



Shenzhen Xinlingke Technology Co., Ltd.

Antenna Test report

Model Name: XLK-AL-TD89-F11

Date: 2026.04.29

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01.Project Introduction and Photoes-Project Introduction



RF Engineer	Engineer Kong	Email	2532625702@qq.com
		Mobile	18477016343
Antenna Overview			
Status of Sample machine	Whole machine	Project Name	XLK-AL-TD89-F11
Antenna Type	PIFA	Structure mode	FPC
Main Antenna	2G:850/900/1800/1900 3G:850/1900 4G:B2 3 4 5 7 8 28A		
Other Antenna	Episode: Three in One		

01.Project Introducation and Photoes-Photos



The front



The back



02.Report Versions



Version	Report Time	Commissioning Overview
A0	2026.04.29	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

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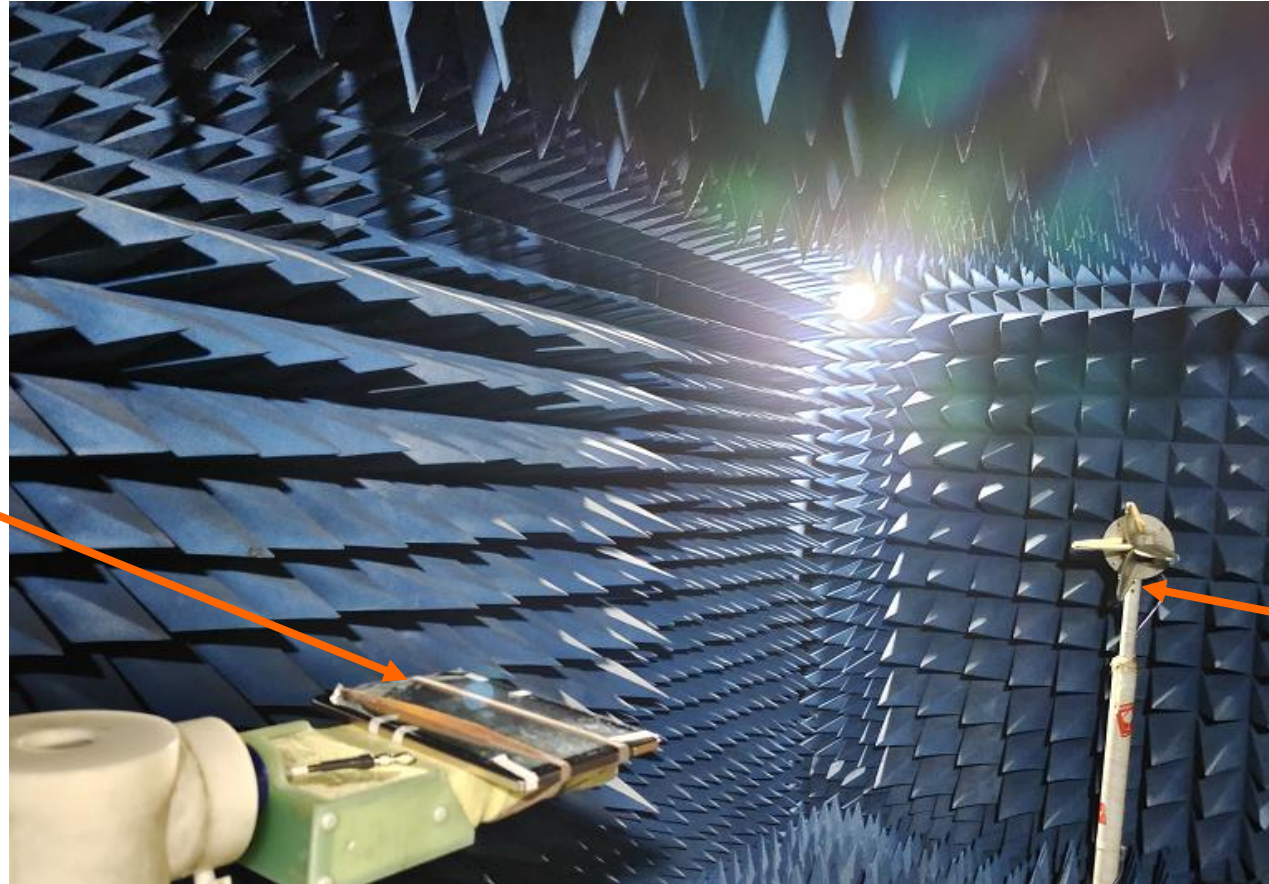
- Providing antenna gain and efficiency
- Providing 2D pattern / Apple chart analysis
- Providing upper and lower hemisphere efficiency
- Providing mutual interference correlation coefficient test items.

