

# SPECIFICATION FOR APPROVAL

Product Name: Wi Fi Steel Antenna

Product Model: KPS-ER03462 Steel Sheet Antenna

Item number (material code): 18600000012302

Specification: Frequency 2.4GHz, built-in material SUS 201, size 22.87 \* 18.87 \* 0.3mm ROHS.

## Change Content History:

| Serial number | The content before the change | The changed content | Change date | edition | Page number | person liable   |
|---------------|-------------------------------|---------------------|-------------|---------|-------------|-----------------|
| 0             | First edition                 | First edition       | 2024/05/28  | A0      | 8           | He Ye/Yao Zehui |
| 1             | Reprinting                    | Reprinting          | 2024/10/26  | A1      | 8           | He Ye/Yao Zehui |
|               |                               |                     |             |         |             |                 |
|               |                               |                     |             |         |             |                 |

Supplier Name: Shenzhen Kaipu Shen Communication Technology Co., Ltd

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(Supplier endorsement)

| Responsible person/date | Review/Date | Approval/Date |
|-------------------------|-------------|---------------|
|                         |             |               |

This admission letter includes the following contents: (none of which are indispensable)

- 1、Cover
- 2、Parameter specification sheet
- 3、Structural dimension diagram
- 4、Packaging diagram
- 5、BOM Table
- 6、Production Process Flow Chart
- 7、Certification testing status

Customer Name (Company Name): Shenzhen Oni Electronics Co., Ltd

The judgment result of the demand side (customer): ☐qualified ☐unqualified

The purchaser (customer) acknowledges (please return the entire acknowledgement letter after confirmation)

| Development and Design Engineer/Date | SQE Engineer/Date | Head of Procurement Department/Date | Approval by Development Manager/Date |
|--------------------------------------|-------------------|-------------------------------------|--------------------------------------|
|                                      |                   |                                     |                                      |

2、Parameter specification sheet

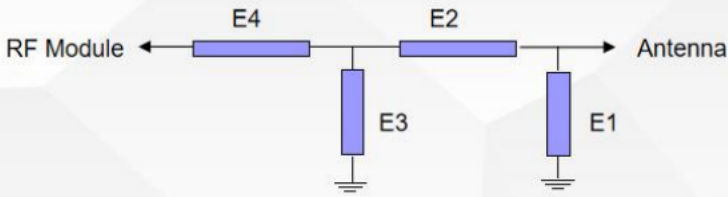
1. Electrical performance parameters

| Serial number | project                     | Parameter specifications | Test conditions                               |
|---------------|-----------------------------|--------------------------|-----------------------------------------------|
| 1             | frequency(MHZ)              | 2400 MHZ~2500 MHZ        | Network analyzer settings2.4-2.5GHz frequency |
| 2             | Gain test                   | $\geq 2\text{dBi}$       | Microwave darkroom                            |
| 3             | Efficiency testing          | $\geq 50\%$              | Microwave darkroom                            |
| 4             | Voltage standing wave ratio | $\leq 2$                 | Network analyzer settings2.4-2.5GHz frequency |

2、Mechanical performance parameters

| Serial number | project               | Parameter specifications     | Test conditions                                                 |
|---------------|-----------------------|------------------------------|-----------------------------------------------------------------|
| 1             | Bullet length         | $22.87 \pm 0.2(\text{mm})$   | Measure the length dimension of the shrapnel using a caliper    |
| 2             | Bullet width          | $18.87 \pm 0.1 \text{ (mm)}$ | Measure the width dimension of the shrapnel using a caliper     |
| 3             | Thickness of shrapnel | $0.3 \pm 0.05 \text{ (mm)}$  | Measure the thickness dimension of the shrapnel using a caliper |

