

# 承 认 书

## SPECIFICATION FOR APPROVAL

|                             |              |                                 |                    |
|-----------------------------|--------------|---------------------------------|--------------------|
| 客户名称<br>Customer Name       | 锦浪科技         |                                 |                    |
| 客户项目名 Customer Project Name | S6-GR1P5K-S  | 盛邦尔项目名<br>Surbaner Project Name | S6-GR1P5K-S        |
| 客户编码<br>Customer P/N        | 2307040054   | 盛邦尔料号<br>Surbaner P/N           | 3160-170-00659-V01 |
| 频段<br>Band                  | 2400-2500MHz |                                 |                    |
| 版本号<br>Version              | A0           |                                 |                    |
| 设计人信息/Designer Information  |              |                                 |                    |
| 射频工程师<br>RF Engineer        | 徐勇           | 研发主管<br>R&D Director            | 朱昭                 |
| 结构工程师<br>ME Engineer        | 邵军           |                                 |                    |

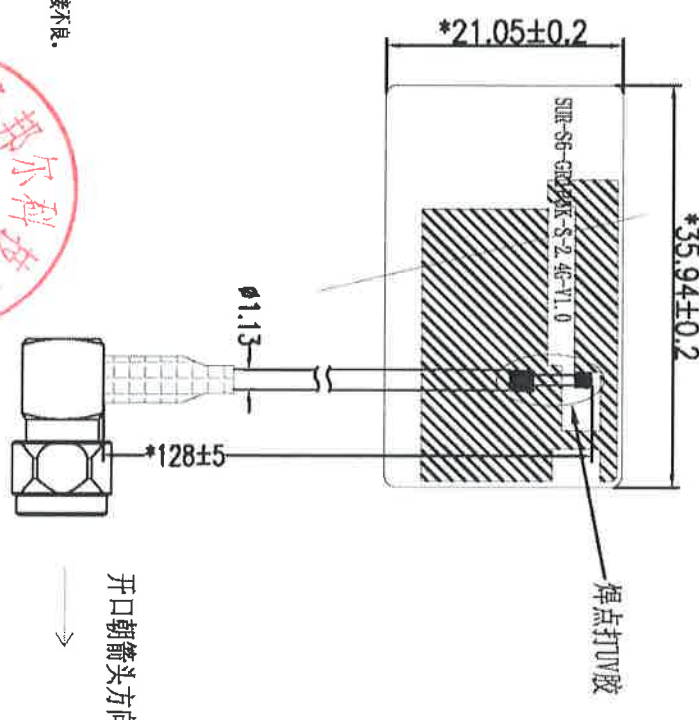
| 盛邦尔审批/Surbaner Approval |                   |                  |                   | 客户批准/Customer Approval |                   |
|-------------------------|-------------------|------------------|-------------------|------------------------|-------------------|
|                         | 制作<br>Prepared By | 审核<br>Checked By | 批准<br>Approval By | 审核<br>Checked By       | 批准<br>Approval By |
| 签章<br>Signature         | 刘胜荣               | 朱昭               | 朱昭                |                        |                   |
| 日期<br>Date              | 2023.03.07        | 2023.03.07       | 2023.03.07        |                        |                   |

| 修订履历/Change Log |                            |                         |                   |            |
|-----------------|----------------------------|-------------------------|-------------------|------------|
| 版本<br>Version   | 修订内容<br>Change Description | 责任人<br>Person in Charge | 核准<br>Approval By | 日期<br>Date |
|                 |                            |                         |                   |            |
|                 |                            |                         |                   |            |
|                 |                            |                         |                   |            |