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04.Environment Test



Location of
Tested
Machine



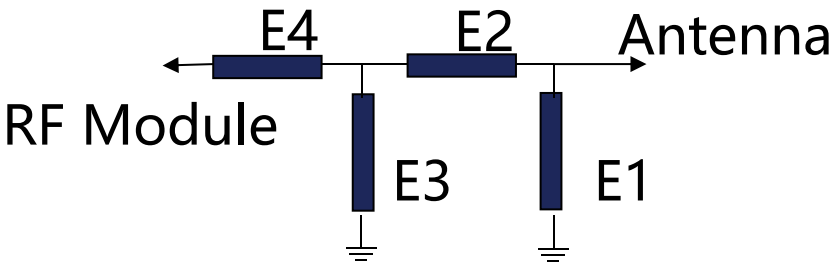
Location of
Loudspeaker

05. Matching Circuit



Matching Circuit
is not been changed

Element	Value
E1(0402)	
E2(0201)	
E3(0201)	
E4(0201)	



06.Main antenna data



Band	Channel	TRP	TIS
B2	L	18.13	
	M	18.51	
	H	16.87	-92.54
B3	L	16.7	
	M	18.1	
	H	18.34	-91.38
B4	L	15.84	
	M	17.38	
	H	17.15	-91.34
B5	L	13.9	
	M	14.43	
	H	14.88	-92.35

Band	Channel	TRP	TIS
B7	L	18.36	
	M	18.59	
	H	18.48	-91.47
B8	L	15.45	
	M	15.52	
	H	15.67	-92.65
B28A	L	8.55	
	M	10.81	
	H	9.77	-88.5

07.WiFi antenna-related data



2.4G WIFI

2.4GWIFI	802.11b (11M)		
channel	1	7	13
TRP	11.25	11.52	11.1
TIS			-78.61

5G WIFI

5GWIFI	802.11a (54M)			
channel	36	64	149	165
TRP	5.24	7.01	9.68	7.64
TIS				-70.44

