



# SHUN DA CHENG TECHNOLOGY CO., LTD

## SPECIFICATION FOR APPROVAL

|                       |                                          |                  |                                          |
|-----------------------|------------------------------------------|------------------|------------------------------------------|
| Customer Name         | Xi Yang                                  |                  |                                          |
| Customer Project Name | Small pepper word cover external antenna | SDC Project Name | Small pepper word cover external antenna |
| Customer P/N          | 3. 03. 99. 99. 0001                      | SDC P/N          | SMA-1131-150 (Exposed) (black )          |
| Band                  | WIFI2. 4G/5. 8G/BT                       |                  |                                          |
| Version               | A0                                       |                  |                                          |
| Designer Information  |                                          |                  |                                          |
| RF Engineer           | Yong-hui Yang                            | R&D Diretor      | FuXueRong                                |
| ME Engineer           | Huang Zongbao                            |                  |                                          |

| Approval  |               |               |              | Customer Approval |             |
|-----------|---------------|---------------|--------------|-------------------|-------------|
|           | Prepared By   | Checked By    | Approval By  | Checked By        | Approval By |
| Signature | Huang Zongbao | Yong-hui Yang | FuXueRong    |                   |             |
| Date      | 2024. 03. 21  | 2024. 03. 21  | 2024. 03. 21 |                   |             |

| Change Log |                    |                  |             |      |
|------------|--------------------|------------------|-------------|------|
| Version    | Change Description | Person in Charge | Approval By | Date |
|            |                    |                  |             |      |
|            |                    |                  |             |      |
|            |                    |                  |             |      |



## SHUN DA CHENG TECHNOLOGY CO., LTD

# Catalogue

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|     |                              |          |



**Single side chrysanthemum**

**T=1.15**

**IPEX1 gasket\*2**

**Nut nut\*1**

**H8±0.4**

**1/4-36UNS-2B**

**1.84**

**43.5±1**

**16.6±0.1**

**150±2**

**15**

**10**

**5.8**

**1.2±0.2**

**1±0.2**

**0.8±0.2**

**Schematic of stripping**

**Tinned copper wire**

**BOM**

| Serial number | Product name/specification           | Description                          | Dosage |
|---------------|--------------------------------------|--------------------------------------|--------|
| 1             | Male pin anti - word cover connector | Brass plated with gold/white plastic | 1      |
| 2             | Antenna sheath                       | Sheet                                | 1      |
| 3             | Terminal unit                        | IPEX1                                | 1      |
| 4             | Coaxial line                         | 7.113 Cable Bncd-500                 | 1      |
| 5             | Gasket tube                          | 72.0x45 Black heat shrink casing     | 1      |
| 6             | Female head connector                | Brass plated with gold/white plastic | 1      |
| 7             |                                      |                                      |        |
| 8             |                                      |                                      |        |
| 9             |                                      |                                      |        |

**Shenzhen ShunDaCheng Technology Co., Ltd.**

| C/U NO   | Part Name                                             | Material | C/U Part No. |
|----------|-------------------------------------------------------|----------|--------------|
| X        | Adaptor cable (full set) with pepper external antenna | ±0.3     |              |
| XX       |                                                       | ±0.2     |              |
| XXX      |                                                       | ±0.1     |              |
| Rev.     | Scale                                                 | REV.     | Draw.        |
| A0       | 1:1                                                   | Check.   | App.         |
| Unit: mm | mm                                                    |          |              |

The angle tolerance is not marked: ±3°

The chrysanthemum gasket is changed to single side, and the top of the connector is a single port bottom cover

Publication and distribution

ECN NO.

Date.

Rev.

Company Address: 4th Floor, Building B5, Xinfu Industrial Park, Chongqing Road, Fuyong Town, Baoan District,  
Shenzhen Telephone :0755-27211658 Fax :0755-29485750



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## Sample Dimensions Test Report

|                  |                         |             |                 |           |            |
|------------------|-------------------------|-------------|-----------------|-----------|------------|
| Test Date        | 2024. 03. 21            | Sample Qty. | 3               | Inspector | Xu Yanfang |
| Dimension No.    | Standard                | Sample 1    | Sample 2        | Sample 3  | Pass/NG    |
| ①length          | 43. 5±1mm               | 43. 5       | 43. 6           | 43. 5     | Pass       |
| ②diameter        | 7. 55-0. 05mm           | 7. 55       | 7. 55           | 7. 55     | Pass       |
| ③thickness       | 16. 6±0. 1mm            | 16. 6       | 16. 7           | 16. 6     | Pass       |
| ④Length          | 150±2mm                 | 150         | 151             | 151       | Pass       |
|                  |                         |             |                 |           |            |
|                  |                         |             |                 |           |            |
|                  |                         |             |                 |           |            |
|                  |                         |             |                 |           |            |
|                  |                         |             |                 |           |            |
| Conclusion       |                         |             |                 |           | PASS       |
| Inspector & Date | Xu Yanfang 2024. 03. 21 |             | Approval & Date |           |            |