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一. 产品图纸或实物图片/Drawing or Product Image

| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             | 2                  |                        | 3          |             | 4    |    | 5     |     | 6                                                                                                                                                                                                                                                                         |          | 7        |               | 8          |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------|------------------------|------------|-------------|------|----|-------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|---------------|------------|-------------|-------|-------------|-------|---------|-------|-------------|-------------|---------|--------------------|-------------|-------|------|---|--|-----|------------------------|---|--|---|--|-----|---------|---|--|--|--|--|--|--|--|--|--|
| <p>丝印字符</p> <p>SUR-S6-GR1P5K-S-2.4G-V1.0</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                    |                        |            |             |      |    |       |     | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Rev</th> <th>Description</th> <th>Date</th> <th>Remark</th> </tr> <tr> <td>A</td> <td>New drawing</td> <td></td> <td></td> </tr> <tr> <td>B</td> <td></td> <td></td> <td></td> </tr> </table> |          |          |               |            |             | Rev   | Description | Date  | Remark  | A     | New drawing |             |         | B                  |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| Rev                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Description | Date               | Remark                 |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | New drawing |                    |                        |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                    |                        |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                    |                        |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| <p>技术要求:</p> <p>1. 注意端子开口朝向, 焊接牢固, 无虚焊, 虚焊, 拉尖, 等焊接不良.</p> <p>2. 标“*” 尺寸为重点管控尺寸;</p> <p>3. 未标注尺寸依照图纸;</p> <p>4. 所有零件需符合RoHS 2.0 要求;</p> <p>5. 成品需全检性能.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                    |                        |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>No.</th> <th>Part No.</th> <th>Name</th> <th>Specification</th> <th>Amount</th> <th>Remark</th> </tr> <tr> <td>1</td> <td></td> <td>PC</td> <td>电路板, 黑色</td> <td>1</td> <td></td> </tr> <tr> <td>2</td> <td></td> <td>同轴电缆</td> <td>1.352mm, 黑色</td> <td>1</td> <td></td> </tr> <tr> <td>3</td> <td></td> <td>SMA</td> <td>90° 公头, 铜制, 镀金, 48小时盐雾</td> <td>1</td> <td></td> </tr> <tr> <td>4</td> <td></td> <td>散热器</td> <td>ETA, 黑色</td> <td>1</td> <td></td> </tr> </table>                                          |             |                    |                        |            |             |      |    |       |     | No.                                                                                                                                                                                                                                                                       | Part No. | Name     | Specification | Amount     | Remark      | 1     |             | PC    | 电路板, 黑色 | 1     |             | 2           |         | 同轴电缆               | 1.352mm, 黑色 | 1     |      | 3 |  | SMA | 90° 公头, 铜制, 镀金, 48小时盐雾 | 1 |  | 4 |  | 散热器 | ETA, 黑色 | 1 |  |  |  |  |  |  |  |  |  |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Part No.    | Name               | Specification          | Amount     | Remark      |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             | PC                 | 电路板, 黑色                | 1          |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             | 同轴电缆               | 1.352mm, 黑色            | 1          |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             | SMA                | 90° 公头, 铜制, 镀金, 48小时盐雾 | 1          |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             | 散热器                | ETA, 黑色                | 1          |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| <p>深圳市盛邦尔科技有限公司</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                    |                        |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Third Angle</th> <th>Project</th> <th>Date</th> </tr> <tr> <td>0-10</td> <td>±0.05</td> <td>0.02</td> </tr> <tr> <td>10-15</td> <td>±0.10</td> <td>0.03</td> </tr> <tr> <td>15-30</td> <td>±0.12</td> <td>0.02</td> </tr> <tr> <td>30-40</td> <td>±0.15</td> <td>0.04</td> </tr> <tr> <td>40~</td> <td>±0.20</td> <td>0.05</td> </tr> </table>                                                                                                                                                                         |             |                    |                        |            |             |      |    |       |     | Third Angle                                                                                                                                                                                                                                                               | Project  | Date     | 0-10          | ±0.05      | 0.02        | 10-15 | ±0.10       | 0.03  | 15-30   | ±0.12 | 0.02        | 30-40       | ±0.15   | 0.04               | 40~         | ±0.20 | 0.05 |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| Third Angle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Project     | Date               |                        |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| 0-10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ±0.05       | 0.02               |                        |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| 10-15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ±0.10       | 0.03               |                        |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| 15-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ±0.12       | 0.02               |                        |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| 30-40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ±0.15       | 0.04               |                        |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| 40~                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±0.20       | 0.05               |                        |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Part Name</th> <th>Part No.</th> <th>Material</th> <th>Design by</th> <th>Checked by</th> <th>Approved by</th> <th>Unit</th> <th>mm</th> <th>Scale</th> <th>1:1</th> <th>Rev</th> <th>1</th> </tr> <tr> <td>S6-GR1P5K-S</td> <td>2.4G 天线</td> <td>3160-170-00659-V01</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>/</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> |             |                    |                        |            |             |      |    |       |     | Part Name                                                                                                                                                                                                                                                                 | Part No. | Material | Design by     | Checked by | Approved by | Unit  | mm          | Scale | 1:1     | Rev   | 1           | S6-GR1P5K-S | 2.4G 天线 | 3160-170-00659-V01 |             |       |      |   |  |     |                        |   |  |   |  | /   |         |   |  |  |  |  |  |  |  |  |  |
| Part Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Part No.    | Material           | Design by              | Checked by | Approved by | Unit | mm | Scale | 1:1 | Rev                                                                                                                                                                                                                                                                       | 1        |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
| S6-GR1P5K-S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2.4G 天线     | 3160-170-00659-V01 |                        |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             | /                  |                        |            |             |      |    |       |     |                                                                                                                                                                                                                                                                           |          |          |               |            |             |       |             |       |         |       |             |             |         |                    |             |       |      |   |  |     |                        |   |  |   |  |     |         |   |  |  |  |  |  |  |  |  |  |

