

Product Number:JSP-2006803-09BN

Product Name: WIFI Metal Antenna



Specification For Approval

规格 承 认 书

日期 Date : 2021/04/28

编号 File No. : XBL21042801

版次 Version : 1.0

客 户

Customer: 华曦达

客 户 料 号

Customer P/N: 360100320

信博联料号

Sinbolin P/N: JSP-2006803-09BN

品 名

Description : WIFI Metal Antenna

信博联核对

Sinbolin Checked By:

工程专用章

客户核对

Customer Approved By:



东莞市信博联电子科技有限公司

Sinbolin Technology Inc.

东莞市长安镇振安东路 162 号 6 栋 205

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电话: 13929204545

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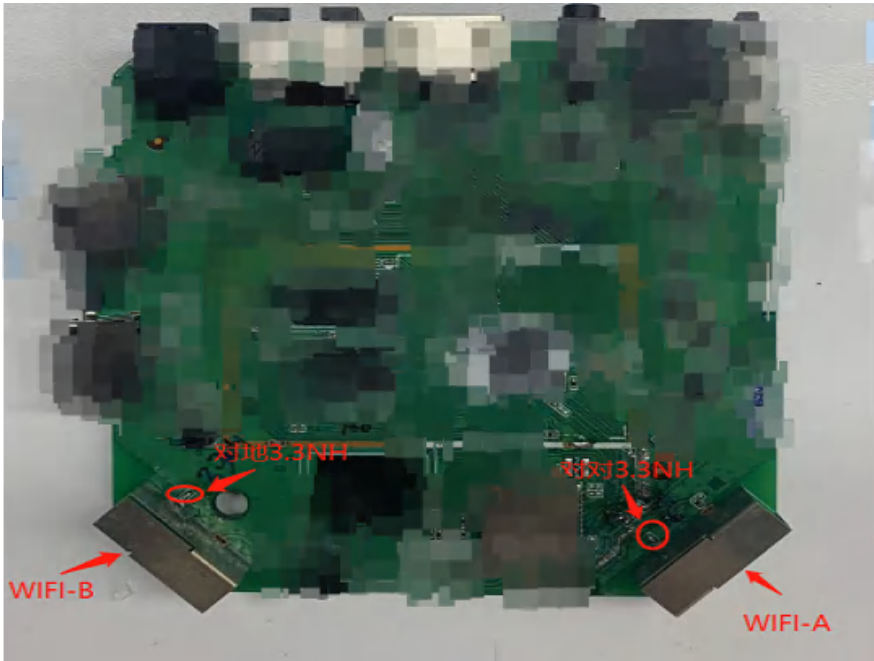
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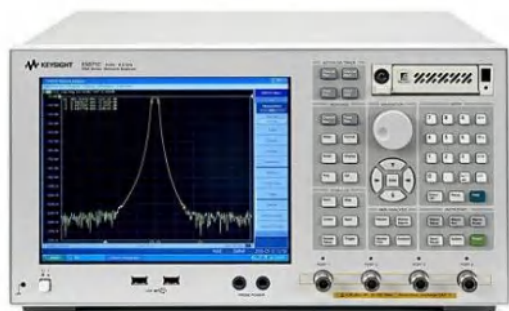
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1. 产品规格 (Product Specification)

产品图片 (Product Photo)	
	
A. 电性参数 (Electrical Characteristics)	
频率 (Frequency)	2400 ~ 2500 MHz & 5150 ~ 5850 MHz
电压驻波比 (V.S.W.R)	≤ 2.0 @ 2400 ~ 2500 MHz & 5150 ~ 5850 MHz
返回损失 (Return Loss)	$\leq -10\text{dB}$ @ 2400 ~ 2500 MHz & 5150 ~ 5850 MHz
天线增益 (Antenna Gain)	3.64 dBi(Max) @ 2400 ~ 2500 MHz 4.66 dBi(Max) @ 5150 ~ 5850 MHz
辐射效率 (Radiation Efficiency)	50 ~ 60 % @ 2400 ~ 2500 MHz 55 ~ 70 % @ 5150 ~ 5850 MHz
阻抗 (Impedance)	50 Ohm
极化方式 (Polarization)	线性 (Linear)
天线类型 (Antenna Type)	PIFA
B. 材质及机械特性 (Material & Mechanical Characteristics)	
辐射材质 (Material of Radiator)	1.2
C. 环境因素 (Environmental)	
工作温度 (Operation Temperature)	- 40 °C ~ + 75 °C
储存温度 (Storage Temperature)	- 40 °C ~ + 85 °C

2. 网络参数测试数据 (S Parameter Test Data)

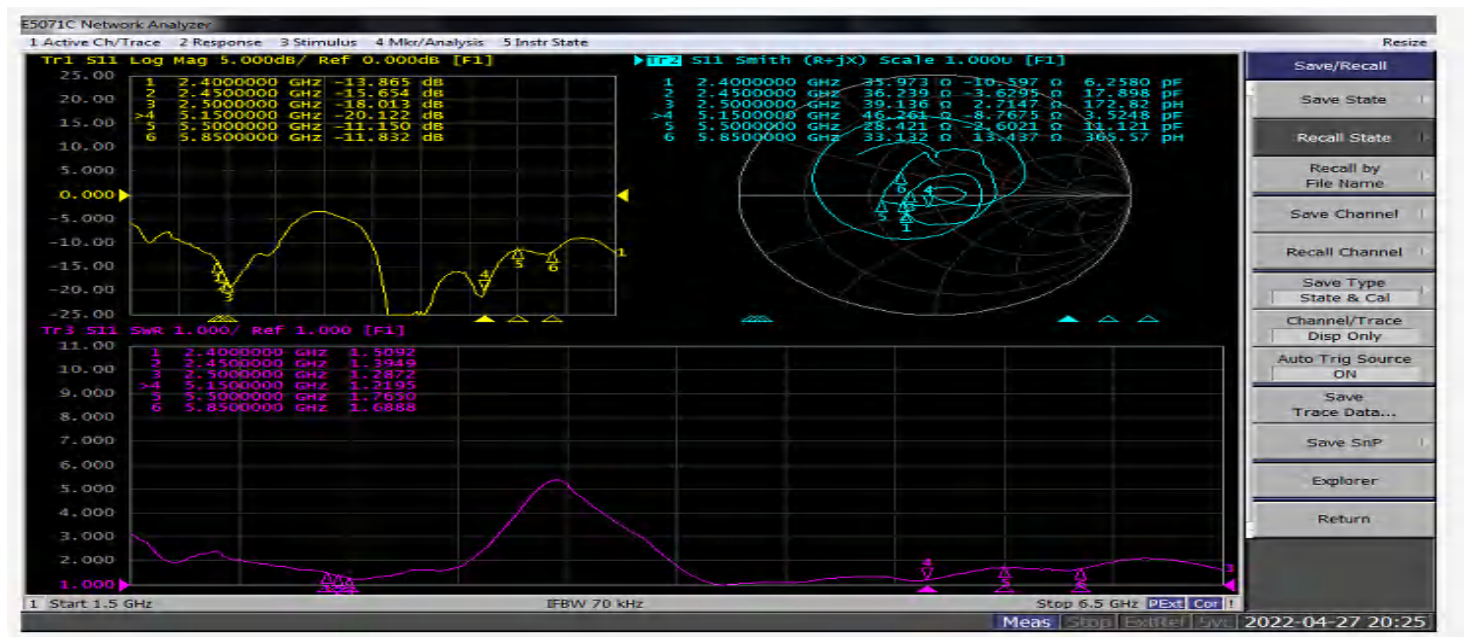


(Agilent Technologies) 安捷伦E5071C网络分析仪

测试频率范围: 300KHz-8.5GHz

测试能力: V. S. W. R、Return Loss、Smith等

WIFI-A



WIFI-B



3. 天线辐射场型测试 (Antenna - Radiation Pattern Test)

测试设备规格 (Testing Equipment Specification) :

