



求是 价值 双赢

# 深圳市千目通讯科技有限公司

Shenzhen Qianmu Communication Technology Co., Ltd.

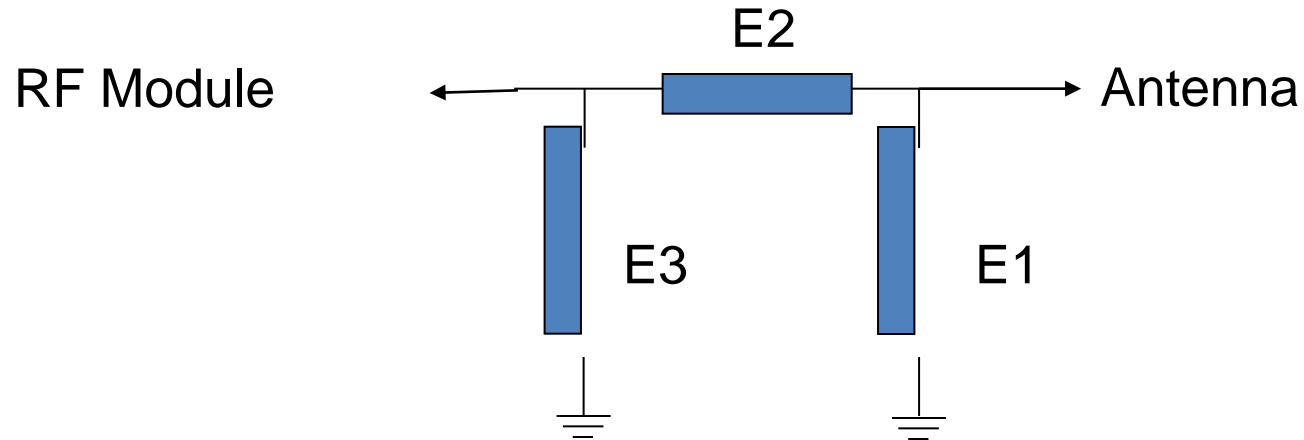
No. 425.443, 4th Floor, Building A, Huafeng Zhigu - Hangcheng High tech Industrial Park, Hangcheng Street, Sanwei Community, Bao'an District, Shenzhen, China

专注天线方案、设计与生产

客 户：森葆  
项 目：S15  
日 期：2024-1-18  
射 频：ZHENG LI GUO



Main antenna matching circuit:



Element	Value
E1(0201)	
E2(0201)	
E3(0201)	



## Test Data

Antenna state	FPC Sample				Debug the machine		
	B1				B3		
Channel	18050	18300	18550		19300	19575	19850
TRP	18. 53	18. 41	18. 33		18. 21	18. 29	18. 38
TIS			-89. 66				-88. 87
	B7				B8		
Channel	20800	21100	21400		21500	21625	21750
TRP	18. 69	18. 61	18. 53		17. 89	18. 12	18. 54
TIS			-88. 63				-88. 69



## WIFI ANT 2400-2500Mz Active data

ANT Condition	FPCsample		
	WIFI2400~2500Mz 802.11b 11Mbps		
Channel	1	6	13
TRP	12.53	13.14	13.37
TIS	-79.56	-79.14	-80.23

## WIFI ANT 5000-5800MzActive data

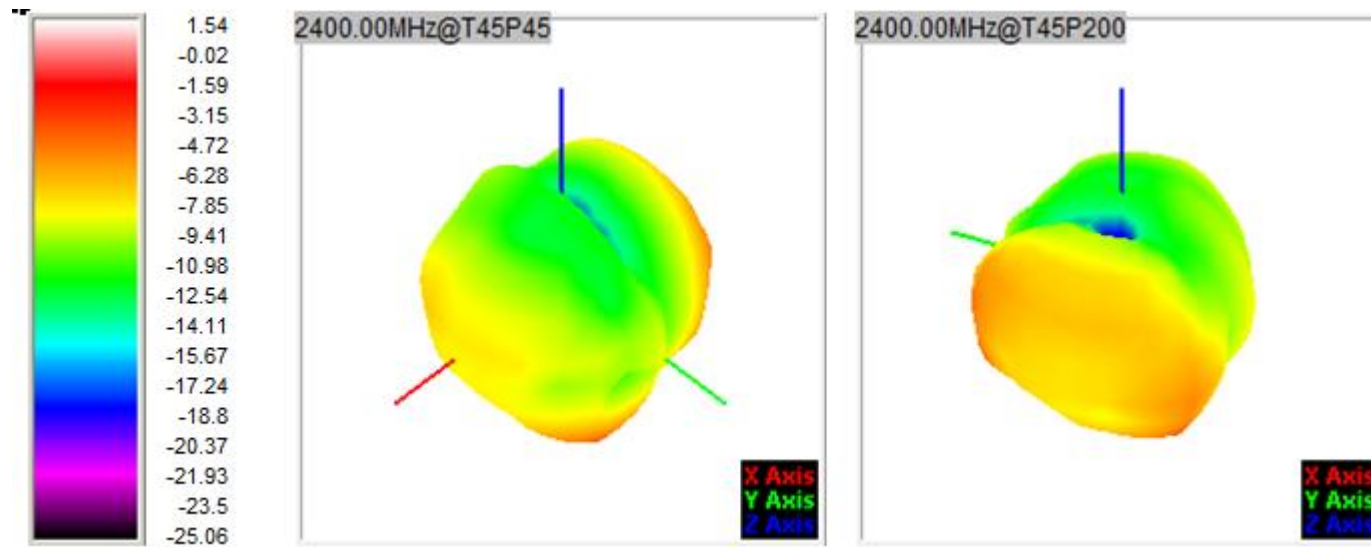
ANT Condition	FPCsample		
	WIFI5000~5800Mz 802.11a 54Mbps		
Channel	36	161	165
TRP	10.34	10.57	10.46
TIS	-68.44	-67.23	-68.15

