

Project Antenn天线HW01项目天线测试报告

Antenna HW01 Project Antenna Test Reporta Test Report

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项目名：HW01

射频：WU XI

手机MOBILE：13751118278

报告版次NO.：

Antenna HW01 Project Antenna Test Report

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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	GSM: (B2/B3/B5/B8) WCDMA: (B1/B8) LTE-TDD: (B38/B40) LTE-FDD: (B1/B3 B7/B8/B20/B28	FPC	PIFA	底壳	无no
		3G					
		4G					
	其他天线 other antenna	BT/WIFI	2.4G/5.0	FPC	PIFA	底壳	无no
		GPS	1575.42MHz				无no
		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				

主天线匹配电路Main antenna matching
circuit

小板开关逻辑

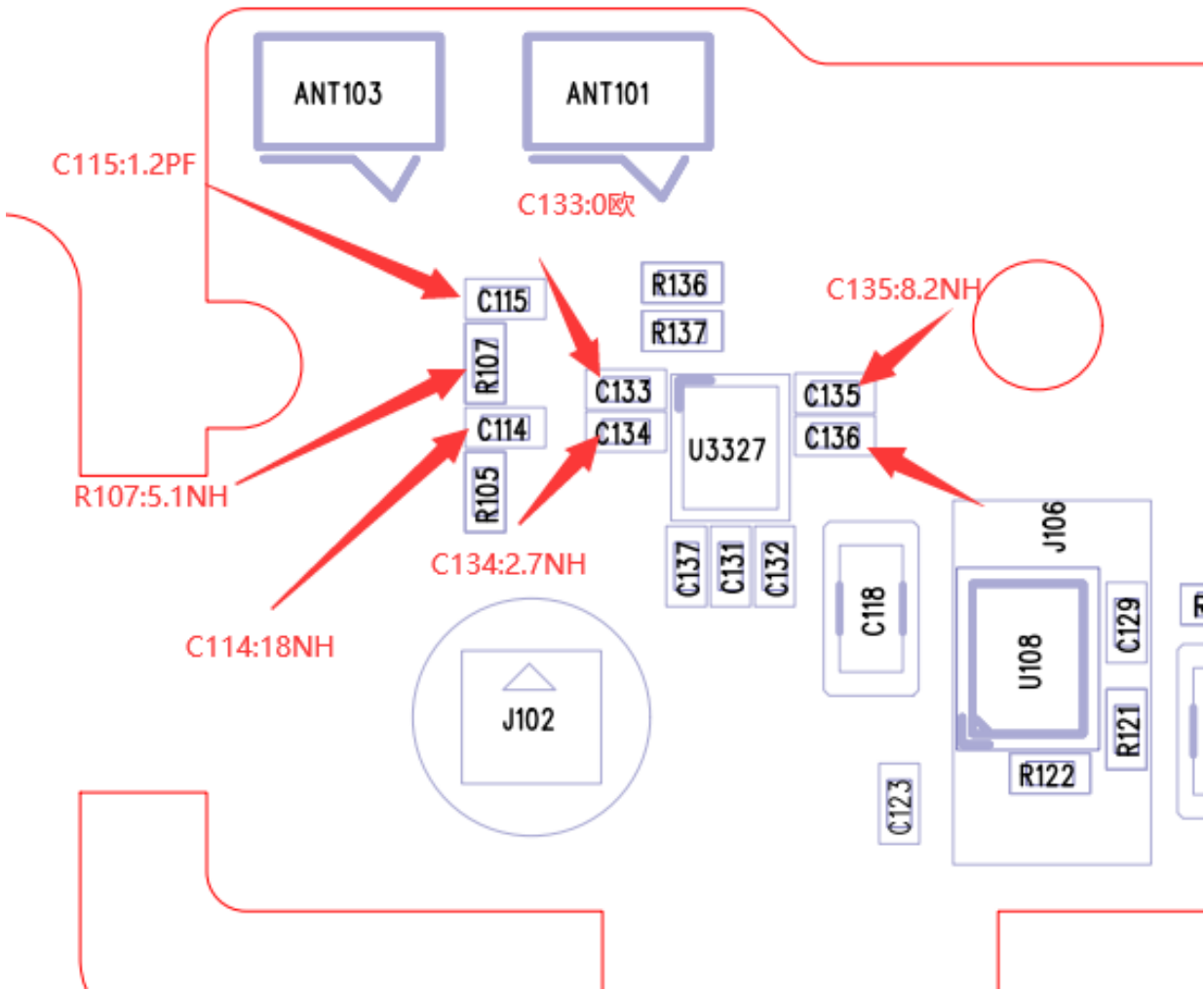
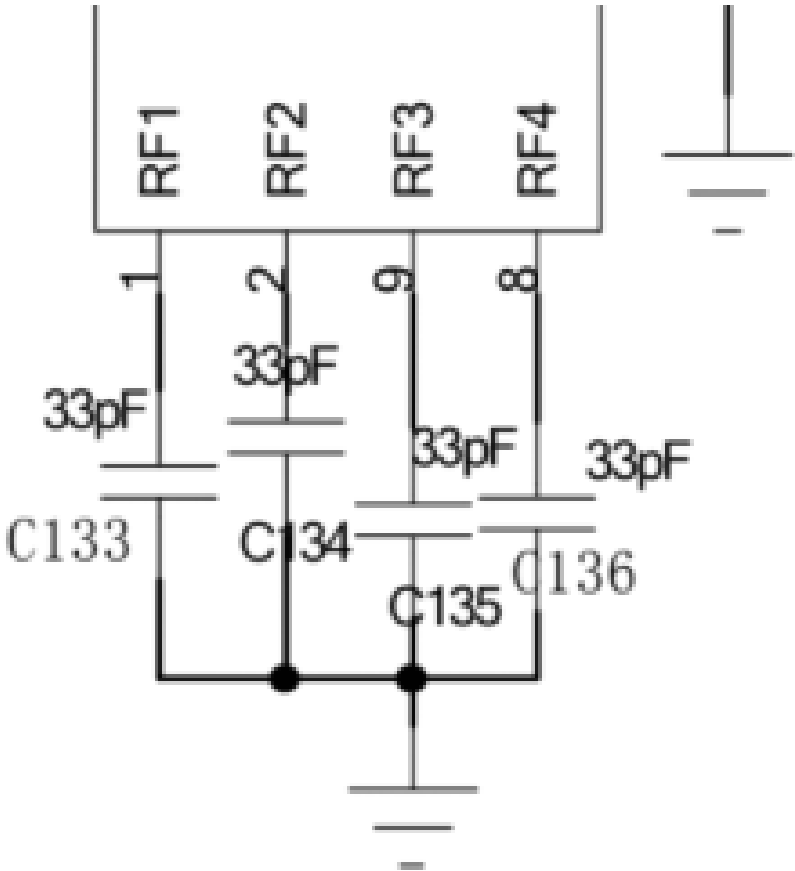
匹配

