

日期：2022-08-04

创天讯K02项目天线测试报告

项目版本	射频负责人	结构负责人	频段
K02	林土超	岑工	GSM:850/1900/900/1800 BT/FM
备注：换E301-V2.0主板天线共用			

本公司已经评审并符合 GB/T19001-2016/ISO9001：2015质量管理体系标准适用条款的要求
深圳市福田区泰然四路泰然科技园212栋701. www.tyquant.com

目录:

- 1, 测试环境
- 2, 匹配电路设计
- 3, 天线测试报告
- 4, 环境处理建议



天宇通天线

深圳市天宇通电子科技有限公司

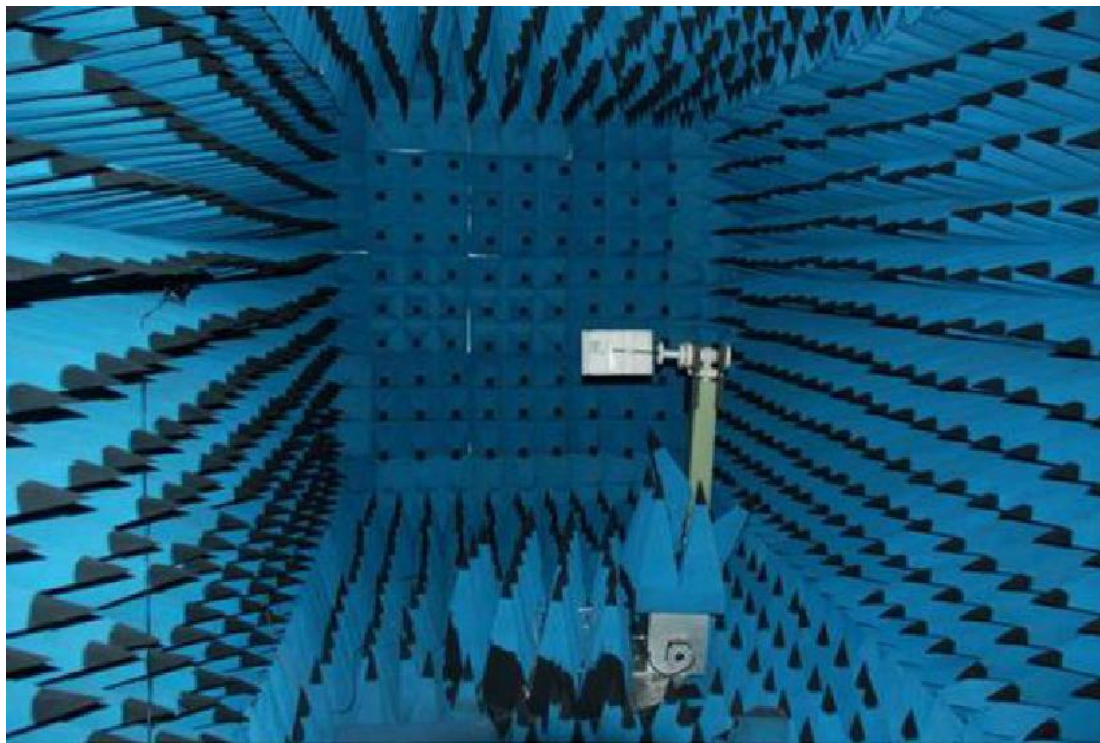
专心，专业，专注做最好的天线

1. 测试环境

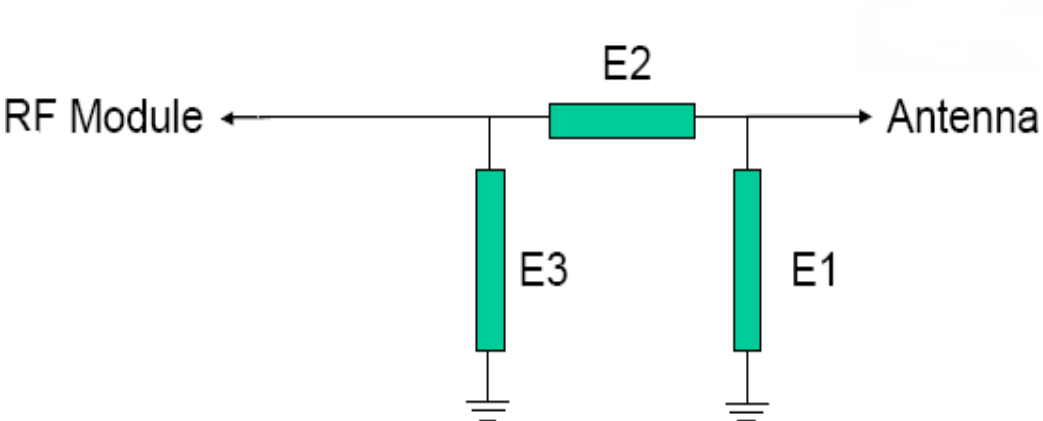
测试系统: ETS 3D屏蔽暗室

测试环境: 温度 $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$, 湿度 $50\% \pm 15\%$

测试设备: 测试无源数据时, 使用惠普8753E 网络分析仪
测试有源数据时, 使用E5515C-8960 3G全功能综测仪
测试有源数据时, 使用8820C 4G全功能综测仪



