



Product Number: K212-10037-A

Product Name: External screwable antenna

Version: A0

# SPECIFICATION FOR APPROVAL

东莞市安特通信有限公司

|                       |                                                                     |                 |
|-----------------------|---------------------------------------------------------------------|-----------------|
| CUSTOMER (客户名称)       | Hunan Ouzhitong Technology Co. , Ltd. (湖南欧智通科技有限公司)                 |                 |
| CS P/N(客户机种)          |                                                                     |                 |
| PART NAME (品名)        | External screwable antenna Male needle 2.4G&5.8G Black L=136MM ROHS |                 |
| FREQUENCY (频率)        | 2.4-2.5GHz&5.15~5.85GHz                                             |                 |
| RTANT NO. (物料编号)      | K212-10037-A                                                        |                 |
| DATE (日期)             | 2021.05.10                                                          |                 |
| 出样签章                  |                                                                     |                 |
| APPROVED BY<br>核准     | CHECKED BY<br>确认                                                    | DRAWED BY<br>制作 |
| DRAGON                | LIU                                                                 | JOHN            |
| Remark (备注):          |                                                                     |                 |
| 客户承认签章                |                                                                     |                 |
| APPROVED BY<br>核准     | CHECKED BY<br>确认                                                    | TESTED BY<br>检测 |
|                       |                                                                     |                 |
| Sign(客户确认签字盖章): _____ |                                                                     |                 |

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## 1. Contents项目表

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| 0   | The cover of the confession(承认书封面) | 1                  |
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| 4   | Specification sheet(规格表)           | 3                  |
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| 附件  | 2D illustration/packaging(2D图/包装)  | Appendices<br>(附件) |

## 2. Revision history变更履历

| Revision版本 | Date日期     | Change the content变更内容 |
|------------|------------|------------------------|
| A0         | 21. 05. 10 | New Edition(新版)        |
|            |            |                        |
|            |            |                        |
|            |            |                        |

