

Project Antenn天线P2202S项目天线测试报告

Antenna P2202S Project Antenna Test Reporta Test Report

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报告版次NO.：

Antenna P2202S Project Antenna Test Report

ANT Manufacturers: ANWEI commnuication Equipment Co.,Ltd

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项目调试简介 Introduction to project commissioning

项目调试简介 Introduction to project commissioning



板型	整机mobile phone						
天线概况 Antenna overview	主天线 Main antenna	频段band		天线状态 Antenna status	天线形式 Antenna form	设计区域 Design area	匹配改动 Match Changes
		2G	GSM2/3/5/8	FPC	PIFA	底壳	无no
		3G	WCDMA-B1/2/4/5/8				
		4G	LTE-B1/2/3/4/5/7/8/12/17/18/19/20/25/26/28AB/66/38/40/41				
	BT/WIFI	2.4G/5GHZ	FPC				
	GPS	1575.42MHz					
	分集LTE	同主集		FPC	PIFA	底壳	无no
样机状态 sample status	试产机 Trial production sample		环境处理 Environmental treatment				

报告版本提要 Report Version Summary

版本	日期	内容概况
V1	2023-10-30	FPC样品天线测试报告, 主板型号: T40_9230TMB_D4XUF_V1.0
V2	2023-11-04	新软件FPC样品天线测试报告, 主板型号: T40_9230TMB_D4XUF_V1.0
V3	2023-11-23	试产机天线测试报告, 主板型号: T40_9230TMB_D4XUF_V1.0
V4	2023-11-29	试产机天线测试中英文报告, 主板型号: T40_9230TMB_D4XUF_V1.0

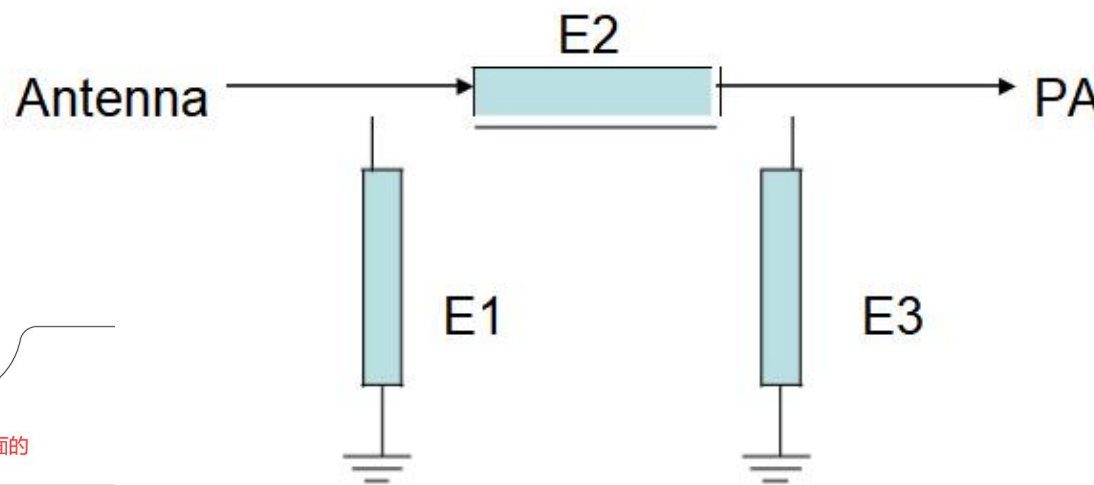
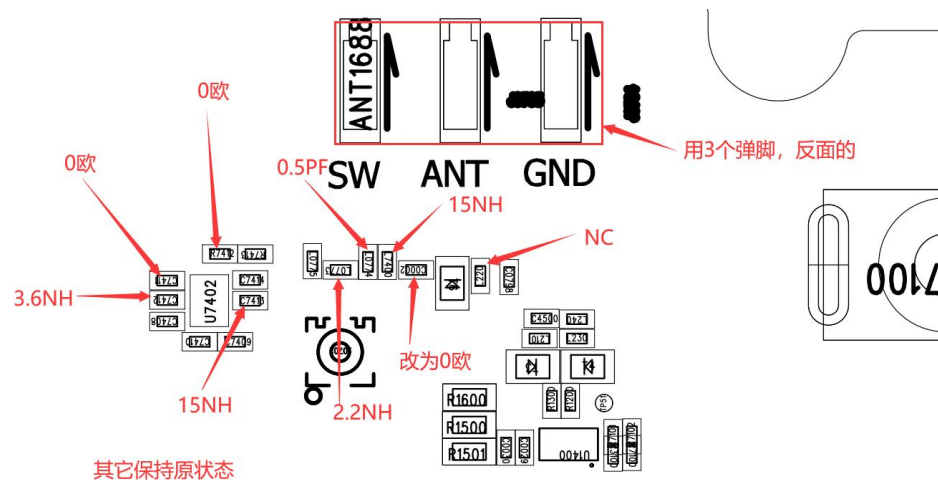
主天线匹配电路 Main antenna matching circuit

天线开关匹配:

- RF1: C7411 0欧电阻
- RF2: C7412 3.6NH电感
- RF3: C7414 NC
- RF4: C7413 15NH电感
- R7412: 0欧电阻

主路匹配:

- L0773: 2.2NH电感,
- L0774: 0.5PF
- L7400: 15NH电感
- C0002: 0欧电阻
- L220/T6: NC

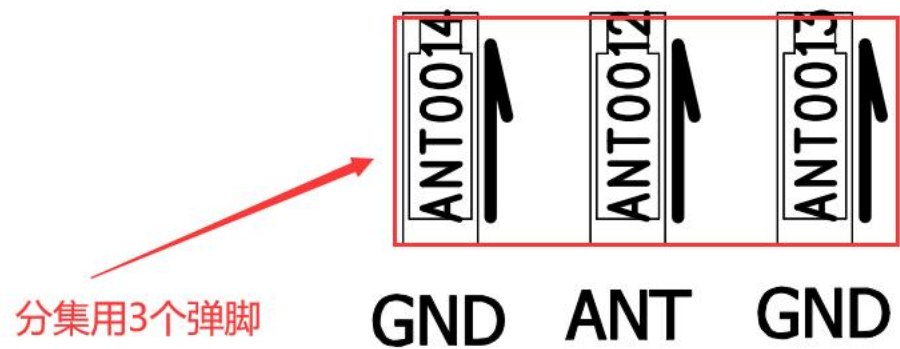
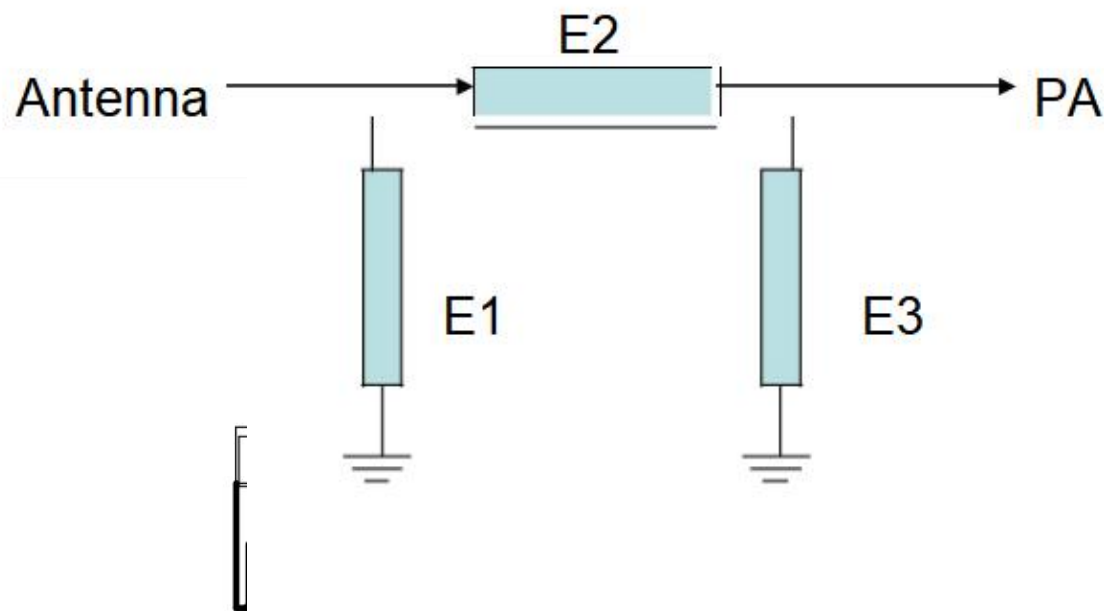