2. 匹配电路设计



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

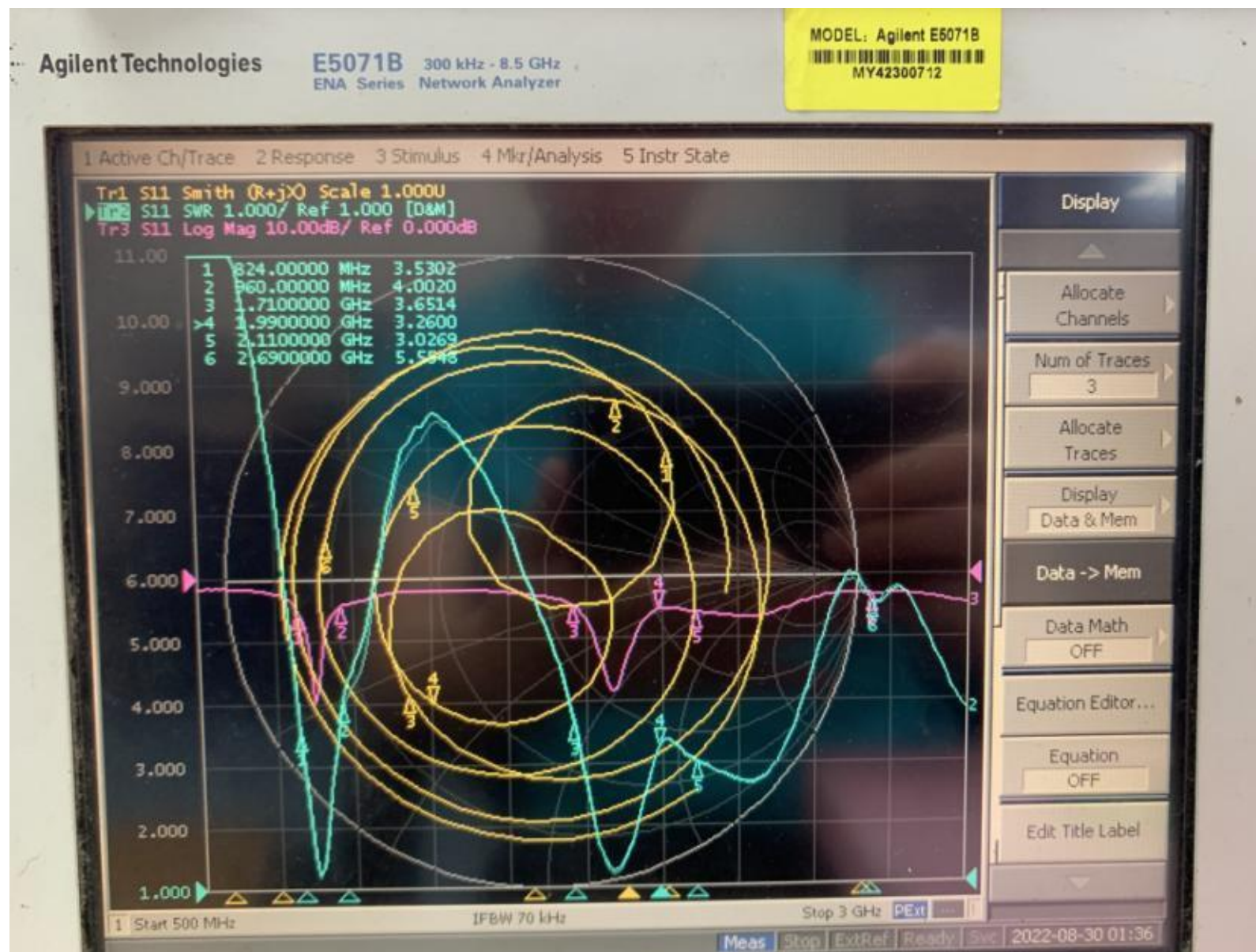
3. 1 2G测试报告

	EGSM900			Remarks	DCS1800			Remarks
Channel	1	62	124		512	698	885	
MaxPower (dBm)	31.2	31.5	31.4		28.3	28.2	28.5	
TRP(dBm)	28.4	28.6	28.5		25.1	24.8	25.0	
MaxSensitivity(dBm)	-106.3	-105.7	-105.1		-106.1	-106.2	-106.3	
TIS(dBm)	-103.1	-102.5	-102.5		-103.1	-102.8	-103.1	
	EGSM850			Remarks	PCS1900			Remarks
Channel	128	190	250		512	661	810	
MaxPower (dBm)	29.1	29.8	30.1		28.7	28.8	28.6	
TRP(dBm)	26.5	27.2	27.4		25.2	25.3	25.1	
MaxSensitivity(dBm)	-104.8	-105.9	-106.1		-105.8	-105.1	-105.2	
TIS(dBm)	-102.1	-101.7	-103.1		-102.1	-102.5	-102.0	

