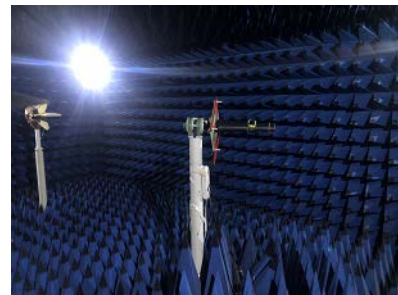




深圳市昱晟通讯设备有限公司

Yusheng Communications-equipment Co.,LTD

天线测试报告



项目调试简介

机 型	平板			
板 型	主板			
频段及天线材质	主天线	频 段		材 质
		2G	GSM850/900/1800/1900	FPC+同轴线
		3G	WCDMA B2/5	
	4G	LTEB2/4/5/12/17/66/71 41		
	其他天线	GWB	1575. 42MHz/2. 450G/5. 8GHz	FPC
		DRX	\	\
性能要求	按客户要求执行			

天线有源参数

	频段	CH	TRP (db)	TIS (dbm)
2G	GSM850	CH(低)	27.02	
		CH(中)	27.06	
		CH(高)	27.08	- 101.04
	EGSM900	CH(低)	25.12	
		CH(中)	24.15	
		CH(高)	23.17	-98.08
	DCS1800	CH(低)	25.03	
		CH(中)	25.25	

	频段	CH	TRP (db)	TIS (dbm)
3G	W2	CH(低)	18.04	
		CH(中)	17.62	
		CH(高)	17.11	- 102.51
	W5	CH(低)	17.02	
		CH(中)	17.08	
		CH(高)	17.11	- 102.06

天线有源参数

	频段	CH	TRP (db)	TIS (dbm)	频段	CH	TRP (db)	TIS (dbm)
LTE	B2	CH(低)	19.25		B17	CH(低)	17.59	
		CH(中)	18.73			CH(中)	18.09	
		CH(高)	17.79	-91.07		CH(高)	18.32	-92.04
	B4	CH(低)	18.58		B41	CH(低)	21.12	
		CH(中)	19.06			CH(中)	21.62	-88.56
		CH(高)	18.51	-91.01		CH(高)	21.18	
	B5	CH(低)	17.87		B66	CH(低)	18.54	
		CH(中)	17.90			CH(中)	19.03	
		CH(高)	18.09	-88.53		CH(高)	18.37	-91.12
	B12	CH(低)	17.22		B71	CH(低)	16.57	
		CH(中)	17.49			CH(中)	16.92	
		CH(高)	18.15	-92.02		CH(高)	17.41	-88.55

天线有源参数

	802.11	信道号			
			TRP (db)	TIS (dbm)	
WIFI	11B	CH1	12.05		
		CH7	12.16		
		CH13	12.28	-84.07	
	11G	CH1	11.32		
		CH7	11.47		
		CH13	11.61	-69.06	
	11N	CH1	11.11		
		CH7	11.27		
		CH13	11.38	-65.11	

天线增益

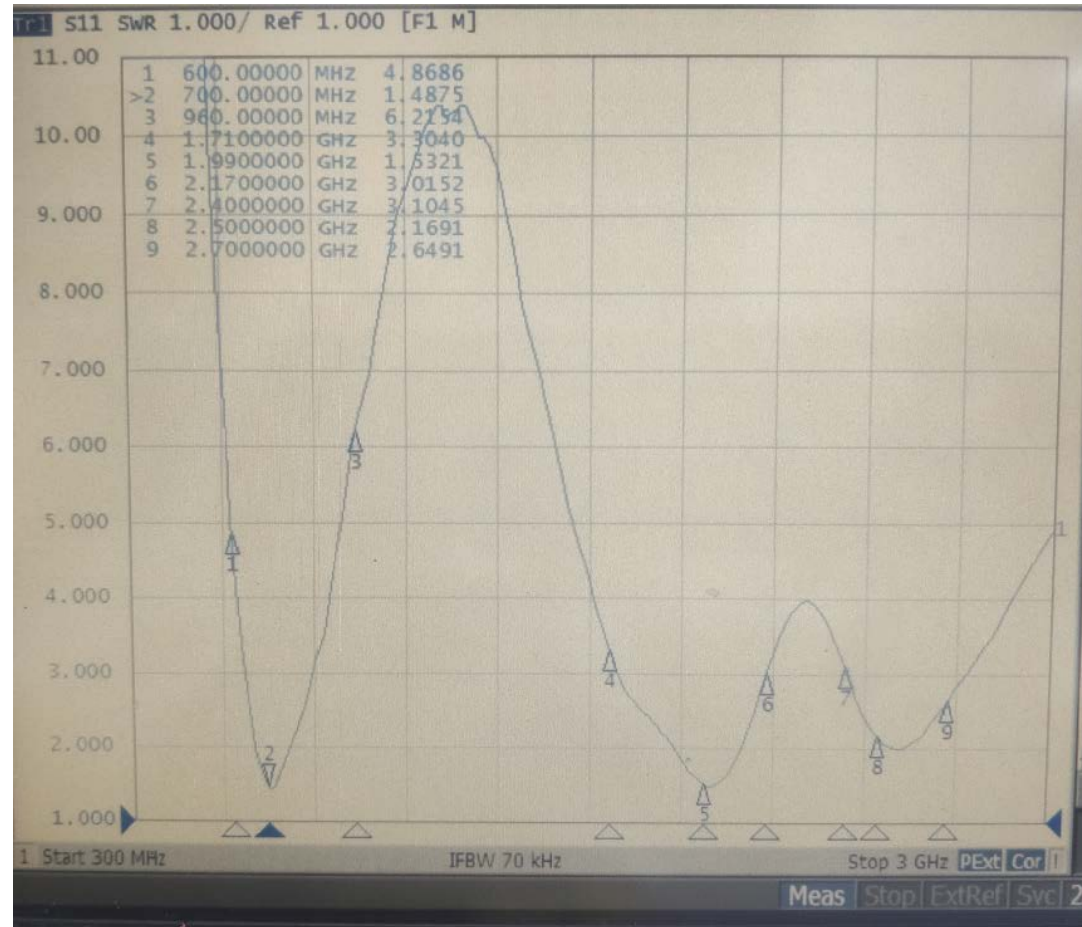
Band	Gain (MAX)
GSM850	0.65
EGSM900	0.69
DCS1800	1.08
PCS1900	1.12
WCDMA B2	1.12
WCDMA B4	1.05
Band2	1.12
Band5	1.05
Band5	0.65
Band12	0.58
Band17	0.58
Band41	1.18
Band66	1.07
Band71	0.52

Band	Gain (MAX)
GPS	1.02
2.4GWiFi	1.16
BT	1.16

主天线无源参数

Passive Test

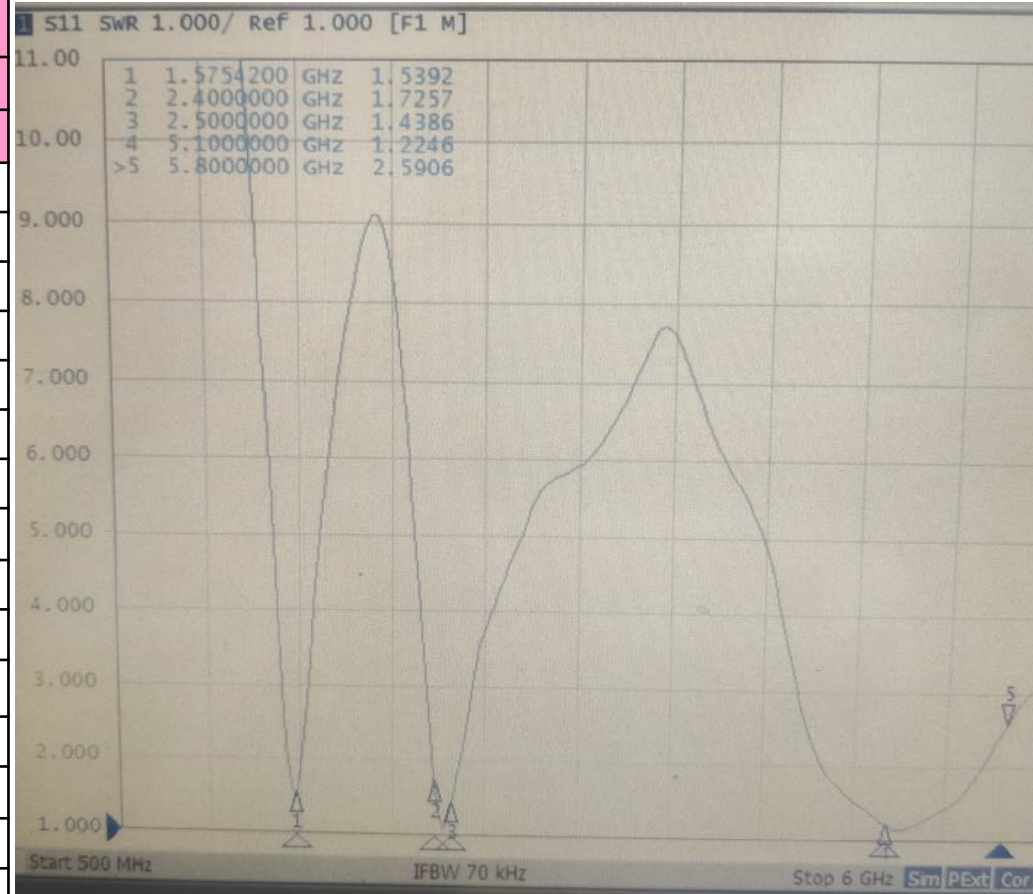
Freq (MHz)	Effi (%)	Freq (MHz)	Effi (%)
600.0	21.2%	2020.0	51.5%
650.0	22.9%	2060.0	50.7%
700.0	25.4%	2100.0	51.2%
740.0	26.6%	2140.0	51.9%
780.0	27.1%	2180.0	50.6%
820.0	30.3%	2220.0	45.3%
860.0	31.5%	2260.0	42.0%
900.0	25.2%	2300.0	44.3%
940.0	21.0%	2340.0	45.9%
980.0	18.1%	2380.0	47.2%
1700.0	45.2%	2420.0	48.5%
1740.0	47.6%	2460.0	49.3%
1780.0	49.2%	2500.0	50.5%
1820.0	51.4%	2540.0	51.9%
1860.0	48.3%	2580.0	52.8%
1900.0	50.2%	2620.0	54.2%
1940.0	51.4%	2660.0	53.1%
1980.0	52.6%	2700.0	51.9%