天线开关协议: P2202S

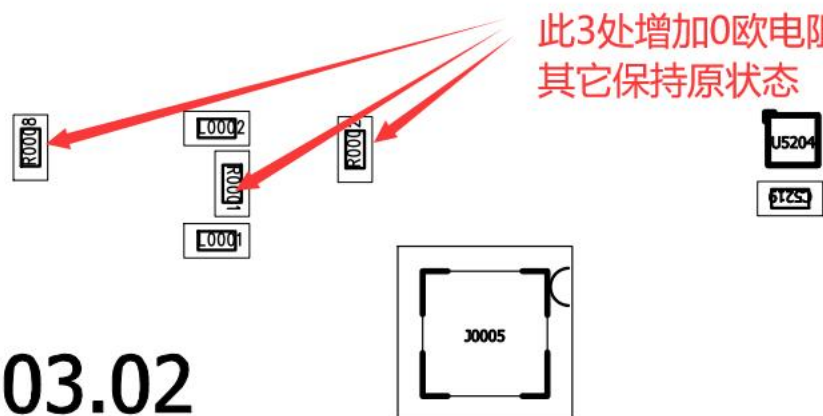
- RF1: GSM900/1800/1900+WCDMA-B1/2/4/8, LTE-B1/2/3/4/7/8/25/66/38/40/41
- RF2: GSM850+WCDMA-B5+LTE-B5/18/19/20/26
- RF3: NC
- RF4: LTE-B12/17/28A/28B

Element	Value
E1 C0002	0欧原匹配
E2 L7400	15NH原匹配
E3 L0774	0.5PF原匹配
E4 L0773	2.2NH原匹配
E5 L0775	NC

分集天线匹配电路 Diversity antenna matching circuit



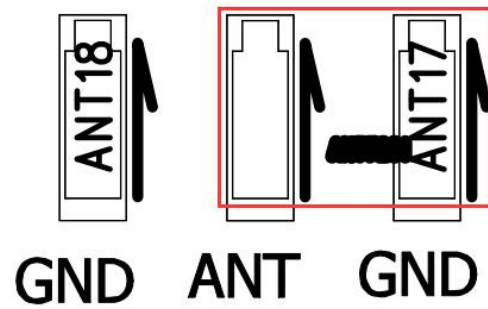
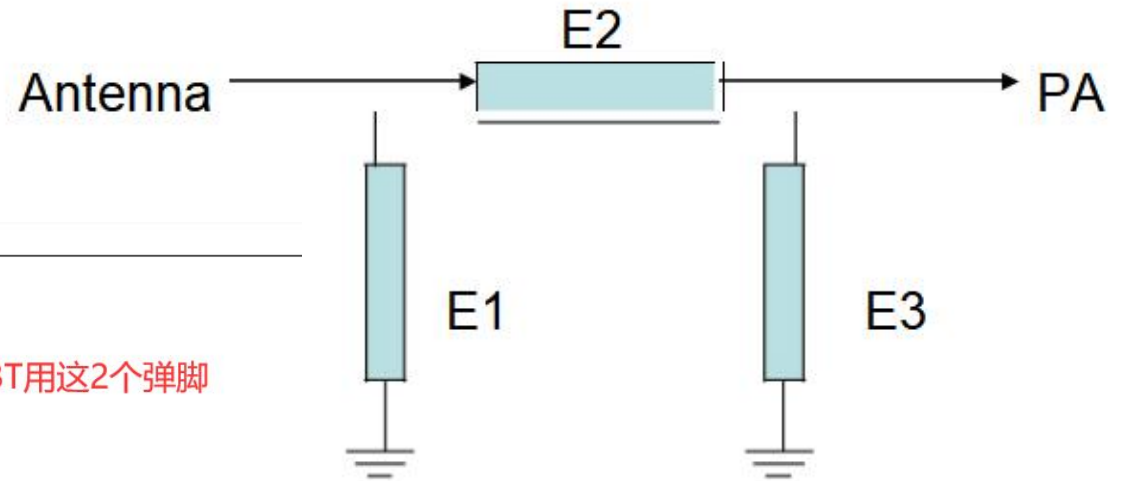
此3处增加0欧电阻，其它保持原状态



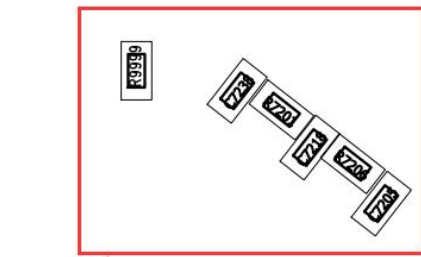
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Element	Value
E1	NC
E2	0欧
E3	NC

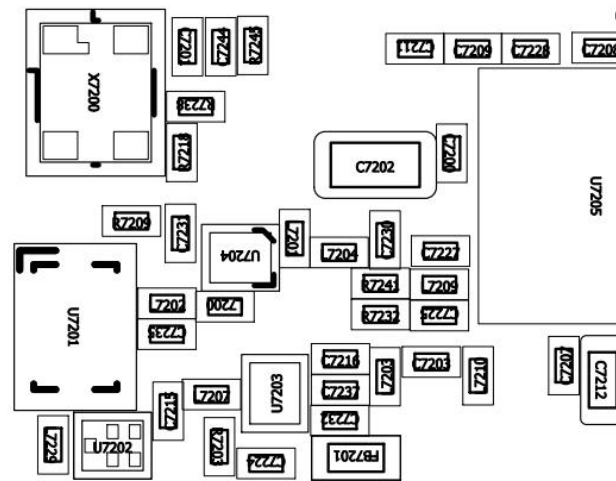
GPS/WIFI/BT 天线匹配电路 GPS/WiFi/BT antenna matching circuit



