

# **Butlr Heatic2**

## **specification sheet**

供应商：浙江海通通讯电子股份有限公司

Supplier: Zhejiang Haitong communications electronic Limited by Share Ltd.

地址：浙江省温州龙湾区滨海园区滨海一道 1607 号

Address : No. 1607 Binhai Road, Binhai Park, Longwan District, Wenzhou, Zhejiang Province

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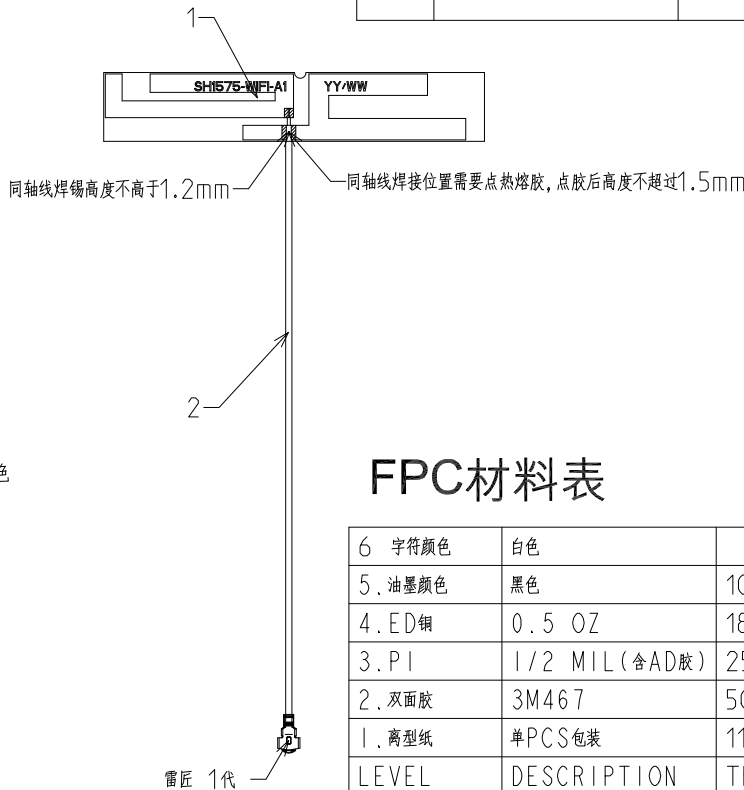
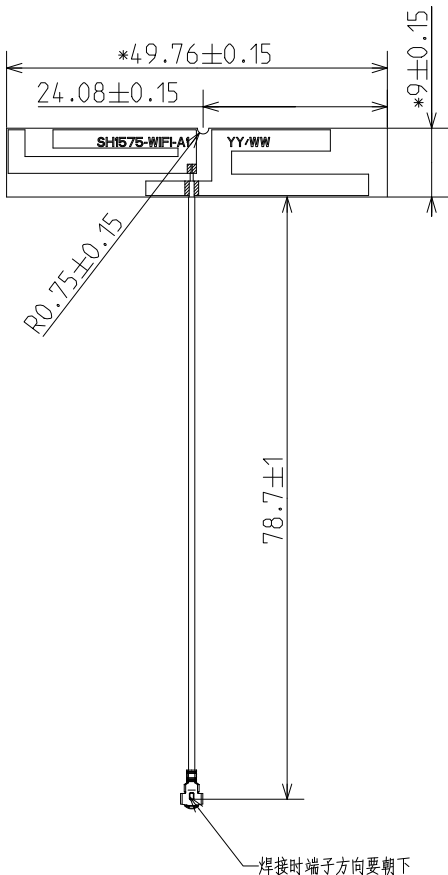


## 同轴线参数要求

- 材料: 同轴线
- 电气特性
  - 额定电压: 60V, 50Hz, rms.
  - 绝缘电阻:  $\geq 5,000\text{M}\Omega$
  - 耐电压: 200V AC;
  - 接触电阻
    - 内导体接触电阻  $\leq 20\text{m}\Omega$ ;
    - 外导体接触电阻  $\leq 20\text{m}\Omega$ ;
  - 特性阻抗:  $50\Omega$ .
  - VSWR:  $\leq 1.3$  DC ~ 3GHz).  
 $\leq 1.5$  3 ~ 6GHz).
  - 频率范围: DC ~ 6GHz.
  - 100% 短路测试.
- 机械性能
  - 端子与电缆保持力  $\geq 7\text{N}$ ;
- 端子方向
  - 单头打端
- 环境
  - 工作温度:  $-55^{\circ}\text{C} \sim +85^{\circ}\text{C}$ .
  - 相对湿度:  $\leq 95\%$  ( $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ )
  - 产品需符合HSF控制要求;
- 标有\*的尺寸为重要管控尺寸; CPK 管控值  $> 1.33$ .

## FPC参数要求

- 注
- 不明尺寸参考图档;  
未注公差要求:  
A. 铜箔到铜箔  $\pm 0.05$ ; B. 铜箔到外形  $\pm 0.15$ ;  
C. 孔到外形的公差  $\pm 0.15$ ; D. 孔径的尺寸公差  $\pm 0.05$ ;  
E. 阻焊公差  $\pm 0.30$ ; F. 外形到外形  $\pm 0.15$ ;  
G. 冲孔与冲孔之间的距离公差  $\pm 0.1$ ; H. 孔到铜箔  $\pm 0.15$ .
  - 材质: FPC 天线;
  - 电镀区域: 先镀Ni (2-8um), 后镀AU  $\geq 0.03\text{um}$
  - 零件标识: 按指定位置
  - 需通过HAITONG品质部门要求FPC的各项测试; 盐水喷雾测试要求48H后产品表面无氧化现象。
  - 尺寸要求:
    - ST尺寸: 测量最小量为500中选取的任意35个产品的尺寸作cpk分析;
    - \* 尺寸为重点管控尺寸;
  - 首批物品: 随机挑选5pcs做全尺寸测量, 报告及物品转递HAITONG品质部;
  - 任何用料上的修改必须通过HT工程部门的书面同意;
  - 产品符合 (RoHS/HF/REACH)的要求;



## FPC材料表

|         |                |                     |
|---------|----------------|---------------------|
| 6. 字符颜色 | 白色             |                     |
| 5. 油墨颜色 | 黑色             | 10-15 $\mu\text{m}$ |
| 4. ED铜  | 0.5 OZ         | 18 $\mu\text{m}$    |
| 3. PI   | 1/2 MIL (含AD胶) | 25 $\mu\text{m}$    |
| 2. 双面胶  | 3M467          | 50 $\mu\text{m}$    |
| 1. 离型纸  | 单PCS包装         | 110 $\mu\text{m}$   |
| LEVEL   | DESCRIPTION    | THICKNESS           |

|      |                 |      |        |
|------|-----------------|------|--------|
| 4    |                 |      |        |
| 3    |                 |      |        |
| 2    | SH1575-WIFI-CAB | I    |        |
| I    | SH1575-WIFI-FPC | I    |        |
| ITEM | PART NAME       | Q'TY | REMARK |

**NHAIT** 浙江海通通讯电子股份有限公司  
ZHEJIANG HAITONG COMMUNICATION ELECTRONICS CO., LTD.

PROJECT NAME: SH1575-WIFI-FPC\_ASM

PRODUCT NAME: Butlr\_Heatic2-WIFI-FPC\_ASM

| NO TOLERANCE NOTED |      |                   |
|--------------------|------|-------------------|
| ONE PLACE          | X.X  | $\pm 0.15$        |
| TWO PLACE          | X.XX | $\pm 0.10$        |
| ANGULAR DIM        | X.°  | $\pm 1.0^{\circ}$ |
| HOLE DIA           | X.X  | $\pm 0.10$        |

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|            |     |          |               |
|------------|-----|----------|---------------|
| APPD:      |     | HTI成品码:  | B.1.05.L.0212 |
| CHKD:      |     | HTI半成品码: | XXX           |
| DWN:       |     | 客户编码:    | XXX           |
| SCALE:     | 1:1 | PAGE:    | 1/1           |
| REV:       | A2  |          |               |
| UNIT:      | mm  | SIZE:    | A4            |
| DRWING NO: |     |          | 118-2576      |

BOM LIST

Customer: 蓝岸(Blue)

Project: Butlr Heatic2

Product: SH1575

Version: A/0

| NO | 阶层Hierarchy |  |  |  | 海通量产料号HT P/N  | 客户料号Customer P/N | 环保要求RoHS compliance | 品名Product name      | 规格Specifications                              | 单位Unit | 单位用量Quantity per | 毛重Gross weight (g) | 净重Net weight (g) | 物料来源Material source | 版本Ver | 备注Notes |
|----|-------------|--|--|--|---------------|------------------|---------------------|---------------------|-----------------------------------------------|--------|------------------|--------------------|------------------|---------------------|-------|---------|
| 1  | 1           |  |  |  | B.1.05.L.0212 |                  | RoHS 2.0+HF         | SH1575_WIFI_FPC_ASM | WIFI antenna assembly                         |        | 1                |                    |                  | 外购                  | A0    |         |
| 2  | 2           |  |  |  | G.1.11.L.0327 |                  | RoHS 2.0+HF         | SH1575_WIFI_FPC     | 49.76*9.0 单面ED 黑油 3M467 镀金1.2麦<br>RoHS 2.0+HF |        | 1                |                    |                  |                     | A0    |         |
| 3  | 2           |  |  |  | G.1.22.L.0195 |                  | RoHS 2.0+HF         | SH1575_WIFI_CAB     | 线径0.81 长度83mm 黑色 雷匠1代 RoHS<br>2.0+HF          |        | 1                |                    |                  |                     | A0    |         |
| 4  |             |  |  |  |               |                  |                     | PE package          | 10*18                                         |        | 1/50             |                    |                  |                     | A     |         |
|    |             |  |  |  |               |                  |                     | Inner box           | Commonly used non perforated inner box        |        | 1/2000           |                    |                  |                     | A     |         |
|    |             |  |  |  |               |                  |                     | Outer box           | Common HT outer box (10 inner box)            |        | 1/20000          |                    |                  |                     | A     |         |
|    |             |  |  |  |               |                  |                     | Solder wire         | 博士达无卤0.6mm                                    |        | 1/15000          |                    |                  |                     | A     |         |
|    |             |  |  |  |               |                  |                     |                     |                                               |        |                  |                    |                  |                     |       |         |
|    |             |  |  |  |               |                  |                     |                     |                                               |        |                  |                    |                  |                     |       |         |
|    |             |  |  |  |               |                  |                     |                     |                                               |        |                  |                    |                  |                     |       |         |

