



Antenna Test report

Model Name: M7-5-T310-HPUE

Date: August 22,2023

Shenzhen Xinlingke Technology Co., Ltd.

www.kpantenna.com

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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	M7-5-T310-HPUE
Antenna Type	PIFA	Structure mode	
Main Antenna	B2/4/5/7/12/13/17/25/26/41/66/77		
Other Antenna	diversity triangle; tern; trinity; three-in-one		

01.Project Introducation and Photoes-Photos



The front



The back



02.Report Versions



Version	Report Time	Commissioning Overview
A0	2023.08.10	The Final Antenna Test Report
A1	2023.08.22	Trial-production antenna test report
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.

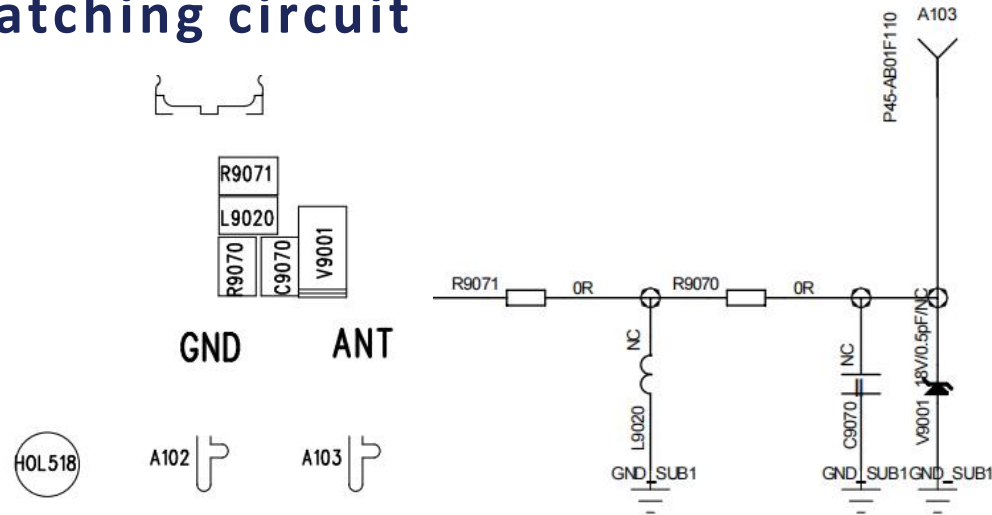
03.Introduction of Company and Test Environment-Test Environment



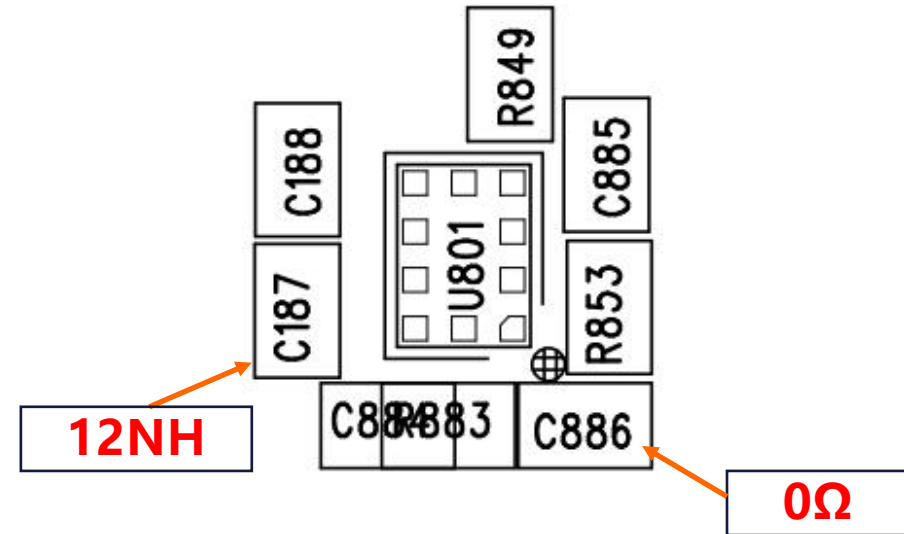
The company owns several OTA darkrooms whose frequency bands covers from 400mhz to 8.5ghz.

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

05.building-out circuit; match circuit; matching circuit



The main route matching is
not changed



Switch logic: M7-5-T310-HPUE

RF1 2G:2/3/5/8 3G:W2/5 4G:B2/4/5/7/25/26 /41/66

matching 0Ω

RF3 4G:B12/13/17/71 matching 12NH

06.Antenna related data



The main antenna has the active data

Band	Channel	TRP	TIS
B2	L	18.1	
	M	17.8	
	H	17.2	-88.7
B4	L	18.5	
	M	18.7	
	H	18.7	-88.3
B5	L	15.1	
	M	15.1	
	H	14.4	-82.8
B7	L	15.1	
	M	15.7	
	H	16.4	-86.2

