



Antenna Test Report

天线调试报告

Customer Name(客户名称): 安克

Project Name (项目名称): D2200

Date (日期): 2025. 09. 01

R & D Engineer (研发): ZHOUHAO

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公司简介

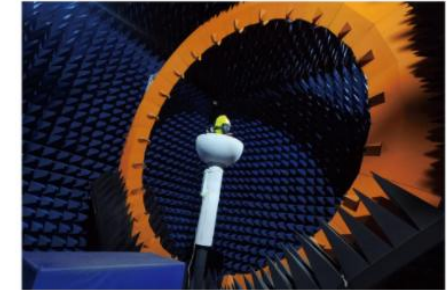
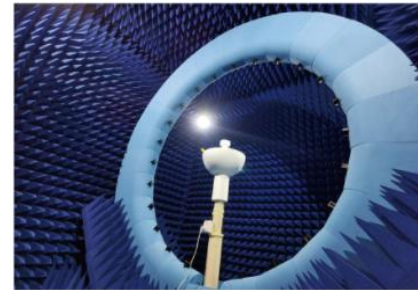
爱特恩科技（深圳）有限公司成立于2016年，公司位于深圳市，是一家专业的通讯电子产品配件的解决方案提供商和制造商。集天线研发、生产、销售于一体的高新科技企业。

公司主要从事与开发安防类、智能家居类的电子产品。目前拥有3座微波暗室、模拟人头手测试、网络分析仪等。

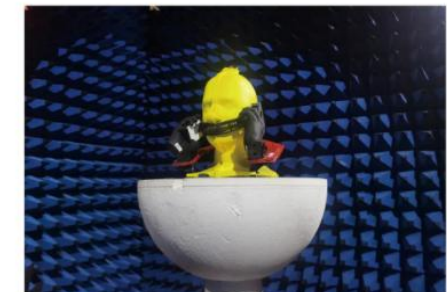
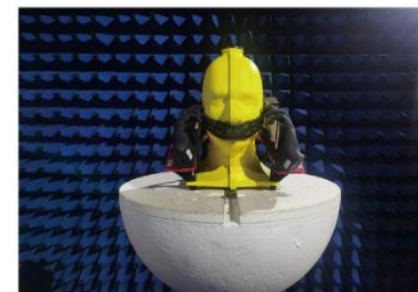
我们致力与客户建立长期稳定的商业合作关系，始终坚持“顾客至上，锐意进取”的经营理念，为我们的客户提供最具竞争力的价格，最好的质量和优质的服务。

AT&C

专注品质 | 质量第一 | 共赢未来



拥有SATIMO原装实验室7M*5M*5M的24探头一座
 益麦3.5MX3.5MX3.5M的24探头一座
 频率范围均为400MHZ-8.5GHZ
 2/3/4/5G、
 WIFI A/B/G/N/AC/AX
 BT
 GPS
 NB-10T等有源测试，
 拥有模拟人头手测试设备



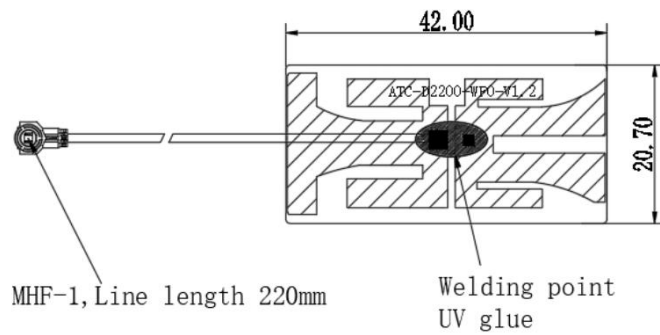
拥有AGILENT5071系列网络分析仪、AGILENT8960、RS CM W500、4438C等终端测试设备，提供天线性能测试。

● D2200_Project Overview(项目概况)

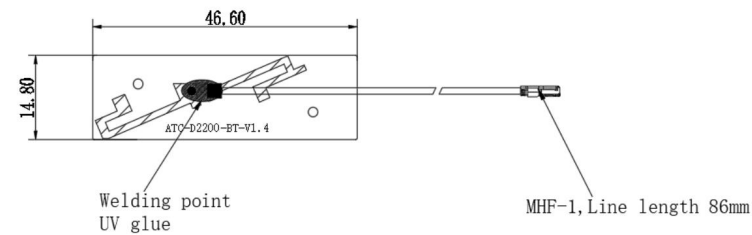
Prototype status (样机状态)	EVT3
product type (产品类型)	Projector(投影仪)
Number of antennas (天线数量)	3pcs
Antenna frequency band (天线频段)	WIFI0 802.11 a/b/g/n
	WIFI1 802.11 a/b/g/n
	BT
structural style (结构形式)	FPC+CABLE线)
environmental treatment (环境处理)	No changes (未做改动)
matching circuit (匹配电路)	No changes (未做改动)

● D2200_Antenna Info (天线信息)

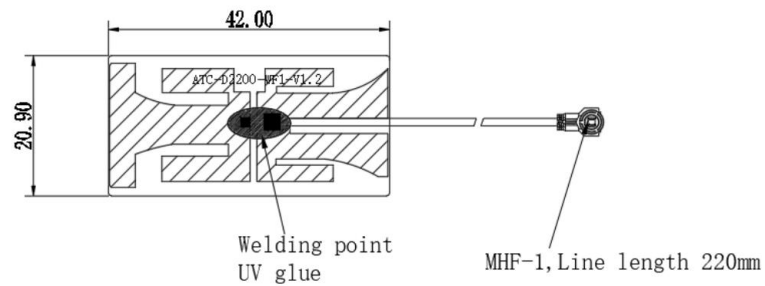
1. Type of the antenna (天线类型) : FPC, monopole
2. Placement of the antenna (天线位置) : as shown below (如下图示意)
3. The name of the antenna (天线名字) :
4. Coverage (覆盖范围) : WIFI 0/1(2400-2500MHz 5100-5900MHz); BT(2400 ~ 2500MHz)。