**二. Technical Parameter /技术参数**

| <b>1. Antenna/天线</b>                         |                                |                       |
|----------------------------------------------|--------------------------------|-----------------------|
| <b>No/序号</b>                                 | <b>Part Name/项目</b>            | <b>SPEC/规格</b>        |
| 1                                            | Frequency Range/<br>频率范围       | <b>2400-2500MHz</b>   |
| 2                                            | Impendence/阻抗                  | <b>50 ohm nominal</b> |
| 3                                            | Gain/增益                        | <b>2.0-3.0dBi</b>     |
| 4                                            | Polarization/极化                | <b>LINE</b>           |
| 5                                            | VSWR/驻波比                       | <b>≤2.0</b>           |
| 6                                            | Efficiency/效率                  | <b>≥40%</b>           |
| 7                                            | RF Cable/射频连接线                 | <b>1.13 线 128mm</b>   |
| 8                                            | RF Connector/连接器               | <b>SMA 90° 公头公针</b>   |
| <b>2. Environmental Characteristics/环境特性</b> |                                |                       |
| <b>No/序号</b>                                 | <b>Part Name/项目</b>            | <b>SPEC/规格</b>        |
| 1                                            | Operation Humidity/<br>工作湿度    | <b>5~95%不冷凝</b>       |
| 2                                            | Operating Temperature/<br>工作温度 | <b>-40~+85℃</b>       |
| 3                                            | Store Temperatuer/<br>储存温度     | <b>-50~+105℃</b>      |

# 射频性能测量报告

## RF Performance Test Report

|                       |              |                      |             |                       |                    |
|-----------------------|--------------|----------------------|-------------|-----------------------|--------------------|
| 客户名称<br>Customer Name | 锦浪科技         | 项目名称<br>Project Name | S6-GR1P5K-S | 盛邦尔料号<br>Surbaner P/N | 3160-170-00659-V01 |
| 频段<br>Band            | 2400-2500MHz | 测试日期<br>Test Date    | 2023/2/13   | 测试人<br>Inspector      | 徐勇                 |

### 天线测试设备简介

#### Antenna Test Equipment Introduction

测试天线输入特性使用 Agilent E5071C and Agilent 5062A 矢量网络分析仪；辐射特性利用 Satimo 三维近场暗室进行测试，并分别使用 8960 E5515 和 Agilent E4438C 进行了分析。暗房的测试坐标如下：

Test of antenna input characteristics using Agilent E5071C and Agilent 5062A vector network analyzer; The radiation pattern of the antenna are tested using the Satimo starlab 3D near field Anechoic Chamber, and the instrument is used to agilent8960 E5515 and Agilent E4438C. The test coordinates of the darkroom are as follows:

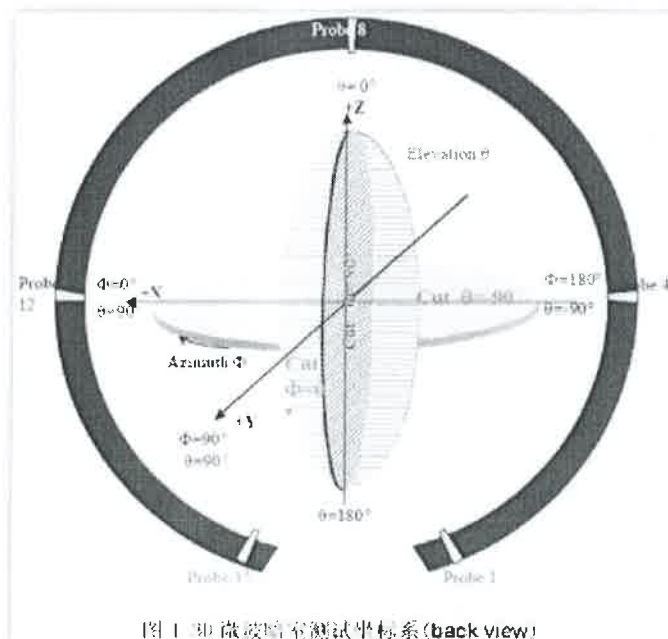


图 1 3D 微波暗室测试坐标系 (back view)

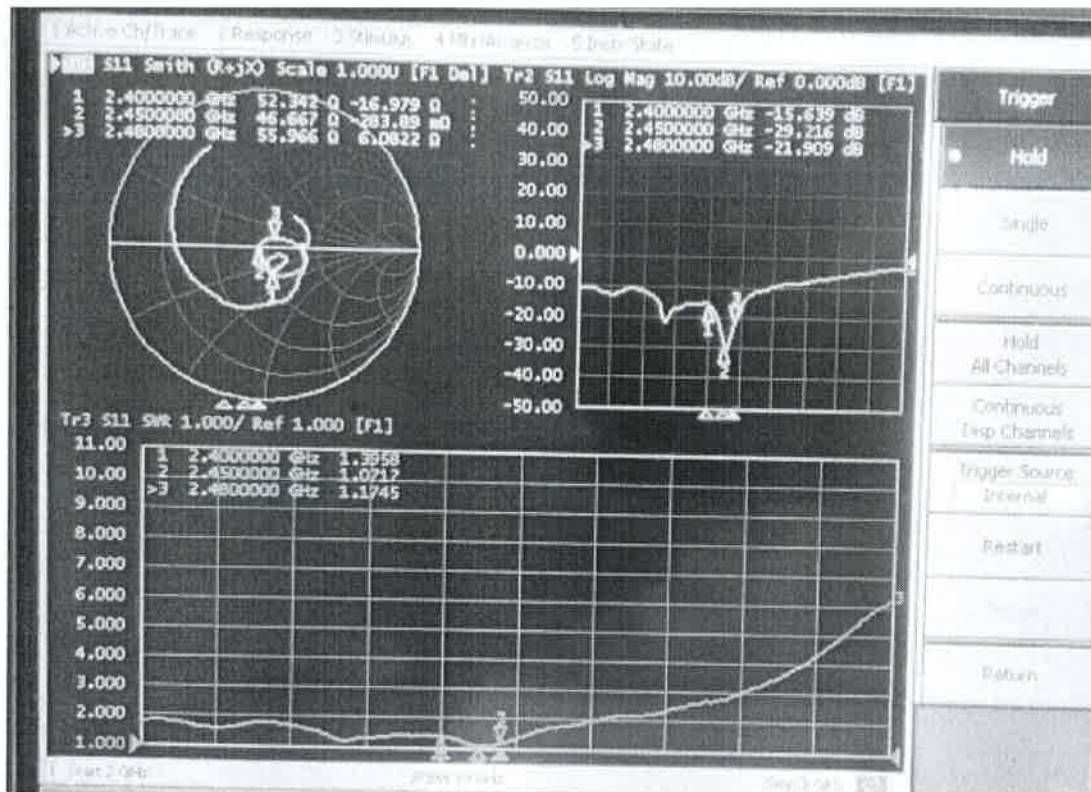
### 1. S11 参数测量/S11 Parameter-VSWR

使用一根 50Ω 同轴电缆连接到天线，然后该电缆连接到网络分析仪测量 S11 参数，被测量产品远离金属至少 20 厘米。

Measuring Method is a 50Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the S11 parameter, Keeping this fixture away from metal at least 20cm.