RF1:GSMB8 WCDMA:B8

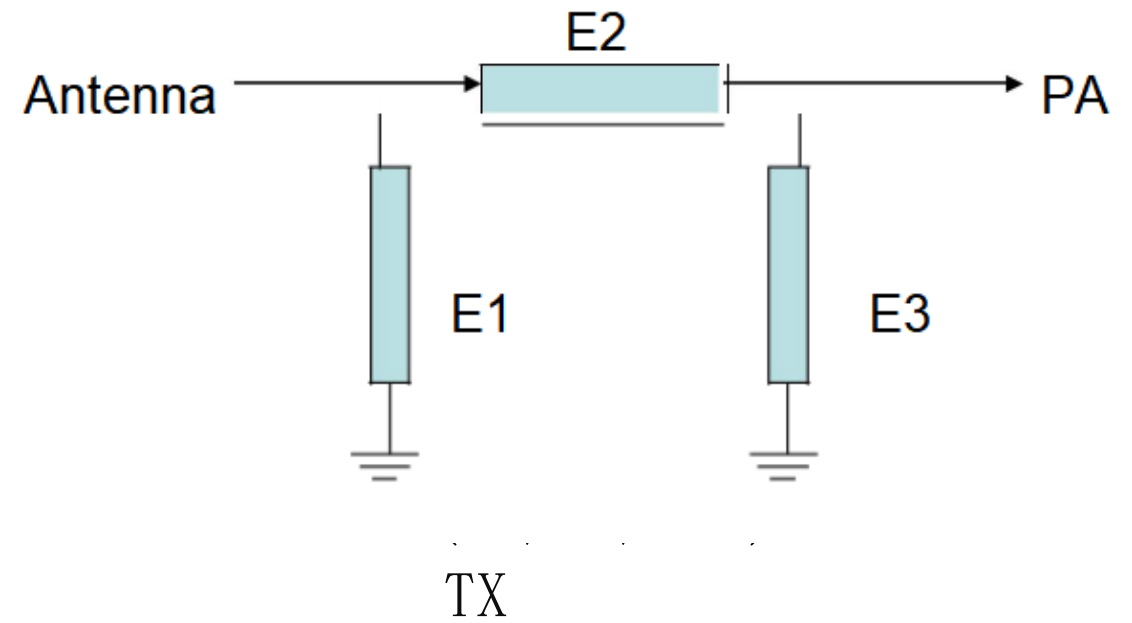
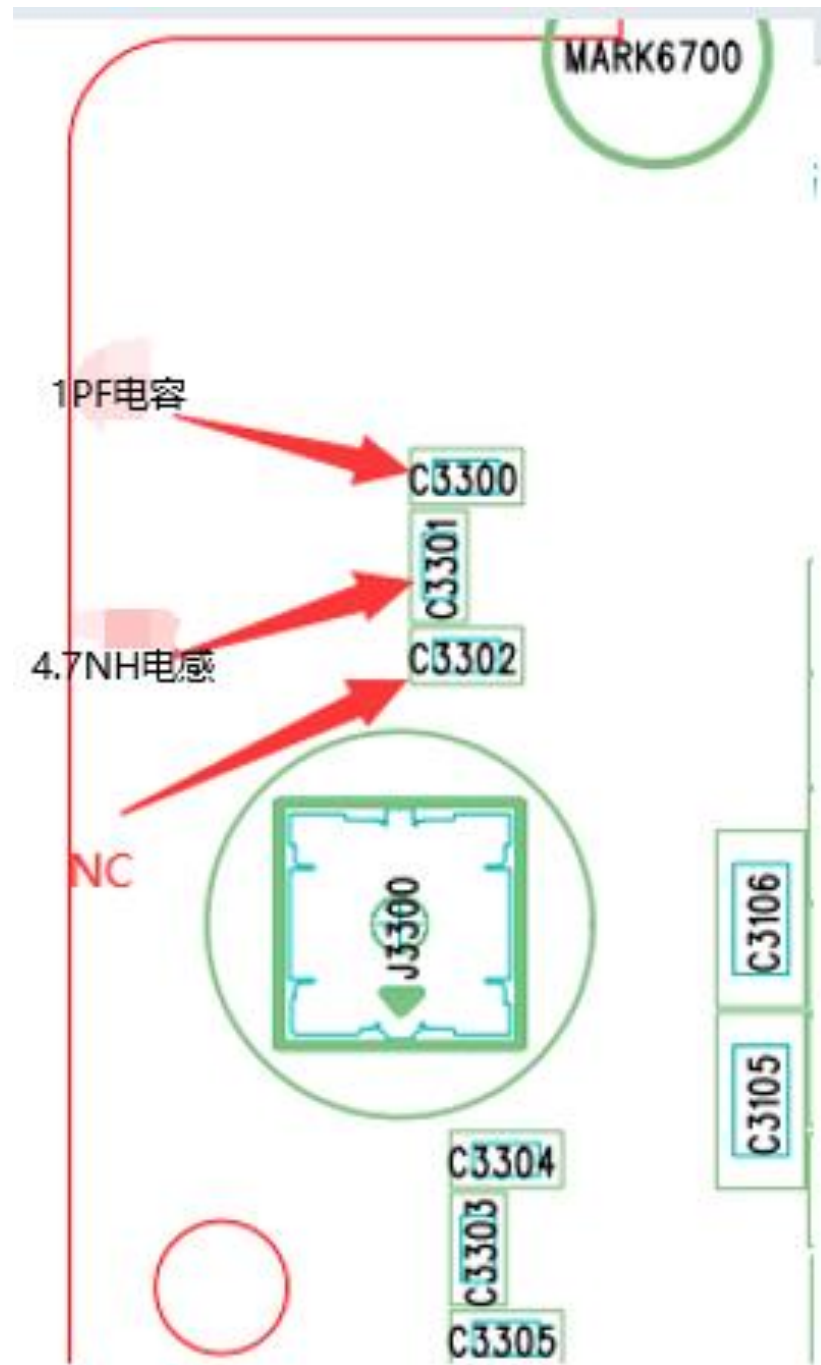
RF2:GSMB5 LTE:B20

RF3:LTE:28

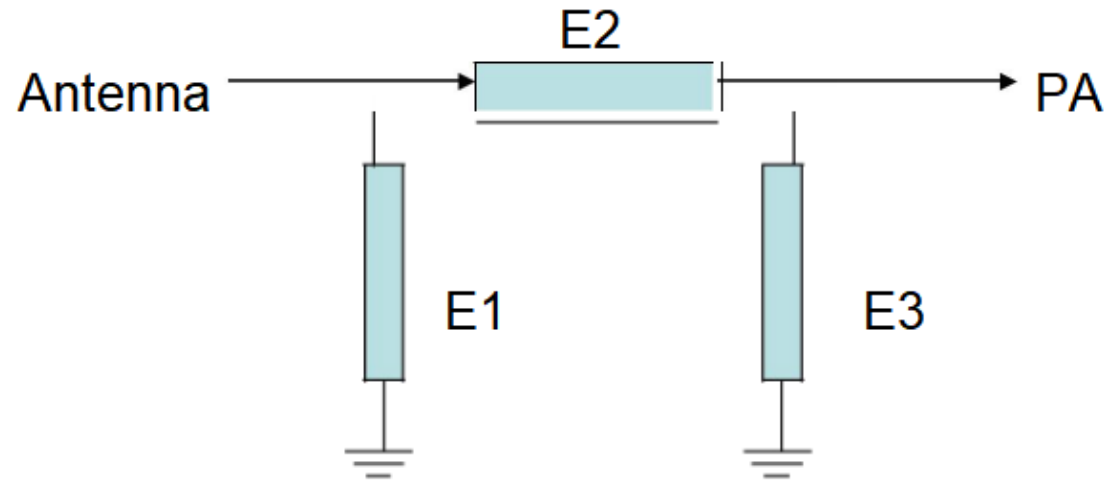
RF4:NC



分集天线匹配电路Diversity antenna matching circuit



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



Element	Value
E1	NC
E2	0Ω
E3	NC

主天线暗室数据Main antenna darkroom data

	Channel	TRP (dBm)	TIS (dBm)								Channel	TRP (dBm)	TIS (dBm)	
FDD B1	LOW	18.31			TDD 38	LOW	17.75			GSM 850	128	25.24		
	medium	18.12				medium	17.54				190	25.42		
	high	17.22	-91.2			high	17.64	-90.35			251	25.15	-102	
FDD B3	LOW	17.41			TDD 40	LOW	17.14			GSM 900	1	25.31		
	medium	17.24				medium	17.34				62	25.24		
	high	17.31	-90.2			high	17.45	-91.2			124	25.14	-102.0	
FDD B7	LOW	17.28								DCS 1800	512	24.01		
	medium	17.43									698	25.12		
	high	17.06	-91.5								885	25.1	-102	
FDD B8	LOW	16.35			W 1	LOW	17.08			PCS 1900	512	25.34		
	medium	16.24				medium	17.23				661	25.15		
	high	16.31	-90.3			high	17.03	-103.0			810	24.42	-102.6	
FDD B20	LOW	16.24			W 8	LOW	16.01							
	medium	16.22				medium	16.54							
	high	15.45	-90.65			high	16.46	-102.5						
FDD B28A	LOW	16.06												
	medium	17.07												
	high	17.03	-89.1											
FDD B28B	LOW	16.47												
	medium	17.26												
	high	17.08	-90.2											

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Test items	测试结果Test result
搜星总数total	23
In use卫星数	15
最大SNR值	44
SNR≥40星数	2~3
冷启动定位时间time	60S

