

# Shenzhen Yunding Communication Electronics Co., LTD

TEL: +86 0755-23073599

FAX: +86 0755-23097189

E-mail:wht0809@163.com

## APPROVAL

AI KE SI

CUSTOMER:

V13-YST-2.4/5G-V1.0-1.13-L150MM-IPEX 1

DESCRIPTION:

PART NO.

CUS PART NO.:

2023.12.7

D A T E:

Yunding signature

|                        |                |                  |
|------------------------|----------------|------------------|
| ENGINEERING DEPARTMENT | Q C DEPARTMENT | SALES DEPARTMENT |
|                        |                |                  |

Customer signature

|                        |                |                       |
|------------------------|----------------|-----------------------|
| ENGINEERING DEPARTMENT | Q C DEPARTMENT | PURCHASING DEPARTMENT |
|                        |                |                       |

TEL: 0755 23073599

✂ Approval in duplicate, please signed by your company.

Address: 3015 Jinchi Center, Hang Air Road, Baoan District, Shenzhen

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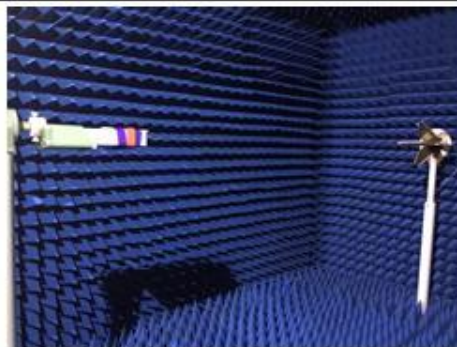
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## 1.Test items and equipment

|                  | Test items                                        | Equipment                                                                                                                                  |
|------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 1. S11-parameter | 1. Return Loss<br>2. VSWR                         | network analyzer: Agilent E5071B<br>HP 8753D                                                                                               |
| 2.Active test    | 1. Transmitting power<br>2. Receiving sensitivity | 1. Darkroom: ETS 7x4x3 m (3D) Chamber<br>ETS 5x3x3 m (3D) Chamber<br>2.general-purpose tester : Agilent 8960 E5515B ×2<br>StarPoint SP6011 |
| 3.Passive test   | 1.Gain<br>2.Efficiency                            | 1. Darkroom: ETS 7x4x3 m (3D) Chamber<br>ETS 5x3x3 m (3D) Chamber<br>2. network analyzer: Agilent E5071B<br>HP 8753D                       |



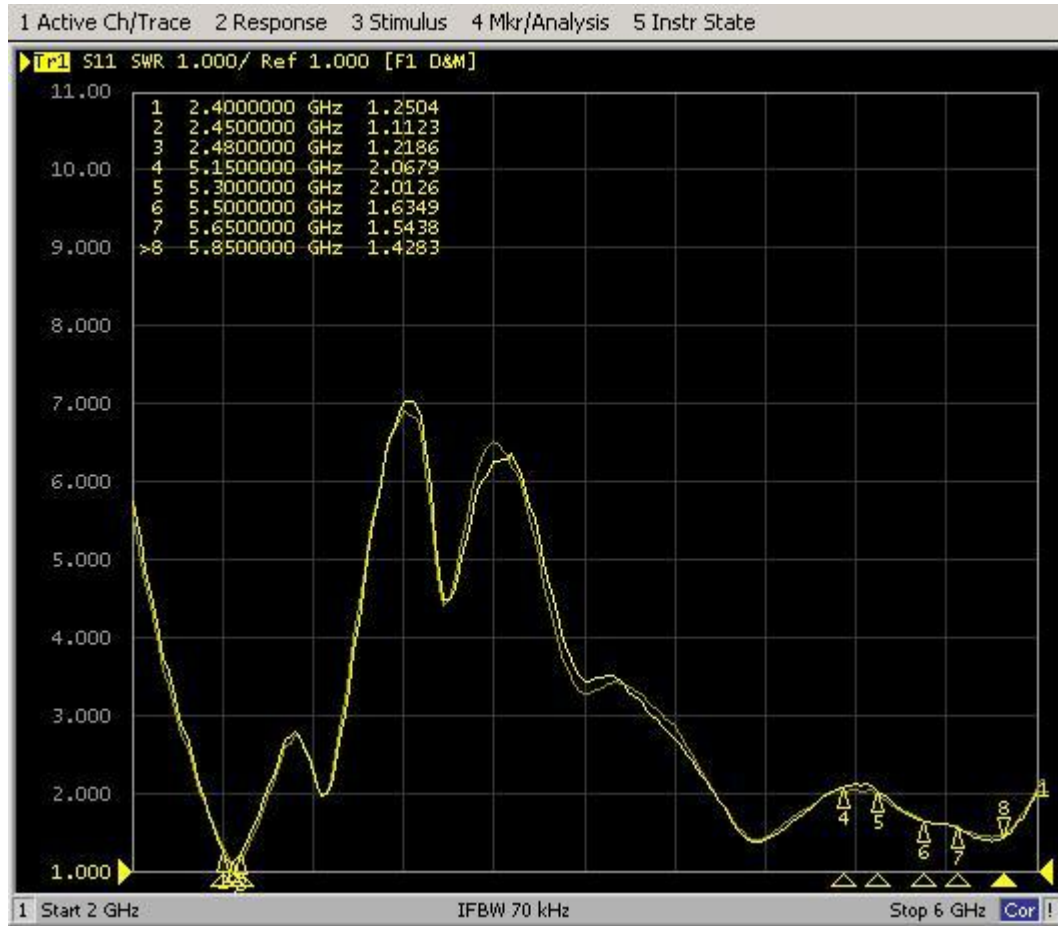
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## 2.antenna performance SWR