WIFI-0



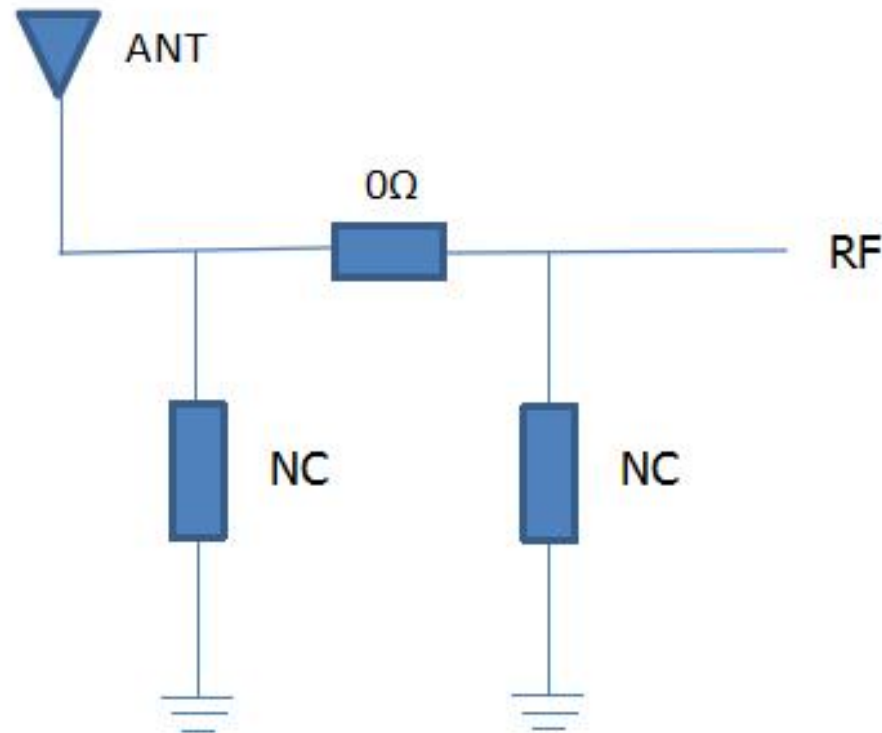
BT



WIFI-1

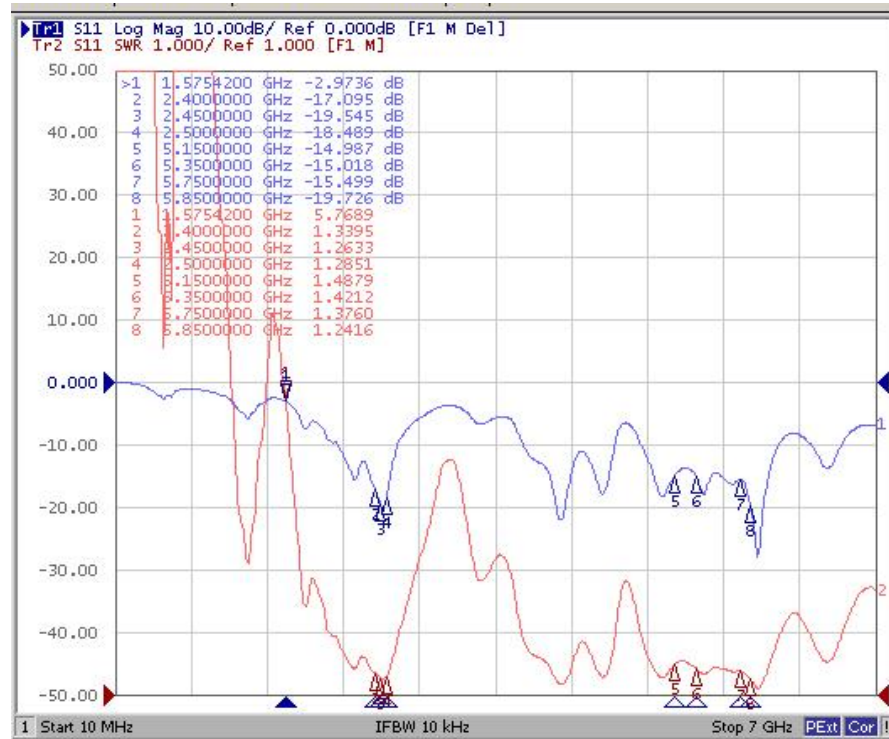
● D2200_Antenna Impedance Matching(天线阻抗匹配)