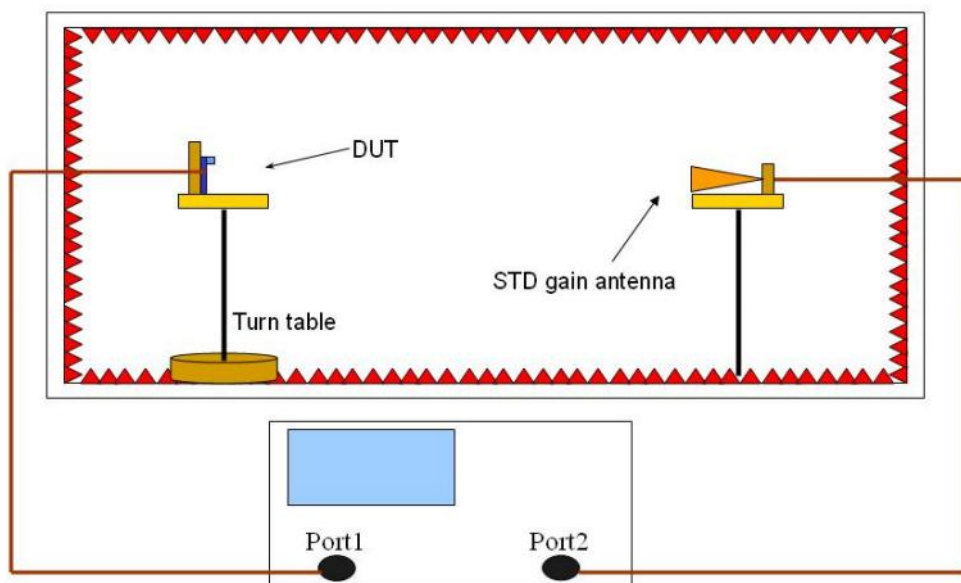
天线微波暗室尺寸 (Antenna Anechoic Chamber Dimension) : 6 x 3 x 3 米 (m)

屏蔽性能 (Isolation) : >100dB @ 1 MHz ~ 10 GHz

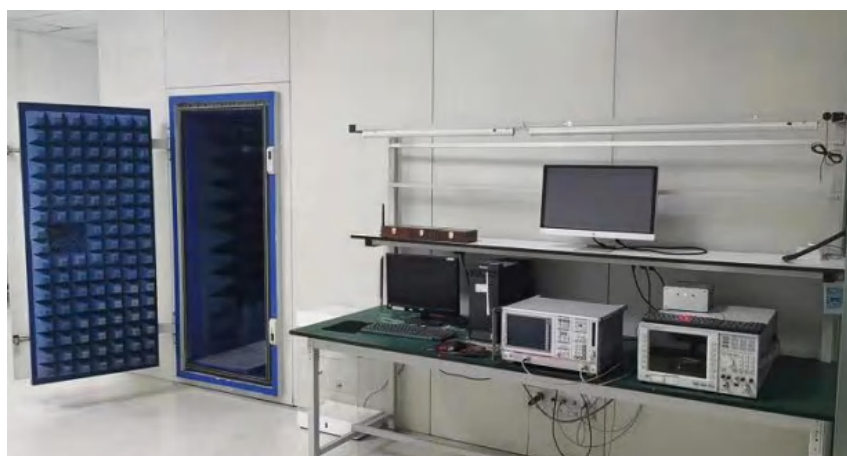
测试设备 (Testing Equipment) : (ROHDE&SCHWARZ) ZVL 矢量网络分析仪

接收天线 (Received Antenna) : 0.7 ~ 6.0 GHz 双极喇叭校准天线

(0.7 ~ 6.0 GHz for Gain Calibration Double Ridged Horn Antenna)

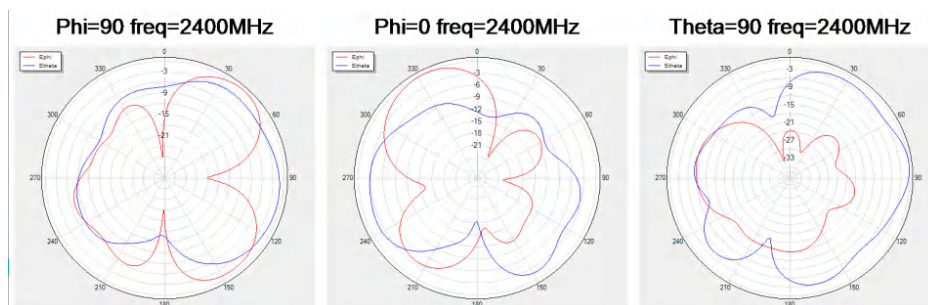
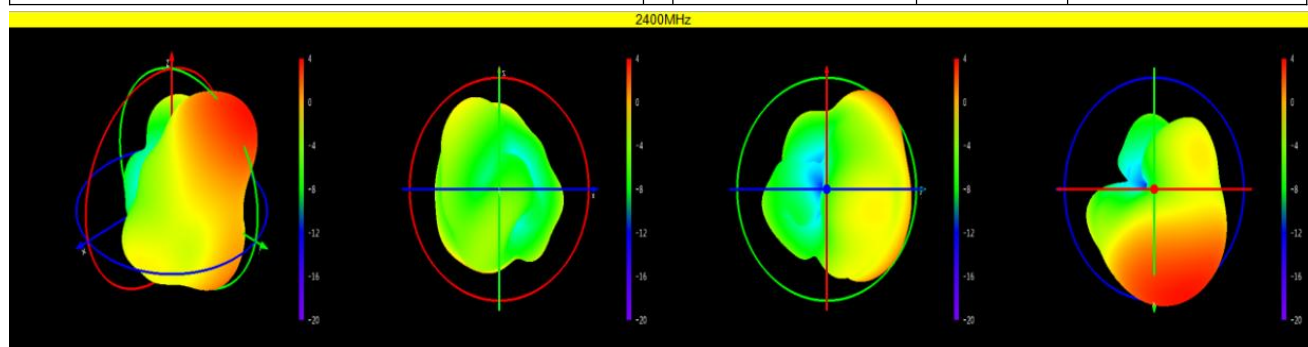


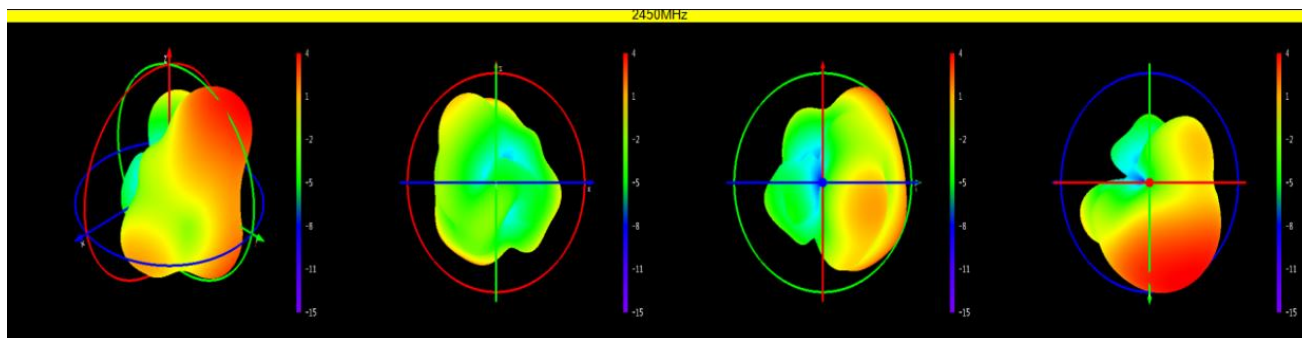
测试原理图



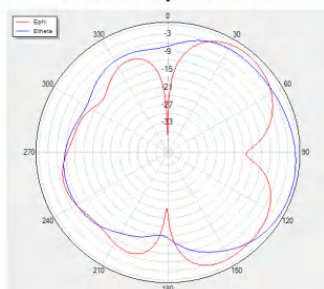
4.1 效率及增益测试数据（Efficiency and Gain Test Data）

WIFI-A JSP-2006803-09BN					
2.4G			5G		
Frequency / MHz	Gain/ dBi	Efficiency / %	Frequency / MHz	Gain/ dBi	Efficiency / %
2400	3.64	55.59	5150	3.9	67.02
2410	3.6	55.57	5200	4.04	67.15
2420	3.52	55.93	5250	4.11	61.77
2430	3.41	56.57	5300	4.21	60.32
2440	3.3	57.43	5350	4.36	60.21
2450	3.21	58.56	5400	4.39	60.09
2460	3.17	60.32	5450	4.43	60.56
2470	3.11	61.41	5500	4.55	61.63
2480	3.13	62.36	5550	4.6	61.9
2490	3.15	63.58	5600	4.66	62.41
2500	3.19	63.53	5650	4.61	61.81
			5700	4.55	61.87
			5750	4.37	60.39
			5800	4.16	59.07
			5850	3.79	54.83