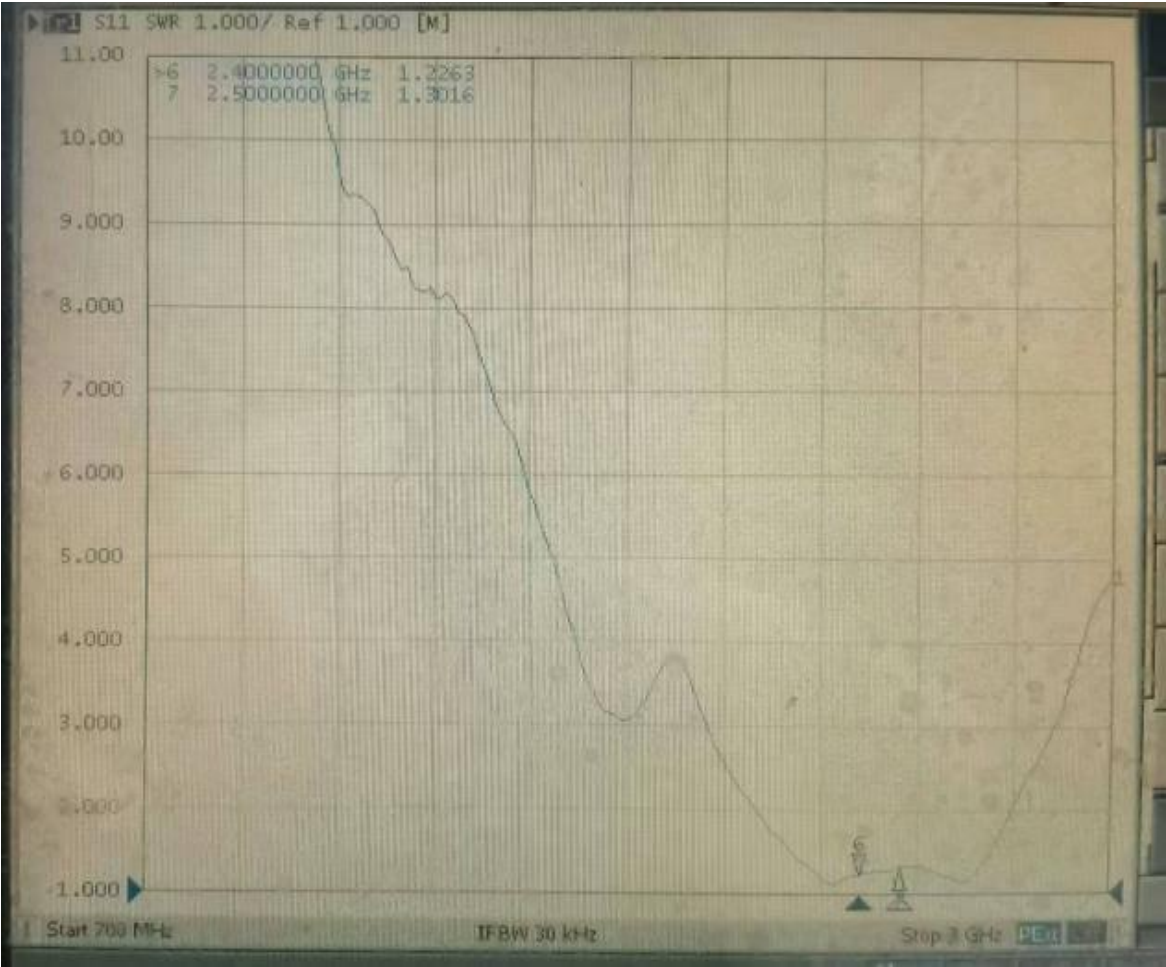
2.1、Antenna matching circuit



|     |             |       |                               |
|-----|-------------|-------|-------------------------------|
| 主天线 | Element     | Value | Attached image description    |
|     | E1(0201)    | NC    | Original motherboard matching |
|     | E2/E4(0201) | 0Ω    |                               |
|     | E3(0201)    | NC    |                               |

