

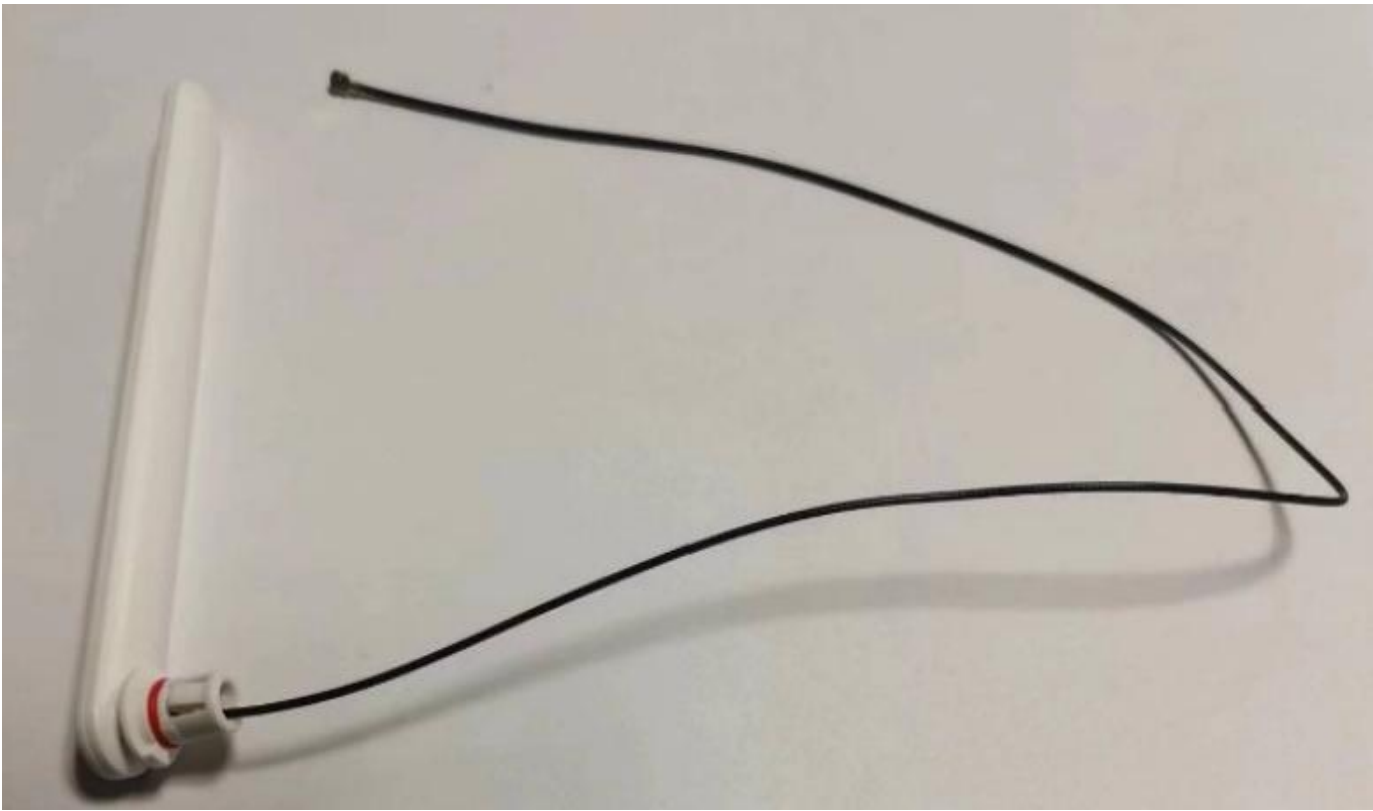
|                              |                                                 |                              |                  |
|------------------------------|-------------------------------------------------|------------------------------|------------------|
|                              |                                                 |                              | document number: |
|                              |                                                 |                              |                  |
| Specification For Approval   |                                                 |                              |                  |
| Customer Name:               |                                                 |                              |                  |
| Supplier Name:               |                                                 |                              |                  |
| Customer No. :               |                                                 | Supplier No. :               |                  |
| product description:         | 2.4-5.8W71 White antenna<br>L=250 mm + terminal | Equipped with models:        |                  |
| Supplier recognition (seal): |                                                 | Customer recognition (seal): |                  |
|                              |                                                 |                              |                  |
| Production: Zhou Jingfeng    | Structure: Zhou Jingfeng                        |                              |                  |
| examine and verify:          | Date: 2025.03.19                                |                              |                  |