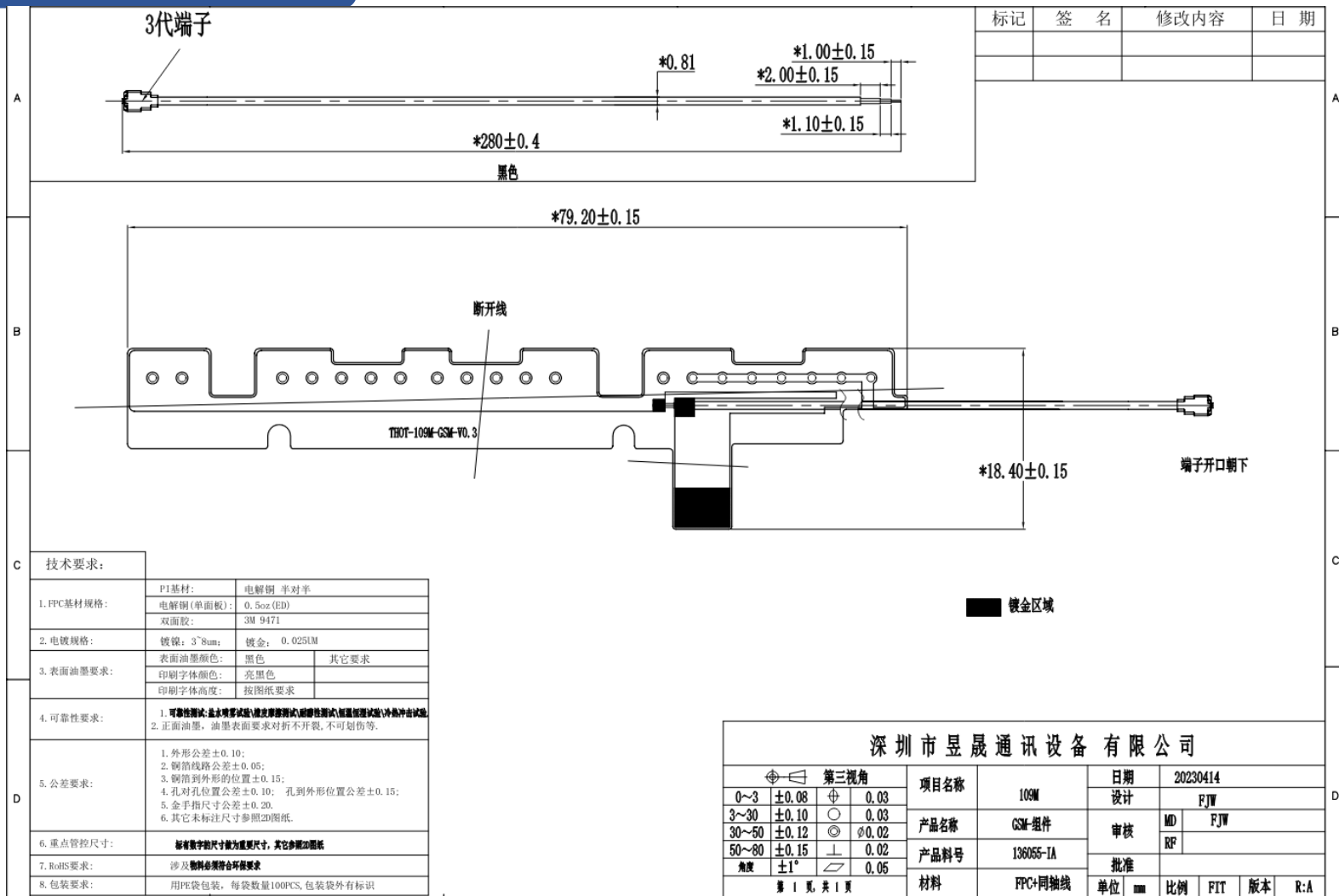
四合一天线无源参数

Passive Test

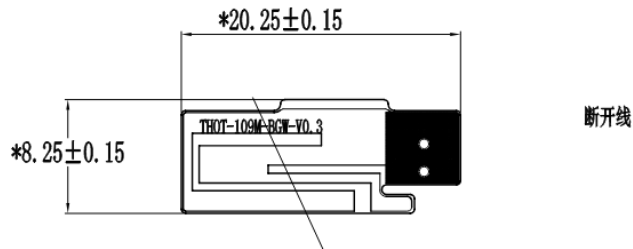
Freq (MHz)	Effi (%)		
1560.0	31.5%		
1565.0	32.2%		
1570.0	32.9%		
1575.0	33.4%		
1580.0	32.8%		
1585.0	32.0%		
1590.0	31.4%		
2400.0	32.3%		
2420.0	32.9%		
2440.0	33.5%		
2460.0	33.0%		
2480.0	32.6%		
2500.0	32.2%		



主天线尺寸图



四合一天线尺寸图



技术要求:

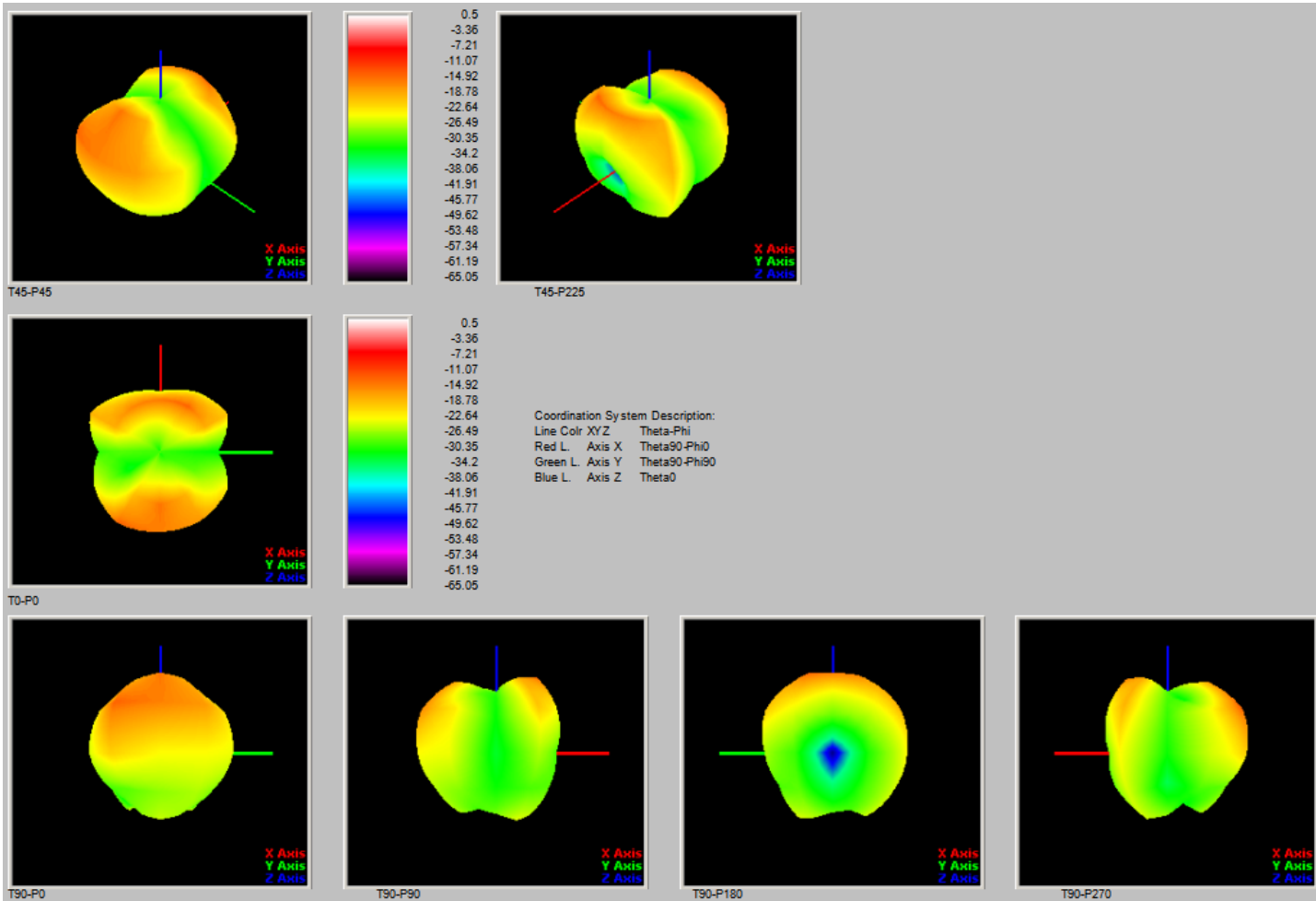
1. FPC基材规格:	PI基材:	电解铜 半对半	
	电解铜(单面板):	0.5oz(ED)	
	双面胶:	3M 9471	
2. 电镀规格:	镀镍: 3~8um;	镀金: 0.025UM	
3. 表面油墨要求:	表面油墨颜色:	黑色	其它要求
	印刷字体颜色:	亮黑色	
	印刷字体高度:	按图纸要求	
4. 可靠性要求:	1. 可靠性测试: 盐雾喷雾试验\橡皮摩擦测试\耐弯折测试\恒温恒湿试验\冷热冲击试验 2. 正面油墨, 油墨表面要求对折不开裂, 不可划伤等。		
5. 公差要求:	1. 外形公差±0.10; 2. 铜箔线路公差±0.05; 3. 铜箔到外形的位±0.15; 4. 孔对孔位置公差±0.10; 孔到外形位置公差±0.15; 5. 金手指尺寸公差±0.20. 6. 其它未标注尺寸参照2D图纸。		
6. 重点管控尺寸:	标有数字的尺寸为重要尺寸, 其它参照2D图纸		
7. RoHS要求:	涉及物料必须符合环保要求		
8. 包装要求:	用PE袋包装, 每袋数量100PCS, 包装袋外有标识		

镀金区域

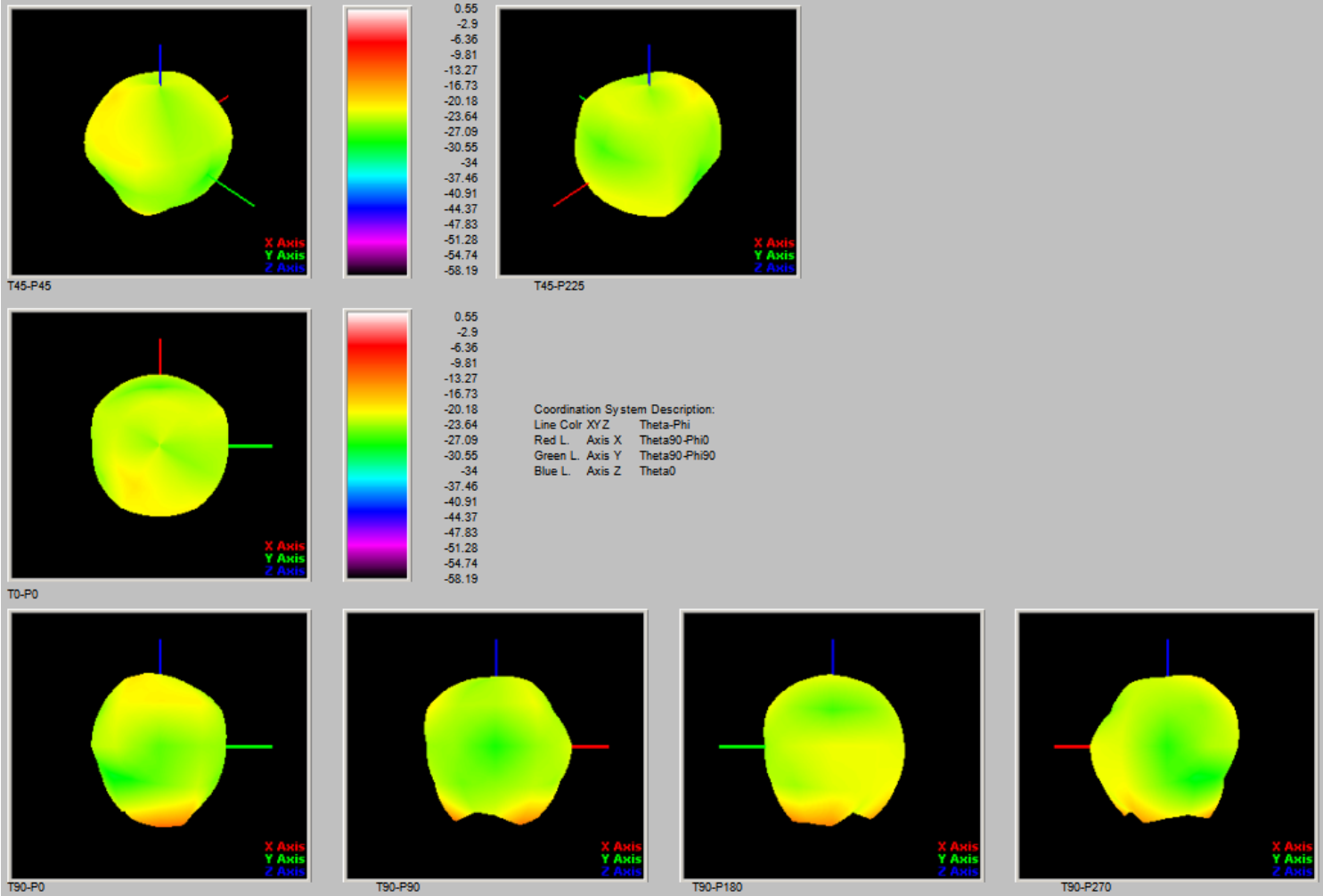
深圳市昱晟通讯设备有限公司

第三视角		项目名称	109M	日期	20230414				
0~3	±0.08	⊕	0.03	设计	FJW				
3~30	±0.10	○	0.03	审核	MD	FJW			
30~50	±0.12	◎	∅0.02		RF				
50~80	±0.15	∟	0.02	批准					
角度	±1°	∠	0.05						
第 1 页, 共 1 页		材料	电解铜 (半对半)	单位	mm	比例	FIT	版本	R:A