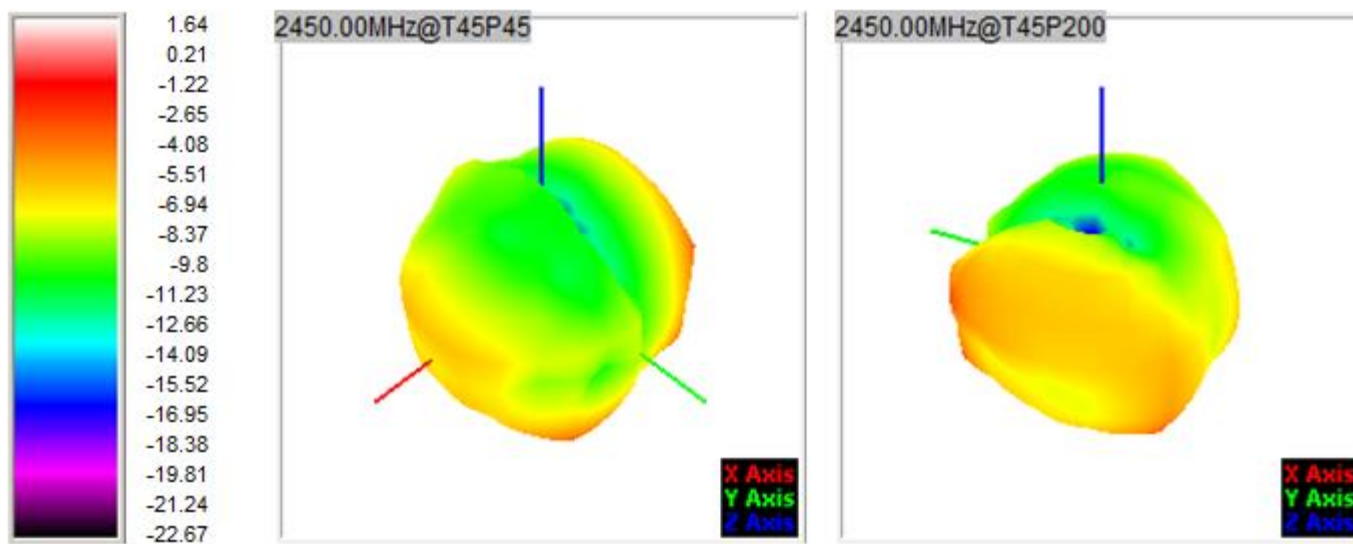


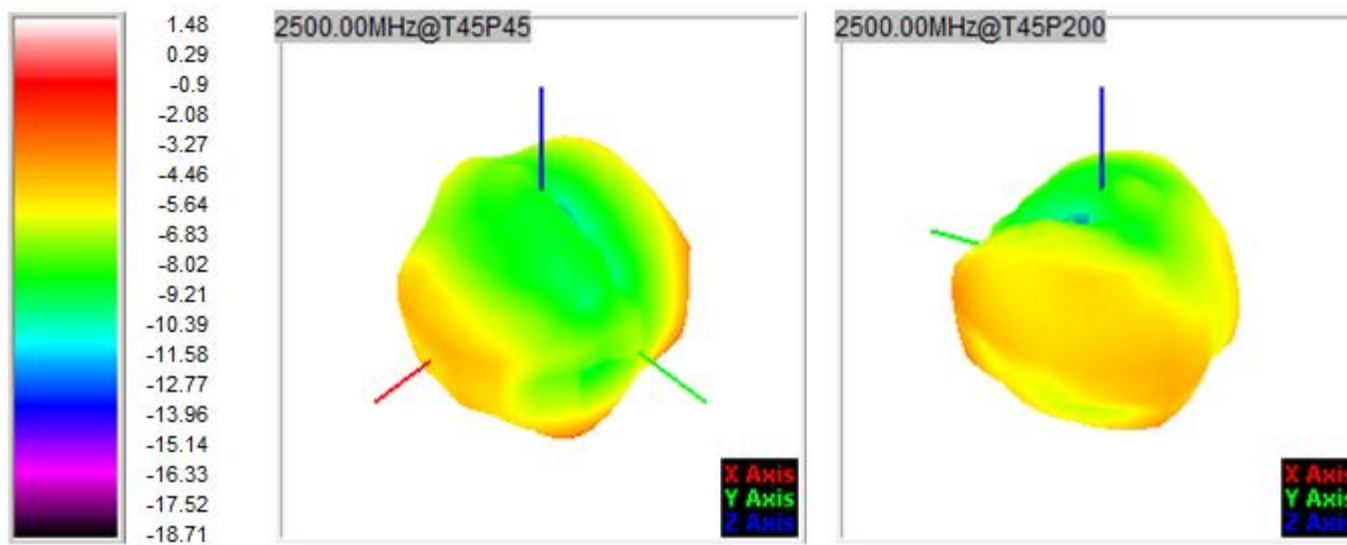
<b>FETUKEJI</b>											
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Point Values											
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-3.41	-3.55	-3.62	-3.47	-3.51	-3.31	-3.48	-3.72	-3.71	-3.51	-3.44
Peak EIRP (dBm)	1.54	1.49	1.45	1.55	1.47	1.64	1.51	1.35	1.39	1.51	1.48
Directivity (dBi)	4.95	5.04	5.07	5.02	4.98	4.95	5.00	5.07	5.10	5.02	4.92
Efficiency (dB)	-3.41	-3.55	-3.62	-3.47	-3.51	-3.31	-3.48	-3.72	-3.71	-3.51	-3.44
Efficiency (%)	45.60	44.10	43.50	44.90	44.50	46.60	44.80	42.50	42.50	44.50	45.30
Gain (dBi)	1.54	1.49	1.45	1.55	1.47	1.64	1.51	1.35	1.39	1.51	1.48
NHPRP $\pm$ Pi/4 (dBm)	-4.28	-4.43	-4.51	-4.36	-4.40	-4.19	-4.36	-4.61	-4.61	-4.42	-4.35
NHPRP $\pm$ Pi/6 (dBm)	-5.66	-5.82	-5.89	-5.73	-5.76	-5.55	-5.72	-5.97	-5.97	-5.77	-5.69
NHPRP $\pm$ Pi/8 (dBm)	-6.81	-6.96	-7.02	-6.86	-6.89	-6.67	-6.83	-7.08	-7.07	-6.85	-6.76
Upper Hem. PRP (dBm)	-7.17	-7.28	-7.32	-7.17	-7.22	-7.05	-7.28	-7.54	-7.49	-7.23	-7.08
Lower Hem. PRP (dBm)	-5.79	-5.94	-6.03	-5.89	-5.92	-5.70	-5.83	-6.05	-6.07	-5.91	-5.90
Upper Hem. PRP (%)	19.21	18.69	18.52	19.19	18.96	19.70	18.72	17.63	17.81	18.91	19.61
Lower Hem. PRP (%)	26.39	25.45	24.96	25.76	25.56	26.92	26.12	24.82	24.74	25.63	25.70

100.00

—◆— Efficiency (%)