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## catalogue

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1. product picture



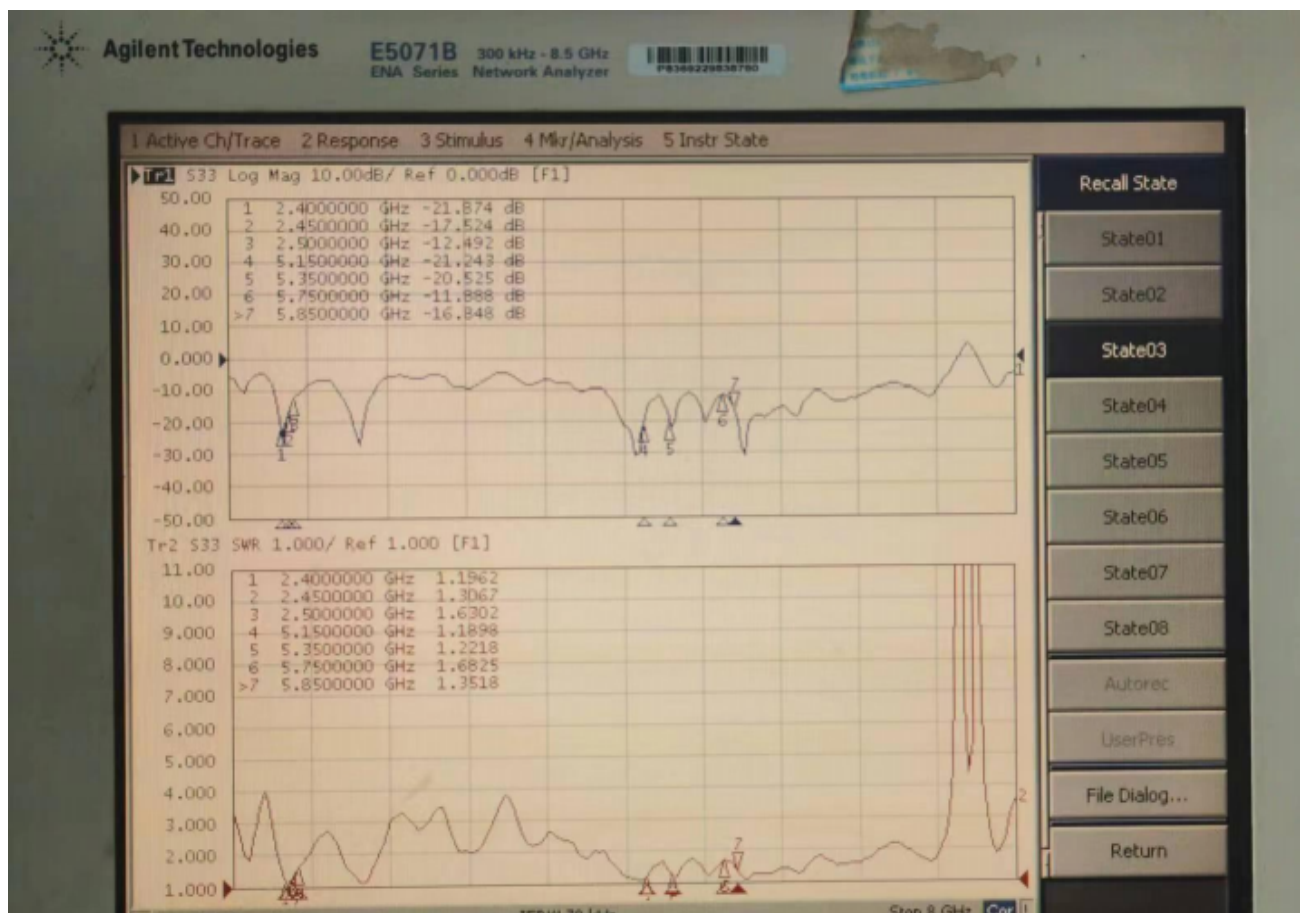
2. Product Parameter

| Product test parameters                                  |                          |                                      |                                                   |
|----------------------------------------------------------|--------------------------|--------------------------------------|---------------------------------------------------|
| Product Name<br>(Name)                                   | External WIFI<br>antenna | Product Model Number<br>(Model Type) | 2.4-5.8W71 White<br>antenna L=250mm +<br>terminal |
| Electrical performance index (Electrical Specifications) |                          |                                      |                                                   |
| Frequency Range<br>(Frenquency Range)                    | 2.4-5.8G                 | Polarization mode<br>(Polarization)  | perpendicular                                     |
| Human impedance<br>(Impedance)                           | 50Ω                      | radiation direction                  | omnidirectional                                   |