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### 3.Antenna OTA test data TRP/TIS

|                  |             |        |        |
|------------------|-------------|--------|--------|
| 802.11b : 11Mbps |             |        |        |
| Test Result      | Wifi 2G TRP |        |        |
|                  | 1           | 6      | 11     |
| Frequency (MHz)  | 2412        | 2437   | 2462   |
| Txp Ave(dBm)     | 15.47       | 15.07  | 16.14  |
|                  |             |        |        |
| Test Result      | Wifi 2G TIS |        |        |
|                  | 1           | 6      | 11     |
| Frequency (MHz)  | 2412        | 2437   | 2462   |
| Sens Ave(dBm)    | -77.08      | -78.62 | -79.54 |
|                  |             |        |        |
| 802.11a : 6Mbps  |             |        |        |
| Test Result      | Wifi 5G TRP |        |        |
|                  | 36          | 64     | 161    |
| Frequency (MHz)  | 5180        | 5320   | 5805   |
| Txp Ave(dBm)     | 12.96       | 12.29  | 13.31  |
|                  |             |        |        |
| 802.11a : 54Mbps |             |        |        |
| Test Result      | Wifi 5G TIS |        |        |
|                  | 36          | 64     | 161    |
| Frequency (MHz)  | 5180        | 5320   | 5805   |
| Sens Ave(dBm)    | -70.82      | -71.66 | -72.68 |

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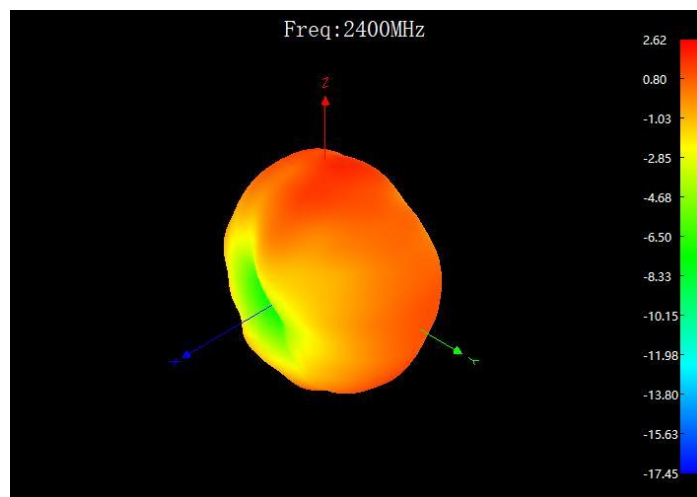
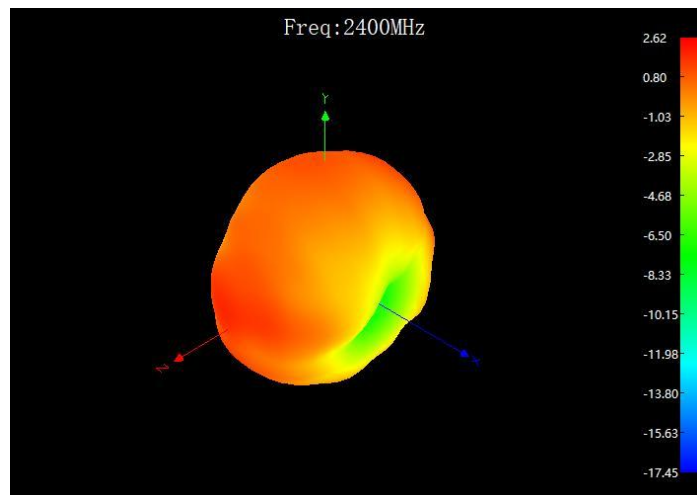
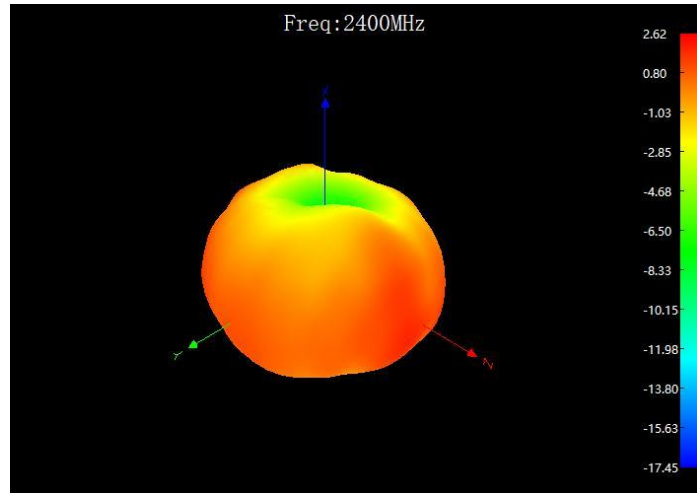
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## 4. Antenna efficiency and gain