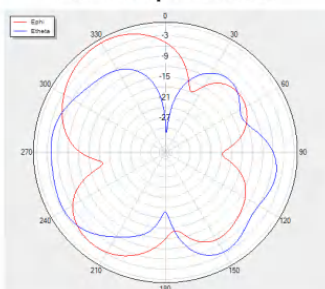




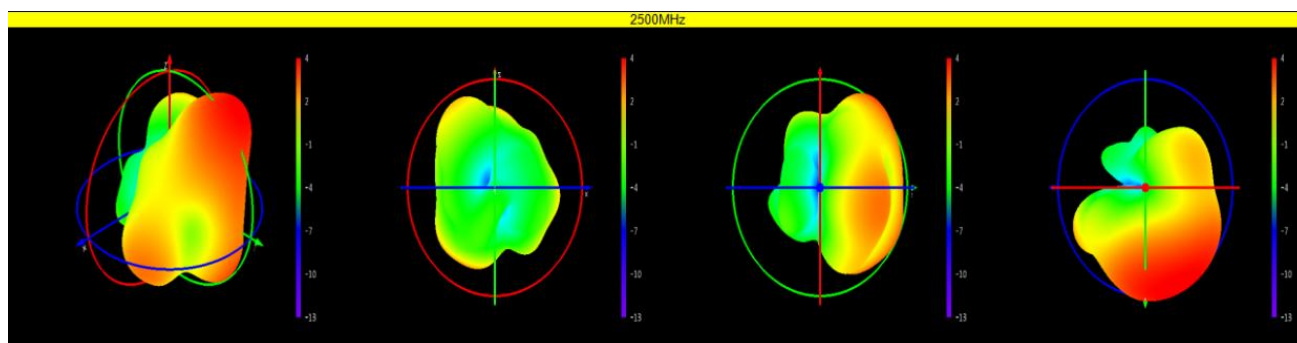
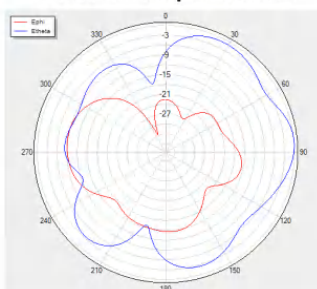
Phi=90 freq=2450MHz



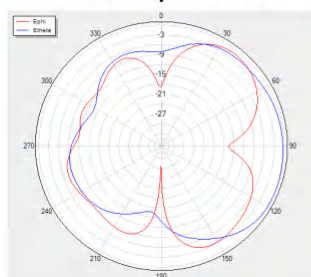
Phi=0 freq=2450MHz



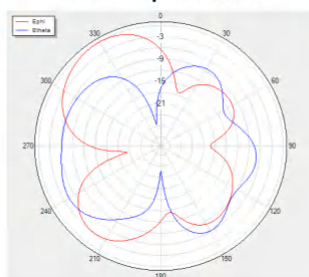
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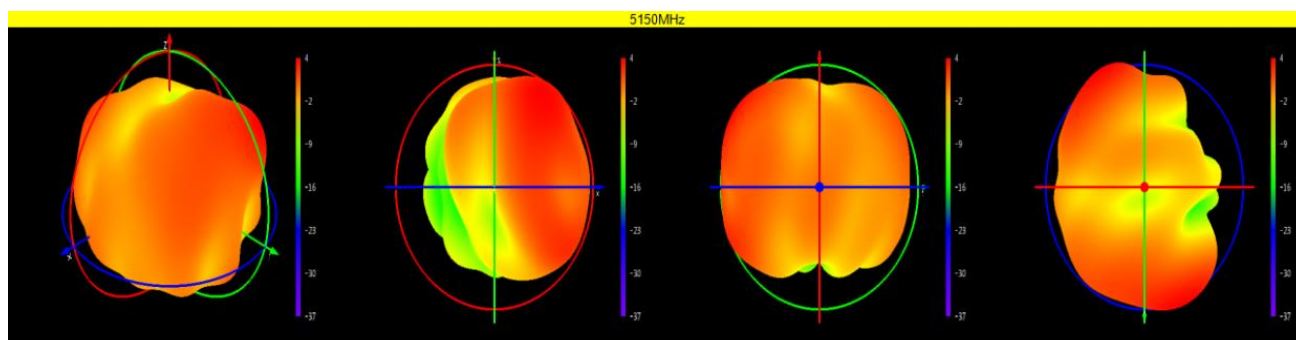
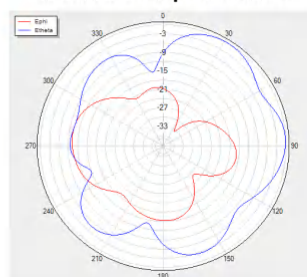
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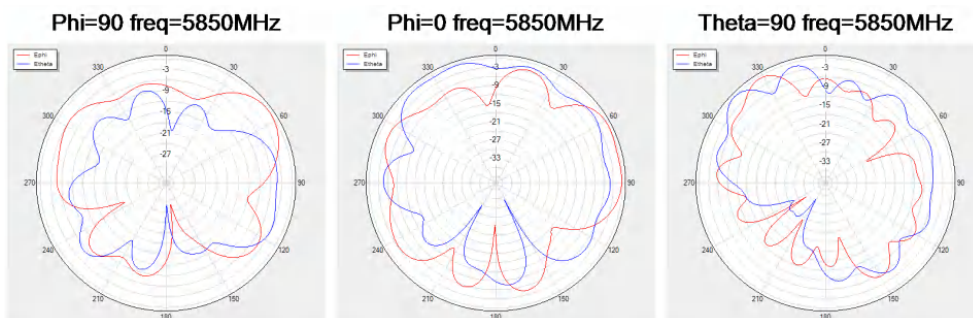
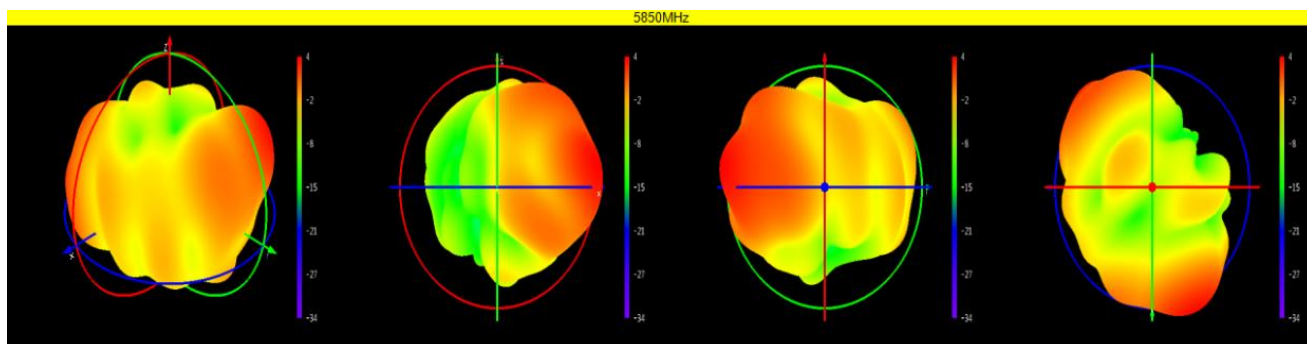
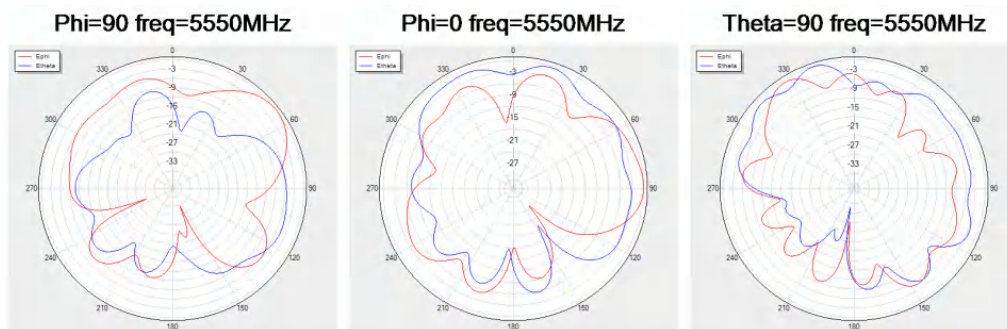
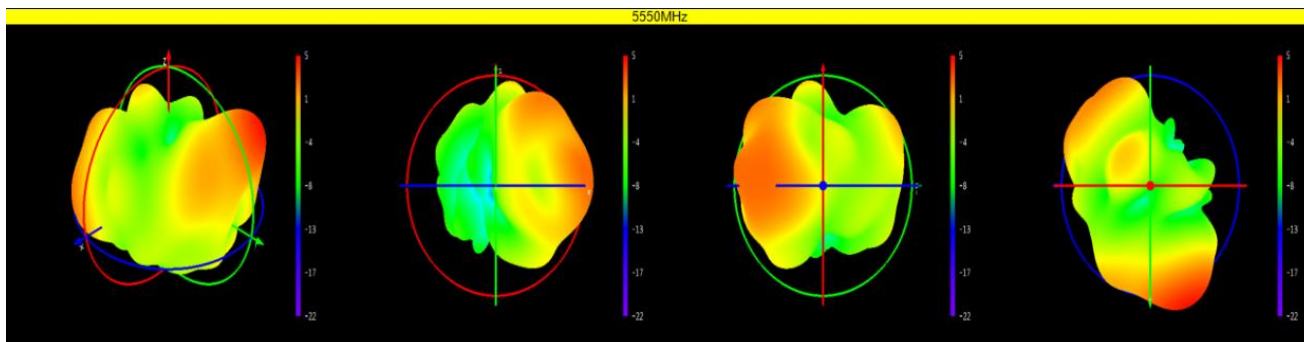
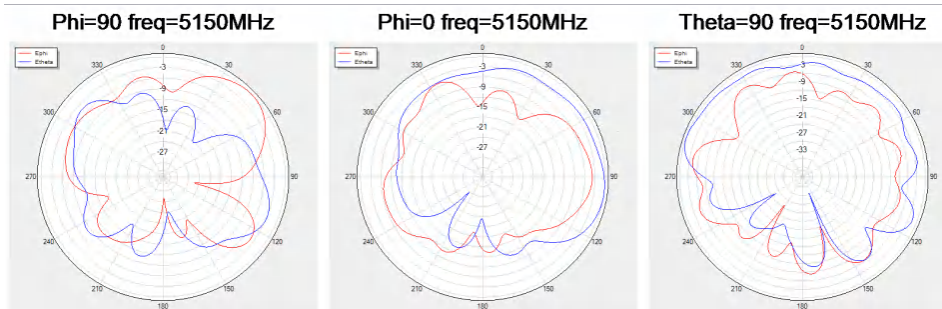