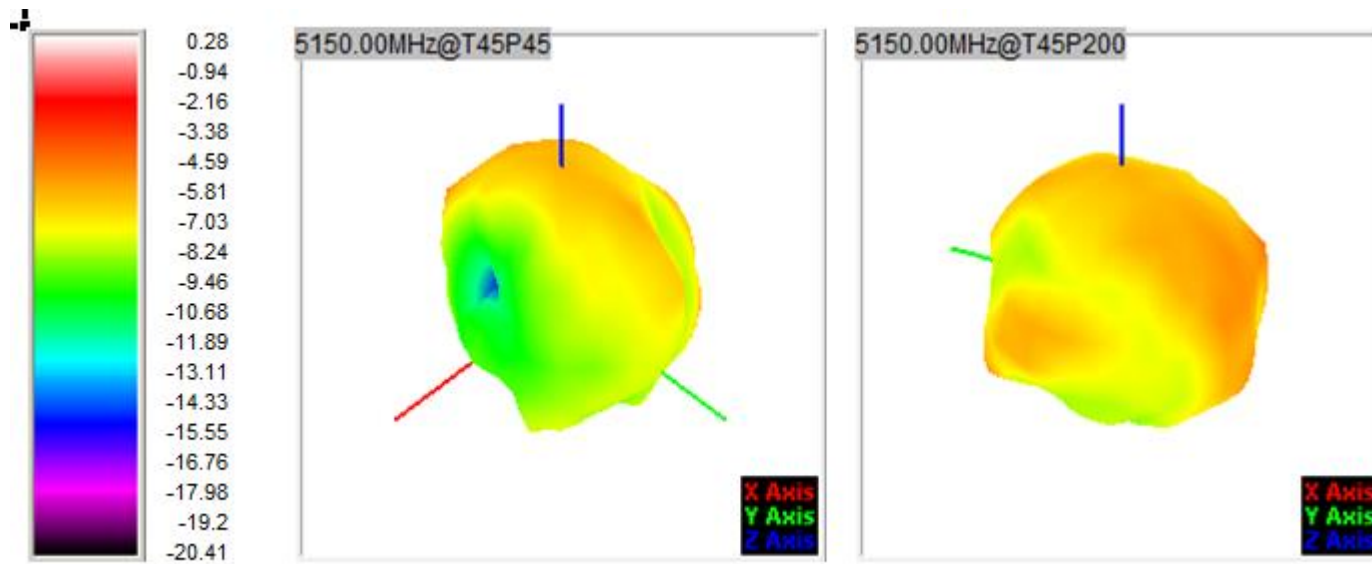


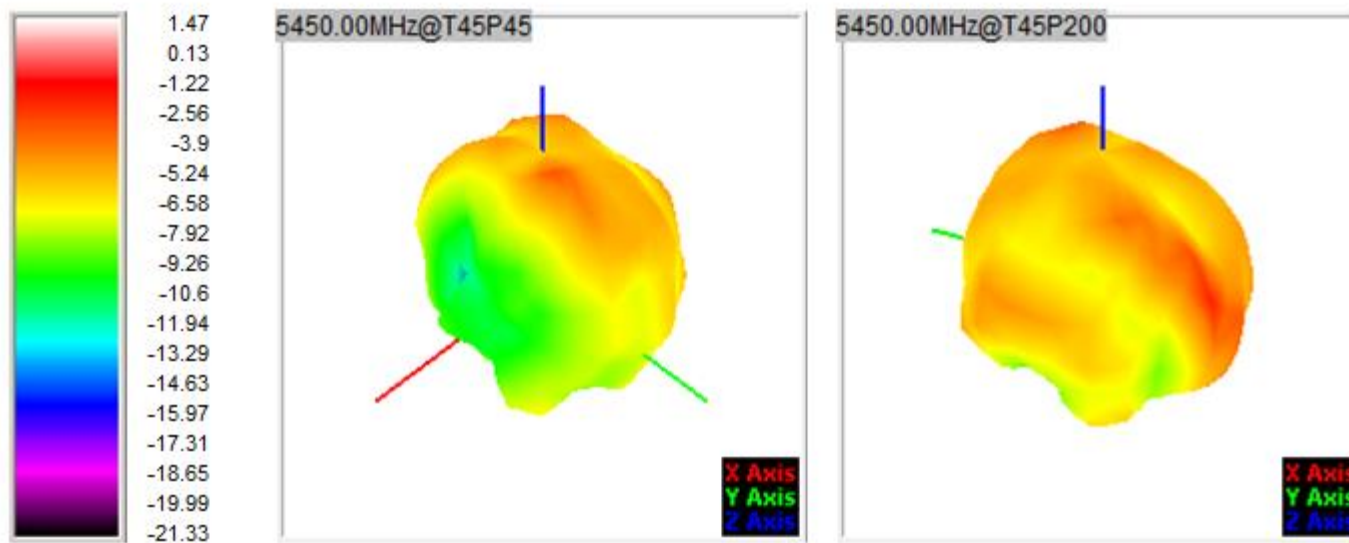


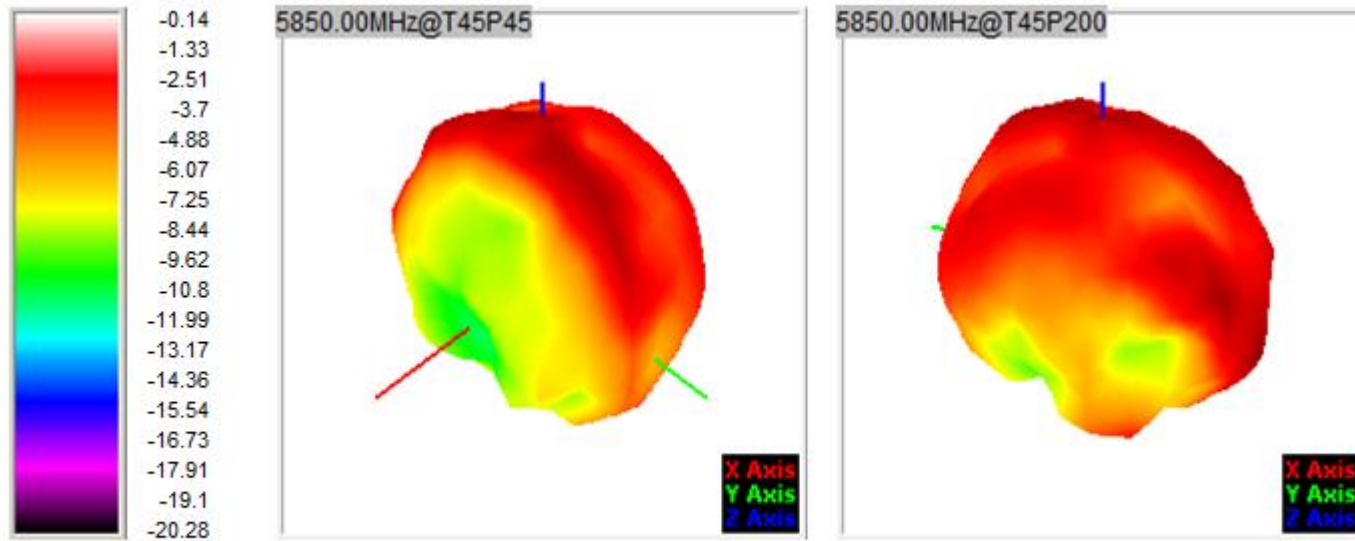




<b>FETUKEJI</b>															
Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Frequency (MHz)	5150.0	5200.0	5250.0	5300.0	5350.0	5400.0	5450.0	5500.0	5550.0	5600.0	5650.0	5700.0	5750.0	5800.0	5850.0
Point Values															
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-4.22	-4.00	-3.96	-3.72	-3.56	-3.32	-3.69	-4.34	-4.77	-4.36	-4.82	-5.48	-5.49	-5.53	-5.54
Peak EIRP (dBm)	0.28	0.46	0.68	1.16	1.61	1.89	1.47	0.81	0.54	0.64	0.25	-0.46	-0.38	-0.45	-0.14
Directivity (dBi)	4.50	4.45	4.64	4.88	5.17	5.21	5.16	5.15	5.31	5.01	5.07	5.02	5.11	5.08	5.39
Efficiency (dB)	-4.22	-4.00	-3.96	-3.72	-3.56	-3.32	-3.69	-4.34	-4.77	-4.36	-4.82	-5.48	-5.49	-5.53	-5.54
Efficiency (%)	37.80	39.80	40.10	42.50	44.10	46.60	42.70	36.80	33.30	36.60	33.00	28.30	28.20	28.00	28.00
Gain (dBi)	0.28	0.46	0.68	1.16	1.61	1.89	1.47	0.81	0.54	0.64	0.25	-0.46	-0.38	-0.45	-0.14
NHPRP $\pm\pi/4$ (dBm)	-5.67	-5.49	-5.47	-5.08	-4.98	-4.84	-5.14	-5.80	-6.25	-5.77	-6.34	-7.08	-7.05	-7.12	-7.08
NHPRP $\pm\pi/6$ (dBm)	-7.08	-6.93	-6.93	-6.50	-6.45	-6.36	-6.56	-7.29	-7.78	-7.26	-7.87	-8.58	-8.52	-8.64	-8.60
NHPRP $\pm\pi/8$ (dBm)	-8.19	-8.06	-8.09	-7.61	-7.62	-7.57	-7.69	-8.50	-9.02	-8.47	-9.14	-9.79	-9.68	-9.83	-9.80
Upper Hem. PRP (dBm)	-6.23	-5.88	-5.84	-5.71	-5.41	-5.14	-5.65	-6.20	-6.61	-6.30	-6.61	-7.27	-7.37	-7.37	-7.49