测试结论:ok。

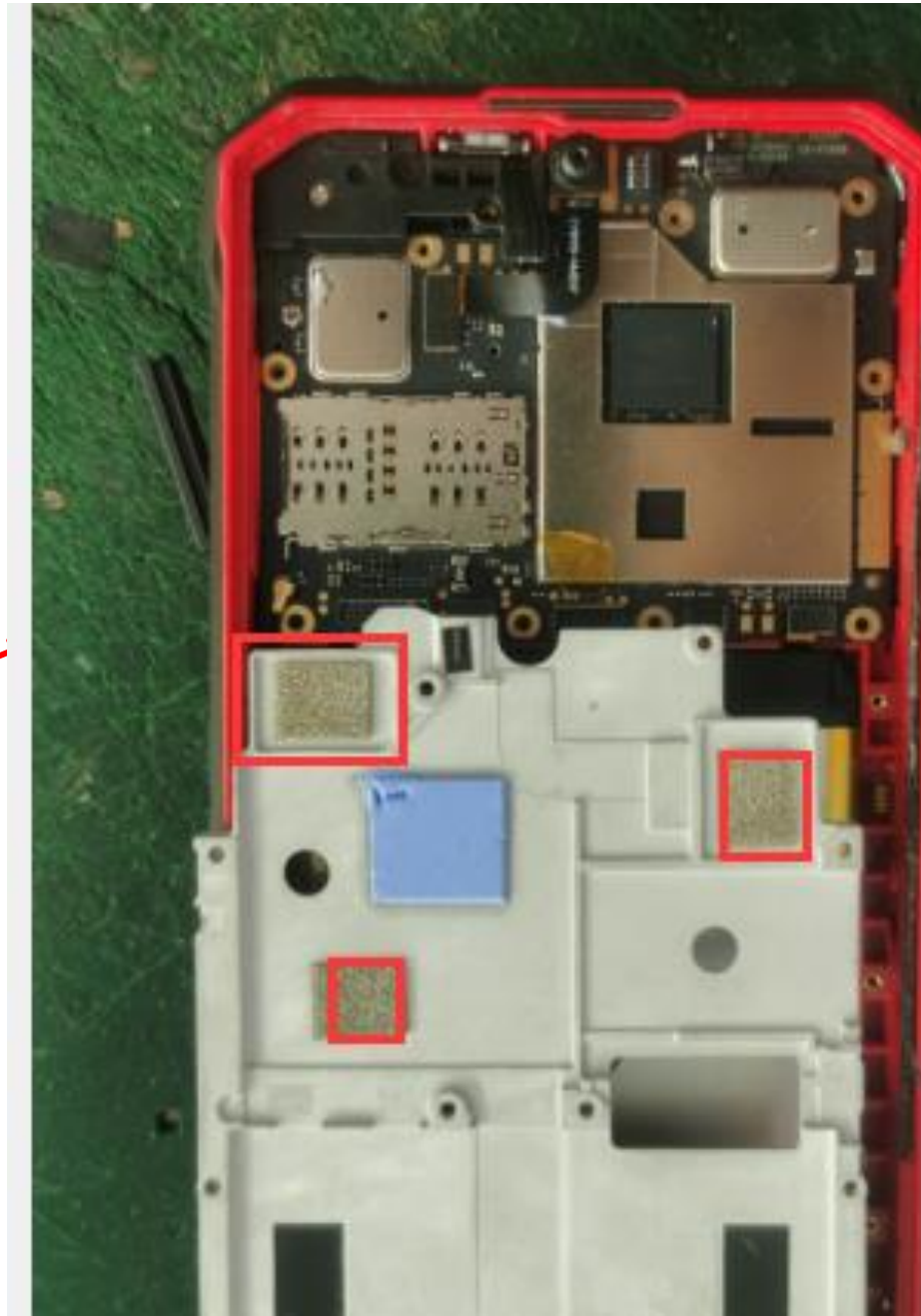


 WIFI测试效果： WIFI antenna test result

BAND	2.4GWIFI			5.8WIFI		
CHANNEL	low	medium	high	low	medium	high
TRP (dBm)	11.54	11.64	11.46	11.54	11.2	10.89
TIS (dBm)	-80.67	-80.56	-80.45	-70.46	-70.45	-70.34

环境处理environmental treatment

如图所示：主板与锌合金
接地。



主板接地

环境处理environmental treatment

如图所示：屏与锌合金良好接地处理。



环境处理environmental treatment

如图所示：小板与锌合金
接地 喇叭接地。



环境处理environmental treatment

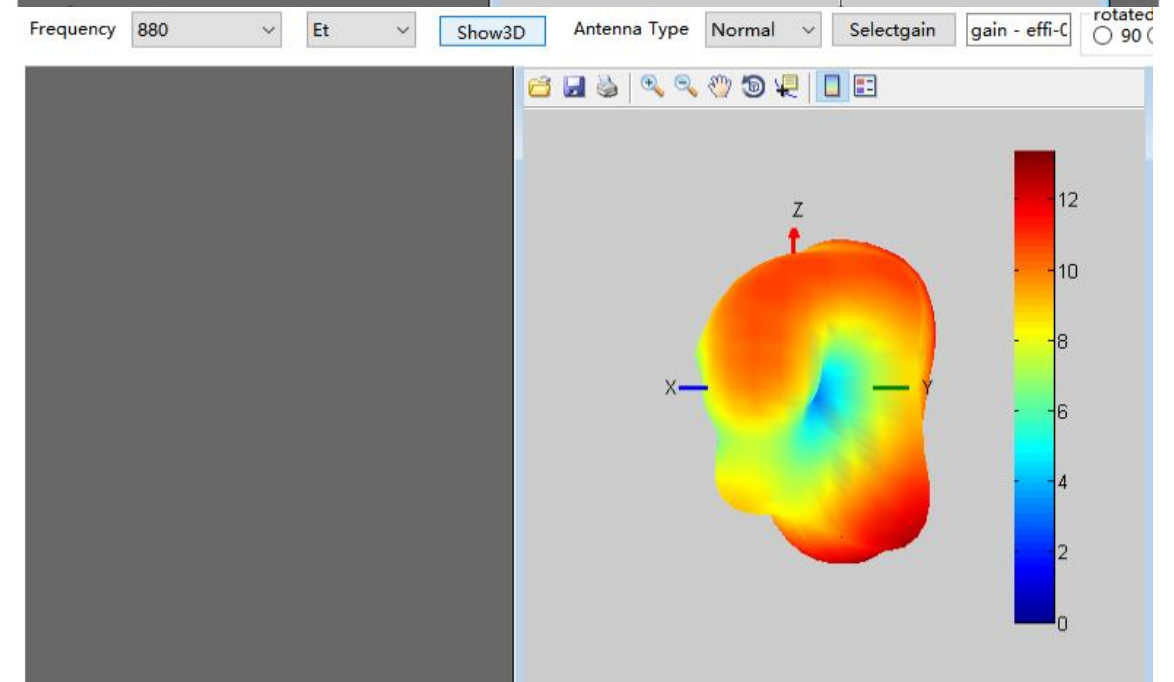
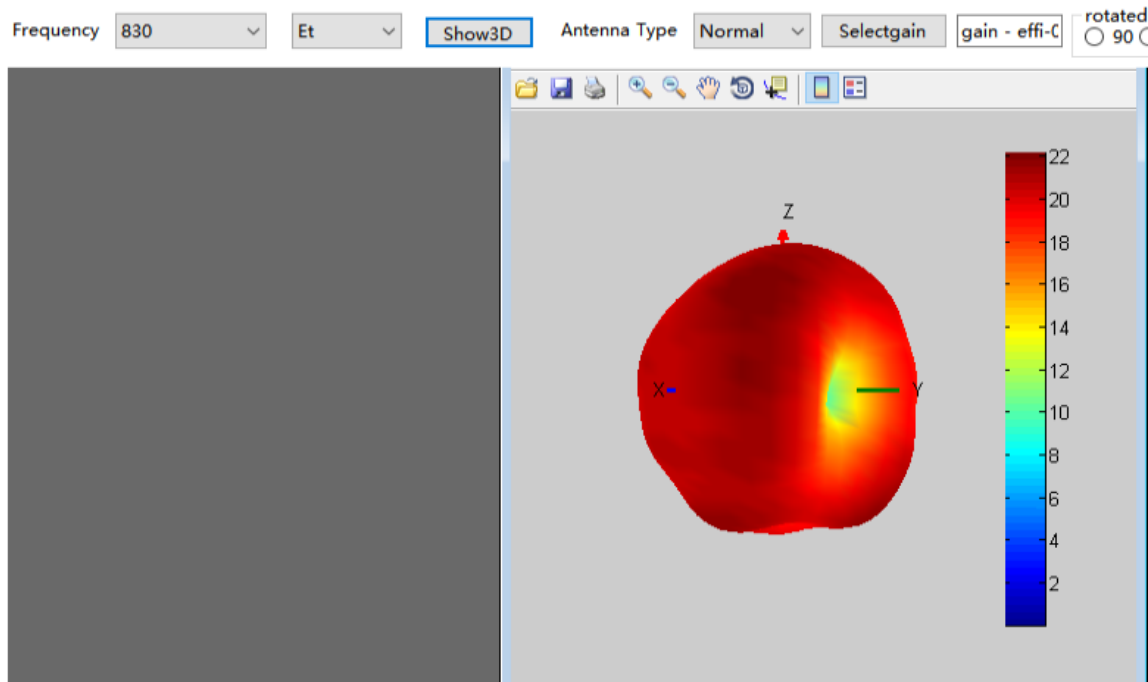
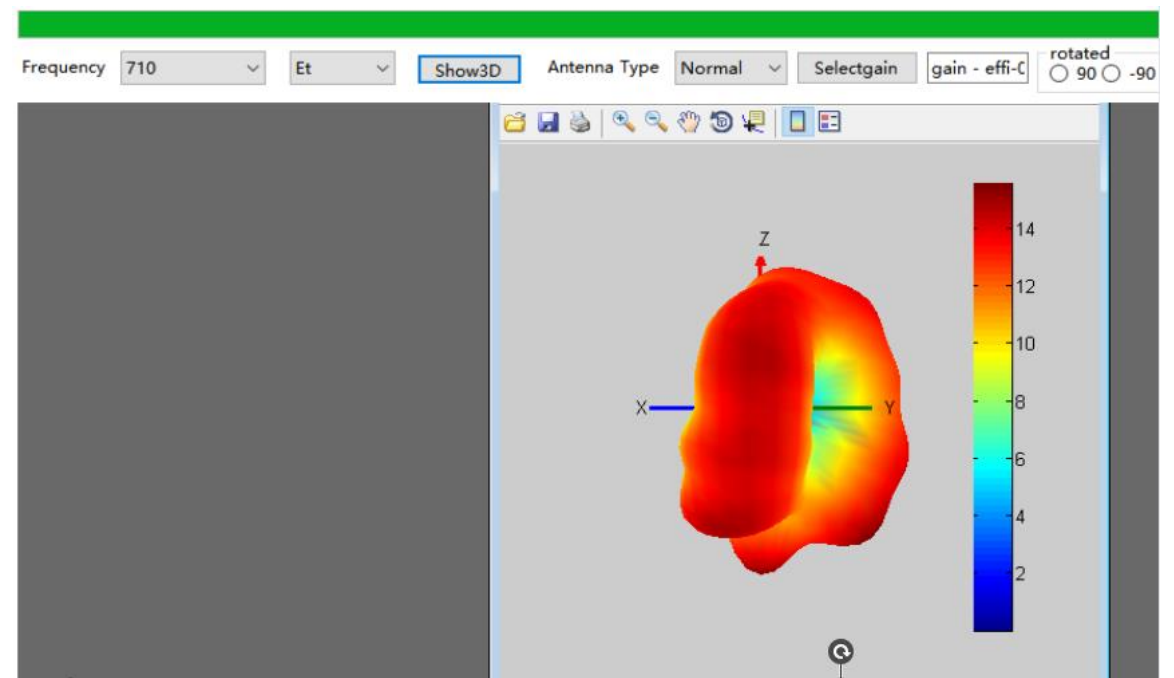
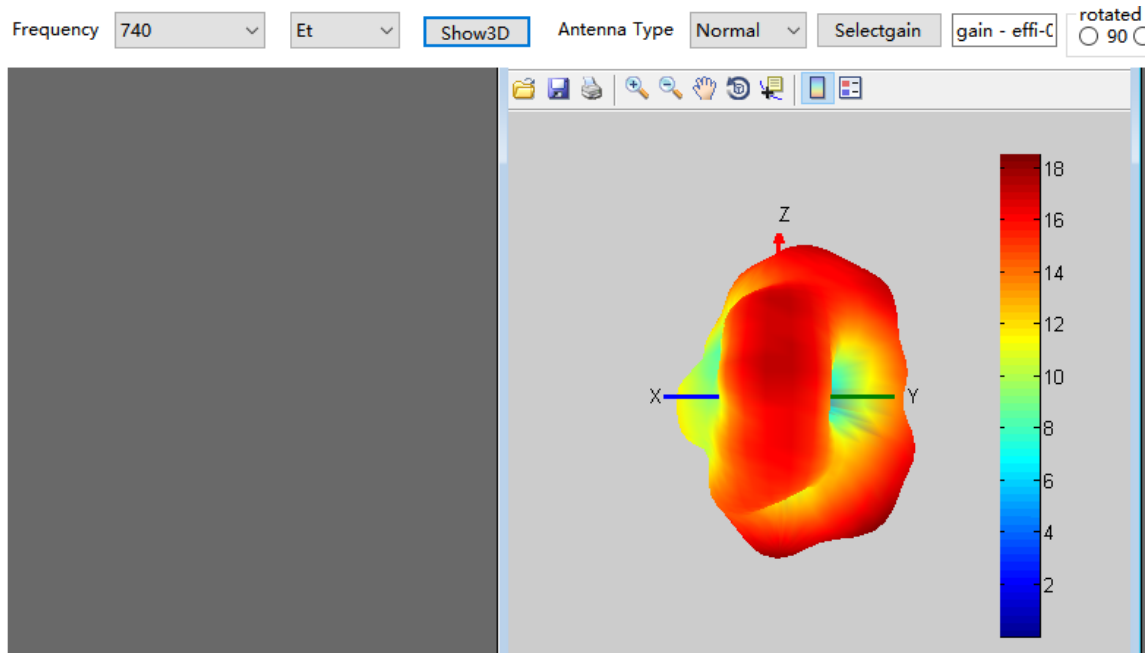
如图所示：MIC排线贴导电布接地屏蔽处理。