### 3. 产品实物图片Product picture



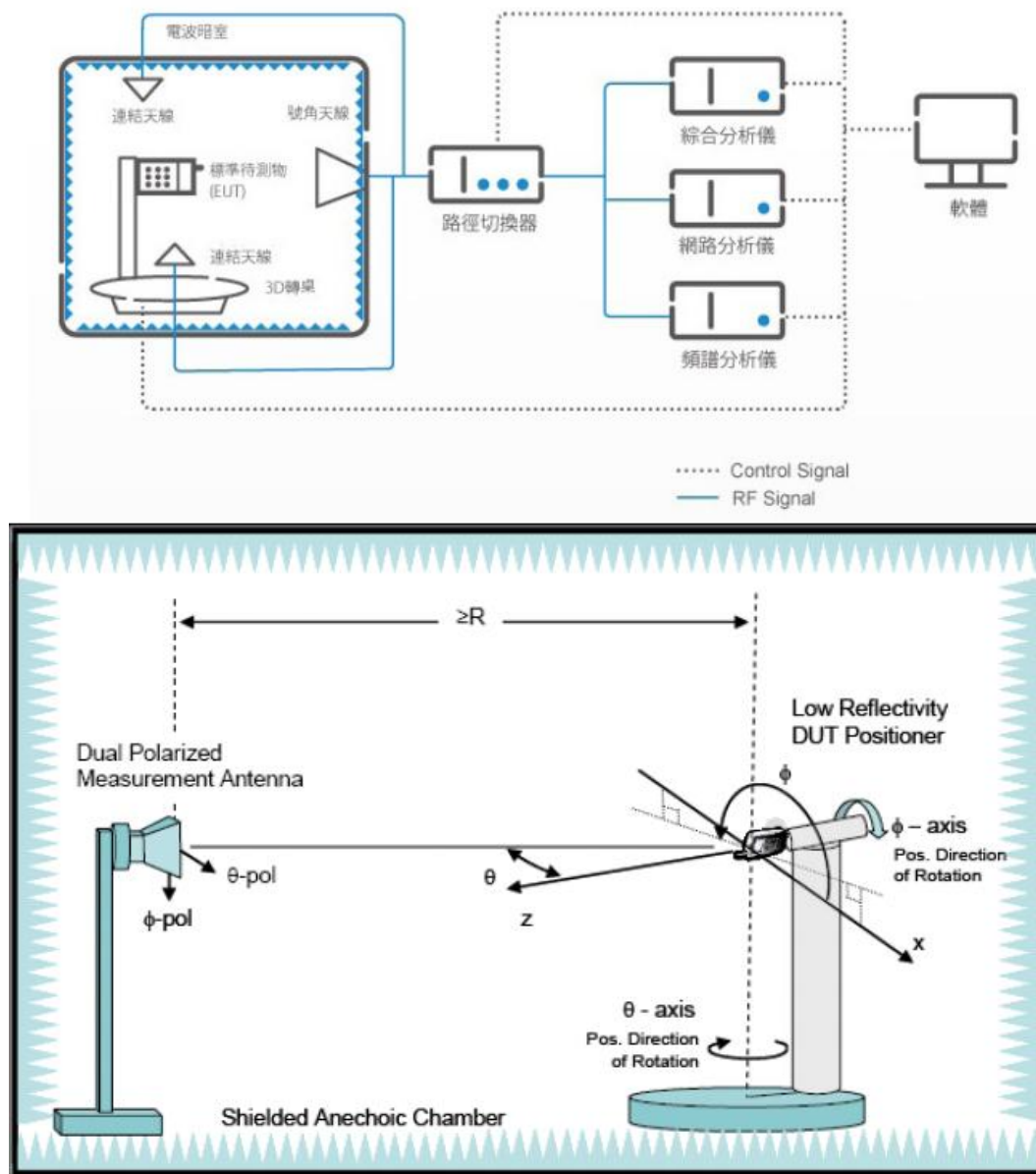
### 4. 规格表Specification

|                          |                                 |
|--------------------------|---------------------------------|
| A. Electrical Properties |                                 |
| Frequency Rang频段范围       | 2.4-2.5GHz&5.15~5.85GHz         |
| Impedance特性阻抗            | 50 $\Omega$ Nominal             |
| VSWR电压驻波比                | 2.0Max.                         |
| Gain(peak)增益（峰值）         | BLE:2.98 dBi;2.4G WIFI:2.77 dBi |
| Out of roundness不圆度      | 3.0 dBi (Max.)                  |
| Radiation辐射方式            | Omni-Directional/全向             |
| Polarization极化方式         | Linear Vertical/垂直              |
| B. Physical Properties   |                                 |
| Connector Type连接方式       | SMA                             |
| Cable线材                  | RG-178                          |
| Antenna Radiator天线振子体    | PCB                             |
| C. Environmental         |                                 |
| Storage Temp存储环境范围       | -10℃~+60℃                       |
| Operating Temp工作环境       | -40℃~+65℃                       |
| Storage humidity存储湿度     | 95%                             |
| Working humidity工作湿度     | 5%~95%                          |