Phi=0 freq=2500MHz



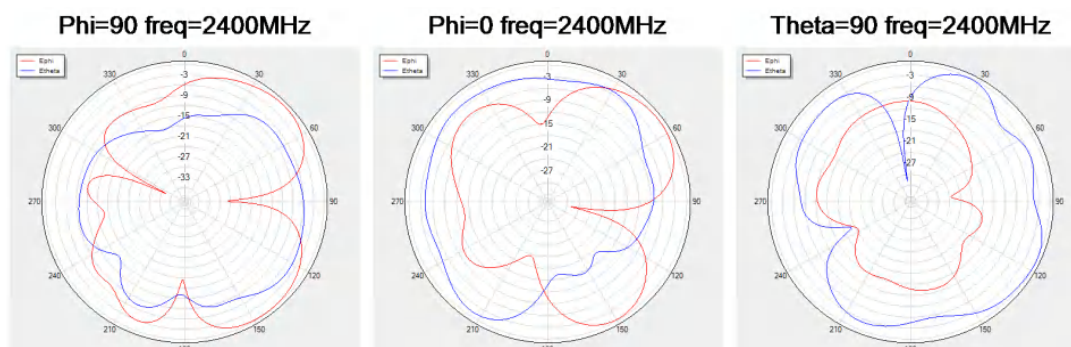
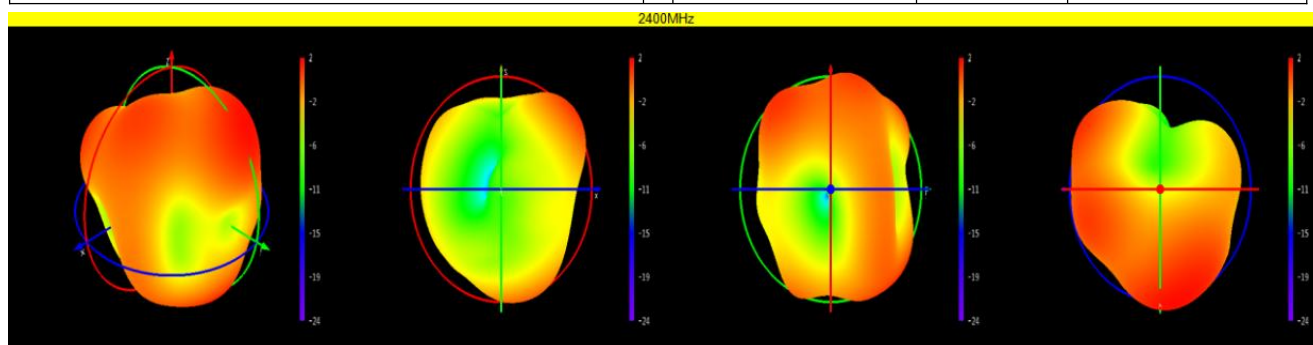
Theta=90 freq=2500MHz

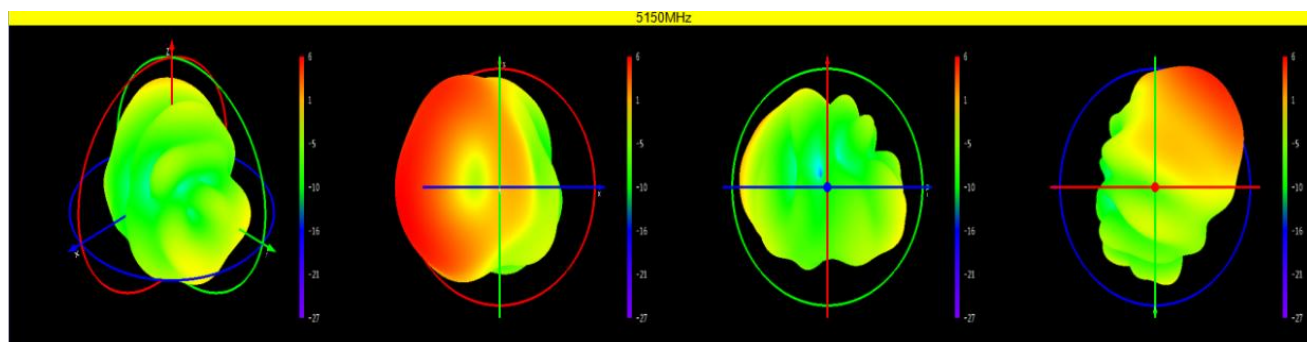
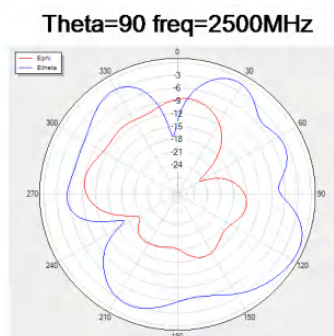
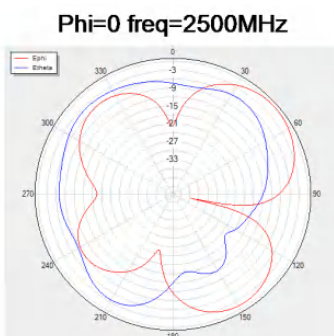
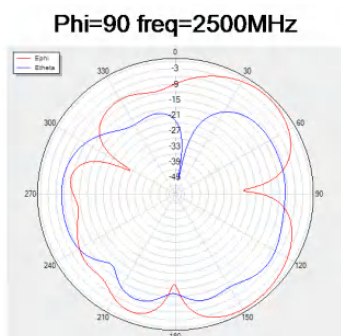
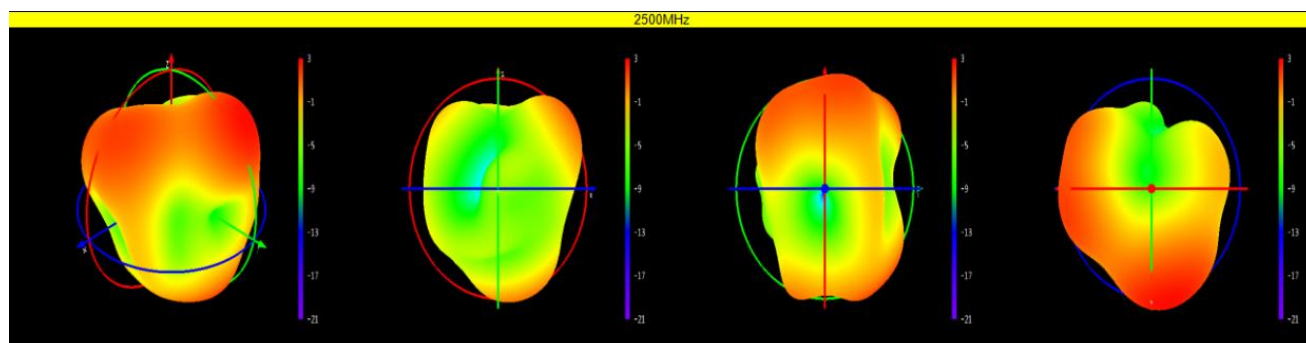
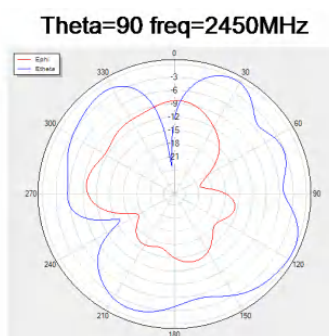
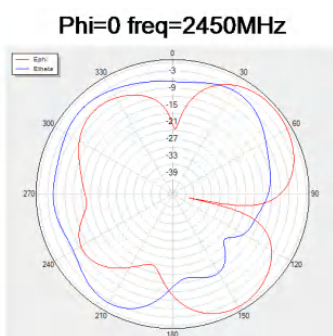
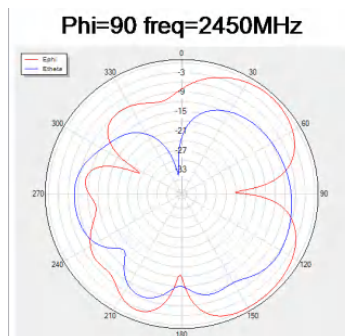
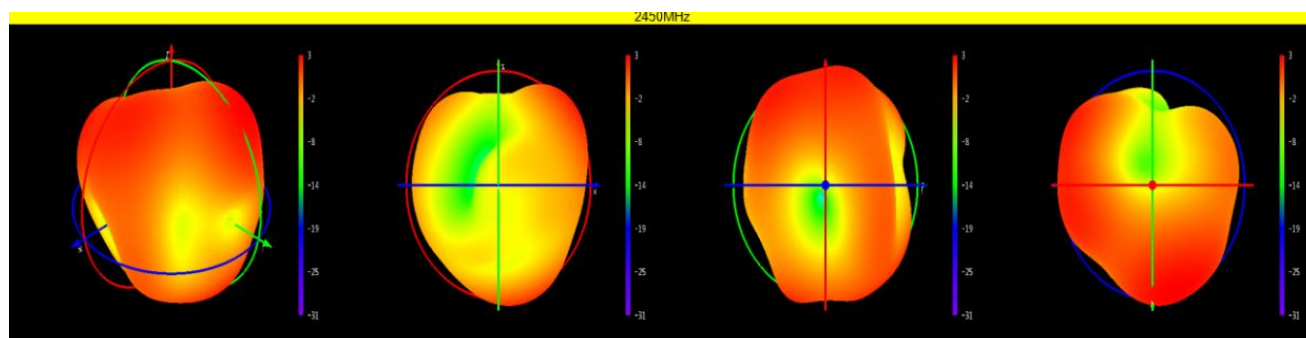