1. No changes were made to the matching of the three antennas(三个天线匹配均无更改)。

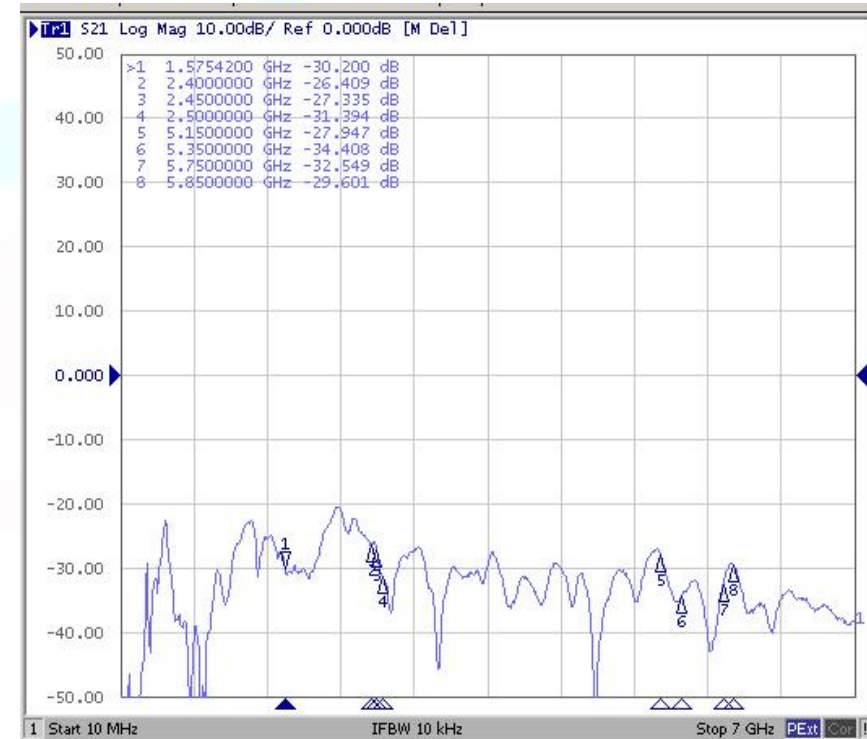


● D2200_WIFI 0_S11/VSWR (无源驻波比)

WIFI 0 antenna_ VSWR (WIFI 0天线_VSWR)

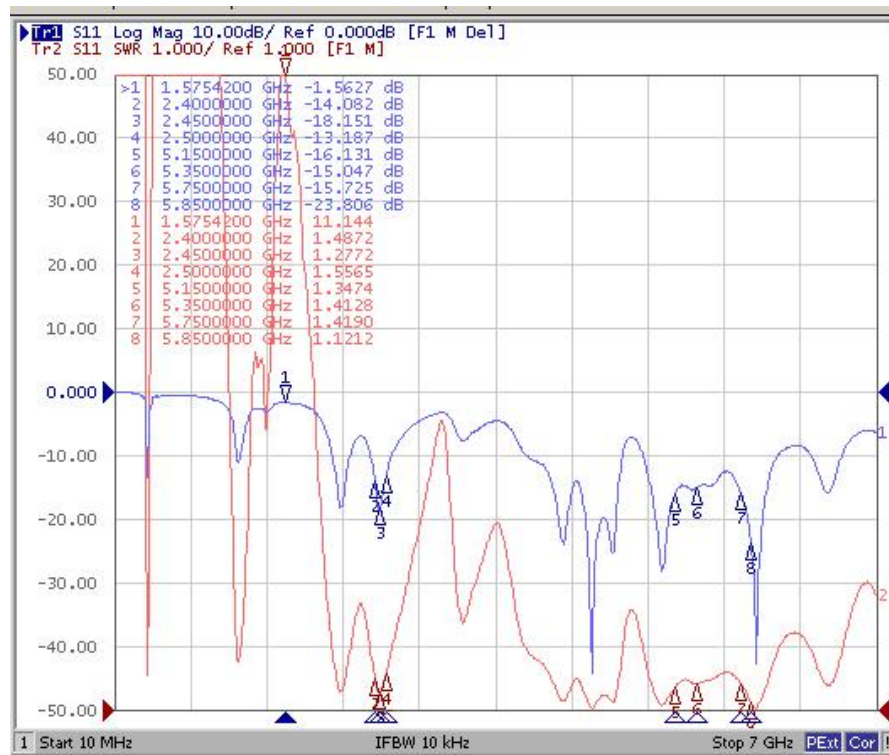


Isolation between WIFI 0 antenna and WIFI 1 antenna (WIFI 0天线与WIFI 1天线隔离度)

