深圳市天联凌科技有限公司

天 线 测 试 报 告

项目名称：U0330
WIFI 1料号：WF84A.C113.240B.1
WIFI 2料号：WF84A.C113.90B.1
BT 料号：WF84A.C113.140B.1

负责人：方正锋

版本：V1

日期:2023-09-22

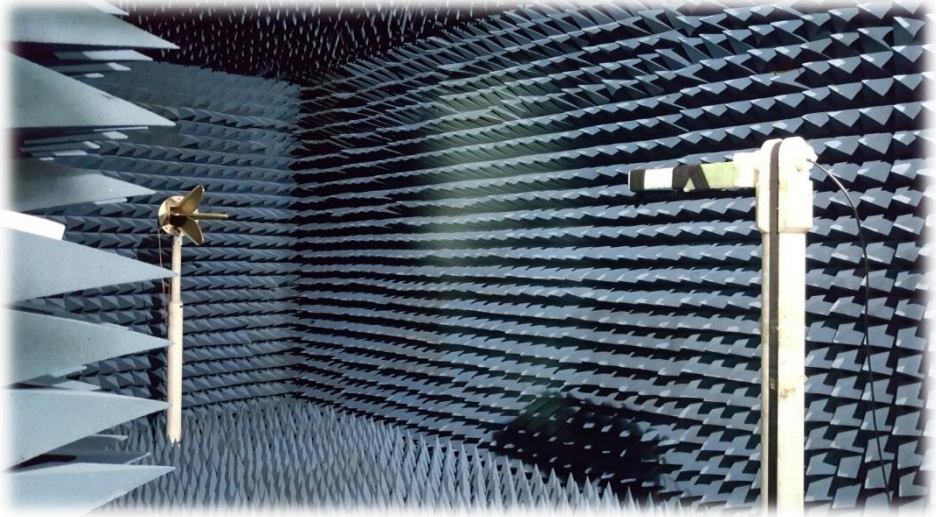
电话：0755-85263741　　传真：0755-85263741
公司地址：深圳市宝安区71区留仙一路二巷26号L楼5D　　公司网址：http://www.tll-skylink.com

研发环境

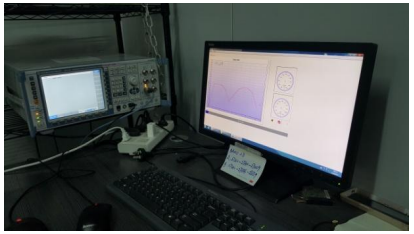
微波暗室

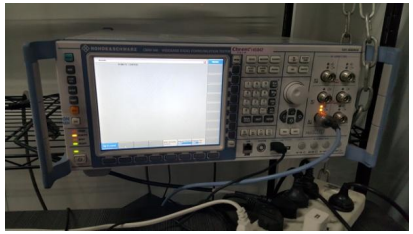
以及附属仪器设备

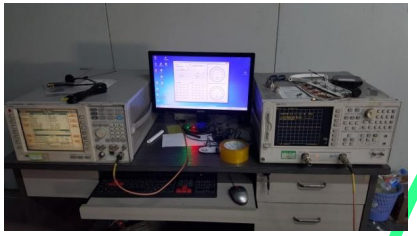
1. 2G/3G通讯微波暗室
2.4G微波暗室通讯产品
2.CMW500
3.安捷伦网络分析仪
4.惠普网络分析仪
5.GPS101等

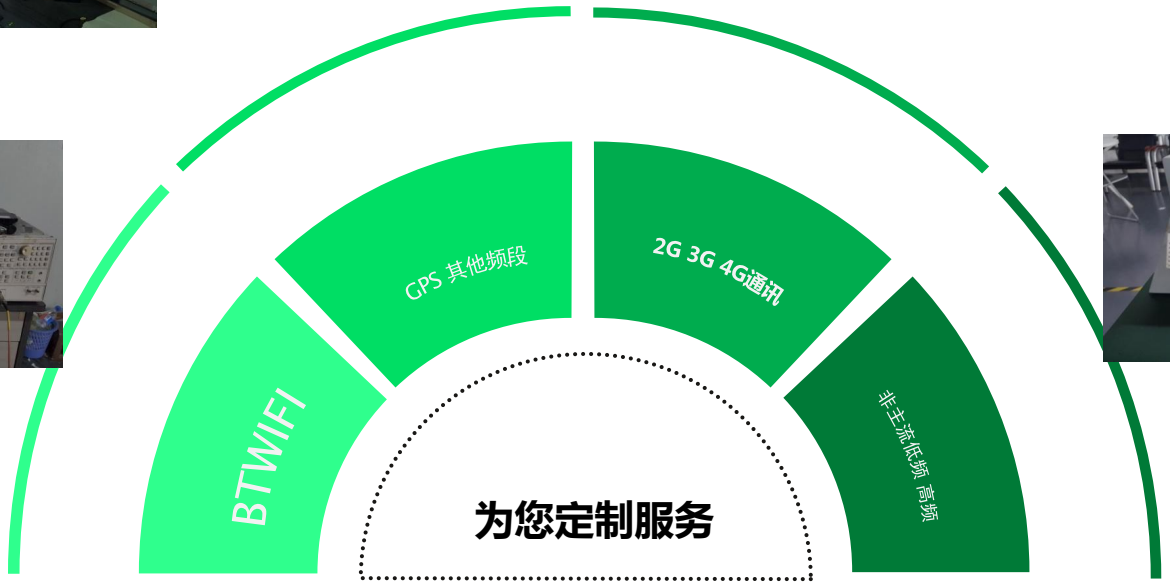


研发设备

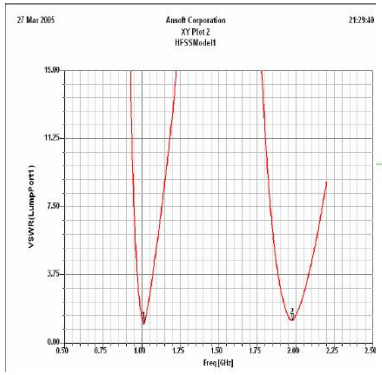


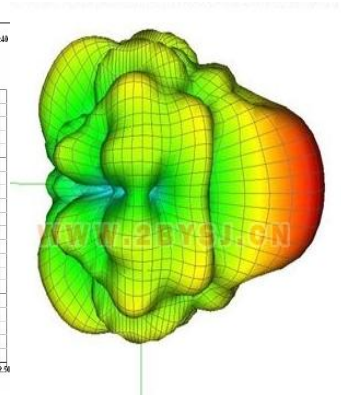


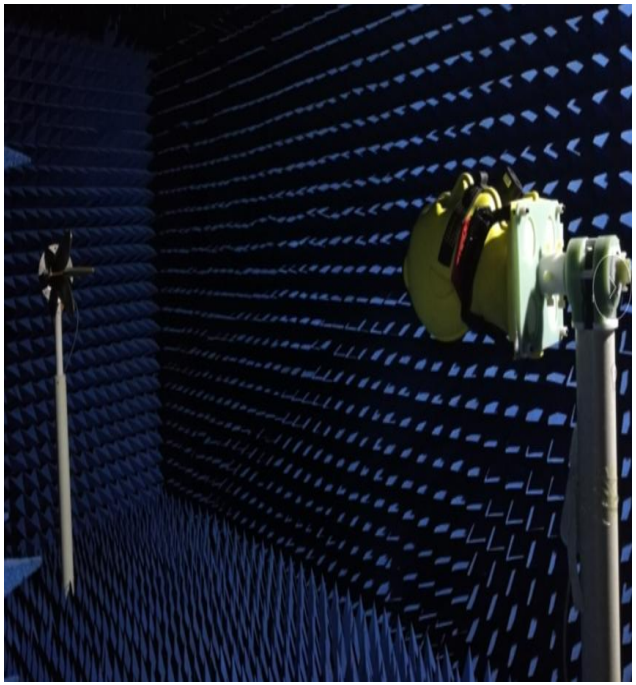




测试能力







无源测试

- 阻抗
- VSWR
- 增益
- 效率
- 方向图

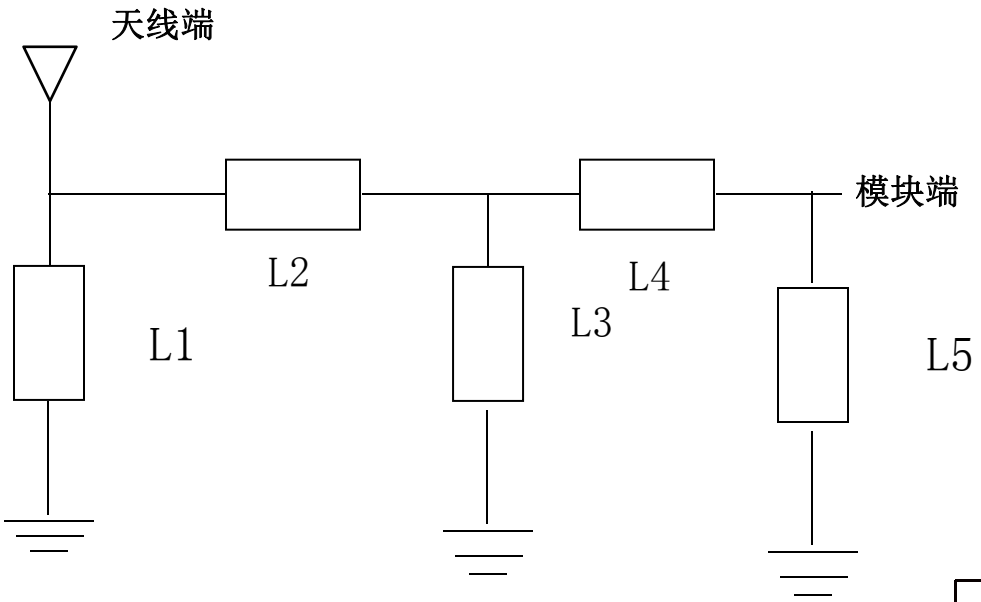
有源测试

- 2G 3G 4G 传导测试 & TRP&TIS
- WIFI 2.4G&5.8G 传导测试 & TRP&TIS
- BT 传导测试 & TRP&TIS
- GPS 传导测试
- NB-IOT 非信令模式下 传导测试 & TRP
- 0~7.5G 扫描干扰分析

信息说明：

客户名称	机型	天线方式
卡微恩	C0330	FPC
频率		
WIFI	2400MHz-2500MHz 5150MHz-5850MHz	
BT	2400MHz-2500MHz	