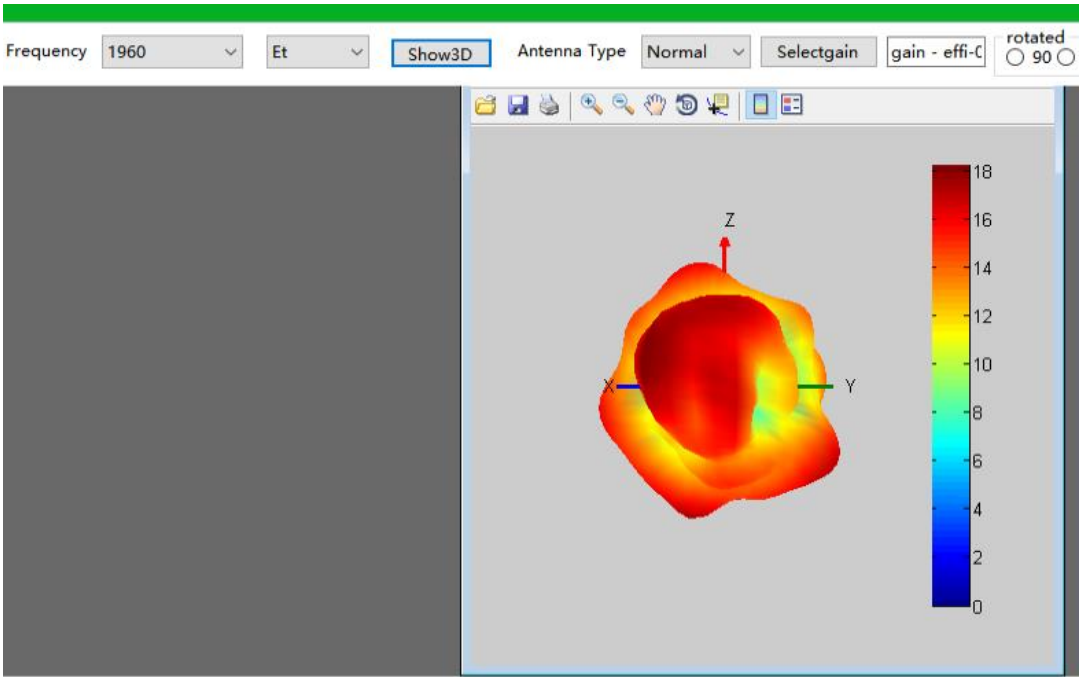
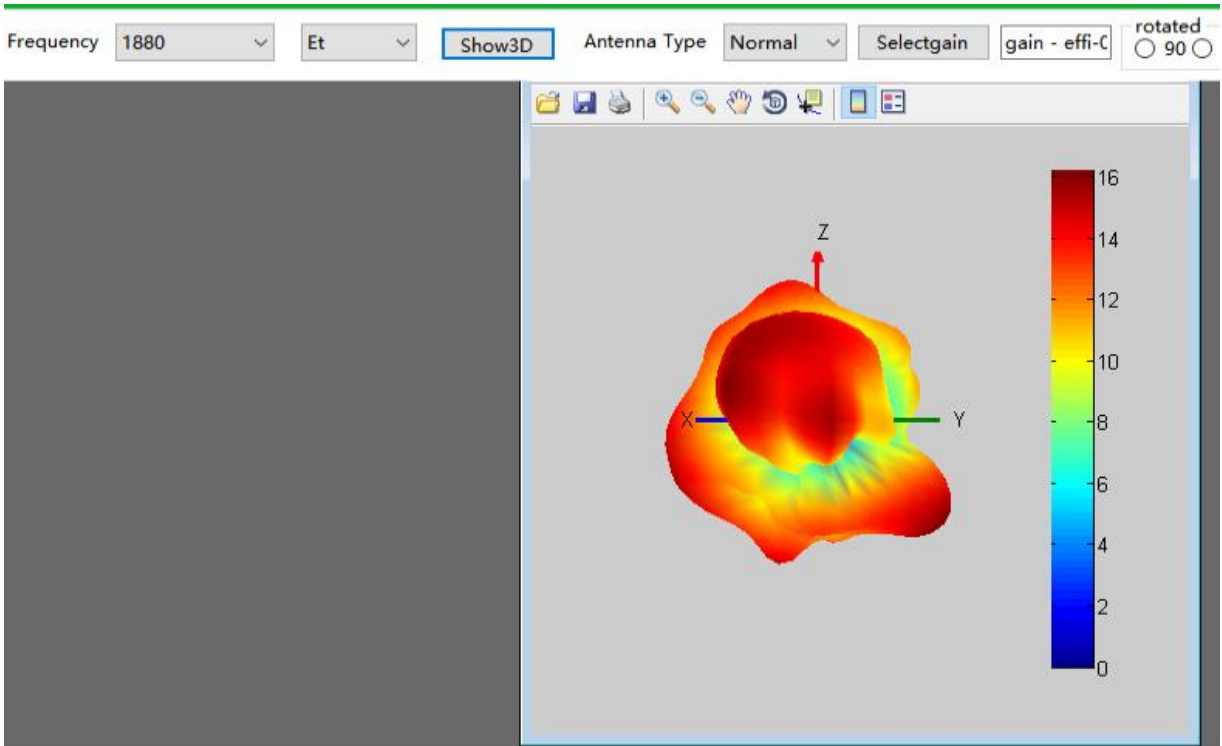
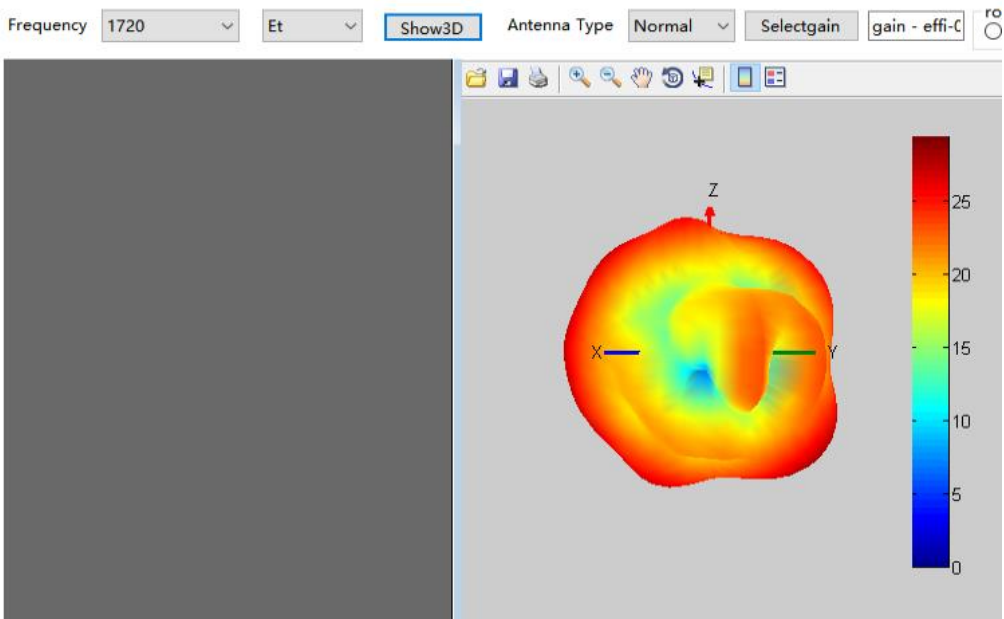
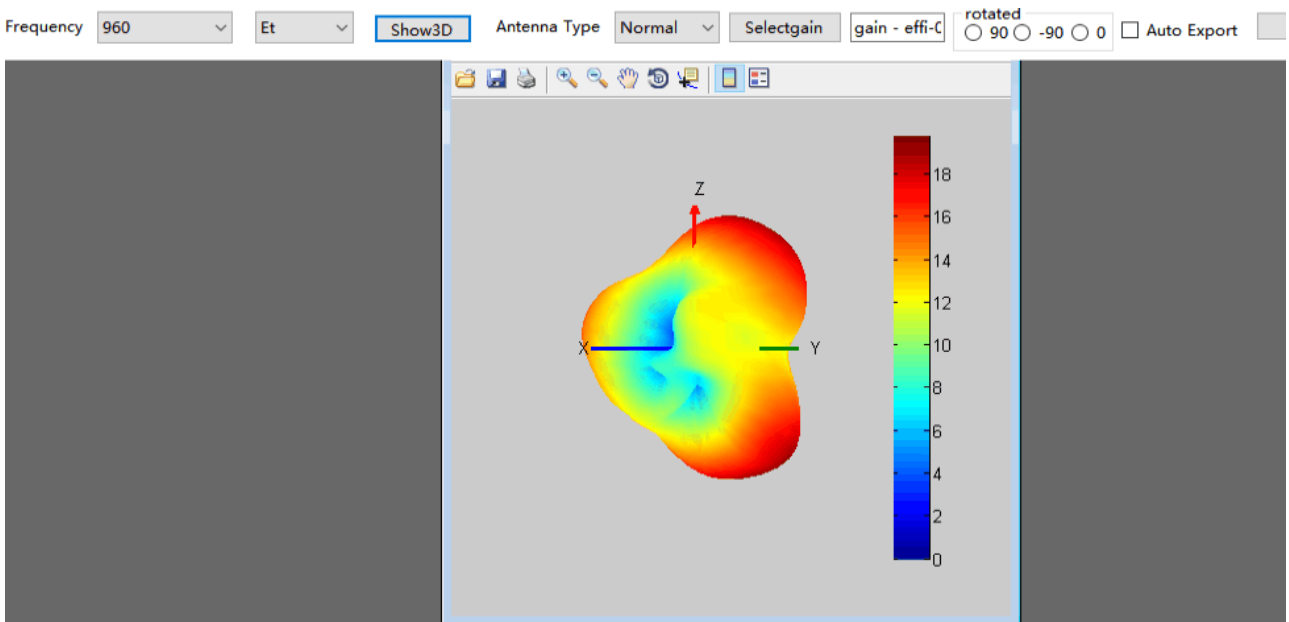
主天线无源报告Passive report of main antenna