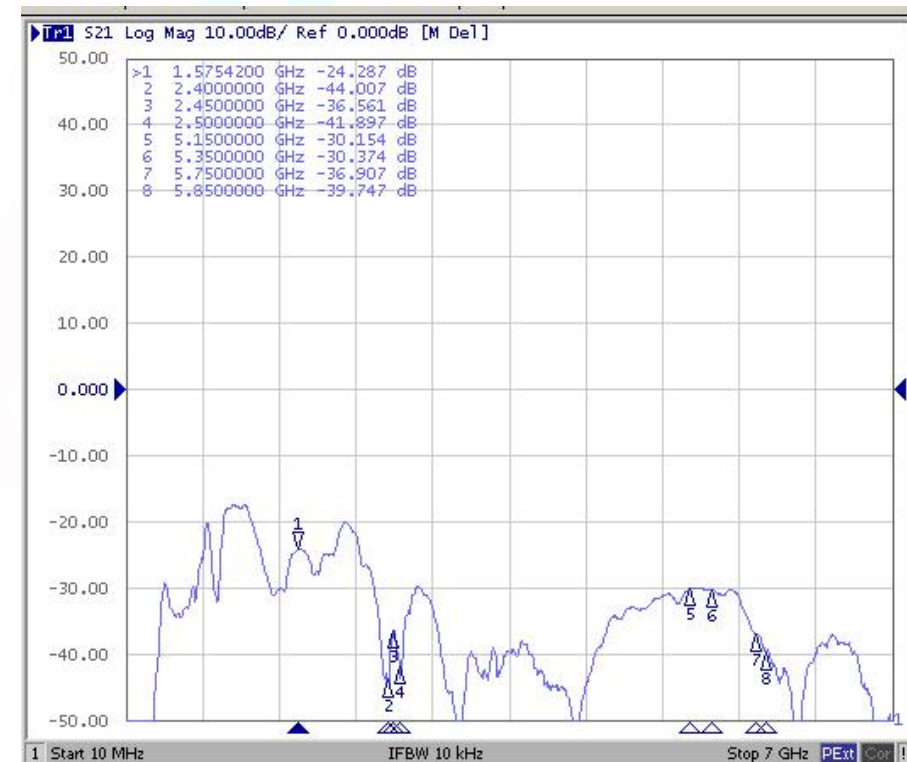


D2200_WIFI 1_S11/VSWR (无源驻波比)

WIFI 1 antenna_VSWR (WIFI 1天线_VSWR)

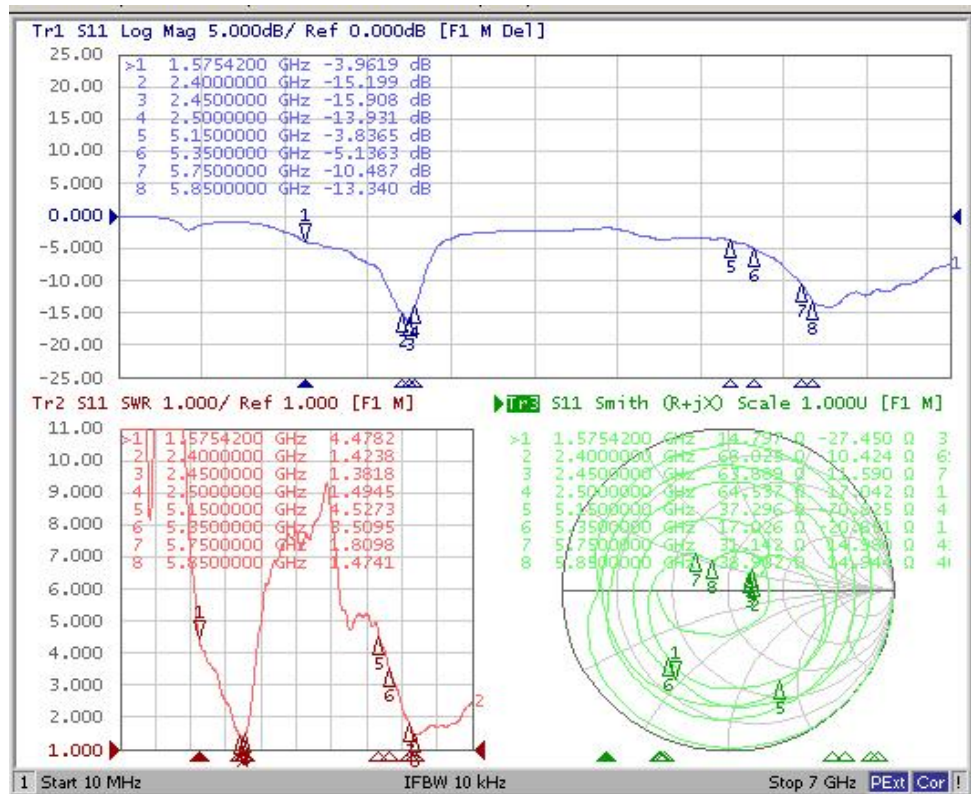


Isolation between WIFI 1 antenna and BT antenna (WIFI 1天线与BT天线隔离度)

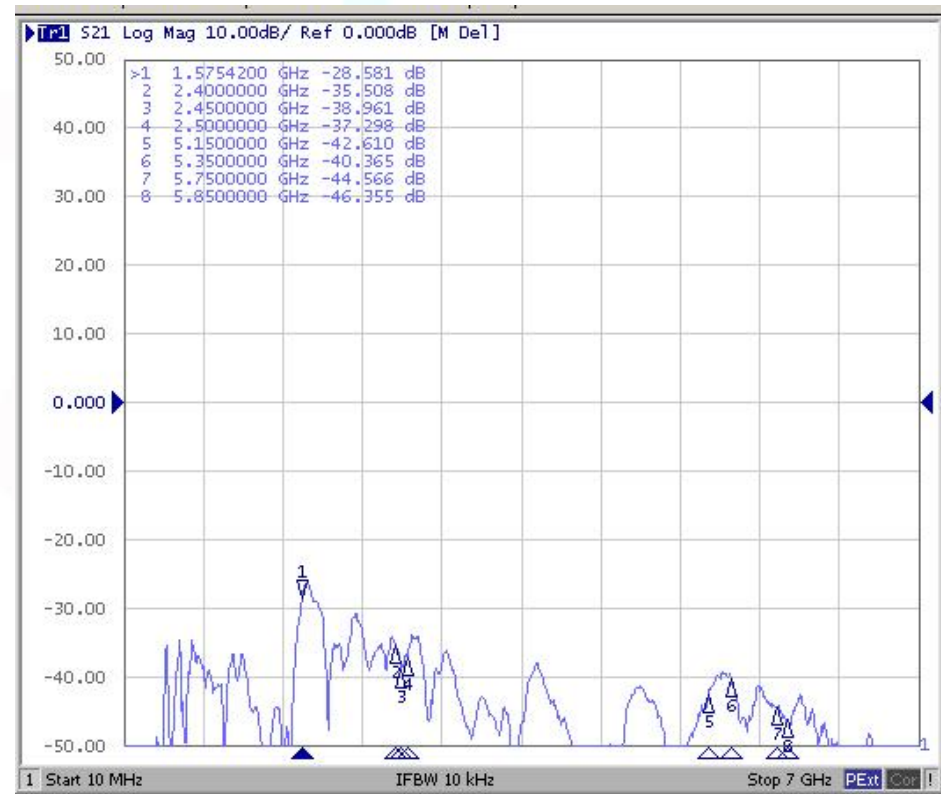


● D2200_BT_S11/VSWR (无源驻波比)