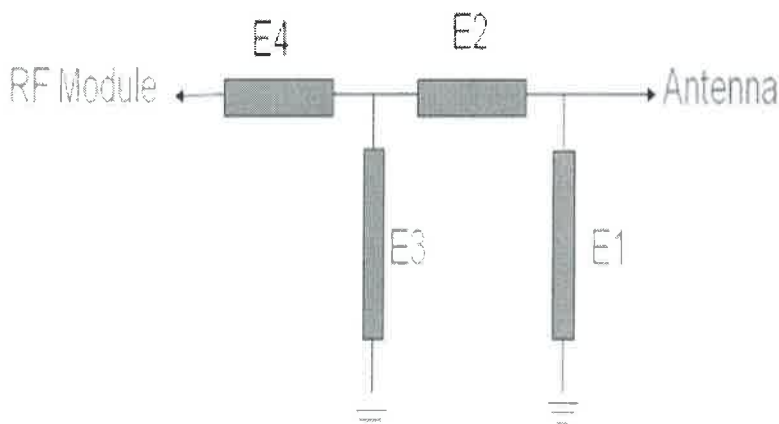


### S11 Parameter



|                |        |        |        |
|----------------|--------|--------|--------|
| Frequency(MHz) | 2400   | 2450   | 2500   |
| LOG Mag        | -15.64 | -29.22 | -21.91 |

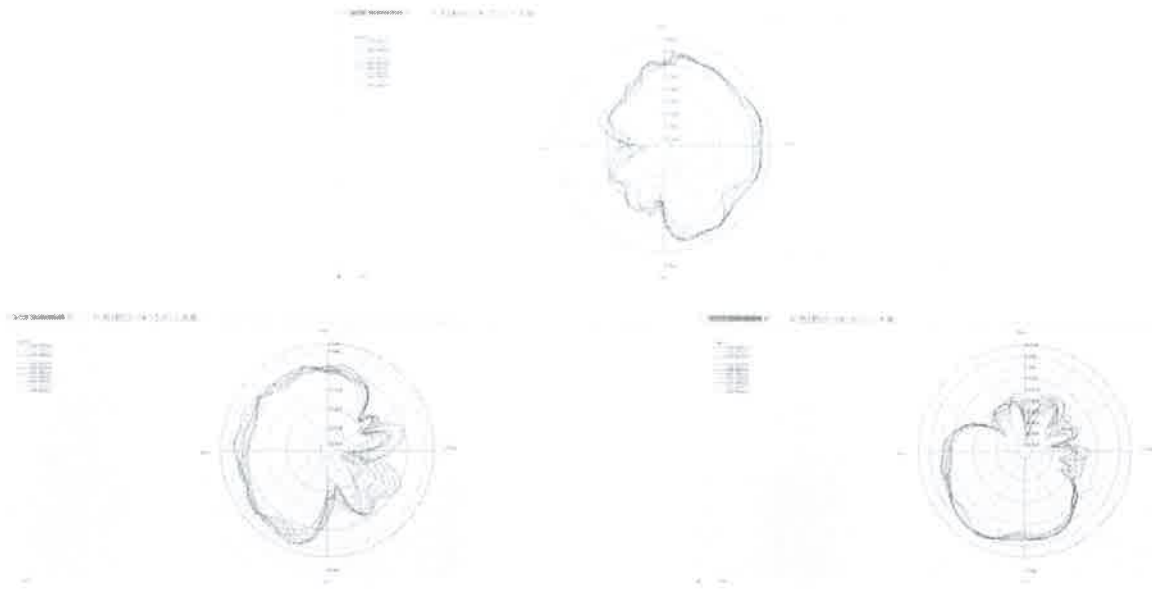
### 2. 天线匹配网络/Antenna Matching Network



| Element | Value |
|---------|-------|
| E1      | N/A   |
| E2      | N/A   |
| E3      | N/A   |
| E4      | N/A   |