07.gain

Primary antenna



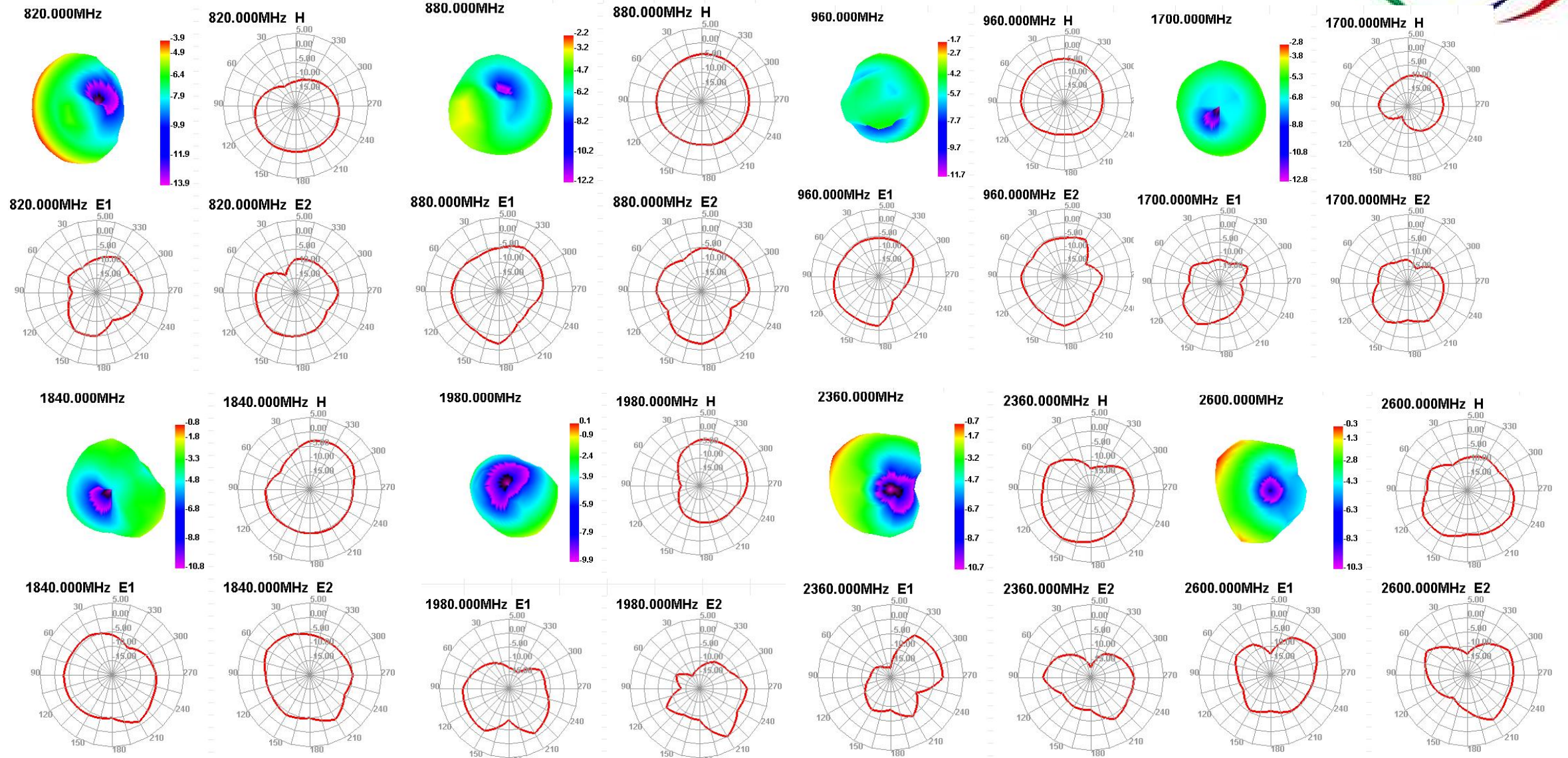
Freq (MHz)	Gain (dBi)
790	-4.55
800	-4.19
810	-4.03
820	-3.94
830	-3.27
840	-2.97
850	-2.46
860	-2.04
870	-1.6
880	-2.16
890	-2.02
900	-1.34
910	-1.21
920	-1.12
930	-1.48
940	-1.29
950	-2.04
960	-1.71

Freq (MHz)	Gain (dBi)
1700	-2.77
1720	-2.46
1740	-2.76
1760	-2.73
1780	-2.09
1800	-2.51
1820	-1.46
1840	-0.84
1860	-0.63
1880	1.13
1900	-0.02
1920	2.15
1940	0.85
1960	0.66
1980	0.09
2000	1.9
2020	1.98
2040	2.75
2060	2.6
2080	1.8
2100	1.88
2110	2.74
2120	1.36
2130	0.72
2140	1.73
2150	1.21
2160	-0.38
2170	-0.25

Freq (MHz)	Gain (dBi)
2180	-0.17
2190	0.06
2200	-0.89
2300	-2.14
2310	-2.05
2320	-1.52
2330	-0.89
2340	-0.75
2350	-0.66
2360	-0.66
2370	-0.91
2380	-1.02
2390	-0.63
2400	-0.98
2500	0.1
2520	1.33
2540	1.08
2560	0.58
2580	0.93
2600	-0.28
2620	0.42
2640	-0.68
2660	-0.58
2680	-1.02
2700	-1.39

06.天线相关数据

主天线方向图



07.gain

three in one



GPS

Freq (MHz)	Gain (dBi)
1550	-2.2
1555	-2.31
1560	-2.68
1565	-2.74
1570	-2.85
1575	-2.86
1580	-2.6
1585	-2.65
1590	-2.94
1595	-2.83
1600	-2.33