天线匹配电路



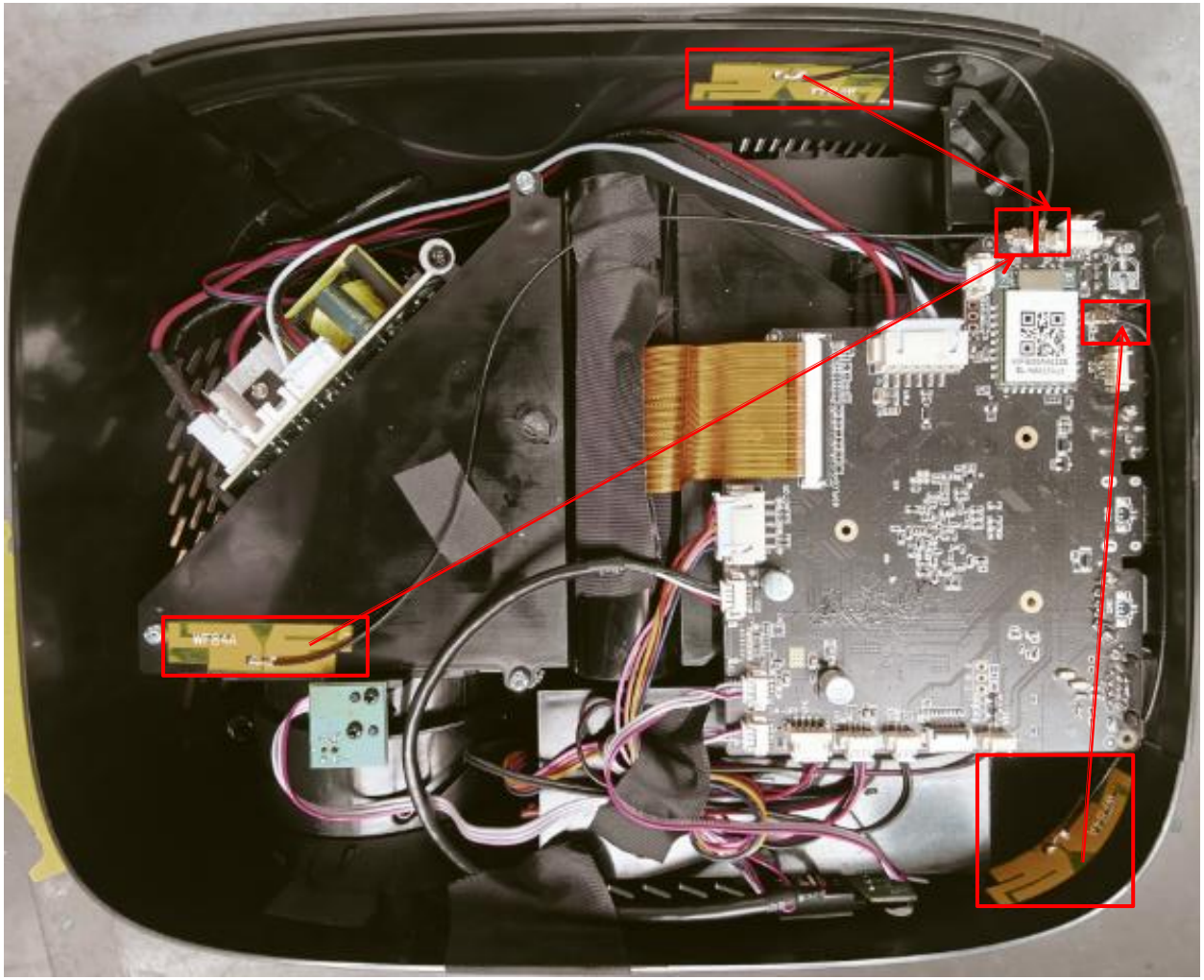
原主板匹配不变

	值
L1（0201）	/
L2（0201）	/
L3（0201）	/
L4（0201）	/
L5（0201）	/

客户设备图示

天线位置图示

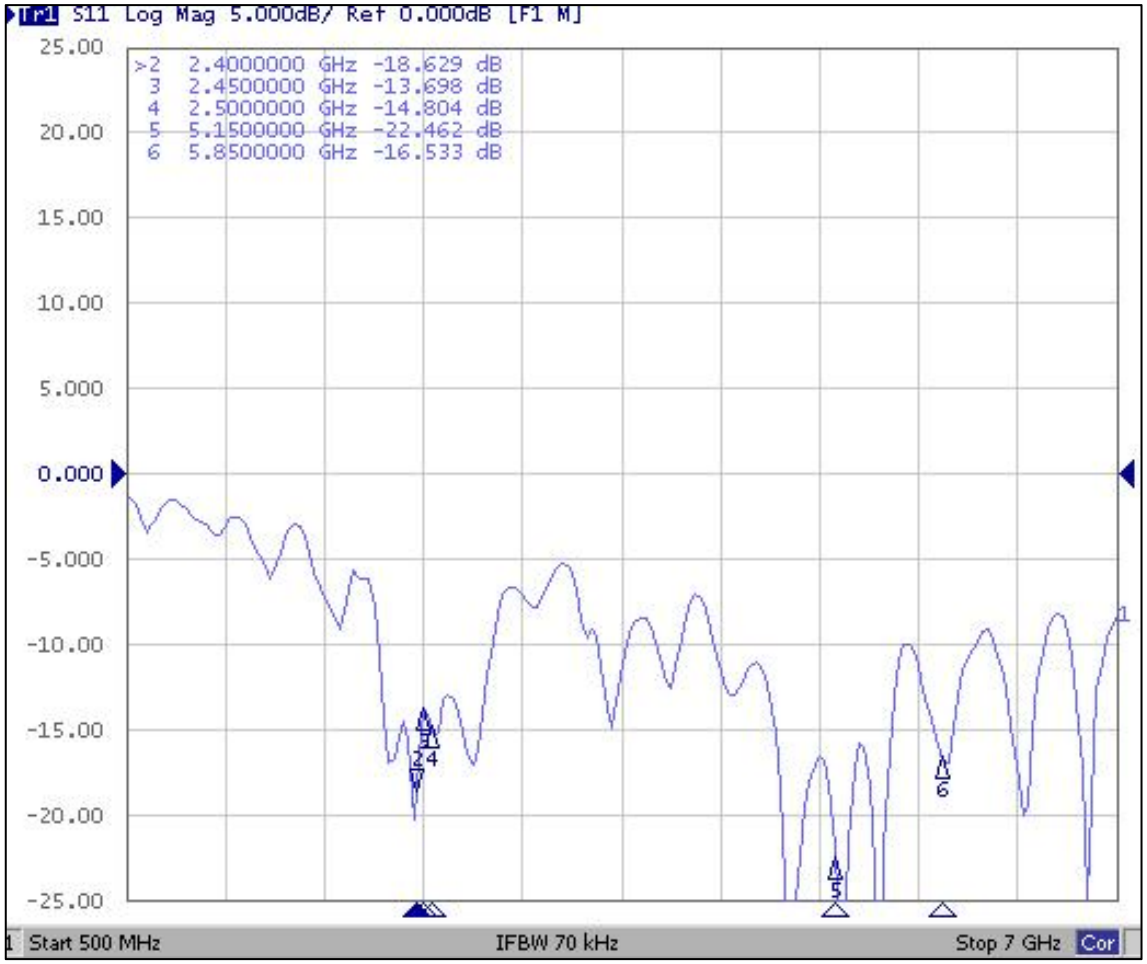
WIFI 2



WIFI 1

BT

回波损耗(WIFI 1)


Tr1 S11 Log Mag 5.000dB/ Ref 0.000dB [F1 M]
>2 2.4000000 GHz -18.629 dB
3 2.4500000 GHz -13.698 dB
4 2.5000000 GHz -14.804 dB
5 5.1500000 GHz -22.462 dB
6 5.8500000 GHz -16.533 dB
25.00
20.00
15.00
10.00
5.000
0.000
-5.000
-10.00
-15.00
-20.00
-25.00
Start 500 MHz
IFBW 70 kHz
Stop 7 GHz
Cor

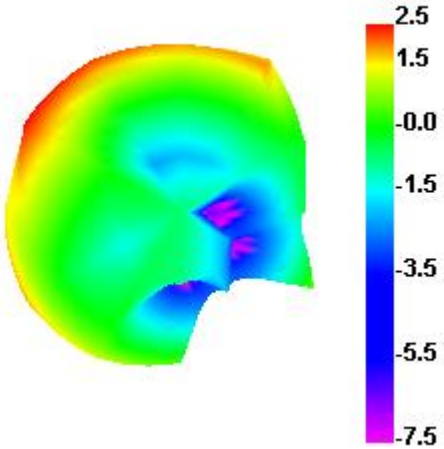
效率/增益(WIFI 1)

Freq (MHz)	Effi (%)	Gain (dBi)
2400	47.77	2.46
2410	52.59	2.47
2420	57.35	2.42
2430	59.48	2.44
2440	58.32	2.34
2450	53.78	2.27
2460	54.21	2.37
2470	51.72	2.56
2480	53.3	2.46
2490	54.47	2.42
2500	56.28	2.39

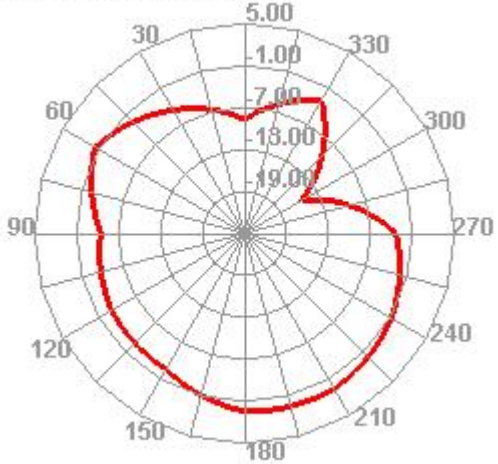
Freq (MHz)	Effi (%)	Gain (dBi)
5150	44.72	-0.32
5200	45.95	-0.12
5250	44.59	-0.24
5300	42.91	-0.85
5350	40.42	0.24
5400	41.97	1.04
5450	42.62	1.4
5500	45.11	1.34
5550	40.02	1.49
5600	42.54	1.02
5650	45.09	1.46
5700	46.23	1.57
5750	46.59	1.43
5800	44.87	0.92
5850	47.58	0.92

方向图(WIFI 1)