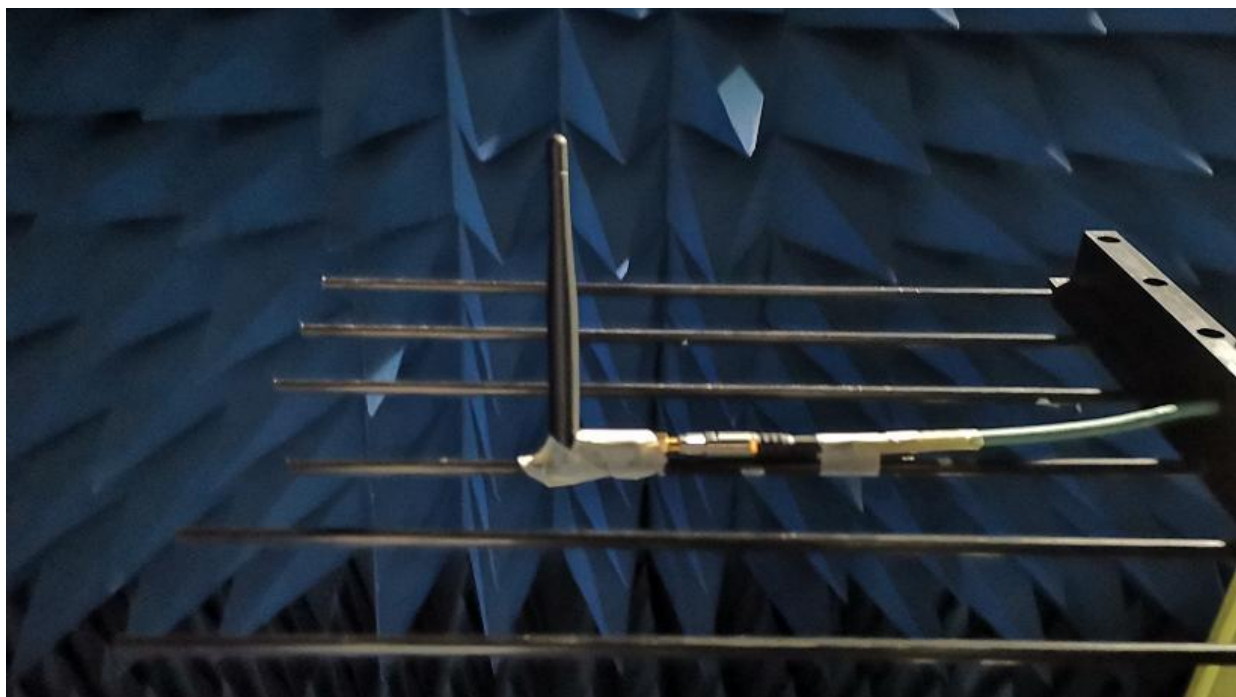
## 5. 电性测试报告Electrical Test Report

### 5.1 Test equipment

#### OTA 系統架構圖



## 5.2 Antenna pasting position (天线粘贴位置)