## RF Performance Test Report

### Antenna Test Equipment Introduction

Test of antenna input characteristics using **Agilent E5071C** and **Agilent 5062A** vector network analyzer; The radiation pattern of the antenna are tested using the guangping 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:

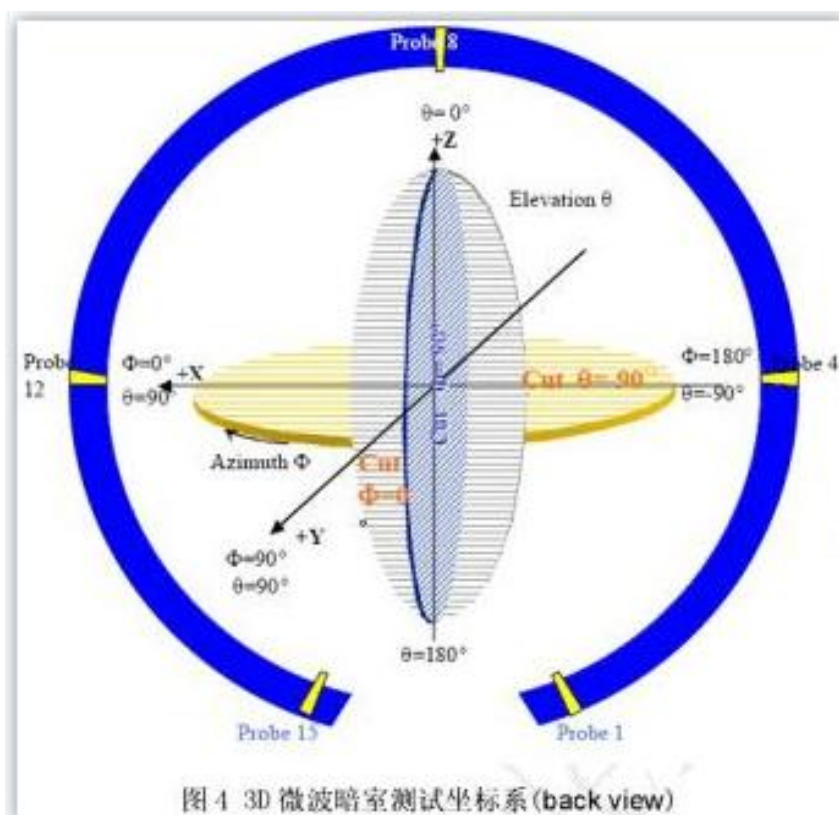


图 4 3D 微波暗室测试坐标系 (back view)

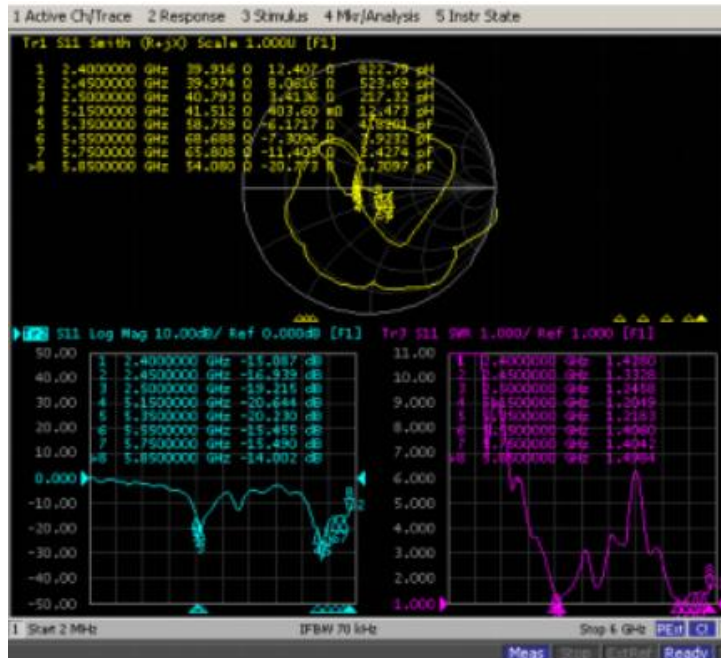
### 1. **S11 Parameter-VSWR**

Measuring Method is a  $50\Omega$  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.