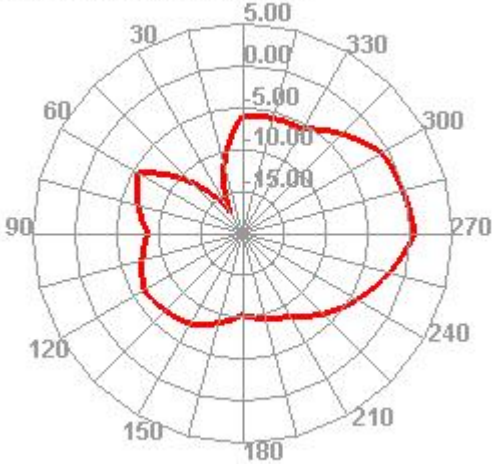
2400.000MHz



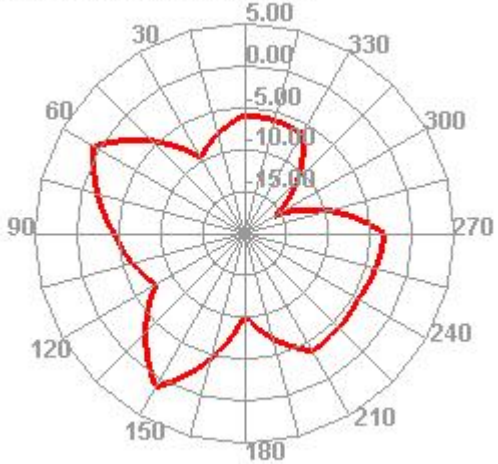
2400.000MHz H



2400.000MHz E1

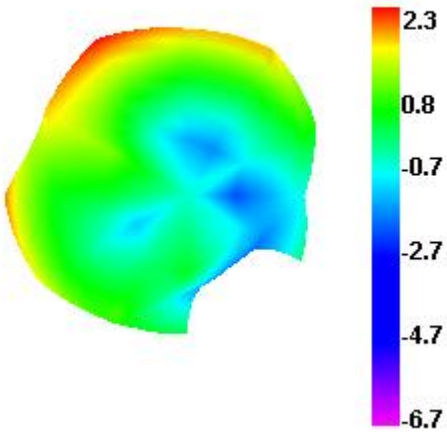


2400.000MHz E2

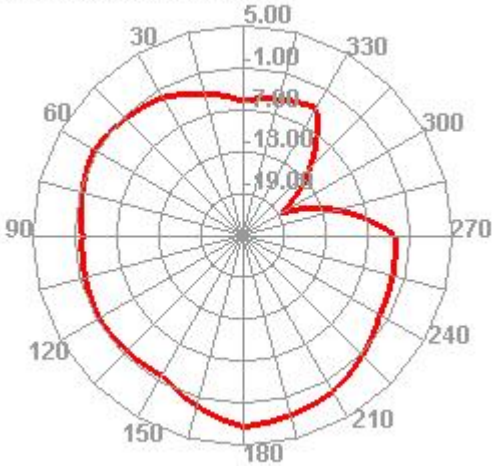


方向图(WIFI 1)

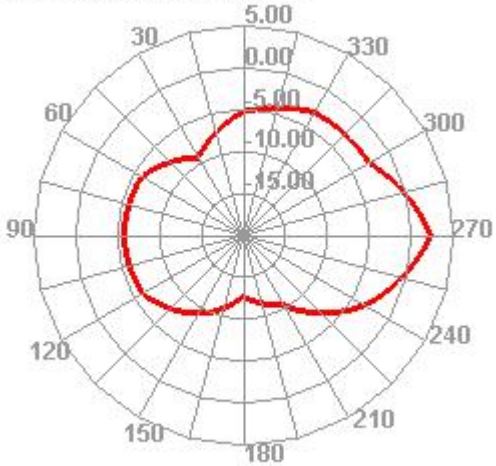
2450.000MHz



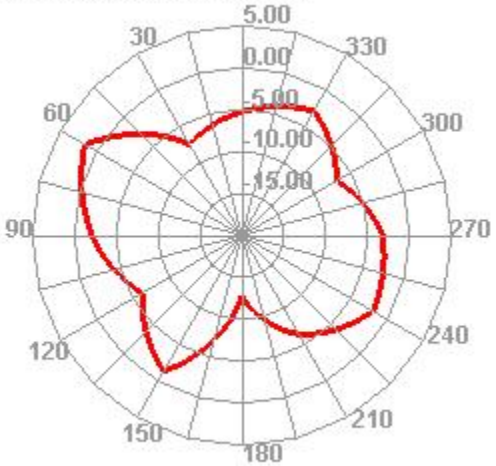
2450.000MHz H



2450.000MHz E1

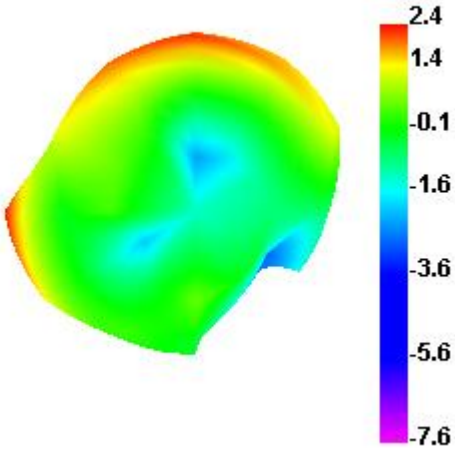


2450.000MHz E2

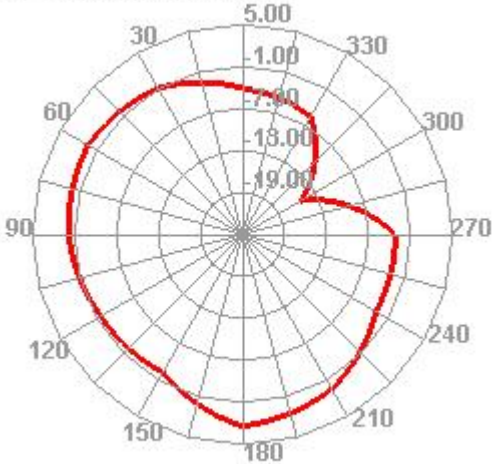


方向图(WIFI 1)

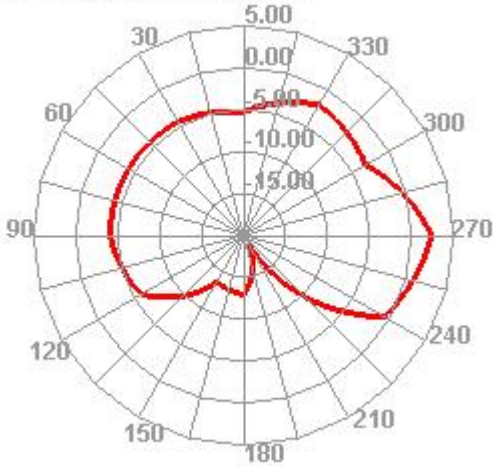
2500.000MHz



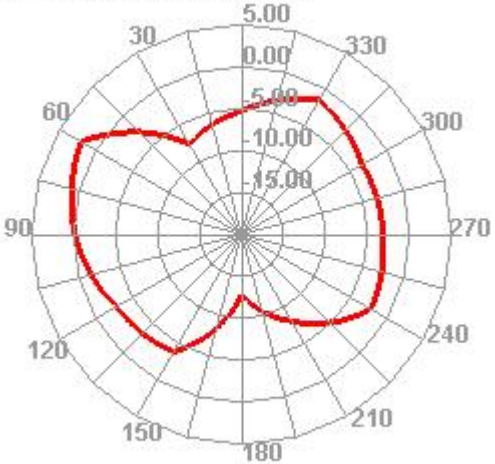
2500.000MHz H



2500.000MHz E1

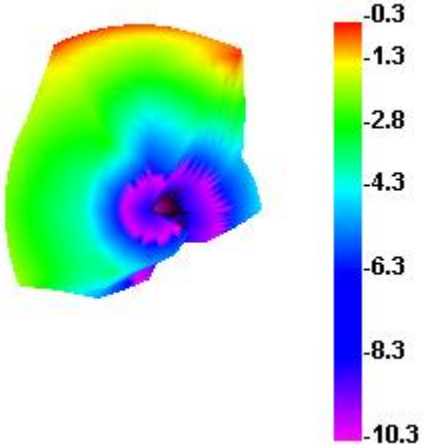


2500.000MHz E2

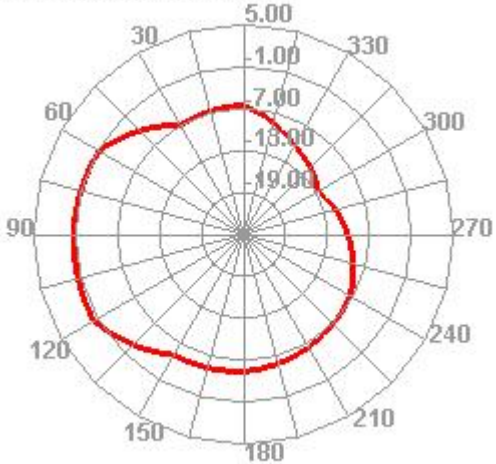


方向图(WIFI 1)

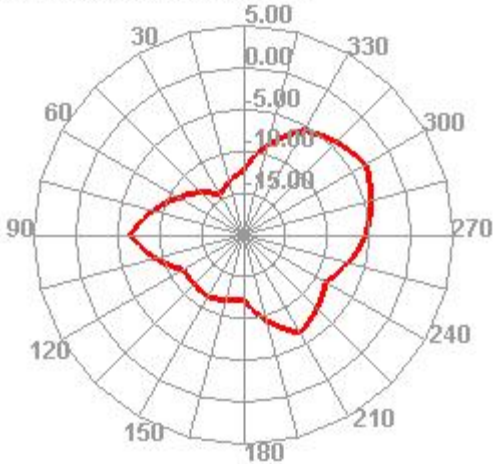
5150.000MHz



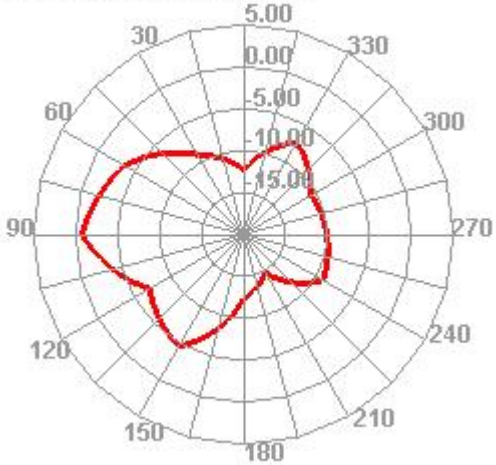
5150.000MHz H



5150.000MHz E1

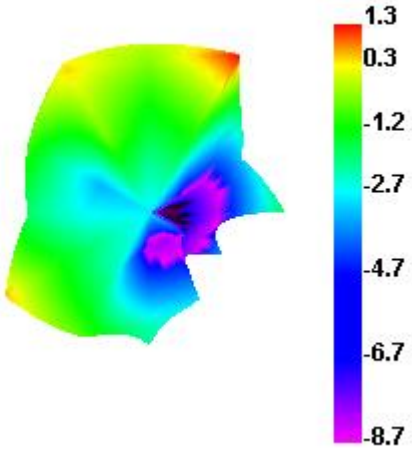


5150.000MHz E2

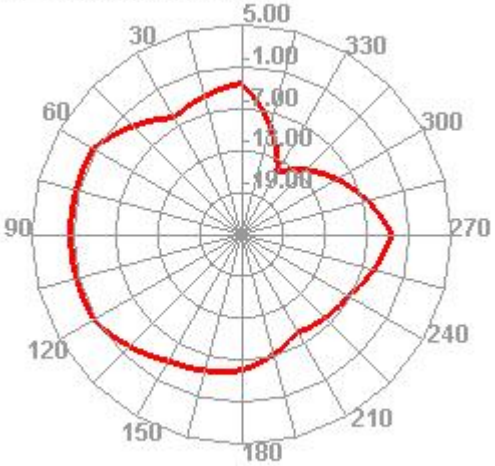


方向图(WIFI 1)