## 5.3 Network Analyzer(网络分析仪测试报告)

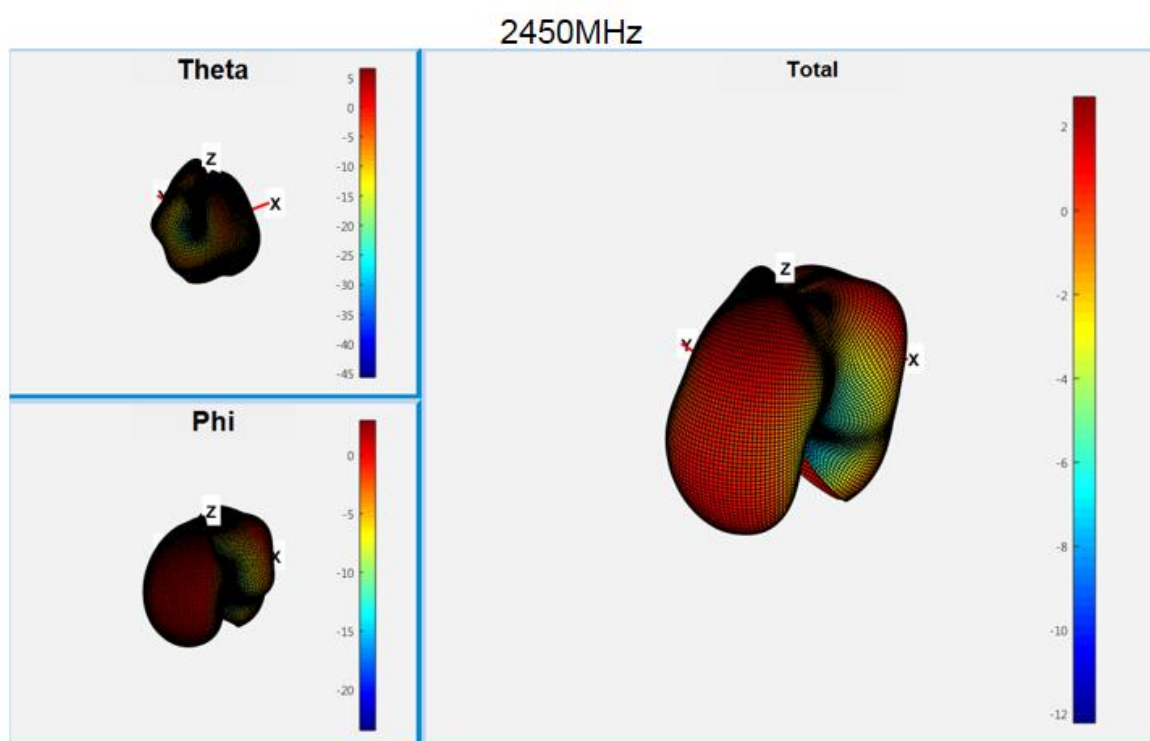


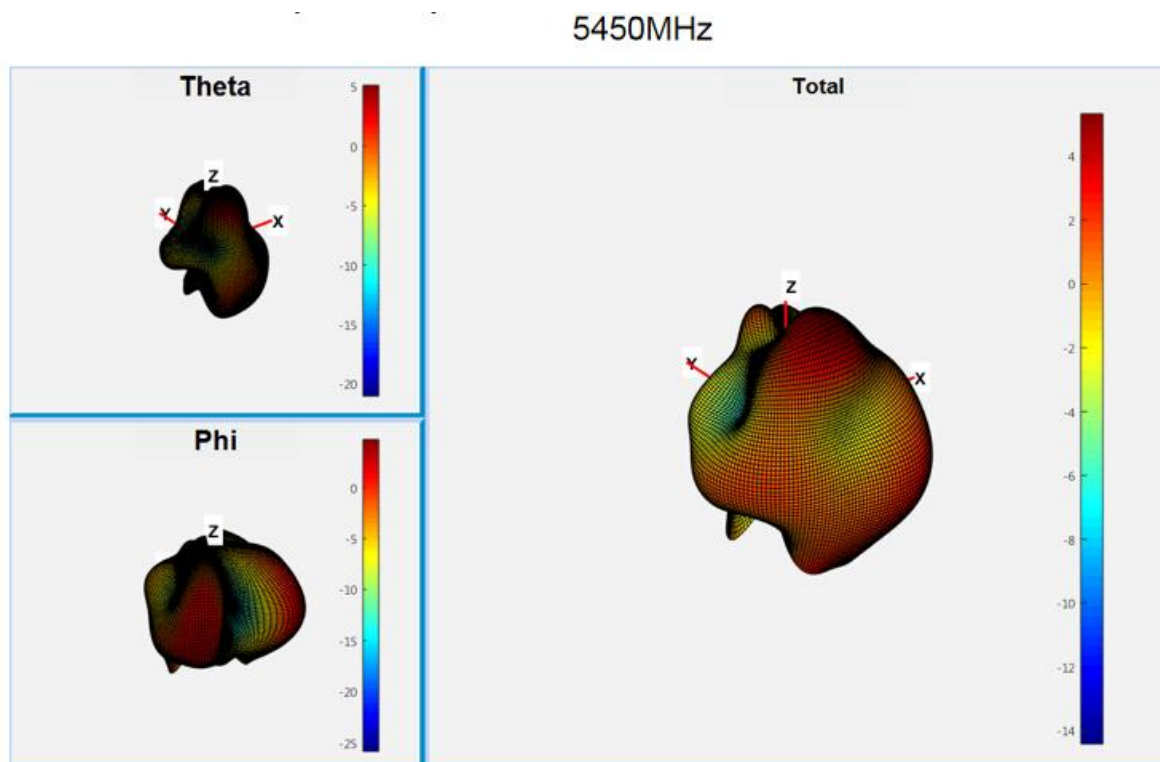
## 5.4 Darkroom passive test data(暗室无源测试数据)

