency bands covers from 400mhz to 8.5ghz.

- 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.

04.Enviornment Test



Location of Tested Machine

Location of Loudspeaker

05. Antenna correlation data

Main antenna active data

Band	Channel	TRP	TIS
B2	L	17.58	
	M	17.75	
	H	17.85	-91.36
B3	L	17.27	
	M	17.57	
	H	16.95	-90.24
B4	L	17.1	
	M	17.20	
	H	16.87	-90.1
B5	L	15.24	
	M	15.34	
	H	15.47	89.57

Band	Channel	TRP	TIS
B7	L	15.21	
	M	15.24	
	H	15.57	-87.22
B8	L	14.57	
	M	14.35	
	H	13.87	-85.15
B28	L	13.14	
	M	13.5	
	H	14.09	-89.57

06.WIFI active data

2.4G WIFI active data

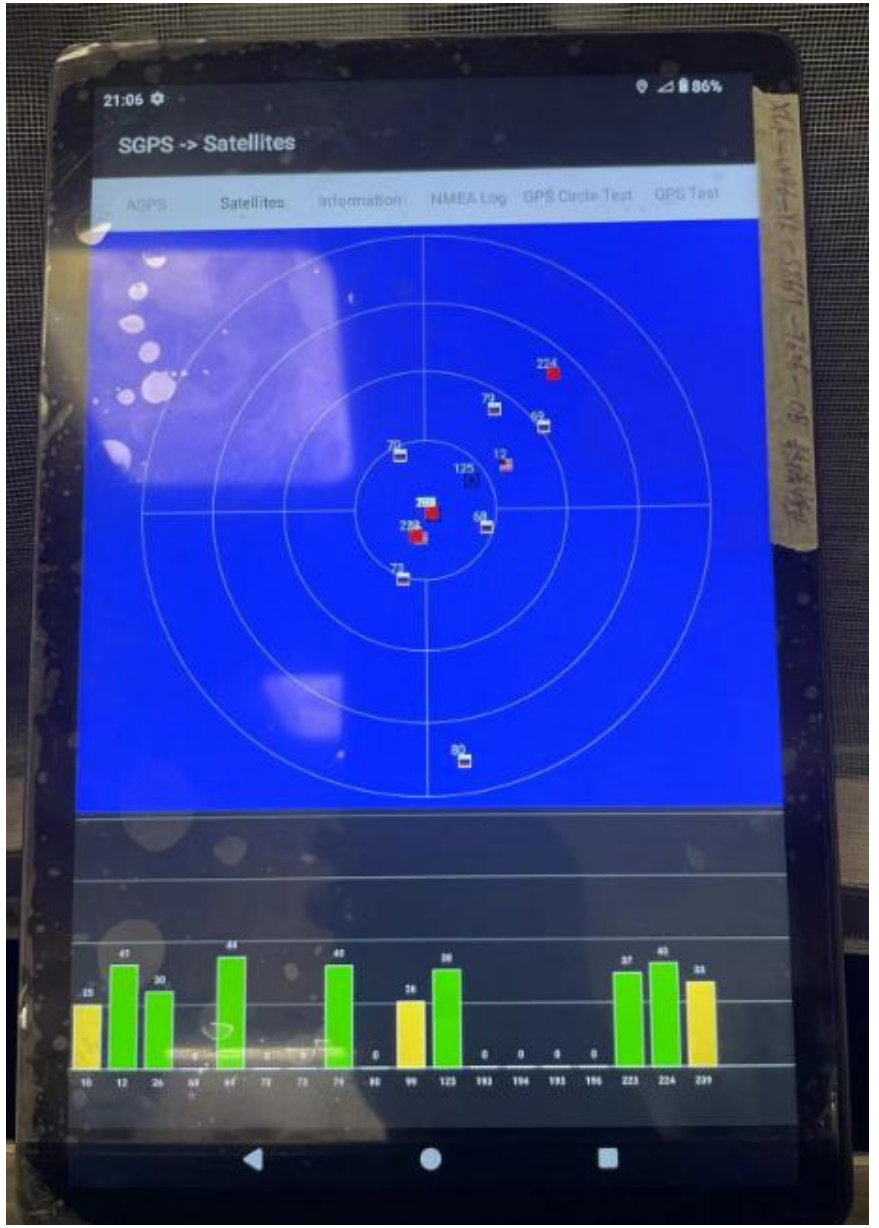
2.4GWIFI	802.11b（11M）		
channel	1	7	13
TRP	10.62	12.1	12.55
TIS			-78.85