2.2、Test report

Passive test results



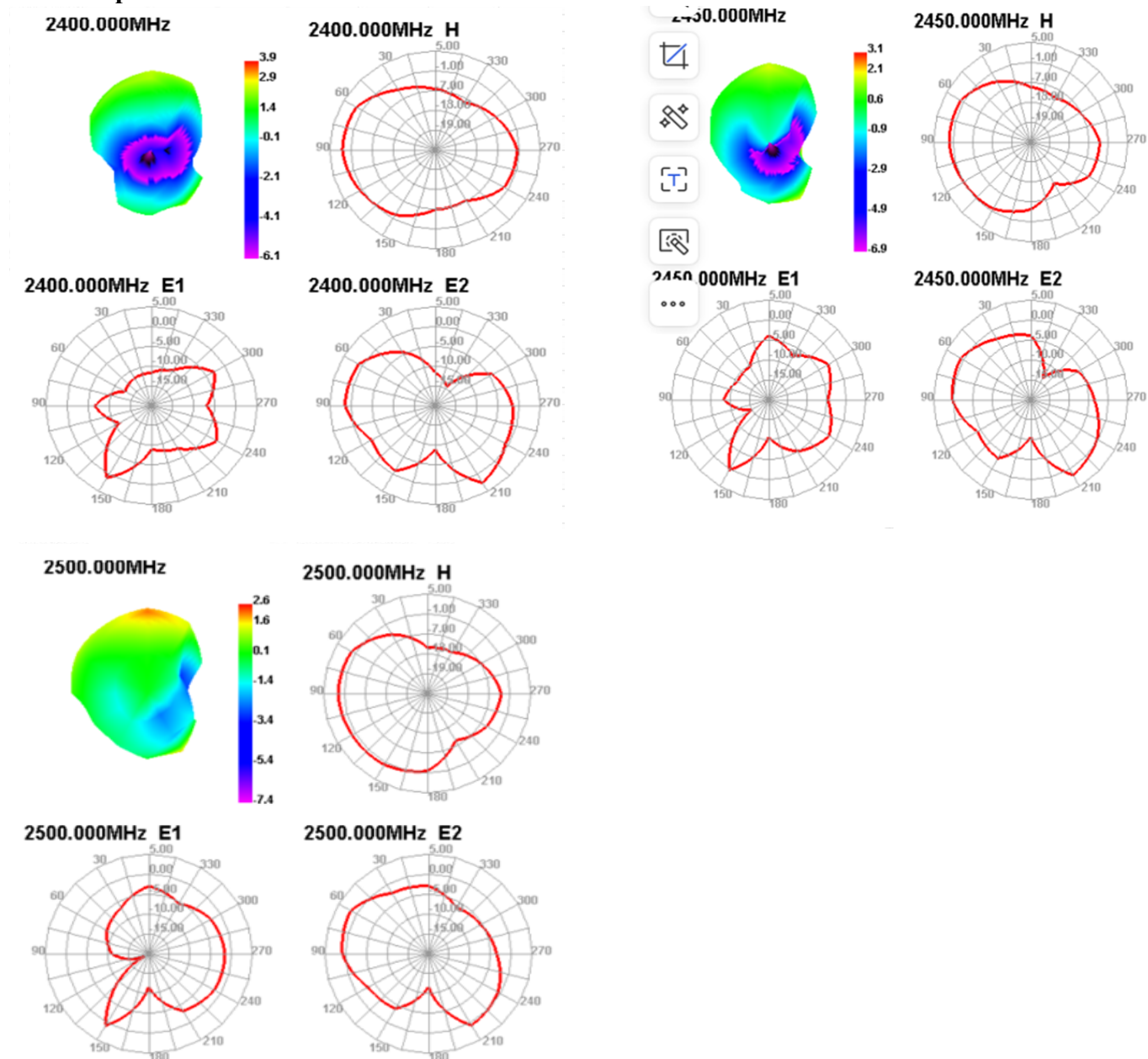
2.3、Antenna test data:

|                  | channle | TRP (dbm) | TIS (dbm) |
|------------------|---------|-----------|-----------|
| WIFI<br>B<br>11M | 1       | 17.2      | -85.9     |
|                  | 6       | 17.1      | -85.2     |
|                  | 11      | 17.4      | -86       |

## 2.4、WIFI Passive antenna test data:

| Passive Test For WIFI2.4 |             |              |               |
|--------------------------|-------------|--------------|---------------|
| Freq<br>(MHz)            | Effi<br>(%) | Effi<br>(dB) | Gain<br>(dBi) |
| 2400                     | 51.21       | -2.91        | 2.63          |
| 2410                     | 50.02       | -3.01        | 2.49          |
| 2420                     | 50.71       | -2.95        | 2.57          |
| 2430                     | 52.26       | -2.82        | 2.82          |
| 2440                     | 51.74       | -2.86        | 2.64          |
| 2450                     | 53.42       | -2.72        | 2.89          |
| 2460                     | 56.64       | -2.47        | 3.16          |
| 2470                     | 56.68       | -2.47        | 3.28          |
| 2480                     | 56.67       | -2.47        | 3.08          |
| 2490                     | 55.23       | -2.58        | 2.97          |
| 2500                     | 53.17       | -2.74        | 2.64          |