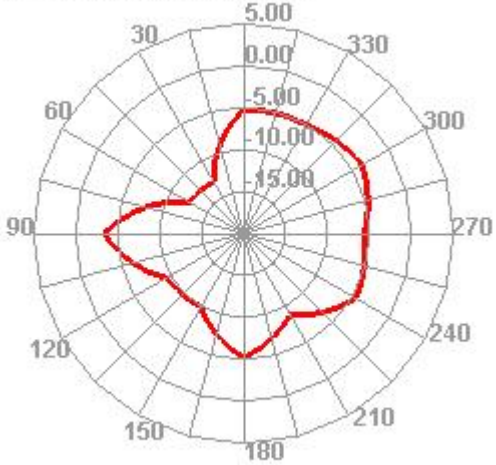
5500.000MHz



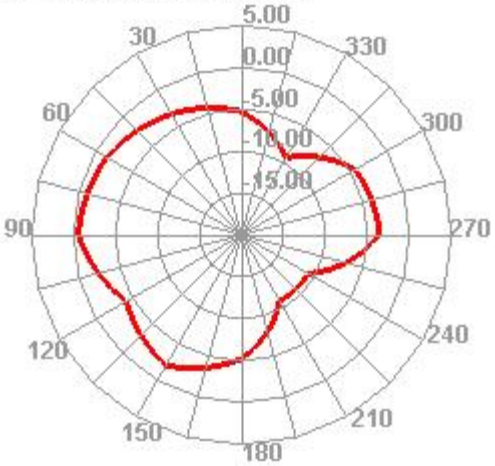
5500.000MHz H



5500.000MHz E1

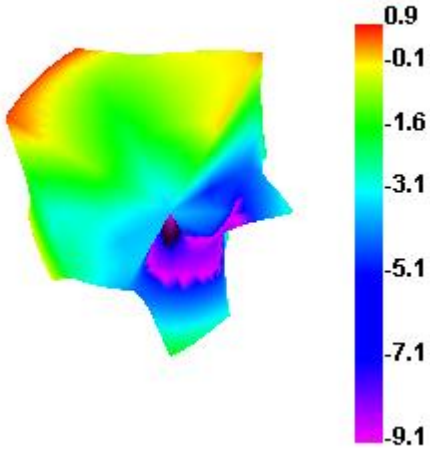


5500.000MHz E2

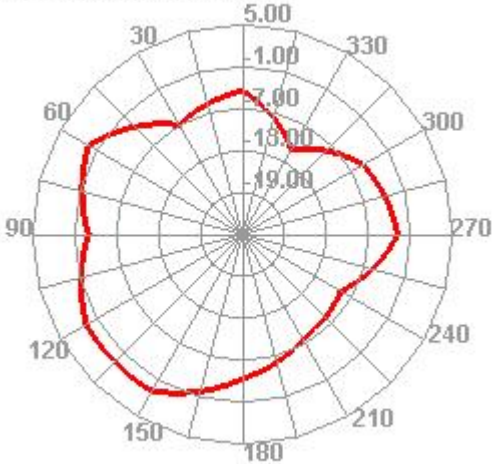


方向图(WIFI 1)

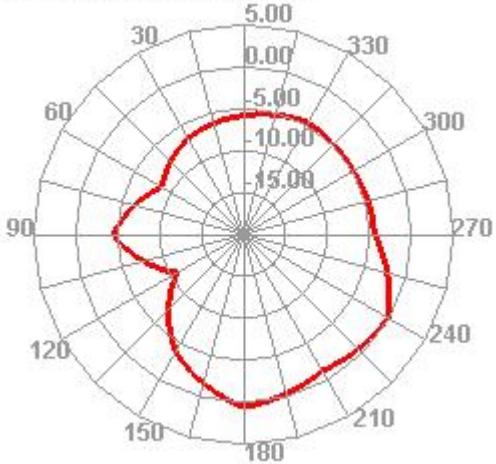
5850.000MHz



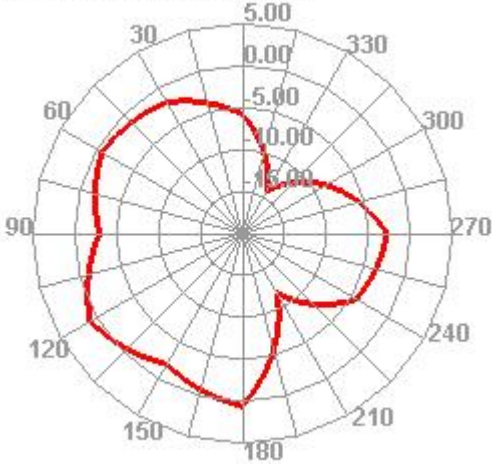
5850.000MHz H



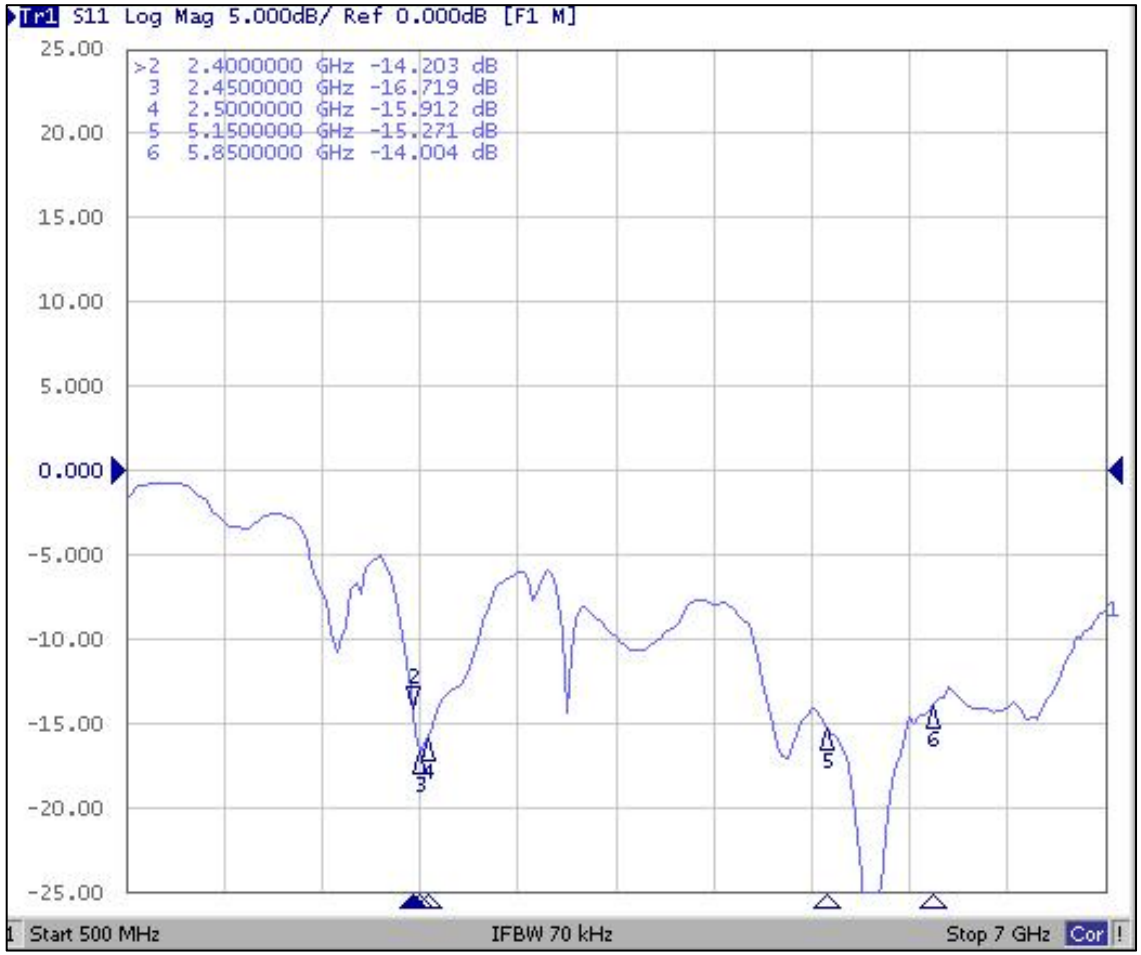
5850.000MHz E1



5850.000MHz E2



回波损耗(WIFI 2)


Tr1 S11 Log Mag 5.000dB/ Ref 0.000dB [F1 M]
>2 2.4000000 GHz -14.203 dB
3 2.4500000 GHz -16.719 dB
4 2.5000000 GHz -15.912 dB
5 5.1500000 GHz -15.271 dB
6 5.8500000 GHz -14.004 dB
25.00
20.00
15.00
10.00
5.000
0.000
-5.000
-10.00
-15.00
-20.00
-25.00
1 Start 500 MHz
IFBW 70 kHz
Stop 7 GHz
Cor

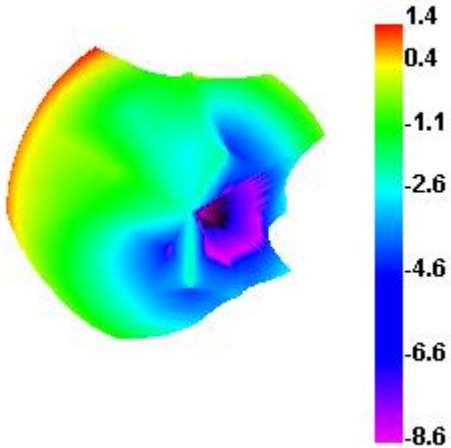
效率/增益(WIFI 2)

Freq (MHz)	Effi (%)	Gain (dBi)
2400	40.57	1.37
2410	41.08	1.31
2420	44.25	1.7
2430	50.73	2.3
2440	51.17	2.35
2450	49.71	2.18
2460	49.61	2.12
2470	50.62	1.91
2480	50.31	1.69
2490	49.52	1.77
2500	48.62	2.34