| Frequency | MaxGain/d | Efficiency / % |
|-----------|-----------|----------------|
| 2400      | 2.62      | 72.61          |
| 2410      | 2.5       | 75.34          |
| 2420      | 2.55      | 75.34          |
| 2430      | 2.55      | 75.51          |
| 2440      | 2.17      | 74.3           |
| 2450      | 2.12      | 73.62          |
| 2460      | 2.2       | 72.61          |
| 2470      | 2.56      | 73.45          |
| 2480      | 2.55      | 72.28          |
| 2490      | 2.69      | 70.79          |
| 2500      | 2.66      | 69.34          |
| 5100      | 1.83      | 68.55          |
| 5150      | 1.84      | 67.92          |
| 5200      | 1.78      | 67.92          |
| 5250      | 1.84      | 66.83          |
| 5300      | 1.49      | 68.23          |
| 5350      | 1.8       | 68.55          |
| 5400      | 2.31      | 70.63          |
| 5450      | 1.48      | 66.37          |
| 5500      | 1.84      | 64.42          |
| 5550      | 1.43      | 64.42          |
| 5600      | 1.64      | 62.95          |
| 5650      | 1.93      | 66.37          |
| 5700      | 1.74      | 65.77          |
| 5750      | 2         | 66.22          |
| 5800      | 2.15      | 66.99          |

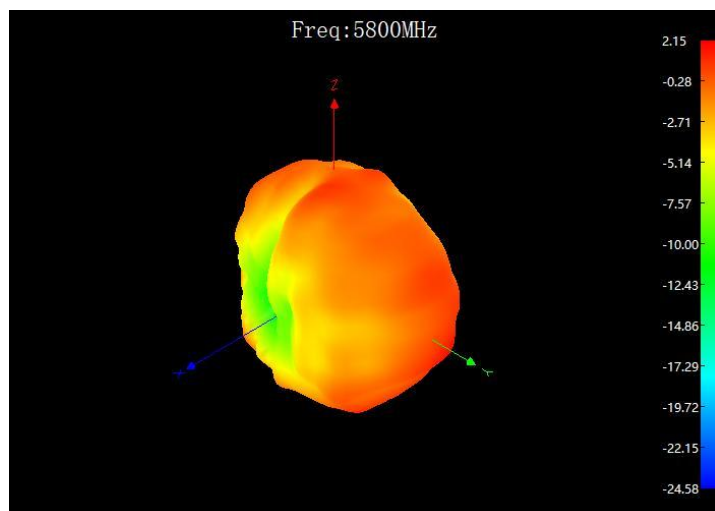
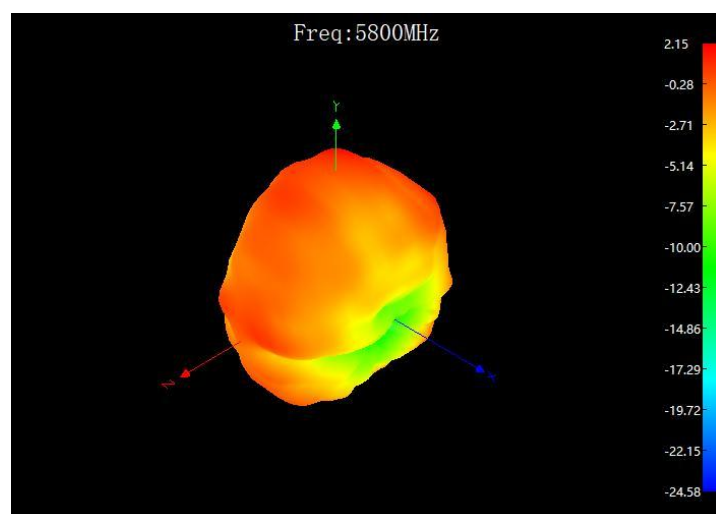
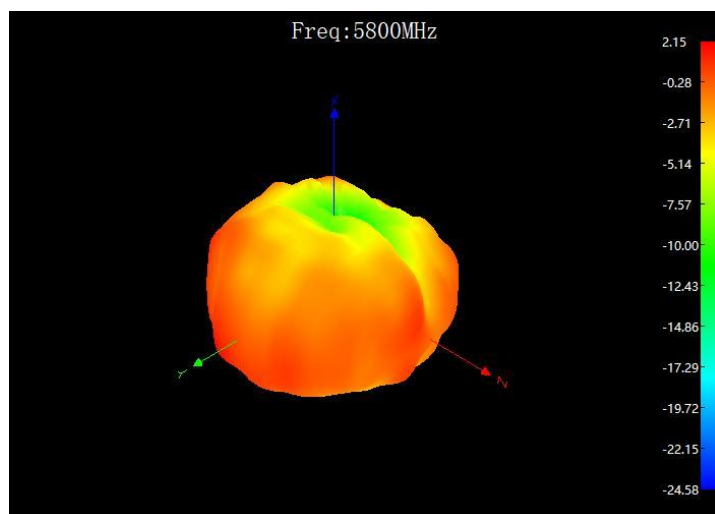