GPS/WIFI/BT用这两个弹脚



原匹配, 未更改



Element	Value
E1	N/A
E2	0 Ω
E3	N/A
E4	0 Ω

主天线暗室数据12#Main antenna darkroom data

2G	Channel	TRP (dBm)	TIS (dBm)	3G	Channel	TRP (dBm)	TIS (dBm)	4G	Channel	TRP (dBm)	TIS (dBm)
GSM850	CH 128	27.22		WCDMA-B1	CH 9612	18.36		FDD B1 (10M)	CH 18050	18.52	
	CH 190	27.08			CH 9750	18.21			CH 18300	18.31	
	CH 251	27.35	-104.68		CH 9888	18.02	-104.81		CH 18550	18.25	-94.62
GSM900	CH 1	28.06		WCDMA-B2	CH 9262	19.05		FDD B2 (10M)	CH 18650	18.91	
	CH 62	28.17			CH 9400	18.37			CH 18900	18.58	
	CH 124	28.42	-104.33		CH 9538	18.11	-105.64		CH 19150	18.45	-94.49
DCS1800	CH 512	25.17		WCDMA-B4	CH 1312	18.57		FDD B3 (10M)	CH 19250	18.35	
	CH 698	25.62			CH 1413	19.23			CH 19575	18.94	
	CH 885	26.35	-106.03		CH 1513	19.39	-105.23		CH 19900	18.49	-94.16
PCS1900	CH 512	26.13		WCDMA-B5	CH 4132	18.36		FDD B4 (10M)	CH 20000	18.14	
	CH 661	26.12			CH 4183	18.29			CH 20175	18.73	
	CH 810	25.56	-104.94		CH 4233	18.34	-103.10		CH 20350	18.54	-94.42
				WCDMA-B8	CH 2712	18.95		FDD B5 (10M)	CH 20450	18.36	
					CH 2787	18.77			CH 20525	18.64	
					CH 2863	18.38	-104.60		CH 20600	18.63	-93.56
								FDD B7 (10M)	CH 20800	18.45	
									CH 21100	18.41	
									CH 21400	18.04	-93.64
								FDD B8 (10M)	CH 21500	18.31	
									CH 21625	18.50	
									CH 21750	18.15	-92.60

GPS实际测试结果 (actual test results)

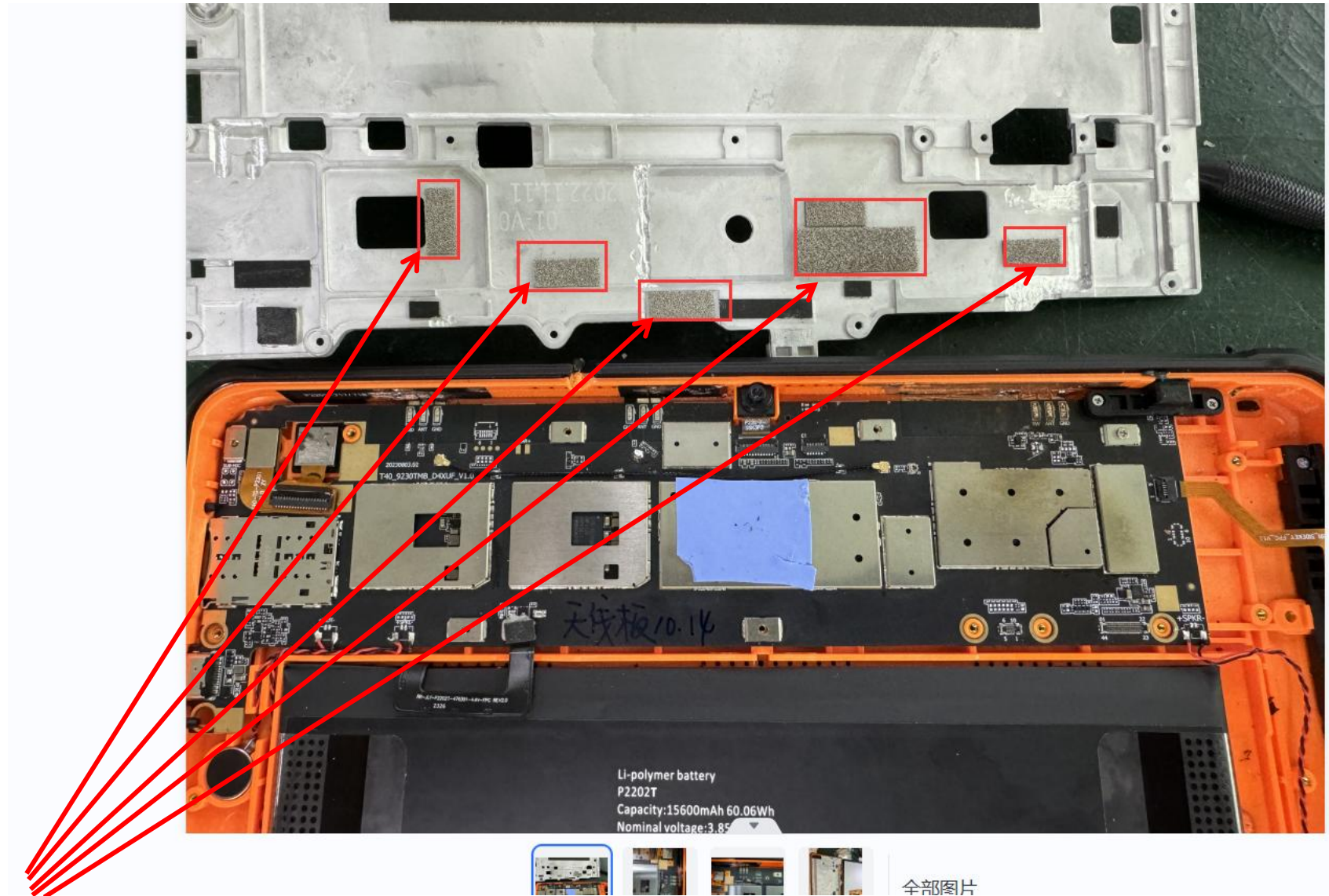
📶 GPS天线实际测试效果: GPS antenna test result:

测试项	测试结果
搜星总数	21
In use卫星数	11
最大SNR值	44.0
SNR ≥ 40星数	3~5
冷启动定位时间	46S

测试结论:ok。



环境处理 environmental treatment

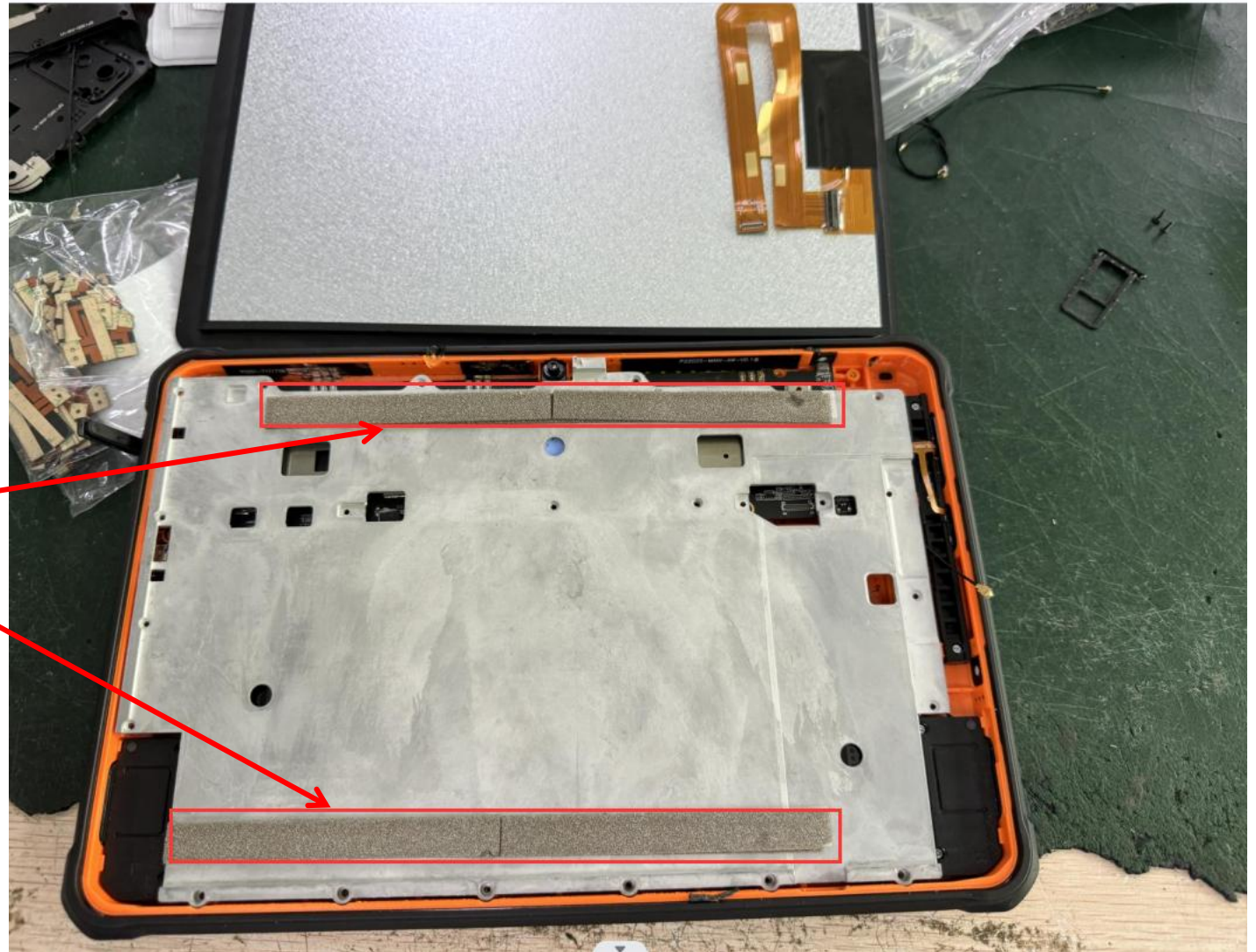


如图所示：此5处贴上导电海绵与主板良好接地处理。As shown in the figure: Apply conductive sponge to these 5 areas and ensure good grounding with the motherboard.

环境处理environmental treatment

如图所示：此2处贴上导电海绵与屏良好接地处理!!!

As shown in the figure:
Apply conductive sponge
to these 2 places and
ensure good grounding
between the screen!!!



环境处理 environmental treatment

如图所示：屏此处贴上导电布良好接地处理!!!