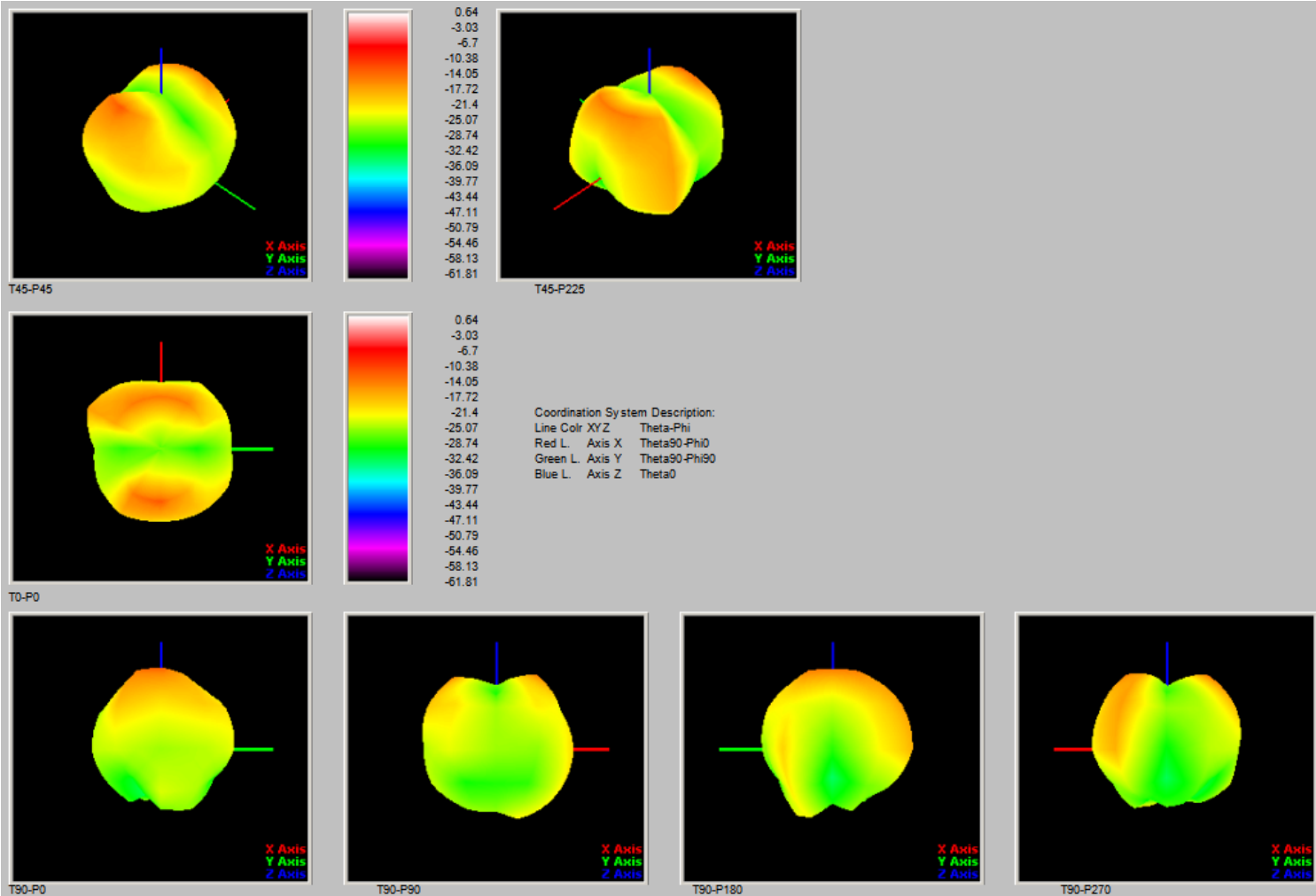
无源参数-苹果图-600MHz-700MHz



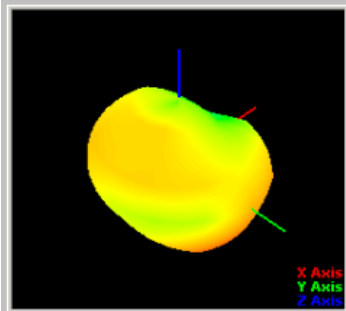
无源参数-苹果图-700MHz-800MHz



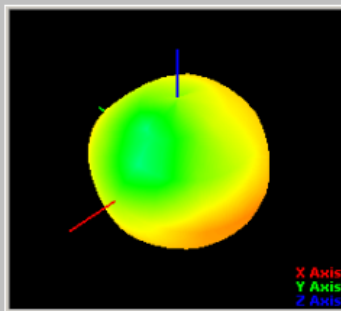
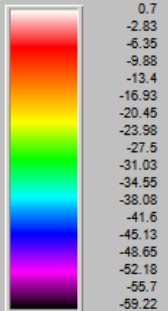
无源参数-苹果图-824MHz-880MHz



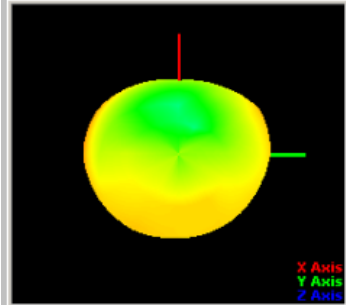
无源参数-苹果图-880MHz-960MHz



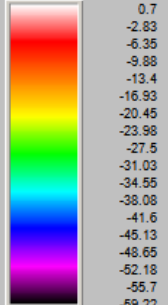
T45-P45



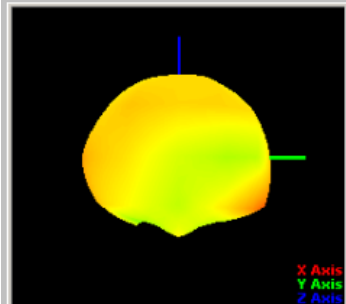
T45-P225



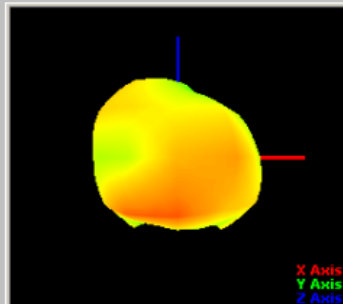
T0-P0



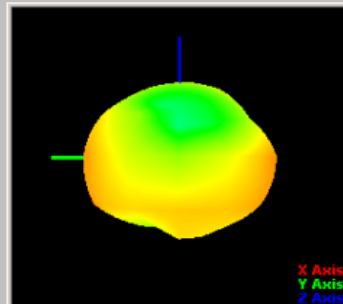
Coordination System Description:
 Line Color XYZ Theta-Phi
 Red L. Axis X Theta90-Phi0
 Green L. Axis Y Theta90-Phi90
 Blue L. Axis Z Theta0