Gain&Efficiency														
frequency 频率(MHz)	gain 增益(dBi)	mingain 最小增益	efficiency 效率(dBi)	efficiency 效率(%)										
720	-4.59	-29.64	-4.14	25.30	1840	0.69	-22.37	-4.53	35.21	2300	0.66	-19.43	-5.6	29.57
820	-3.55	-21.69	-5.7	26.92	1860	0.74	-21.79	-4.51	35.43	2320	0.31	-24.17	-5.77	31.49
840	-2.51	-27.22	-4.61	27.58	1880	0.93	-20.31	-4.35	36.70	2340	-0.3	-23.67	-5.89	31.78
860	-2.21	-20.13	-4.36	28.62	1900	0.65	-19.45	-4.45	35.87	2360	1.87	-19.45	-5.06	31.18
880	-2.8	-15.89	-3.89	28.84	1920	0.31	-18.16	-4.42	36.16	2380	1.07	-20.33	-5.62	30.42
900	-2.27	-15.91	-3.75	28.20	1940	-0.5	-18.41	-4.66	34.18	2400	1.09	-21.46	-5.48	29.31
920	-2.41	-16.59	-3.82	29.45	1960	-1.01	-18.49	-5.18	30.33	2420	1.15	-24.61	-5.25	30.84
940	-2.64	-18.9	-4.58	27.84	1980	-1.09	-18.18	-5.11	30.83	2440	0.3	-22.41	-5.38	31.99
960	-1.91	-19.07	-5.19	27.26	2000	-1.46	-17.56	-5.17	30.42	2460	0.92	-24.78	-4.88	32.54
980	-1.55	-20.59	-5.44	26.56	2020	-2.11	-17.34	-5.83	26.10	2480	0.88	-22.59	-4.84	32.79
1700	0.61	-21.95	-5.48	28.31	2040	-1.67	-16.86	-5.53	27.97	2500	0.55	-23.43	-5.08	31.05
1720	0.63	-23.51	-5.42	29.73	2060	-1.52	-17.18	-5.55	27.84	2520	0.65	-25	-5.2	30.17
1740	1.1	-22.94	-5.29	29.55	2080	-1.09	-17.08	-5.47	28.35	2540	1.61	-23.85	-4.66	34.18
1760	0.92	-25.03	-5.52	28.02	2100	-0.12	-17.59	-5.14	30.61	2560	1.66	-20.98	-4.68	34.03
1780	1.72	-18.8	-4.83	32.87	2120	0.05	-17.83	-5.02	31.49	2580	2.11	-19	-4.41	36.26
1800	2.88	-17.99	-3.73	38.34	2140	0.35	-18.39	-5.15	30.58	2600	1.93	-19.6	-4.68	34.02
					2160	0.42	-21.96	-5.67	30.12	2620	2.07	-19.69	-4.66	34.17
										2640	1.82	-21.51	-5.11	30.80