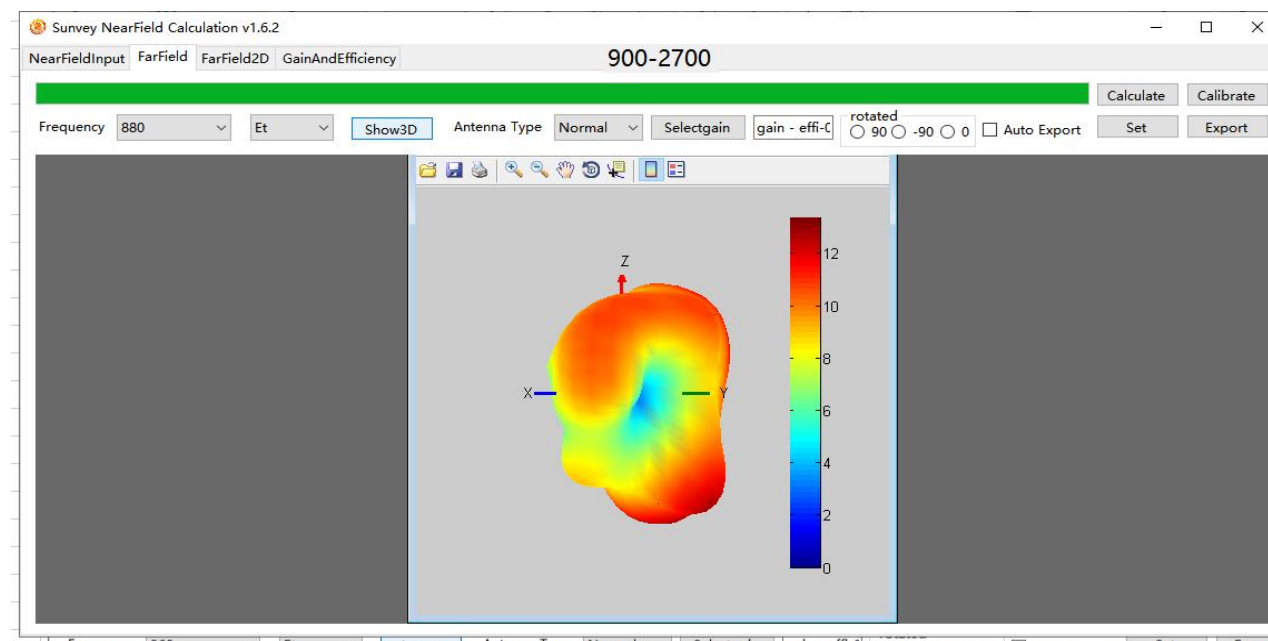
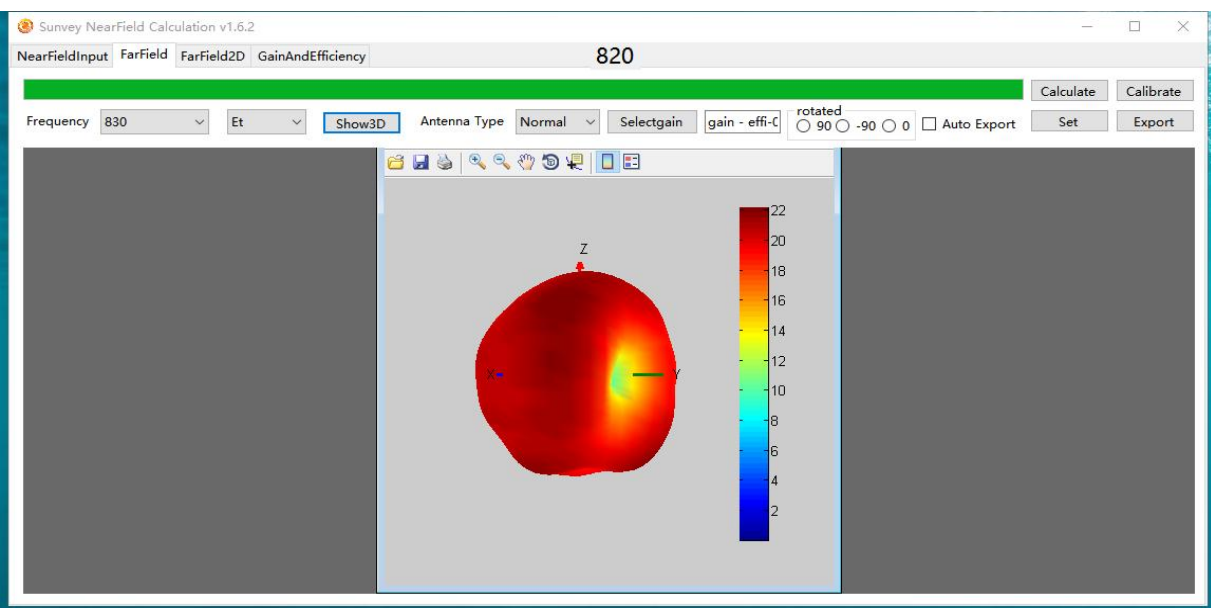
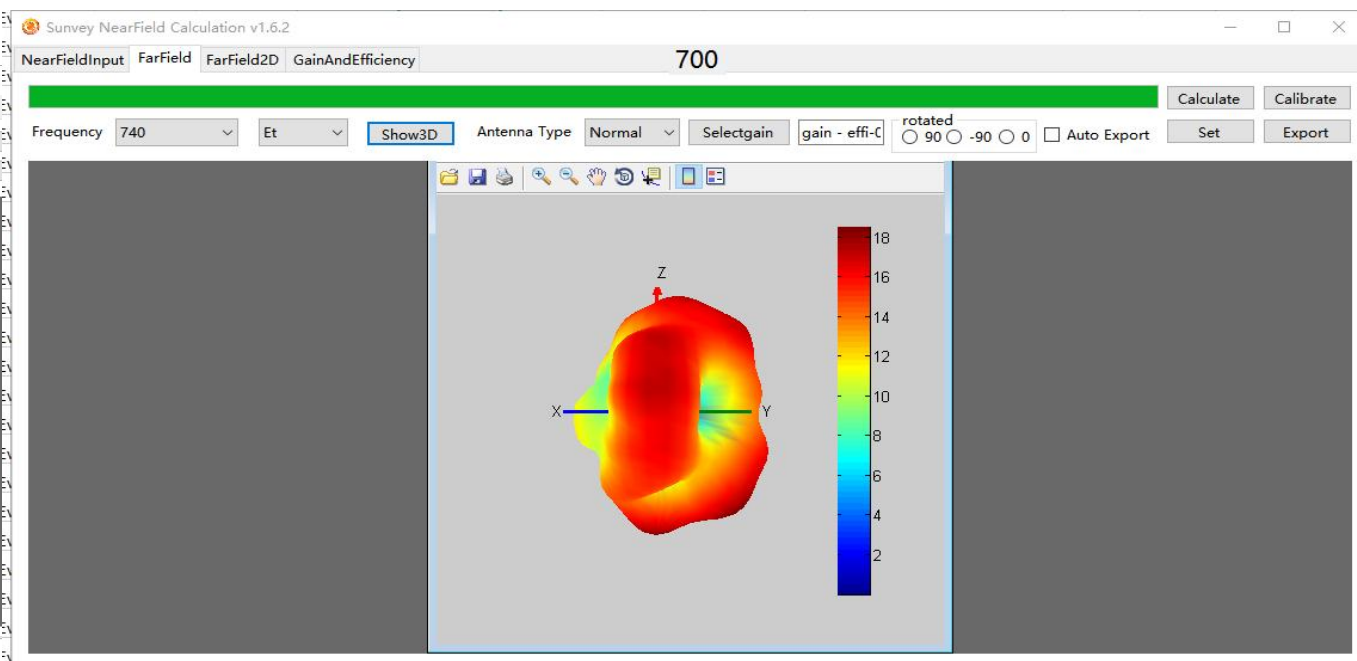
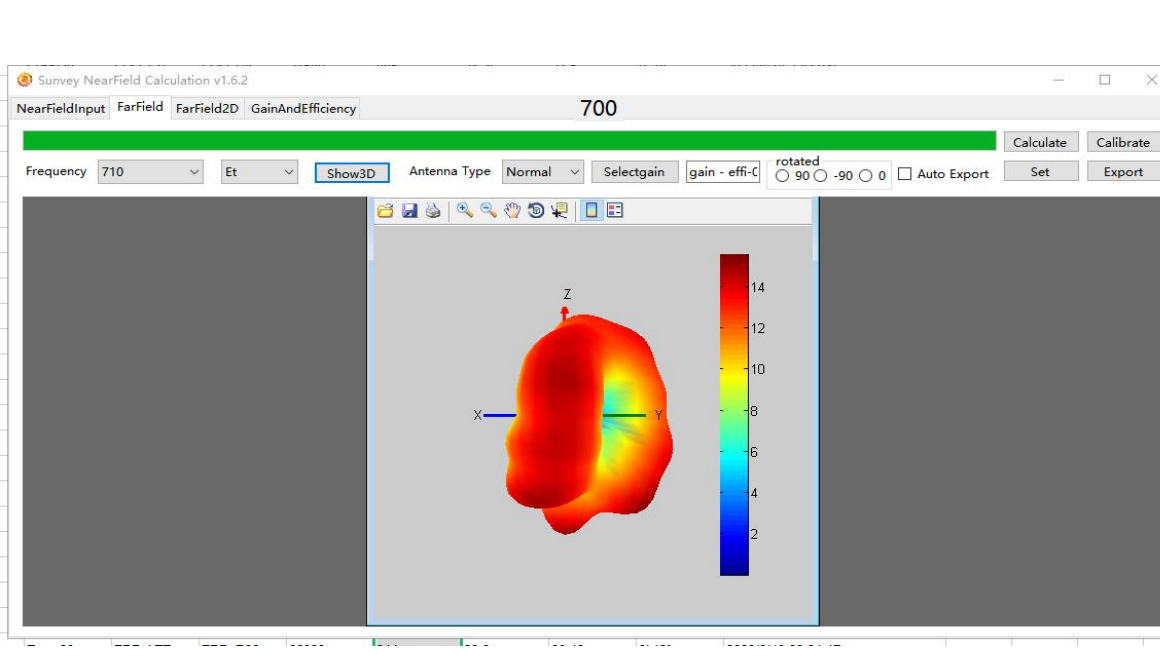
As shown in the picture: Stick conductive cloth on the screen here for good grounding treatment!!!