Band	Channel	TRP	TIS
B12	L	14.8	
	M	15.2	
	H	15.3	-87.8
B13	L		
	M	14.1	-87.9
	H		
B17	L	15.1	
	M	15.2	
	H	15.2	-87.4
B25	L	18.2	
	M	17.8	
	H	17.3	-90.2

Band	Channel	TRP	TIS
B26	L	15.4	
	M	14.6	
	H	14.3	-83.5
B41	L		
	M	17.7	-86.2
	H		
B66	L	18.5	
	M	18.4	
	H	18.6	-87.4
B71	L	12.5	
	M	14.4	
	H	14.5	-81.9

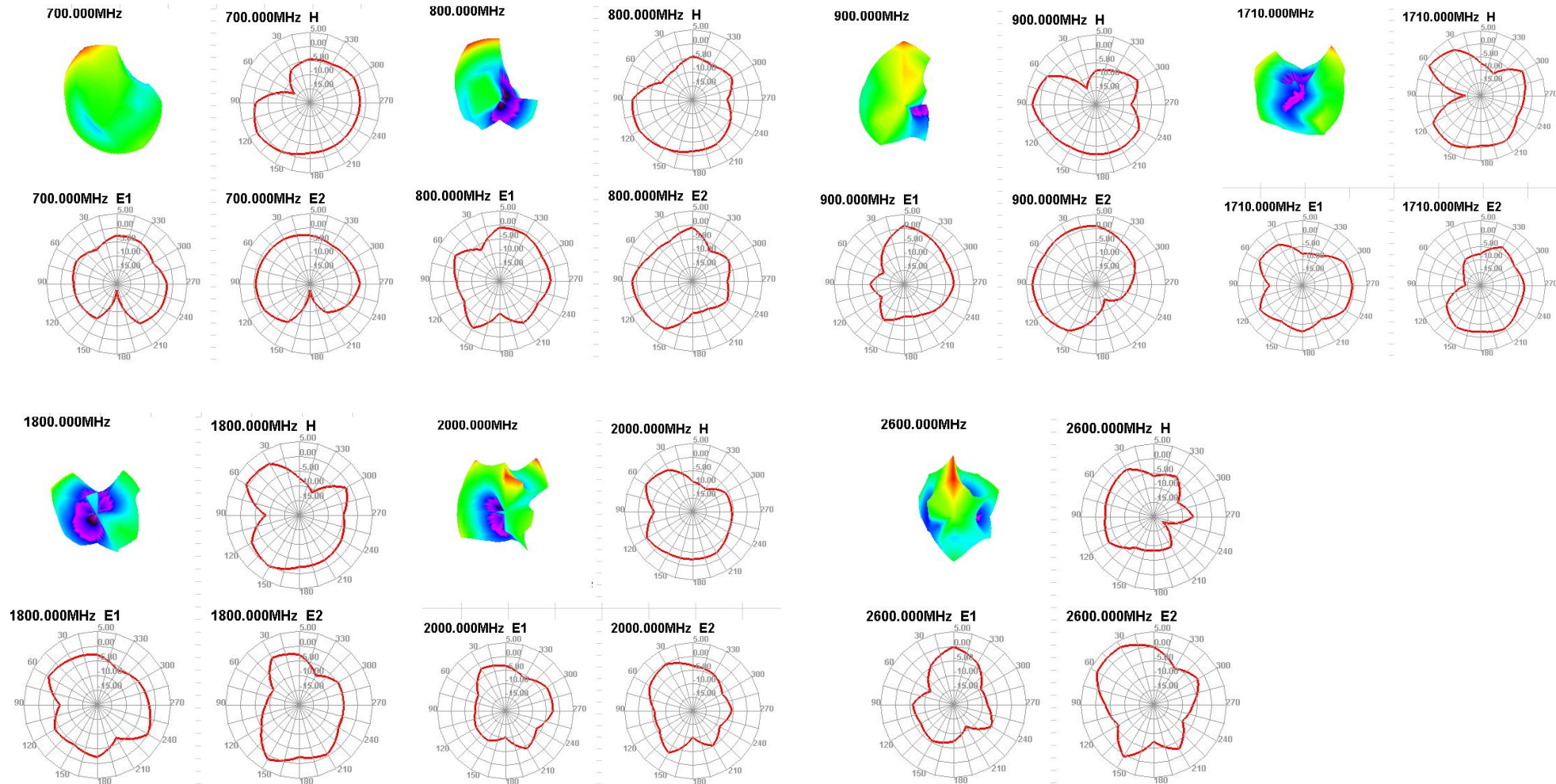
06.Antenna related data



antenna gain

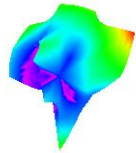
Band	Gain (dBi)
Band2	-0.27
Band4	-0.31
Band5	-2.52
Band7	-0.24
Band12	-3.1
Band17	-3.1
Band25	-0.31
Band26	-2.52
Band41	-0.24
Band66	-0.31
Band71	-3.6
GPS	-0.9
WIFI2.4g	0.24
WIFI5.8g	0.35
BT	0.24