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## S11 Parameter-VSWR



| 频率 (MHz) | 2400 | 2450 | 2500 | 2550 | 2600 | 2650 | 2700 | 2750 |
|----------|------|------|------|------|------|------|------|------|
| 驻波比      | 1.42 | 1.22 | 1.24 | 1.2  | 1.21 | 1.4  | 1.4  | 1.49 |

| 频率 (MHz) | 2400 | 2450 | 2500 | 2550 | 2600 | 2650 | 2700 | 2750 |
|----------|------|------|------|------|------|------|------|------|
| 反射       | 29.1 | 29.9 | 40.7 | 41.5 | 58.7 | 68.6 | 65.3 | 54   |

| 频率 (MHz) | 2400 | 2450  | 2500  | 2550  | 2600  | 2650  | 2700  | 2750 |
|----------|------|-------|-------|-------|-------|-------|-------|------|
| 损耗       | -15  | -16.9 | -19.2 | -20.6 | -20.2 | -15.4 | -15.4 | -14  |

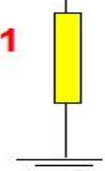
## 2. Antenna Matching Network

Antenna

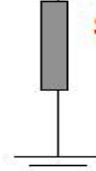


Series  
N/A

Shunt 01  
N/A



Shunt 02  
N/A



PA



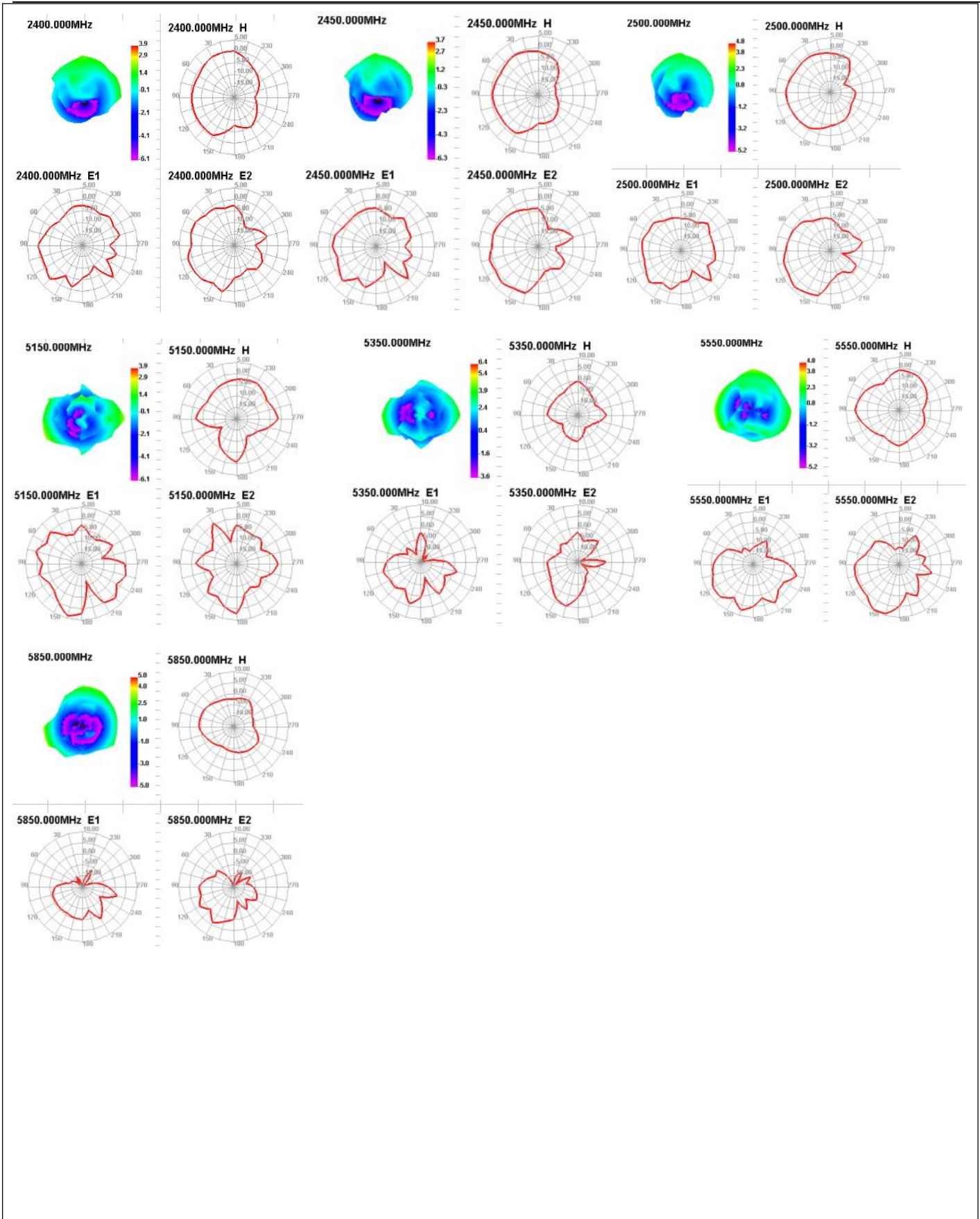
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### 3.Gain & Efficiency