Lower Hem. PRP (dBm)	-8.54	-8.54	-8.52	-8.05	-8.15	-7.97	-8.10	-8.92	-9.38	-8.80	-9.53	-10.18	-10.03	-10.16	-9.95
Upper Hem. PRP (%)	23.82	25.85	26.08	26.84	28.75	30.62	27.23	23.97	21.82	23.44	21.84	18.73	18.32	18.34	17.84
Lower Hem. PRP (%)	14.01	13.99	14.06	15.65	15.31	15.98	15.48	12.82	11.52	13.17	11.13	9.59	9.93	9.63	10.11









# B8的效率以及增益

<b>FEITUKEJI</b>							
Frequency ID	1	2	3	4	5	6	7
Frequency (MHz)	880.0	900.0	880.0	900.0	920.0	940.0	960.0
Point Values							
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-3.29	-3.57	-3.73	-3.86	-3.62	-3.74	-4.05
Peak EIRP (dBm)	2.51	2.60	2.38	2.29	2.84	2.77	2.38
Directivity (dBi)	5.80	6.18	6.11	6.15	6.46	6.50	6.43
Efficiency (dB)	-3.29	-3.57	-3.73	-3.86	-3.62	-3.74	-4.05
Efficiency (%)	46.90	43.90	42.30	41.10	43.50	42.30	39.40
Gain (dBi)	2.51	2.60	2.38	2.29	2.84	2.77	2.38
NHPRP $\pm\pi/4$ (dBm)	-5.41	-5.83	-5.98	-6.18	-5.84	-5.94	-6.23
NHPRP $\pm\pi/6$ (dBm)	-7.42	-7.93	-8.09	-8.46	-8.08	-8.14	-8.41
NHPRP $\pm\pi/8$ (dBm)	-8.99	-9.52	-9.69	-10.23	-9.77	-9.79	-10.06
Upper Hem. PRP (dBm)	-6.10	-6.28	-6.60	-6.33	-6.08	-6.38	-6.96
Lower Hem. PRP (dBm)	-6.51	-6.91	-6.89	-7.50	-7.25	-7.15	-7.16
Upper Hem. PRP (%)	24.52	23.56	21.87	23.31	24.64	23.03	20.13
Lower Hem. PRP (%)	22.36	20.37	20.46	17.77	18.84	19.28	19.22

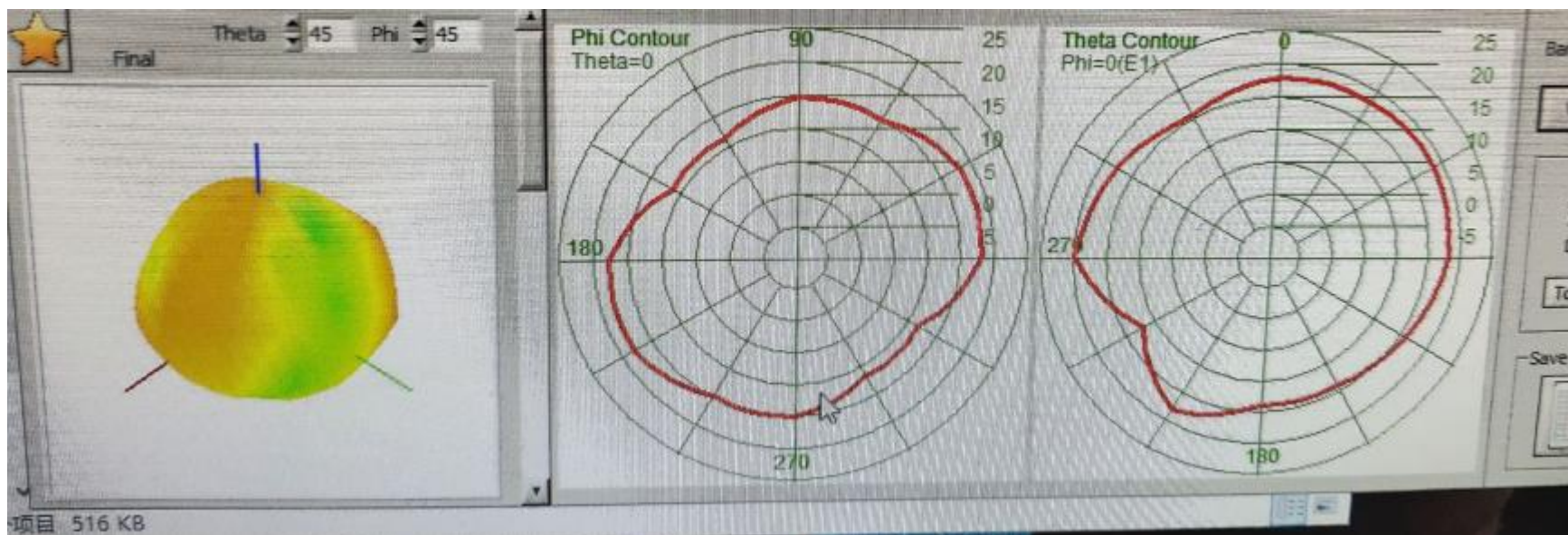
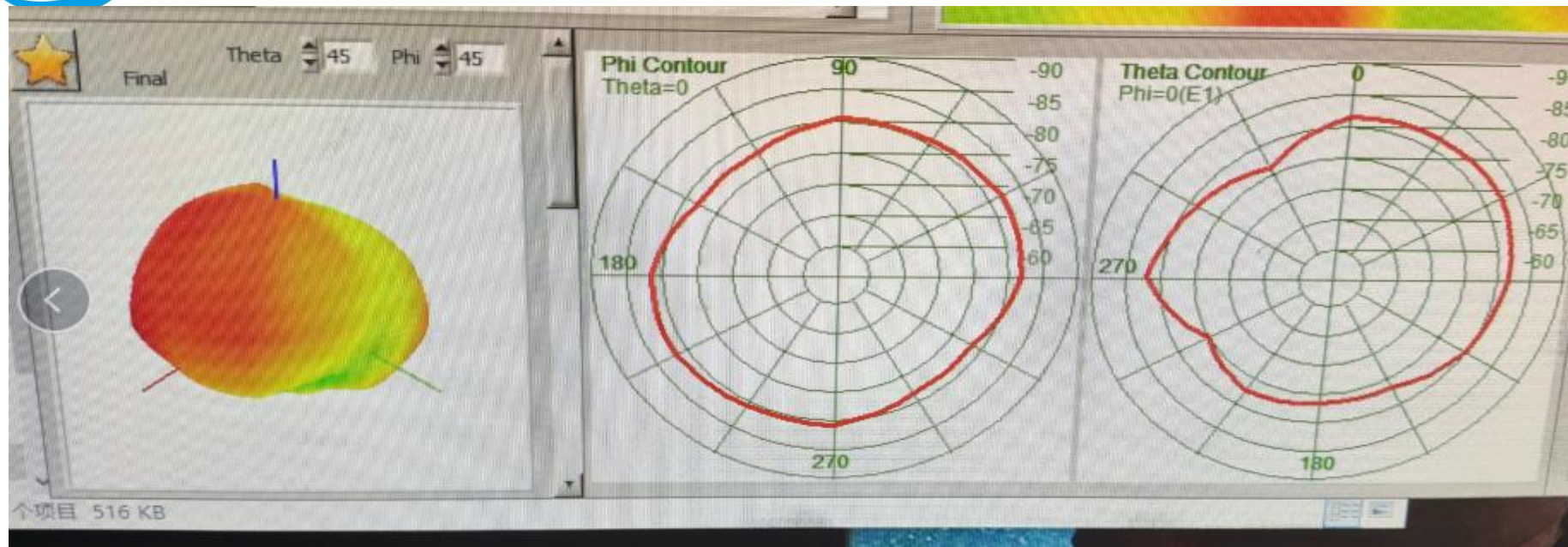
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◆ E