| Standing Bobby (VSWR)                                    | ≤2                       | Power capacity (Power)               | 50W                                               |
| Gain (Gain)                                              | 3dBi                     | Bandwidth (Bandwidth                 | 100MHz                                            |

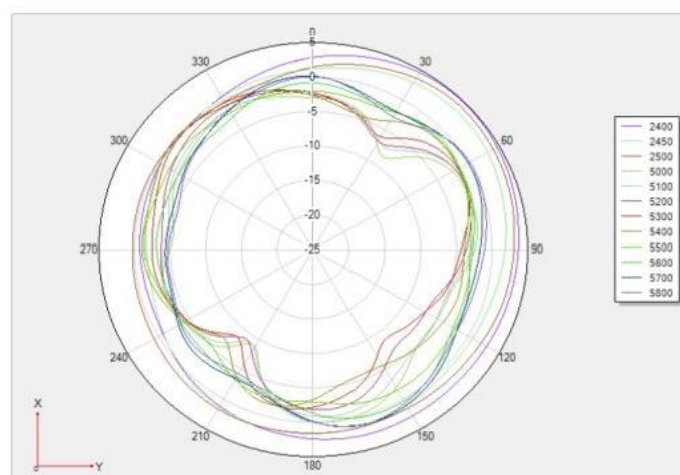
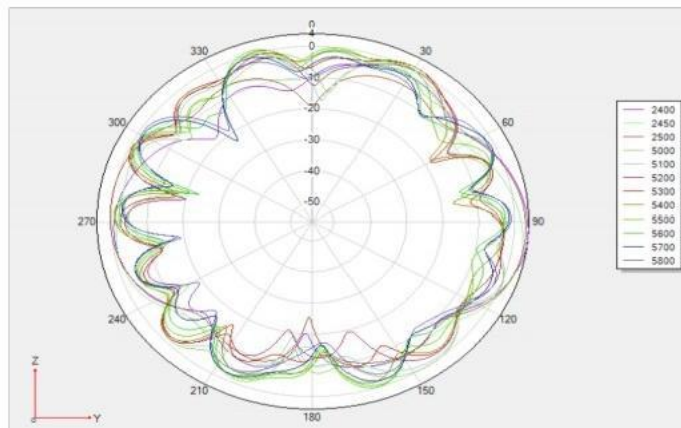
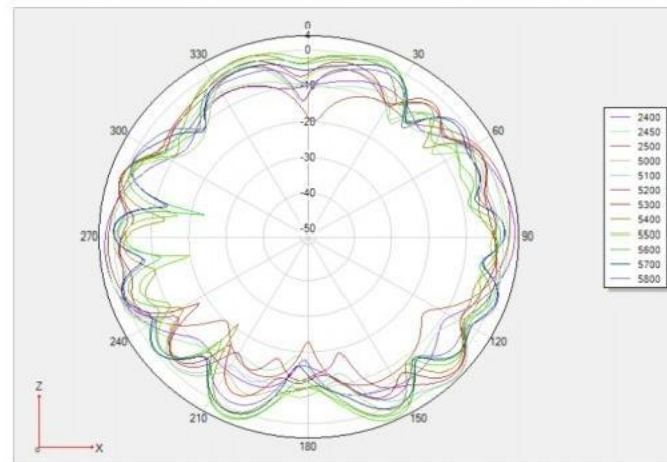
| Mechanical index (Mechanical Specifications) |                   |                                         |                  |
|----------------------------------------------|-------------------|-----------------------------------------|------------------|
| Dimensions (Dimensions)                      | 105.5MM $\pm$ 2MM | Antenna Color (Chassis whiteColor)      |                  |
| Connector model (Connector)                  | Generation end    | Lead length (Cable Length)              | 250MM $\pm$ 5MM  |
| Antenna material (Chassis Material)          | ABS               |                                         |                  |
| working temperature (Working Temperature)    | -40°C $\pm$ 85°C  | Storage temperature (Limit Temperature) | -40°C $\pm$ 85°C |