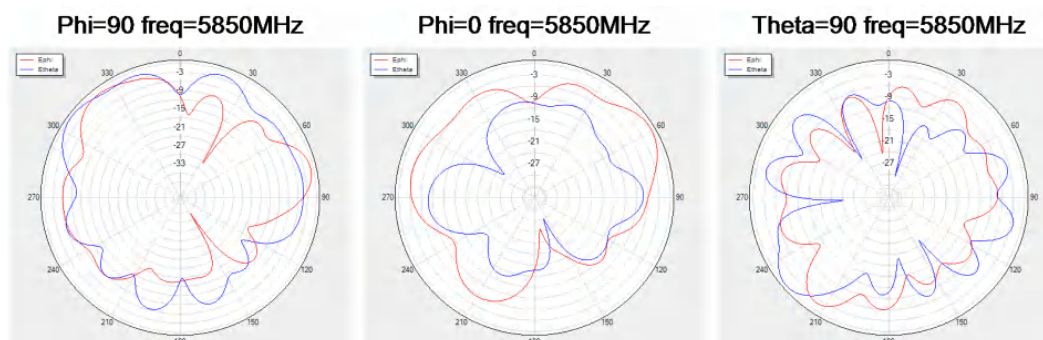
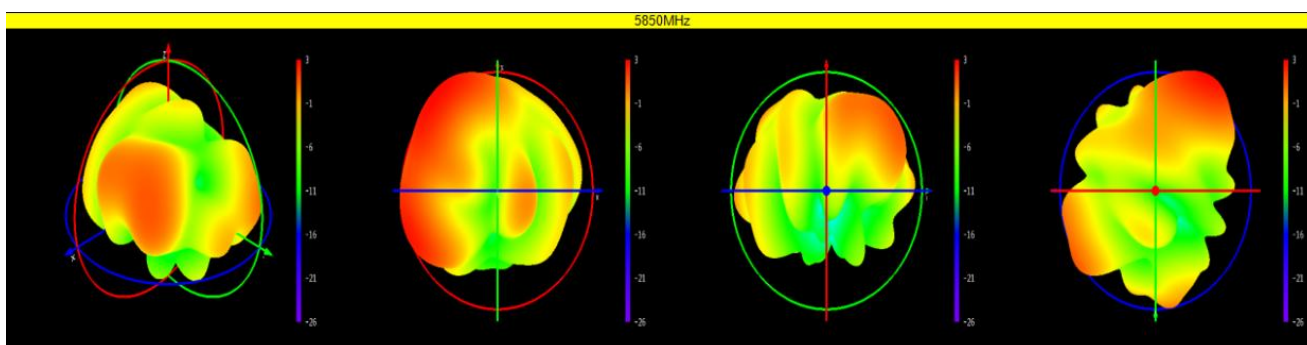
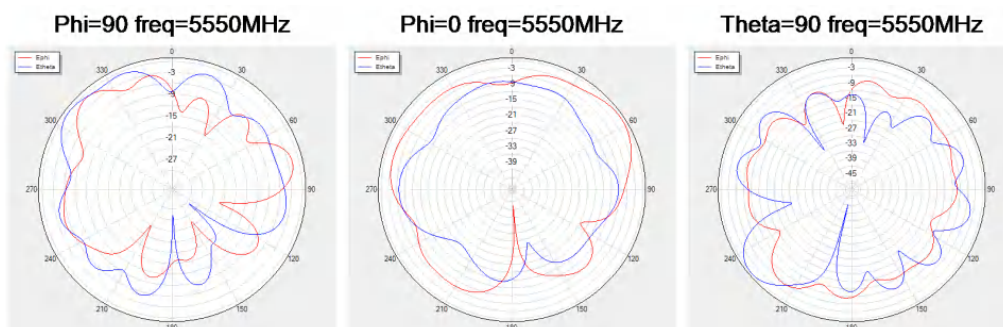
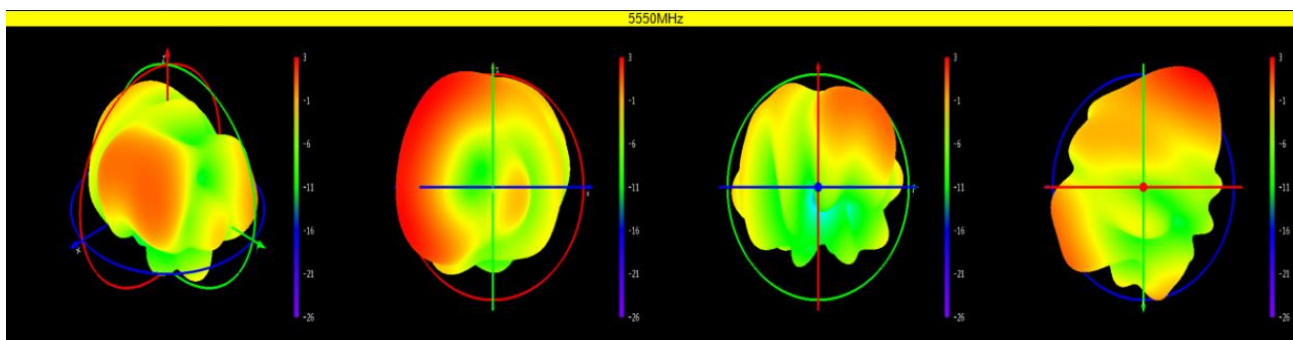
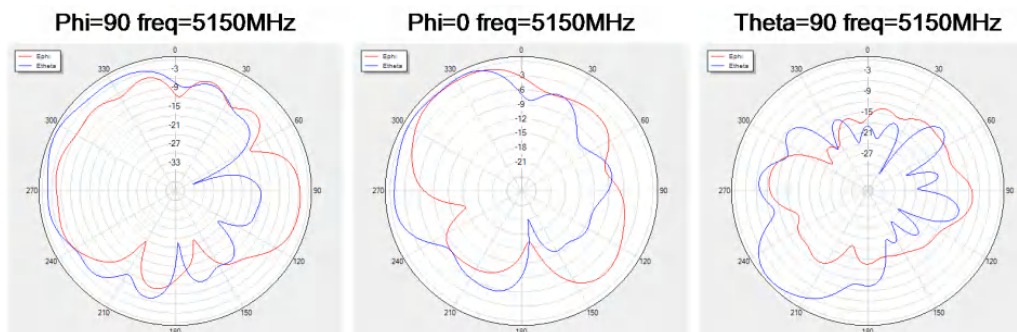