主天线无源报告Passive report of main antenna

Gain&Efficiency			Gain&Efficiency			Gain&Efficiency			Gain&Efficiency		
frequency	gain	efficiency	frequency	gain	efficiency	frequency	gain	efficiency	frequency	gain	efficiency
频率(MHz)	增益(dBi)	效率(%)	频率(MHz)	增益(dBi)	效率(%)	频率(MHz)	增益(dBi)	效率(%)	频率(MHz)	增益(dBi)	效率(%)
700	-3.58	17.38	1700	0.59	41.21	2140	1.91	47.95	2580	0.78	36.67
710	-2.67	20.54	1720	1.47	46.46	2160	1.85	49.07	2600	0.15	34.97
720	-2.15	22.09	1740	0.91	45.42	2180	1.66	49.98	2620	0.01	34.70
730	-1.82	24.65	1760	0.57	43.99	2200	2.27	55.46	2640	0.35	35.91
740	-1.37	27.98	1780	0.82	43.31	2220	2.37	57.74	2660	0.07	31.89
750	-1.1	28.78	1800	0.34	39.54	2240	2.41	56.71	2680	-0.29	29.82
760	-0.76	29.53	1820	1.18	42.28	2260	3.33	57.31			
770	-2.37	22.38	1840	1.15	36.89	2280	2.14	53.11			
780	-2.19	24.03	1860	1.15	36.68	2300	1.66	47.34			
790	-3.32	18.37	1880	0.96	38.03	2320	1.66	48.11			
820	-1.39	32.20	1900	0.91	38.91	2340	1.44	46.00			
830	-1.1	35.24	1920	0.62	34.87	2360	2.86	48.04			
840	-0.68	40.68	1940	1.02	39.19	2380	2.72	48.39			
850	-0.06	42.69	1960	0.43	34.58	2400	2.53	46.63			
860	-0.16	40.25	1980	0.95	34.04	2420	2.17	45.25			
870	-0.23	39.68	2000	1.12	38.09	2440	0.95	41.32			
880	-0.13	36.48	2020	1.12	40.51	2460	1	39.98			
890	0.4	36.92	2040	0.94	36.95	2480	0.74	36.54			
900	0.19	33.71	2060	1.93	43.42	2500	0.86	38.20			
920	1.8	53.43	2080	1.88	41.90	2520	1.55	39.38			
940	1.51	50.61	2100	2.33	45.96	2540	1.29	36.17			
960	0.73	46.69	2120	1.74	44.53	2560	1.28	37.36			

主天线苹果图 Main antenna apple diagram



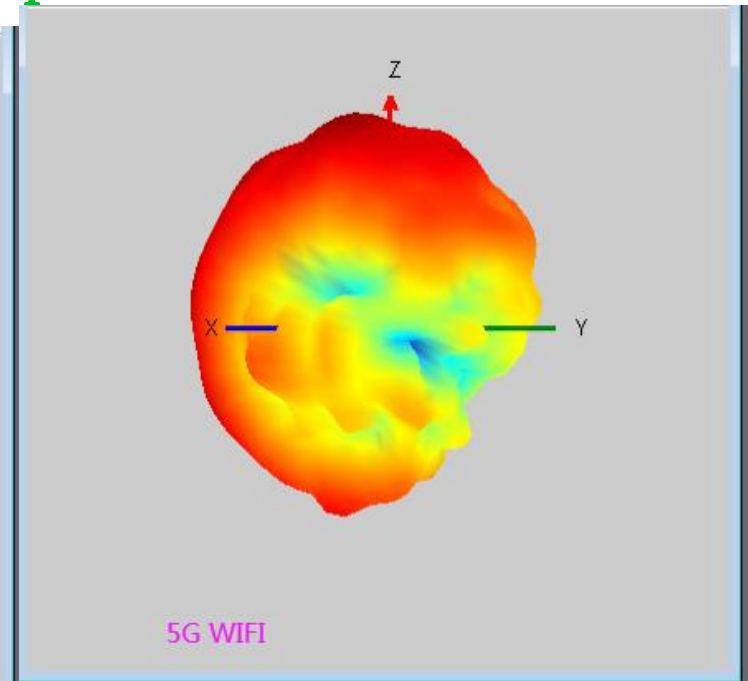
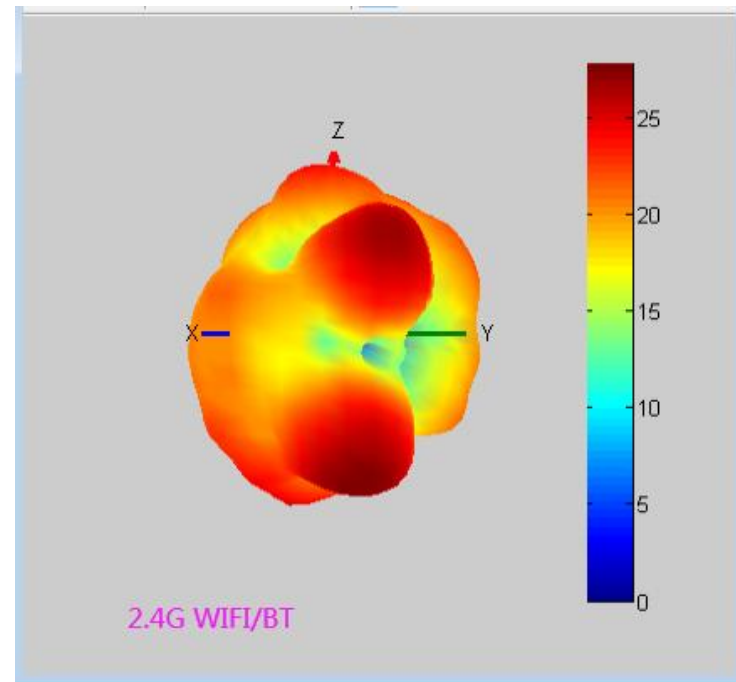
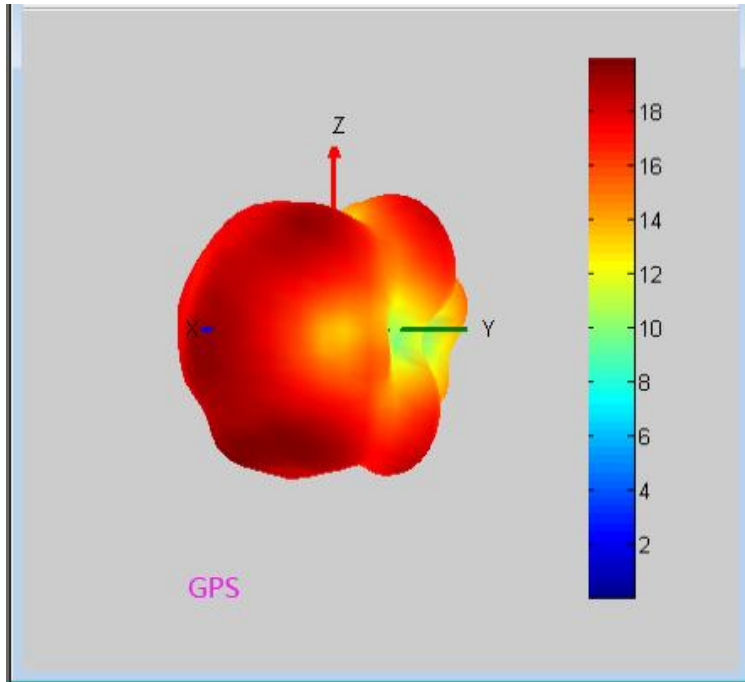
GPS/WIFI/BT无源效率增益 GPS/WIFI/BT passive efficiency gain