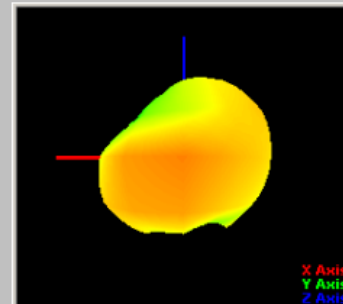
T90-P0



T90-P90

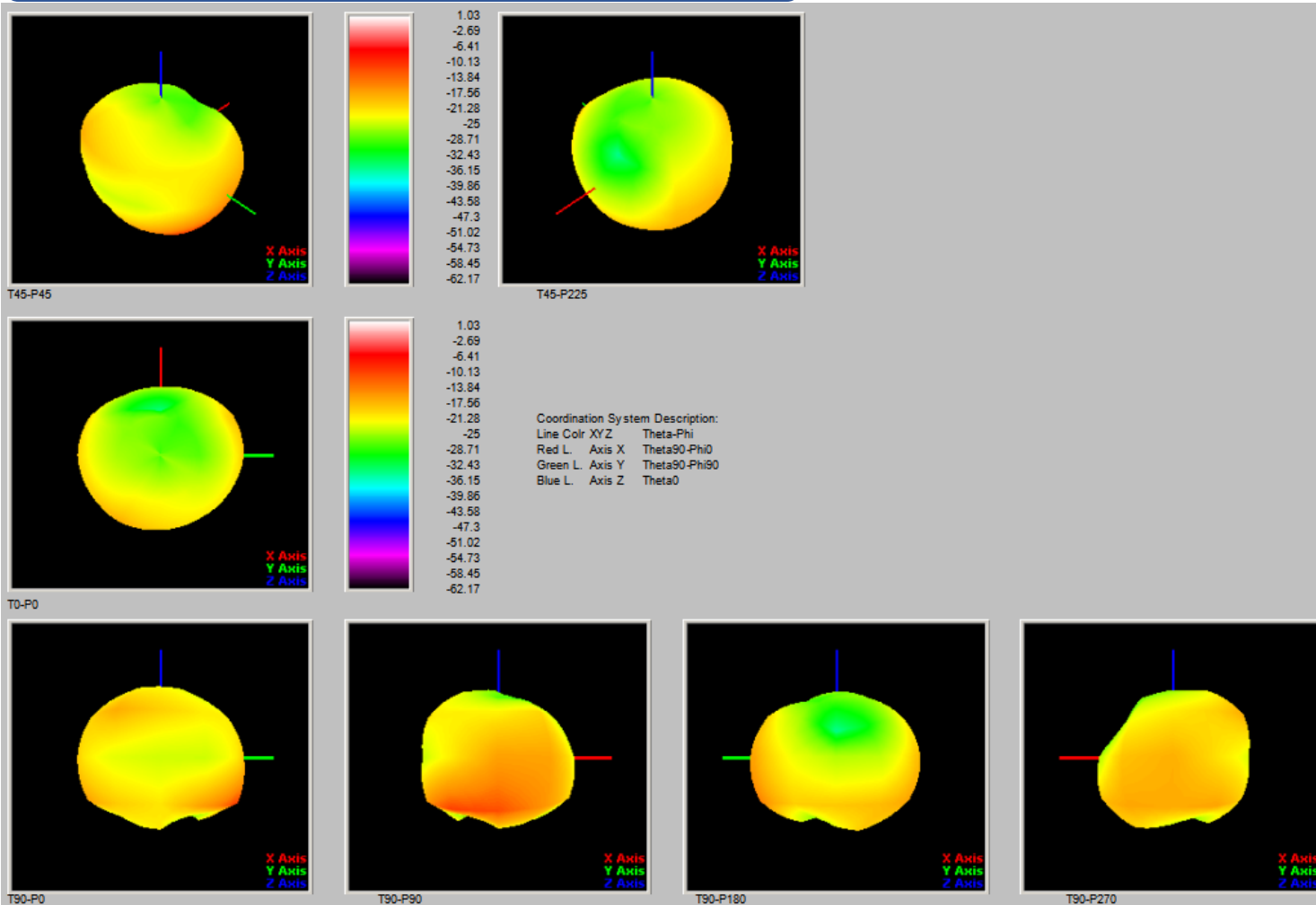


T90-P180

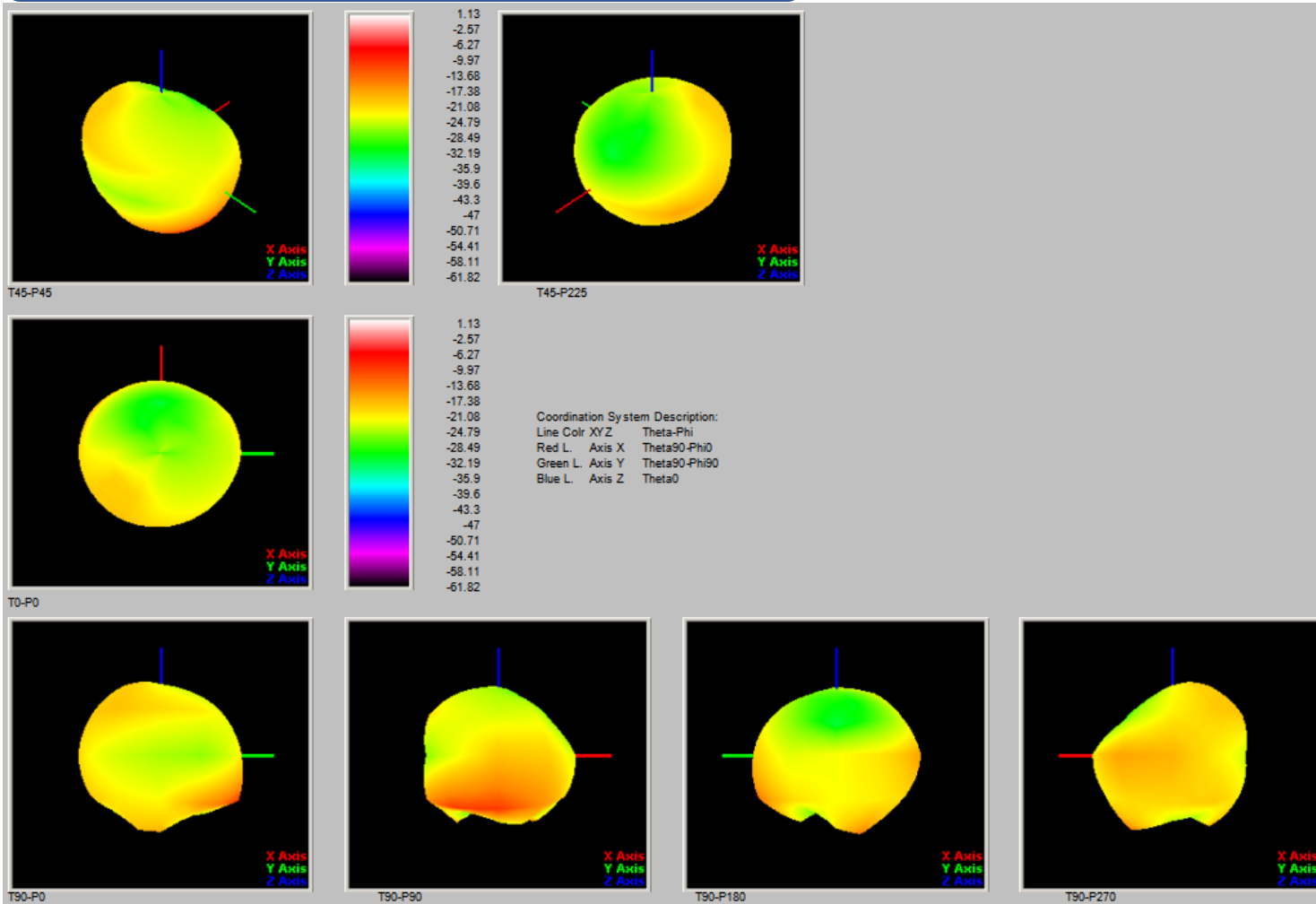


T90-P270

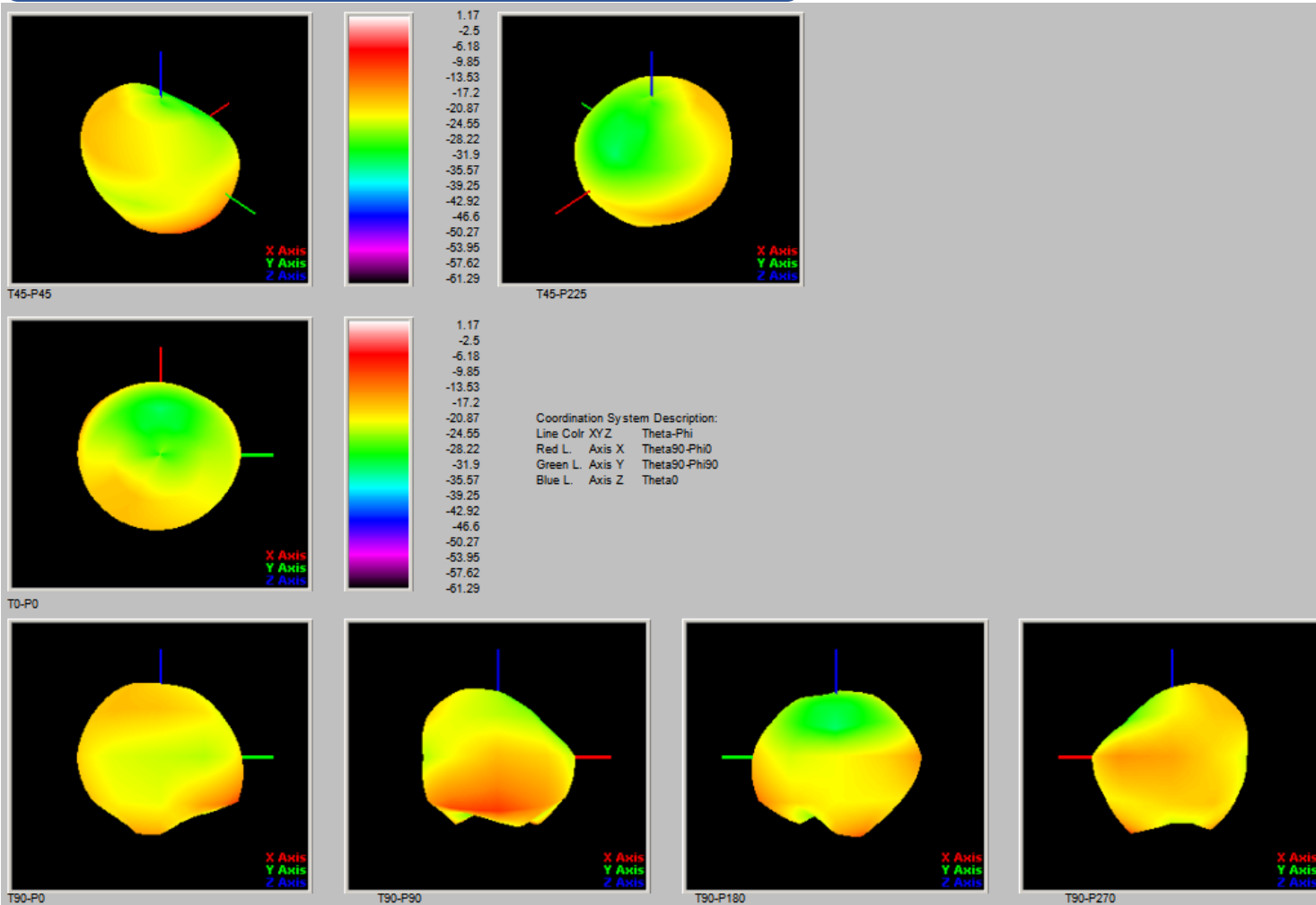
无源参数-苹果图-1710MHz-1880MHz



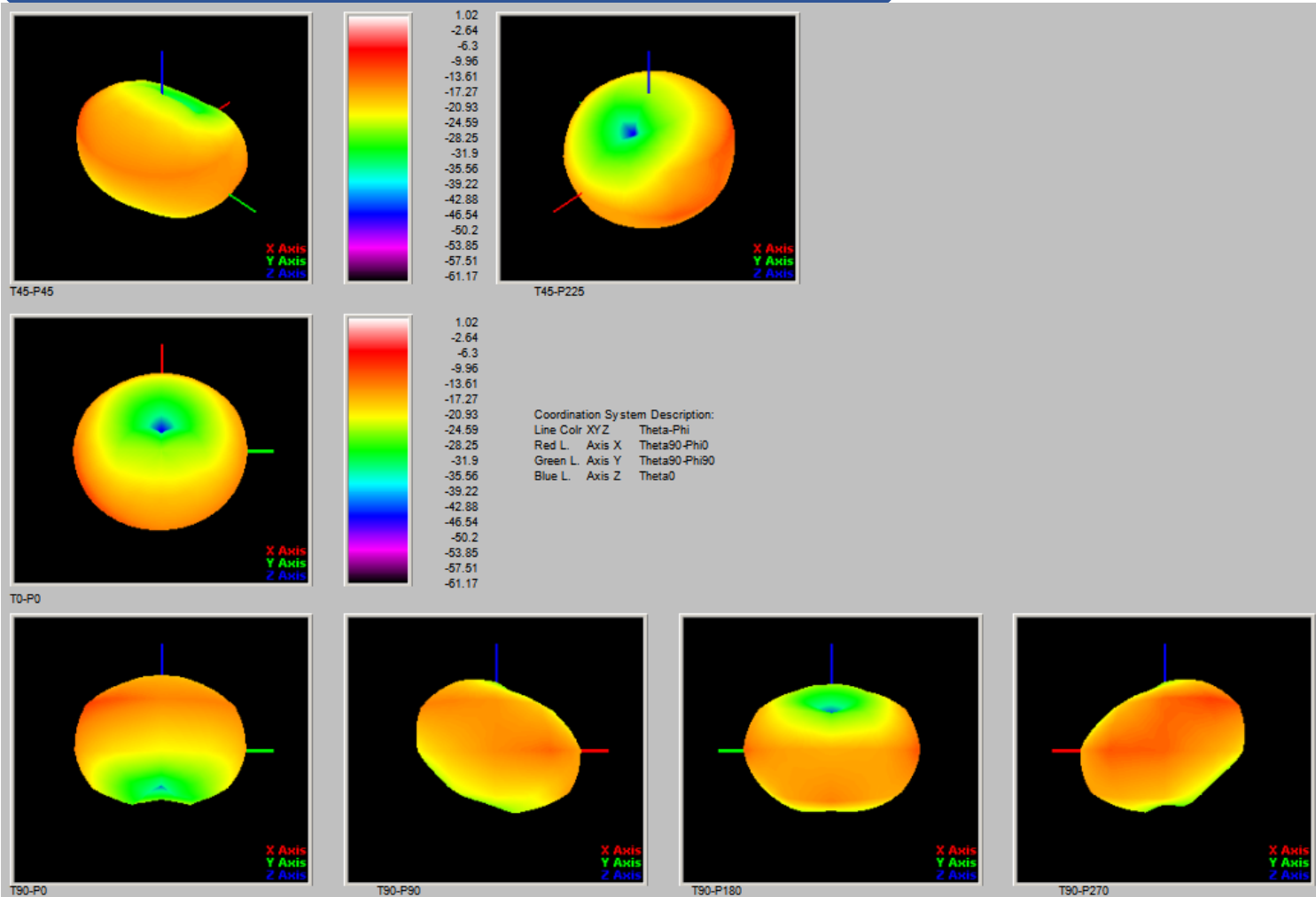
无源参数-苹果图-1880MHz-1990MHz



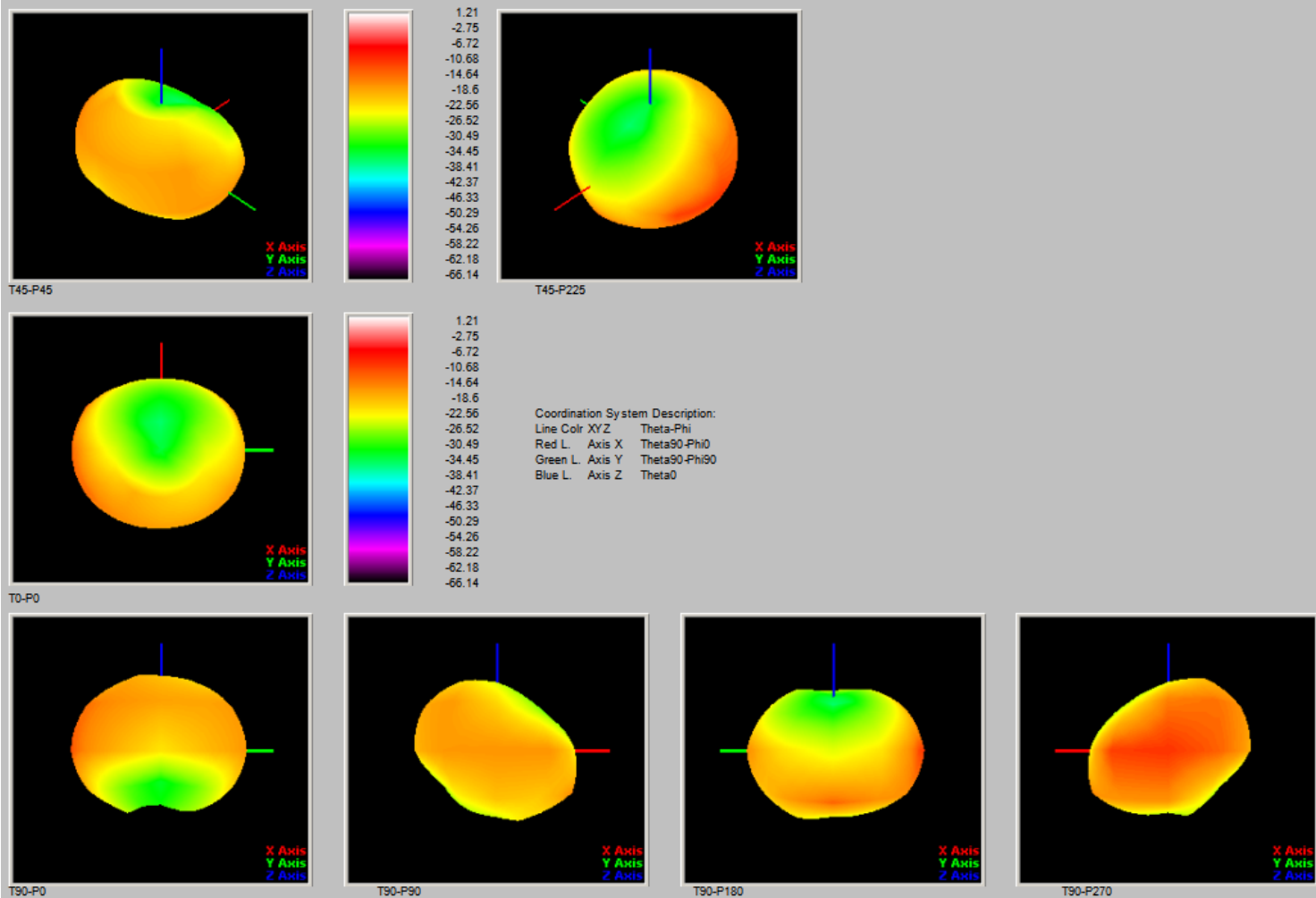
无源参数-苹果图-2500MHz-2700MHz



GPS-无源参数-苹果图-1560MHz-1580MHz

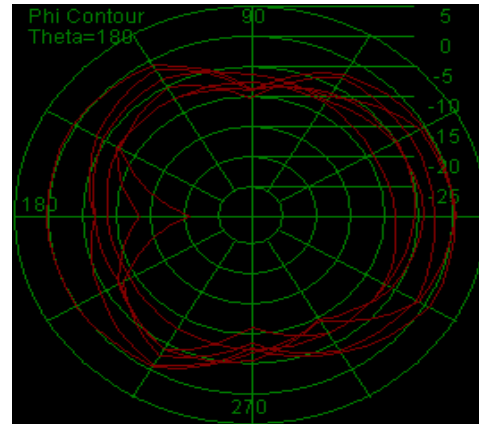