main antenna

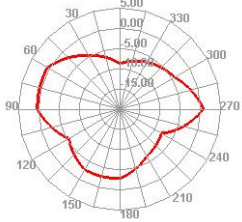


WiFi

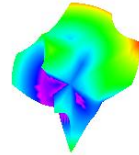
2400.000MHz



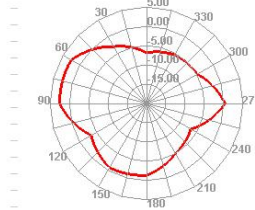
2400.000MHz H



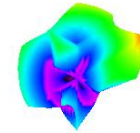
2450.000MHz



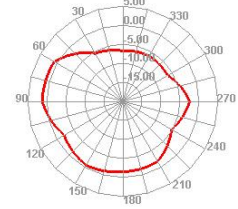
2450.000MHz H



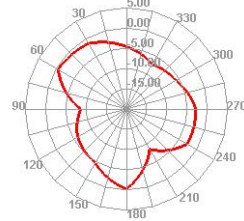
2500.000MHz



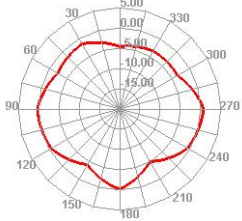
2500.000MHz H



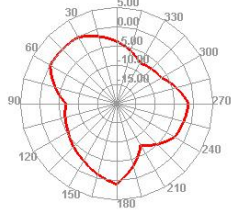
2400.000MHz E1



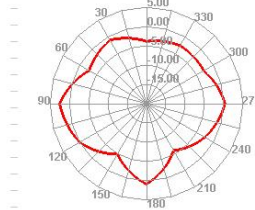
2400.000MHz E2



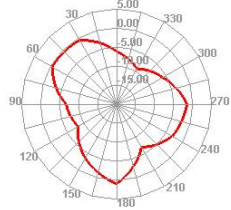
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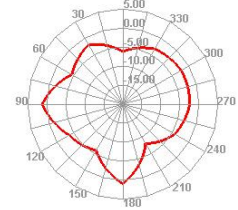
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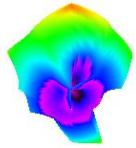
2500.000MHz E1



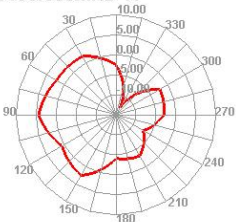
2500.000MHz E2



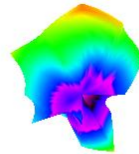
5150.000MHz



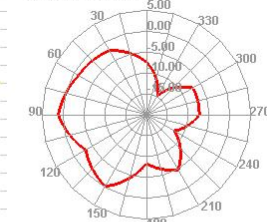
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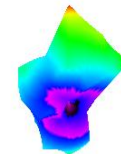
5300.000MHz



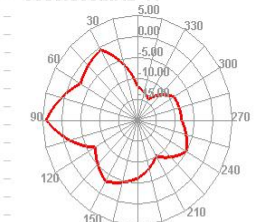
5300.000MHz H



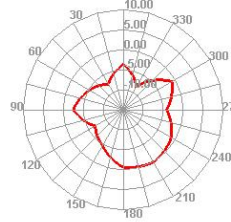
5800.000MHz



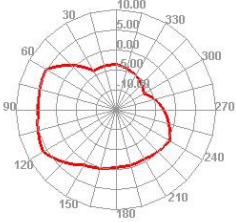
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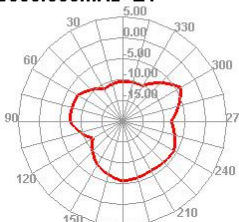
5150.000MHz E1