BT antenna_VSWR (BT天线_VSWR)



Isolation between WIFI 0 antenna and BT antenna (WIFI 0天线与BT天线隔离度)



● D2200 _WIFI 0_Efficiency & Gain (无源效率和增益)

2.4G

(2.4G) Passive Test Results(无源测试结果)		
Frequency(MHz)	Efficiency(%)	Max Gain(dBi)
2400	69.89%	3.96
2420	69.26%	4.04
2440	70.78%	3.89
2450	68.82%	4.03
2460	67.99%	4.17
2480	70.39%	4.37
2500	69.29%	4.51
AVG:	69.49%	4.14

5G

(5G) Passive Test Results(无源测试结果)		
Frequency (MHz)	Efficiency(%)	Max Gain(dBi)
5150	60.99%	5.05
5200	60.24%	5.01
5250	61.02%	5.39
5300	60.74%	5.51
5350	64.93%	5.09
5400	63.13%	5.18
5450	64.20%	5.61
5500	61.50%	5.22
5550	59.98%	5.09
5600	59.40%	5.24
5650	63.76%	4.71
5700	60.51%	4.76
5750	62.87%	4.67
5800	61.75%	4.51
5850	62.05%	4.66
AVG:	61.80%	5.05

2.4G

(2.4G) Passive Test Results(无源测试结果)		
Frequency (MHz)	Efficiency (%)	Max Gain(dBi)
2400	70.61%	4.12
2420	70.95%	4.24
2440	69.44%	4
2450	70.37%	4.25
2460	71.57%	4.5
2480	71.13%	4.32
2500	71.67%	4.65
AVG:	70.82%	4.3

5G

(5G) Passive Test Results(无源测试结果)		
Frequency (MHz)	Efficiency (%)	Max Gain(dBi)
5150	60.32%	5.27
5200	59.83%	5.56
5250	60.36%	5.91
5300	62.52%	6.11
5350	61.37%	5.79
5400	60.58%	5.54
5450	66.47%	5.83
5500	65.03%	5.55
5550	64.81%	6.01
5600	61.00%	5.61
5650	61.18%	5.73
5700	61.88%	5.7
5750	64.49%	5.87
5800	60.67%	5.64
5850	63.39%	5.4
AVG:	62.26%	5.7

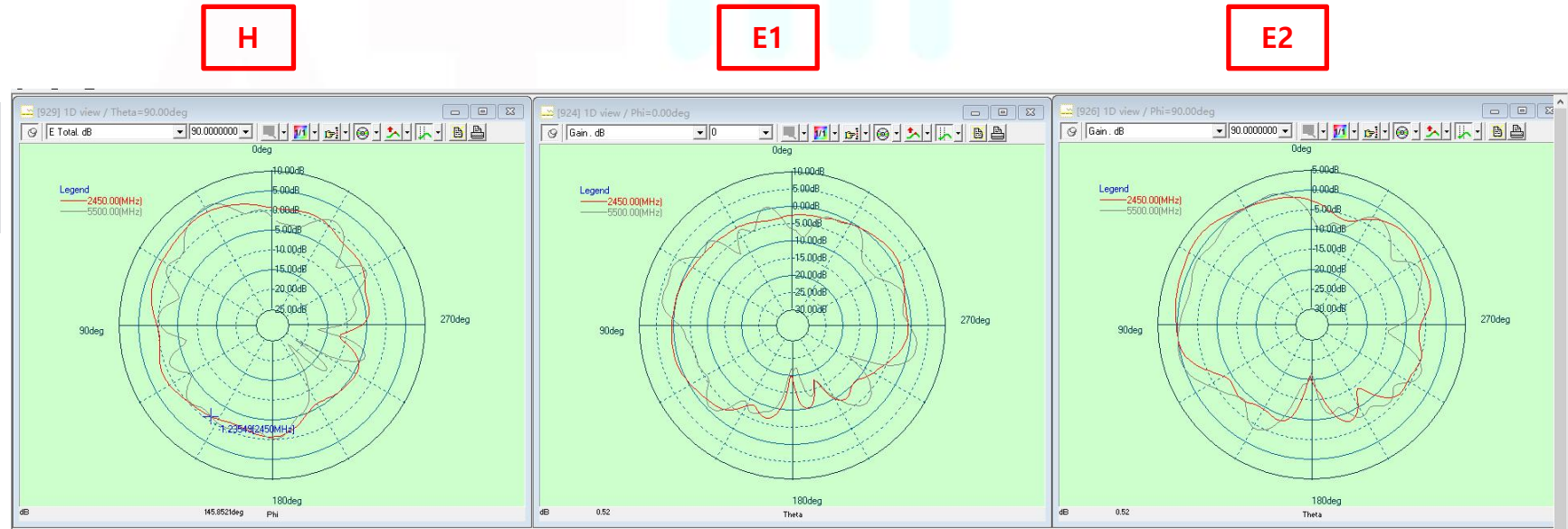
● D2200 _BT_Efficiency & Gain (无源效率和增益)