4.2 效率及增益测试数据（Efficiency and Gain Test Data）

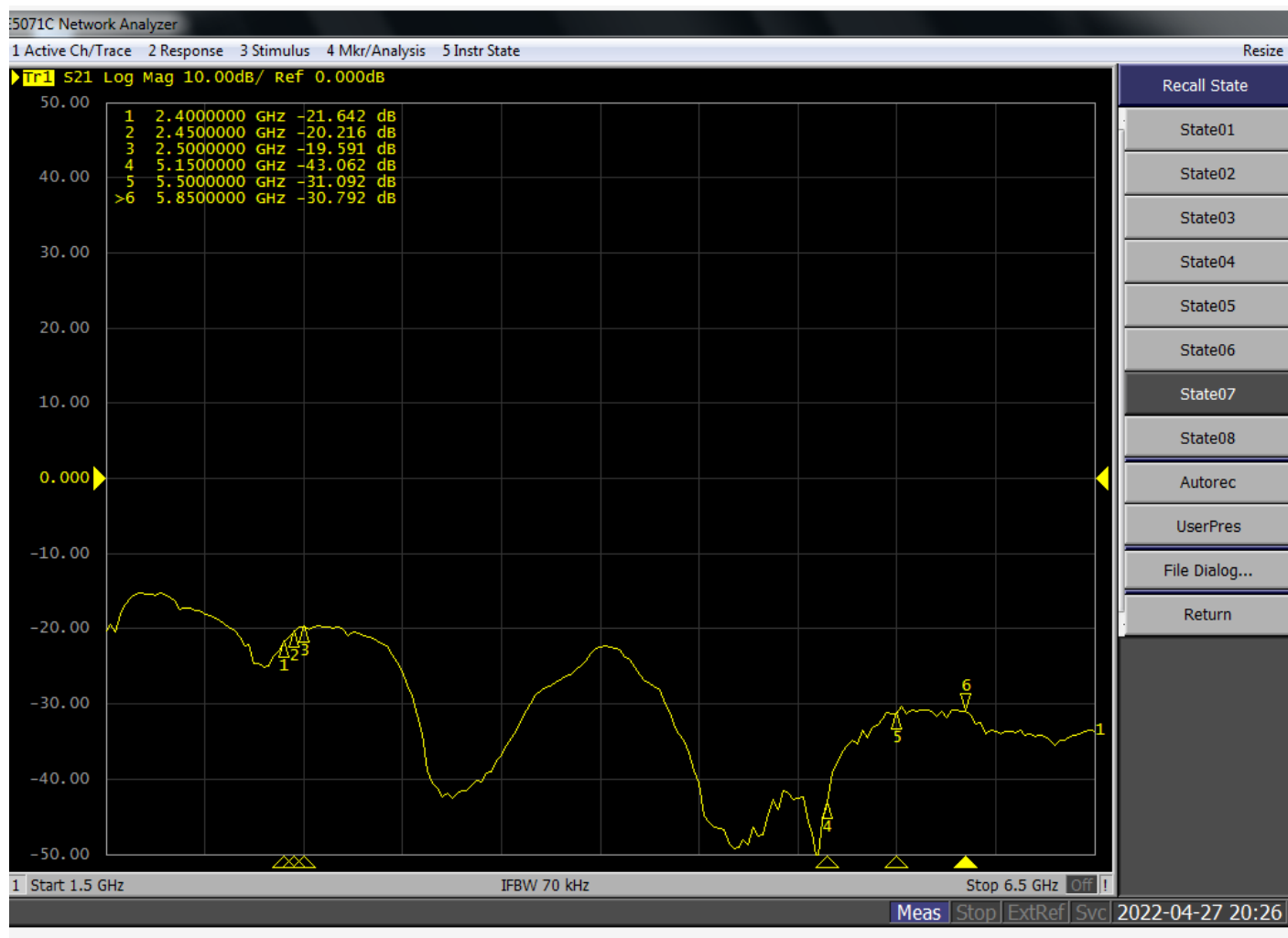
WIFI-B JSP-2006803-09BN					
2.4G			5G		
Frequency / MHz	Gain/ dBi	Efficiency / %	Frequency / MHz	Gain/ dBi	Efficiency / %
2400	3.14	55.59	5150	3.9	67.02
2410	3.64	55.57	5200	4.04	64.75
2420	3.6	55.53	5250	4.11	61.77
2430	3.52	56.57	5300	4.21	60.32
2440	3.41	56.43	5350	4.36	60.21
2450	3.3	58.56	5400	4.39	60.09
2460	3.17	60.32	5450	4.43	60.56
2470	3.11	61.41	5500	4.55	61.63
2480	3.13	62.36	5550	4.6	61.9
2490	3.15	63.58	5600	4.66	62.41
2500	3.19	63.53	5650	4.61	61.81
			5700	4.55	61.87
			5750	4.37	60.39
			5800	4.16	59.07
			5850	3.79	54.83







5. 隔离度测试数据 (Isolation Test Data)



HF

☐

RoHS

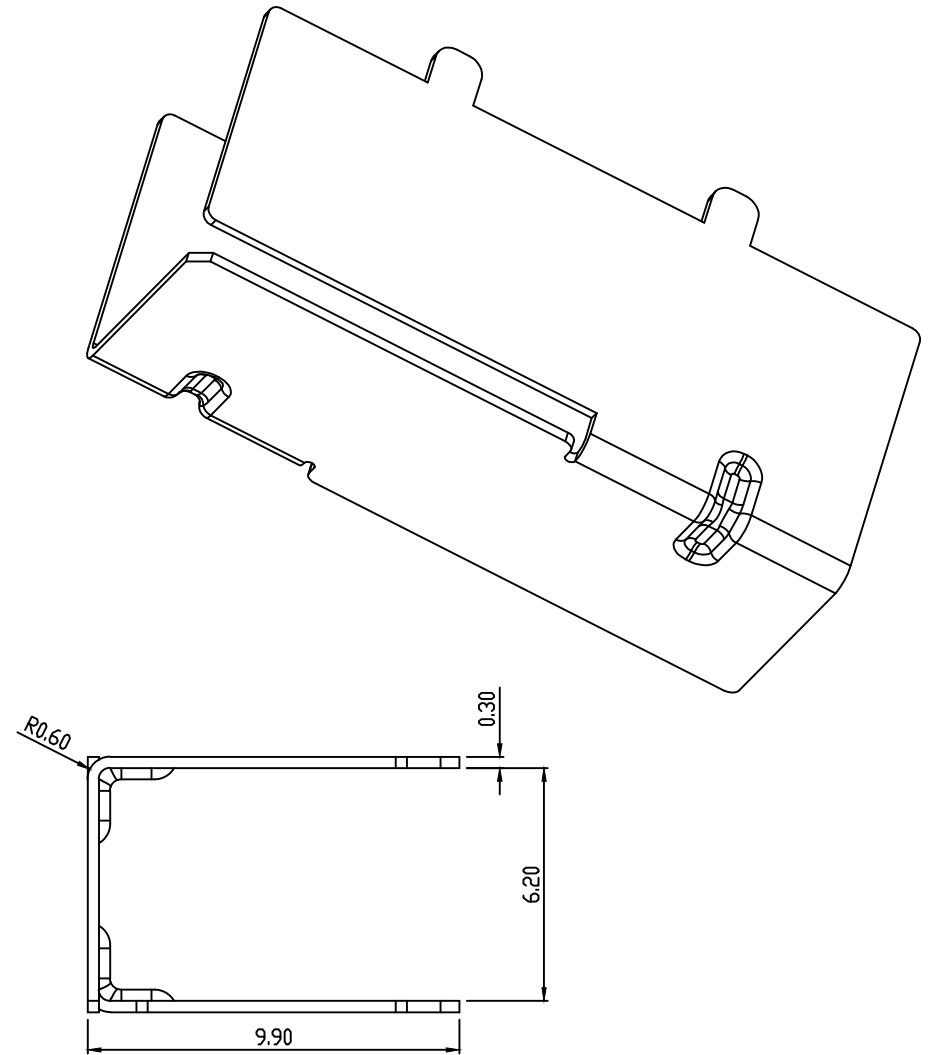
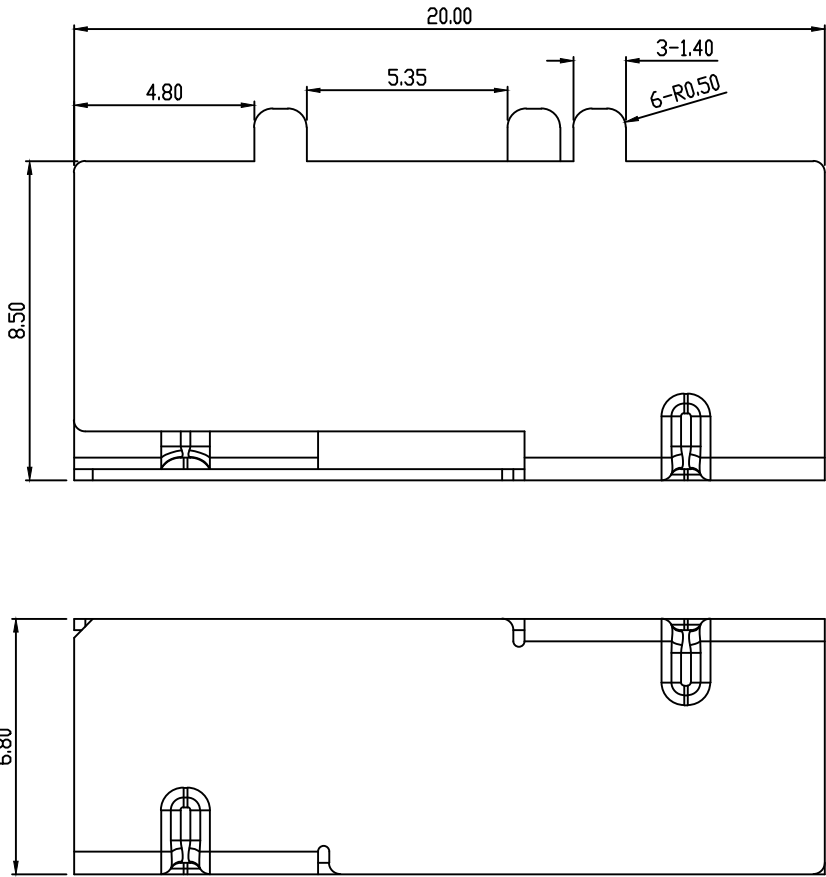
☒