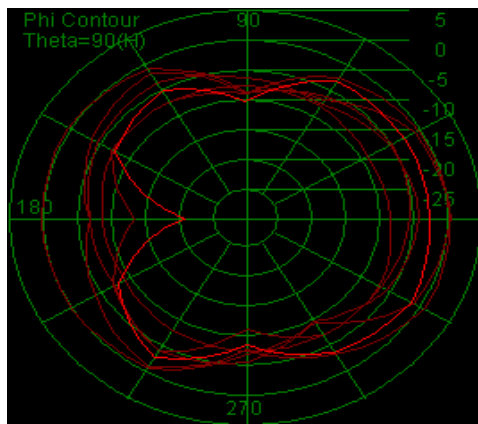
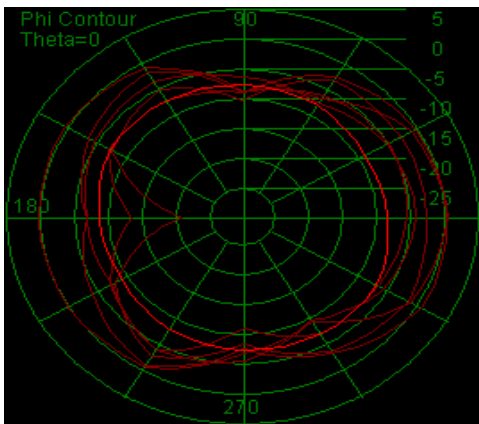


2. 4GWIFI&BT-无源参数-苹果图-2400MHz-2500MHz

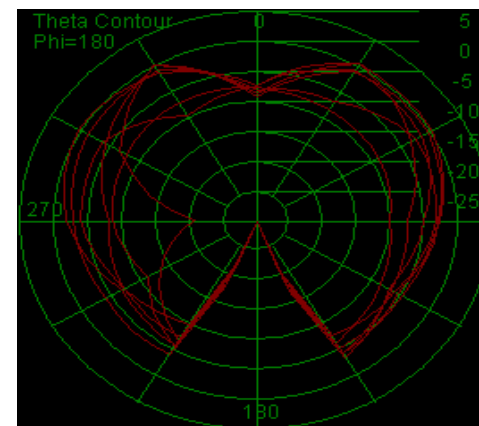
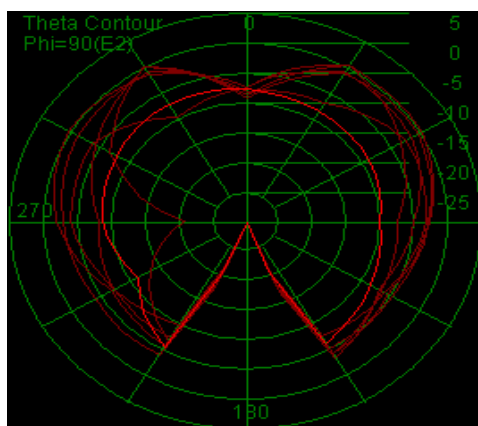
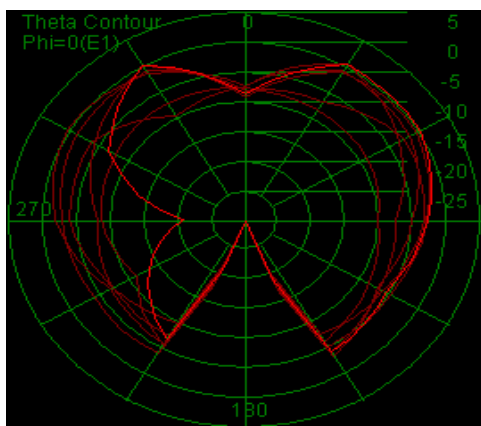


无源参数-平面图-600MHz-700MHz

Horizontal:

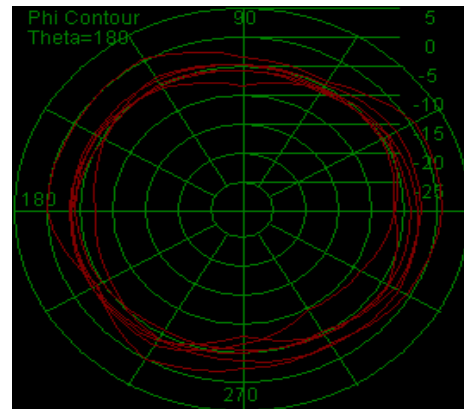
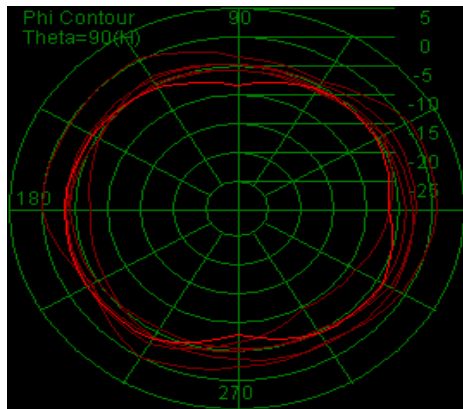
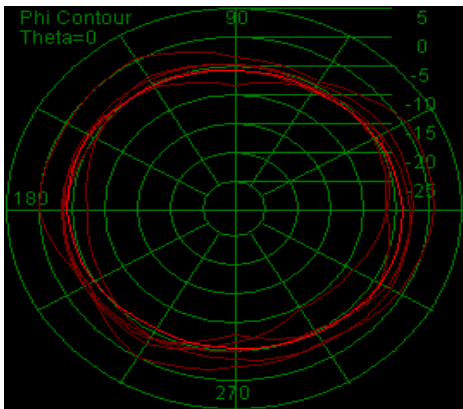


Vertical:

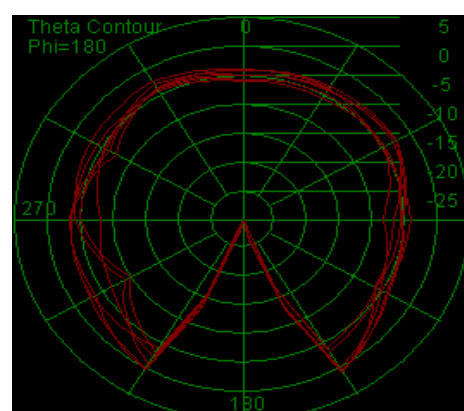
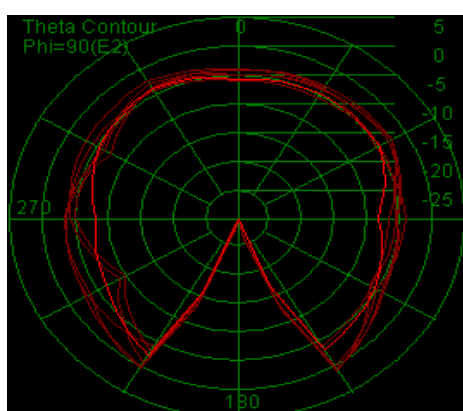
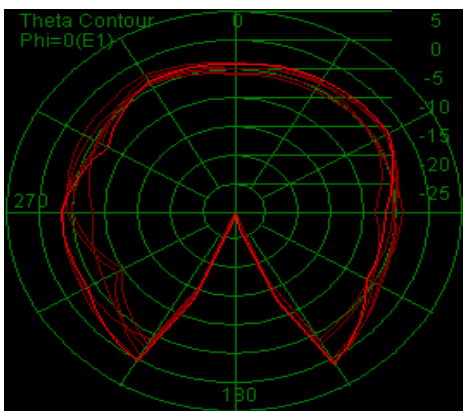


无源参数-平面图-700MHz-800MHz

Horizontal:

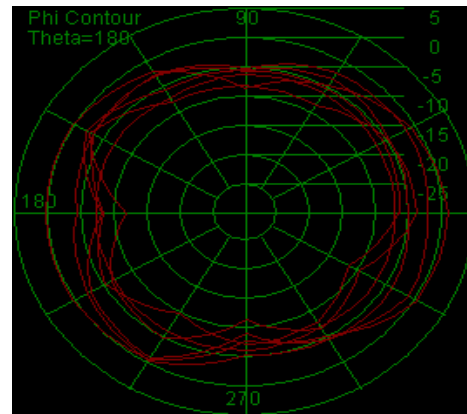
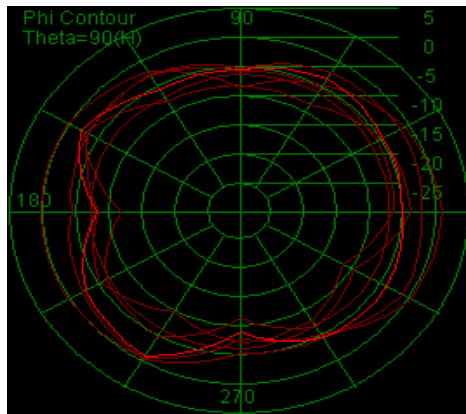
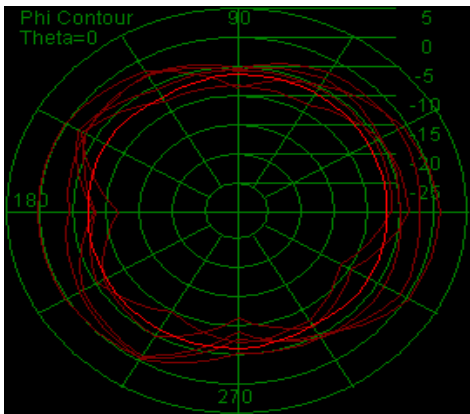


Vertical:

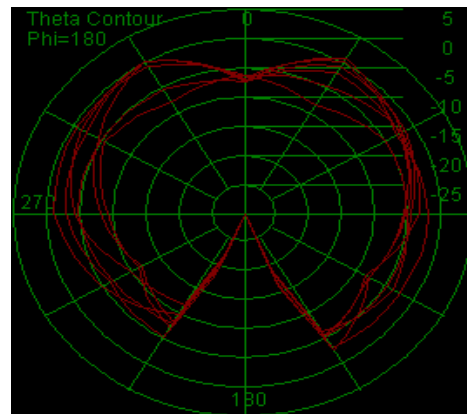
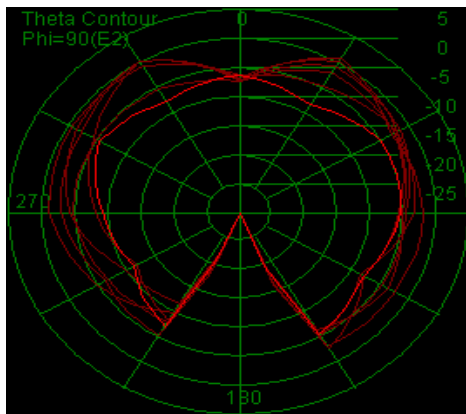
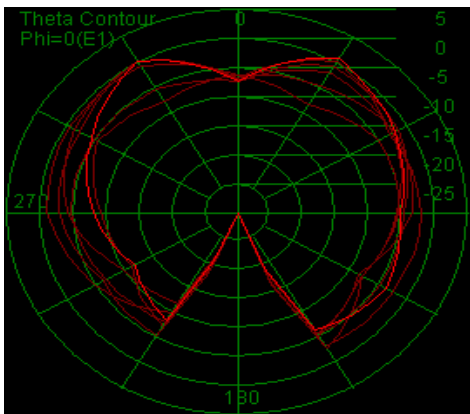


无源参数-平面图-824MHz-880MHz

Horizontal:

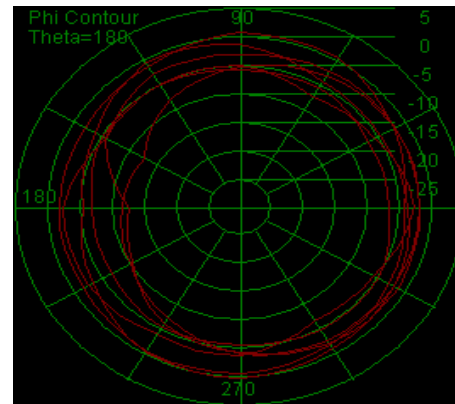
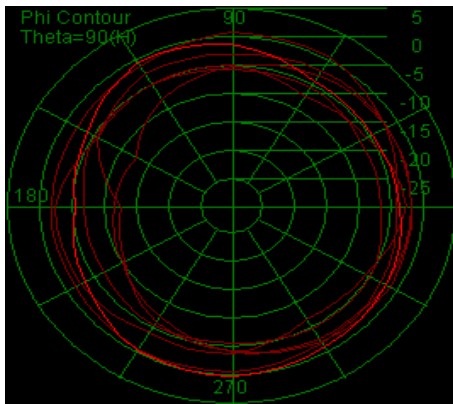
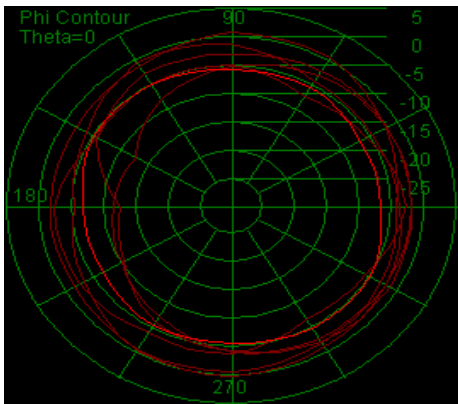


Vertical:

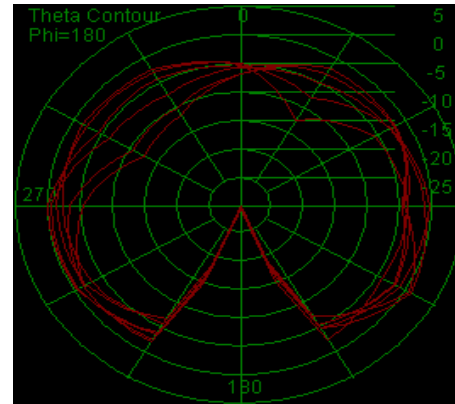
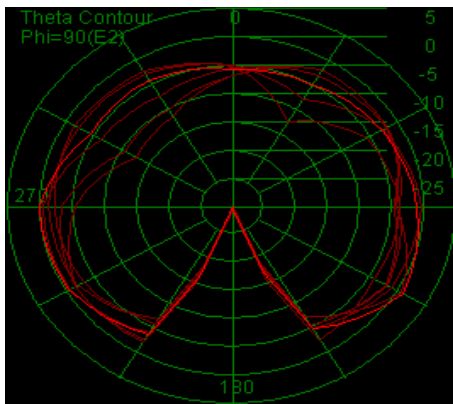
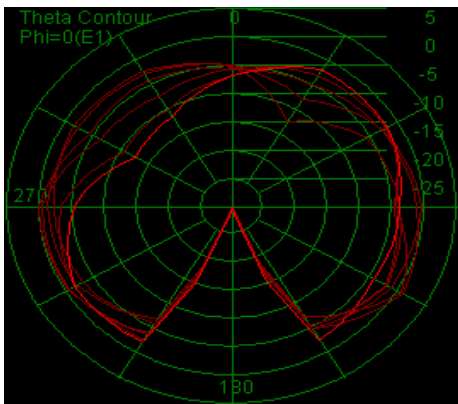


无源参数-平面图-880MHz-960MHz

Horizontal:

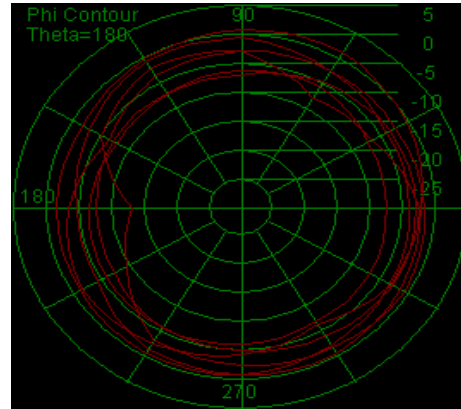
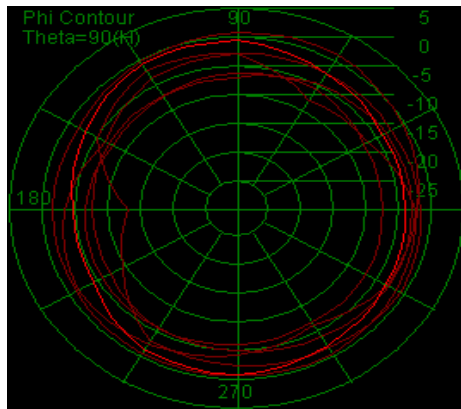
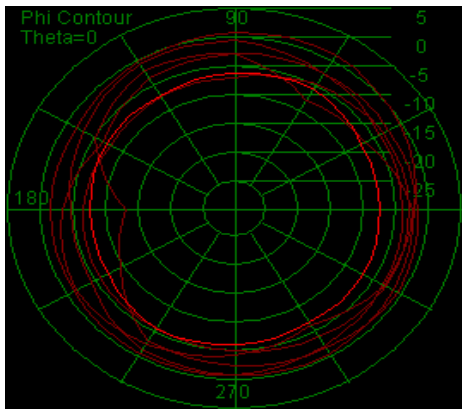


Vertical:

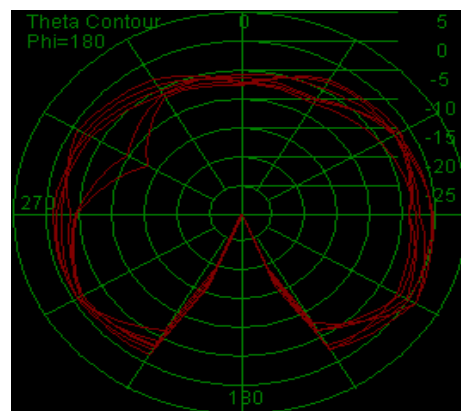
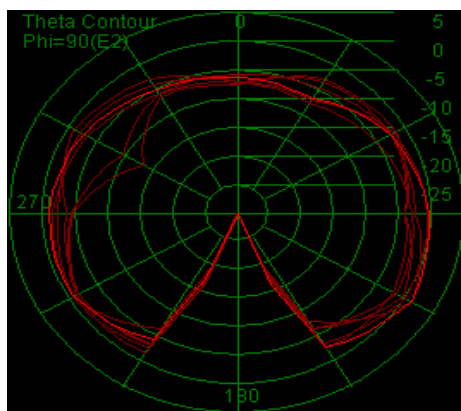
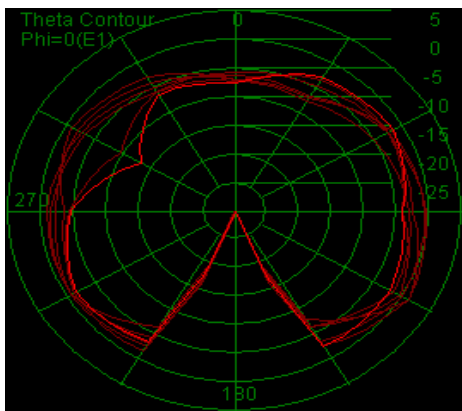


无源参数-平面图-1710MHz-1880MHz

Horizontal:

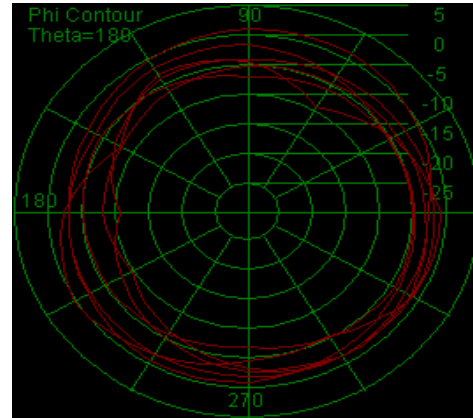
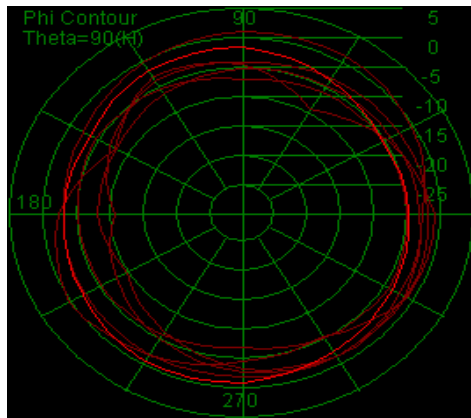
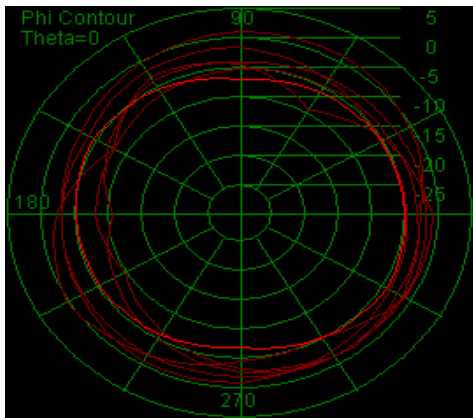


Vertical:

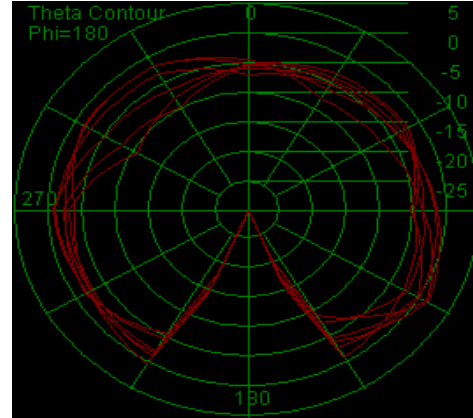
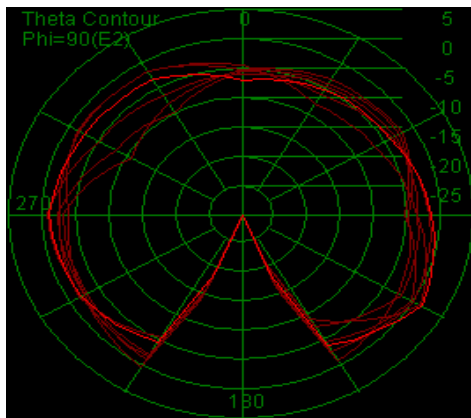
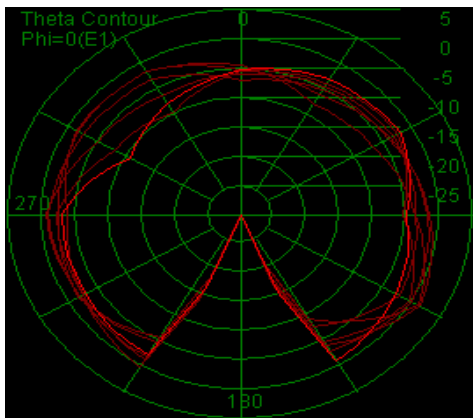


无源参数-平面图-1880MHz-1990MHz

Horizontal:

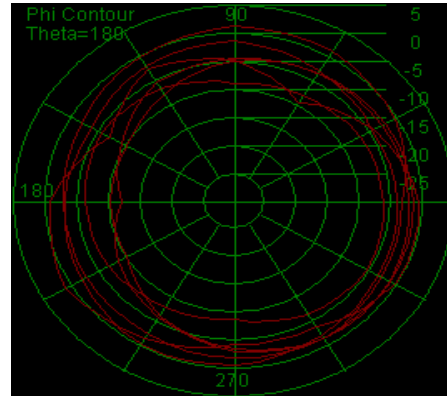
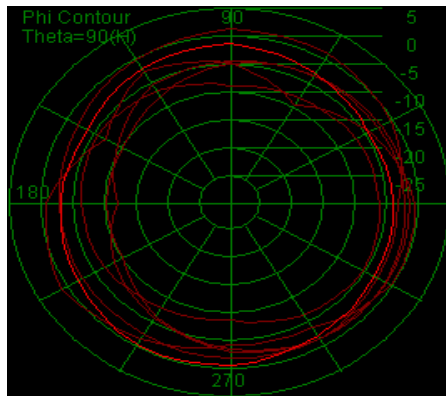
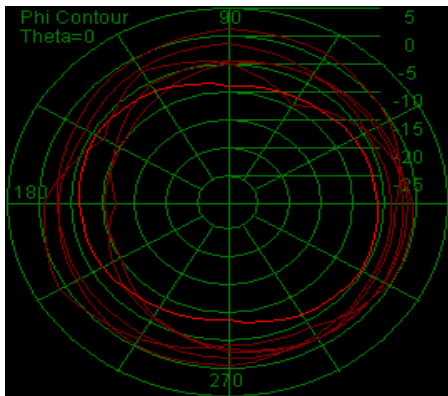


Vertical:

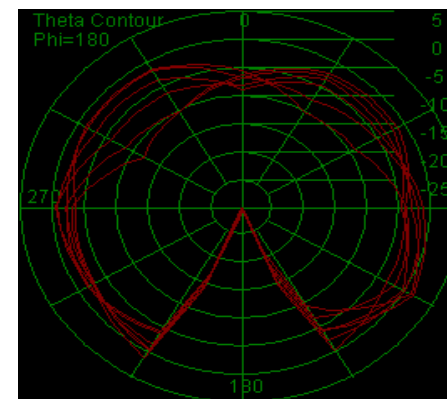
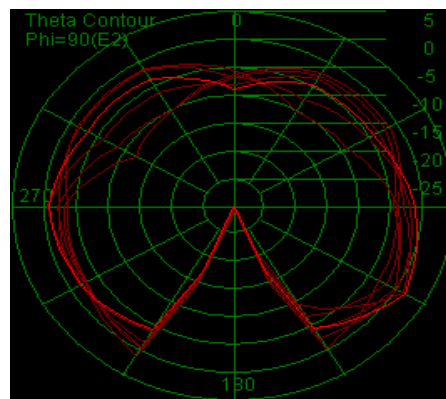
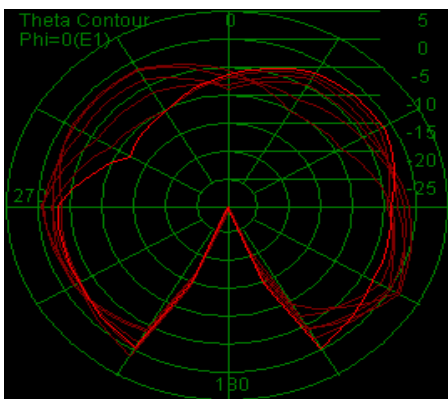


无源参数-平面图-2500MHz-2700MHz

Horizontal:

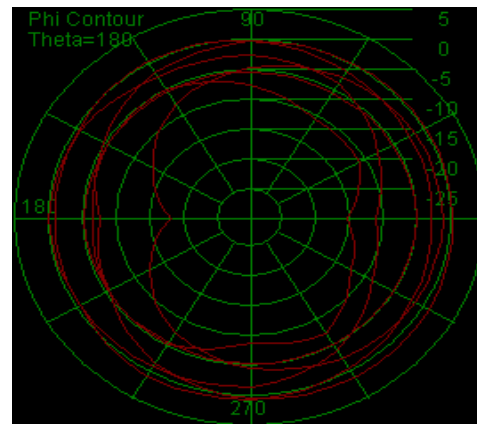
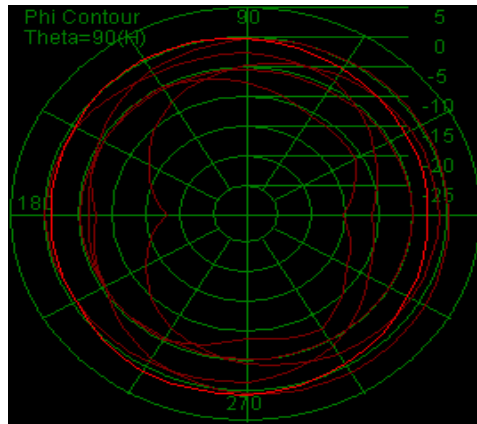
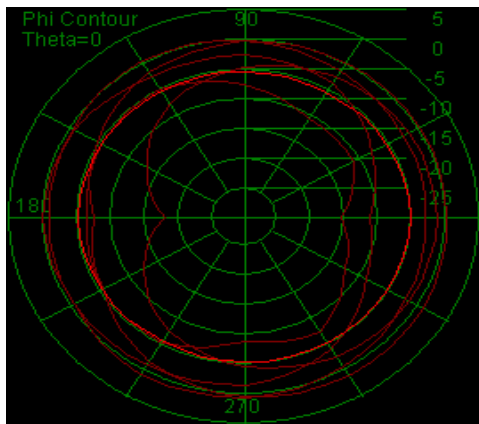


Vertical:

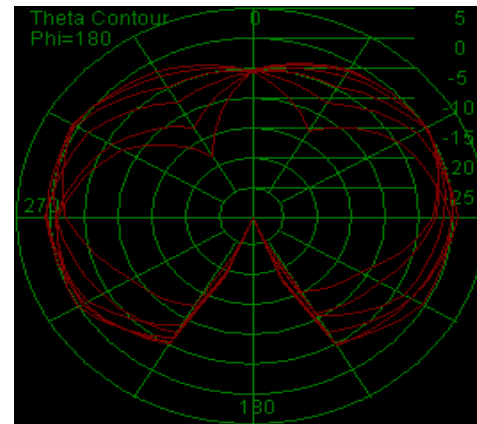
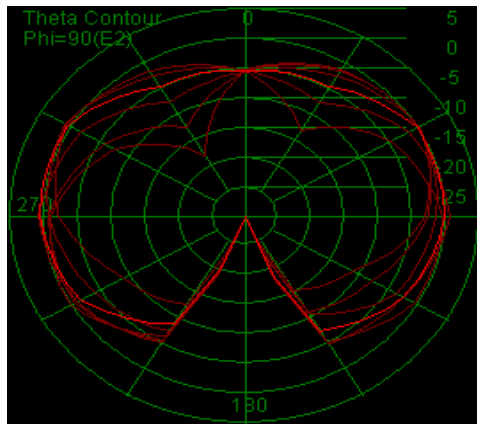
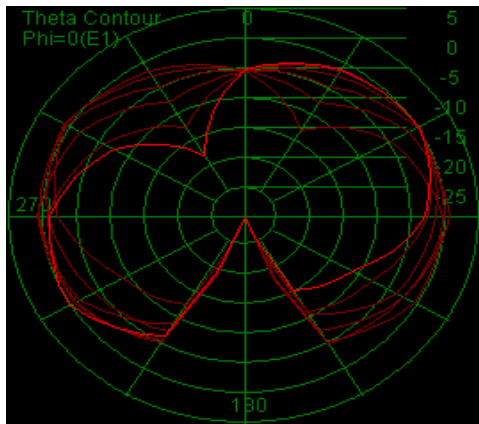


GPS-无源参数-平面图-1560MHz-1580MHz

Horizontal:

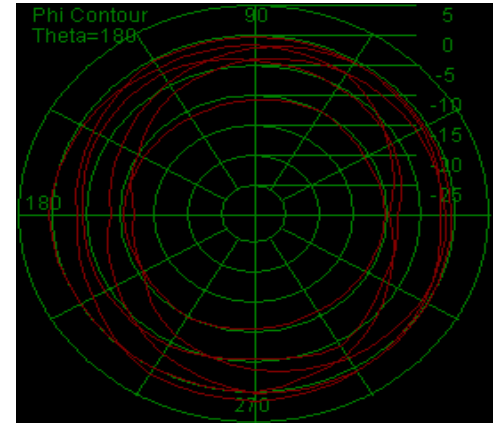
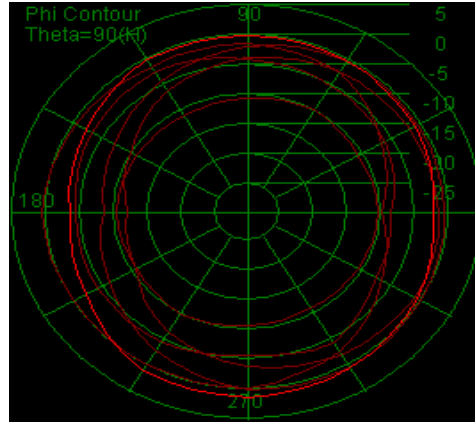
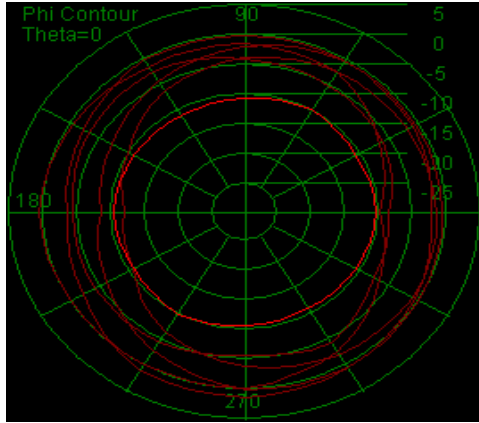


Vertical:

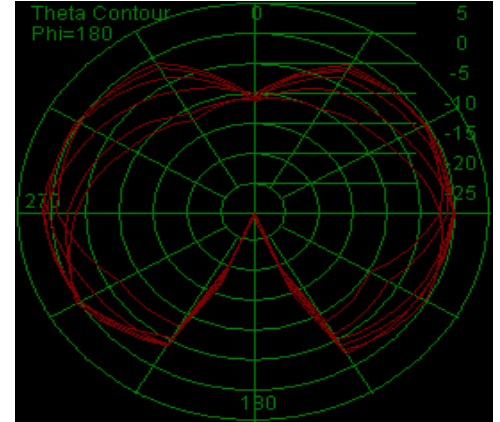
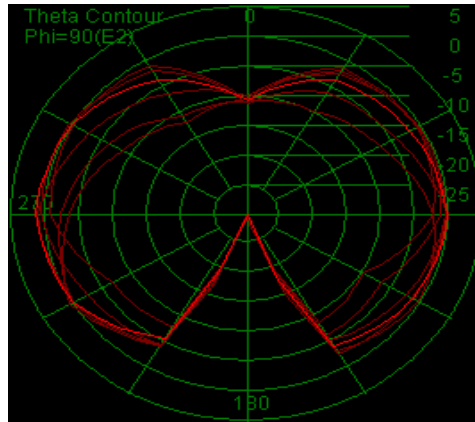
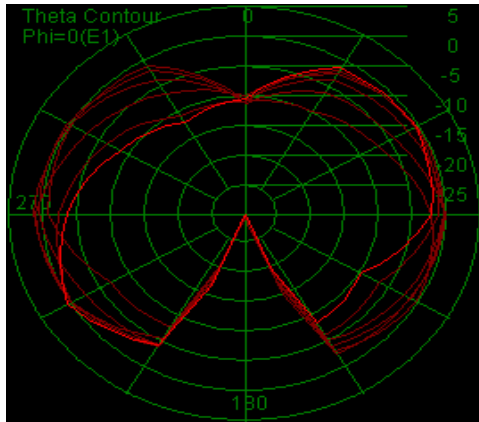


2. 4GWIFI&BT-无源参数-平面图-2400MHz-2500MHz

Horizontal:



Vertical:



GPS测试数据

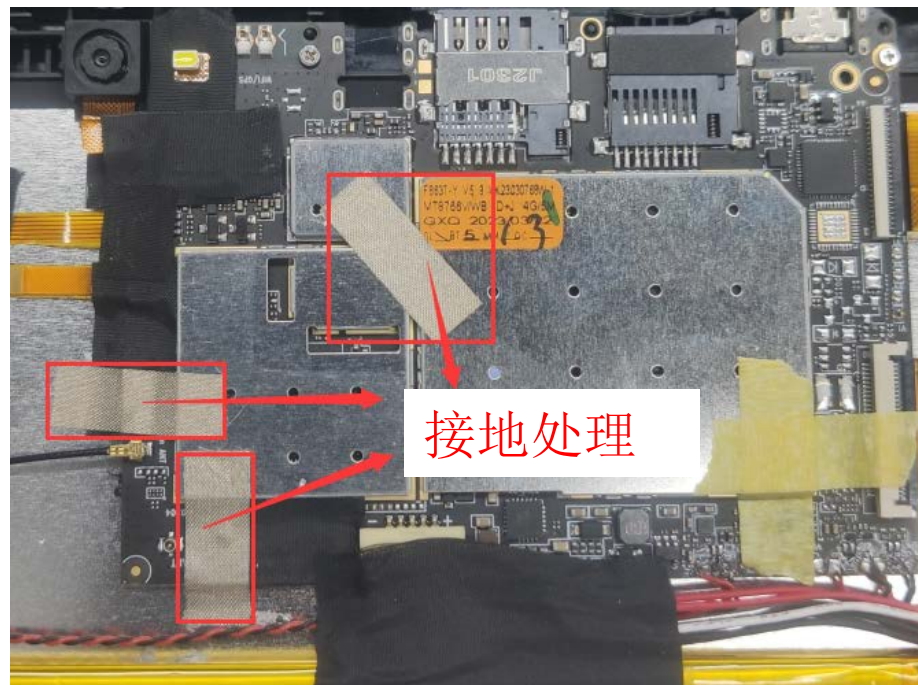
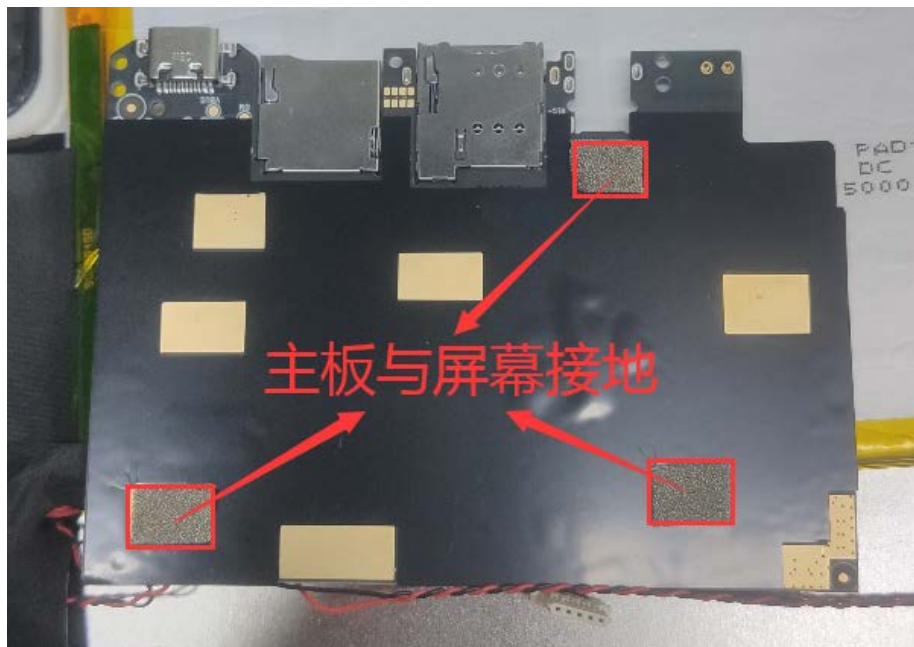
Status

Lat: 22.7400750° Time: 06:31:09 PM Mar 29, 2023 GMT+08:00
 Long: 113.9162250° TTFF: 65 sec
 Alt: 44.4 m E H/V Acc: 1.2/36.5 m
 Alt (MSL): 47.5 m # Sats: 29/33/60
 Speed: 0.0 m/s Bearing: 297.6°
 S. Acc: 0.4 m/s B. Acc: 171.4°
 PDOP: 0.8 H/V DOP: 0.5/0.6

8x2

ID	GNSS	CF	C/N0	Flags	Elev	Azim
4	USA	L1	40.3	U	11°	55°
5	USA	L1	21.4	U	22°	225°
6	USA	L1	45.0	U	45°	11°
9	USA	L1			30°	84°
11	USA	L1	31.8	U	41°	309°
12	USA	L1			25°	309°
14	USA	L1			12°	166°
17	USA	L1	47.5	U	46°	103°
19	USA	L1	38.1	U	63°	64°
20	USA	L1			50°	241°
1	RUS	L1	24.5	U	26°	38°
2	RUS	L1	40.8	U	61°	107°
3	RUS	L1	36.6	U	30°	178°
14	RUS	L1	14.5		16°	210°
15	RUS	L1	21.4		27°	264°
16	RUS	L1			17°	315°
17	RUS	L1	44.0	U	35°	354°
18	RUS	L1	13.8		9°	310°
24	RUS	L1	50.4	U	29°	58°
4	CHN	E1	31.6	U	38°	133°
9	CHN	E1			13°	182°
10	CHN	E1	42.5	U	47°	4°
11	CHN	E1			42°	323°
12	CHN	E1			37°	37°
25	CHN	E1			36°	293°
31	CHN	E1			15°	171°
33	CHN	E1			1°	75°
36	CHN	E1			11°	281°
194	JPN	L1	41.0	U	35°	165°
195	JPN	L1	42.0			
1	CHN	B1	31.6	U	47°	122°

天线环境处理及改善



天线环境处理及改善



天线装配位置

四合一天线:



主天线:

