

Antenna Test report

Model Name: A3D

Date: 10th Aug, 2023

Shenzhen ANWEI Technology Co., Ltd.

www.aw168.cn

Catalogue

CO NT E NT

- 01** Project Introduction and Photoes
- 02** Report Versions
- 03** Introduction of Company and Test Environment
- 004** Enviornment Test
- 05** Matching Circuit
- 06** Data of WIFI Antenna
- 07** Antenna Location
- 08** Conclusion

01.Project Introduction and Photoes-Project Introduction

RF Engineer	WUXI	Email	303810988@qq.com
		Mobile	13751118278
Antenna Overview			
Status of Sample machine	Whole machine	Project Name	A3D
Antenna Type	PIFA	Structure mode	FPC+3th Generation coaxial line
Main Antenna	4G:B1/2/3/4/5/7/8/12/17/20/28/66/38/40/41 3G:1/2/4/5/8 2G;2/3/5/8		
Other Antenna	Diversity Three-in-one antenna		

02.Report Versions

Version	Report Time	Commissioning Overview
A0	2023.10.18	Antenna Test Report
A1		
A2		
A3		
A4		
A5		
A6		
A7		
A8		
A9		
A10		

03.Introduction of Company and Test Environment-Test Environment



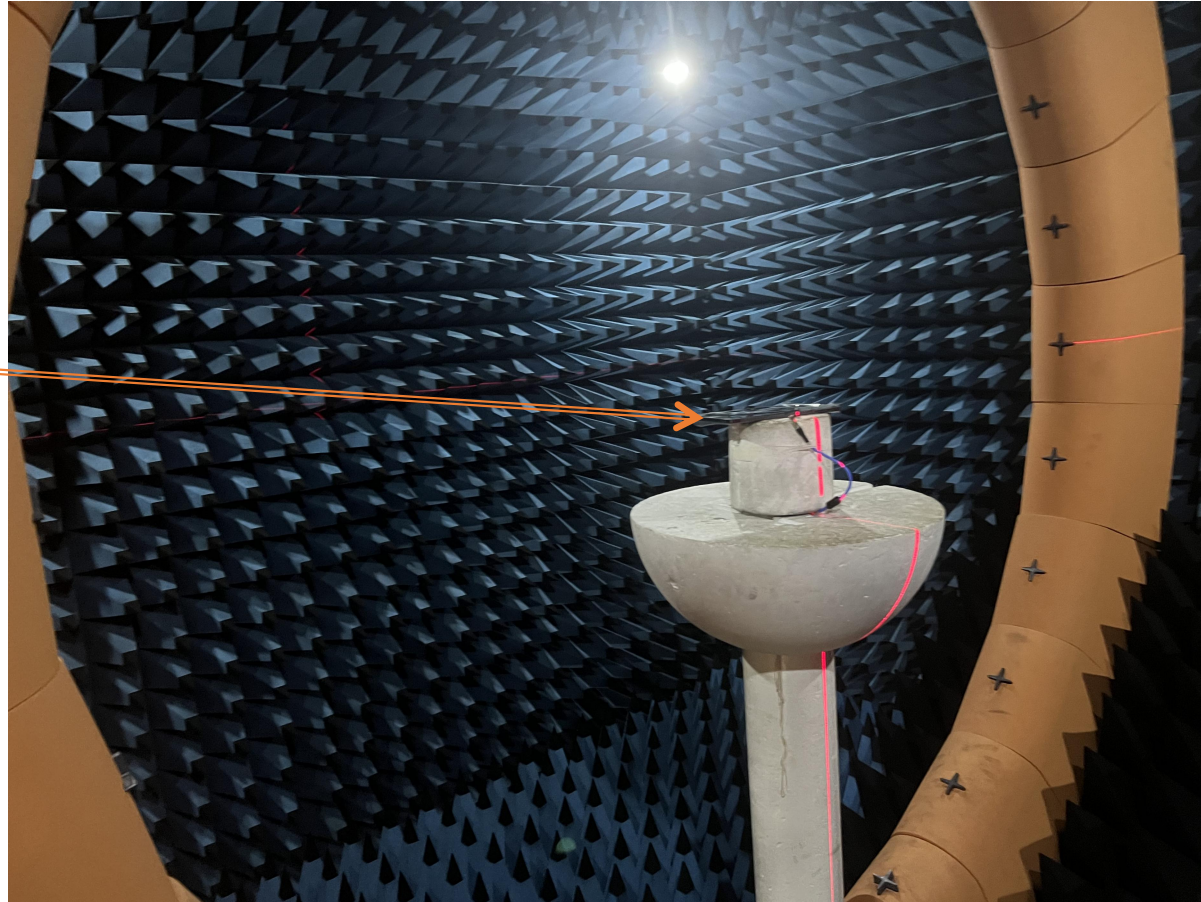
The company owns several OTA darkrooms whose frequency bands covers from 400mhz to 8.5ghz.

- ☞ 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.

04.Environment Test

Location of
Tested
Machine



05.Antenna correlation data

Main antenna active data

	Channel	TRP (dBm)	TIS (dBm)			Channel	TRP (dBm)	TIS (dBm)	
GSM 850	128	24.33			W 1	LOW	17.85		
	190	24.79				medium	17.3		
	251	24.52	-100.2			high	17.13	-103.5	
GSM 900	1	24.63			W 2	LOW	17.84		
	62	23.05				medium	17.54		
	124	23.02	-99.5			high	16.24	-102.5	
DCS 1800	512	22.01			W 4	LOW	15.22		
	698	22.12				medium	15.8		
	885	23.1	-103.5			high	15.57	-102.6	
PCS 1900	512	25.34			W 5	LOW	15.76		
	661	25.15				medium	15.76		
	810	25.42	-102.6			high	14.66	-101.0	
					W 8	LOW	15.03		
						medium	14.87		
						high	14.05	-100.5	

06.Antenna correlation data

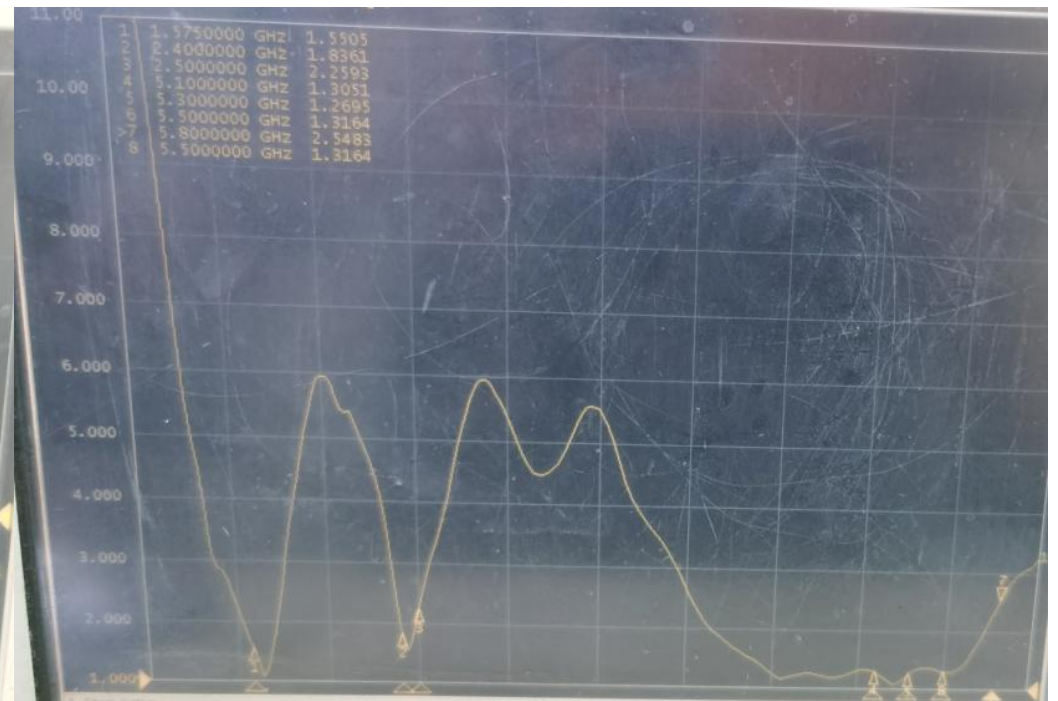
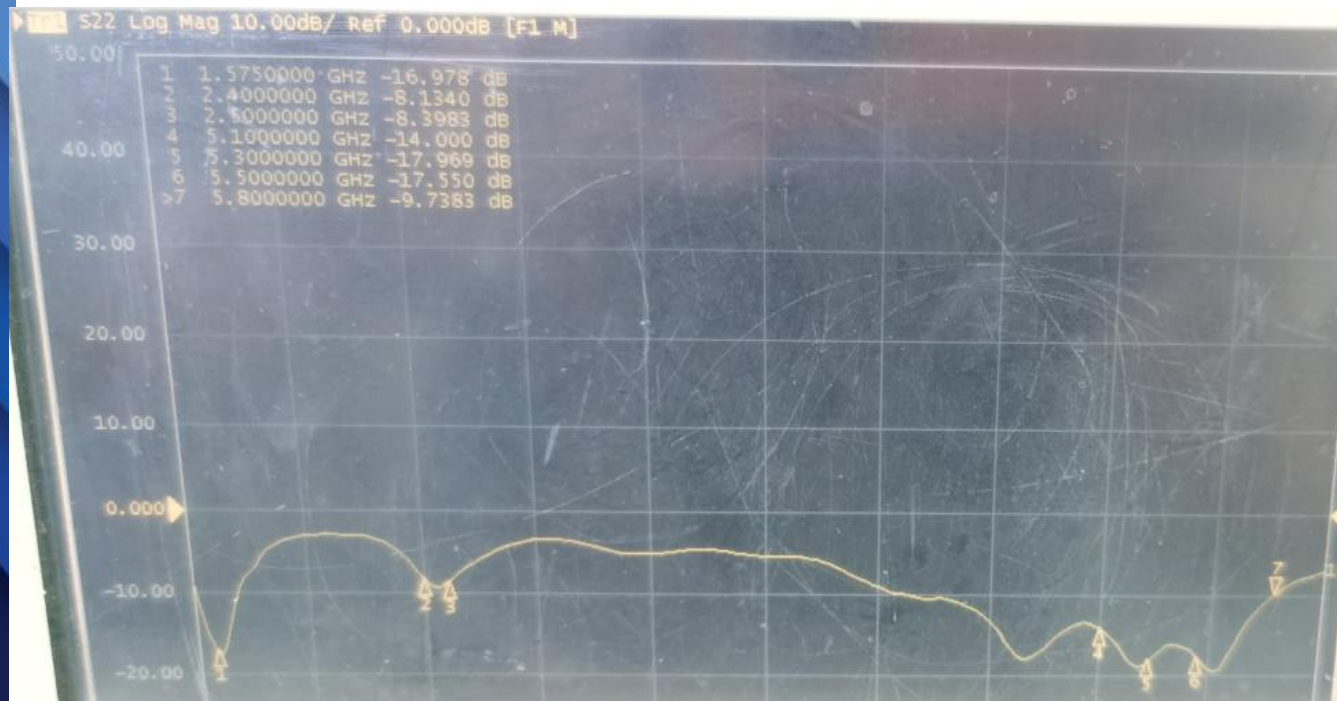
Main antenna active data