REACH

☐

CONFIDENTIAL

SIGN	DATE	DESCRIPTION	APPROVER



技术要求:
1. 材质为不锈钢.
2. 颜色为镀镍.

东莞市信博联电子科技有限公司

TITLE: U形金属片DW9187-WIFIA

CUSTOMER P/N: /

PART NO.: JSP-2006803-09BN

APP BY

City

2022/04/27

CHK BY

Yixin

2022/04/27

RF BY

DES BY

YJH

2022/04/27

Standard Tolerance

X.X ±0.2

X.XX ±0.1

X° ±1

UNITS: mm

SCALE: 1/1

REVISION: A

○ 0.02

◎ 0.03

▱ 0.05

// 0.03

⊥ 0.05

≡ 0.05

產品包裝規範

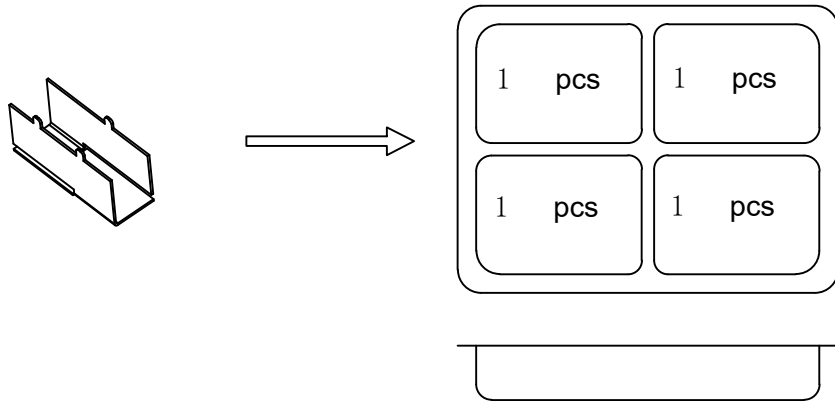
PACKING CRITERION

Date: 2022/04/27

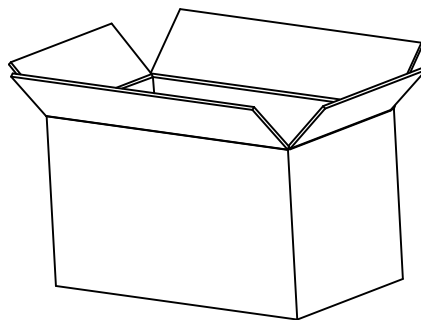
Page: 1 of 1

Part Number : JSP-2006803-09BN	Revision : A
Name: U形金属片DV9187-WIFIA	Customer :

一. WITH THE ANT INTO THE PE BAG



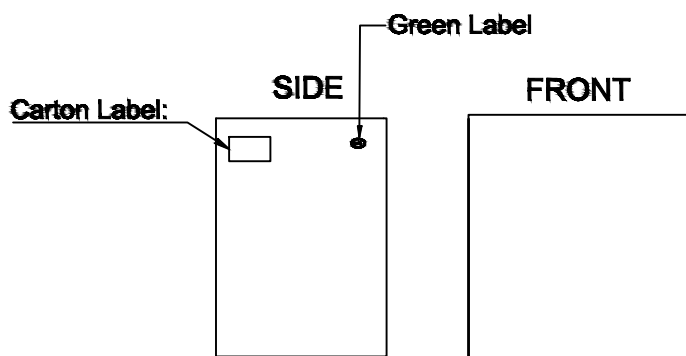
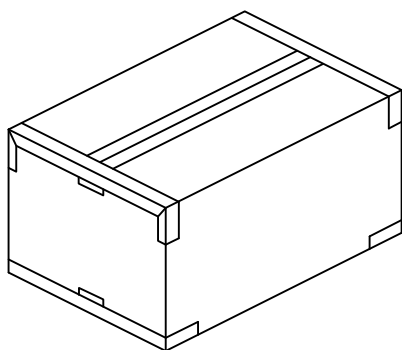
二. PACKING



16000PCS/CARTON

为

三. SEALING



APPROVED BY : City

CHECKED BY : Yixin

DESIGNED BY : YJH



测试报告

No. CANEC2200074016

日期: 2022年01月10日 第1页,共6页

佛山市资海不锈钢有限公司

佛山市南海区大沥镇九龙不锈钢交易中心北H座101、102号铺

佛山市宝艺不锈钢有限公司

佛山市南海区狮山镇工业大道8号

以下测试之样品是由申请者所提供及确认: 不锈钢卷板(SUS304)

SGS工作编号: CP21-068017 - GZ

样品接收日期: 2022年01月04日

测试周期: 2022年01月04日 - 2022年01月10日

测试要求: 根据客户要求测试

测试方法: 请参见下一页

测试结果: 请参见下一页

结论: 基于所送样品进行的测试, 镉、铅、汞、六价铬、多溴联苯(PBBs)、多溴二苯醚(PBDEs)、邻苯二甲酸酯(如邻苯二甲酸二丁酯(DBP)、邻苯二甲酸丁苯酯(BBP)、邻苯二甲酸二(2-乙基己基)酯(DEHP)和邻苯二甲酸二异丁酯(DIBP))的测试结果符合欧盟RoHS指令2011/65/EU附录II的修正指令(EU) 2015/863的限值要求。

通标标准技术服务有限公司广州分公司
授权签名

陈江乘

Allie Chen陈江乘
批准签署人



SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Testing Center Chemical Laboratory

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Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

198 Kazhu Road, Sciotech Park Guangzhou Economic & Technology Development District, Guangzhou, China 510663

中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663

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t (86-20) 82155555

sgs.china@sgs.com

Member of the SGS Group (SGS SA)

测试报告

No. CANEC2200074016

日期: 2022年01月10日 第2页,共6页

测试结果:

测试样品描述:

样品编号	SGS样品ID	描述
SN1	CAN22-000740.005	银色金属

备注:

- (1) 1 mg/kg = 0.0001%
 (2) MDL = 方法检测限
 (3) ND = 未检出 (< MDL)
 (4) "-" = 未规定

RoHS指令2011/65/EU附录II的修正指令(EU) 2015/863

测试方法: 参考IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, IEC 62321-6:2015
 和 IEC 62321-8:2017, 采用 ICP-OES, UV-Vis 和 GC-MS 进行分析。

测试项目	限值	单位	MDL	005
镉 (Cd)	100	mg/kg	2	ND
铅 (Pb)	1,000	mg/kg	2	ND
汞 (Hg)	1,000	mg/kg	2	ND
六价铬(Cr(VI))▼	-	µg/cm²	0.10	ND
多溴联苯之和(PBBs)	1,000	mg/kg	-	ND
一溴联苯	-	mg/kg	5	ND
二溴联苯	-	mg/kg	5	ND
三溴联苯	-	mg/kg	5	ND
四溴联苯	-	mg/kg	5	ND
五溴联苯	-	mg/kg	5	ND
六溴联苯	-	mg/kg	5	ND
七溴联苯	-	mg/kg	5	ND
八溴联苯	-	mg/kg	5	ND
九溴联苯	-	mg/kg	5	ND
十溴联苯	-	mg/kg	5	ND
多溴二苯醚之和(PBDEs)	1,000	mg/kg	-	ND
一溴二苯醚	-	mg/kg	5	ND
二溴二苯醚	-	mg/kg	5	ND
三溴二苯醚	-	mg/kg	5	ND
四溴二苯醚	-	mg/kg	5	ND
五溴二苯醚	-	mg/kg	5	ND



SGS-CTD (Guangzhou) Technical Services Co., Ltd.
 Guangzhou Branch Testing Center Chemical Laboratory

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测试报告

No. CANEC2200074016

日期: 2022年01月10日 第3页,共6页

测试项目	限值	单位	MDL	005
六溴二苯醚	-	mg/kg	5	ND
七溴二苯醚	-	mg/kg	5	ND
八溴二苯醚	-	mg/kg	5	ND
九溴二苯醚	-	mg/kg	5	ND
十溴二苯醚	-	mg/kg	5	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND
邻苯二甲酸丁苄酯(BBP)	1000	mg/kg	50	ND
邻苯二甲酸二(2-乙基己基)酯(DEHP)	1000	mg/kg	50	ND
邻苯二甲酸二异丁酯(DIBP)	1000	mg/kg	50	ND

备注:

(1)最大允许极限值引用自RoHS指令(EU) 2015/863。

(2) IEC 62321 系列等同于 EN 62321 系列

https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25

(3) ▼=a. 当六价铬的浓度高于0.13 µg/cm²时, 样品为阳性, 即含有六价铬;

b. 当六价铬的浓度为ND(低于0.10 µg/cm²)时, 样品为阴性, 即未检测到六价铬;

c. 当六价铬的浓度介于0.10 µg/cm²与0.13 µg/cm²之间时, 无法直接判定是否检测到六价铬, 因不同个体的样品表面差异可能会影响测定结果;

由于未获知样品的存储条件和生产日期, 样品的六价铬测试结果仅能代表测试时样品含六价铬的状态。

除非另有说明, 此报告结果仅对测试的样品负责。本报告未经本公司书面许可, 不可部分复制。

检测报告仅用于客户科研、教学、内部质量控制、产品研发等目的, 仅供内部参考。



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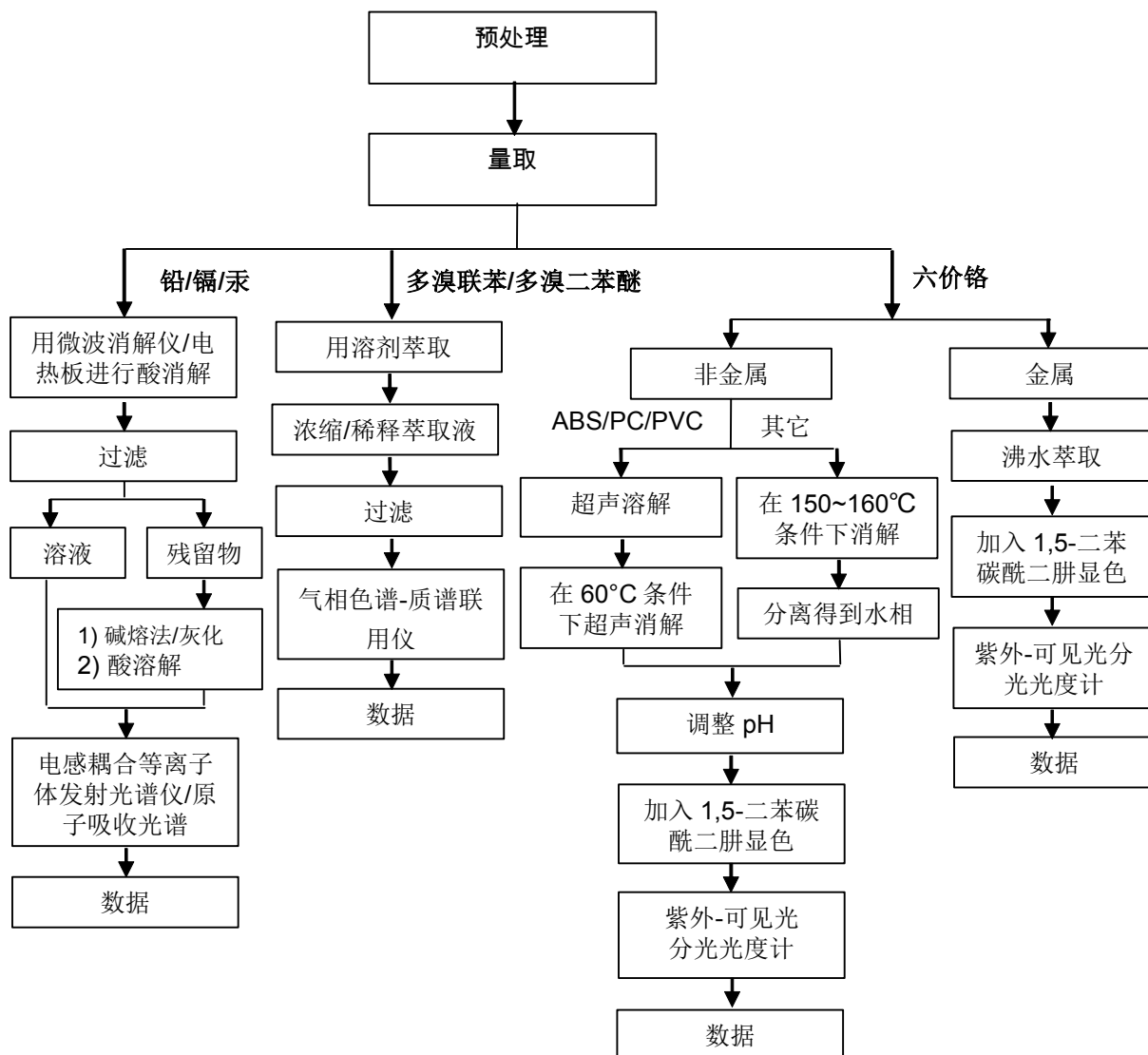
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附件

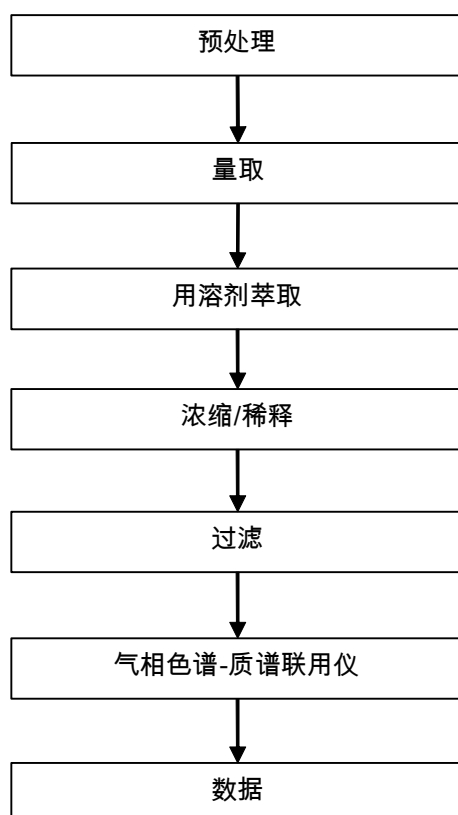
Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs 测试流程图

1) 样品按照下述流程被完全消解(六价铬和多溴联苯/多溴二苯醚测试除外)。



附件

Phthalates 测试流程图



测试报告

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样品照片:



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*** 报告完 ***



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