| Frequency (MHz) | Efficiency (%) | Peak GAIN (dBi) |
|-----------------|----------------|-----------------|
| 2400            | 56.61          | 3.9             |
| 2450            | 49.03          | 3.75            |
| 2500            | 59.12          | 4.81            |
| 5150            | 50.62          | 3.86            |
| 5350            | 53.69          | 6.43            |
| 5550            | 53.38          | 4.83            |
| 5850            | 54.42          | 5.01            |



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## Reliability Test Report

|                                      |                                                                                                                                                                 |                                       |                 |           |            |         |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------|-----------|------------|---------|
| Test Date                            | 2024. 03. 21                                                                                                                                                    | Sample Qty.                           | 3               | Inspector | Xu Yanfang |         |
| Test Item                            | Requirement                                                                                                                                                     | testing equipment                     | Sample 1        | Sample 2  | Sample 3   | PASS/NG |
| High temperature storage             | The test was carried out after 24H exposure at +85℃ and 2H recovery                                                                                             | Constant temperature and humidity box | OK              | OK        | OK         | Pass    |
| Low temperature storage              | The test was carried out after 24H exposure at -40℃ and 2H recovery                                                                                             | Constant temperature and humidity box | OK              | OK        | OK         | Pass    |
| High temperature work                | At +60℃ for 24H                                                                                                                                                 | Constant temperature and humidity box | OK              | OK        | OK         | Pass    |
| Work in low temperature              | At -20℃ under the condition of power work for 24H                                                                                                               | Constant temperature and humidity box | OK              | OK        | OK         | Pass    |
| Salt spray test                      | The pH value was 6.5 ~ 7.2, and the temperature of the experimental chamber was (35±2)℃<br><input type="checkbox"/> 24H <input checked="" type="checkbox"/> 48H | Salt spray testing machine            | OK              | OK        | OK         | Pass    |
| Connector riveting and drawing force | 1. 13 线径 ≥10N<br>0. 81 线径 ≥8N<br>RG174 ≥60N<br>RG178 ≥50N                                                                                                       | Push pull meter                       | ≥10N            | ≥10N      | ≥10N       | Pass    |
| Conclusion                           |                                                                                                                                                                 |                                       |                 |           |            | Pass    |
| Inspector & Date                     | Xu Yanfang 2024. 03. 21                                                                                                                                         |                                       | Approval & Date |           |            |         |

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## ROHS certificate of the product

# Certificate

Certificate Number: UNIB23083106HC-01



Product: 5G/4G/WIFI/GPS/BT antenna  
Applicant: ShenZhen ShunDaCheng Technology Co., Ltd.  
4th Floor, Building B5, Xinfu Industrial Zone, Fuyong Chongqing Road,  
Baoan District, Shenzhen  
Manufacturer: N/A  
Model No.: N/A  
Trade Name: N/A  
Test Methods: IEC 62321-2:2021, IEC 62321-3-1:2013, IEC 62321-4:2013 +A1:2017,  
IEC 62321-5:2013, IEC 62321-6:2015, IEC 62321-7-1:2015  
IEC 62321-7-2:2017, IEC 62321-8:2017

The laboratory tested the product provided by the applicant according to the above test methods. According to the test results, the product conforms to RoHS Directive [(2011/65/EU and Amendment (EU) 2015/863)] issued by the European Commission. It is possible to use CE marking to demonstrate the compliance with RoHS Directive.

The certificate applies to the tested sample above mentioned only and shall not imply an assessment of the whole production. It is only valid in connection with the test report number: UNIB23083106HR-01.

**Note:** According to the requirements of the applicant for testing, details are shown in the test report.

# RoHS

Sep. 06, 2023  
Issue Date

Hoffer Lau



Shenzhen United Testing Technology Co., Ltd.

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Certificate of Compliance

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