5G WIFI source data

5GWIFI	802.11a（54M）			
channel	36	64	149	165
TRP	10.15	10.41	10.51	8.26
TIS				-69.39

06. GPS/BT/ measured data

GPS searches for stars in our company with a positioning time of 1 minute. Bluetooth unobstructed 12 meter listening to music smoothly.



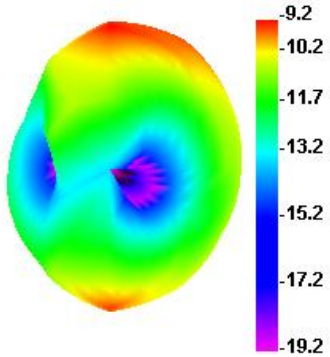
06. Gain data

Passive Test For 低频		
Freq (MHz)	Effi (%)	Gain (dBi)
690	4.16	-10.24
700	5.31	-9.16
710	6.63	-8.23
720	5.71	-8.94
730	6.41	-8.53
740	7.49	-7.87
750	9.77	-6.69
760	9.05	-6.69
770	9.39	-5.72
780	8.51	-5.99
790	9.94	-5.88
800	11.32	-4.86
810	12.02	-4.49
820	15.4	-3.39
830	18.07	-2.59
840	19.28	-2.14
850	19.59	-1.98
860	16.47	-2.65
870	16.93	-2.32
880	14.11	-2.91
890	11.39	-3.65
900	9.55	-4.49
910	11.7	-4.03
920	12.42	-3.69
930	9.98	-4.64
940	10.47	-4.48
950	7.8	-5.5
960	5.92	-6.4

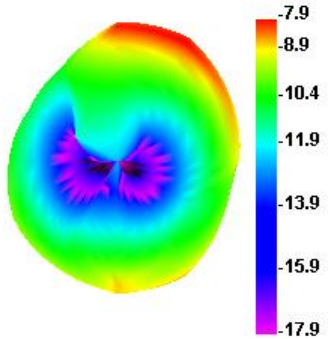
Passive Test For 高频		
Freq (MHz)	Effi (%)	Gain (dBi)
1700	14.5	-3.05
1710	15.37	-2.79
1720	15.19	-2.18
1730	17.15	-1.48
1740	20.35	-1.21
1750	21.55	-1.22
1760	19.28	-2.08
1770	17.46	-2.8
1780	18.29	-2.58
1790	20.42	-2.05
1800	21.34	-1.83
1810	21.62	-1.78
1820	24.73	-1.24
1830	23.09	-1.56
1840	25	-1.21
1850	31.97	-0.16
1860	29.32	-0.51
1870	23.33	-1.34
1880	33.68	0.53
1890	31.36	0.52
1900	28.96	0.45
1910	24.23	-0.04
1920	32.47	1.3
1930	32.02	1.26
1940	29.36	0.73
1950	30.11	0.76
1960	30.88	0.79
1970	26.08	0.11
1980	24.44	-0.13
1990	29.67	0.81
2000	28.01	0.57
2010	25.02	0.11
2020	28.2	0.6
2030	30.06	0.73
2040	30.7	0.66
2050	32.15	0.6
2060	29.05	-0.06
2070	23.11	-1.24
2080	21.21	-1.58
2090	20.97	-1.41
2100	18.19	-1.63
2110	13.62	-2.66
2120	16.35	-1.88
2130	16.77	-2.01
2140	12.19	-3.63
2150	11.88	-3.91
2160	15.69	-2.82
2170	13.41	-3.67
2180	13.85	-3.59
2190	12.32	-4.06
2200	16.4	-2.68
2210	11.16	-4.24
2220	8.8	-5.11
2230	9.36	-4.5
2240	10.33	-3.56
2250	9.02	-3.68
2260	7.96	-4.03
2270	9.48	-3.33
2280	10.91	-2.88
2290	8.07	-4.36
2300	7.88	-4.7
2310	8.27	-4.88
2320	7.7	-5.58
2330	7.62	-6.07
2340	7.52	-6.33
2350	8.4	-5.95
2360	8.42	-5.83
2370	7.24	-6.4
2380	7.83	-5.93
2390	10.99	-4.43
2400	9.87	-4.87
2410	11.98	-3.91
2420	13.27	-3.46
2430	14.59	-3
2440	19.58	-1.77
2450	25.03	-0.72
2460	22.8	-1.35
2470	19.2	-2.39
2480	27.01	-1.1
2490	25.78	-1.58
2500	22.34	-1.93
2510	25.87	-1.06
2520	27.77	-0.49
2530	23.45	-1.23
2540	22.33	-1.45
2550	19.35	-1.82
2560	16.44	-2.14
2570	16.46	-1.92
2580	18.12	-1.33
2590	14.04	-2.41
2600	11.54	-3.31
2610	13.67	-2.62
2620	12	-3.4
2630	9.61	-4.53
2640	7.72	-5.84
2650	7.41	-6.2
2660	8.32	-5.61
2670	8.34	-5.5
2680	6.78	-6.52
2690	6.99	-6.49
2700	6.22	-7.21
2710	5.06	-7.88
2720	6.39	-6.68
2730	6.27	-6.8
2740	5.61	-7.09
2750	4.8	-7.95