	Channel	TRP (dBm)	TIS (dBm)			Channel	TRP (dBm)	TIS (dBm)			Channel	TRP (dBm)	TIS (dBm)	
FDD B1	LOW	17.81			FDD B17	LOW	11.76		TDD B38	LOW	17.69			
	medium	16.95				medium	11.97			medium	16.51			
	high	16.8	-90.2			high	11.13	-86.4		high	16.54	-88.5		
FDD B2	LOW	19.75			FDD B20	LOW	15.4		TDD B40	LOW	15.14			
	medium	19.51				medium	15.53			medium	16.05			
	high	19.12	-90.3			high	15.23	-86.5		high	16.61	-87.2		
FDD B3	LOW	15.41			FDD B28A	LOW	11.82		TDD B41	LOW				
	medium	15.13				medium	12.31			medium	16.45	-89.1		
	high	16.64	-90.2			high	12.95	-86.1		high				
FDD B4	LOW	15.35			FDD B28B	LOW	12.78							
	medium	15.6				medium	13.06							
	high	15.15	-89.5			high	13.64	-86.2						
FDD B5	LOW	16.55			FDD B66	LOW	17.2							
	medium	15.94				medium	17.29							
	high	15.04	-90.2			high	17.83	-90.5						
FDD B7	LOW	16.1												
	medium	16.78												
	high	16.39	-90.5											
FDD B8	LOW	15.73												
	medium	14.9												
	high	14.44	-86.5											
FDD B12	LOW	10.67												
	medium	11.35												
	high	11.5	-86.1											

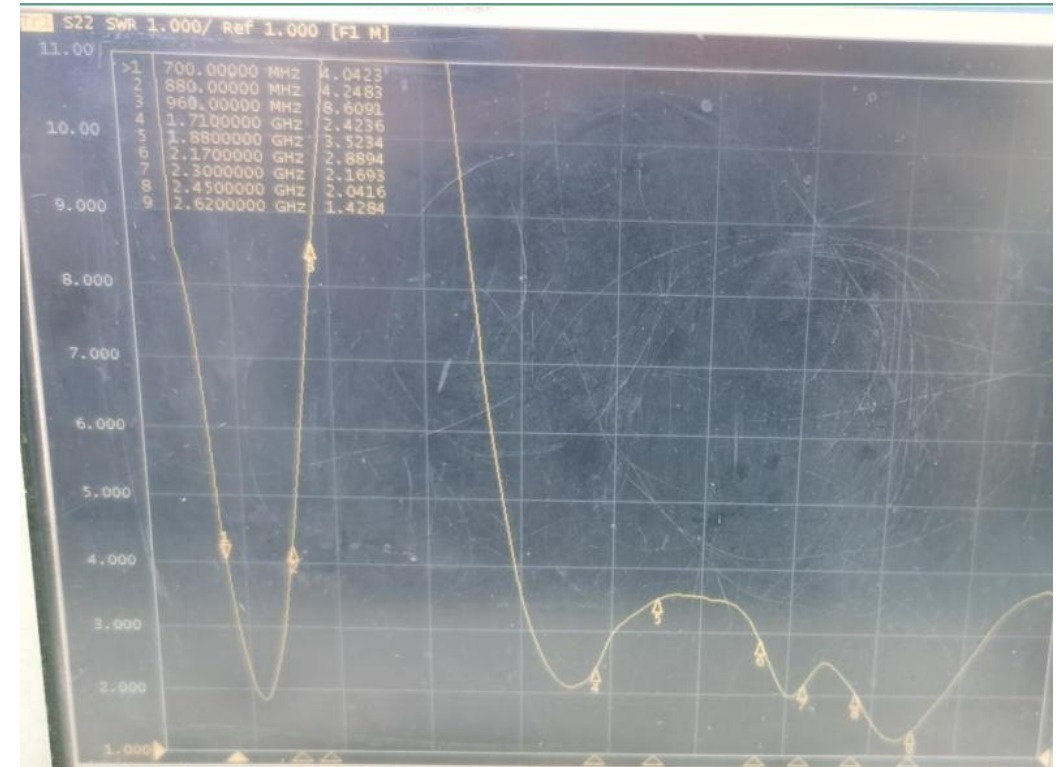
07. WIFI active data

BAND	2.4GWIFI			5GWIFI		
CHANNEL	low	medium	high	low	medium	high
TRP (dBm)	12.42	11.24	12.1	9.74	10.42	11.35
TIS (dBm)	-79.3	-78.5	-78.35	-68.78	-69.9	-70.1

08.GPS/WIFI/BT Antenna VSWR/S11



09. MAIN Antenna VSWR/S11



10. Antenna passive data

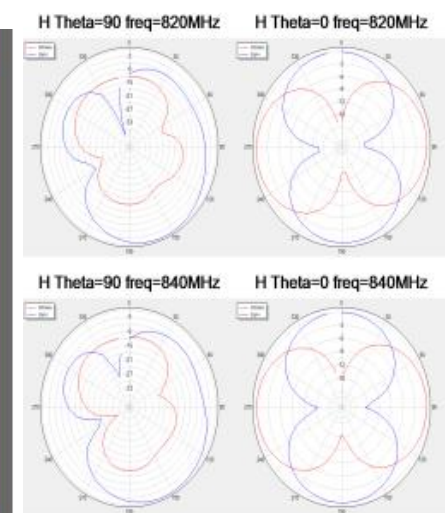
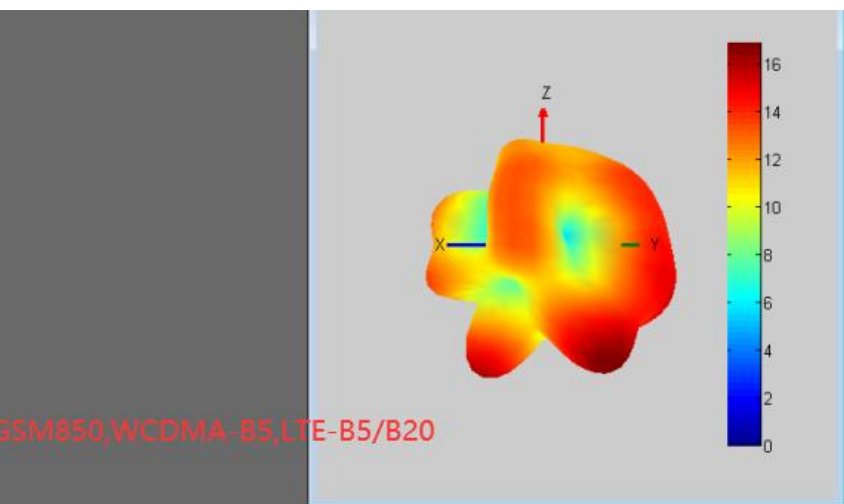
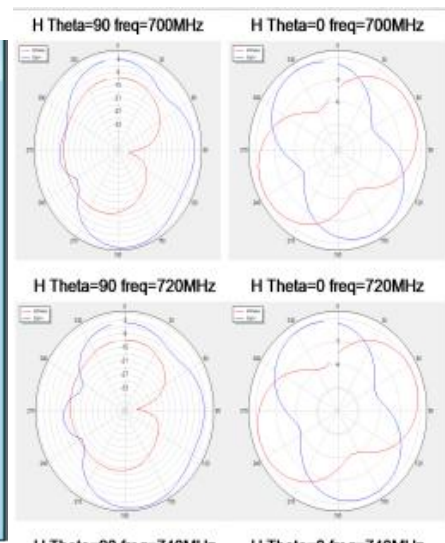
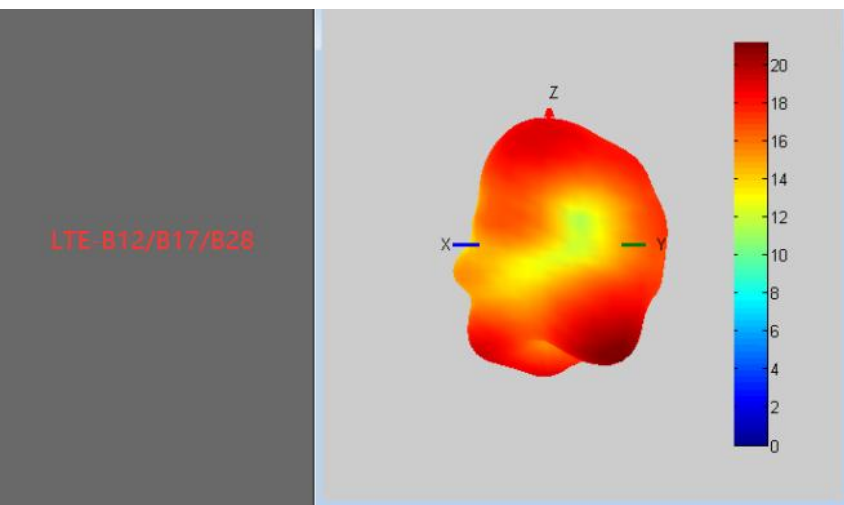
Gain&Efficiency		
frequency 频率(MHz)	gain 增益(dBi)	efficiency 效率(%)
700	-9.69	14.08
720	-10.31	15.82
740	-10.37	16.00
760	-9.23	18.89
780	-9.85	19.41
800	-8.8	22.72
820	-7.31	23.52
840	-6.74	23.99
860	-6.94	22.62
880	-8.78	20.99
900	-9.22	19.57
920	-8.97	19.49
940	-8.62	18.26
960	-8.84	18.57