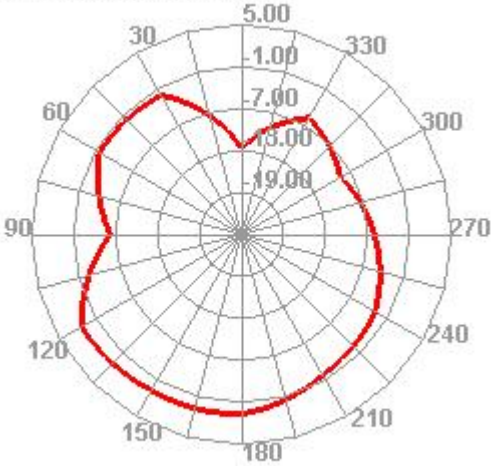
Freq (MHz)	Effi (%)	Gain (dBi)
5150	36.19	-0.63
5200	34.26	0.49
5250	37.47	0.34
5300	38.05	0.16
5350	39.97	1.31
5400	39.64	1.24
5450	39.34	1.3
5500	42.27	1.02
5550	46.12	1.12
5600	48.84	1.17
5650	45.63	1.47
5700	50.94	1.46
5750	50.85	1.87
5800	49.66	2.1
5850	51.5	2.01

方向图(WIFI 2)

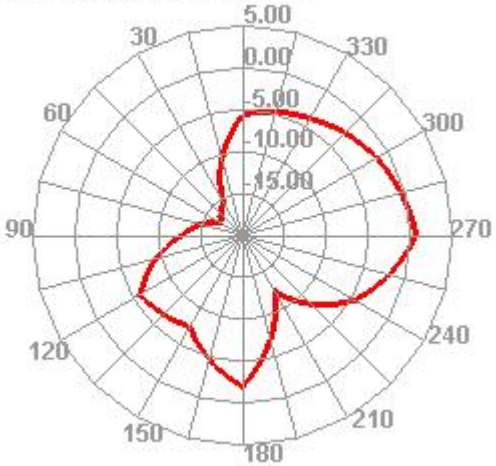
2400.000MHz



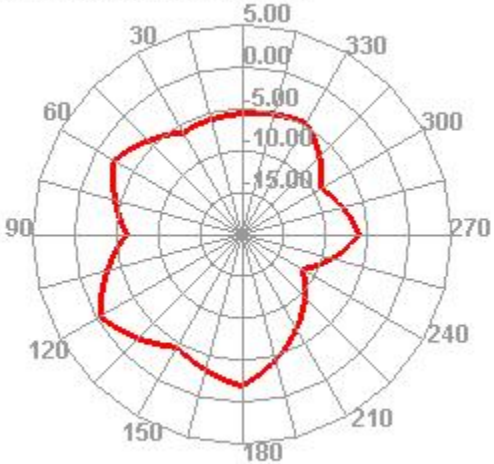
2400.000MHz H



2400.000MHz E1

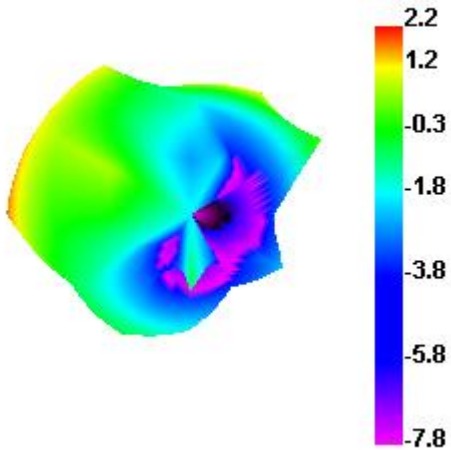


2400.000MHz E2

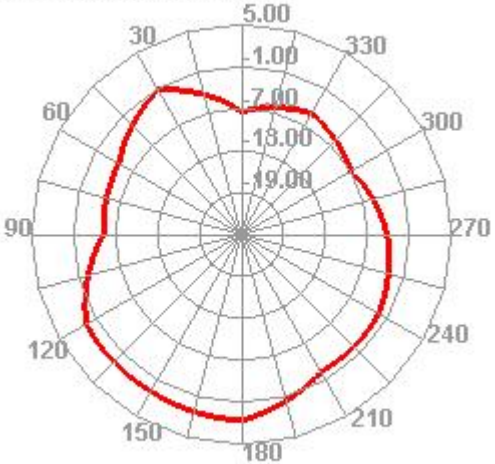


方向图(WIFI 2)

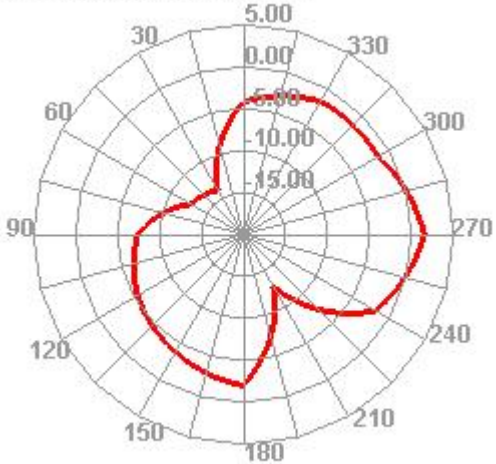
2450.000MHz



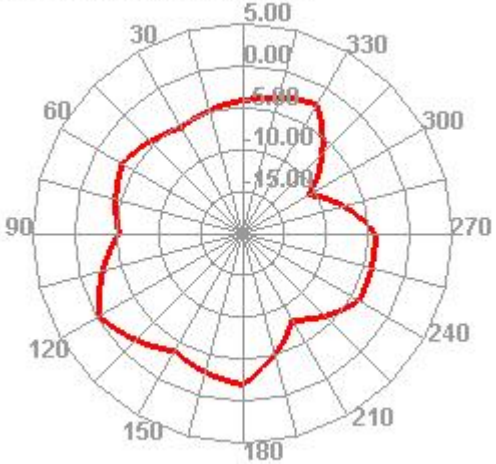
2450.000MHz H



2450.000MHz E1

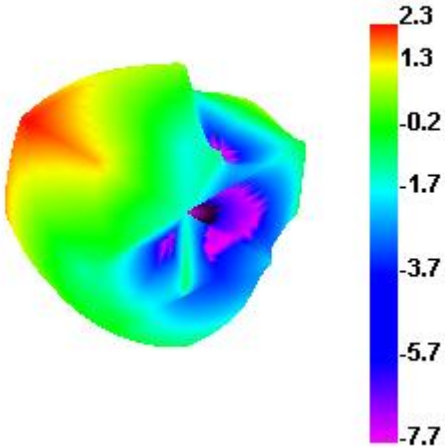


2450.000MHz E2

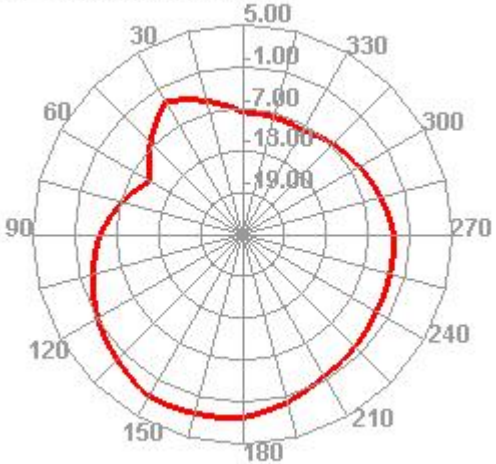


方向图(WIFI 2)

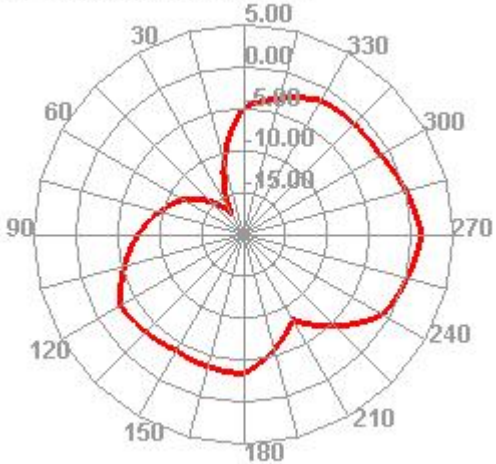
2500.000MHz



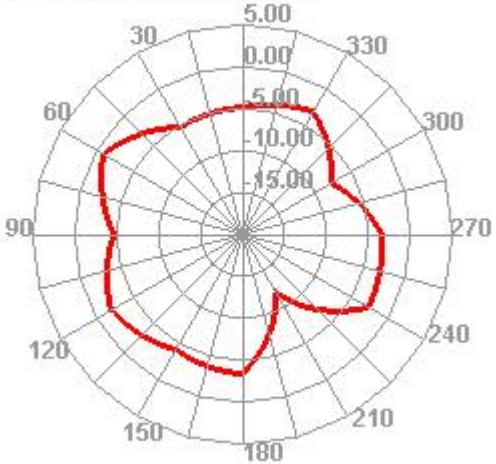
2500.000MHz H



2500.000MHz E1

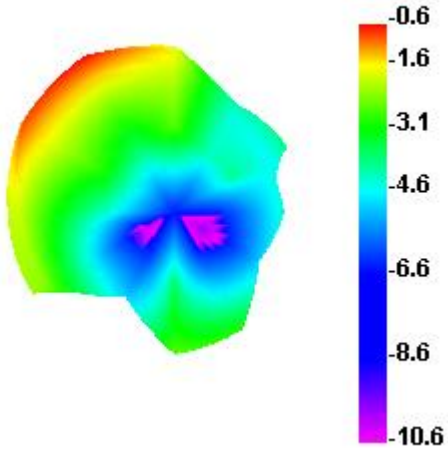


2500.000MHz E2

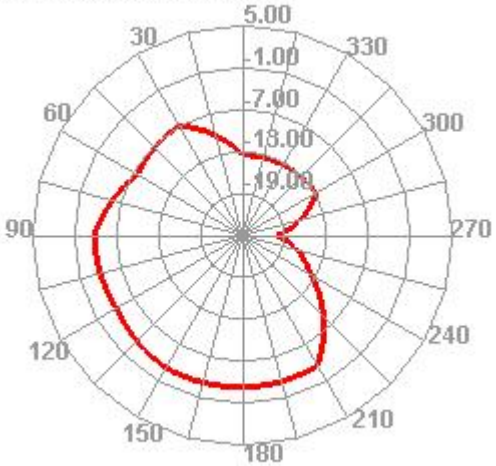


方向图(WIFI 2)