PCB板端匹配电路未改动

## 2D Pattern

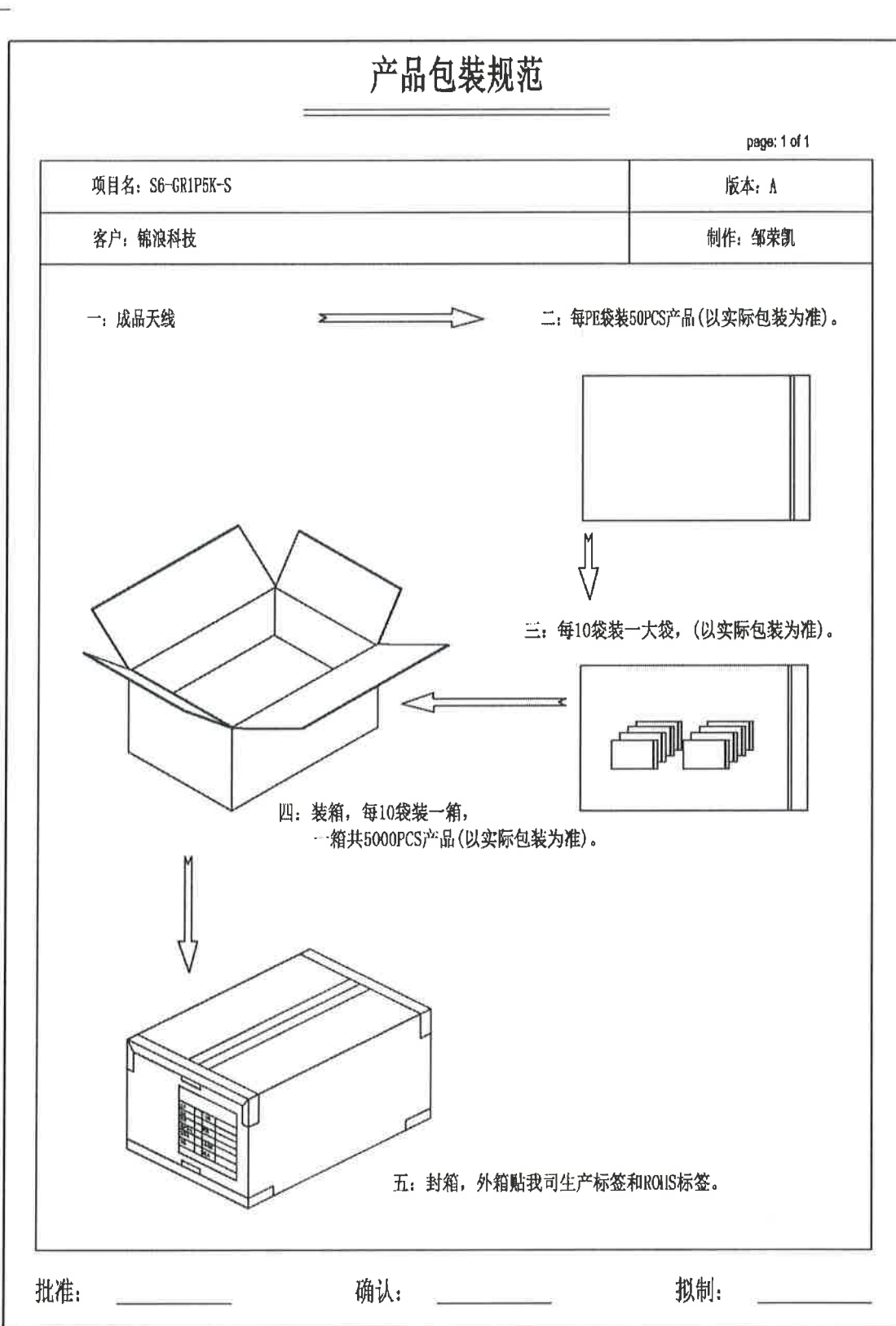


## 3. Gain & Efficiency-ANT

| Frequency (MHz) | Efficiency (%) | Peak GAIN (dBi) |
|-----------------|----------------|-----------------|
| 2400            | 48.43%         | 3.05            |
| 2410            | 48.78%         | 2.90            |
| 2420            | 51.23%         | 2.99            |
| 2430            | 50.64%         | 3.04            |
| 2440            | 47.92%         | 2.94            |
| 2450            | 48.71%         | 2.88            |
| 2460            | 52.04%         | 3.20            |
| 2470            | 49.21%         | 3.22            |
| 2480            | 45.13%         | 2.92            |
| 2490            | 43.01%         | 2.63            |
| 2500            | 43.22%         | 2.83            |

## 产品包装规范

### PACKING CRITERION





## 样品尺寸测量报告

### Sample Dimensions Test Report

|                            |                |                      |                          |                  |                    |
|----------------------------|----------------|----------------------|--------------------------|------------------|--------------------|
| 客户名称<br>Customer Name      | 锦浪科技           | 客户料号<br>Customer P/N | 2307040054               | 料号<br>P/N        | 3160-170-00659-V01 |
| 测试日期<br>Test Date          | 2023/03/07     | 样品数量<br>Sample Qty.  | 3                        | 测试人<br>Inspector | 曾心荣                |
| 尺寸编号<br>Dimension No.      | 标准<br>Standard | 样品 1<br>Sample 1     | 样品 2<br>Sample 2         | 样品 3<br>Sample 3 | Pass/NG            |
| ①长度                        | 35.94±0.2mm    | 35.95                | 35.94                    | 35.92            | Pass               |
| ②宽度                        | 21.05±0.2mm    | 21.07                | 28.9                     | 28.87            | Pass               |
| ③厚度                        | 0.12±0.05mm    | 0.12                 | 0.121                    | 0.12             | Pass               |
| ④线长                        | 128±5mm        | 128.2                | 128                      | 127.8            | Pass               |
| ⑤                          |                |                      |                          |                  |                    |
| ⑥                          |                |                      |                          |                  |                    |
| ⑦                          |                |                      |                          |                  |                    |
|                            |                |                      |                          |                  |                    |
| 最终结论<br>Conclusion         |                |                      |                          |                  | PASS               |
| 测试人&日期<br>Inspector & Date | 曾心荣 2023/03/07 |                      | 批准&日期<br>Approval & Date |                  |                    |

## 可靠性测试报告

### Reliability Test Report

|                                   |                                                                                                                              |                           |                                |                  |                    |               |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|------------------|--------------------|---------------|