Check:

Approval:

data: 20240710

## 2.4G WIFI 天线射频性能报告

RF performance report of the WIFI antenna

|                         |                     |
|-------------------------|---------------------|
| 客户                      | 蓝岸/BlueBank         |
| 项目名<br>Project name     | Heatic2             |
| 产品类型<br>Product type    | FPC+cable antenna   |
| 频段/增益<br>Frequency/Gain | 2400~2500MHZ/2.2dBi |
| 发行日期<br>Data            | 2024.7.18           |
| 发行版本<br>Version         | V1.3                |
| 工程师<br>Engineer         | Longming Yuan       |
| 审阅<br>Review            | 夏彪/Arvin            |

## 1. 概述/Summary

此文档是 Butlr 版本 2.4GWiFi 射频性能报告。

This document is the Butlr version 2.4GWiFi RF performance report.

### 1.1 机器状态/Device Status



图 1 机器图片/Figure1 Device images

### 1.2 天线状态/Antenna Status

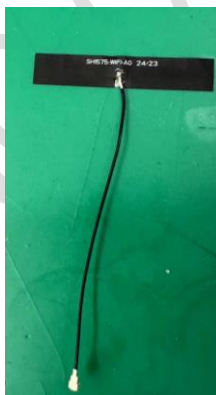


图 2 天线图片/Figure2 Antenna image

## 2. 天线测试环境/ Antenna testing environment

a. 天线输入特性测试使用 Agilent E5071C 矢量网络分析仪。

The antenna input characteristics were tested using the Agilent E5071C vector network analyzer.

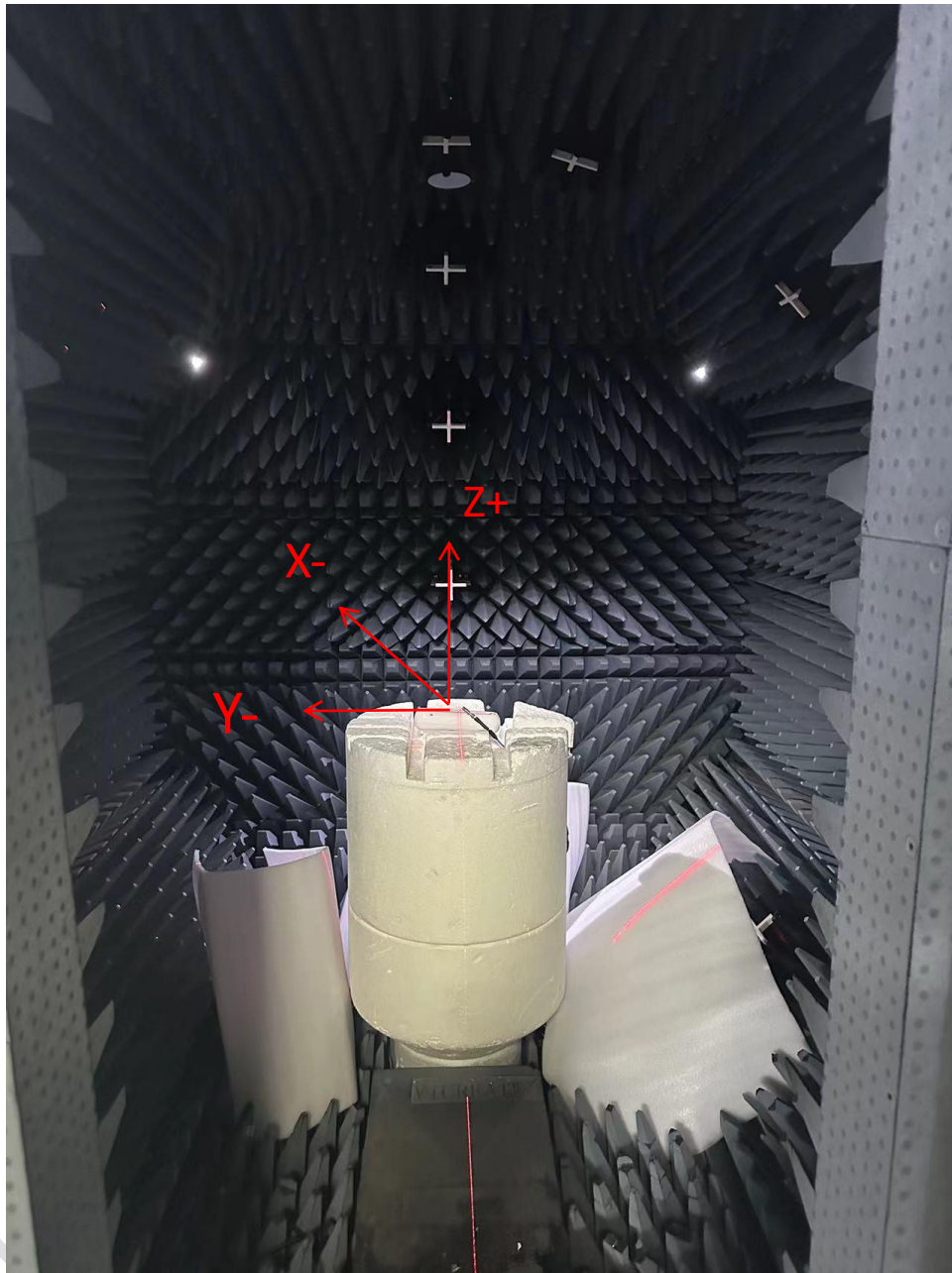


图 3 3D 微波暗室测试坐标系(back view)

Figure 3 3D Microwave Anechoic Chamber Test Coordinate System (Back View)

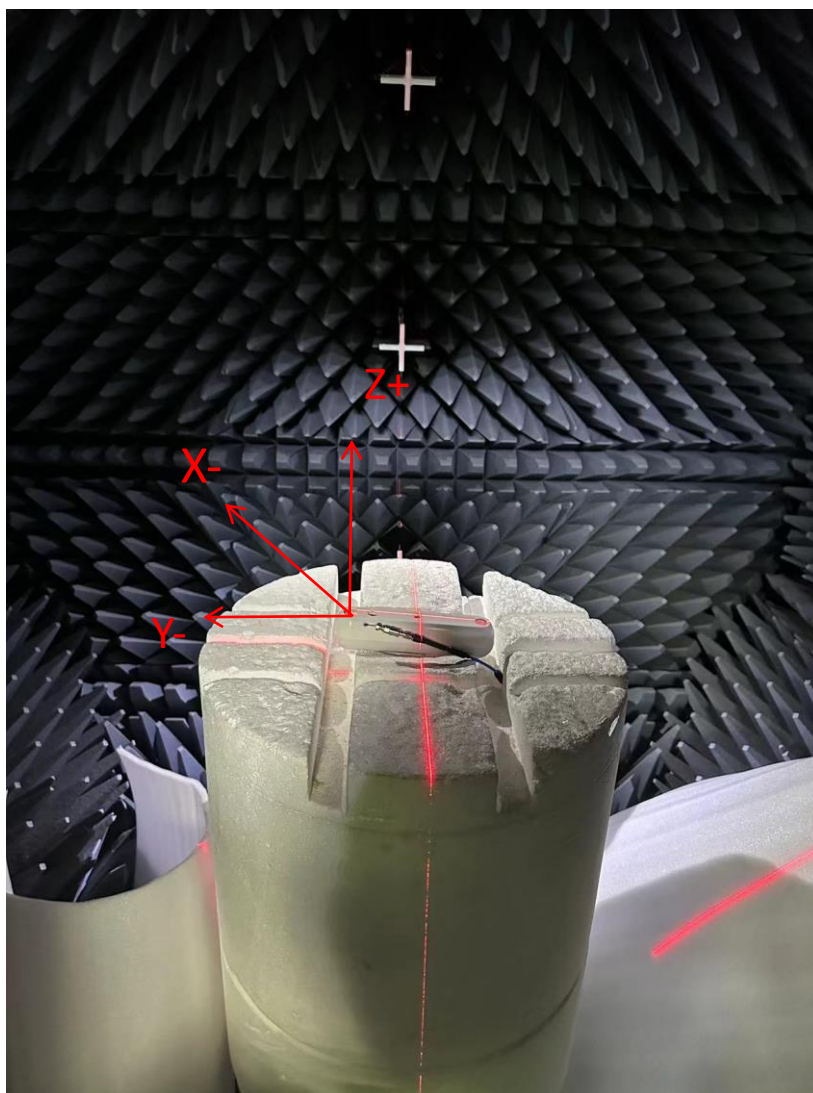


图 4 实物对应坐标

Figure 4 Corresponding Coordinates of Physical Object

### 3. 天线测试结果/Antenna Test Result

#### 3.1 天线反射损耗/ Antenna return loss

| Frequency<br>(MHz) | 2400 | 2410 | 2420 | 2430 | 2440  | 2450 | 2460 | 2470 | 2480  | 2490 | 2500 |
|--------------------|------|------|------|------|-------|------|------|------|-------|------|------|
| S11(dB)            | -15  | -17  | -20  | -24  | -28.5 | -30  | -25  | -15  | -14.5 | -15  | -17  |