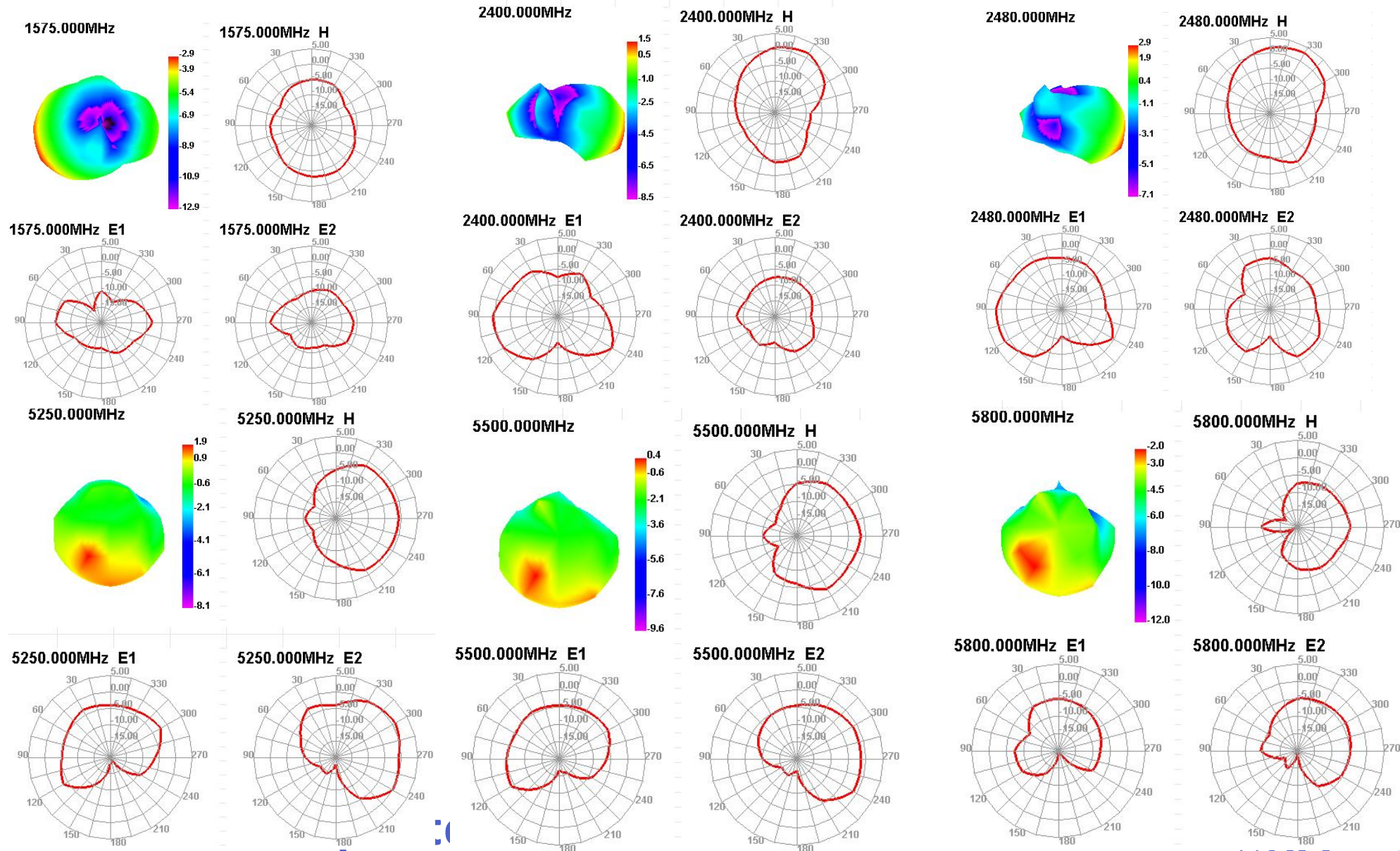
2.4G

Freq (MHz)	Gain (dBi)
2400	1.5
2410	1.87
2420	2.23
2430	2.48
2440	2.16
2450	2.19
2460	2.97
2470	2.53
2480	2.93
2490	2.6
2500	2.47