1700	0.18	22.98
1720	0.3	23.53
1740	0.45	22.96
1760	0.53	20.36
1780	0.4	21.46
1800	0.41	27.98
1820	0.85	25.38
1840	0.46	26.14
1860	0.36	28.93
1880	0.43	29.29
1900	0.45	31.62
1920	0.37	31.13
1940	0.39	32.18
1960	0.32	33.68
1980	0.21	33.70
2000	0.32	28.83
2020	0.1	26.47
2040	0.19	27.54

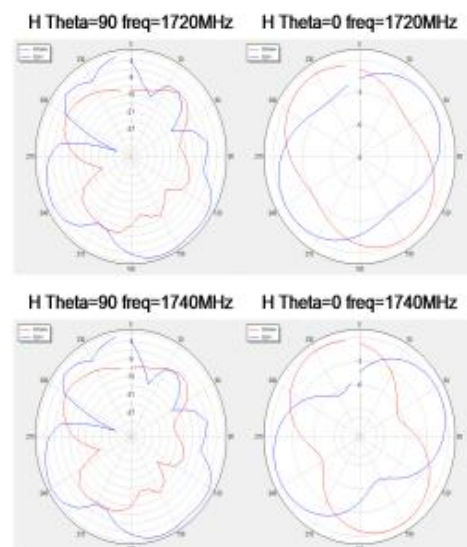
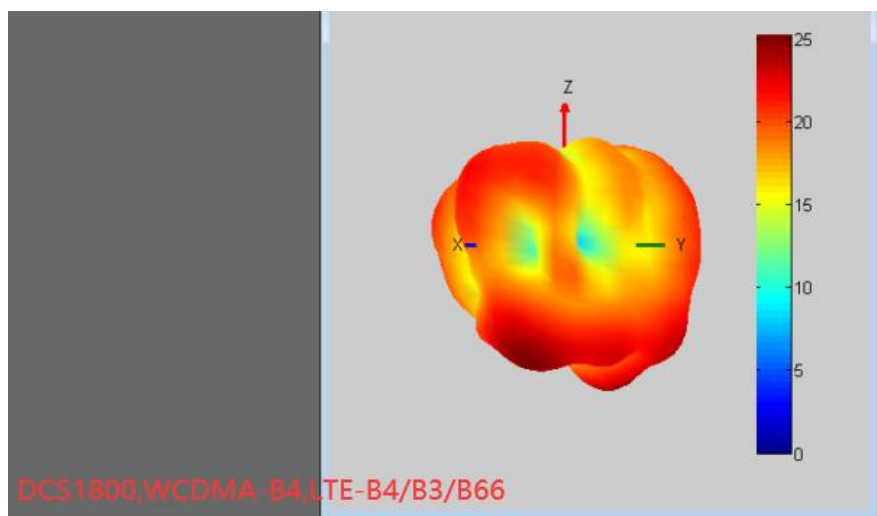
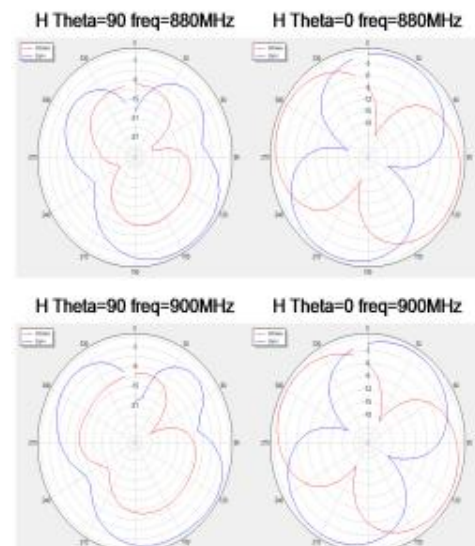
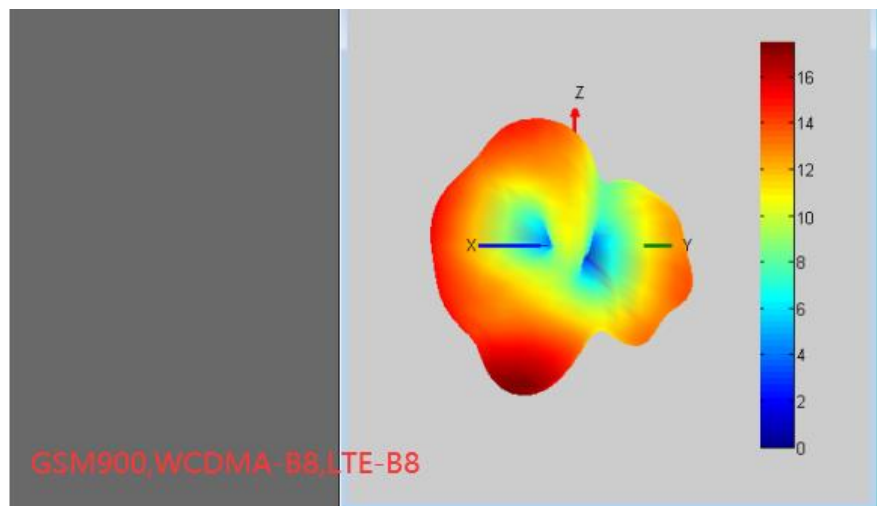
2060	-0.87	26.62
2080	-0.78	29.54
2100	-0.46	31.76
2120	-0.57	32.77
2140	-0.76	33.99
2160	0.28	30.05
2180	0.97	35.49
2200	2.04	43.94
2220	3.25	44.27
2240	2.74	40.77
2260	2.05	37.92
2280	1.72	35.16
2300	0.24	28.65
2320	0.39	27.77
2340	0.74	26.93
2360	0.67	27.34
2380	0.99	28.41
2400	0.99	31.89

2420	0.72	28.31
2440	0.84	30.32
2460	0.76	30.70
2480	0.86	36.26
2500	1.54	33.27
2520	2.35	34.53
2540	2.36	35.18
2560	2.45	37.17
2580	2.18	36.74
2600	2.05	35.60
2620	2.42	34.24
2640	2.55	33.01
2660	2.48	32.89
2680	2.77	31.75
2700	1.87	30.78
Horizontal		
Frequency 频率(MHz)		