B8





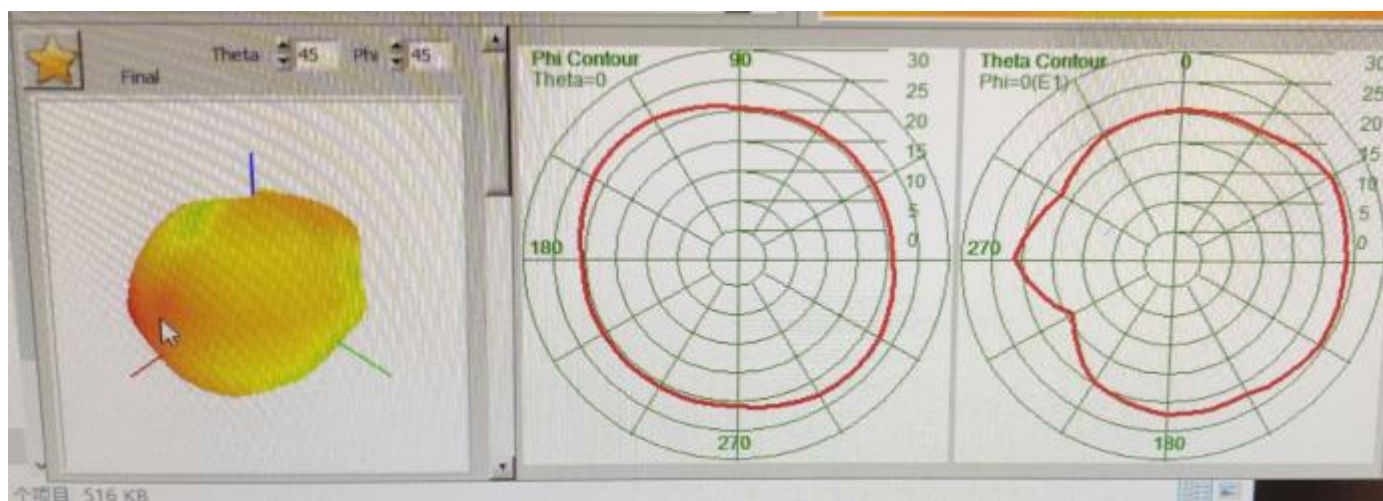
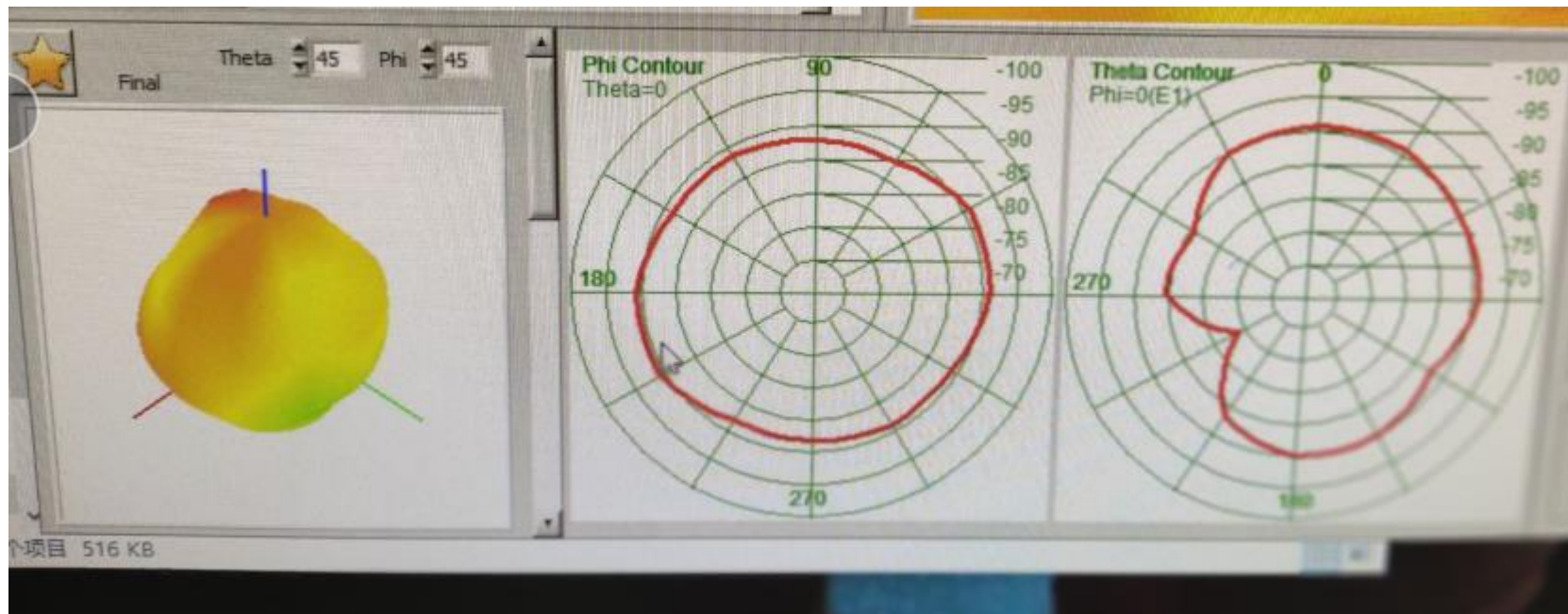
# B7的效率以及增益