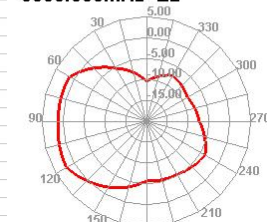
5150.000MHz E2



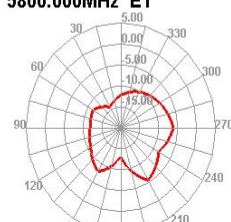
5300.000MHz E1



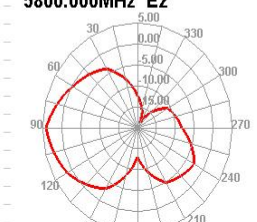
5300.000MHz E2



5800.000MHz E1



5800.000MHz E2



7.WIFI has active data

2.4G WIFI Active data

2.4GWIFI	802.11b (11M)		
channel	1	7	13
TRP	10.1	8.2	10.2
TIS			-73.5

5G WIFI of active data

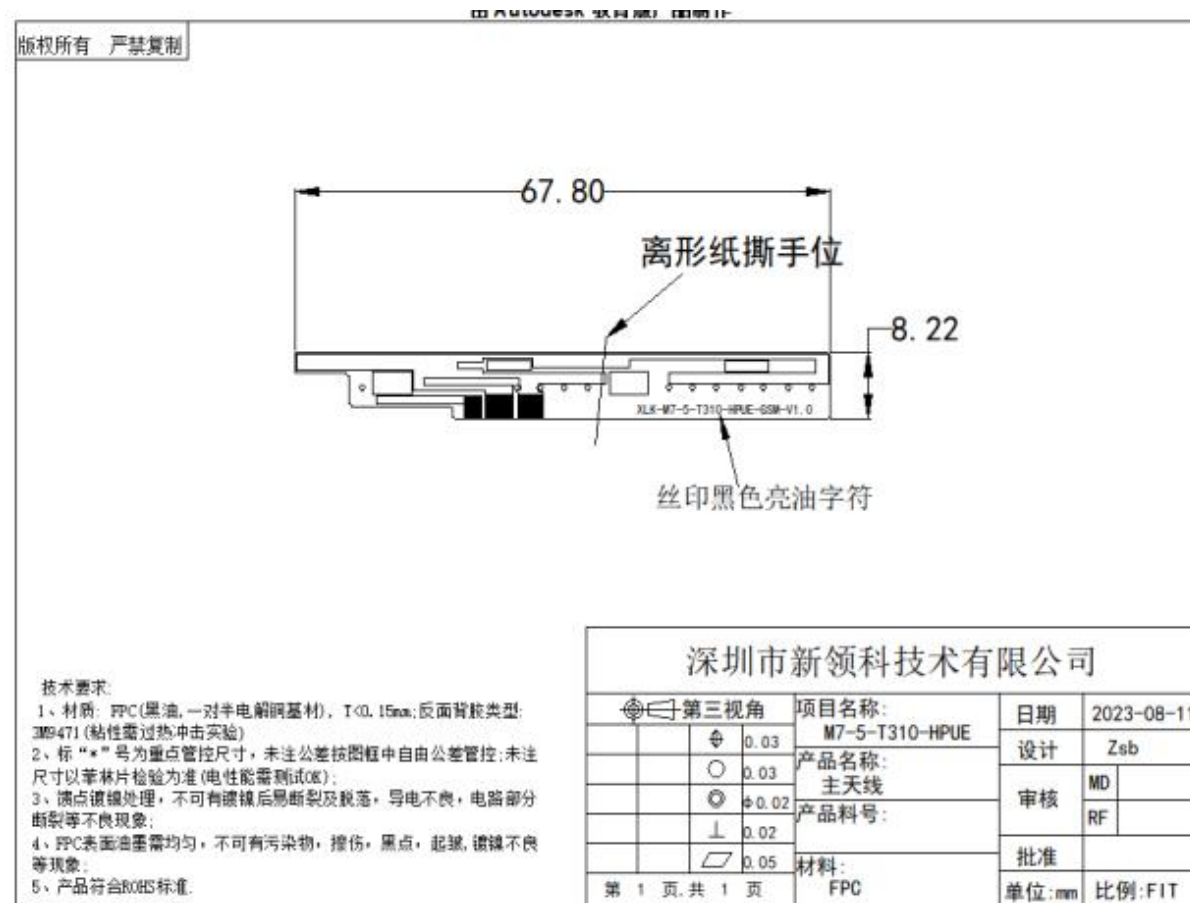
5GWIFI	802.11a (54M)		
channel	36	149	165
TRP	10.6	8.3	6.1
TIS			-64.2