(2.4G) Passive Test Results(无源测试结果)		
Frequency(MHz)	Efficiency(%)	Max Gain(dBi)
2400	62.32%	3.06
2410	63.76%	3.29
2420	63.86%	3.4
2430	64.48%	3.48
2440	64.97%	3.52
2450	64.09%	3.42
2460	60.07%	3.09
2470	57.78%	2.95
2480	58.99%	3.24
2490	63.08%	3.69
2500	63.51%	3.74
AVG:	62.45%	3.35

● D2200_Performance : 2D Radiation Pattern (2D辐射方向图)

1. Azimuth Pattern H-Plane (水平方向图为H平面) : "H", X-Y plane
2. Elevation Pattern E1, E2-Plane (垂直方向图为E1, E2-平面) : "E1", "E2", X-Z plane(E1), Y-Z plane(E2)
3. It is a structure that supplements the distortion of the horizontal plane in the vertical plane and has a gentle sphere shape in three dimensions. (它是三维球面方向图, 在二维水平和垂直的剖面)

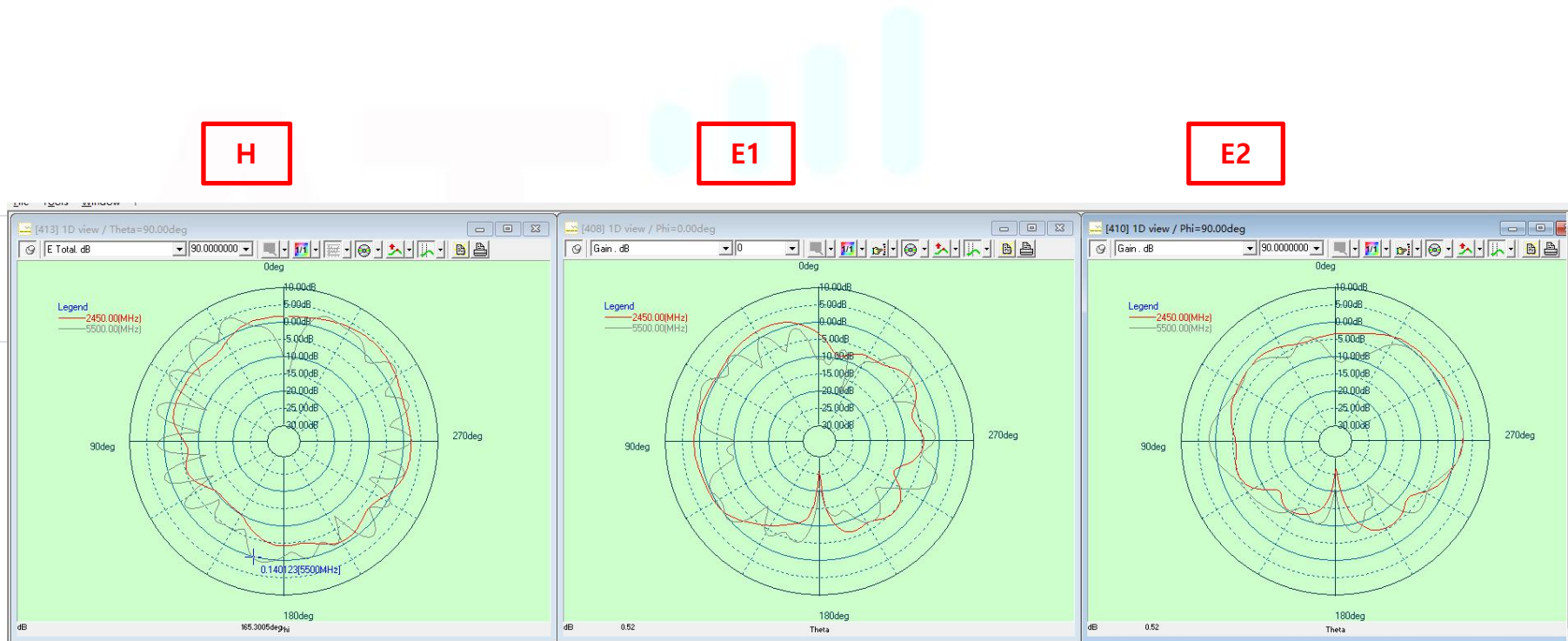
WiFi-0



● D2200_Performance : 2D Radiation Pattern (2D辐射方向图)

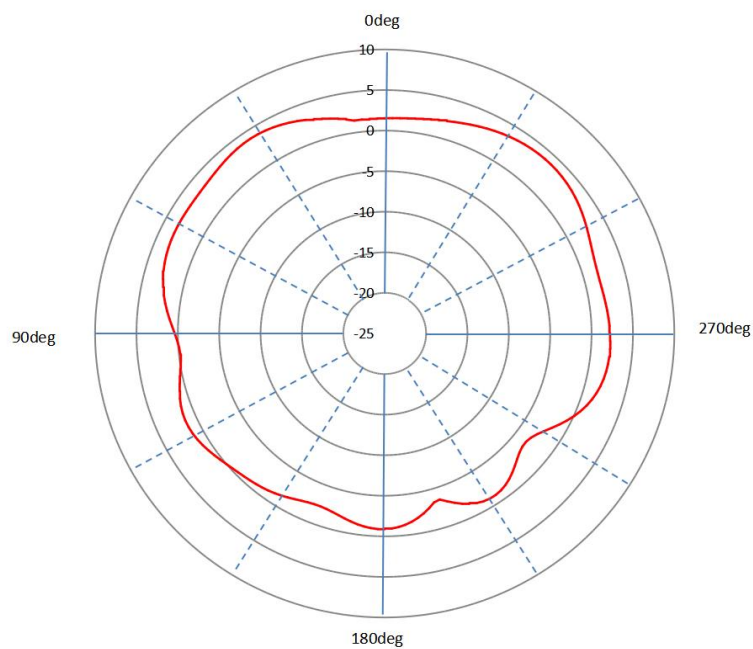
1. Azimuth Pattern H-Plane (水平方向图为H平面) : "H", X-Y plane
2. Elevation Pattern E1, E2-Plane (垂直方向图为E1, E2-平面) : "E1", "E2", X-Z plane(E1), Y-Z plane(E2)
3. It is a structure that supplements the distortion of the horizontal plane in the vertical plane and has a gentle sphere shape in three dimensions. (它是三维球面方向图, 在二维水平和垂直的剖面)