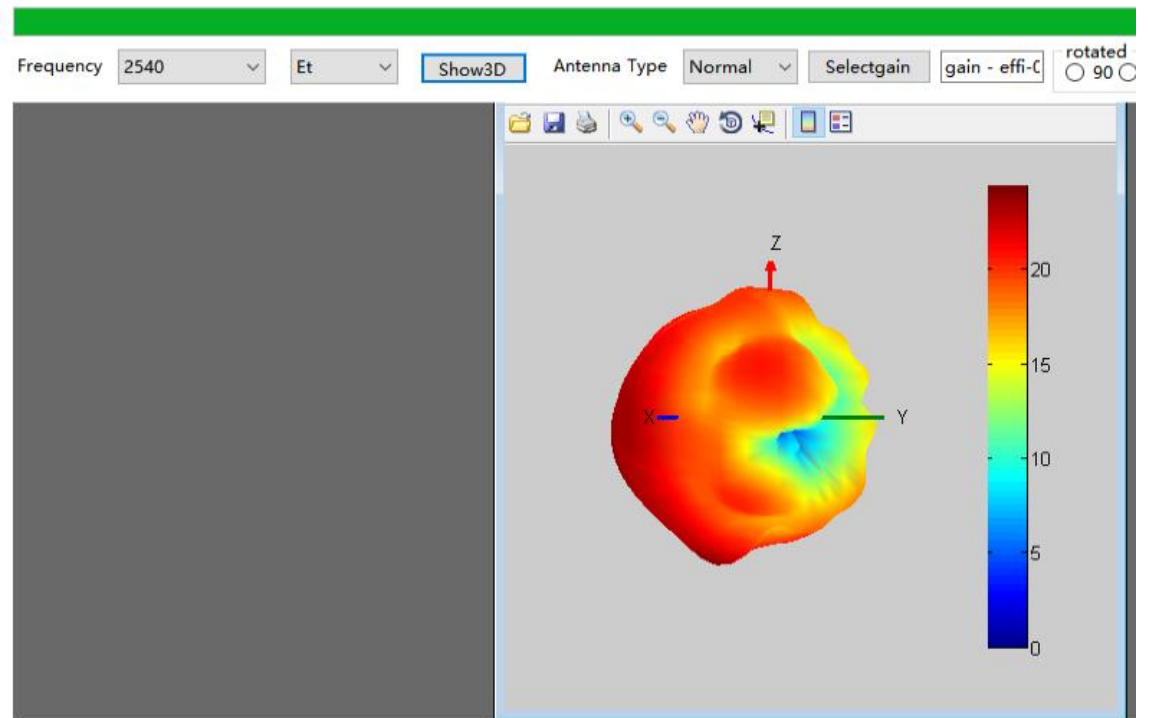
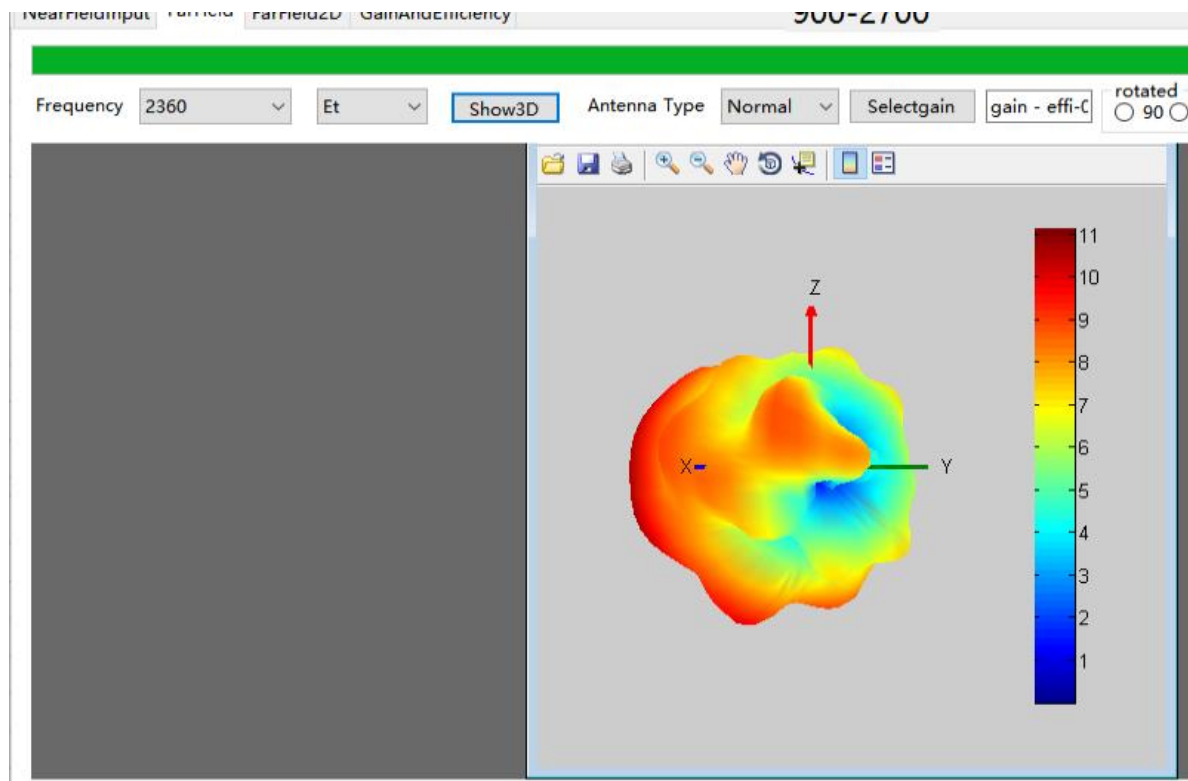
主天线苹果图Main antenna apple diagram