Antenna specifications



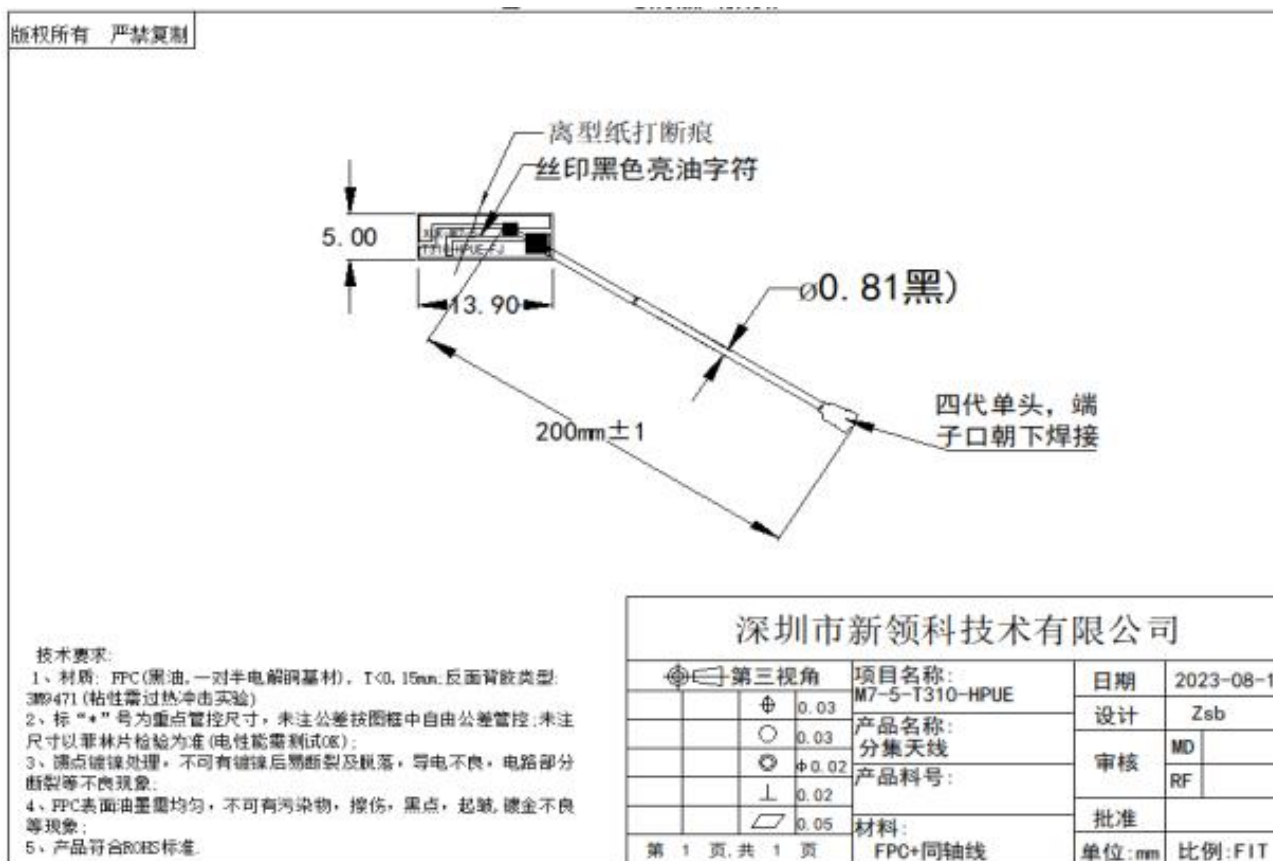
main antenna



Antenna specifications



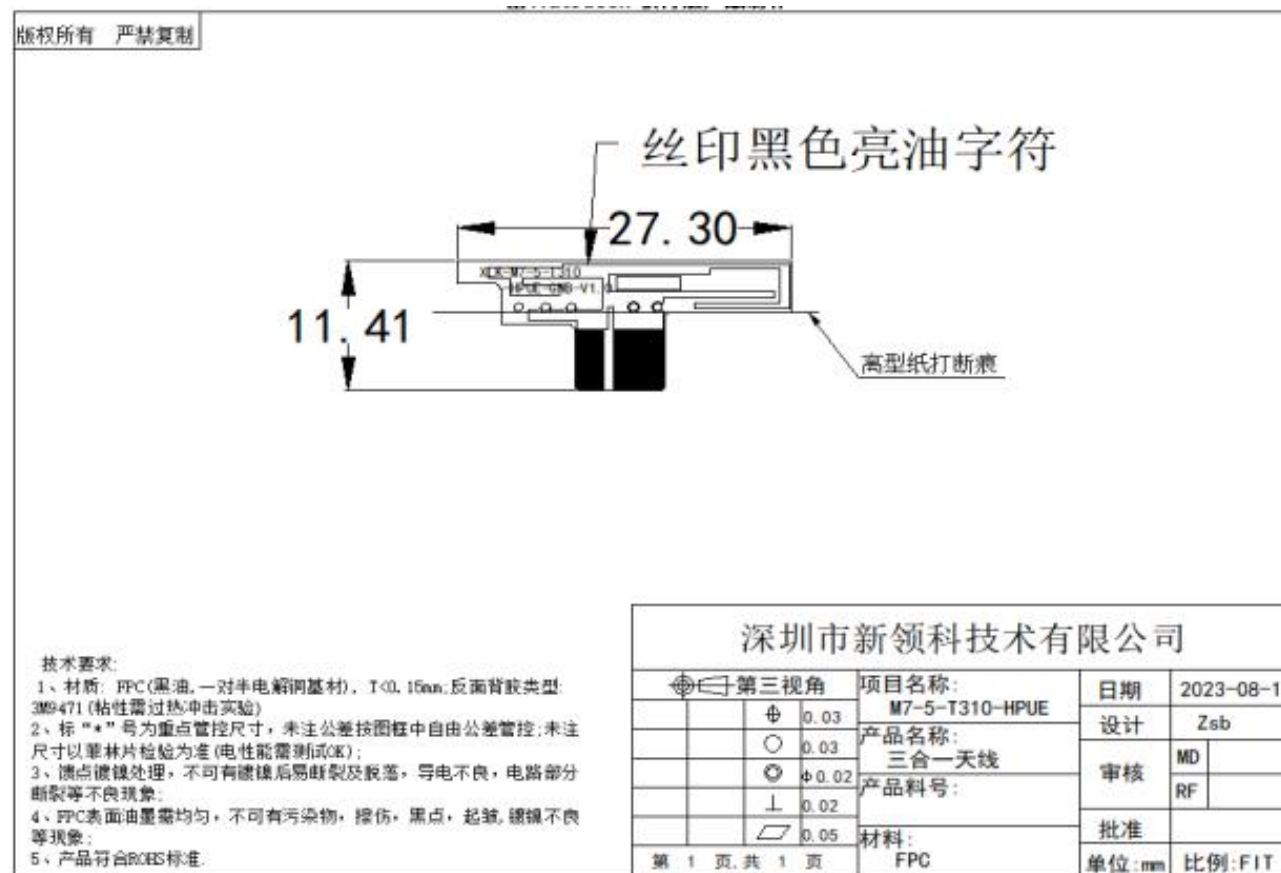
diversity antenna