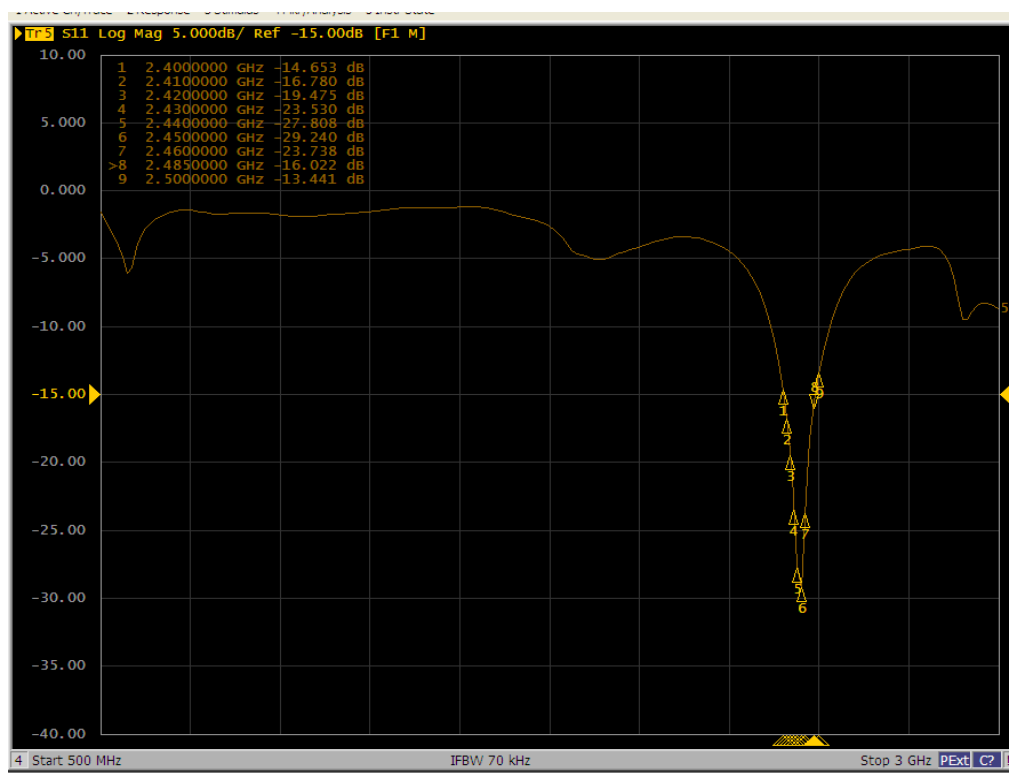


图 5 WIFI 天线反射损耗  
Figure 5 WIFI antenna return loss

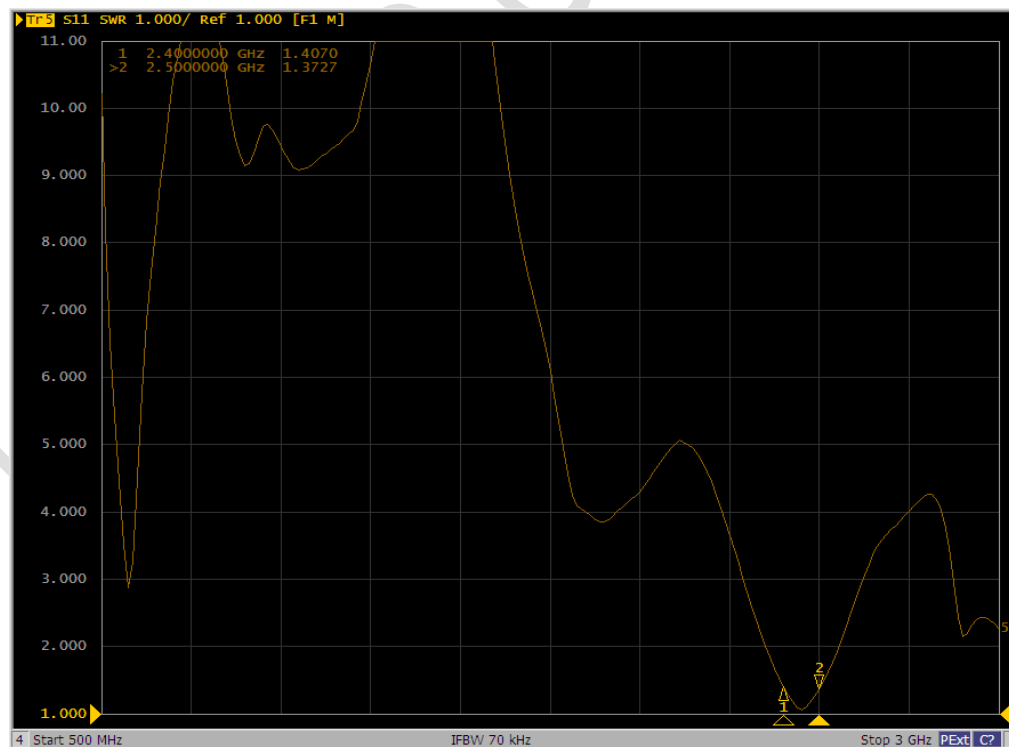
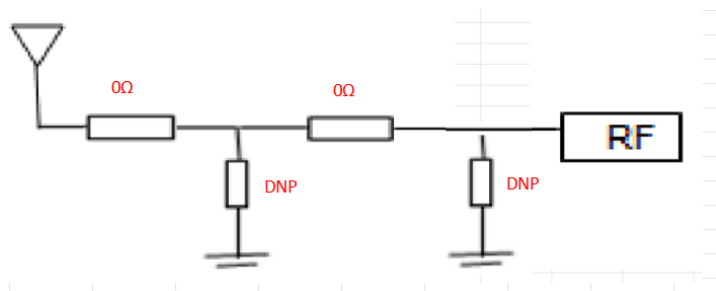


图 6 主天线 VSWR  
Figure 6 antenna VSWR

## 天线匹配/ Antenna matching

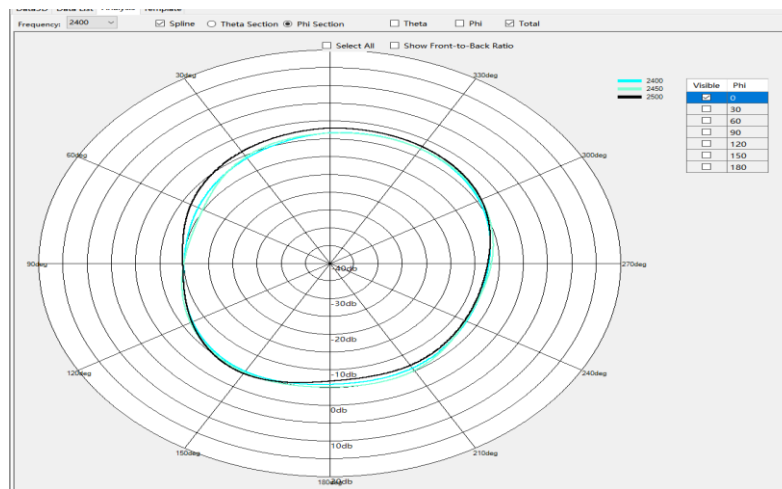
WIFI/



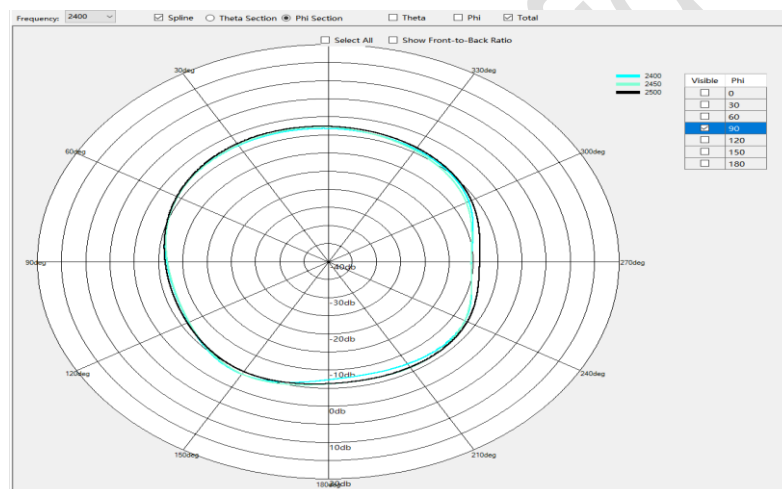
## 3.2 天线效率/Antenna Efficiency

| Freq (MHz) | Eff | Ave Gain |
|------------|-----|----------|
| 2400       | 54% | -2.7     |
| 2410       | 53% | -2.8     |
| 2420       | 55% | -2.6     |
| 2430       | 54% | -2.7     |
| 2440       | 57% | -2.5     |
| 2450       | 56% | -2.5     |
| 2460       | 58% | -2.4     |
| 2470       | 57% | -2.4     |
| 2480       | 59% | -2.3     |
| 2490       | 56% | -2.5     |
| 2500       | 58% | -2.4     |