### 3. S11 (VSWR, Return loss, Smith) -Dark-room test data

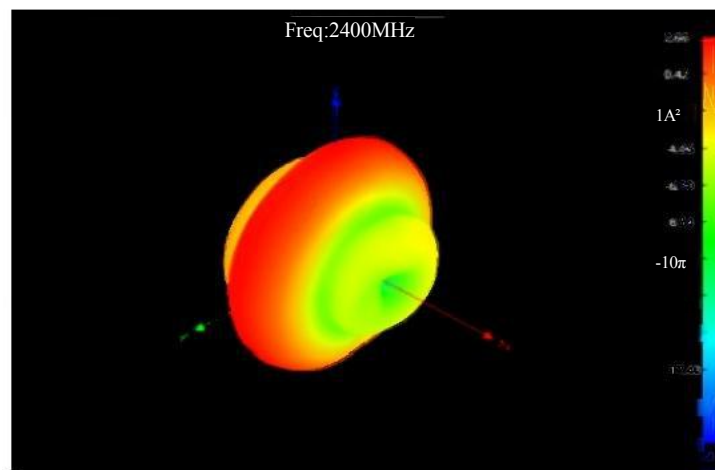
one. The Network Analyzer Report



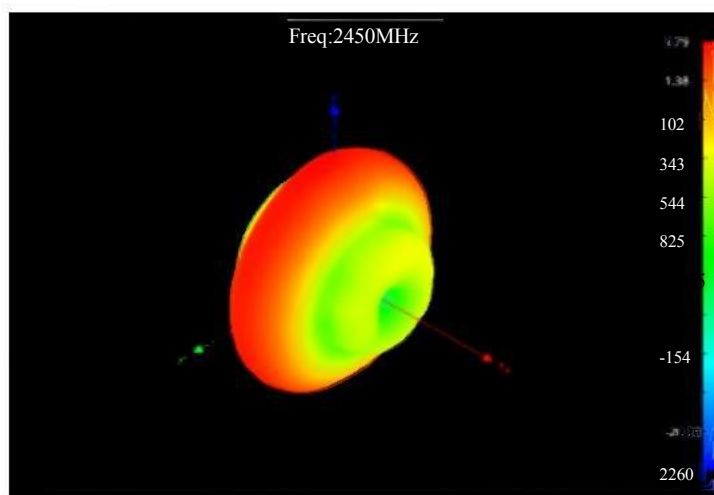
## 2. The 2 D direction map of the dark room data