4. 1 天线增益

GSM频段天线增益	850:-0.7dBi 1900:-1.7dBi
BT天线增益	0.8dbi

4.2 驻波比



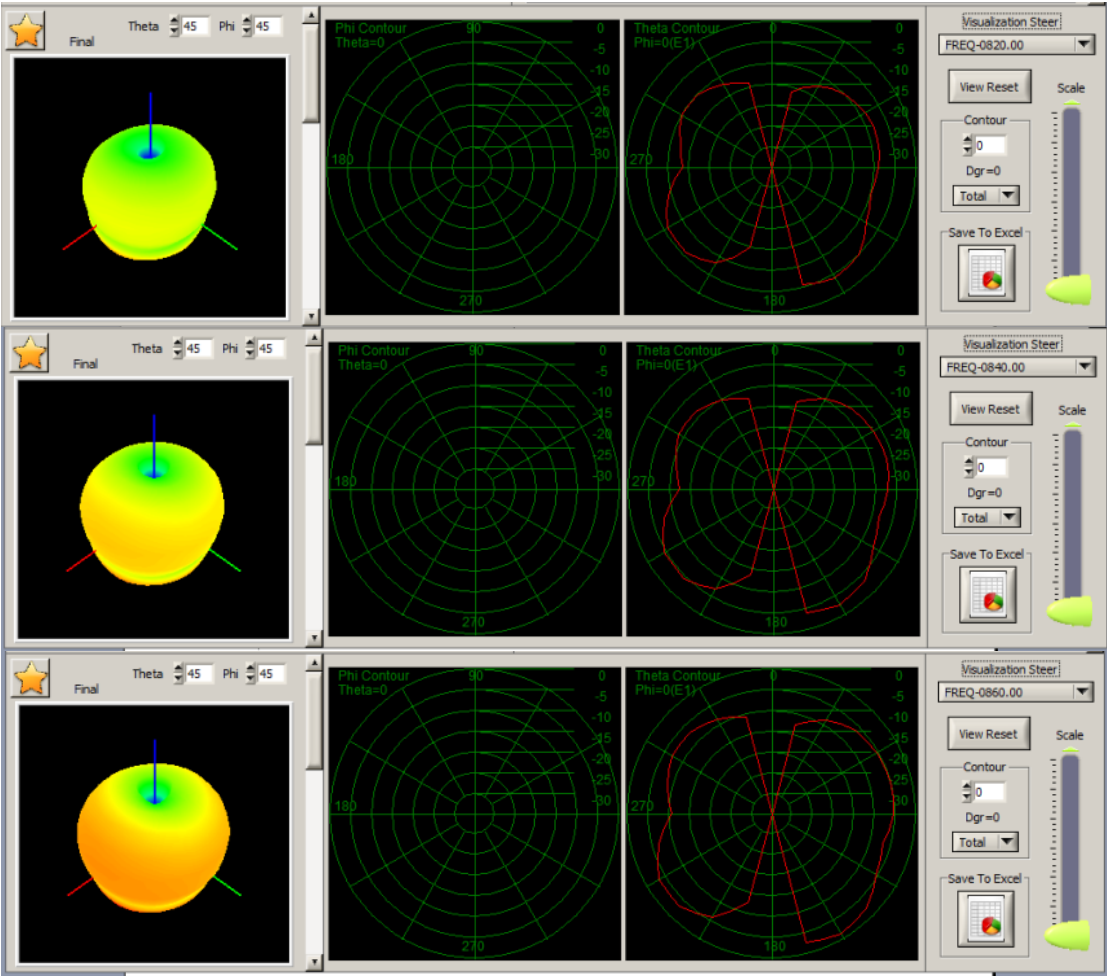
OTA测试（自由空间）

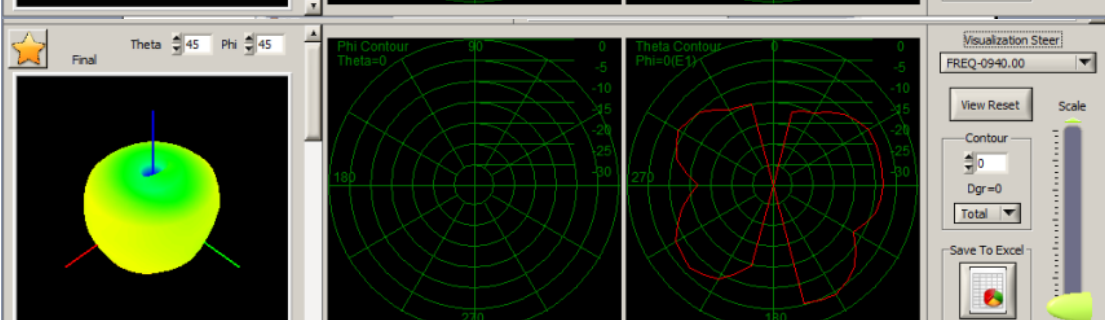
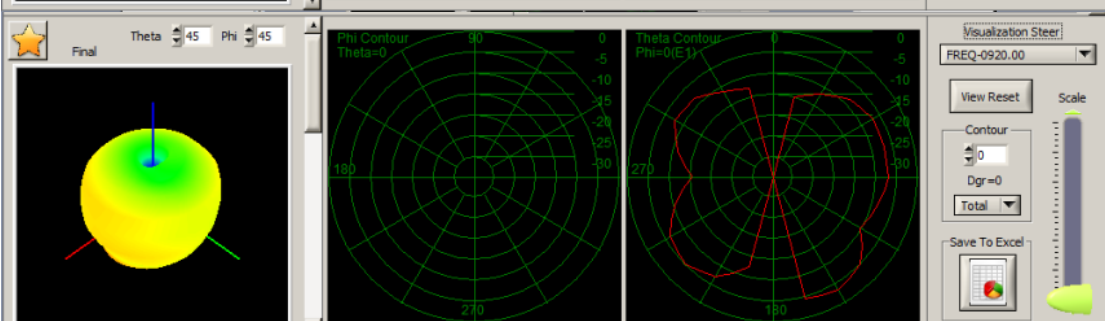
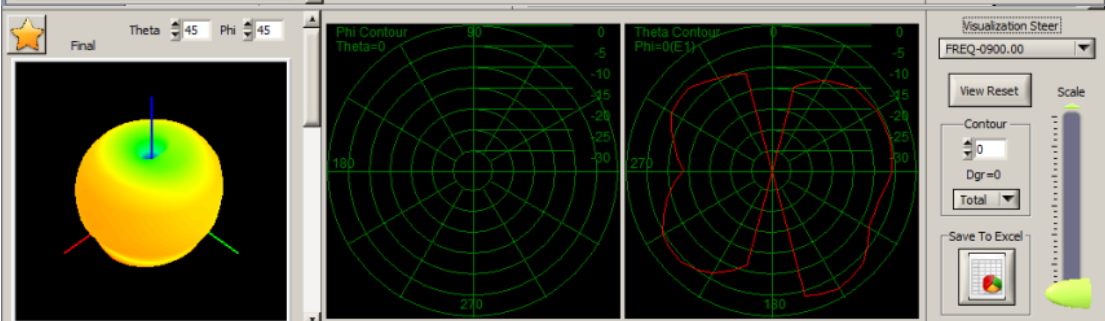
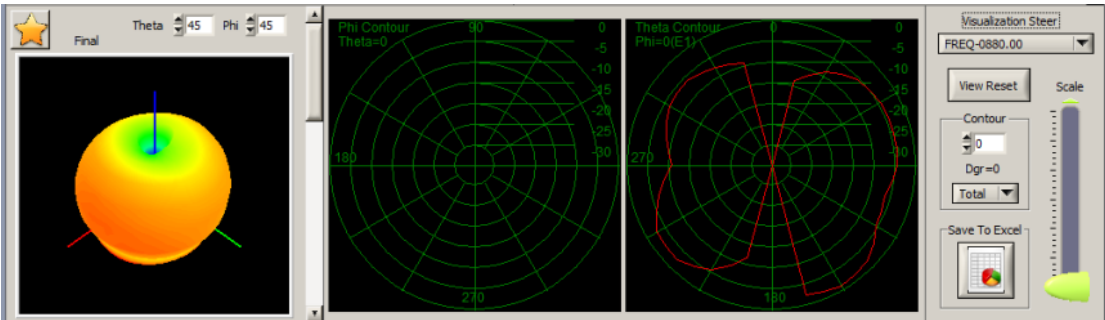
GSM
增益&效率测试