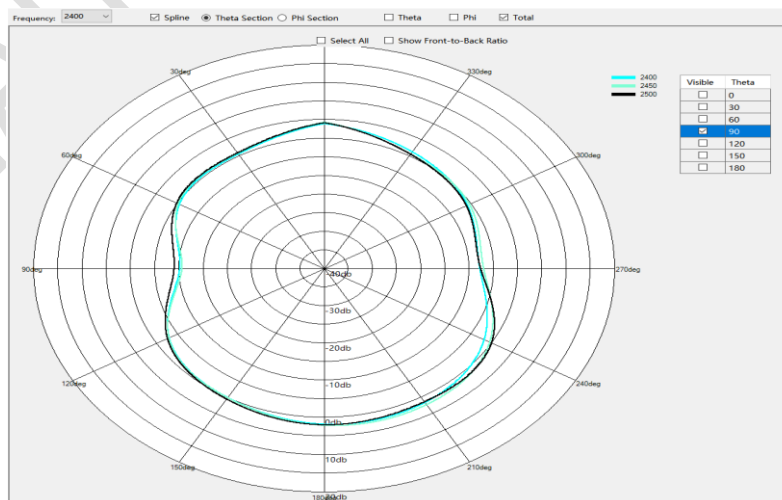
## 3.3 天线效率图/Antenna efficiency pattern



Phi=90°



Phi=0°



Theta=90°

## 网分测试管控作业指导书

### SOP for Network Analyzer Testing and Control Operations

|                                          |                        |
|------------------------------------------|------------------------|
| 产品名<br>Product name                      | SH1575_WIFI_FPC_ASM    |
| 产品编号<br>Product number                   | B.1.05.L.0192          |
| 产品类别<br>Product category                 | FPC+cable antenna      |
| 工序名<br>Process name                      | FPC+cable antenna      |
| 工具<br>Equipment                          | 网络分析仪/Network analyzer |
| 人员佩戴<br>Personnel wearing                | 手指套/Finger stall       |
| 测试频段<br>Test frequency                   | 500MHz-6GHz            |
| 工程质量检测<br>Engineering quality inspection | 全检/ full-inspection    |
| 品质 QA                                    | Xiaoyu Wu              |
| 工程 EPM                                   | Guobin Han             |

## 一、测试管控参数

### Test control parameters

1. 参数设置如下:

The parameter settings are as follows:

Frequency-

Star: 500MHz Stop: 6GHz

Measure-

S11

Format-

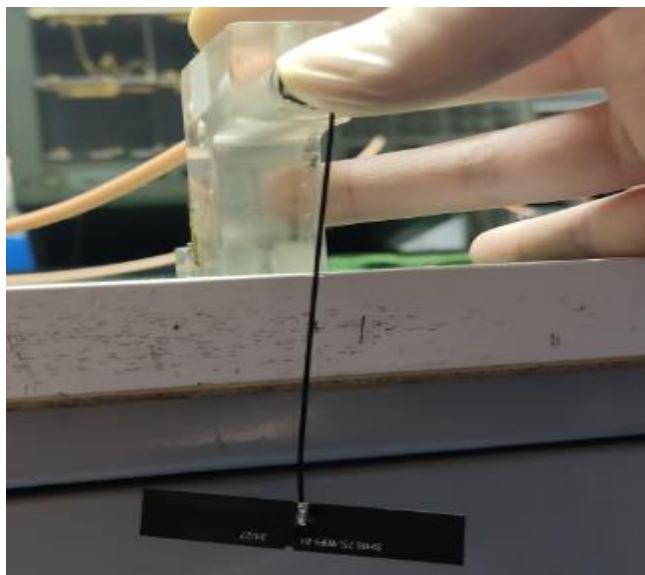
Log

| 管控波形<br>Control<br>Wave | 管控范围<br>Control Frequency | 管控公差<br>Control Tolerance |
|-------------------------|---------------------------|---------------------------|
| 1                       | 2390MHz                   | ± 30MHz                   |
| 2                       | 2780MHz                   | ± 30MHz                   |

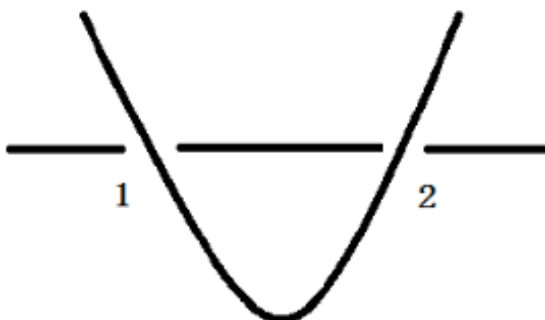
## 二、作业步骤和内容

### Assignment Steps and Content

1. 打开网分，设置网分的波形范围为 500MHz-6GHz。选定 1PCS 产品作为金样，将端子头扣在测试头上。  
Open the network analyzer and set the waveform frequency range to 500MHz-6GHz. Select 1PCS product as the gold sample and fasten the terminal head onto the test connector.

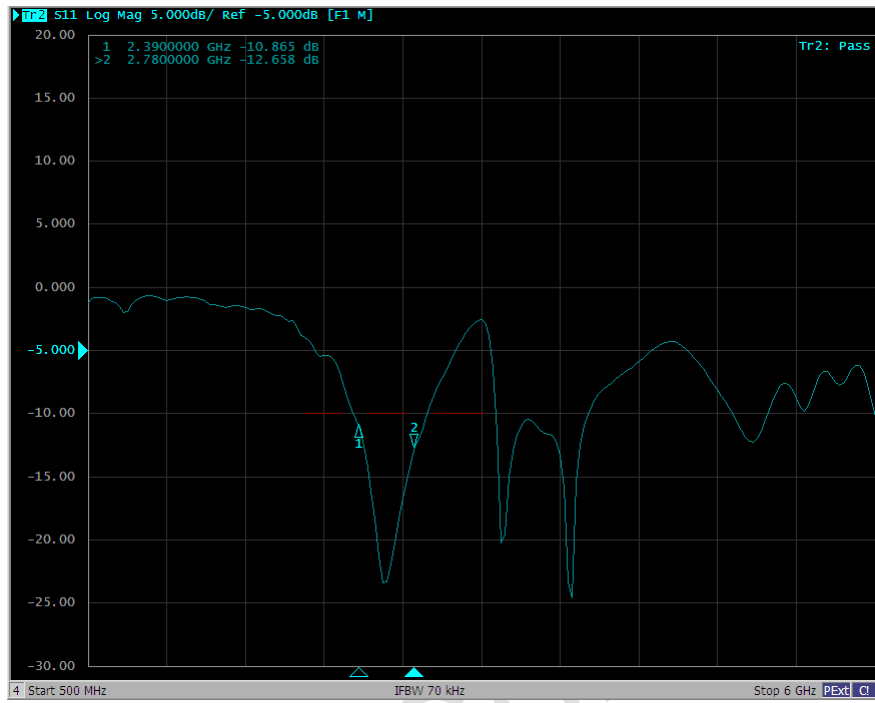


2. 采取两点管控法，MARK1(2.780GHz) / MARK2(2.910GHz)分别设置 1/2 两点左右左右的偏移做结果判定。网分门限设置  $\pm 25\text{Mhz}$ 。  
Adopting a two-point control method, set two points, MARK1 (2.780GHz) and MARK2 (2.910GHz), respectively, and determine the results based on their left and right offsets. Threshold setting for network partitioning  $\pm 25\text{Mhz}$ .