| 频率(Mhz)  | 2. 4GHz | 2. 41GHz | 2. 42GHz | 2. 43GHz | 2. 44GHz | 2. 45GHz | 2. 46GHz | 2. 47GHz | 2. 48GHz | 2. 49GHz | 2. 5GHz |
|----------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|
| 效率 (%)   | 65.11   | 67.5     | 73.11    | 71.2     | 68.51    | 70.99    | 70.78    | 75.94    | 77.72    | 81.62    | 81.86   |
| 增益 (dBi) | 2.23    | 2.19     | 2.7      | 2.63     | 2.52     | 2.53     | 2.45     | 2.77     | 2.98     | 3.28     | 3.35    |

| 频率(Mhz)  | 5.15GHz | 5.2GHz | 5.25GHz | 5.3GHz | 5.35GHz | 5.4GHz | 5.45GHz | 5.5GHz | 5.55GHz | 5.6GHz | 5.65GHz | 5.7GHz | 5.75GHz | 5.8GHz | 5.85GHz |
|----------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|
| 效率 (%)   | 61.45   | 58.55  | 65.51   | 71.66  | 66.74   | 62.78  | 72.6    | 69.07  | 67.62   | 69.98  | 64.64   | 67.62  | 69.25   | 71.85  | 72.99   |
| 增益 (dBi) | 3.59    | 3.01   | 3.26    | 3.79   | 3.92    | 3.84   | 4.08    | 4.56   | 4.42    | 3.86   | 3.56    | 3.48   | 3.77    | 3.85   | 4.01    |