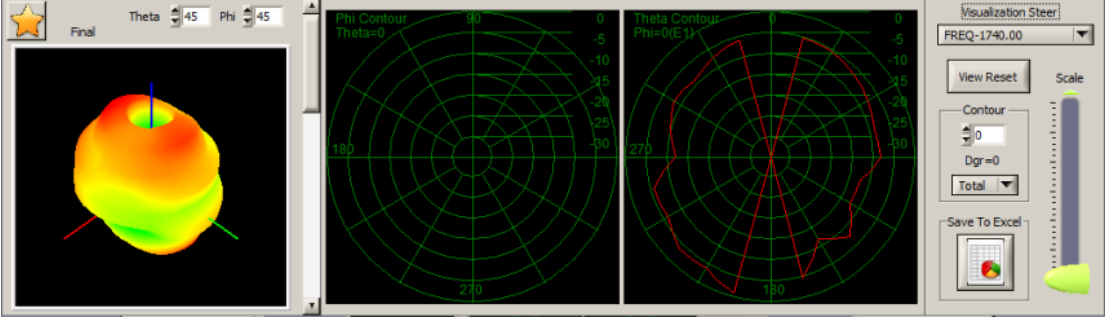
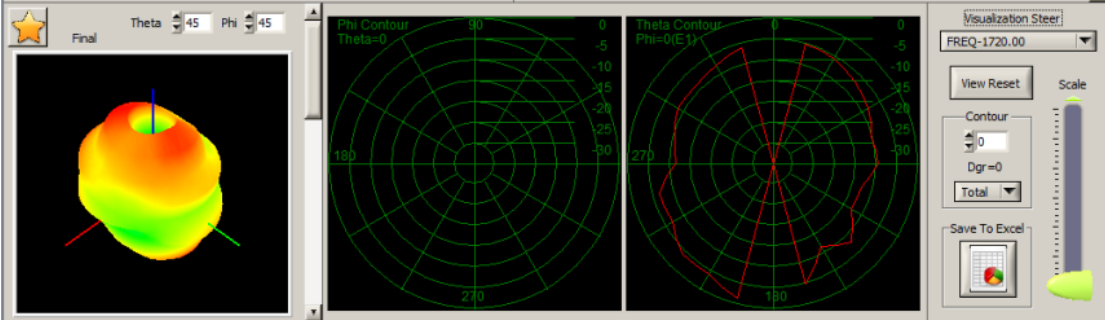
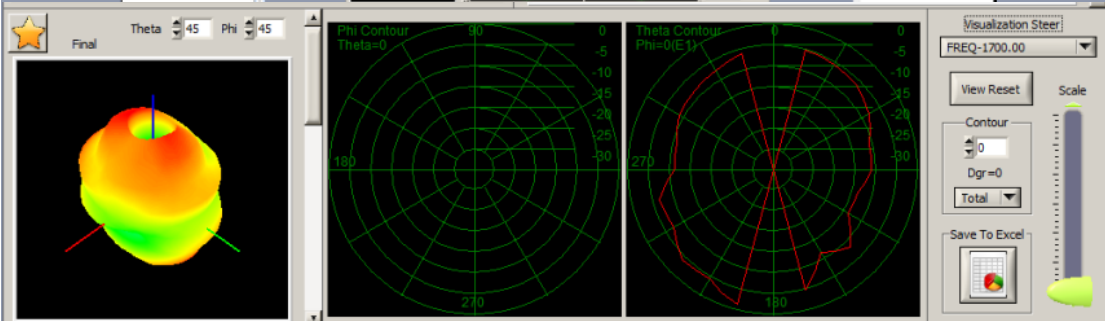
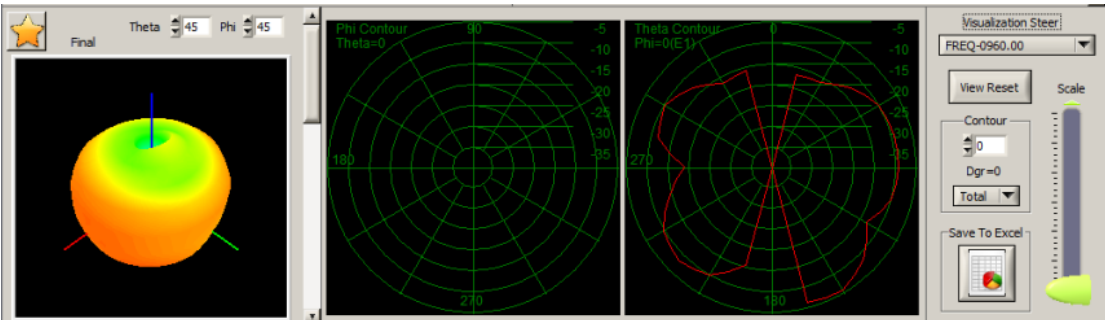
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	820.0	840.0	860.0	880.0	900.0	920.0	940.0	960.0	1710.0	1730.0	1750.0
Tot. Rad. Pwr. (dBm)	-8.10	-6.77	-5.58	-5.49	-6.51	-7.75	-9.04	-10.54	-6.54	-6.46	-6.03
Peak EIRP (dBm)	-3.78	-2.33	-0.89	-0.7	-1.63	-2.81	-3.74	-5.02	-0.90	-0.99	-0.54
Directivity (dBi)	4.32	4.44	4.69	5.21	4.88	4.95	5.30	5.51	5.64	5.47	5.49
Efficiency (dB)	-8.10	-6.77	-5.58	-5.49	-6.51	-7.75	-9.04	-10.54	-6.54	-6.46	-6.03
Efficiency (%)	15.50	21.10	27.70	28.20	22.30	16.80	12.50	8.80	22.20	22.60	24.90
Gain (dBi)	-3.78	-2.33	-0.89	-0.7	-1.63	-2.81	-3.74	-5.02	-0.90	-0.99	-0.54