WiFi-1

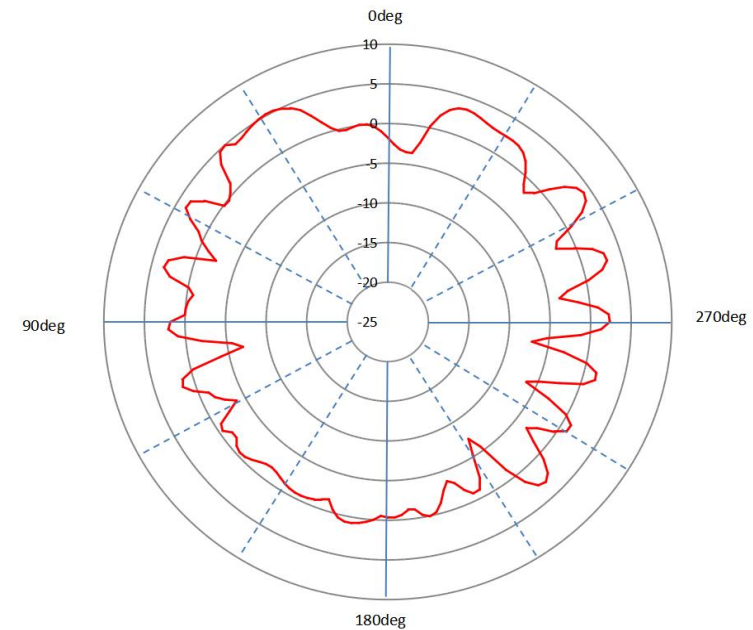


● D2200 WIFI_2D Synthetic Direction Map(2D 合成方向图)

1. The horizontal direction is the X-Y plane of the legend(水平方向为图例X-Y面)。



2450MHz



5500MHz

● D2200_Performance : 2D Radiation Pattern (2D辐射方向图)

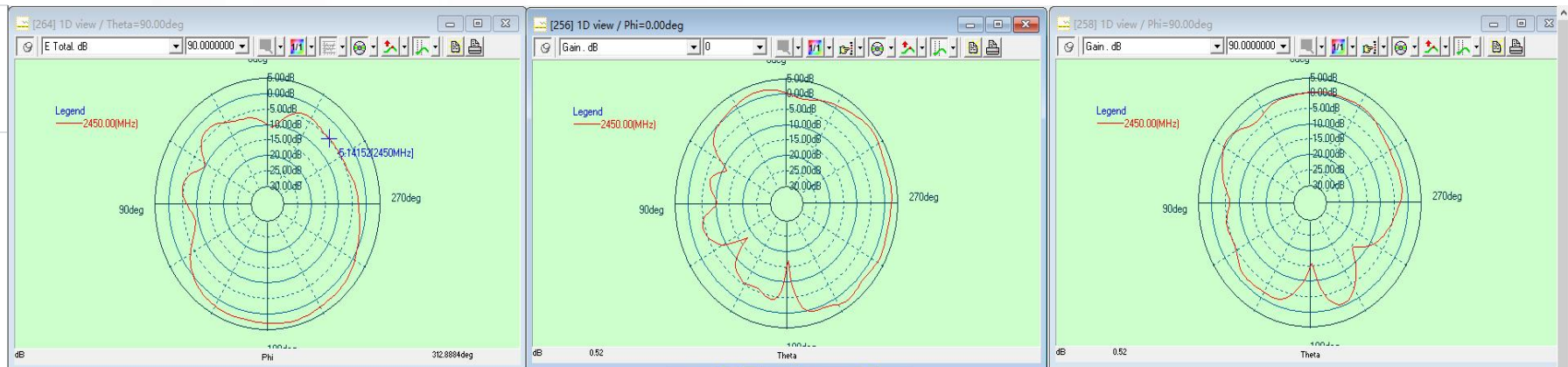
1. Azimuth Pattern H-Plane (水平方向图为H平面) : "H", X-Y plane
2. Elevation Pattern E1, E2-Plane (垂直方向图为E1, E2-平面) : "E1", "E2", X-Z plane(E1), Y-Z plane(E2)
3. It is a structure that supplements the distortion of the horizontal plane in the vertical plane and has a gentle sphere shape in three dimensions. (它是三维球面方向图, 在二维水平和垂直的剖面)