| 客户名称<br>Customer Name             | 锦浪科技                                                                                                                         | 客户料号<br>Customer P/N      | 2307040054                     | 料号<br>P/N        | 3160-170-00659-V01 |               |
| 测试日期<br>Test Date                 | 2023/03/05                                                                                                                   | 样品数量<br>Sample Qty.       | 3                              | 测试人<br>Inspector | 何春辉                |               |
| 测试项目<br>Test Item                 | 要求<br>Requirement                                                                                                            | 试验设备<br>testing equipment | 样品 1<br>Sample 1               | 样品 2<br>Sample 2 | 样品 3<br>Sample 3   | 判定<br>PASS/NG |
| 高温存储                              | 在+105℃条件下暴露<br>24H, 恢复 2H 后进行测<br>试电气性能正常                                                                                    | 恒温恒湿箱                     | OK                             | OK               | OK                 | Pass          |
| 低温存储                              | 在-50℃条件下暴露<br>24H, 恢复 2H 后进行测<br>试电气性能正常                                                                                     | 恒温恒湿箱                     | OK                             | OK               | OK                 | Pass          |
| 高温工作                              | 在+85℃条件下通电工<br>作 24H 电气性能正常                                                                                                  | 恒温恒湿箱                     | OK                             | OK               | OK                 | Pass          |
| 低温工作                              | 在-40℃条件下通电工<br>作 24H 电气性能正常                                                                                                  | 恒温恒湿箱                     | OK                             | OK               | OK                 | Pass          |
| 盐雾试验                              | (5 ± 0. 5)%氯化钠、pH<br>值为 6. 5~7. 2, 实验箱<br>温度 (35±2)℃<br><input type="checkbox"/> 24H <input checked="" type="checkbox"/> 48H | 盐雾试验机                     | OK                             | OK               | OK                 | Pass          |
| 连接器铆压<br>拉拔力                      | 0. 81 线径 ≥8N<br>1. 13 线径 ≥10N<br>RG174 ≥60N<br>RG178 ≥40N                                                                    | 推拉力计                      | ≥10N                           | ≥10N             | ≥10N               | Pass          |
| 最终结论<br>Conclusion                |                                                                                                                              |                           |                                |                  |                    | Pass          |
| 测试人&<br>日期<br>Inspector &<br>Date | 何春辉 2023/03/07                                                                                                               |                           | 批准&<br>日期<br>Approval &<br>ate |                  |                    |               |