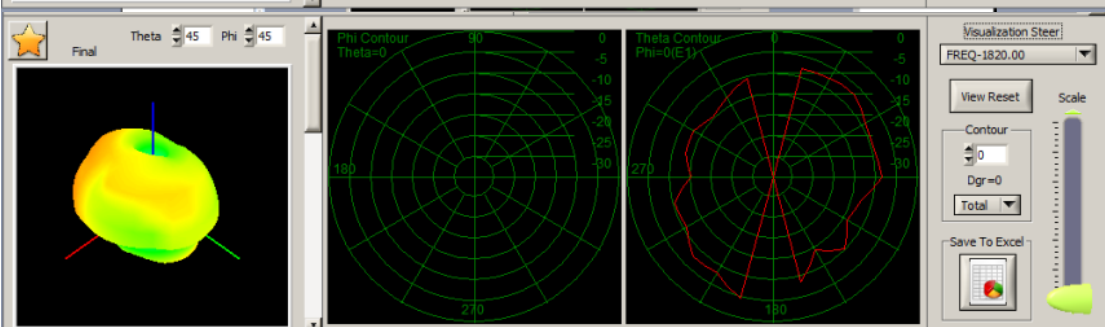
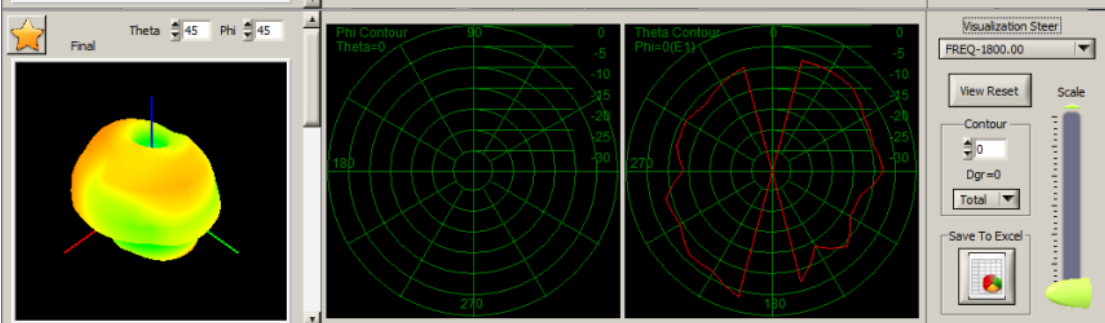
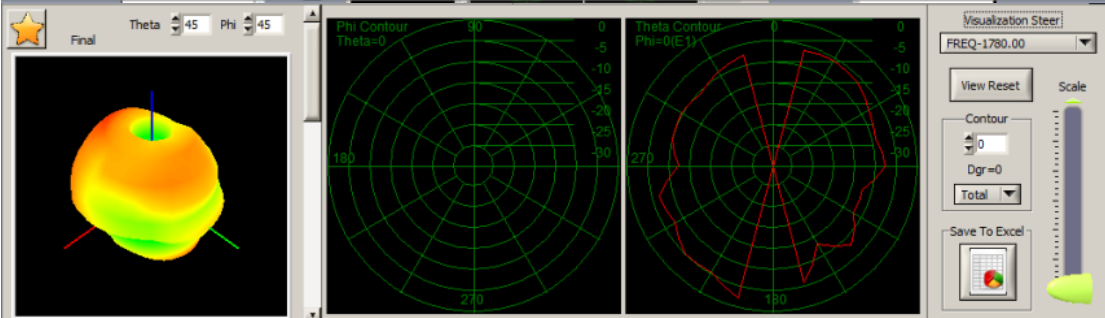
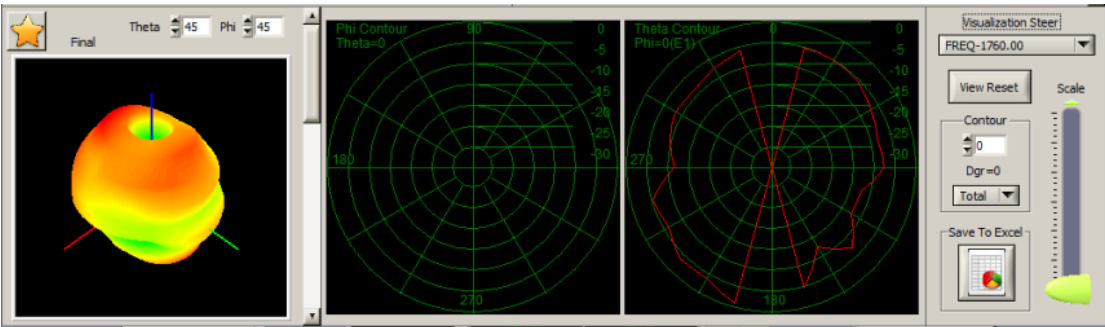
12	13	14	15	16	17	18	19	20	21	22	23	24
1770.0	1790.0	1810.0	1830.0	1830.0	1850.0	1870.0	1890.0	1910.0	1930.0	1950.0	1970.0	1990.0
-6.80	-7.05	-8.00	-8.44	-8.44	-8.66	-8.80	-8.87	-10.24	-10.76	-11.67	-11.63	-11.35
-1.55	-2.39	-3.59	-4.13	-4.13	-2.52	-1.7	-2.88	-2.32	-2.40	-3.01	-2.92	-2.37
5.25	4.66	4.41	4.31	4.31	4.13	4.13	3.99	4.92	5.36	5.66	5.71	5.98
-6.80	-7.05	-8.00	-8.44	-8.44	-8.66	-8.80	-8.87	-10.24	-10.76	-11.67	-11.63	-11.35
20.90	19.70	15.80	14.30	14.30	13.60	13.20	13.00	9.50	8.40	6.80	6.90	7.30
-1.55	-2.39	-3.59	-4.13	-4.13	-2.52	-1.7	-2.88	-2.32	-2.40	-3.01	-2.92	-2.37