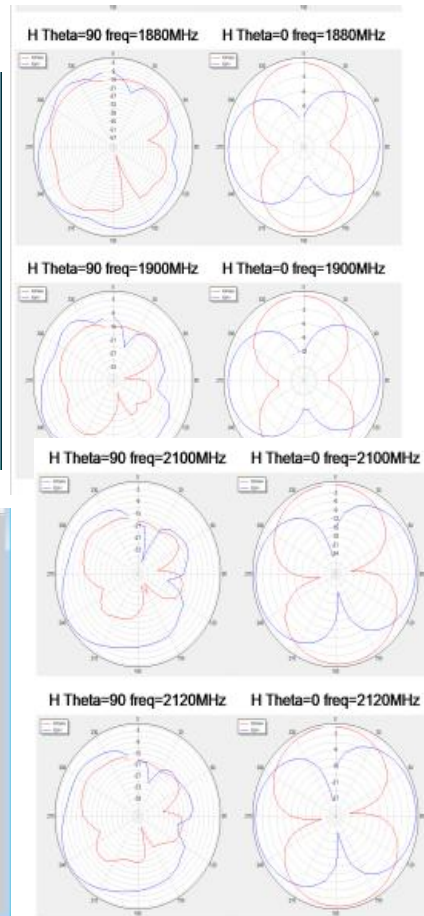
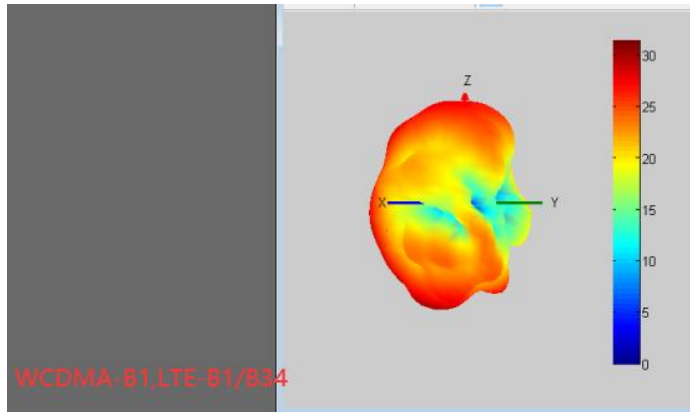
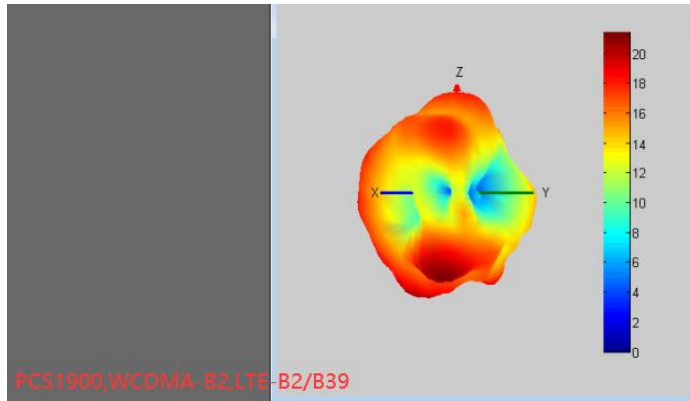
11. Antenna correlation data



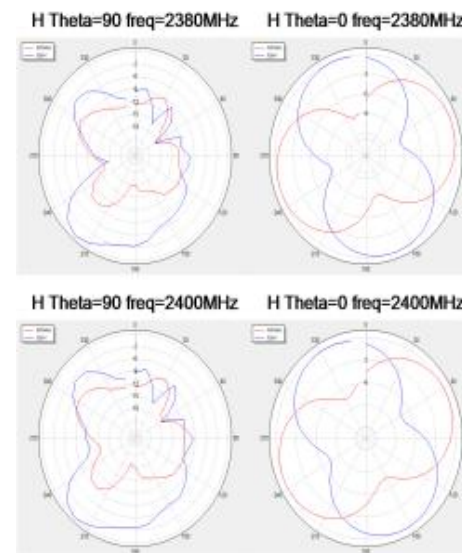
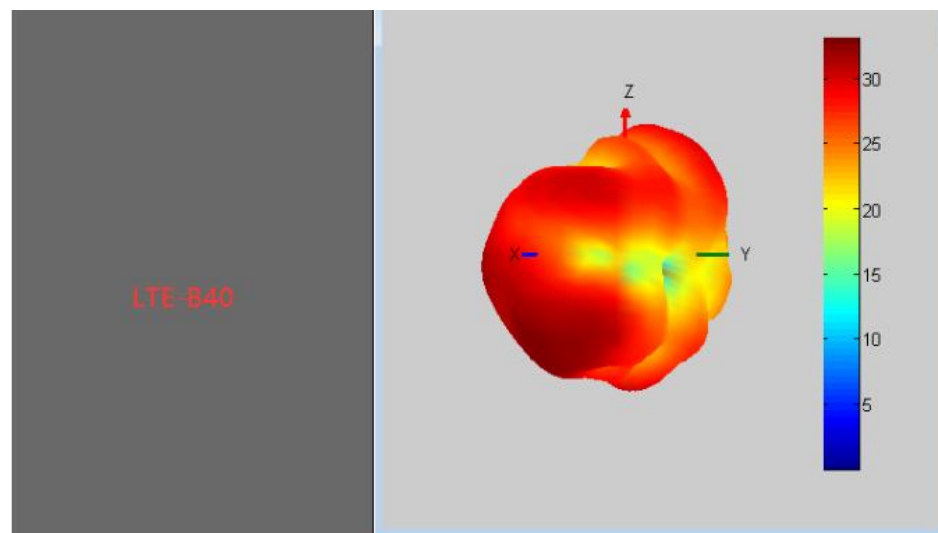
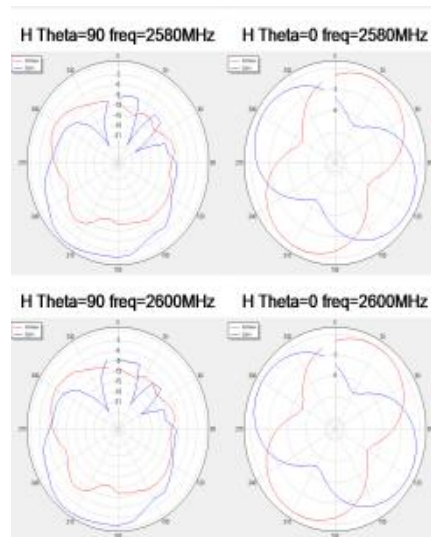
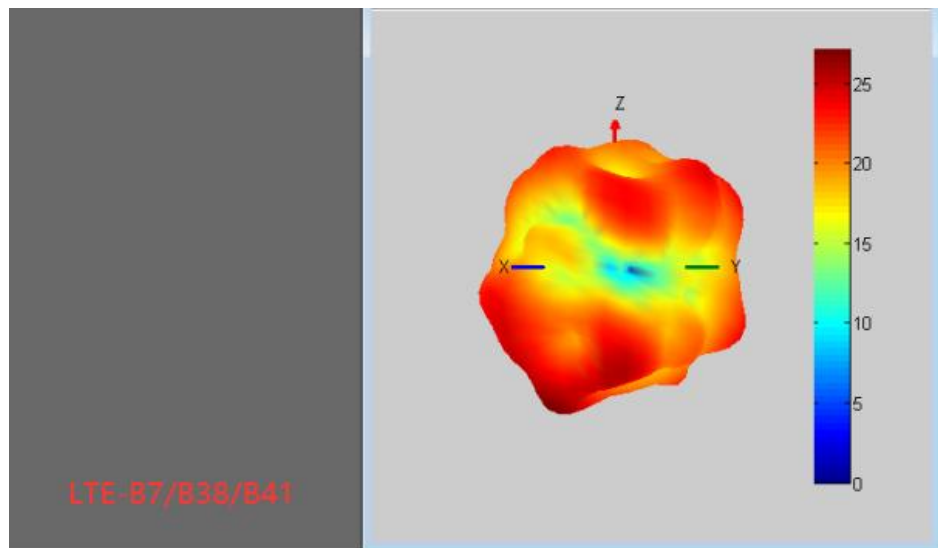
12. Antenna correlation data