H

E1

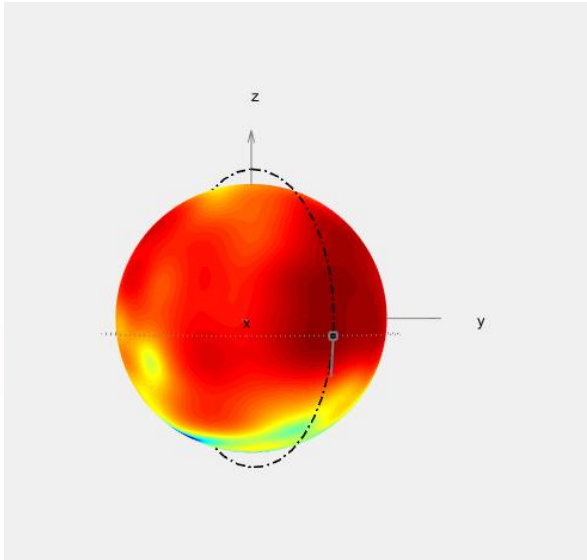
E2

BT

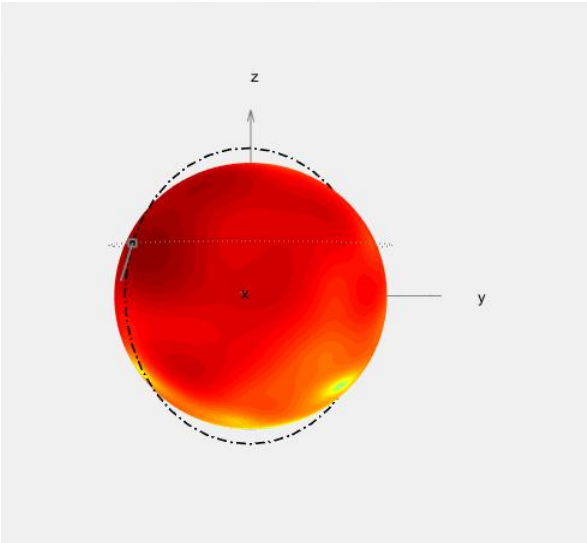


● D2200 WIFI_2.4G_ 3D Antenna Radiation Pattern(3D 天线辐射方向图)

WIFI 0 -2450MHz

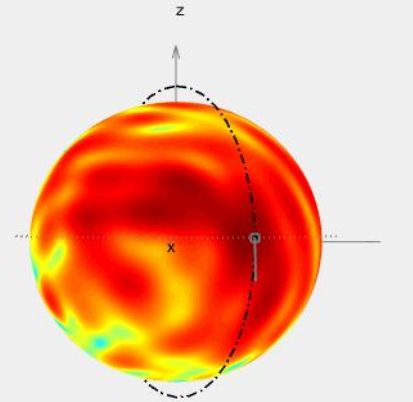


WIFI 1 -2450MHz

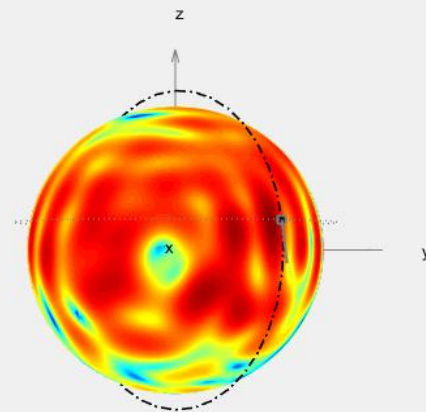


● D2200 WIFI_5G_ 3D Antenna Radiation Pattern(3D 天线辐射方向图)

WIFI 0 -5500MHz

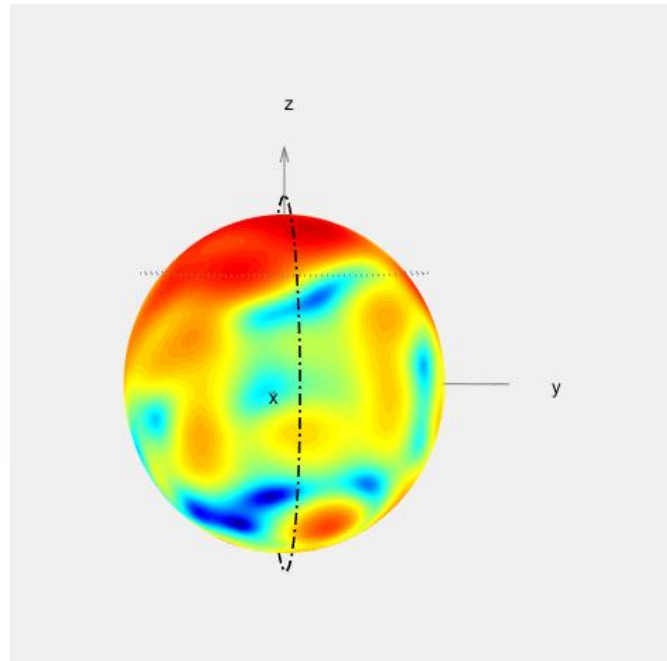


WIFI 1 -5500MHz



● D2200 BT_ 3D Antenna Radiation Pattern(3D 天线辐射方向图)

BT-2450MHz



● D2200 _Summary(总结)

- 1.The antenna matching has not changed, and the antenna performance is basically up to standard(天线匹配无更改，天线性能基本达标)。
2. During assembly, pay attention to the position of the FPC sticker and follow the instructions, as well as pay attention to the consistency of the coaxial line placement(组装时注意FPC贴的位置按标示进行作业，以及注意同轴线摆放一致性)。

*** (If there are any changes to the machine, please notify our company; if there are any problems, please communicate promptly) ***

*** (如果机器有变化，请通知我司；如果有任何问题，请及时沟通) ***

Thank You!!