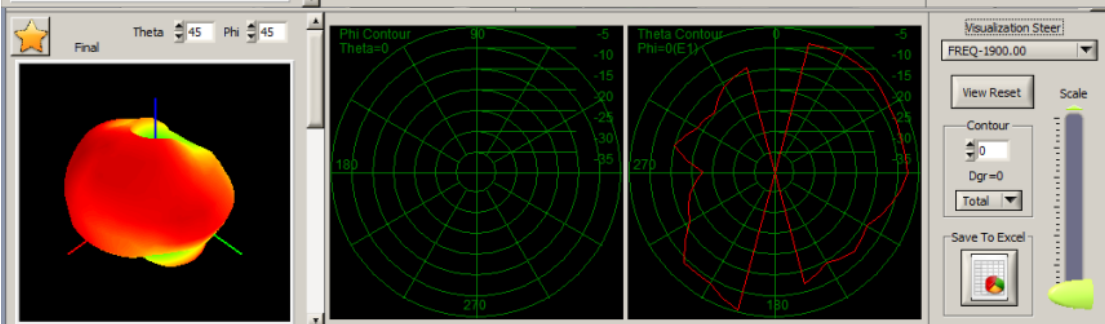
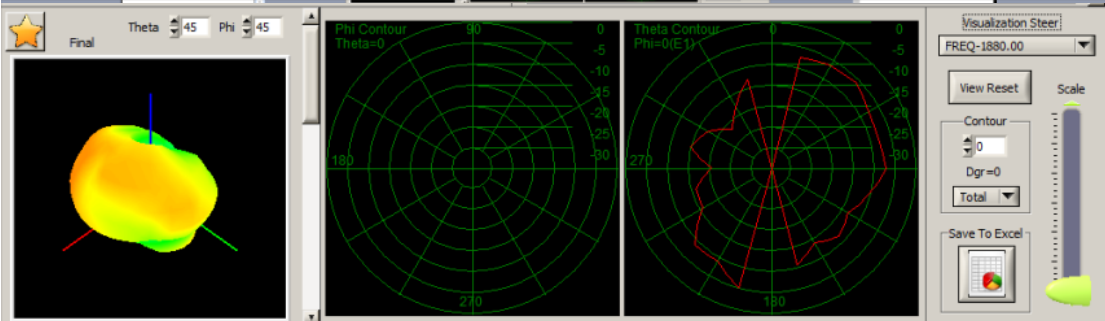
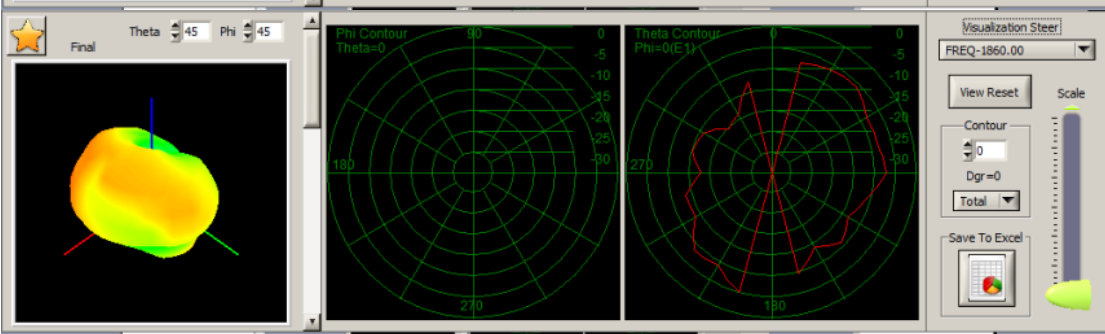
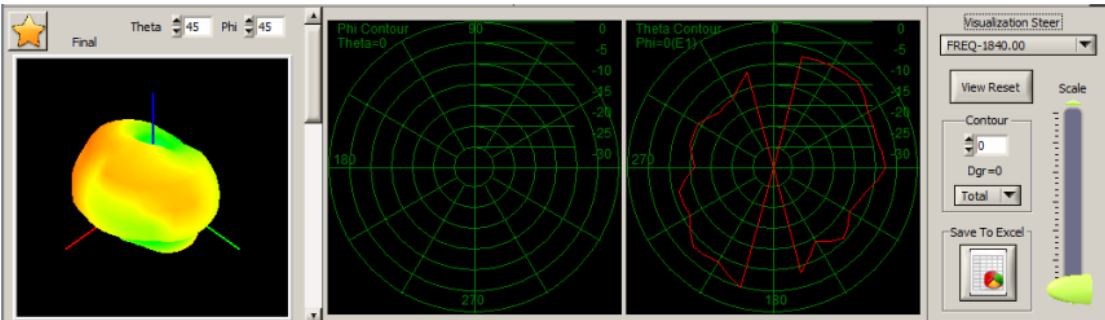
场强图