06. Gain data

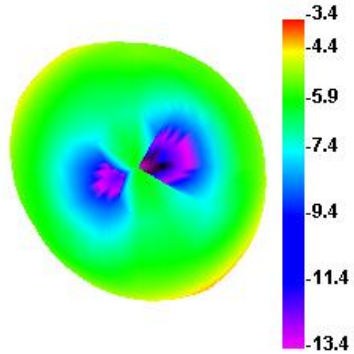
700.000MHz



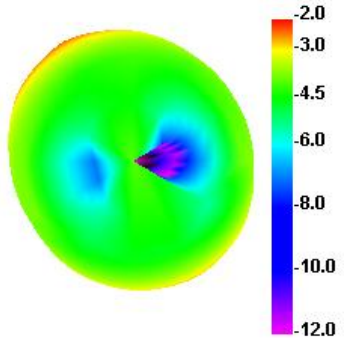
740.000MHz



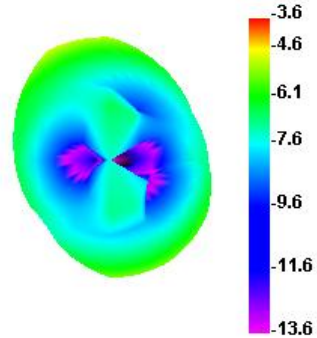
820.000MHz



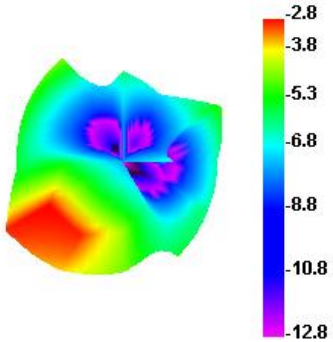
850.000MHz



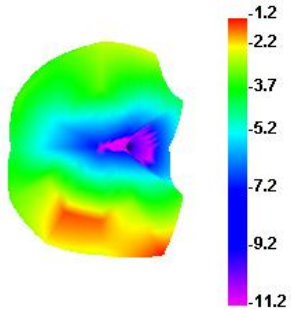
890.000MHz



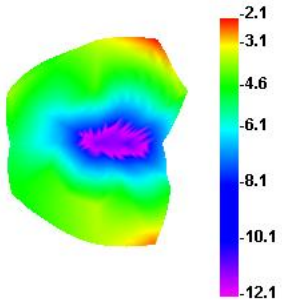
1710.000MHz



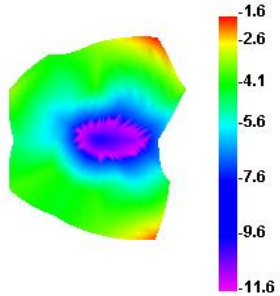
1750.000MHz



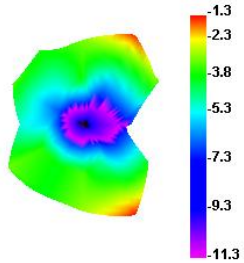
1790.000MHz



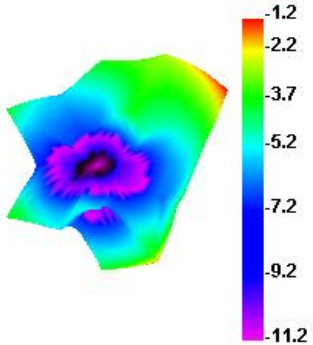
1830.000MHz



1870.000MHz



2530.000MHz



06. Gain data

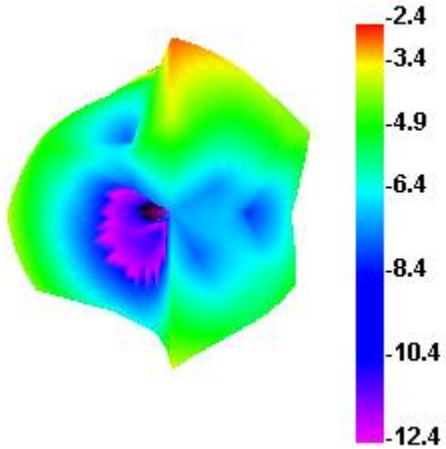
Passive Test For GPS1		
Freq (MHz)	Effi (%)	Effi (dB)
1558	24.85	-6.05
1560	24.85	-6.05
1562	24.74	-6.07
1564	24.67	-6.08
1566	24.4	-6.13
1568	23.81	-6.23
1570	22.82	-6.42
1572	22.38	-6.5
1574	21.89	-6.6
1576	21.68	-6.64
1578	21.77	-6.62
1580	21.88	-6.6
1582	21.45	-6.69
1584	20.73	-6.84
1586	19.63	-7.07
1588	18.37	-7.36
1590	17.31	-7.62
1592	16.47	-7.83
1594	16.04	-7.95
1596	15.9	-7.98
1598	15.85	-8
1600	15.65	-8.05

Passive Test For WIFI2.4		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	26.63	-1.71
2410	29.19	-1.53
2420	27.71	-1.83
2430	25.58	-2.12
2440	30.46	-1.13
2450	33.82	-0.67
2460	27.97	-1.19
2470	20.74	-2.15
2480	26.81	-0.68
2490	24.86	-0.79
2500	21.3	-1.37

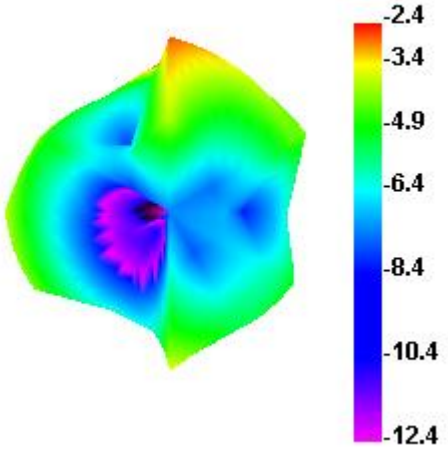
Passive Test For WIFI5.8		
Freq (MHz)	Effi (%)	Gain (dBi)
5150	43.9	1.34
5200	27.09	-1.09
5250	28.06	-1.52
5300	26.77	-1.01
5350	29.53	-0.33
5400	26.31	-0.96
5450	24.04	-1.66
5500	30.68	-0.9
5550	30.84	-0.67
5600	27.12	-1.39
5650	24.81	-1.92
5700	36.92	-0.06
5750	27.79	-0.85
5800	27.51	-0.35
5850	27.61	1.3

06. Gain data

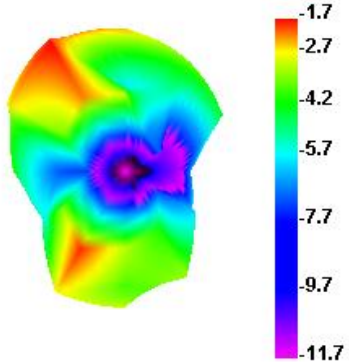
1574.000MHz



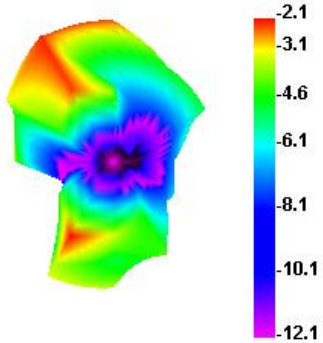
1576.000MHz



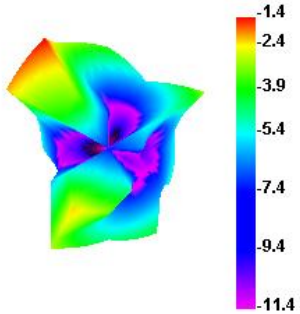
2400.000MHz



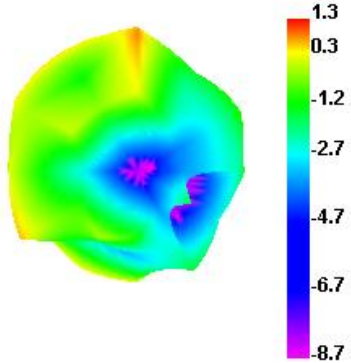
2430.000MHz



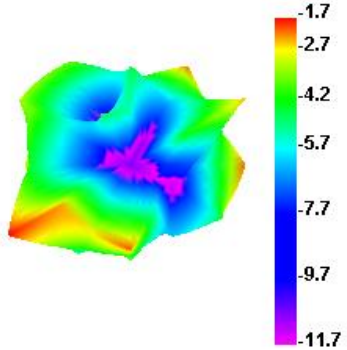
2500.000MHz