<b>FETUKEJI</b>					
Frequency ID	1	2	3	4	5
Frequency (MHz)	2500.0	2550.0	2600.0	2650.0	2700.0
Point Values					
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-4.76	-4.56	-4.42	-4.83	-4.70
Peak EIRP (dBm)	0.58	1.08	1.00	-0.02	-0.31
Directivity (dBi)	5.35	5.64	5.42	4.81	4.39
Efficiency (dB)	-4.76	-4.56	-4.42	-4.83	-4.70
Efficiency (%)	33.40	35.00	36.10	32.90	33.90
Gain (dBi)	0.58	1.08	1.00	-0.02	-0.31
NHPRP $\pm\pi/4$ (dBm)	-6.09	-5.84	-5.70	-6.08	-6.04
NHPRP $\pm\pi/6$ (dBm)	-7.65	-7.41	-7.20	-7.55	-7.51
NHPRP $\pm\pi/8$ (dBm)	-8.88	-8.65	-8.39	-8.72	-8.68
Upper Hem. PRP (dBm)	-7.77	-7.45	-7.46	-7.70	-7.25
Lower Hem. PRP (dBm)	-7.77	-7.69	-7.40	-8.00	-8.22
Upper Hem. PRP (%)	16.70	18.00	17.94	17.00	18.84
Lower Hem. PRP (%)	16.70	17.01	18.18	15.87	15.07





B7





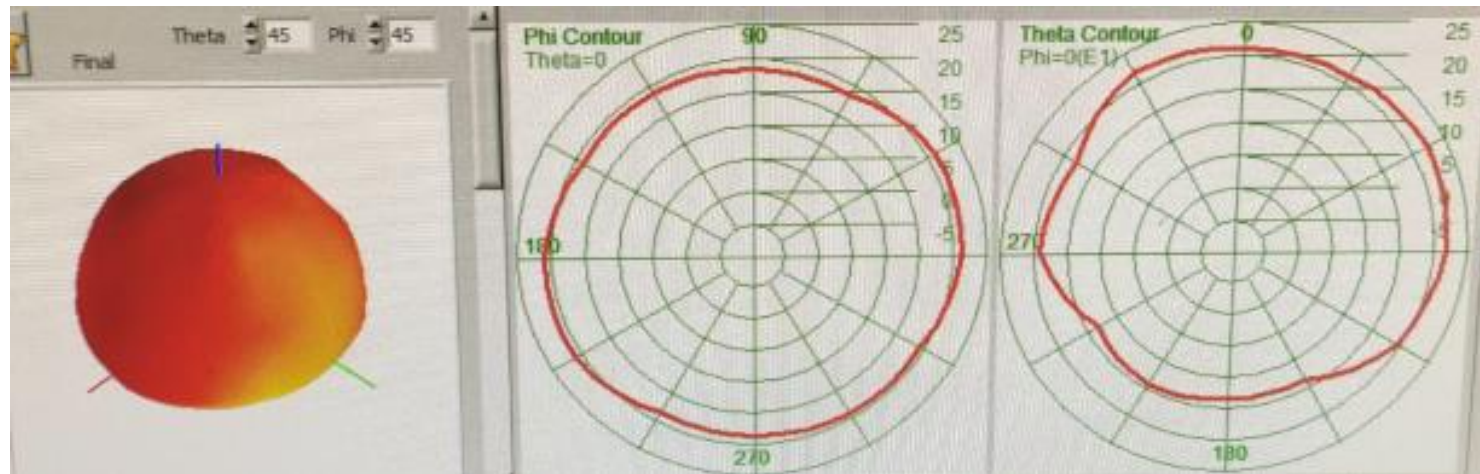
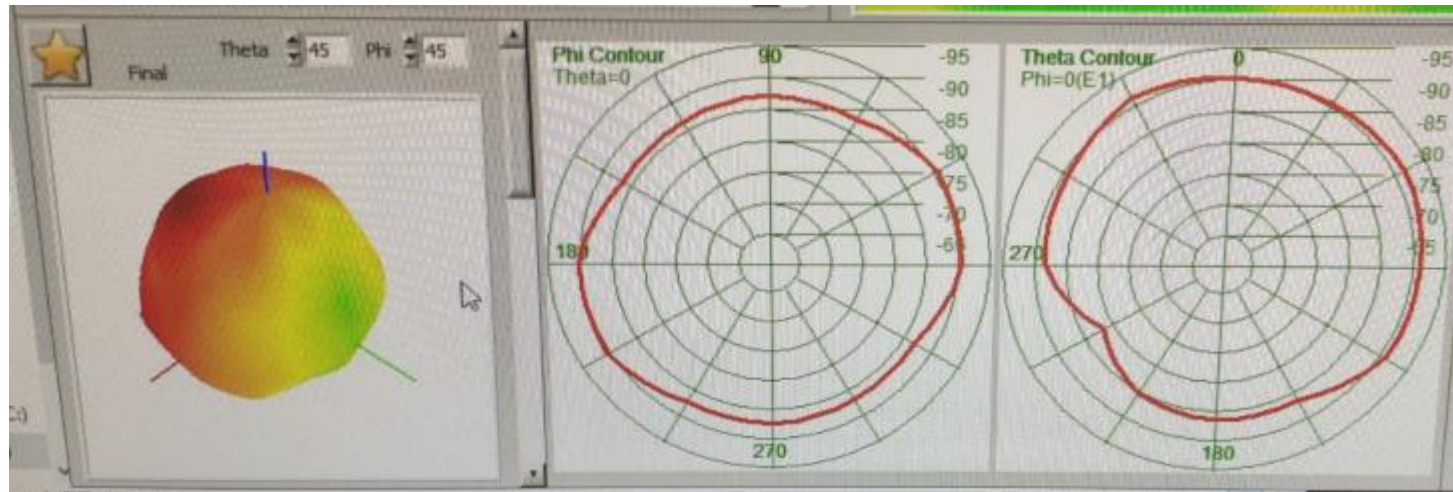