**产品 ROHS 成分宣告表**

| 产品名称       | 均匀物质材料 |        | 有害物质含量 ( PPM ) |    |    |      |      |       |      |     |     |      | HS 测试报告编号           | HS 测试报告日期 |
|------------|--------|--------|----------------|----|----|------|------|-------|------|-----|-----|------|---------------------|-----------|
|            |        |        | Pb             | Cd | Hg | Cr6+ | PBBs | PBDEs | DEHP | BBP | DBP | DIBP |                     |           |
| 2.4G<br>天线 | FPC    | 文字油墨   | ND             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | ETR22501510         | 22/5/17   |
|            |        | 3M 胶   | ND             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | SHAEC2217569205     | 23/1/4    |
|            |        | 金手指    | ND             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | A2220136788101001E  | 22/4/15   |
|            |        | LPI-HF | ND             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | SHAEC23001049105    | 23/2/15   |
|            |        | 防焊油墨   | ND             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | ETR22705905         | 22/8/5    |
|            |        | 补强     | ND             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | A2220085983102002   | 22/3/14   |
|            |        | 抗氧剂    | ND             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | A2220207344101001E  | 22/5/30   |
|            | 线材     | 氟化物    | ND             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | NGBMR23000169901    | 23/2/6    |
|            |        | 镀锡铜线   | ND             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | ISI-IAEE22000472905 | 22/8/10   |
|            |        | 黑色色母   | ND             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | I-ITEC2202547218    | 22/6/10   |
|            | 连接器    | 镀金     | 44             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | CANML2205123802     | 22/4/2    |
|            |        | 铜棒     | 31964          | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | NGBEC2200918502     | 22/5/17   |
|            |        | 绝缘体    | ND             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | C220523007001-1     | 22/5/26   |
|            |        | 卡环     | ND             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | SZXML2203827202     | 22/11/30  |
|            |        | 胶圈     | ND             | ND | ND | ND   | ND   | ND    | ND   | ND  | ND  | ND   | NGBHL22001220801    | 22/5/5    |

**安装事宜或其它**
**Install Wizard or Other**
**安装过程:**

取 1PCS 产品, 用手撕下 FPC 背面的离型纸, 然后将 FPC 定位孔位置与外壳定位孔位置 (定位筋位或定位线) 对齐, 平整的贴附与外壳上, 具体位置如下图所示:

**安装过程注意事项:**

- ☒ 粘贴天线后保证 FPC 完整贴附于外壳;
- ☒ 定位孔与外壳定位柱位置对齐;
- ☒ FPC 边缘与外壳边缘对齐
- ☒ 带端子天线在将端子扣合到主板 PCBA 端时请首先对齐端子, 然后垂直扣合;
- ☒ 拆卸天线端子时需使用工具 (如专用撬棍) 垂直翘起端子, 不可直接拽线拆卸。