主天线苹果图Main antenna apple diagram



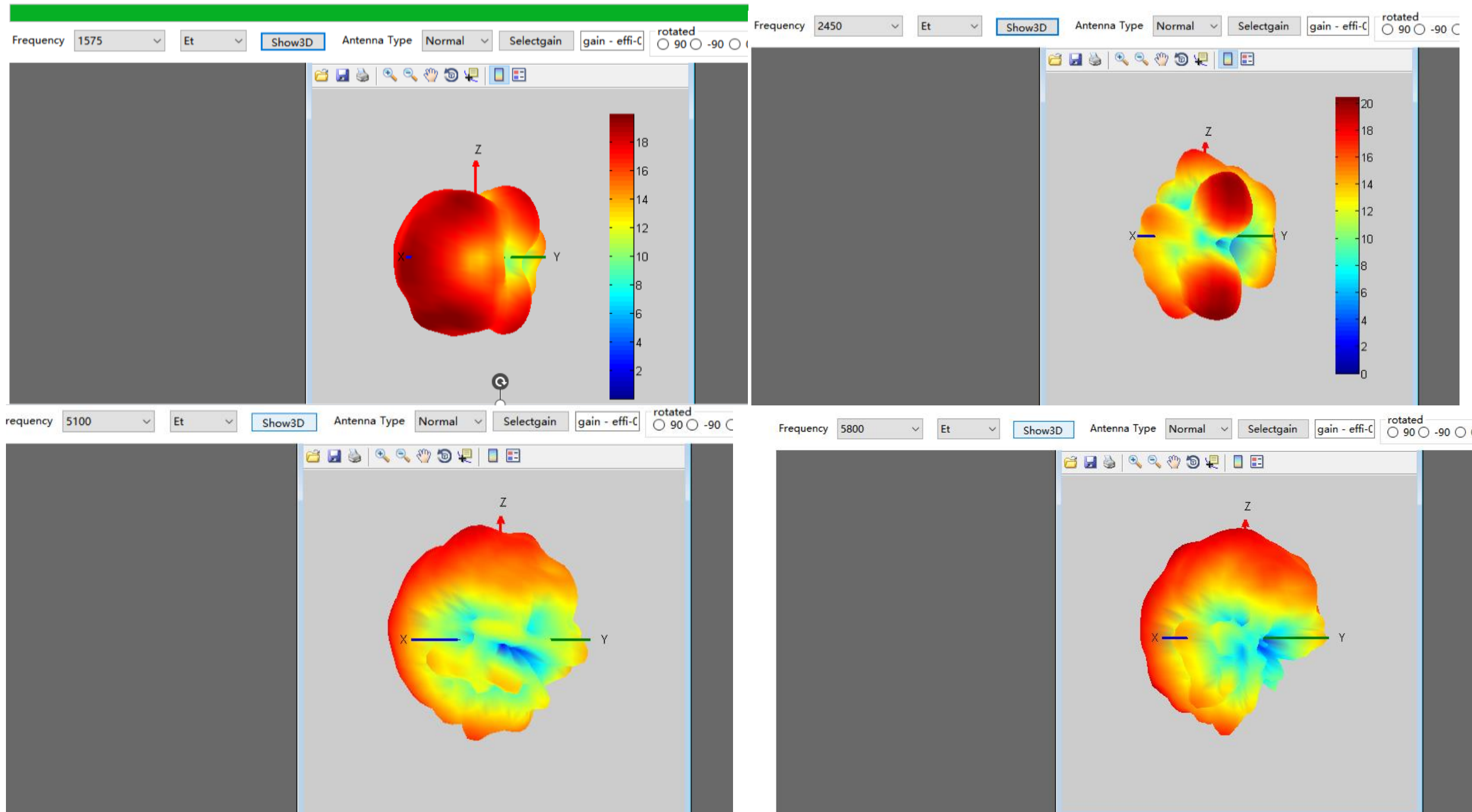
主天线苹果图Main antenna apple diagram



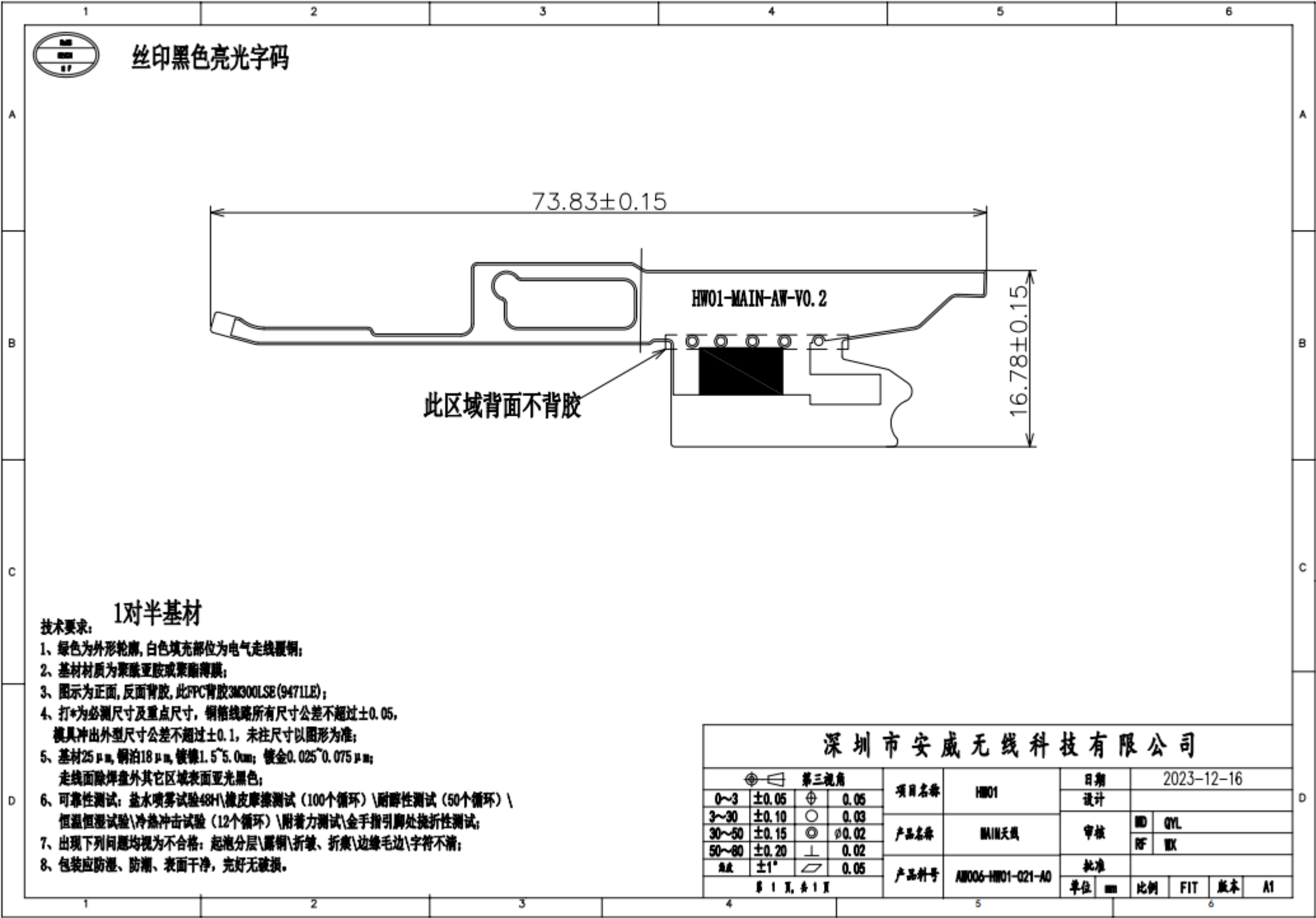
GPS/WIFI/BT无源报告Passive Data

A	D	C	
Gain&Efficiency			
frequency 频率(MHz)	gain 增益(dBi)	efficiency 效率(%)	
1575	1.6	39.32	
2400	3.21	36.01	
2450	2.47	35.76	
2500	2.19	37.24	
5100	0.66	29.43	
5200	0.73	30.33	
5300	0.35	31.61	
5400	1.56	30.77	
5500	1.63	34.67	
5600	2.49	35.75	
5700	3.55	36.91	
5800	3.95	44.31	