5.8G

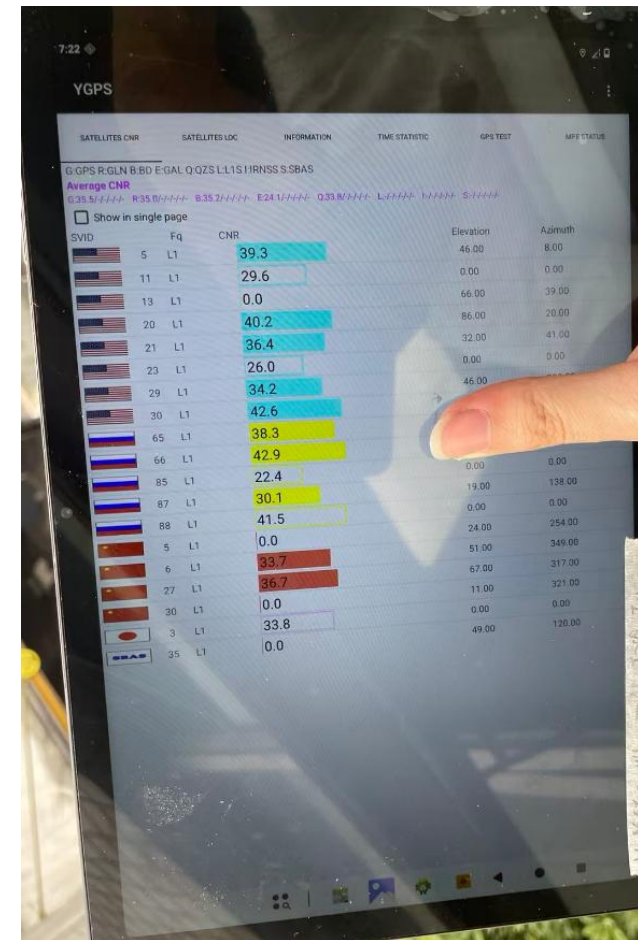
Freq (MHz)	Gain (dBi)
5150	1.39
5200	1.39
5250	1.93
5300	1.19
5350	1.5
5400	1.2
5450	1.16
5500	0.41
5550	-0.36
5600	-0.18
5650	-1.21
5700	0.07
5750	-0.71
5800	-2
5850	-1.82

three in one



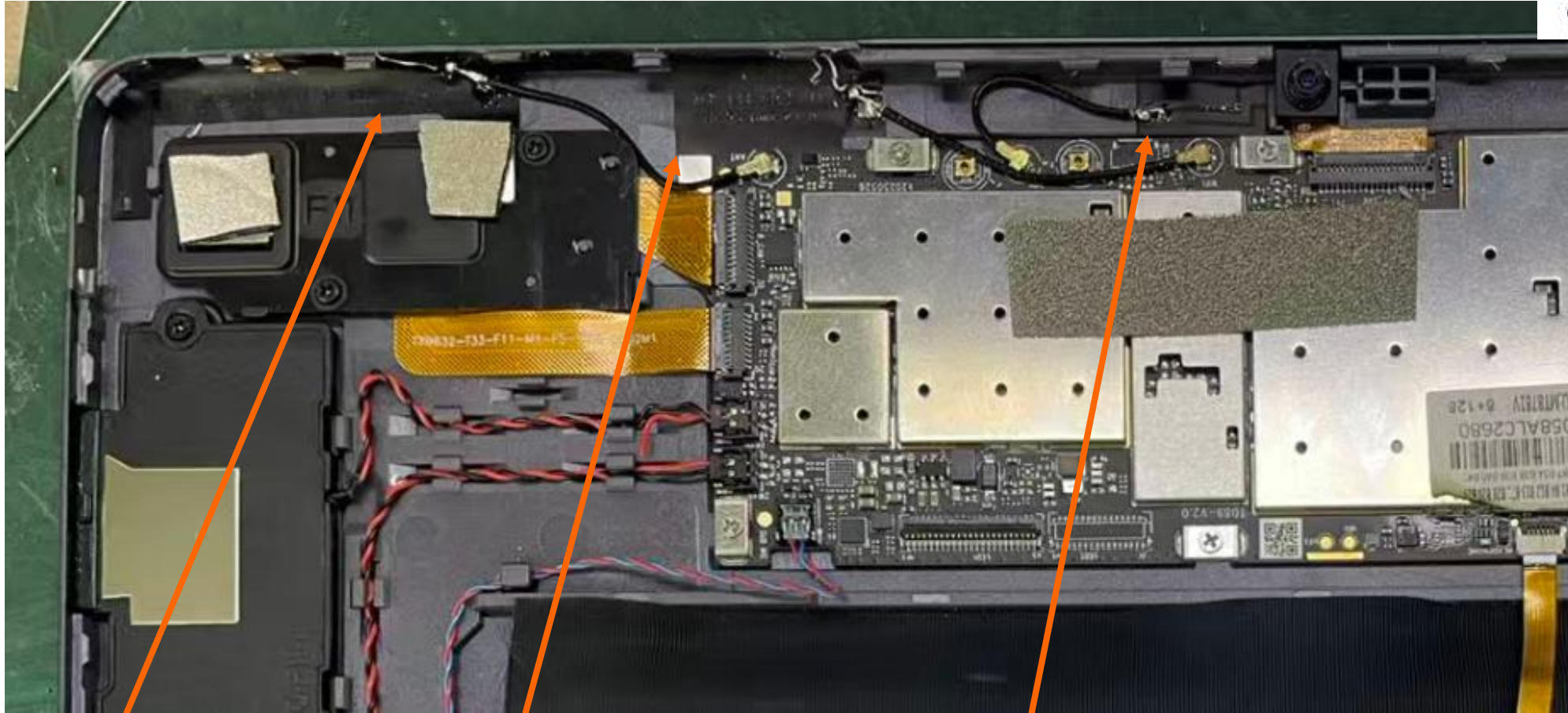
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7.GPS/BT/actual measurement data



GPS signal acquisition on the rooftop of our company's fifth floor, positioning time: 1 minute. Bluetooth connection without obstruction up to 12 meters, allowing for seamless music playback

08. Antenna location diagram



Location of the
main antenna

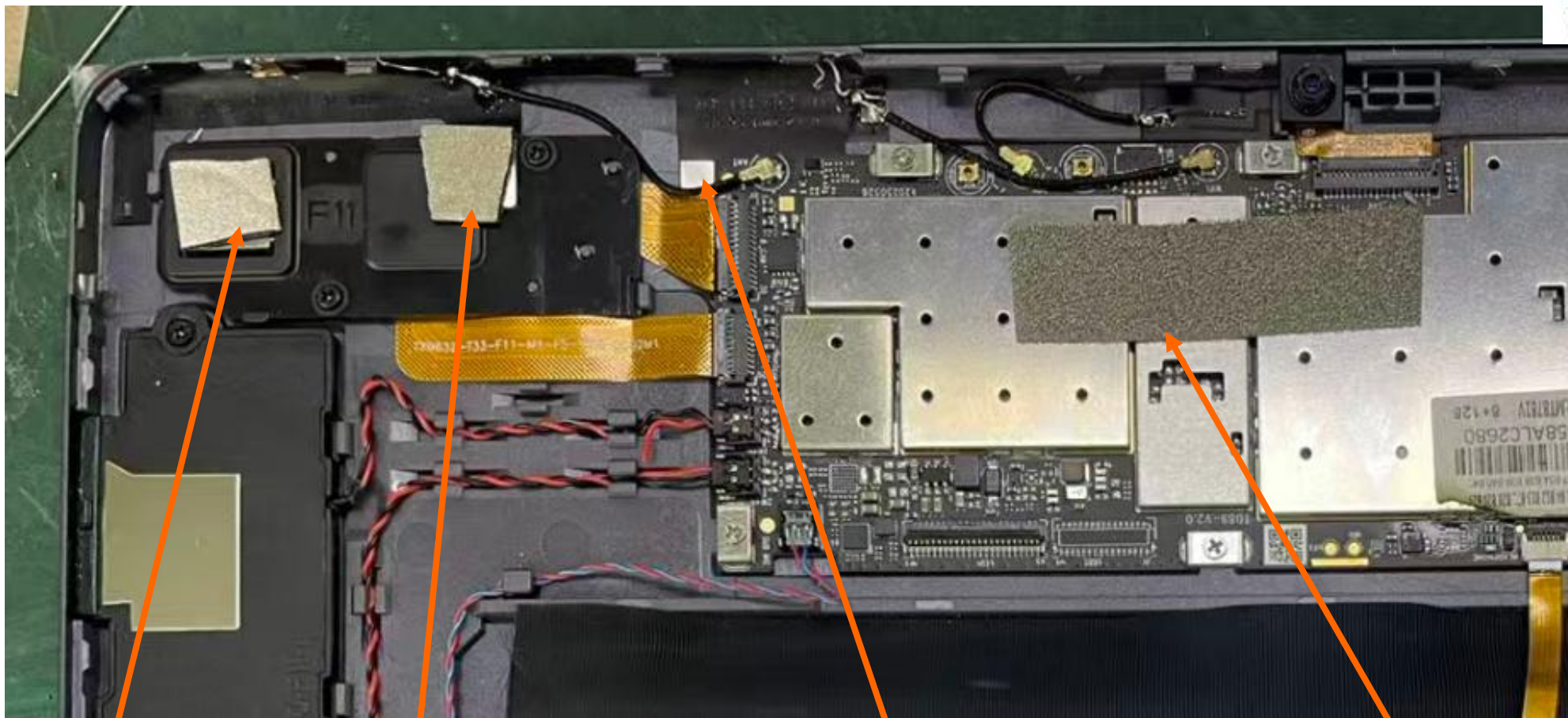
The location of the
Three-in-One antenna