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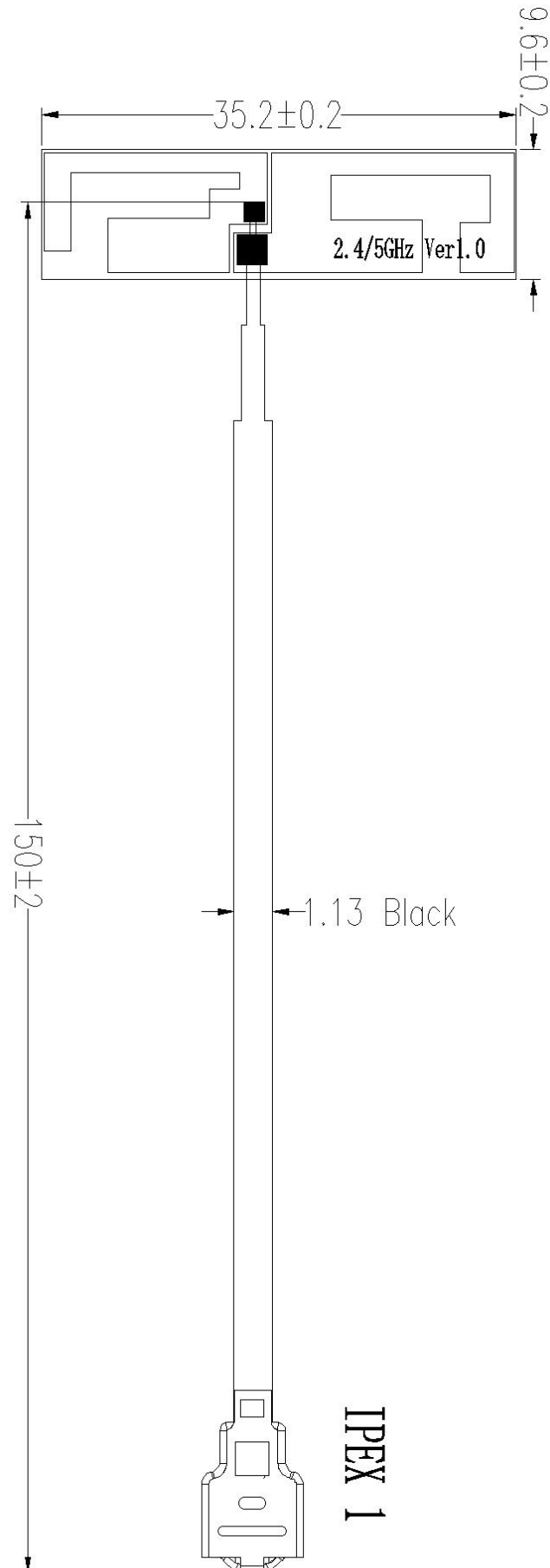
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## 5. Antenna structure diagram:



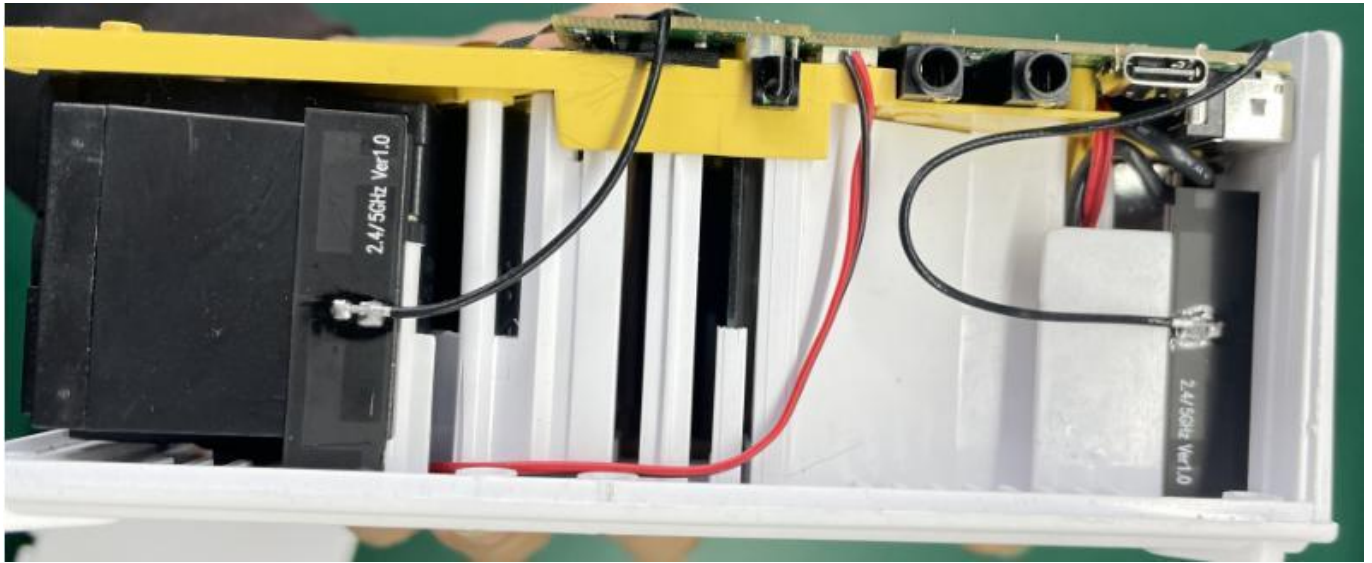
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## 6. Antenna position assembly diagram:



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## Technical parameters of electrical apparatus

### Electrical Specifications

|                 |                        |
|-----------------|------------------------|
| Frequency Range | 2400~2500/5100~5800MHz |
| VSWR            | $\leq 2.0$             |
| Input Impedance | 50 $\Omega$            |
| Gain            | 2.69DBI/2.31DBI        |

### Mechanical Specifications

|                     |             |
|---------------------|-------------|
| Antenna Color       | Black       |
| Input connector     | IPEX 1      |
| Cable length        | 150mm       |
| Working Temperature | -40°C~+85°C |
| Working Humidity    | 20~80%      |

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## Environment performance test:

| Project                                | Test condition                                                                                                                                                                              | Test results                                                             |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Storage environment                    | Test temperature, humidity, pressure without stated condition as follwings :1.Temperature: -30 °C ~ +80 °C ;2.Relative humidity: 45%-85%;3,Pressure: 86kpa-106kpa                           | Electrical and mechanical performance normal                             |
| High and low temperature test          | Having 5 times cycle between -40°C to 70°C,Then in common condition 1-2 hours test exterior quality.                                                                                        | Measurement satisfied with electrical and mechanical performance normal. |
| Resistance constant hot and humid test | Relative humidity:95±3%,Test temperature: 40°C,last 2 hours ,put it after 5 min test the electrical function . Test products during common condition 1-2 hours ,Then test exterior quality. | Measurement satisfied with electrical and mechanical performance normal. |
| Vibration test                         | Vibrate Frequency:10-55HZ;<br>Distance :0.35mm;Acceleration :50.0m/s;Sweep frequency cycle:30 times                                                                                         | Electrical and mechanical performance normal                             |
| Fall test                              | From 1 mheight fall down 3 times freely (vertical direction)                                                                                                                                | Electrical and mechanical performance normal                             |