# B3的效率以及增益

<b>FETUKEJI</b>							
Frequency ID	1	2	3	4	5	6	7
Frequency (MHz)	1700.0	1730.0	1760.0	1790.0	1820.0	1850.0	1880.0
Point Values							
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-4.31	-4.41	-4.39	-4.27	-4.52	-4.61	-4.61
Peak EIRP (dBm)	1.41	1.37	1.61	1.52	1.04	1.33	1.32
Directivity (dBi)	5.72	5.78	6.00	5.80	5.55	5.94	5.93
Efficiency (dB)	-4.31	-4.41	-4.39	-4.27	-4.52	-4.61	-4.61
Efficiency (%)	37.10	36.20	36.40	37.40	35.30	34.60	34.60
Gain (dBi)	1.41	1.37	1.61	1.52	1.04	1.33	1.32
NHPRP $\pm \pi/4$ (dBm)	-5.90	-6.09	-6.14	-6.07	-6.29	-6.44	-6.57
NHPRP $\pm \pi/6$ (dBm)	-7.77	-8.08	-8.23	-8.10	-8.27	-8.46	-8.63
NHPRP $\pm \pi/8$ (dBm)	-9.29	-9.70	-9.97	-9.81	-9.95	-10.11	-10.28
Upper Hem. PRP (dBm)	-7.49	-7.57	-7.61	-7.38	-7.55	-7.66	-7.83
Lower Hem. PRP (dBm)	-7.15	-7.27	-7.21	-7.19	-7.51	-7.58	-7.43
Upper Hem. PRP (%)	17.82	17.50	17.36	18.27	17.59	17.14	16.49
Lower Hem. PRP (%)	19.26	18.73	19.01	19.11	17.76	17.46	18.08



B3



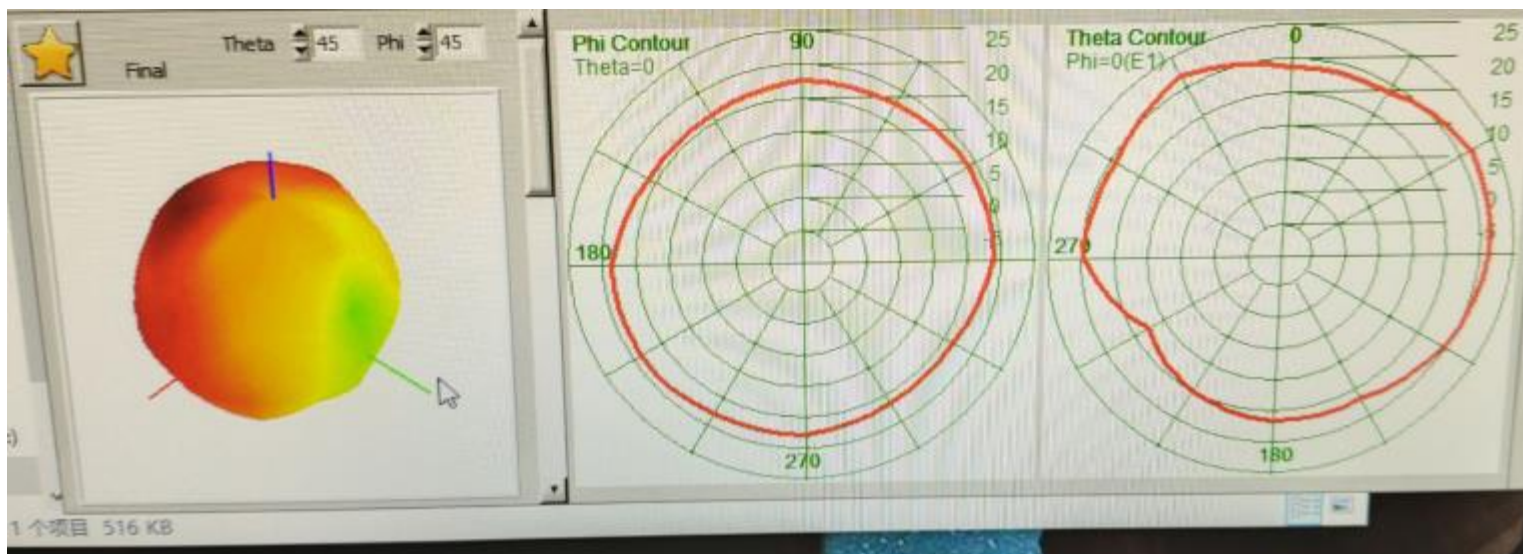
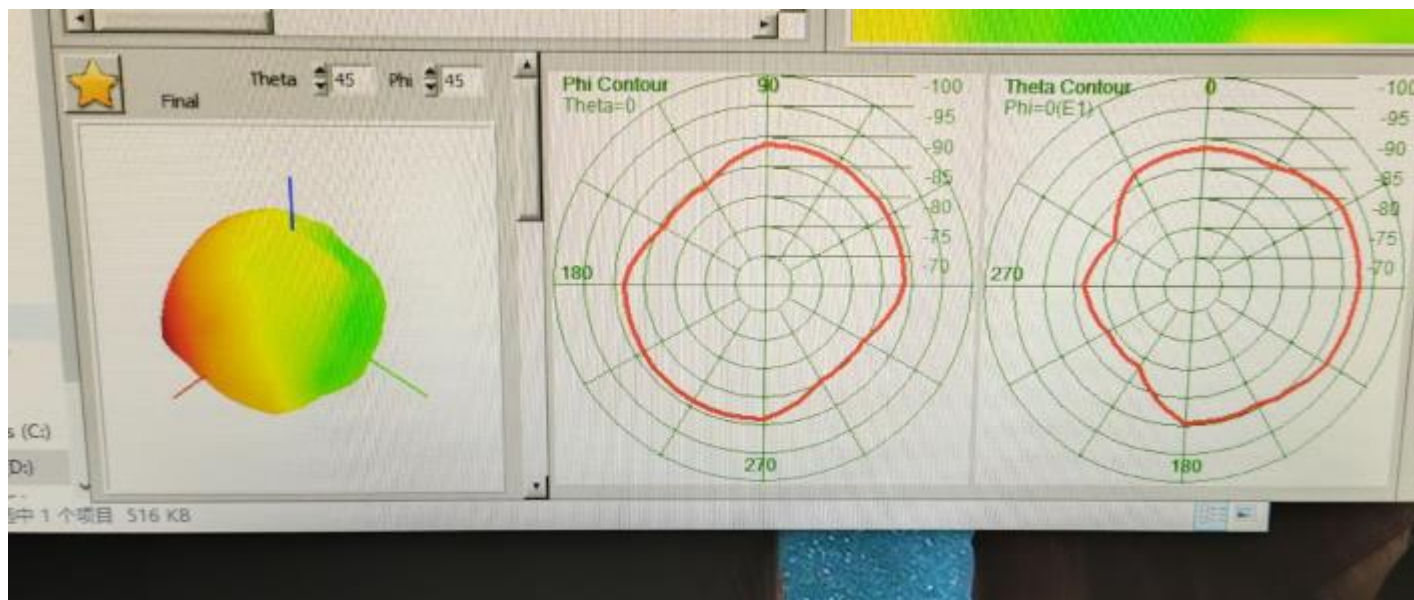