Position of the
antenna array

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09.Environmental treatment



Camera and
screen grounding

Primary antenna
and screen
grounding

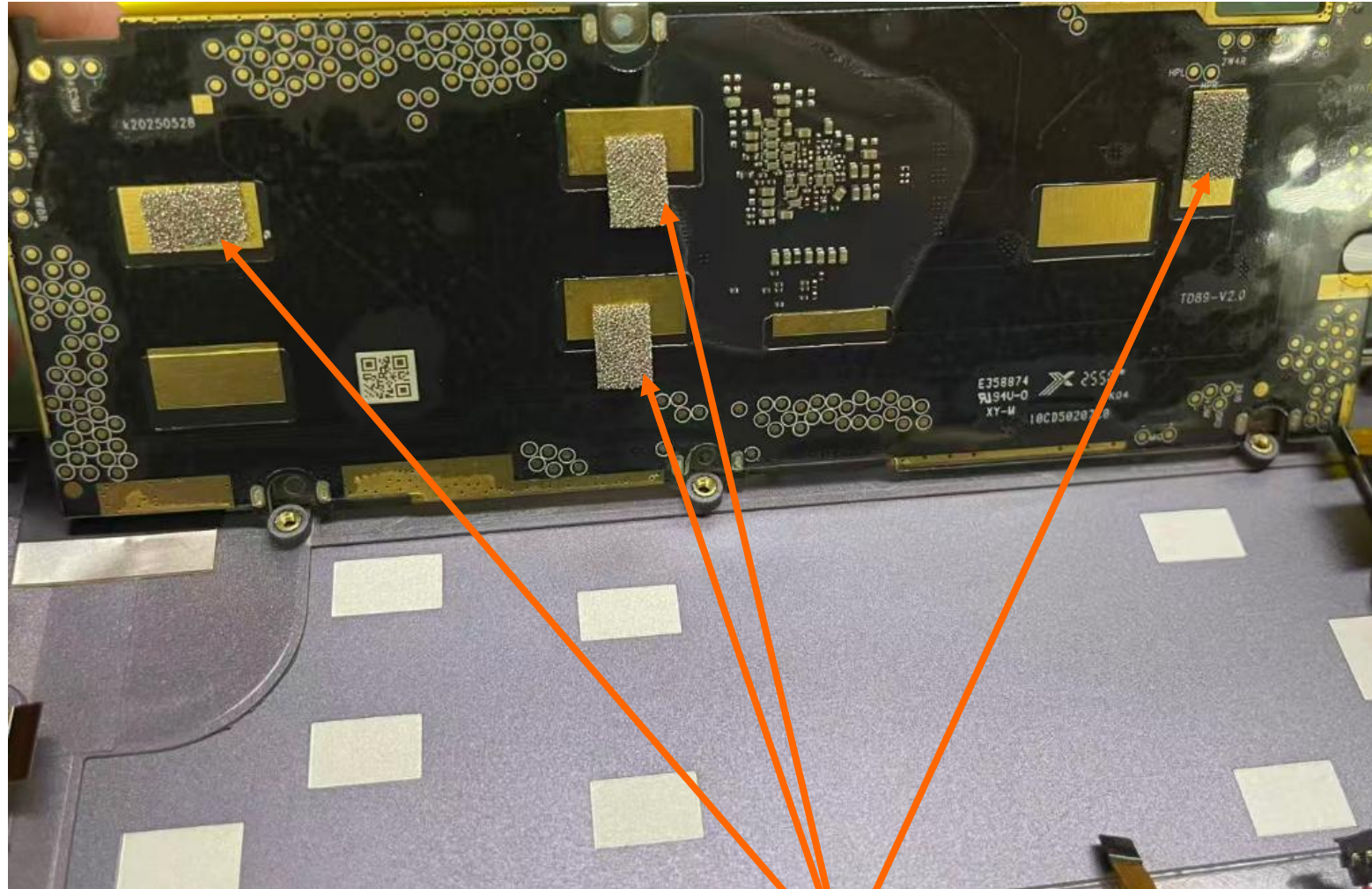
Three-phase antenna
and mainboard
grounding

Mainboard and
screen grounding

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09.Environmental treatment



Mainboard and base
chassis grounding

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THANKS!

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