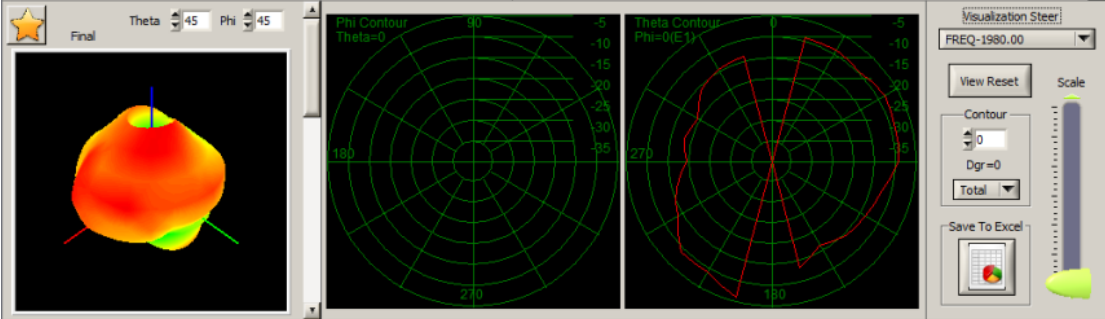
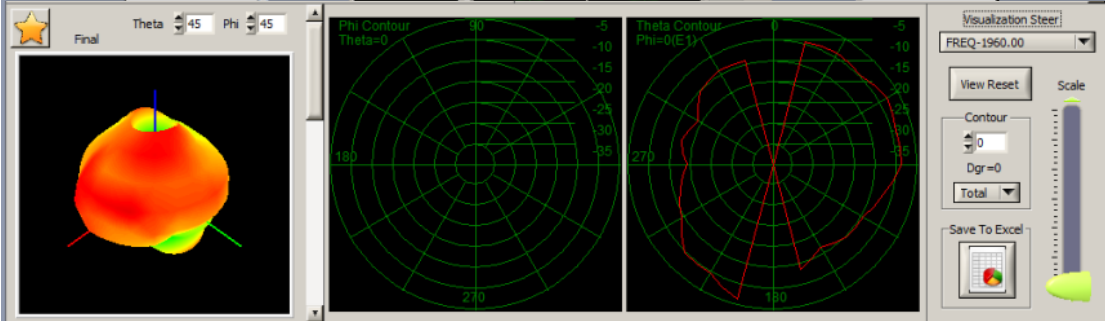
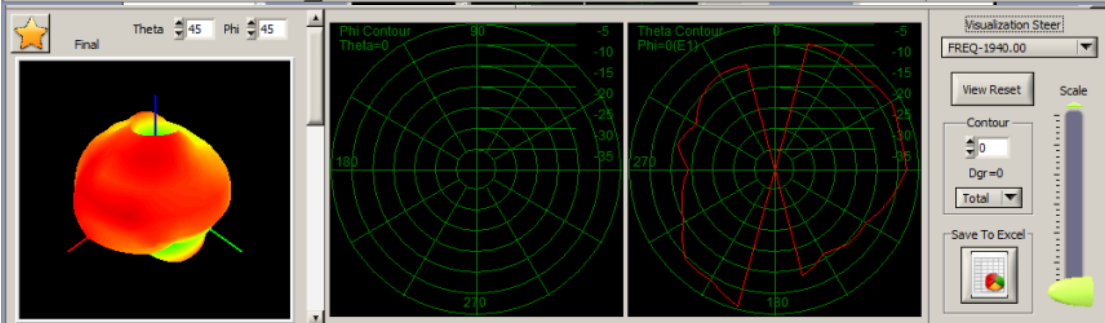
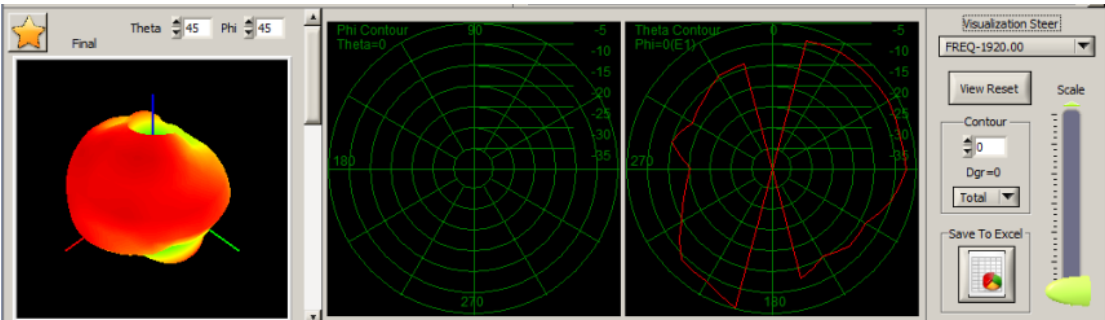