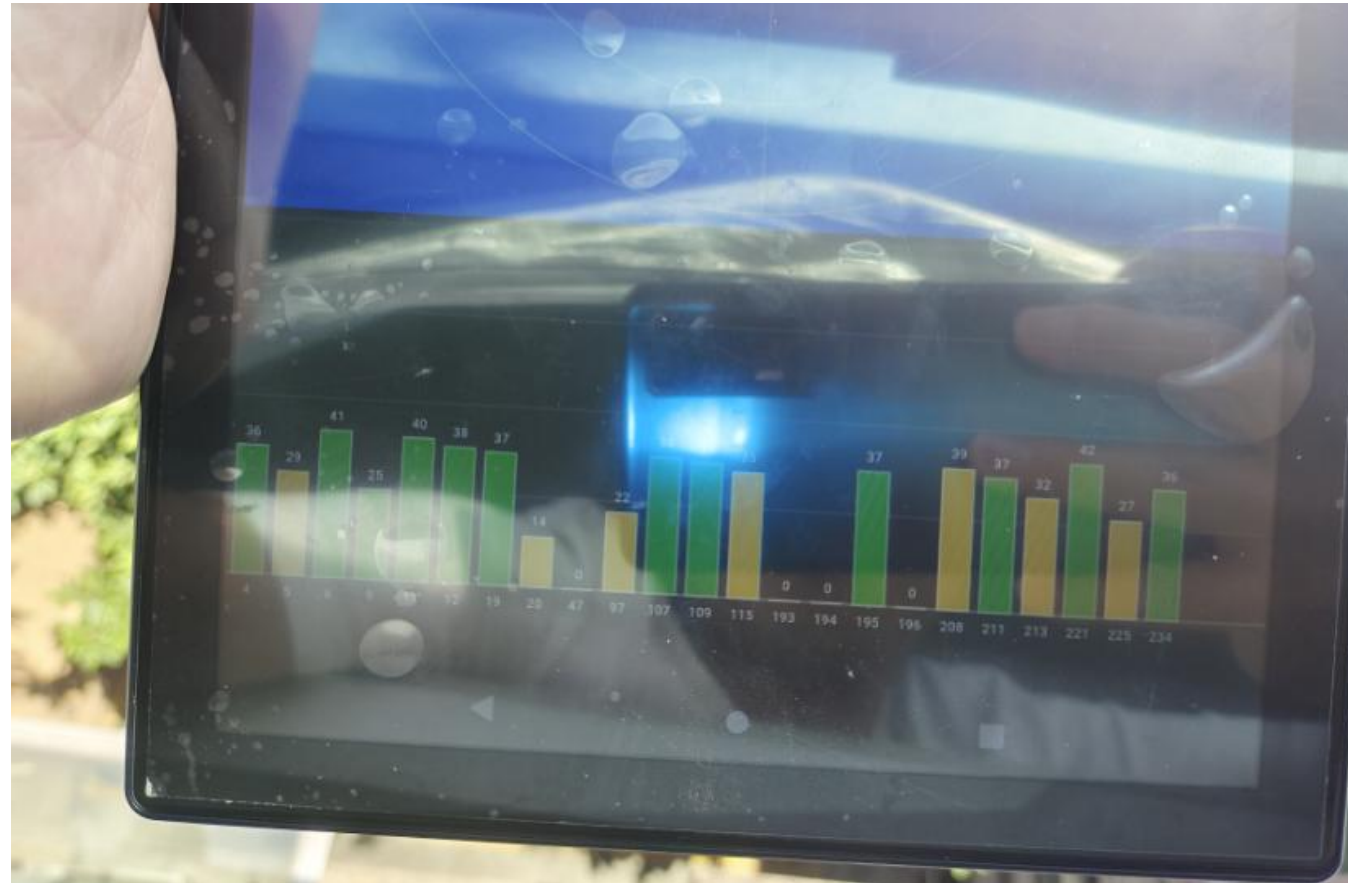
Antenna specifications



Three-in-one antenna

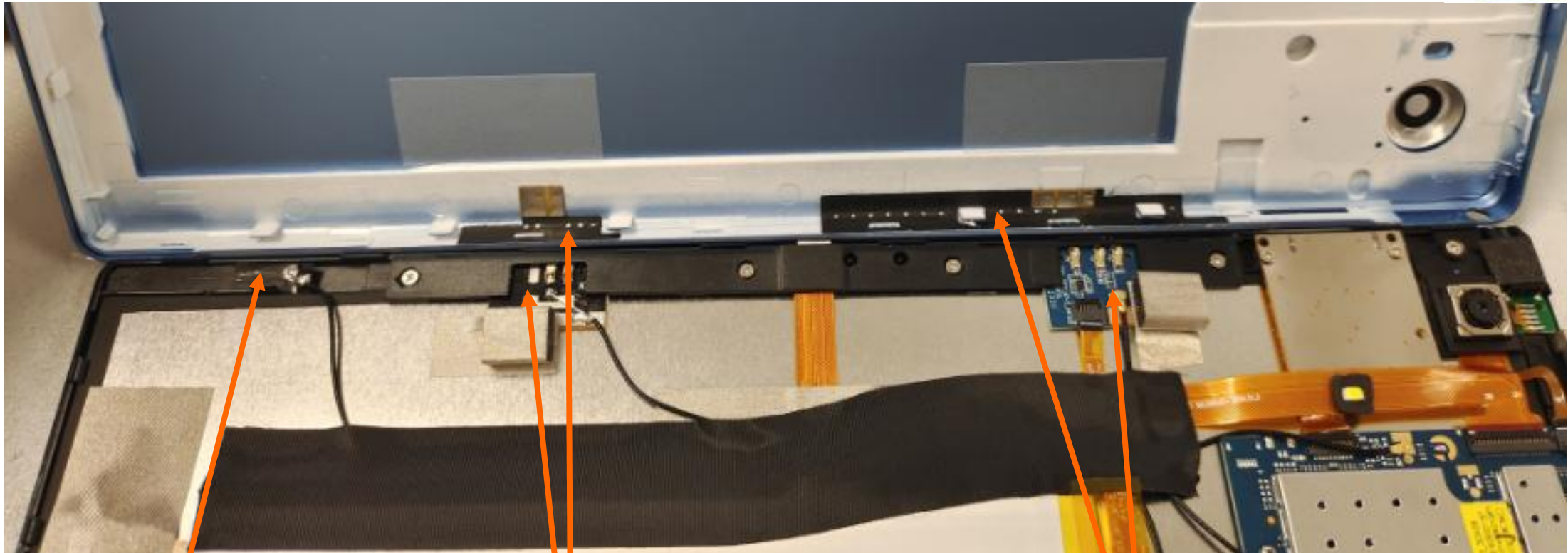


7.GPS / BT / measured data



GPS in our company on the fifth floor of the roof search more than 402-3, positioning time 1 minute. Bluetooth without block 12 meters listening to music smooth.