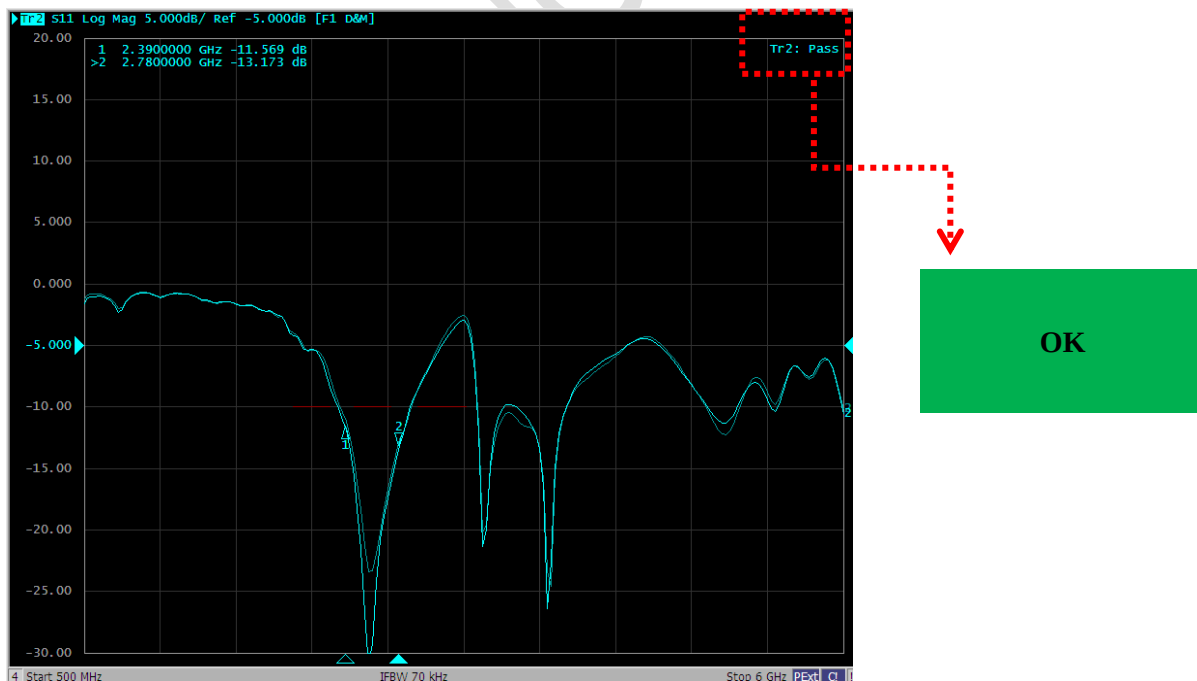


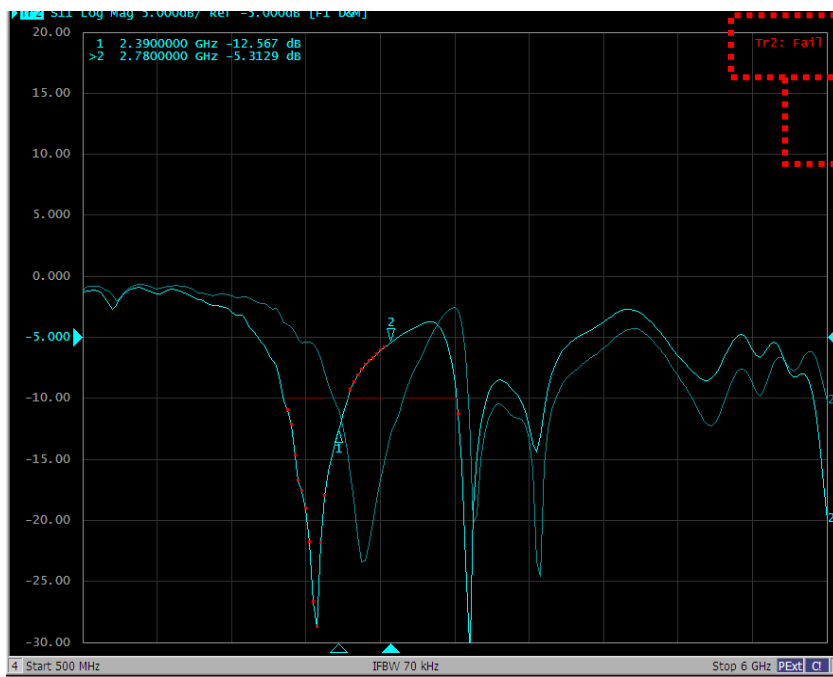
3. 将标准样设定参照波形并保存。

Set the reference waveform for the standard sample and save it



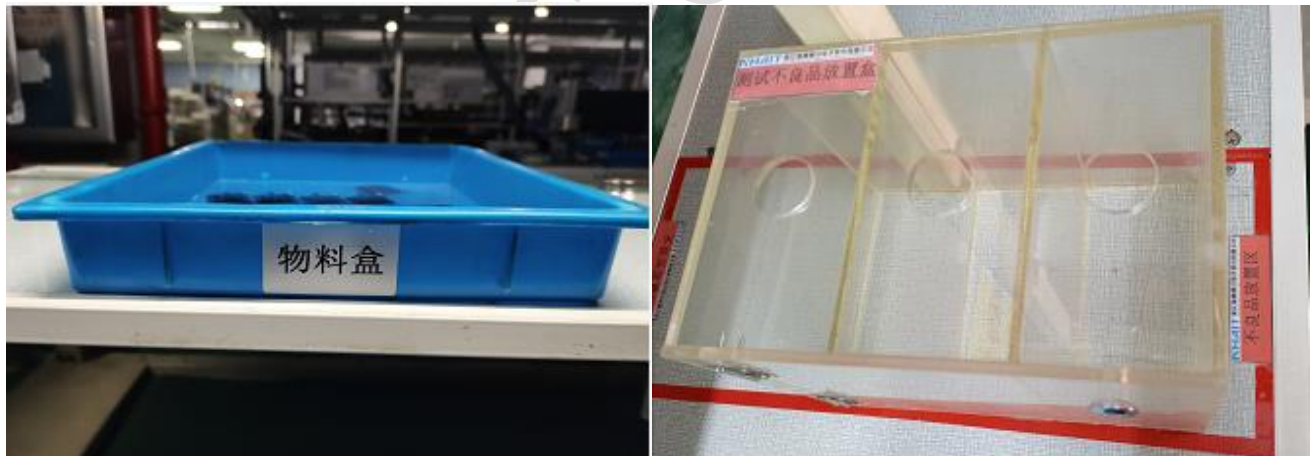
4. 测试天线产品，被测天线在设置波形管控范围内时，机器显示 PASS，标识 OK，反之 fail，代表 NG。  
When testing antenna products, if the tested antenna is within the waveform control range, the machine displays PASS, indicating OK. Otherwise, fail represents NG.





- 把良品以对向两排的方式放入蓝色物料盒, 且单个盒子存放数量切勿超过 200PCS; 不良品放入透明带锁放置盒。

Put the good products into the blue material box in opposite rows, and do not store more than 200PCS in a single box. Defective products are placed in a transparent lockable box.



### 三、注意事项和关键工序要素

#### Precautions and key process elements

1. 生产操作过程中，操作员要戴手指套，注意手指套一旦脏污破损，请及时更换  
During production operations, operators should wear finger covers and pay attention to them, Once dirty or damaged, please replace it promptly.
2. 产品表面避免脏污，破损等外观不良  
Avoid appearance defects such as dirt, damage, etc. on the surface of the product.
3. 网分在生产前，必须是有合格标签才能上线操作  
Before production, network partitioning must have a qualified label before it can be put into operation.
4. 遇到异常问题时找负责生产线长或项目工程师  
When encountering abnormal problems, contact the responsible production line leader or project engineer.
5. 在生产过程中，操作员每次手拿单个产品进行测试  
During the production process, the operator holds a single product in hand each time test.
6. 此款产品端子头用 1 代测试。  
This product's terminal head has been tested with the 4th generation.
7. 调出 0192 文件，使用标准样件对机，将网分仪参数设置为:500MHZ-5GHZ，marker 点 2.39GHZ、2.78GHZ 与对保留的标准对样机和不良品进行确认，确保无误才能下步操作  
Retrieve file 0192, use standard samples to match the machine, set the parameters of the network analyzer to 500MHZ-5GHz, mark points 2.39GHz, 2.78GHz, and confirm the reserved standard samples and defective products to ensure accuracy before proceeding with the next operation.

## 质量管控流程 Quality control process

1. 来料检验流程/ IQC

2. 出货检验流程/ OQC



## IQC检验报告单IQC inspection report sheet

表单编号The form number : HT-FM-PZ035 版本号Version number : A/1

|                          |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                |                         |                                                                                        |                        |                                                                                                                                       |             |
|--------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------|----------------------------------------------------------------------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 项目名称<br>project name     | SH1575-WIFI-CAB                           | 物料批次Material lot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2024.7.5 July 5, 2024          | 供货数量<br>supply quantity | 230PCS                                                                                 | 检验日期<br>date of survey | 2024.7.7 July 7, 2024                                                                                                                 |             |
| 海通码<br>Haitong code      | G.1.22.L0195                              | 采购订单PO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | G2407040002                    | 状态form                  | 正常normal<br><input checked="" type="checkbox"/><br>加严stricter <input type="checkbox"/> | 物料类型<br>Material type  | 试生产pilot production<br><input checked="" type="checkbox"/><br>量产quantity production<br><input type="checkbox"/>                       |             |
| 抽样计划<br>sampling plan    | MIL-STD-105E-II                           | 抽样水准Sampling level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | AQL( CR=0 MAJ=0.4 MIN=0.65)    | 供应商名称<br>supplier name  | 昆山雷匠通信科技有限公司<br>Kunshan Lei Smith communication technology Co., LTD                    |                        |                                                                                                                                       |             |
| 序号<br>serial number      | 检查项目<br>Inspection item                   | 检查标准 ( 供应商 )<br>Inspection standard (Supplier)                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | AQL<br>CR=0 MAJ: 0.4 MIN: 0.65 |                         |                                                                                        | n                      | 检验结果Inspection result                                                                                                                 | 判定<br>OK/NG |
| 1                        | AVL检查<br>AVL examination                  | 厂商是否在AVL<br>Whether the manufacturer is in AVL                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | √                              |                         |                                                                                        |                        | 符合conform                                                                                                                             | OK          |
| 2                        | 包装pack                                    | 核对包装是否完整有无破损Check packing for completeness and breakage                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                | √                       |                                                                                        | 整批batch                | 符合conform                                                                                                                             | OK          |
| 3                        | 标识<br>Identification                      | 标识清楚, 产品名称、型号、数量、日期俱全Clearly marked, product name, model, quantity, date readily available                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                | √                       |                                                                                        | 整批batch                | 符合conform                                                                                                                             | OK          |
| 4                        | 外观Appearance                              | 与图纸、样品核对, 不可有明显色差, 端子头无松脱、变形、氧化、脏污、散丝等不良Check with drawings and samples, no obvious color difference, no loose terminal head, deformation, oxidation, dirt, loose wire and other bad                                                                                                                                                                                                                                                                                                                                       |                                | √                       |                                                                                        | 32PCS                  | 符合conform                                                                                                                             | OK          |
| 5                        | 拉力测试<br>Drawing force test                | 0.81线径 : 0.7kg/f 0.81 Wire diameter: 0.7kg/f                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | √                              |                         |                                                                                        | 5PCS                   | 0.82 0.92 0.81 0.78 0.79                                                                                                              | OK          |
| 6                        | 公母对插Male and female insert                | 拔出力0.4KG MIN<br>Extraction force 0.4KG MIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | √                              |                         |                                                                                        | 5PCS                   | 0.51 0.54 0.53 0.55 0.59                                                                                                              | OK          |
| 7                        | 开短路测试Open short circuit test              | 将万用表调制直通档, 然后分别用红黑表笔接线材两端, 发出“滴”声响后为合格<br>The multimeter is modulated through the file, and then the two ends of the wire are linked with a red and black watch, and the sound of “dropping” is qualified                                                                                                                                                                                                                                                                                                                  | √                              |                         |                                                                                        | 5PCS                   | 符合conform                                                                                                                             | OK          |
| 8                        | 可焊性测试<br>Weldability test                 | 锡炉温度: 260±5℃, 时间: 3±0.5S, 浸锡均匀光亮饱满, 上锡面积需在95%以上<br>Tin furnace temperature: 260±5℃, time: 3±0.5S, immersion tin uniform bright full, tin area should be above 95%                                                                                                                                                                                                                                                                                                                                                          | √                              |                         |                                                                                        | 5PCS                   | 符合conform                                                                                                                             | OK          |
| 9                        | 盐雾试验salt spray test                       | 1. 盐雾浓度: 5±1 %<br>2. 氯化钠(NaCl): 99.8%以上<br>3. 试验温度: 35±2℃<br>4. PH值: 6.5~7.2 ( 温度为 35±2℃时的PH值 )<br>5. 实验湿度: 85%以上<br>6. 试验时间: 48小时 被测件表面无锈蚀、镀层剥落、变色、氧化、腐蚀不良。<br>1. Salt spray concentration :5±1%<br>2. Sodium chloride (NaCl): more than 99.8%<br>3. Test temperature: 35±2℃<br>4. PH value: 6.5~7.2 (PH value when the temperature is 35±2℃)<br>5. Experimental humidity: above 85%<br>6. Test time: 48 hours no corrosion, coating peeling, discoloration, oxidation, poor corrosion on the surface of the tested part. | √                              |                         |                                                                                        | 5PCS                   | 符合conform                                                                                                                             | OK          |
| 10                       | 有害物质管控<br>Control of hazardous substances | 必须有第三方权威检测机构的检测报告, 有效期为1年, 确认检测结果是否满足我司标准<br>There must be a test report from a third-party authoritative testing agency, valid for 1 year, to confirm whether the test results meet our standards                                                                                                                                                                                                                                                                                                                         | √                              |                         |                                                                                        |                        | 有第三方检测报告, 在有效期内, 测试结果符合我司标准<br>There are third-party test reports, and the test results meet our standards within the validity period | OK          |
| 11                       | 尺寸size                                    | ①83±0.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                | √                       |                                                                                        | 5PCS                   | 83.1 83.2 83.1 83.1 83.0                                                                                                              | OK          |
| 判定结果<br>judgement result |                                           | 合格YES <input checked="" type="checkbox"/> 不合格NO <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                |                         |                                                                                        |                        |                                                                                                                                       |             |
| 检验员/日期<br>Inspector/date |                                           | 何肖梅2024.7.7 He xiaomei July 7, 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                |                         | 审核/日期<br>Audit/Date                                                                    |                        | 张爱玲2024.7.8 Zhangailling July 8, 2024                                                                                                 |             |