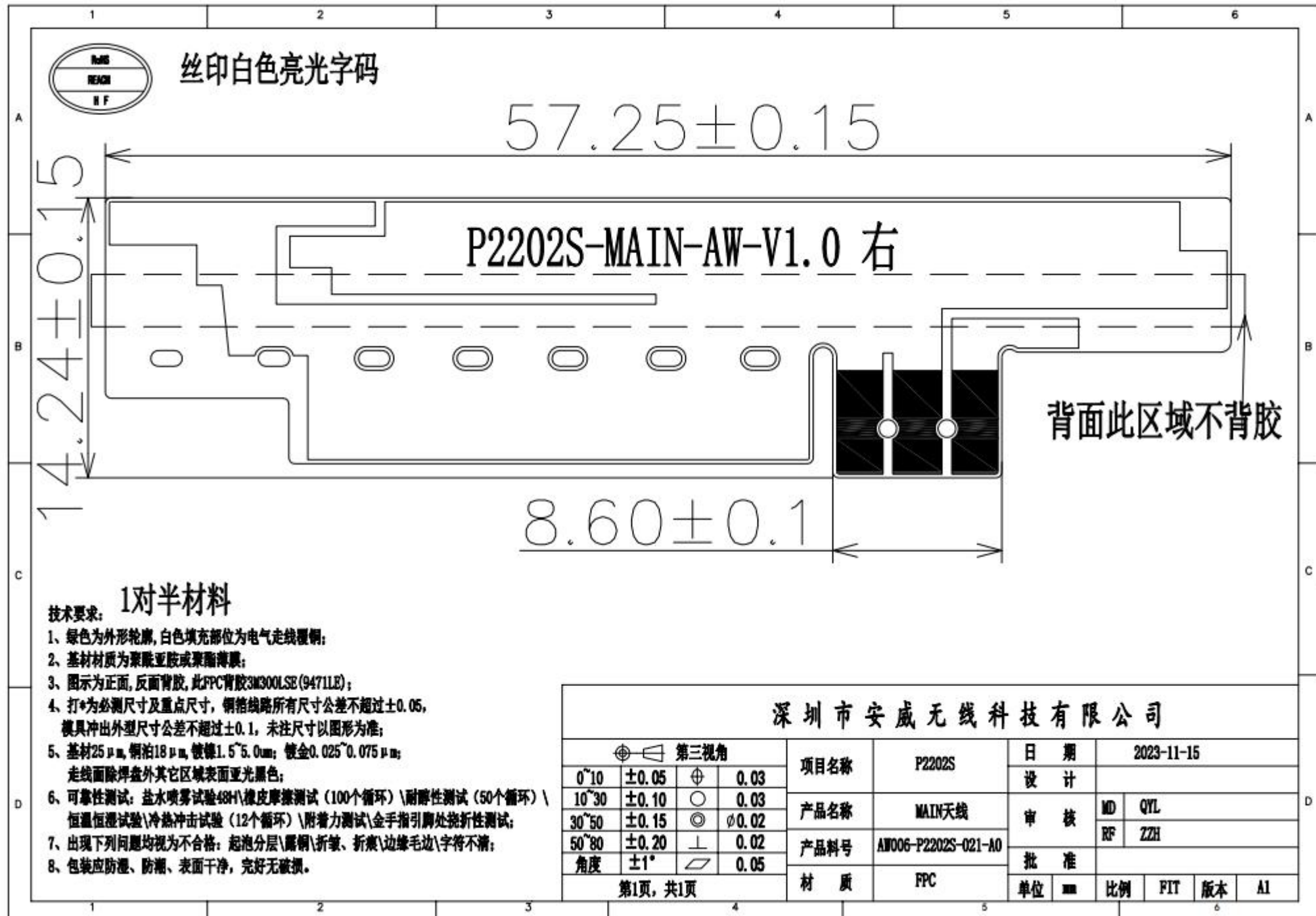
Gain&Efficiency			Gain&Efficiency		
frequency 频率(MHz)	gain 增益(dBi)	efficiency 效率(%)	frequency 频率	gain 增益(dBi)	efficiency 效率(%)
1570	2.04	42.78	5100	5.04	52.95
1575	2.08	42.84	5200	5.48	56.22
1580	1.87	42.67	5300	5.89	53.58
2400	2.03	47.71	5400	5.75	51.13
2410	1.9	48.06	5500	5.03	47.54
2420	2.09	47.89	5600	5.33	45.39
2430	1.64	46.11	5700	4.96	47.24
2440	1.35	44.79	5800	4.53	46.71
2450	1.56	44.75	5900	3.11	44.47
2460	1.72	45.50	6000	3.88	48.41
2470	1.05	40.67			
2480	1.67	43.66			
2490	1.8	42.41			
2500	1.76	42.09			