08. Antenna location diagram



Episode antenna
position

Three-in-one antenna and
small board position

Main antenna and
small board position

09.环境处理



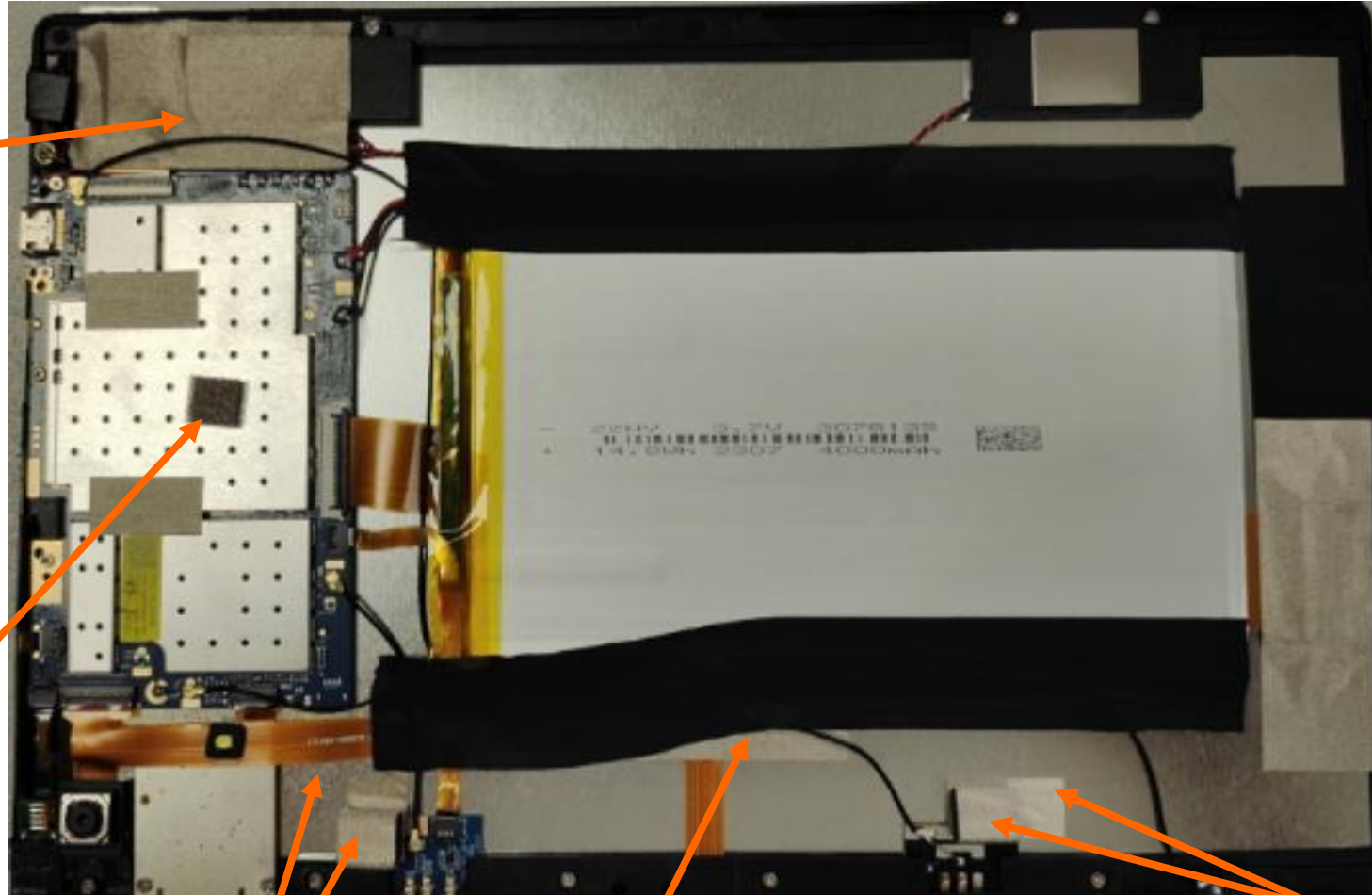
The conductive cloth is attached here to shield the WiFi interference, and the same axis is above the conductive cloth

The main board attaches conductive sponge and the bottom shell

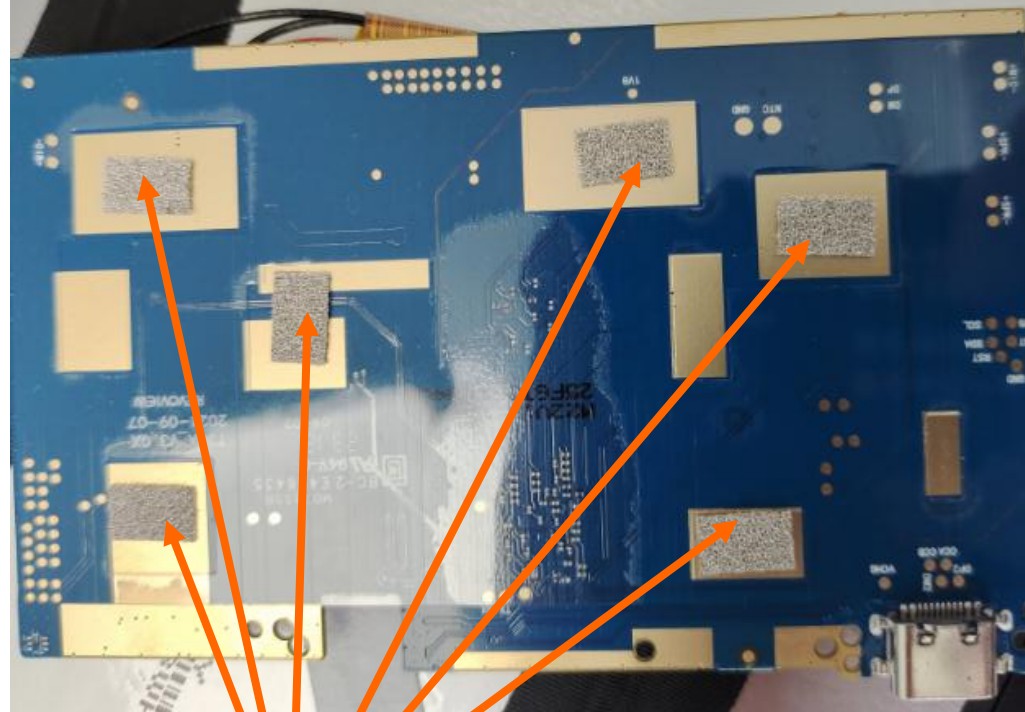
The main antenna board is first grounded with conductive cloth and the screen, and then grounded with conductive foam and the bottom shell

The camera wiring paste conductive cloth and the screen ground

three-in-one small board first paste conductive cloth and screen grounding, and then paste conductive foam and bottom shell grounding



09.环境处理



The motherboard
and screen are
grounded

THANKS!

Shenzhen Xinlingke Technology Co., Ltd.

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