## IQC检验报告单IQC inspection report sheet

表单编号The form number : HT-FM-PZ035 版本号Version number : A/1

| 项目名称<br>project name  | SH1575-WIFI-FPC                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 物料批次Material lot   | 2024.7.5 July 5, 2024       |                 | 供货数量<br>supply quantity | 230PCS                                                                                                                                | 检验日期<br>date of survey | 2024.7.7July 7, 2024                                                             |  |  |
|-----------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------|-----------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------------------------|--|--|
| 海通码<br>Haitong code   | G.1.11.L.0327                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 采购订单PO             | G2407040002                 |                 | 状态<br>form              | 正常normal<br><input checked="" type="checkbox"/> 加严stricter                                                                            | 物料类型<br>Material type  | 试生产pilot production<br><input checked="" type="checkbox"/> 量产quantity production |  |  |
| 抽样计划<br>sampling plan | MIL-STD-105E-II                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 抽样水准Sampling level | AQL( CR=0 MAJ=0.4 MIN=0.65) |                 | 供应商名称<br>supplier name  | 海顺电子科技(珠海)有限公司<br>Haishun Electronic Technology (Zhuhai) Co., LTD                                                                     |                        |                                                                                  |  |  |
| 序号<br>serial number   | 检查项目Inspection item                   | 检查标准(供应商) Inspection standard (Supplier)                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | AQL                |                             |                 | n                       | 检验结果Inspection result                                                                                                                 | 判定<br>OK/NG            |                                                                                  |  |  |
|                       |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CR=0               | MAJ: 0.4                    | MIN: 0.65       |                         |                                                                                                                                       |                        |                                                                                  |  |  |
| 1                     | AVL检查AVL examination                  | 厂商是否在AVL<br>Whether the manufacturer is in AVL                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | √                  |                             |                 |                         | 符合conform                                                                                                                             | OK                     |                                                                                  |  |  |
| 2                     | 包装pack                                | 核对包装是否完整有无破损Check packing for completeness and breakage                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    | √                           |                 | 整批batch                 | 符合conform                                                                                                                             | OK                     |                                                                                  |  |  |
| 3                     | 标识Identification                      | 标识清楚, 产品名称、型号、数量、日期俱全Clearly marked, product name, model, quantity, date readily available                                                                                                                                                                                                                                                                                                                                                                                                                            |                    | √                           |                 | 整批batch                 | 符合conform                                                                                                                             | OK                     |                                                                                  |  |  |
| 4                     | 外观Appearance                          | 无露铜、露底材、压痕、刮伤、脏污、多料不良等<br>No exposed copper, exposed bottom material, indentation, scratch, dirt, bad material, etc                                                                                                                                                                                                                                                                                                                                                                                                   |                    | √                           |                 | 32PCS                   | 符合conform                                                                                                                             | OK                     |                                                                                  |  |  |
| 5                     | 膜厚film thickness                      | 依图纸According to the drawing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    | √                           |                 | 5PCS                    | 符合conform                                                                                                                             | OK                     |                                                                                  |  |  |
| 6                     | 折弯测试Bending test                      | 试验品镀金区域90度与油墨区域180度重复粘贴3次, 不可有涂层脱落、分层、断线及油墨开裂不良。<br>Paste the gold plating area at 90 degrees and the ink area at 180 degrees for 3 times. There should be no coating peeling, delamination, broken wire and poor ink cracking.                                                                                                                                                                                                                                                                                       |                    | √                           |                 | 5PCS                    | 符合conform                                                                                                                             | OK                     |                                                                                  |  |  |
| 8                     | 盐雾试验salt spray test                   | 1.盐雾浓度:5±1 %<br>2.氯化钠(NaCl): 99.8%以上<br>3.试验温度: 35±2°C<br>4.PH值: 6.5~7.2 (温度为 35±2°C时的PH值)<br>5.实验湿度: 85%以上<br>6.试验时间: 48小时 被测件表面无锈蚀、镀层剥落、变色、氧化、腐蚀不良。<br>1. Salt spray concentration :5±1%<br>2. Sodium chloride (NaCl): more than 99.8%<br>3. Test temperature: 35±2°C<br>4. PH value: 6.5~7.2 (PH value when the temperature is 35±2°C)<br>5. Experimental humidity: above 85%<br>6. Test time: 48 hours no corrosion, coating peeling, discoloration, oxidation, poor corrosion on the surface of the tested part. |                    | √                           |                 | 5PCS                    | 符合conform                                                                                                                             | OK                     |                                                                                  |  |  |
| 9                     | 恒温恒湿fixed temperature and humidity    | FPC贴于支架/机壳, 温度45°C±3°C, 湿度90%-95%试验箱中48H, 试验结束后取出在常温下放置2H后检查, 产品无变形、氧化、开裂、起翘<br>The FPC was attached to the support/casing in the test chamber at 45 ° C ± 3 ° C and 90%-95% humidity for 48H. After the test, the FPC was taken out and placed at room temperature for 2H and then checked. No deformation, oxidation, cracking or warping of the product was found                                                                                                                                                  |                    | √                           |                 | 5PCS                    | 符合conform                                                                                                                             | OK                     |                                                                                  |  |  |
| 10                    | 有害物质管控Control of hazardous substances | 必须有第三方权威检测机构的检测报告, 有效期为1年, 确认检测结果是否满足我司标准<br>There must be a test report from a third-party authoritative testing agency, valid for 1 year, to confirm whether the test results meet our standards                                                                                                                                                                                                                                                                                                                    | √                  |                             |                 |                         | 有第三方检测报告, 在有效期内, 测试结果符合我司标准<br>There are third-party test reports, and the test results meet our standards within the validity period | OK                     |                                                                                  |  |  |
| 10                    | 尺寸size                                | 49.76±0.15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    | √                           |                 | 5PCS                    | 49.76 49.74 49.75 49.75 49.76                                                                                                         | OK                     |                                                                                  |  |  |
|                       |                                       | 9±0.15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    | √                           |                 | 5PCS                    | 9.01 9.00 9.01 9.02 9.01                                                                                                              | OK                     |                                                                                  |  |  |
|                       |                                       | 1.2±0.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    | √                           |                 | 5PCS                    | 1.235 1.245 1.236 1.242 1.235                                                                                                         | OK                     |                                                                                  |  |  |
|                       |                                       | 1.8±0.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    | √                           |                 | 5PCS                    | 1.821 1.831 1.841 1.852 1.831                                                                                                         | OK                     |                                                                                  |  |  |
| 判定结果 judgement result |                                       | 合格YES <input checked="" type="checkbox"/> 不合格NO <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                             |                 |                         |                                                                                                                                       |                        |                                                                                  |  |  |
| 检验员/日期Inspector/date  |                                       | 何肖梅2024.7.7 He xiaomei July 7, 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                             | 审核/日期Audit/Date |                         | 张爱玲2024.7.8 Zhangailing July 8, 2024                                                                                                  |                        |                                                                                  |  |  |

# 3M Produktinformation

## 3M™ 467MP, 467MPF, 468MP Klebstoff-Filme ohne Träger

### Beschreibung:

Diese hochwertigen Acrylat-Klebstofffilme wurden insbesondere für die Schilderindustrie zur selbstklebenden Ausrüstung von Schildern entwickelt.

Sie zeichnen sich durch seine sehr gute Beständigkeit gegen UV-Strahlung, Temperaturbelastung, Feuchtigkeit, Chemikalien und Lösemittel aus. Die Klebkraft steigt mit Dauer der Verklebung zu einer hervorragenden Endklebkraft an.

Dieser Klebstoff-Typ ist UL und AGA anerkannt, erfüllt die FMI-Anforderungen und entspricht militärischen Spezifikationen sowie den Anforderungen der Automobilindustrie.

Die 3M Produktionsstätte ist nach ISO 9002 zertifiziert.