13. Antenna correlation data



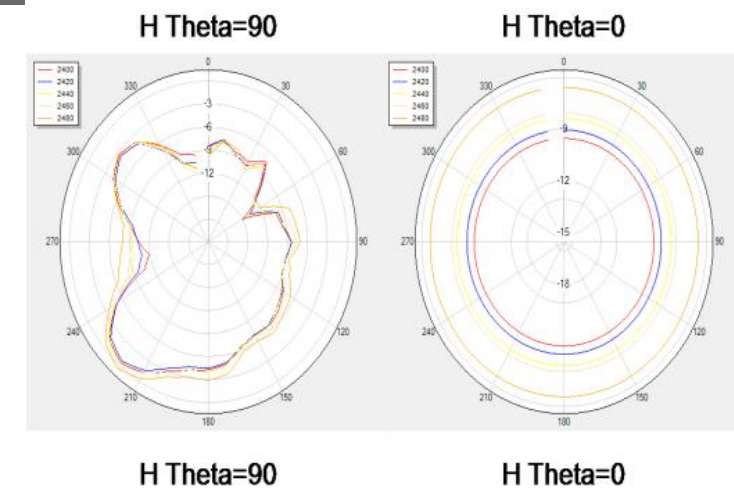
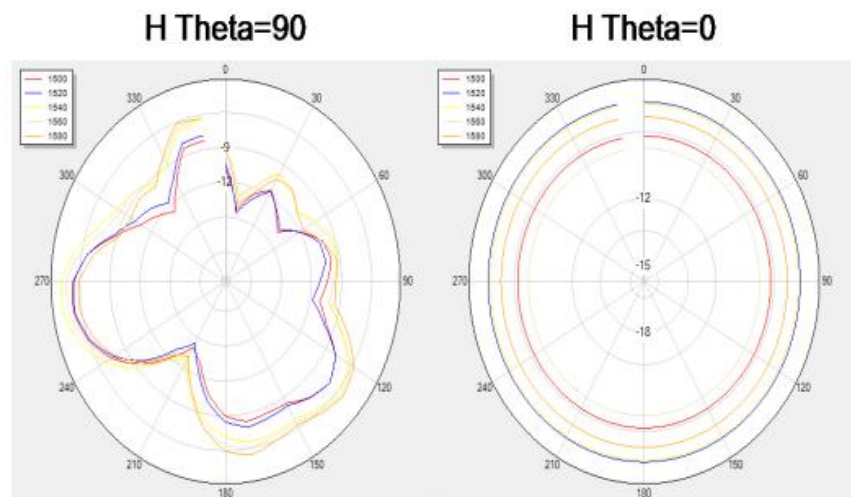
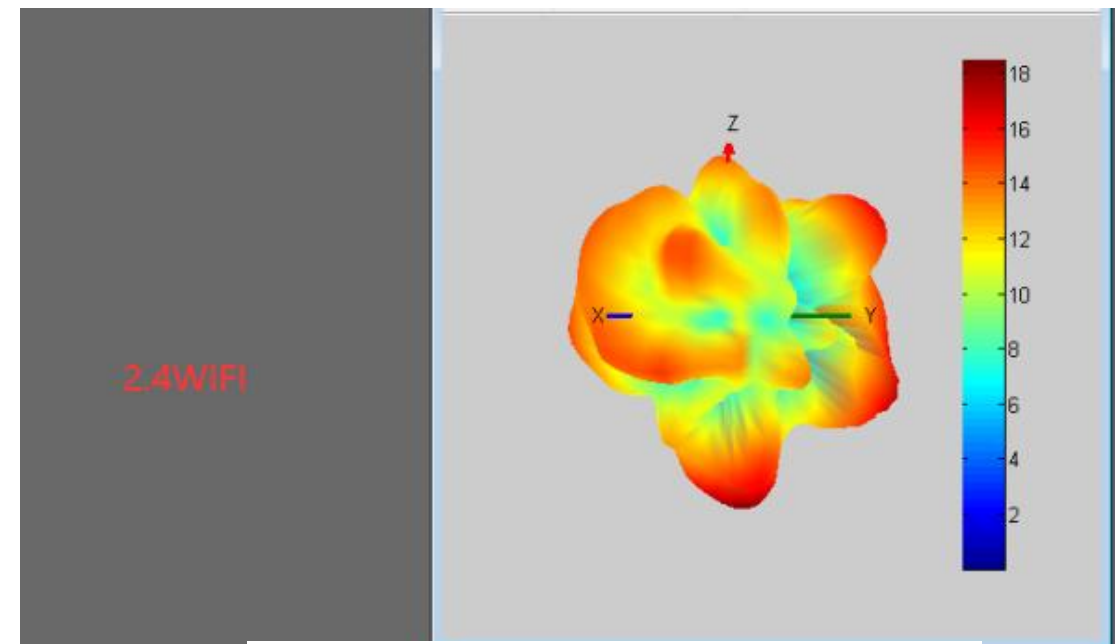
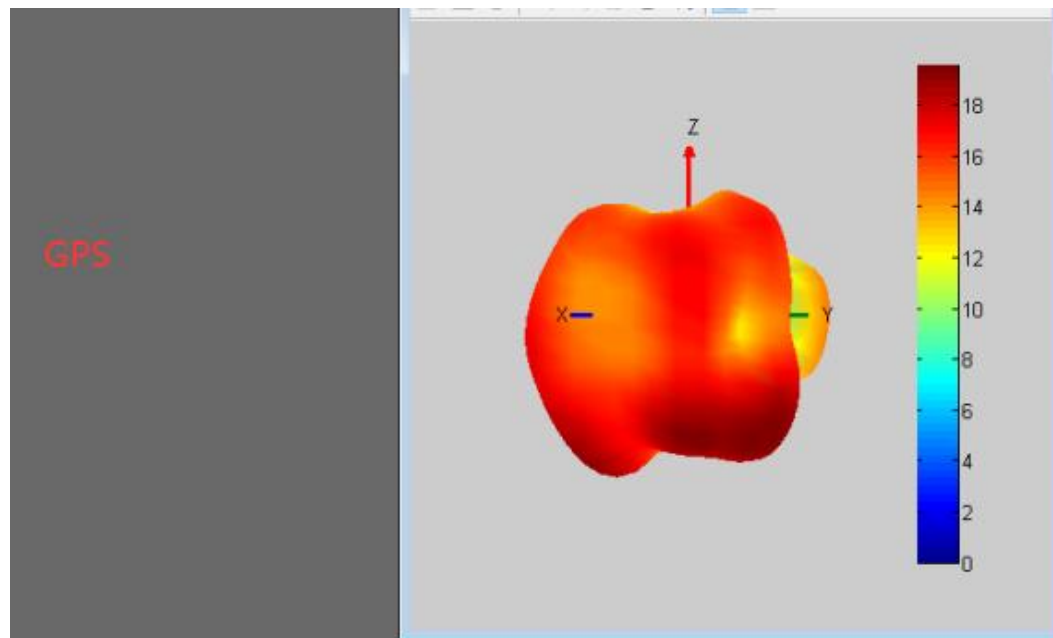
14. Antenna correlation data



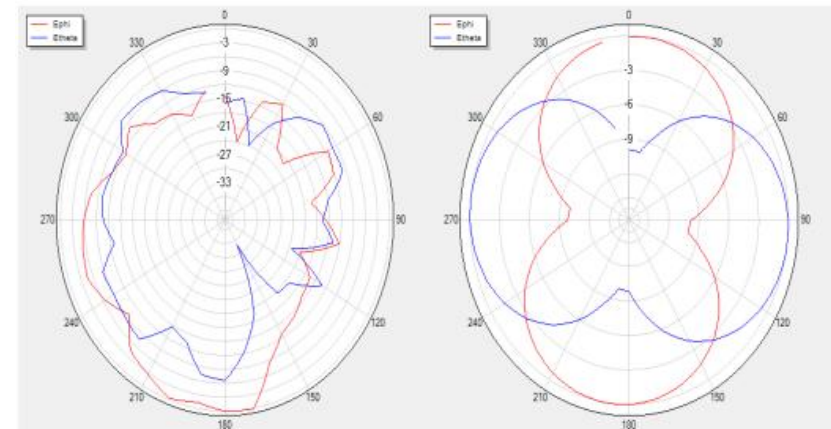
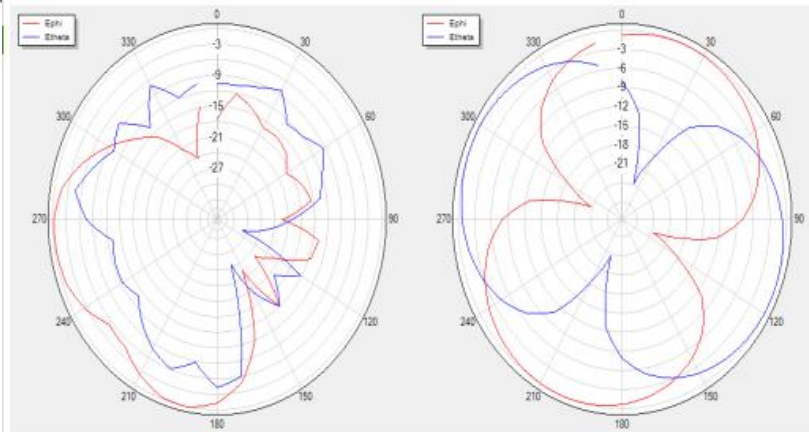
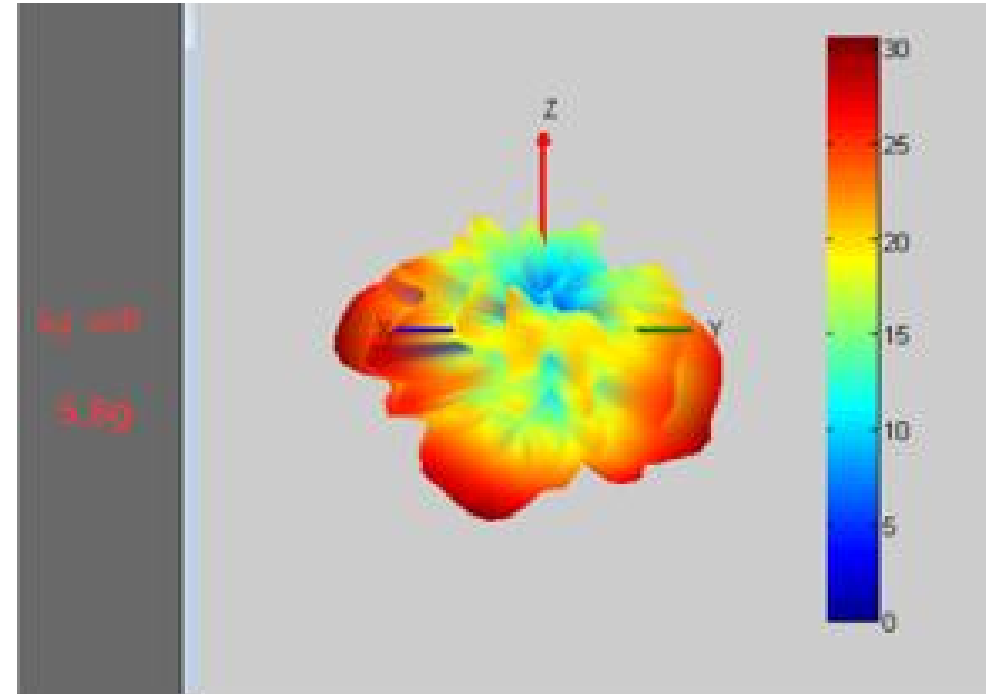
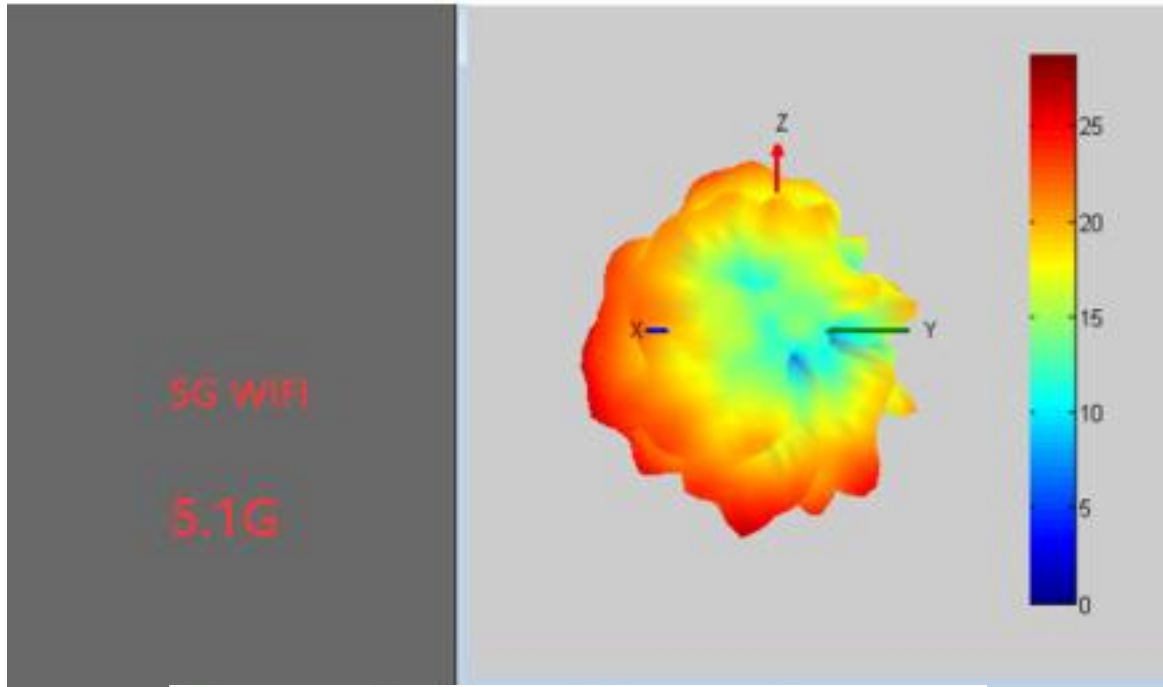
15. Antenna passive data