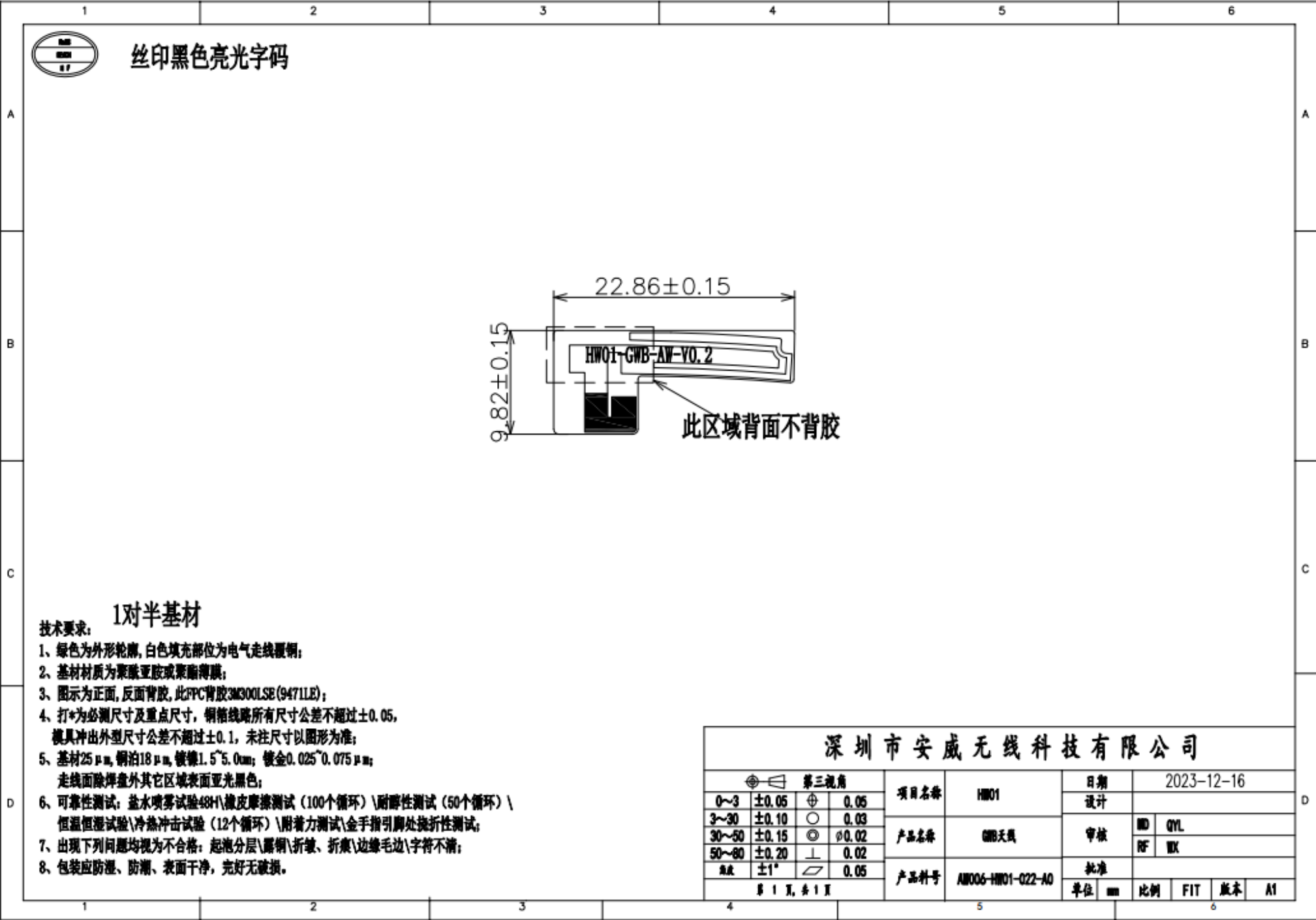
三合一苹果图Three in One Apple Chart



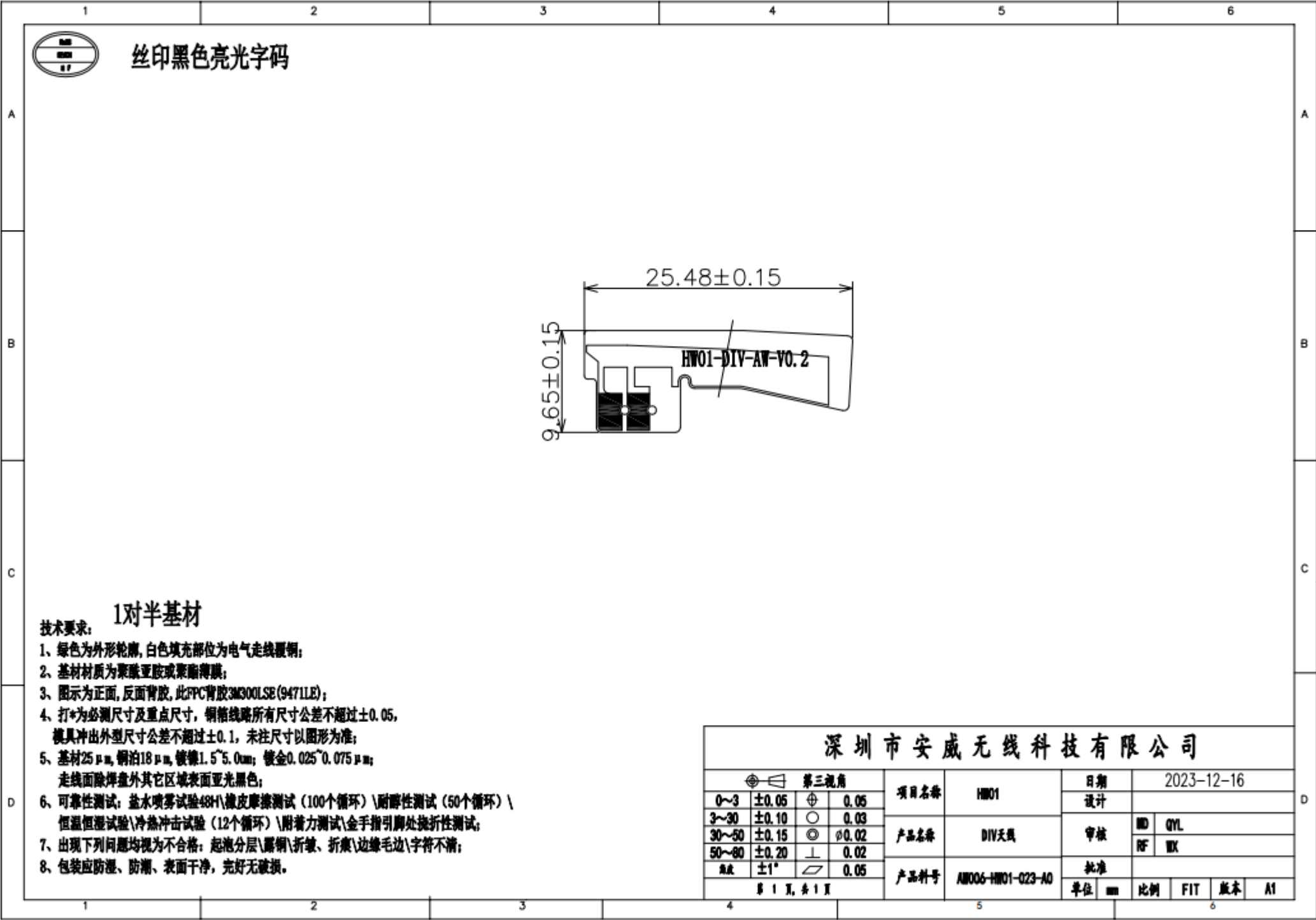
天线尺寸示意图Antenna size diagram



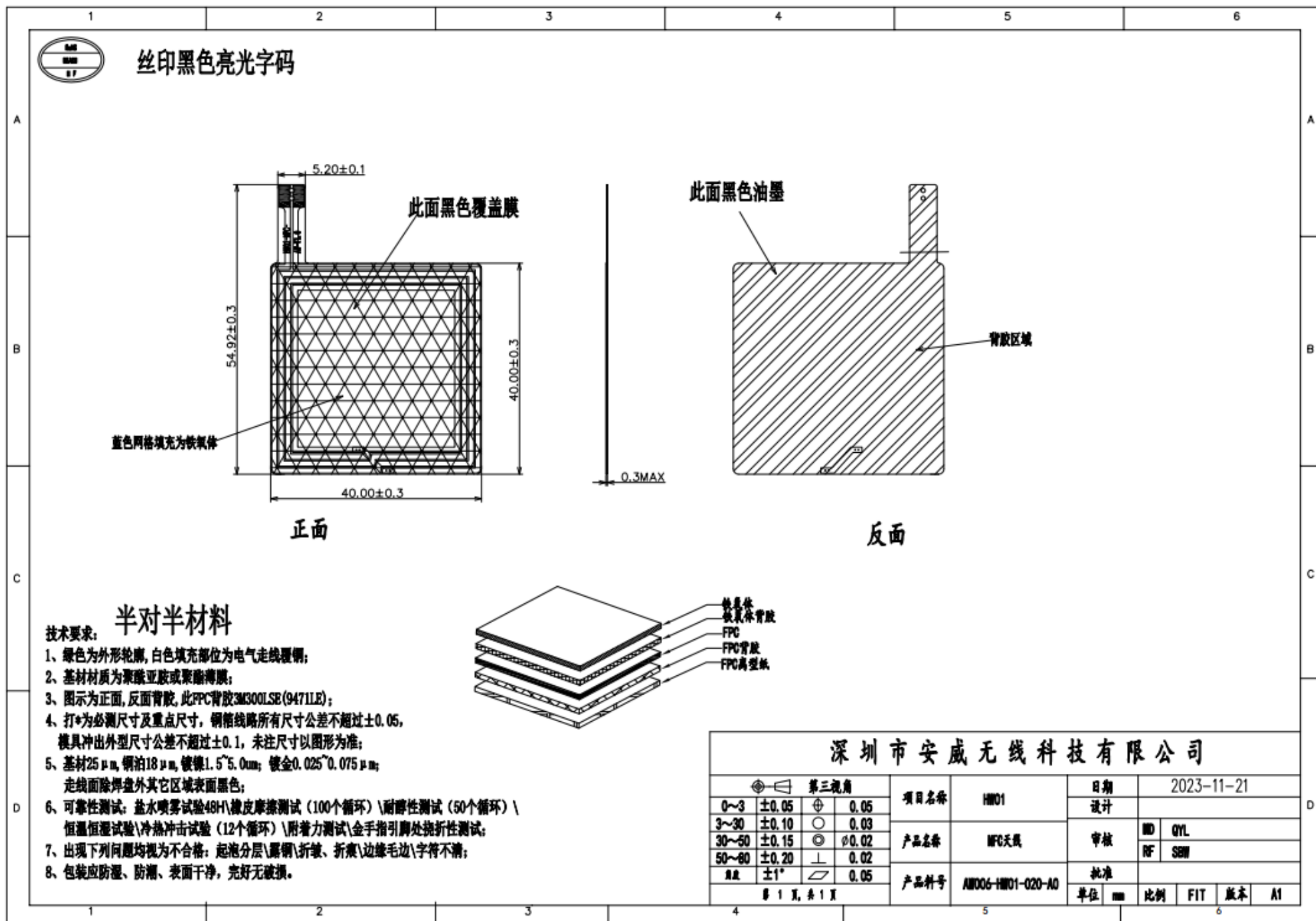
天线尺寸示意图Antenna size diagram



天线尺寸示意图Antenna size diagram



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.