### Anwendungen:

Geeignet zur dauerhaften, belastbaren Befestigung verschiedener Werkstoffe wie Metall, Holz, Glas, einige (hochenergetische) Kunststoffe sowie oberflächenbehandelter Werkstoffe (z.B. lackierte Flächen).

- Befestigen von Schildern und Emblemen
- Befestigen von Zierleisten und Dekorationen

| Klebebandmerkmale*                                                                                        | 467MP                      | 467MPF                 | 468MP         |
|-----------------------------------------------------------------------------------------------------------|----------------------------|------------------------|---------------|
| Klebstoff                                                                                                 | Acrylat                    |                        |               |
| Farbe                                                                                                     | transparent                |                        |               |
| Dicke                                                                                                     | 0,05 mm                    | 0,05 mm                | 0,13 mm       |
| Schutzabdeckung                                                                                           | weiß, 0,09 mm              | Polyesterfolie, 0,05mm | weiß, 0,09 mm |
| Schälkraft auf Stahl**                                                                                    | 55 N / 100 mm              | 55 N / 100 mm          | 76 N / 100 mm |
| Temperaturbeständigkeit °C <ul style="list-style-type: none"><li>• dauernd</li><li>• kurzzeitig</li></ul> | -40°C bis +120°C<br>+175°C |                        |               |
| Witterungsbeständigkeit                                                                                   | ohne Beanstandung          |                        |               |

\*\* ASTM Testmethode D 3330 M:

- Verweilzeiten  $\geq 1$  Min.
- Abzugswinkel 180°
- Abzugsgeschwindigkeit 300 mm/Min.
- Test bei 22°C / 50 % r.F.

| Lieferdaten                 | 467MP       | 467MPF | 468MP |
|-----------------------------|-------------|--------|-------|
| <b>Rollenlänge</b>          | 55 m        |        |       |
| <b>Rollenbreite</b>         |             |        |       |
| • minimal                   | 12 mm       |        |       |
| • maximal                   | 1180 mm     |        |       |
| <b>Schneidetoleranz</b>     | +/- 0,8 mm  |        |       |
| <b>Kerninnendurchmesser</b> | 76,2 mm     |        |       |
| <b>Formstanzteile</b>       | auf Anfrage |        |       |

### **Verarbeitung:**

Die optimalen Verarbeitungsparameter sind in unserer Information "Verarbeitungshinweise für 3M Industrieklebebänder" beschrieben, die wir Ihnen auf Anfrage gerne kostenlos zusenden.

### **Lagerung:**

Unverarbeitet, 12 Monate nach Eingang beim Kunden im Originalkarton bei 50 % relativer Luftfeuchtigkeit und ca. 20°C Lagertemperatur.

### **\*Wichtiger Hinweis:**

Die vorstehenden Angaben stellen unsere gegenwärtigen Erfahrungswerte dar und sind nicht in Spezifikationen zu übernehmen. Prüfen Sie bitte selbst vor Verwendung unseres Produktes, ob es sich auch im Hinblick auf mögliche anwendungswirksame Einflüsse, für den von Ihnen vorgesehenen Verwendungszweck eignet. Alle Fragen einer Gewährleistung und Haftung für dieses Produkt regeln sich nach unseren jeweils gültigen Verkaufsbedingungen, sofern nicht gesetzliche Vorschriften etwas anderes vorsehen.

3M ist ein Warenzeichen der Firma 3M.

### **3M Österreich GmbH Industrieklebebänder, Klebstoffe u. Spezialprodukte**

Brunner Feldstraße 63, 2380 Perchtoldsdorf  
Tel.: 01/86 686-278 od. 495, Fax: 01/86 686-229  
email:kleben-at@mmm.com

Firmenbuchnummer  
80 891 h (LG Wr. Neustadt)  
DVR: 0003433, ARA: 740  
ATU: 1934 0005

控制计划  
(Control plan)