# B1的效率以及增益

<b>FEITUKEJI</b>					
Frequency ID	1	2	3	4	5
Frequency (MHz)	1900.0	1930.0	1960.0	1990.0	2170.0
Point Values					
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-4.45	-4.39	-4.47	-4.70	-5.21
Peak EIRP (dBm)	1.62	1.58	1.27	1.54	0.96
Directivity (dBi)	6.07	5.97	5.74	6.24	6.17
Efficiency (dB)	-4.45	-4.39	-4.47	-4.70	-5.21
Efficiency (%)	35.90	36.40	35.80	33.90	30.10
Gain (dBi)	1.62	1.58	1.27	1.54	0.96
NHPRP $\pm\pi/4$ (dBm)	-6.45	-6.37	-6.40	-6.61	-7.13
NHPRP $\pm\pi/6$ (dBm)	-8.51	-8.37	-8.32	-8.43	-8.76
NHPRP $\pm\pi/8$ (dBm)	-10.14	-9.97	-9.89	-9.94	-9.80
Upper Hem. PRP (dBm)	-7.72	-7.65	-7.93	-8.39	-9.65
Lower Hem. PRP (dBm)	-7.22	-7.16	-7.07	-7.11	-7.15
Upper Hem. PRP (%)	16.92	17.17	16.12	14.48	10.84
Lower Hem. PRP (%)	18.98	19.22	19.64	19.44	19.28



# B1







天线位置:



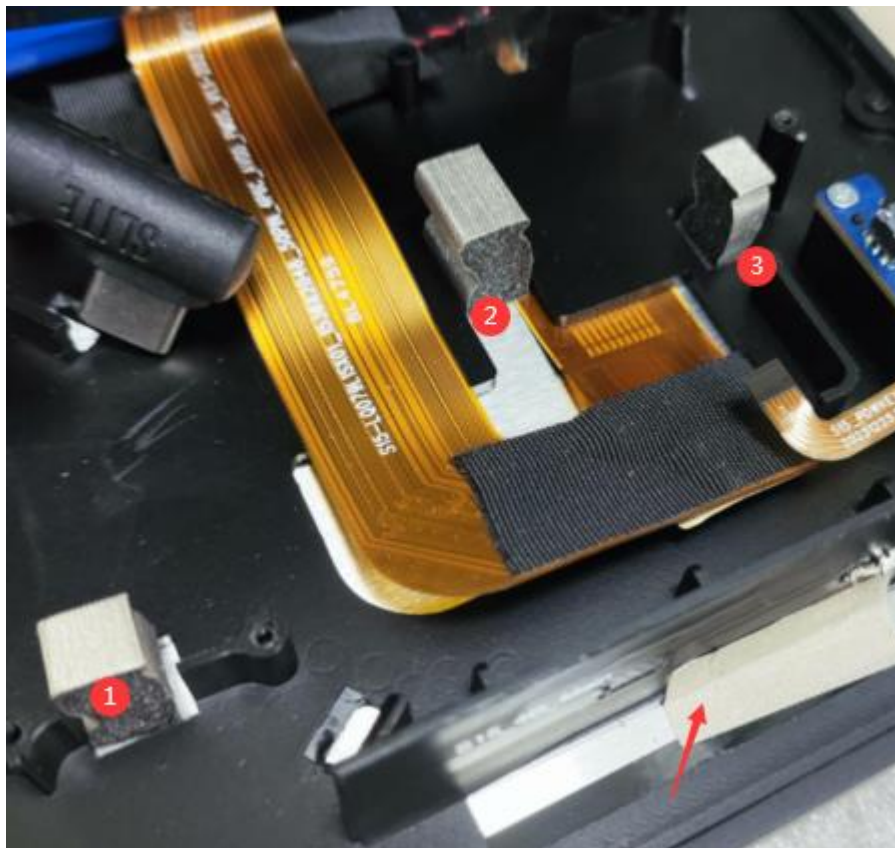
WIFI Picture



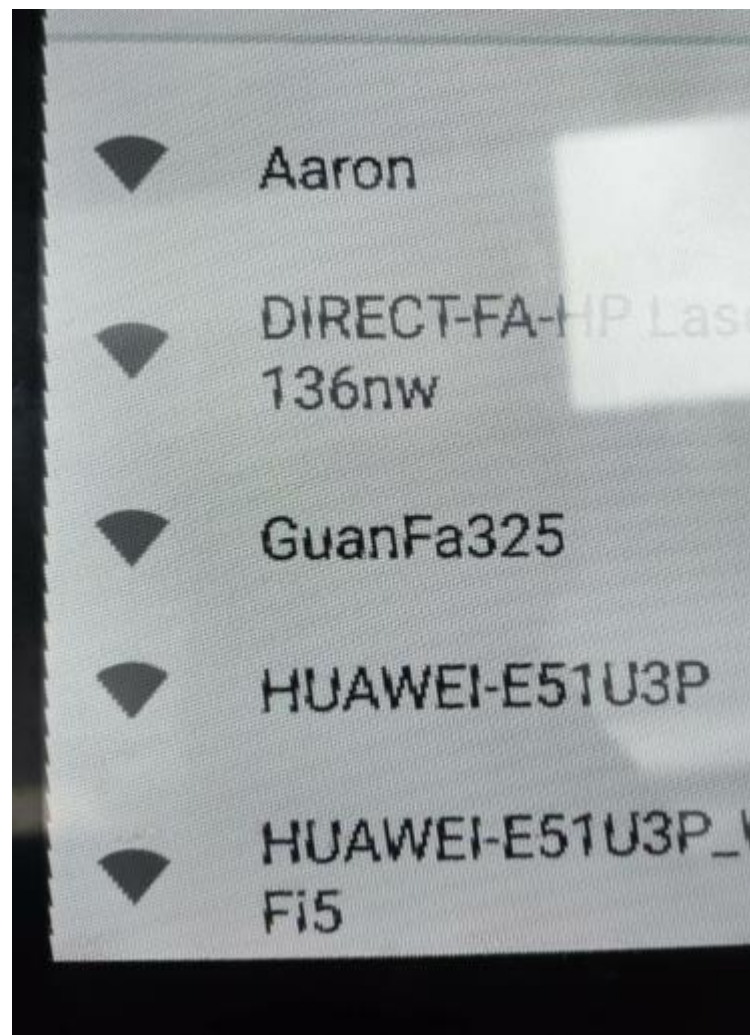
WIFI ANT Location



## 环境处理说明:



1.2.3处贴导电泡棉主板与屏接地  
主天线漏铜区贴导电布与屏接地



WIFI实测图



## 提示说明

提示：

- 一、此数据只针对客户提供样机所产生的数据，不代表客户最终量产状态；
- 二、请客户仔细确认我司报告中，匹配电路修改及环境处理说明；
- 三、量产前请配合提供试产样机来我司二次验证；如有更换物料、更新软件及环境处理等，请提前告知；
- 四、如客户需要第三方复测，或者送客户测试，请到我司验证后再送样机；防止机器与调试机有差异；
- 五：我司不接受，我们调试以外的机器数据和其它暗室测试的数据，但可以参考，认证暗室除外，如数据有差异，一切以调试机为准去找原因





谢谢!

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