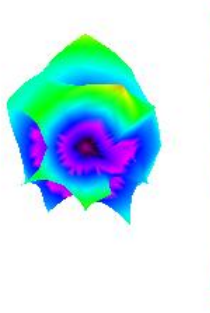
5150.000MHz



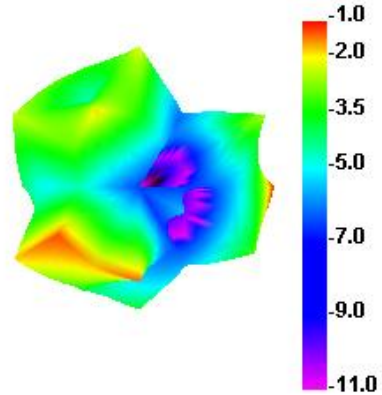
5450.000MHz



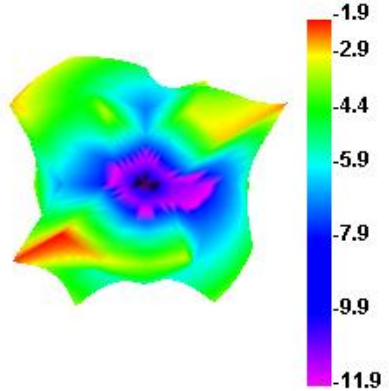
5850.000MHz



5300.000MHz



5650.000MHz



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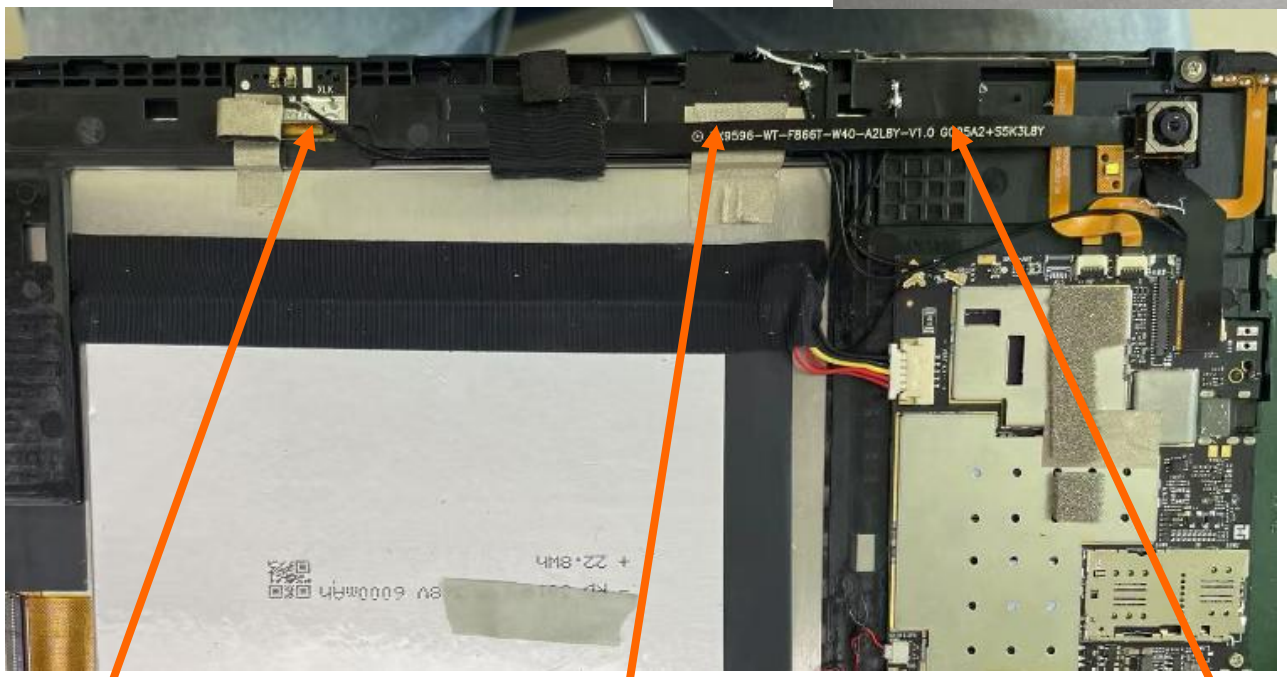
06.Antenna position diagram

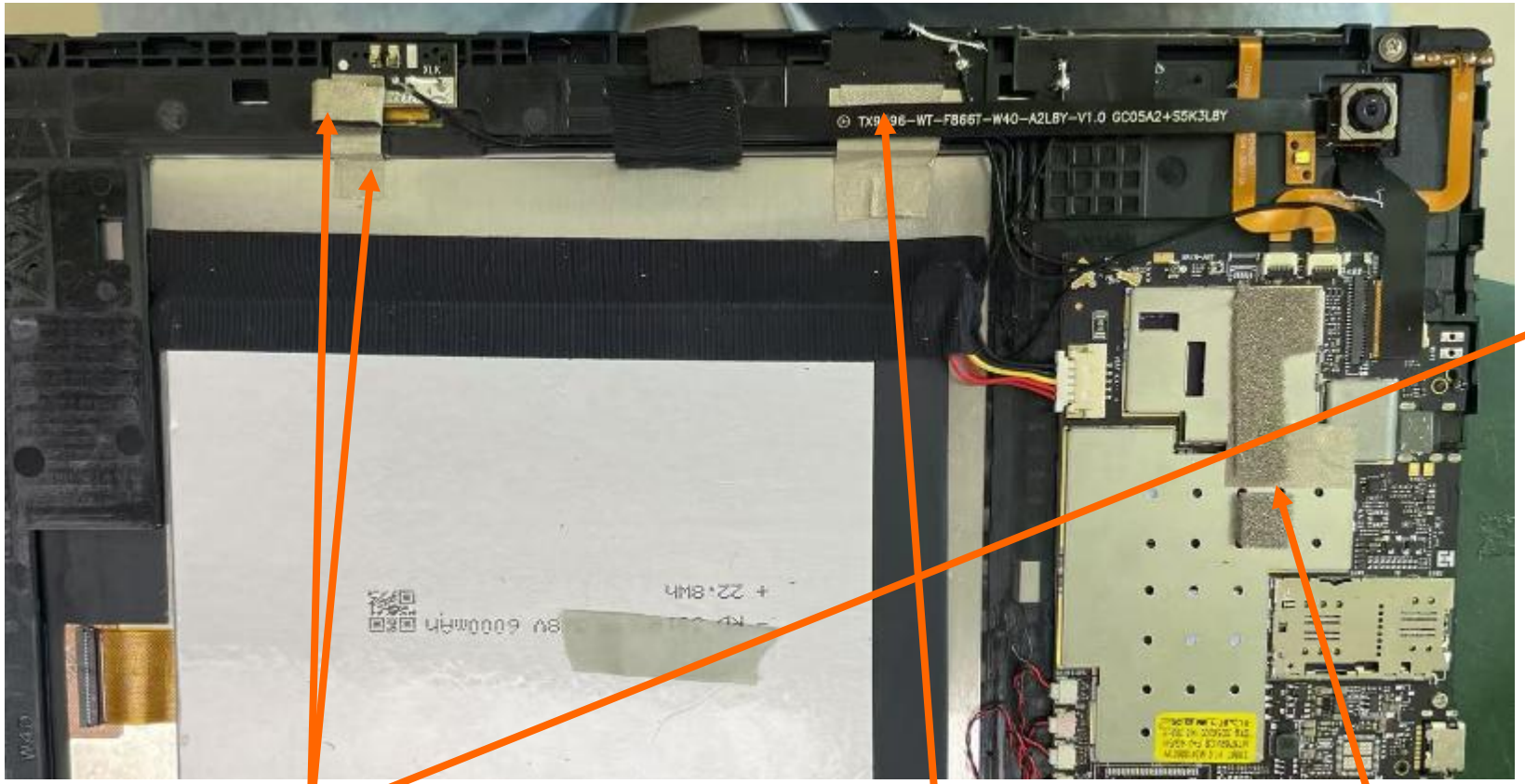


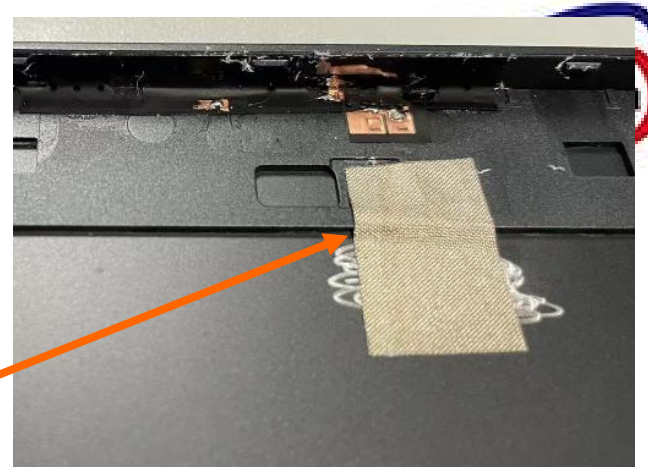
Main antenna sub-array position

Triple antenna position

Array antenna position

07.Environmental treatment





Main antenna is pasted with conductive cloth and grounded, then conductive sponge and conductive cloth of back shell are pasted and grounded

Three-in-one antenna sticker conductive cloth and screen grounding

Mainboard and back shell grounding

Mainboard and screen grounding

THANKS!

Shenzhen Xinlingke Technology Co., Ltd.

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