Gain&Efficiency					
frequency 频率(MHz)	gain 增益(dBi)	efficiency 效率(%)			
1570	0.7	34.13	5100	0.69	25.24
1575	0.81	35.13	5200	0.71	24.22
1580	0.94	33.12	5300	0.84	24.24
2400	1.95	28.24	5400	0.77	24.28
2410	2.1	29.43	5500	0.91	26.59
2420	2.31	27.98	5600	1.1	27.39
2430	2.89	28.69	5700	1.08	27.89
2440	2.28	28.96	5800	1.17	26.06
2450	2.21	27.98	Horizontal		
2460	2.35	29.86	Frequency		
2470	2.51	30.57	频率(MHz)		
2480	2.46	31.80			
2490	2.13	29.34			
2500	2.2	28.30			

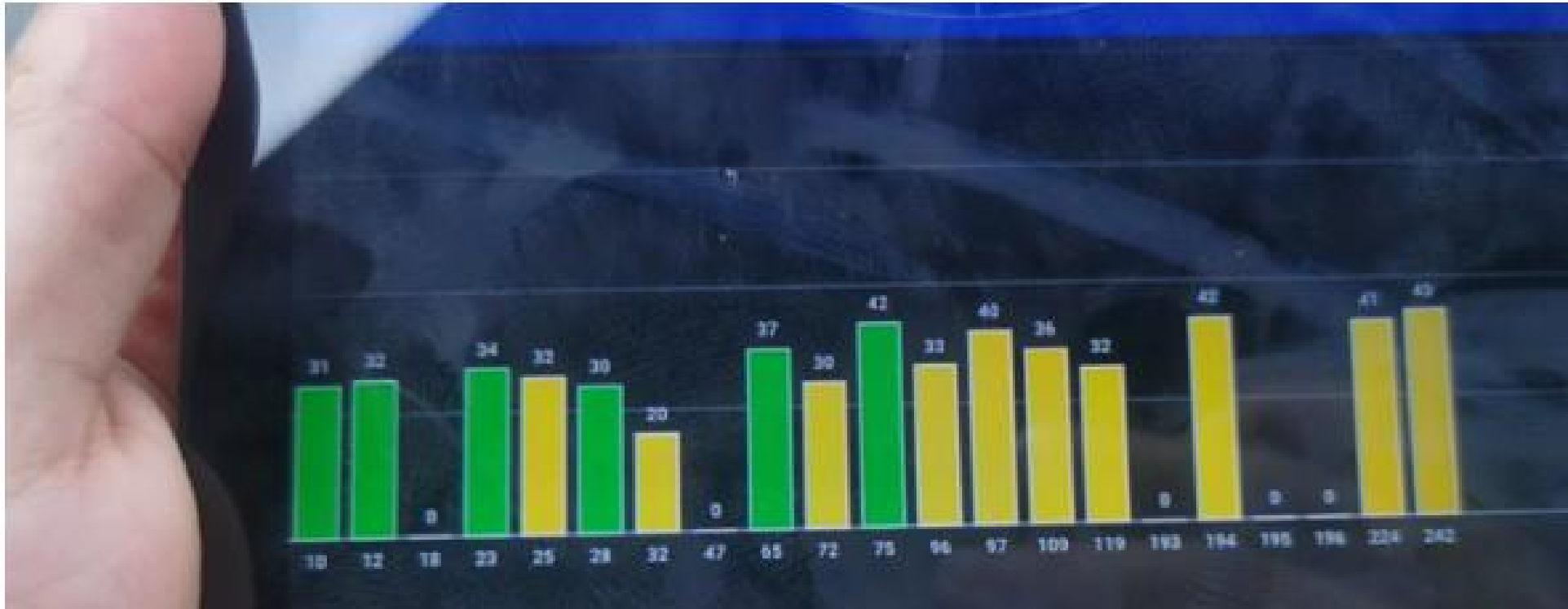
16. Antenna correlation data



17. Antenna correlation data



18.GPS/BT/ measured data



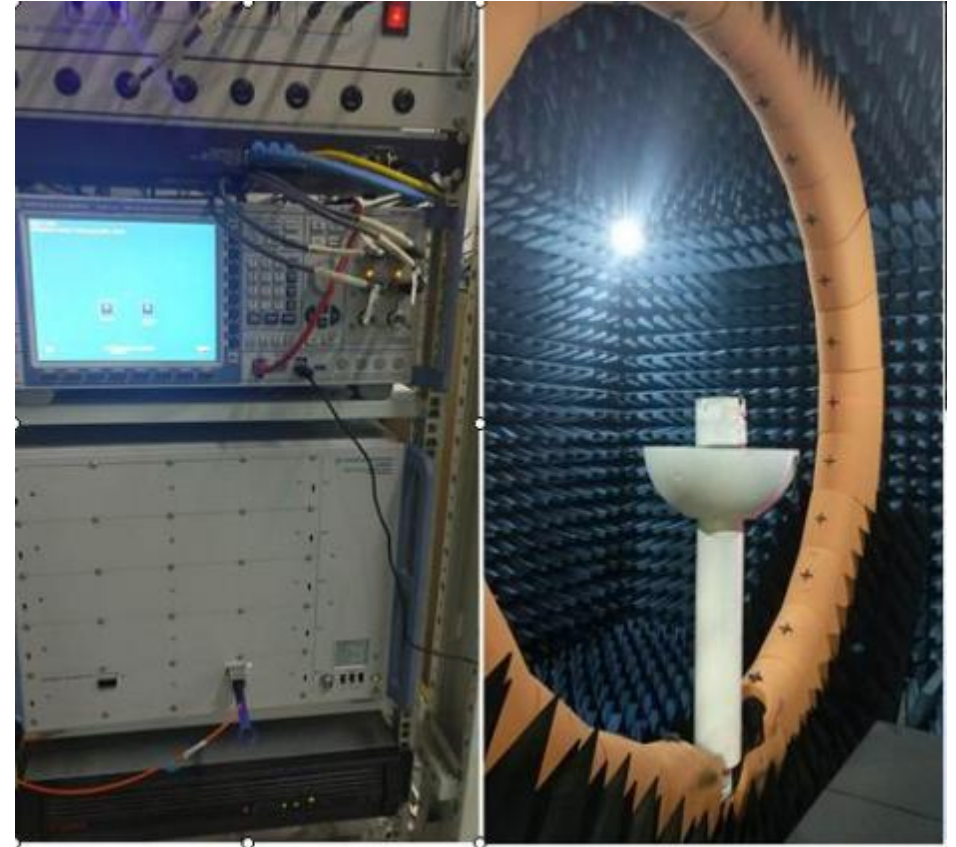
GPS search on the roof of the fifth floor of our company, positioning time 1 minute. Bluetooth no block 12 meters listening to music smooth