| □ 样件 (Sample)    □ 试生产 (Trial production)    ■ 生产 (Production) |                                                 |                                                                                   | 主要联系人/电话(Primary contact): 吴小宇                    |                                       |                                 |                                                                                                        | 编号(Number):                                                        |                                         | 版本号: A/0                                                |                                                                                                |                                                                                                                                  |                               |                         |
|----------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------|
| 零件号/最新更改等级(Part number/Latest Change Level): R.1.05.L.0212     |                                                 |                                                                                   | 核心小组(Core group): 林海峰、吴小宇、刘万星、谢华艳、夏超              |                                       |                                 |                                                                                                        |                                                                    |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
| 零件名称/描述(Part Name/Describe): S01575-W1P1-PPC-ASM               |                                                 |                                                                                   | 供方/工厂批准/日期(Supplier's factory approval date): 吴小宇 |                                       |                                 |                                                                                                        | 修订(日期) (Revision date):                                            |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
| 供方/工厂(Supplier's factory): /                                   |                                                 | 供方代码(supplier code): /                                                            |                                                   | 其他批准/日期(如需要) (Other approval date): / |                                 |                                                                                                        |                                                                    |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
| 零件/过程编号<br>(Part/Process number)                               | 过程名称/操作描述<br>Process Name/Operation Description | 生产设备<br>Production equipment                                                      | 特征(Characteristic)                                |                                       |                                 | 特殊特性分类<br>Classification of special characteristic                                                     | 方法(Methods)                                                        |                                         |                                                         |                                                                                                |                                                                                                                                  | 质量计划<br>Reaction plan         |                         |
|                                                                |                                                 |                                                                                   | 编号<br>Number                                      | 产品<br>Product                         | 过程<br>Process                   |                                                                                                        | 产品/过程规范/公差<br>Product/Process specification/tolerance              | 评价/测量技术<br>Evaluate/Measuring technique | 样 本(Sample)                                             |                                                                                                | 控制方法(Control methods)                                                                                                            |                               | 品质记录<br>Quality records |
|                                                                |                                                 |                                                                                   |                                                   |                                       |                                 |                                                                                                        |                                                                    |                                         | 容量<br>Capacity                                          | 频率<br>Frequency                                                                                |                                                                                                                                  |                               |                         |
| 110                                                            | 仓库收料<br>Warehouse receipt                       | 电子秤、送货单、送货单标签<br>Electronic scale<br>Delivery note<br>Delivery note label         | 110-1                                             | 重量<br>Weight                          |                                 | 依照采购订单数量,不可多或少<br>According to the quantity of the purchase order, it cannot be too much or too little | 称重<br>Weigh                                                        | 1次/工单<br>Once/Work order                | 每批<br>Each batch                                        | 仓库收料作业办法<br>Warehouse material receiving operation method                                      | 退货<br>Return goods                                                                                                               |                               |                         |
|                                                                |                                                 |                                                                                   | 110-2                                             | 包装<br>Packing                         |                                 | 参照包装要求<br>Refer to packaging requirements                                                              | 目视<br>visual                                                       |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 110-3                                             | 标识<br>Identification                  |                                 | 产品标识、月份标签符合我司要求<br>The product identification and month label meet our company's requirements          | 目视<br>visual                                                       |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
| 120                                                            | 进料检验<br>Incoming inspection                     | 直尺、电子秤、2.5D、EOL800B<br>Ruler, Electronic scale 2.5D, EOL800B                      | 120-1                                             | 外观<br>Appearance                      |                                 | 《进料检验标准书》<br>Incoming inspection standard book                                                         | 目视<br>visual                                                       | AG=0.4                                  | 每批<br>Each batch                                        | 进料检验标准书<br>Incoming inspection standard book                                                   | 特采、退货、填写《供应商异常报告》<br>Special procurement/ Return goods/ Fill out the Supplier Exception Report and provide feedback to superiors |                               |                         |
|                                                                |                                                 |                                                                                   | 120-2                                             | 尺寸<br>Size                            | ☆                               | 《进料检验标准书》<br>Incoming inspection standard book                                                         | 测量/直尺/2.5D<br>Test/Ruler/2.5D                                      |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 120-3                                             | 环境<br>environment                     | ◆                               | 《进料检验标准书》<br>Incoming inspection standard book                                                         | 测试/EOL800B<br>Test/EOL800B                                         |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 120-4                                             | 包装<br>Packing                         |                                 | 参照包装要求<br>Refer to packaging requirements                                                              | 目视<br>visual                                                       |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 120-5                                             | 拉力<br>Pulling force                   | ☆                               | 参照图纸<br>Refer to the drawing                                                                           | 拉力计<br>Pulling force meter                                         |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
| 130                                                            | 入库<br>Warehousing                               | 货架、ERP<br>Goods shelves, ERP                                                      | 130-1                                             |                                       | 储存<br>Storage                   | FIFO管理、ERP管理<br>FIFO management, ERP management                                                        | ERP                                                                | 每批<br>Each batch                        | 每批<br>Each batch                                        | ERP                                                                                            | 反馈上级<br>Feedback to superiors                                                                                                    |                               |                         |
|                                                                |                                                 |                                                                                   | 130-2                                             |                                       | 温湿度<br>Temperature and humidity | 参照材料MSDS存储要求<br>Reference Material MSDS Storage Requirements                                           | 目视、温湿度管理<br>Visual inspection, temperature and humidity management | 每批<br>Each batch                        | 每批<br>Each batch                                        | 温湿度点检表<br>Temperature and humidity inspection table                                            |                                                                                                                                  |                               |                         |
| 140                                                            | 领料<br>Picking                                   | 计划领料单、推车<br>Planned material requisition form, Garden cart                        | 140-1                                             |                                       | 标识<br>Identification            | 参照生产工单和BOM表<br>Refer to the production work order and BOM table                                        | 目视<br>visual                                                       | 1次/工单<br>Once/Work order                | 每批<br>Each batch                                        | 仓库管理规定<br>Warehouse Management Regulations                                                     | 反馈上级<br>Feedback to superiors                                                                                                    |                               |                         |
|                                                                |                                                 |                                                                                   | 140-2                                             |                                       | 数量<br>Quantity                  | 参照生产工单<br>Refer to the production work order                                                           | 目视、称重<br>visual, Weigh                                             |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 140-3                                             |                                       | FIFO                            | 参照《仓库管理规定》<br>Refer to the Warehouse Management Regulations                                            | ERP                                                                |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
| 150                                                            | FPC焊接线材<br>FPC welding wire                     | 手指套、日光灯、烙铁<br>Finger cuff<br>Fluorescent lamp<br>Soldering iron                   | 150-1                                             | 焊点高度<br>Stand-off height              |                                 | ☆                                                                                                      | 参照SOP<br>Refer to SOP                                              | 测量/卡尺<br>Measure/Calipers               | 每批<br>Each batch                                        | 每批<br>Each batch                                                                               | 焊接工艺卡/生产日报表<br>Production Daily Report                                                                                           | 反馈上级<br>Feedback to superiors |                         |
|                                                                |                                                 |                                                                                   | 150-2                                             |                                       | 烙铁温度<br>Solder iron temperature | ☆                                                                                                      | 目视<br>visual                                                       |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 150-3                                             | 端子头朝向<br>Terminal head orientation    |                                 | ☆                                                                                                      | 参照图纸<br>Refer to the drawing                                       | 目视<br>visual                            |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
| 160                                                            | 点胶<br>Glue                                      | 点胶机<br>Dispenser                                                                  | 160-1                                             | 外观<br>Appearance                      |                                 | 参照SOP/2D<br>Refer to SOP/2D                                                                            | 目视<br>visual                                                       | 每批<br>Each batch                        | 每批<br>Each batch                                        | 点胶工艺卡/生产日报表<br>Glue dispensing process card<br>Production Daily Report                         | 反馈上级<br>Feedback to superiors                                                                                                    |                               |                         |
|                                                                |                                                 |                                                                                   | 160-2                                             | 高度<br>Height                          | ☆                               | 测量/卡尺<br>Measure/Calipers                                                                              | 每批<br>Each batch                                                   | 每批<br>Each batch                        | Glue dispensing process card<br>Production Daily Report | 反馈上级<br>Feedback to superiors                                                                  |                                                                                                                                  |                               |                         |
| 170                                                            | 排废<br>Waste discharge                           | 工作台、日光灯、手指套<br>Workbench, Fluorescent lamp, Finger cuff                           | 170-1                                             | 外观<br>Appearance                      |                                 | 参照SOP<br>Refer to SOP                                                                                  | 目视<br>visual                                                       | 每批<br>Each batch                        | 每批<br>Each batch                                        | 生产日报表<br>Production Daily Report                                                               | 反馈上级<br>Feedback to superiors                                                                                                    |                               |                         |
| 180                                                            | RF测试<br>RF testing                              | 手指套、日光灯、网分仪、测试治具<br>Finger cuff, Fluorescent lamp, Network analyzer, Test fixture | 180-1                                             |                                       | 设备参数<br>Equipment parameters    | ☆                                                                                                      | 参照SOP<br>Refer to SOP                                              | 目视<br>visual                            | 每批<br>Each batch                                        | 每批<br>Each batch                                                                               | RF测试工艺卡/生产日报表<br>RF testing process card<br>Production Daily Report                                                              | 反馈上级<br>Feedback to superiors |                         |
|                                                                |                                                 |                                                                                   | 180-2                                             |                                       | RF                              | ☆                                                                                                      | 参照SOP<br>Refer to SOP                                              | 目视/网分仪<br>visual/Network analyzer       | 全数<br>All                                               |                                                                                                |                                                                                                                                  |                               |                         |
| 190                                                            | IPQC检验<br>IPQC inspection                       | 日光灯、卡尺、直尺、网分仪<br>Fluorescent lamp, Calipers, Ruler, Network analyzer              | 190-1                                             | 外观<br>Appearance                      |                                 | 参照图纸<br>Refer to the drawing                                                                           | 目视<br>visual                                                       | 5个/次/2H                                 | 每批<br>Each batch                                        | 首检、巡检记录表<br>First inspection and patrol record form<br>Corrective and preventive action report | 反馈上级<br>Feedback to superiors                                                                                                    |                               |                         |
|                                                                |                                                 |                                                                                   | 190-2                                             | 结构<br>Structure                       |                                 | 参照图纸<br>Refer to the drawing                                                                           | 目视<br>Measure                                                      |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 190-3                                             | 尺寸<br>Size                            | ☆                               | 参照图纸<br>Refer to the drawing                                                                           | 测量/直尺/卡尺<br>Measure/Ruler/Calipers                                 |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 190-4                                             | 拉力<br>Pulling force                   | ☆                               | 参照SIP<br>Refer to SIP                                                                                  | 目视<br>visual                                                       |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 190-5                                             | 点胶高度<br>Glue dispensing height        | ☆                               | 参照图纸<br>Refer to the drawing                                                                           | 测量/卡尺<br>Measure/Calipers                                          |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 190-6                                             | RF                                    | ☆                               | 参照SOP<br>Refer to SOP                                                                                  | 测量/网分仪<br>Measure/Network analyzer                                 |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
| 200                                                            | 全检<br>Full inspection                           | PE袋、手指套、工作台<br>PE bag<br>Finger cuff<br>Workbench                                 | 200-1                                             | 数量<br>Quantity                        |                                 | 参照SOP<br>Refer to SOP                                                                                  | 目视<br>visual                                                       | 每批<br>Each batch                        | 每批<br>Each batch                                        | 全检工艺卡/生产日报表<br>Full inspection process card<br>Production Daily Report                         | 反馈上级<br>Feedback to superiors                                                                                                    |                               |                         |
|                                                                |                                                 |                                                                                   | 200-2                                             | 外观<br>Appearance                      |                                 | 参照图纸<br>Refer to the drawing                                                                           |                                                                    | 每批<br>Each batch                        |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
| 210                                                            | 包装<br>Packing                                   | 纸箱、日光灯、手指套<br>Carton, Fluorescent lamp<br>Finger cuff                             | 210-1                                             | 包装规格<br>Packaging specifications      |                                 | 参照POP<br>Refer to POP                                                                                  | 目视<br>visual                                                       | 每批<br>Each batch                        | 每批<br>Each batch                                        | 包装工艺卡/生产日报表<br>Production Daily Report                                                         | 反馈上级<br>Feedback to superiors                                                                                                    |                               |                         |
| 220                                                            | 入库<br>Warehousing                               | 货架、ERP<br>Goods shelves, ERP                                                      | 220-1                                             |                                       | 储存<br>Storage                   | FIFO管理、ERP管理<br>FIFO management, ERP management                                                        | ERP                                                                | 每批<br>Each batch                        | 每批<br>Each batch                                        | ERP                                                                                            | 反馈上级<br>Feedback to superiors                                                                                                    |                               |                         |
|                                                                |                                                 |                                                                                   | 220-2                                             |                                       | 温湿度<br>Temperature and humidity | 参照材料MSDS存储要求<br>Reference Material MSDS Storage Requirements                                           | 目视/温湿度管理<br>visual/Temperature and humidity management             | 每批<br>Each batch                        | 每批<br>Each batch                                        | 温湿度点检表<br>Temperature and humidity inspection table                                            |                                                                                                                                  |                               |                         |
| 230                                                            | OQC检验<br>OQC inspection                         | 直尺、卡尺、送货单、网分仪<br>Ruler, Calipers<br>Delivery note<br>Network analyzer             | 230-1                                             | 尺寸<br>Size                            | ☆                               | 参照图纸<br>Refer to the drawing                                                                           | 测量/直尺/卡尺<br>Measure/Ruler/Calipers                                 | 5个/批<br>5/Batch                         | 每批<br>Each batch                                        | 出货检验报告<br>Shipment Inspection Report                                                           | 反馈上级<br>Feedback to superiors                                                                                                    |                               |                         |
|                                                                |                                                 |                                                                                   | 230-2                                             | RF                                    | ☆                               | 参照SOP<br>Refer to SOP                                                                                  | 测量/网分仪<br>Measure/Network analyzer                                 | 5个/批<br>5/Batch                         | 每批<br>Each batch                                        |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 230-3                                             | 结构<br>Structure                       |                                 | 参照图纸<br>Refer to the drawing                                                                           | 目视<br>visual                                                       | 5个/批<br>5/Batch                         | 每批<br>Each batch                                        |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 230-4                                             | 外观<br>Appearance                      |                                 | 参照图纸<br>Refer to the drawing                                                                           | 目视<br>visual                                                       | AG=0.4                                  | 每批<br>Each batch                                        |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 230-5                                             | 出货标签<br>Shipping label                |                                 | 参照包装规范<br>Refer to packaging specifications                                                            | 目视<br>visual                                                       | 全数<br>All                               | 每批<br>Each batch                                        |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 230-6                                             | 包装数量<br>Packaging quantity            |                                 |                                                                                                        |                                                                    |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
| 240                                                            | 出货<br>Shipment                                  | 运输车、送货单<br>Truck<br>Delivery note                                                 | 240-1                                             |                                       | 运输<br>Transport                 |                                                                                                        | 目视<br>visual                                                       | 每批<br>Each batch                        | 每批<br>Each batch                                        | 客户要求<br>Customer requirements                                                                  | 反馈客户<br>Feedback to superiors                                                                                                    |                               |                         |
|                                                                |                                                 |                                                                                   | 240-2                                             |                                       | 交付时间<br>Delivery time           |                                                                                                        | ERP                                                                |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |
|                                                                |                                                 |                                                                                   | 240-3                                             |                                       | 送货单<br>Delivery note            |                                                                                                        | ERP                                                                |                                         |                                                         |                                                                                                |                                                                                                                                  |                               |                         |