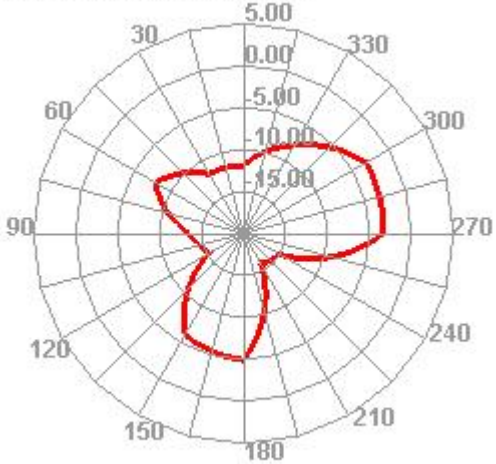
5150.000MHz



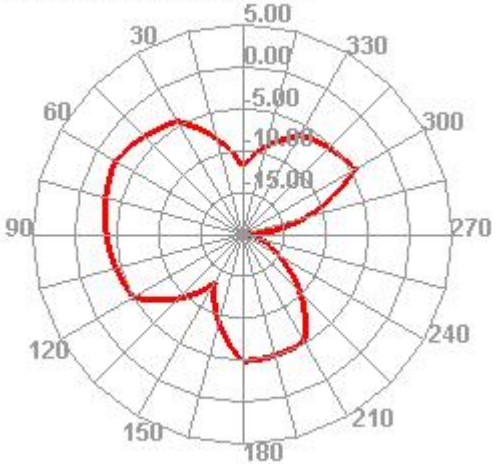
5150.000MHz H



5150.000MHz E1

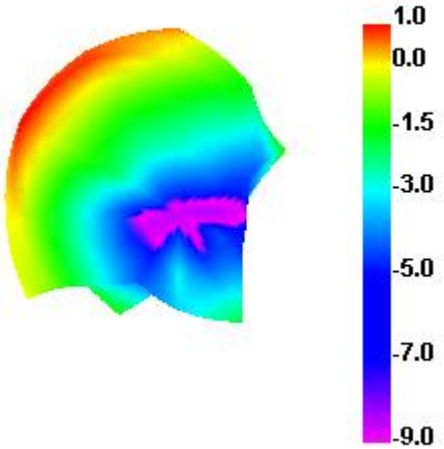


5150.000MHz E2

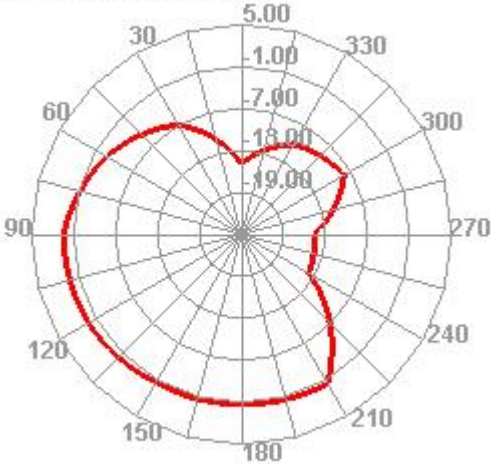


方向图(WIFI 2)

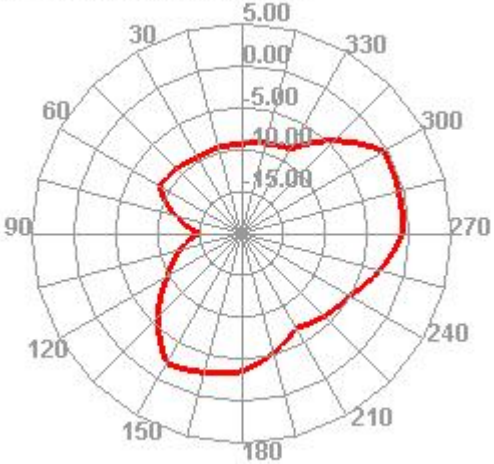
5500.000MHz



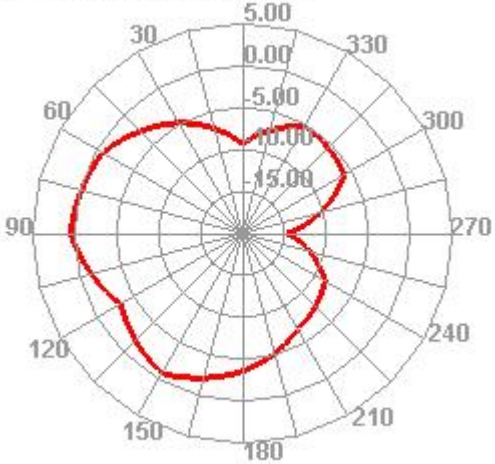
5500.000MHz H



5500.000MHz E1

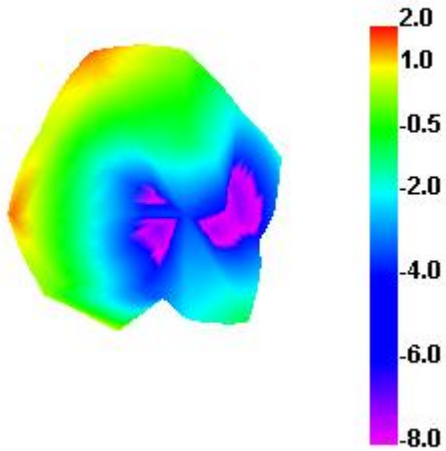


5500.000MHz E2

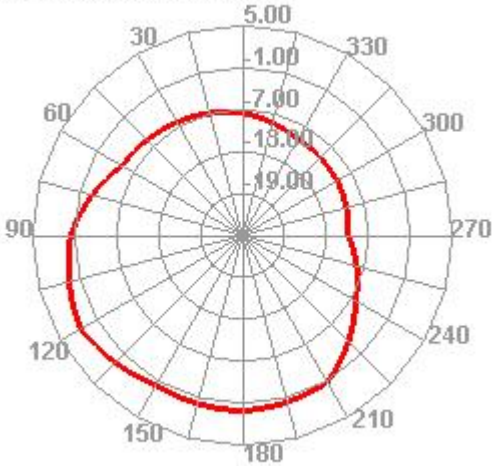


方向图(WIFI 2)

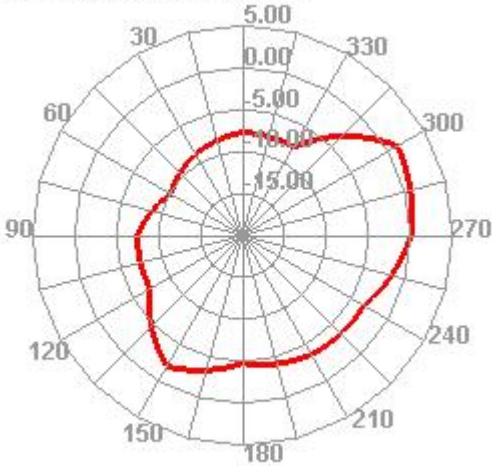
5850.000MHz



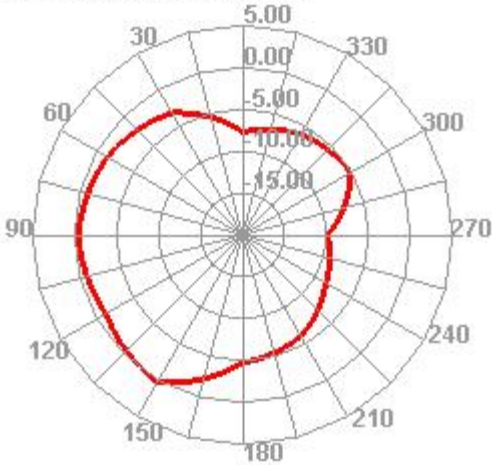
5850.000MHz H



5850.000MHz E1



5850.000MHz E2



回波损耗(BT)

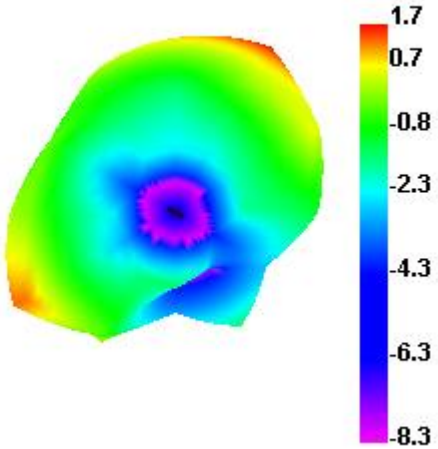
Tr1 S11 Log Mag 5.000dB/ Ref 0.000dB [F1 M]
>2 2.4000000 GHz -14.044 dB
4 2.5000000 GHz -9.5748 dB
25.00
20.00
15.00
10.00
5.000
0.000
-5.000
-10.00
-15.00
-20.00
-25.00
Start 500 MHz
IFBW 70 kHz
Stop 5 GHz

效率/增益(BT)

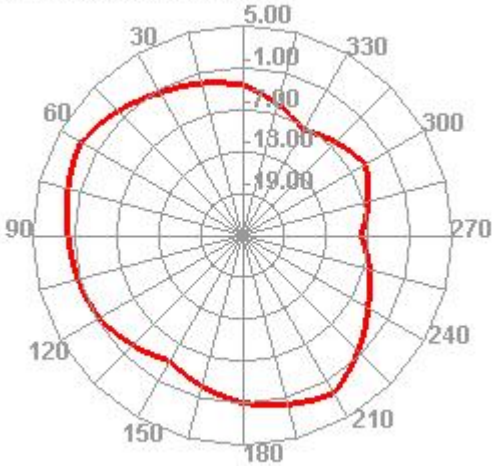
Freq (MHz)	Effi (%)	Gain (dBi)
2400	42.95	1.68
2410	45.84	2.03
2420	50.17	2.4
2430	56.17	2.61
2440	56.3	2.31
2450	53.79	2.13
2460	53.46	2.23
2470	54.33	2.42
2480	54.35	2.49
2490	53.39	2.46
2500	51.45	2.41

方向图(BT)