## 5.5 暗室2D、3DRaditation Pattern





## 9. 样品检验报告Sample inspection report

日期: 2021. 5. 10

**RTANT**

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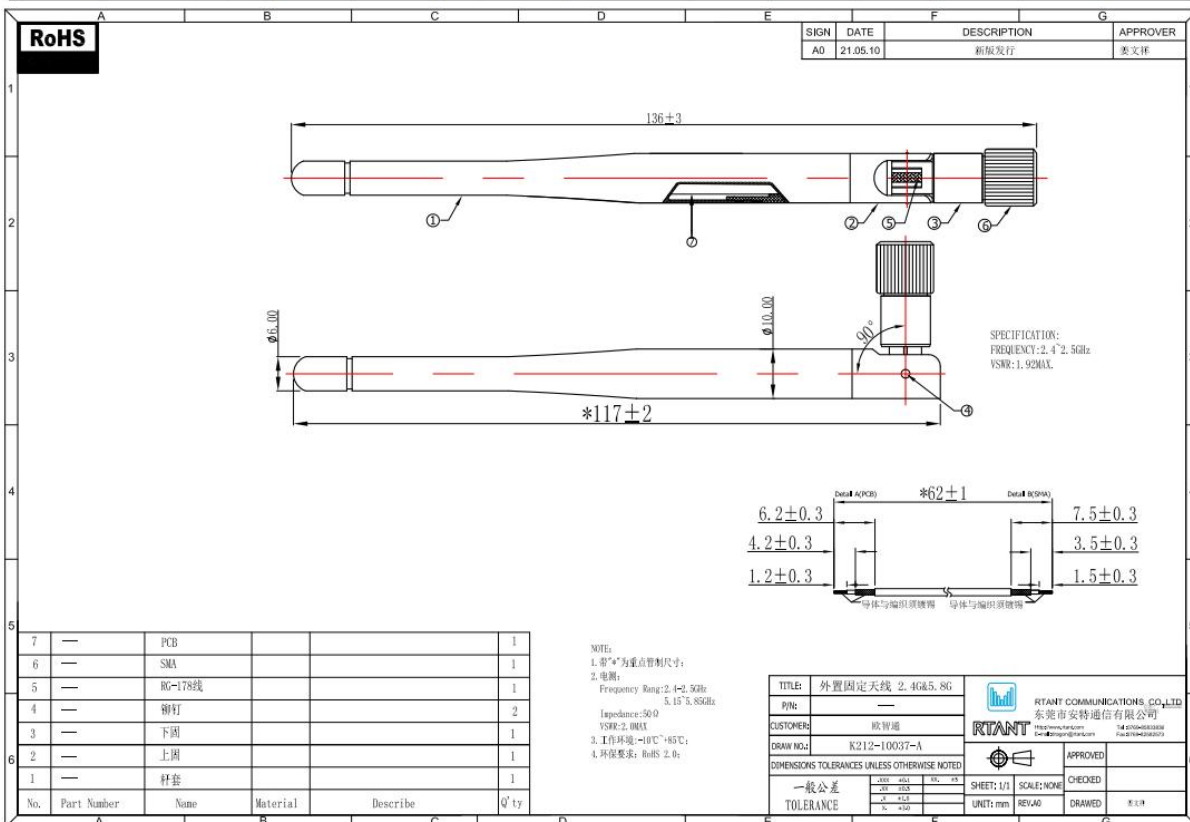
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| Total quantity                    |                | 5PCS                                                                                                                    | Qualified quantity |      | 5PCS |      |      |       |                                                                    |
|-----------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------|--------------------|------|------|------|------|-------|--------------------------------------------------------------------|
| inspection item                   |                | Inspection standards and instructions                                                                                   | inspection result  |      |      |      |      | judge |                                                                    |
|                                   |                |                                                                                                                         | No.1               | No.2 | No.3 | No.4 | No.5 |       |                                                                    |
| Appearance                        | Plastic cement | No dirt, no damage, no scratch                                                                                          | pass               | pass | pass | pass | pass | pass  | <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
|                                   | SMA            | No color difference, no dirt, no damage, no scratch                                                                     | pass               | pass | pass | pass | pass | pass  | <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
|                                   | IPEX           | Contrast no dirt, no damage, no scratch                                                                                 |                    |      |      |      |      |       | <input type="checkbox"/> OK <input type="checkbox"/> NG            |
|                                   | Tin solder     | Plump and smooth                                                                                                        |                    |      |      |      |      |       | <input type="checkbox"/> OK <input type="checkbox"/> NG            |
|                                   | Other          |                                                                                                                         |                    |      |      |      |      |       | <input type="checkbox"/> OK <input type="checkbox"/> NG            |
| Main dimensions                   | 1              | 136±3mm                                                                                                                 | 136                | 136  | 136  | 136  | 136  | 136   | <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
|                                   |                |                                                                                                                         |                    |      |      |      |      |       |                                                                    |
|                                   |                |                                                                                                                         |                    |      |      |      |      |       |                                                                    |
|                                   |                |                                                                                                                         |                    |      |      |      |      |       |                                                                    |
|                                   |                |                                                                                                                         |                    |      |      |      |      |       |                                                                    |
| Electrical and functional testing | Frequency Rang | 2.4~2.5GHz<br>5.15~5.85GHz                                                                                              |                    |      |      |      |      |       |                                                                    |
|                                   | VSWR           | <2.0                                                                                                                    | pass               | pass | pass | pass | pass | pass  | <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
|                                   |                |                                                                                                                         |                    |      |      |      |      |       |                                                                    |
| Mechanical properties             | Cable IPEX     | > 1.5kg                                                                                                                 |                    |      |      |      |      |       | <input type="checkbox"/> OK <input type="checkbox"/> NG            |
|                                   |                |                                                                                                                         |                    |      |      |      |      |       |                                                                    |
| Note                              |                |                                                                                                                         |                    |      |      |      |      |       |                                                                    |
| Final Judgment                    |                | <input checked="" type="checkbox"/> Qualified <input type="checkbox"/> Disqualified <input type="checkbox"/> Conditions |                    |      |      |      |      |       |                                                                    |



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