19. Antenna location diagram



20.Conclusion

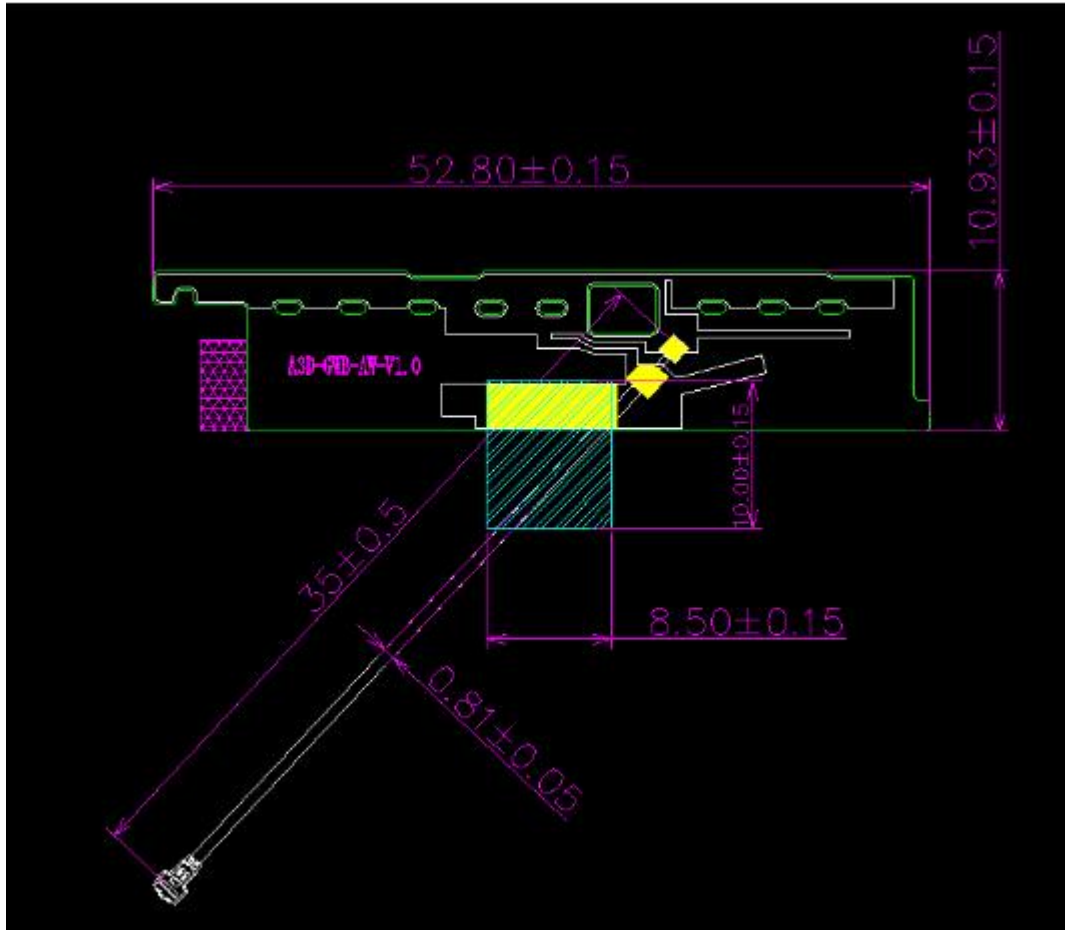
The software and hardware of batch production should be the same as the sample machine.