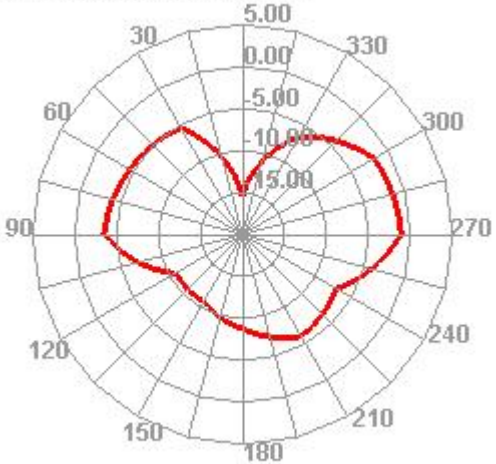
2400.000MHz



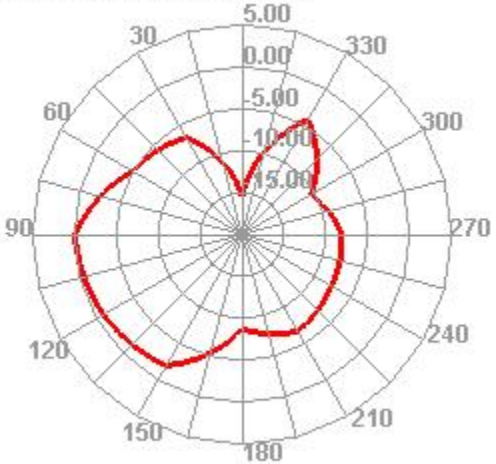
2400.000MHz H



2400.000MHz E1

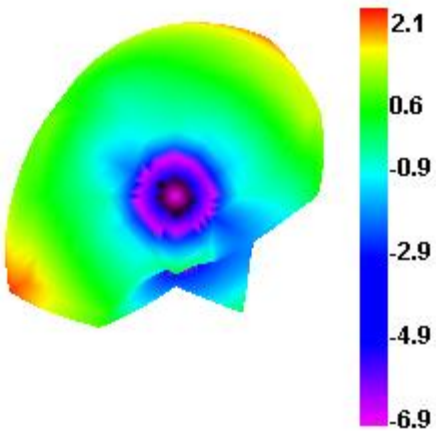


2400.000MHz E2

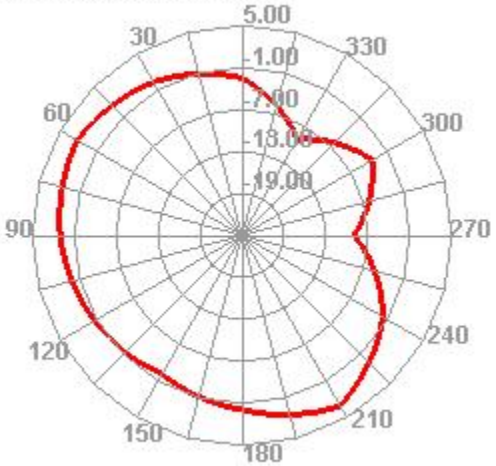


方向图(BT)

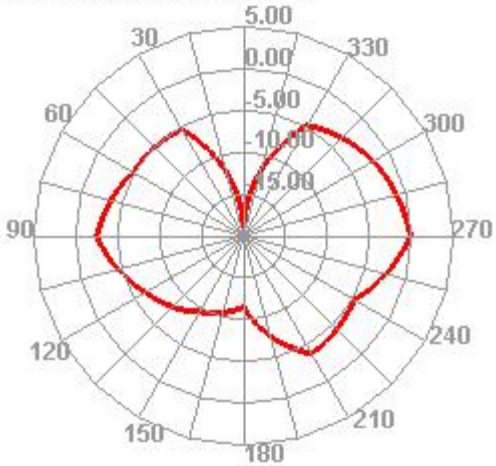
2450.000MHz



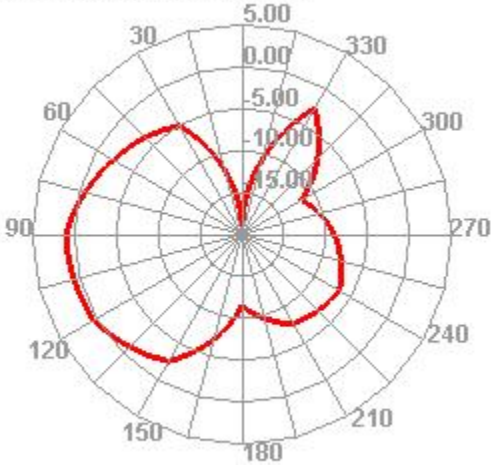
2450.000MHz H



2450.000MHz E1

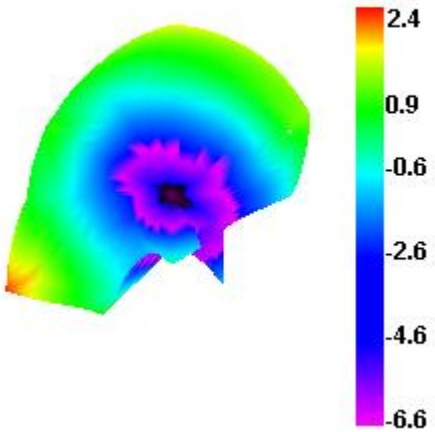


2450.000MHz E2

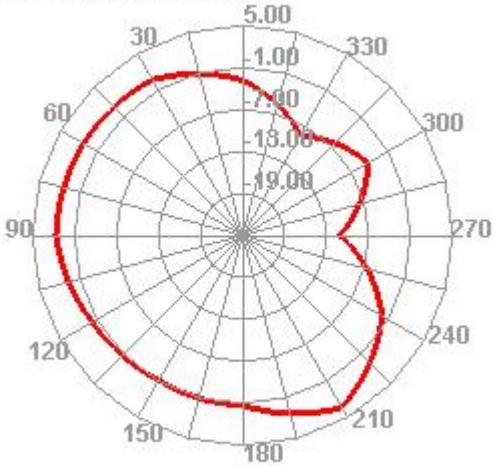


方向图(BT)