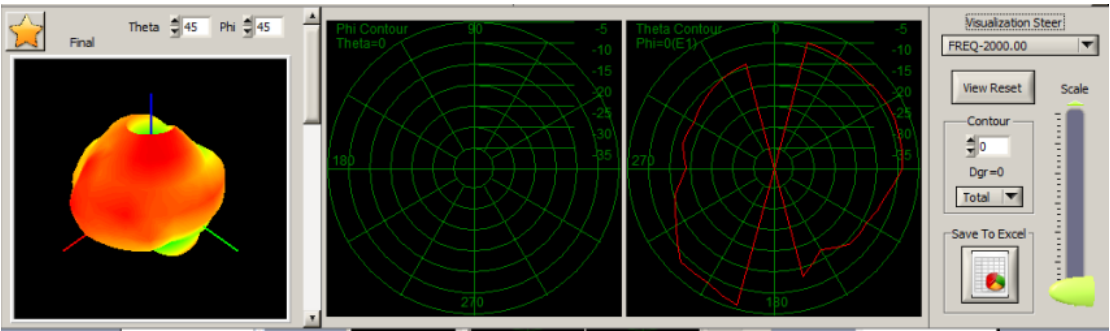










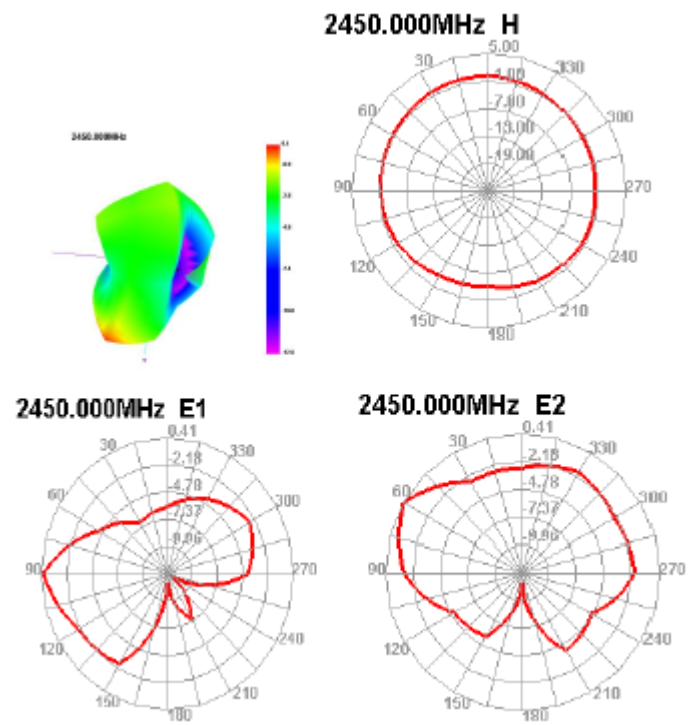


BT

增益&效率测试

Freq	Effi	Gain
(MHz)	(%)	(dBi)
2400	44.64	-0.16
2410	43.85	-0.09
2420	37.24	-0.79
2430	40.15	-0.62
2440	43.84	-0.2
2450	50.54	0.41
2460	51.98	0.4
2470	52.5	0.7
2480	57.2	0.8
2490	57.37	0.65
2500	59.4	0.57

场强图



4.1 环境处理



4.2 环境处理