21.Main antenna size

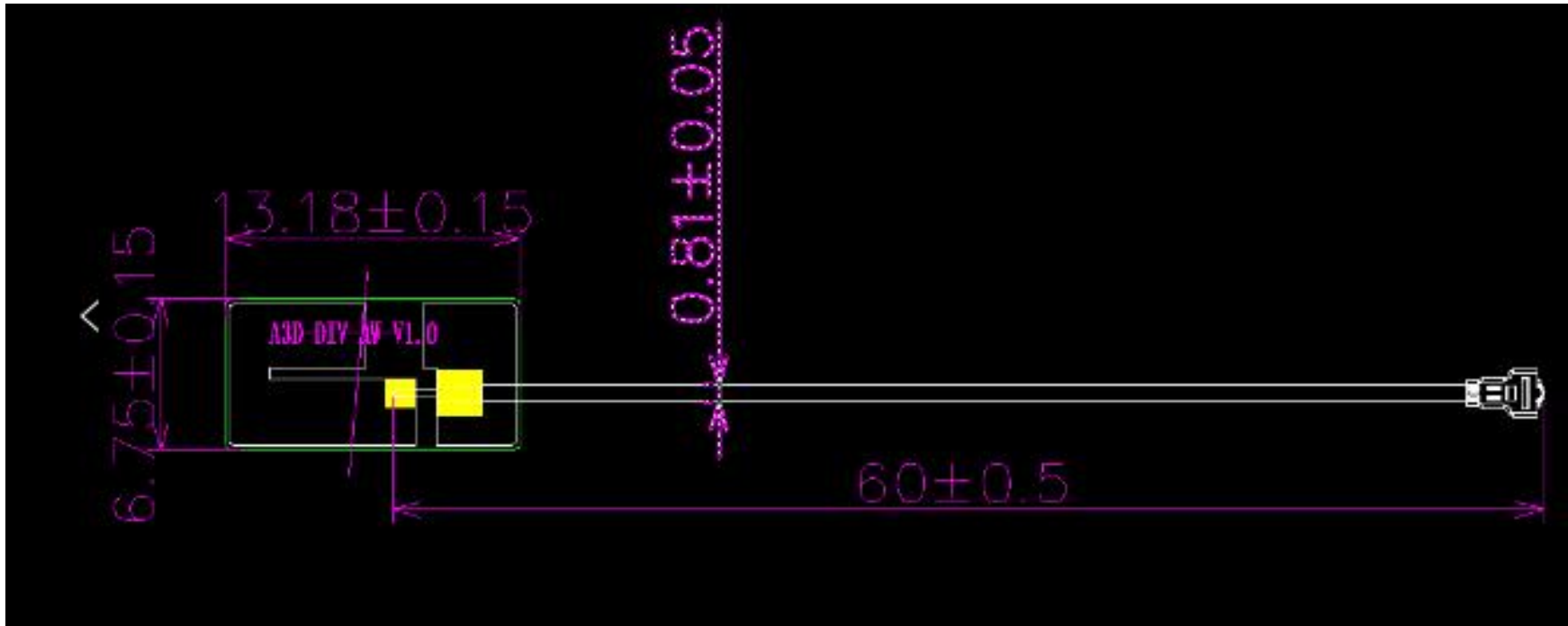


22.Three in one antenna size

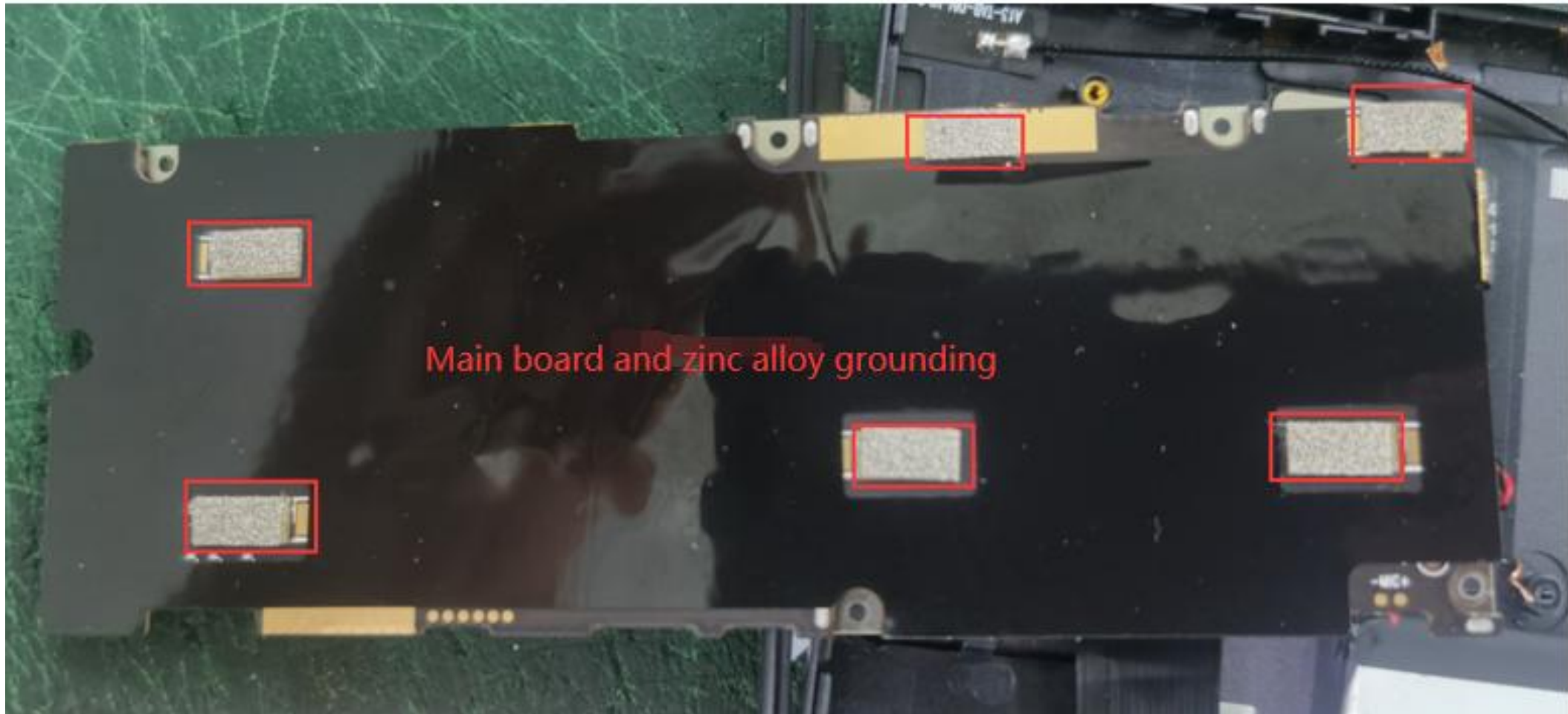


www.aw168.cn

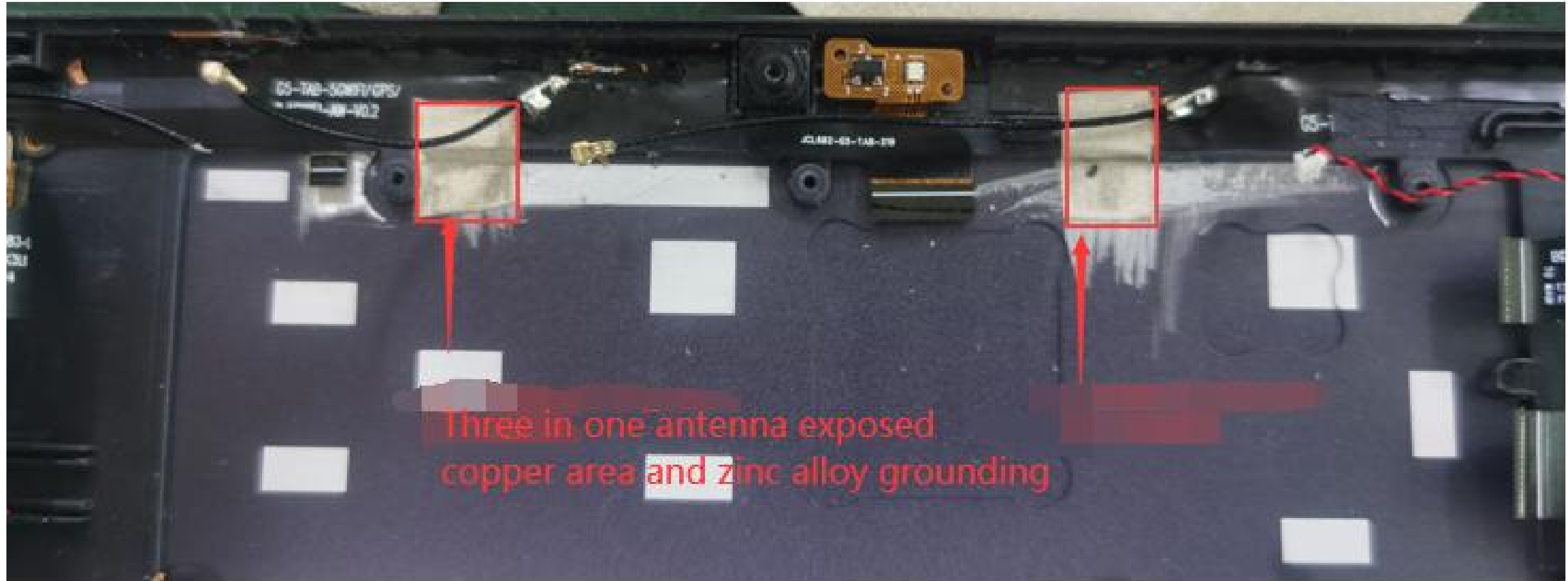
23.Diversity antenna size



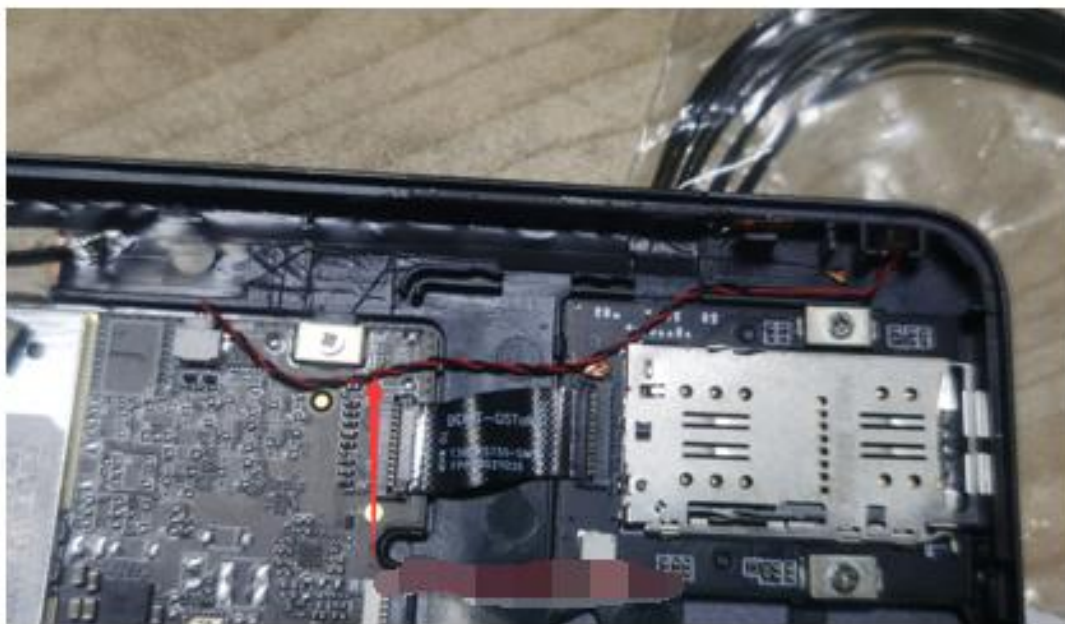
24. Antenna location diagram



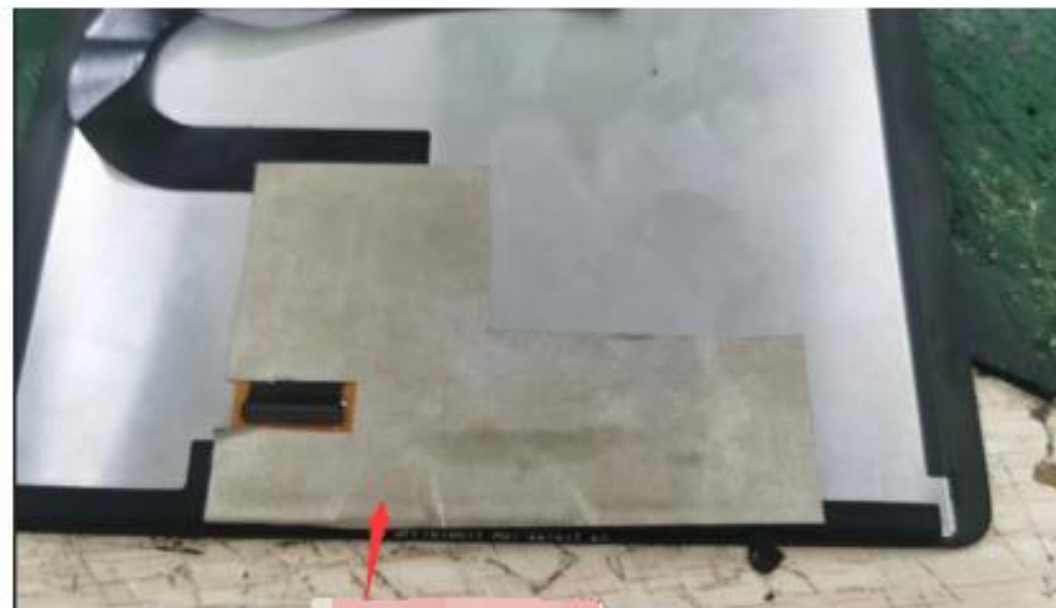
25. Antenna location diagram



26. Antenna location diagram



Arrange the microphone cable according to the picture and keep it away from the antenna



Shielding of screen cables with conductive cloth



THANKS!

Shenzhen anweiTechnology Co., Ltd.

www.aw168.cn