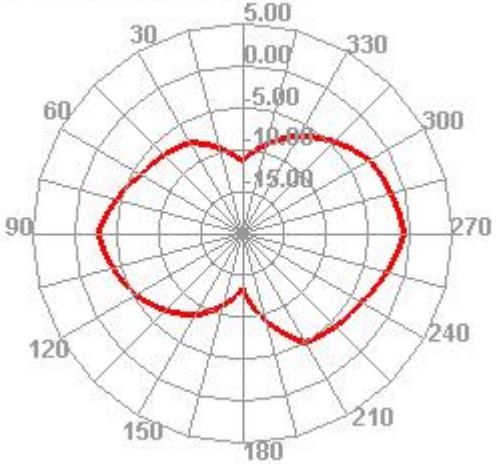
2500.000MHz



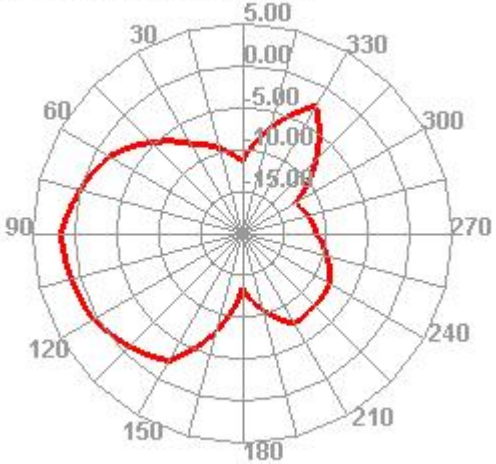
2500.000MHz H



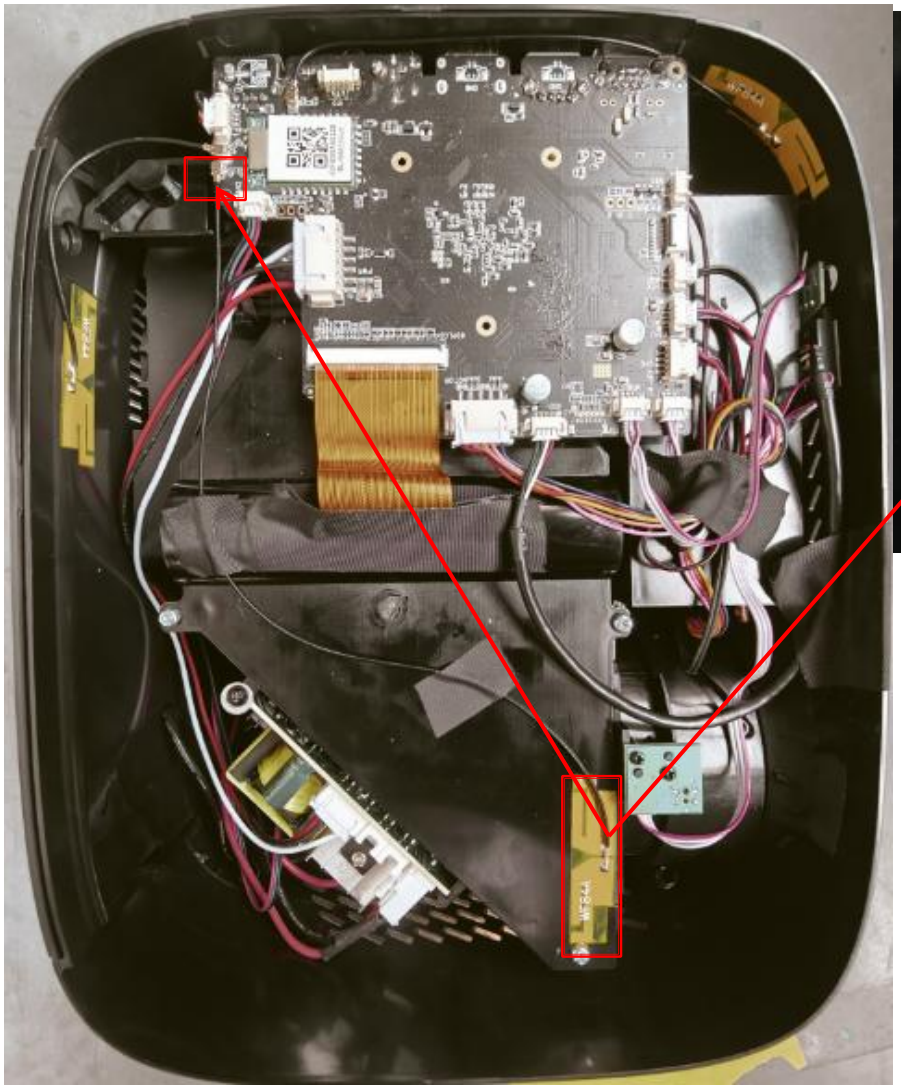
2500.000MHz E1

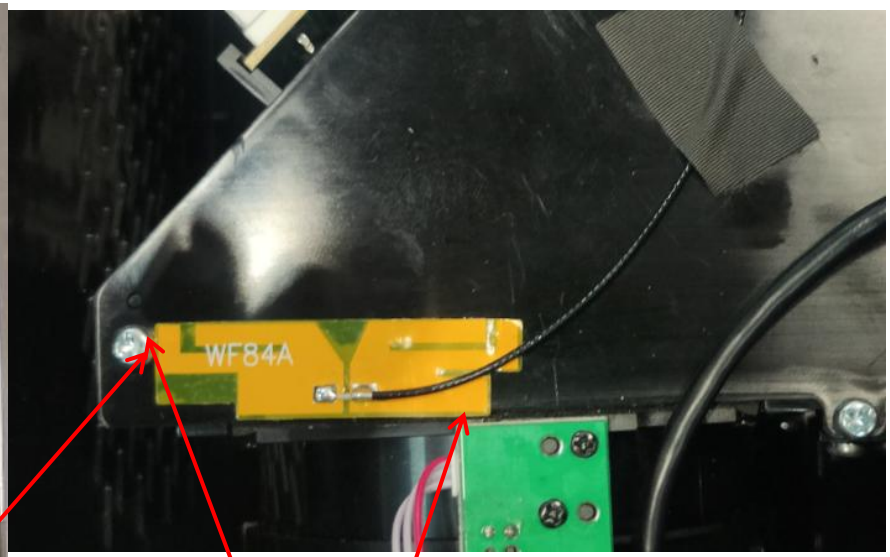


2500.000MHz E2



天线定位图（WIFI 1）

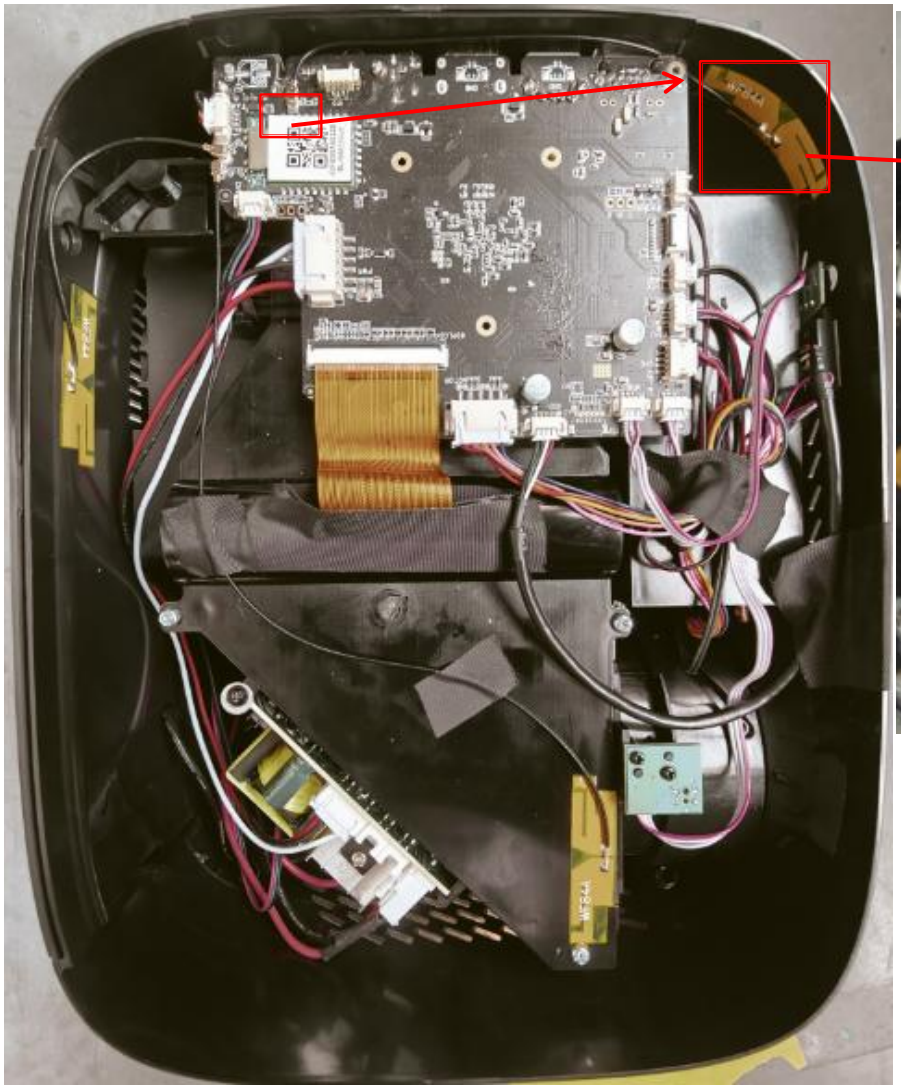


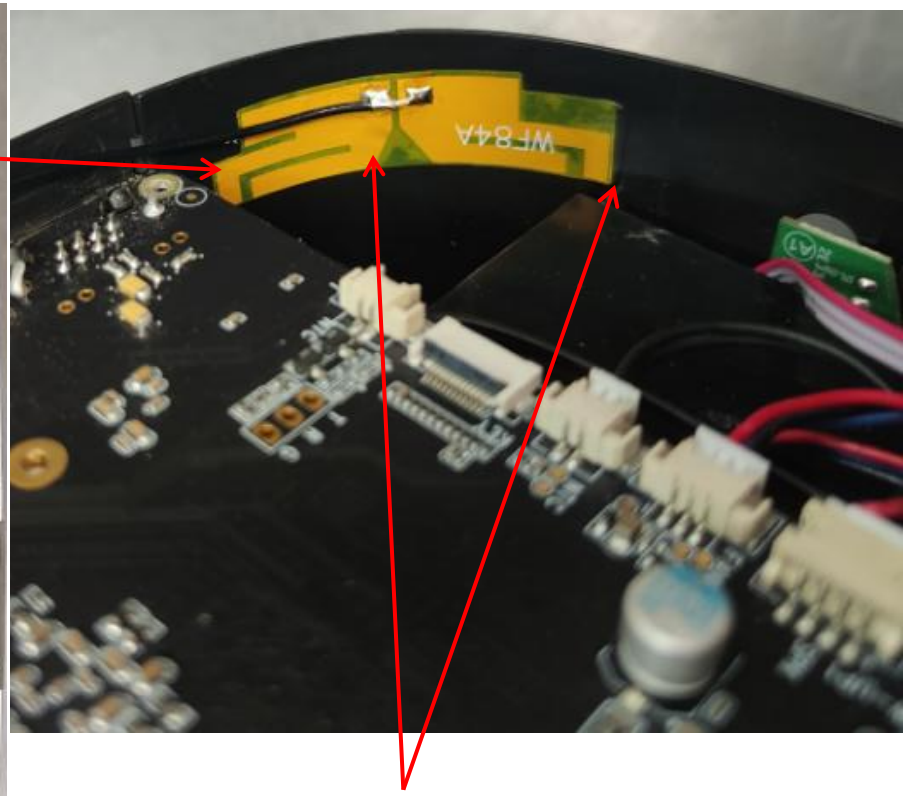


天线沿箭头位置与骨位对齐贴紧

天线定位图（WIFI 2）

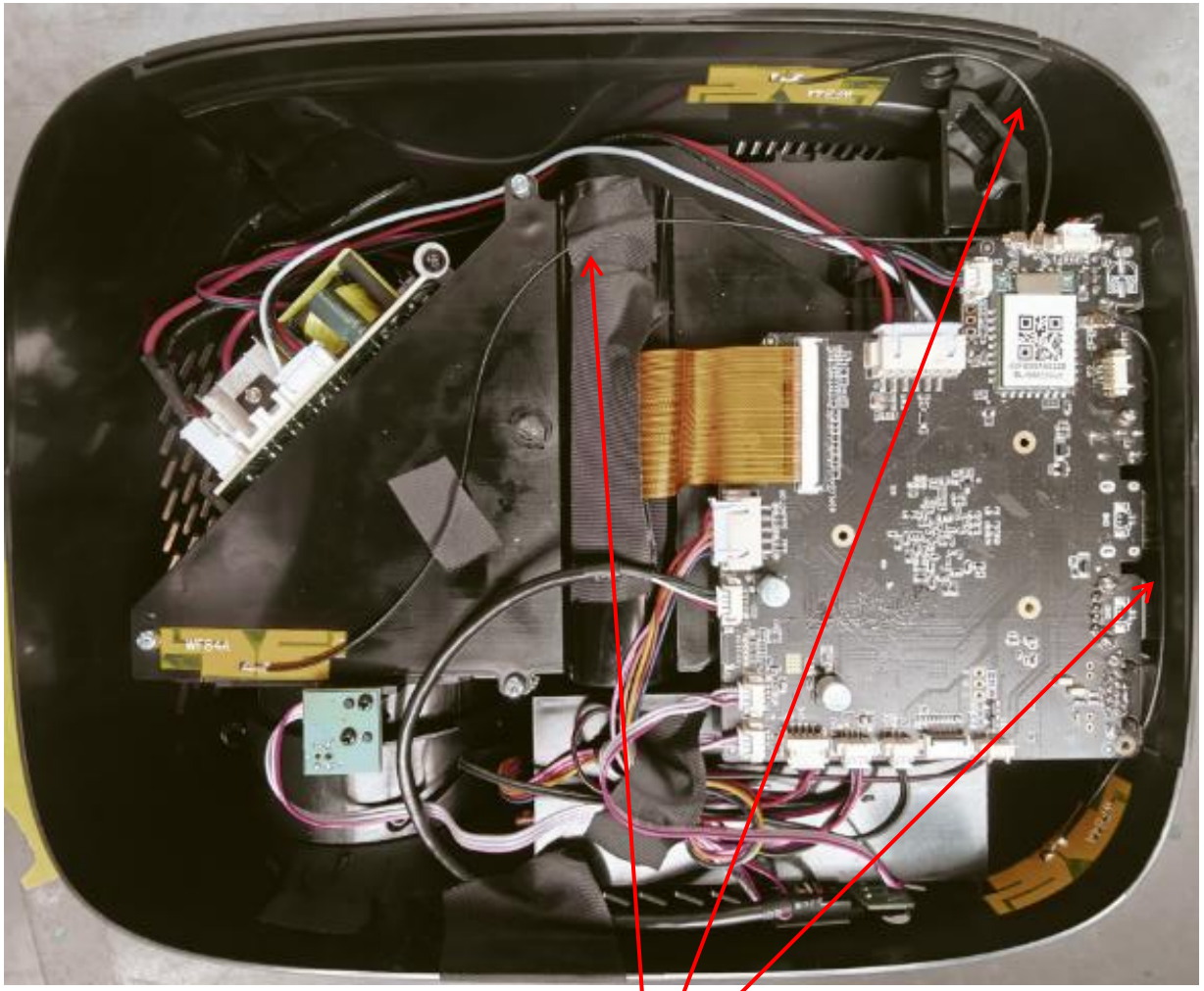
天线定位图（BT）





天线沿箭头位置与骨位平行对齐贴紧

RF线走线图示



RF线沿着箭头方向走线，避免经过排线和主板

总结

1：整机无源测试，天线配合机器，天线效率在35%~60%之间。

2：天线装配位置和RF走线已在上图标示，请严格按照我司要求装配和走线；（图示第30/31/32/33页）。

3：在我司室内环境下，同时测试投屏和蓝牙播放最远达到10米无卡顿现象。

4：实际测试距离以客户为准，如有问题反馈给我司。

THANK YOU