测试结论:ok。

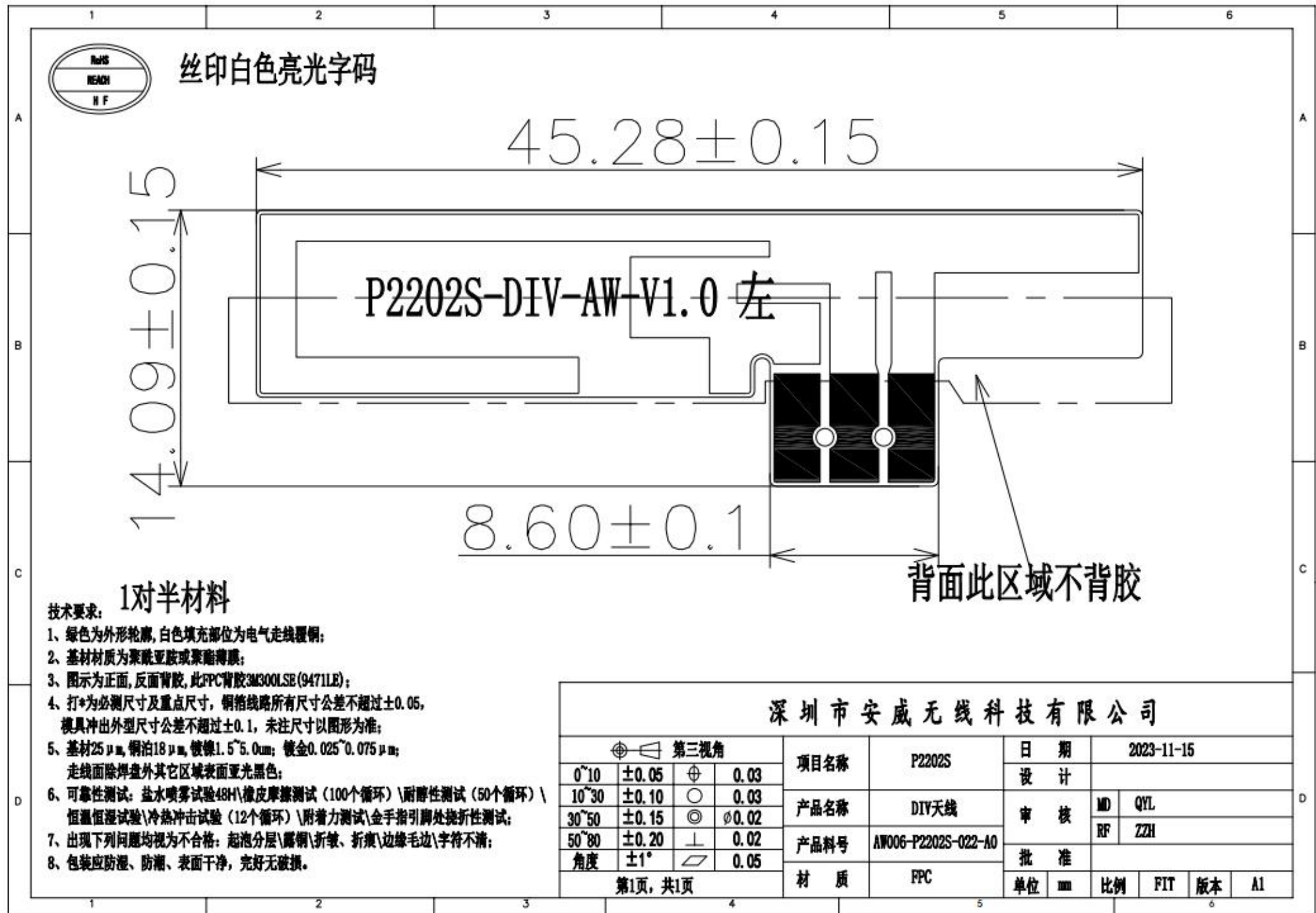
三合一苹果图 Three in One Apple Chart



天线尺寸示意图 Antenna size diagram



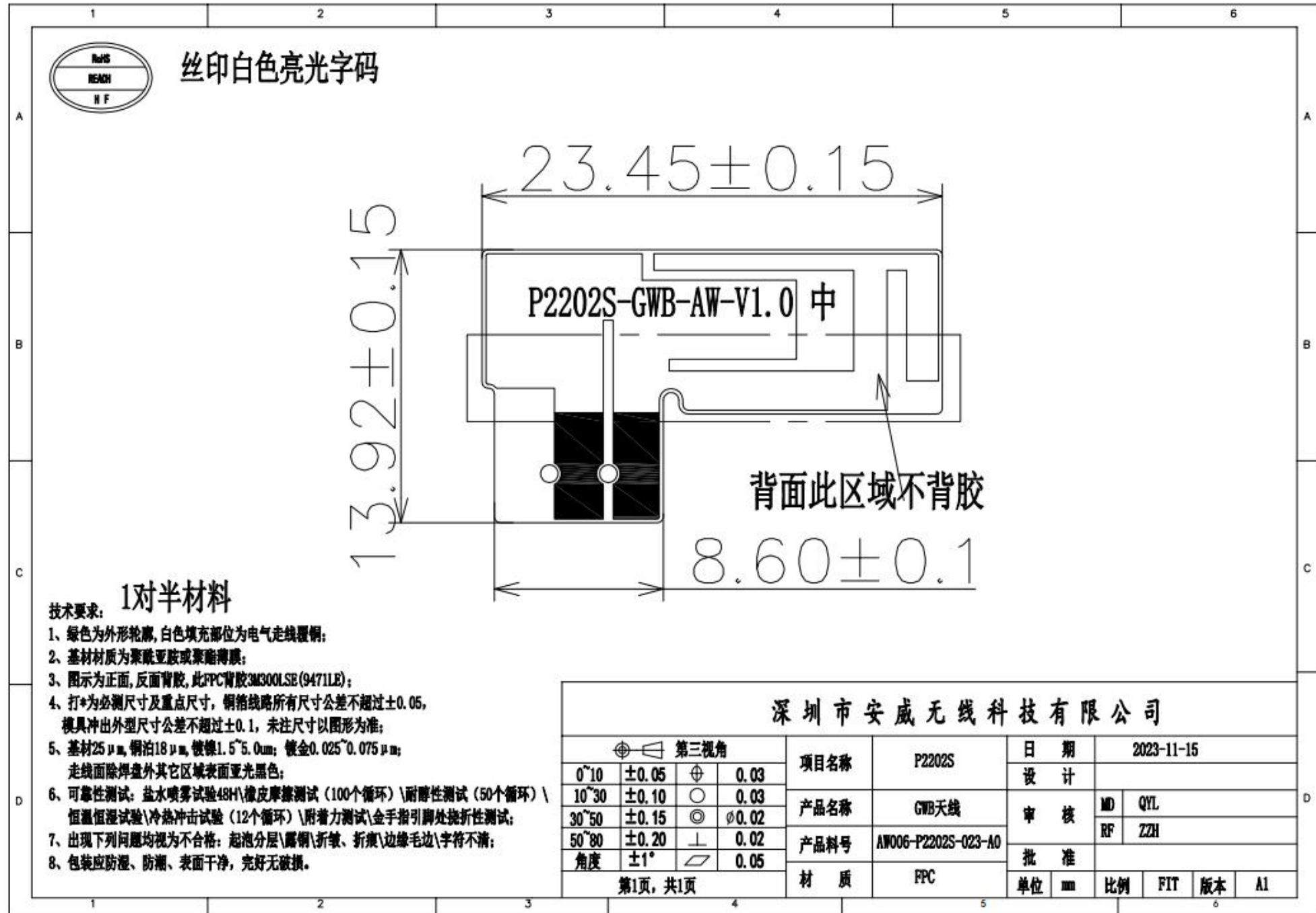
天线尺寸示意图 Antenna size diagram







深圳市安威无线科技有限公司

第三视角				项目名称	P2202S	日期	2023-11-15				
0°~10	±0.05	⊕	0.03	产品名称	DIV天线	设计					
10°~30	±0.10	○	0.03	产品料号	AW006-P2202S-022-A0	审核	MD	QYL			
30°~50	±0.15	◎	∅0.02	材质	FPC	批准	RF	ZZH			
50°~80	±0.20	⊥	0.02			单位	mm	比例	FIT	版本	A1
角度	±1°	∠	0.05								

天线尺寸示意图 Antenna size diagram



附加说明 Additional instructions

-  请仔细确认报告中提到的匹配电路是否修改、以及环境处理是否导入，这将直接影响天线性能。
Please carefully confirm whether the matching circuit mentioned in the report is modified and whether the environmental treatment is imported, which will directly affect the antenna performance.
-  本报告所提供的参数仅为客户给到我司调测样机的参数，不代表贵司最终项目的最终量产状态。
The parameters provided in this report are only those provided by the customer to our company for testing the prototype, and do not represent the final mass production status of your company's final project.
-  倘若贵司有最新试产、或者更新状态（更换物料、更新软件、更换环境处理等）的样机，请尽快交由我司进行验证，以确认天线性能是否受到影响。
If your company has a prototype with the latest trial production or updated status (changing materials, updating software, changing environmental treatment, etc.), please submit it to our company for verification as soon as possible to confirm whether the antenna performance is affected
-  倘若贵司需要送往第三方复测或者送往客户测试，请务必将需要测试的机器交由我司进行测试确认，因为主板的一致性、装配的一致性，以及天线组装差异等因素，均可能导致天线参数的偏差。
If your company needs to send the machine to a third party for retest or to a customer for testing, please be sure to submit the machine to be tested to our company for testing and confirmation, because the consistency of the motherboard, the consistency of the assembly, and the difference in the antenna assembly and other factors may lead to the deviation of the antenna parameters.