### Antenna pattern:



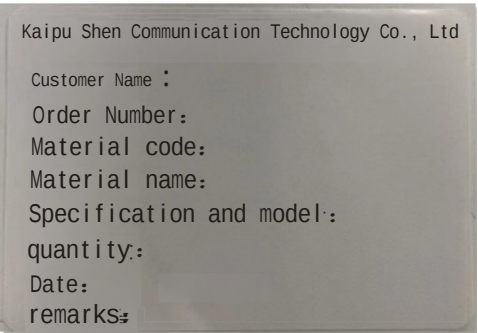
## 2.5、reliability test

| Serial number | Project         | Experimental conditions                                                                                                                                                                                                                                                                                                     | Standard requirements                                                                                                                                                                                                                        |
|---------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1             | Salt spray test | <p>1. The temperature inside the salt spray box is <math>35 \pm 2</math> °C; laboratory temperature <math>22-30</math> °C</p> <p>2. The settling speed of salt spray is 1-2 L/h per 80cm<sup>2</sup> area after 24h spray, the concentration of sodium chloride is <math>50 \pm 10</math>g/L, and the PH value is 6-7.2</p> | <p>After 24 hours, there is no oxidation on the surface of the product, and the electrical test meets the standard requirements;</p> <p>2. Electrical testing meets standard requirements, voltage standing wave ratio test is qualified</p> |

### 三、Structural dimension drawing (CA file)

#### 四、Packaging diagram (fill in instructions: The inserted image must be clearly visible)

##### 1. Packaging photos (pictures):

|                                                                                    |                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1、Photos or pictures of individual material packaging                              | 2、Photos or pictures of single-layer placement of inner packaging                                                                                                                                                                                                                                             |
|   |                                                                                                                                                                                                                             |
| 3、Photos or pictures of the outer packaging                                        | 4、Supplier material packaging anti-counterfeiting mark                                                                                                                                                                                                                                                        |
|  |  <p>Kaipu Shen Communication Technology Co., Ltd</p> <p>Customer Name :</p> <p>Order Number:</p> <p>Material code:</p> <p>Material name:</p> <p>Specification and model:</p> <p>quantity:</p> <p>Date:</p> <p>remarks:</p> |

##### 2. Material Packaging Information Form:

| Serial number | Material name | Material specifications | texture of material    | Is it anti-static | Quantity of single box packaging | Single box packaging weight (KG) | remarks |
|---------------|---------------|-------------------------|------------------------|-------------------|----------------------------------|----------------------------------|---------|
| 1             | WIFI Shrapnel | 22.87×18.87×0.3         | SUS3.4 T=0.3           | YES               | 11250PCS                         | Total weight5KG                  |         |
| 2             | Blister tray  | 335*285*33 mm           | PVC                    | NO                | 1250PCS                          |                                  |         |
| 3             | cardboard     | 340*290MM               | Corrugated paper (B=C) | NO                | 2PCS                             |                                  |         |
| 4             | carton        | 350*310*300MM           | Corrugated paper(B=B)  | NO                | 1PCS                             |                                  |         |

The shipping packaging method is (4): 1. Roll packaging; 2. Disk installation; 3. Bulk; 4. Carton packaging; 5. Rubber box packaging; 6. Other\_\_\_\_\_.

Supplier Material Coding Rules:

Product/Material Code Reference Table

Example of incoming material number: The part number is 10. HY802.10A02 code reference table is as follows

| 1   |      | 2     | 3             |      |                |      |     |      | 备注                                                 |
|-----|------|-------|---------------|------|----------------|------|-----|------|----------------------------------------------------|
| 客户名 | 客户代码 | 项目代码  | 材质信息          | 材质代码 | 天线类别           | 天线代码 | 颜色  | 颜色代码 |                                                    |
| **  | 10   | XXXXX | 材质信息          | 材质代码 | 天线类别           | 天线代码 | 颜色  | 颜色代码 | 10. HY802. 10A02                                   |
|     |      |       | FPC           | 10   | 无              | 10   |     | 0    | 前面两位是客户代码.<br>中间是项目型号.<br>后面5五位是材质代码+<br>天线类别+颜色代码 |
|     |      |       | 五金弹片          | 11   | 2/3G/GSM 主天线   | 11   | 黑色  | 1    |                                                    |
|     |      |       | LDS           | 12   | WIFI/BT/GPS 天线 | 12   | 白色  | 2    |                                                    |
|     |      |       | 塑胶支架          | 13   | WIFI/BT 天线     | 13   | 灰色  | 3    |                                                    |
|     |      |       | 同轴线           | 14   | WIFI 天线        | 14   | 银色  | 4    |                                                    |
|     |      |       | 导线            | 15   | GPS            | 15   | 黄色  | 5    |                                                    |
|     |      |       | 顶针            | 16   | BT             | 16   | 粉红色 | 6    |                                                    |
|     |      |       | 陶瓷            | 17   | LTE主天线         | 17   | 绿色  | 7    |                                                    |
|     |      |       | 泡棉            | 18   | GSM 副天线(LTE)   | 18   | 香槟金 | 8    |                                                    |
|     |      |       | 天线组件 (FPC+支架) | 19   | 分集天线           | 19   |     | 9    |                                                    |
|     |      |       | 天线组件 (五金+支架)  | 20   | FM             | 20   |     |      |                                                    |
|     |      |       | 外置天线          | 21   | NFC            | 21   |     |      |                                                    |
|     |      |       | 弹簧天线          | 22   | CDMA           | 22   |     |      |                                                    |
|     |      |       | PCB           | 23   | 组件天线           | 23   |     |      |                                                    |
|     |      |       | 喷涂            | 24   | 4G/三合一/分集天线    | 24   |     |      |                                                    |
|     |      |       | PCBA          | 25   |                | 25   |     |      |                                                    |
|     |      |       | 背胶            | 26   |                | 26   |     |      |                                                    |

#### 五、BOM (Bill of Materials) (filling instructions: all sub components must be expanded)

| Serial number | Item Material Name | texture of material             | Specification/Model | brand | Supplier Name | consumption |
|---------------|--------------------|---------------------------------|---------------------|-------|---------------|-------------|
| 1             | Shrapnel           | plate with nickel               | 22.87*18.87*0.3mm   | \     | Jie Hongyuan  | 1PCS        |
| 2             | carton             | K=K, Three layer paper material | 320*240*160mm       | \     | Jie Hongyuan  | 1/11250     |

#### 六、Production Process Flow Chart

| flow chart                                             | Serial number | Assignment Name               | Method steps                                                                                                                                                                                                     | File Number | edition | Key workstations |
|--------------------------------------------------------|---------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|------------------|
|                                                        | 1             | Full inspection of appearance | Check whether the shrapnel is bent or deformed, whether there is rust or oxidation on the surface, and place the good products into the packaging turntable. Place the defective products into the red adhesive. | WI-RD-8087  | A0      | *                |
|                                                        | 2             | Blister tray packaging        | Load the self inspected qualified products into vacuum formed trays, 100PCS/tray, and attach label paper and RoHS label                                                                                          | WI-RD-8088  | A0      |                  |
|                                                        | 3             | Sealed box                    | The packaged products will be packed into cardboard boxes, with each box containing 1000pcs. The cardboard box is sealed with tape in a "I" shape and labeled with cardboard and RoHS labels.                    | WI-RD-8089  | A0      |                  |
| start: ▽ task: □ inspect: ◇ end: ▲ Key workstations: * |               |                               |                                                                                                                                                                                                                  |             |         |                  |

**7、 Certification testing status (fill in instructions: If relevant testing certification has been conducted, please check the box in parentheses and indicate the corresponding certification or report number)**

**☐ UL certification or report number:**

**☐ VDE certification or report number:**

**☐ CE certification or report number:**

**☐ FCC certification or report number:**

**ROHS certification or report number: CANEC23001108902**

**REACH certification or report number:**

**☐ EMC certification or report number:**

**☐ CCC certification or report number:**

**SRRC certification or report number:**

**☐ Other certification or report numbers:**

**☐ No product certification**