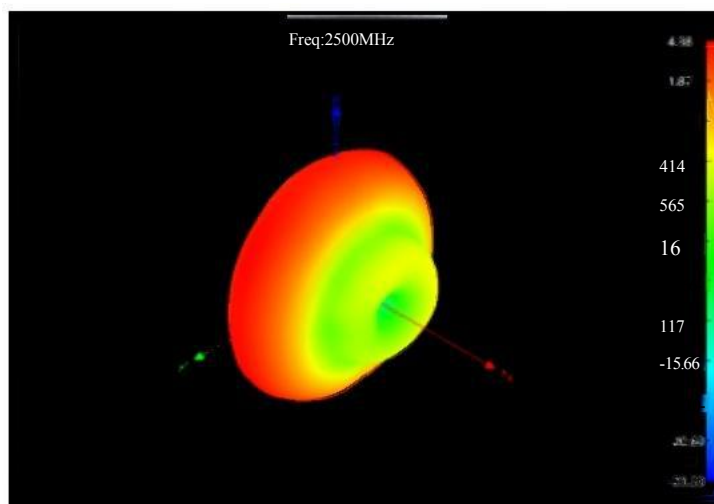
### 3. The 3 D orientation diagram of the dark room data



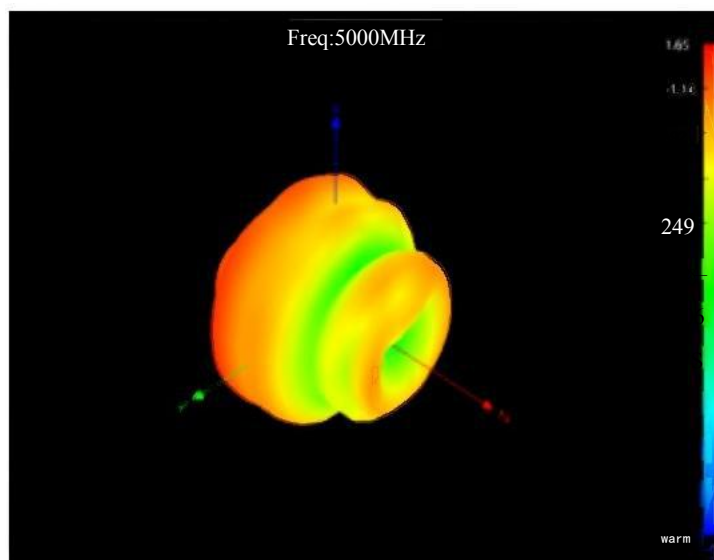
2400MHZ



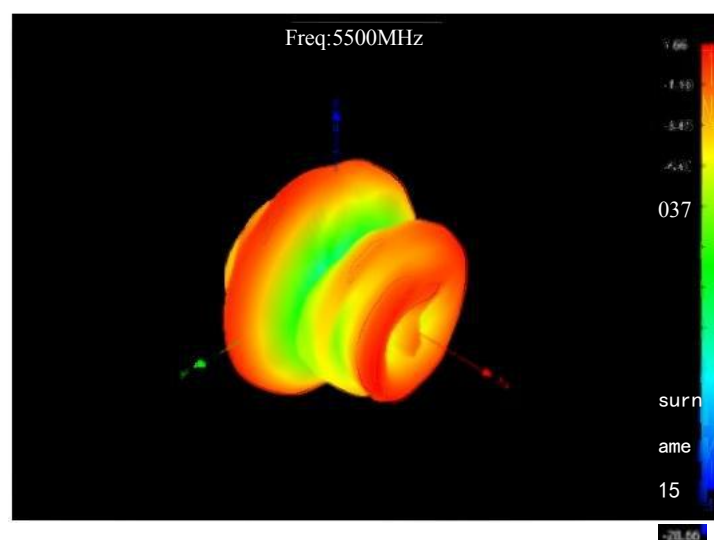
2450MHZ



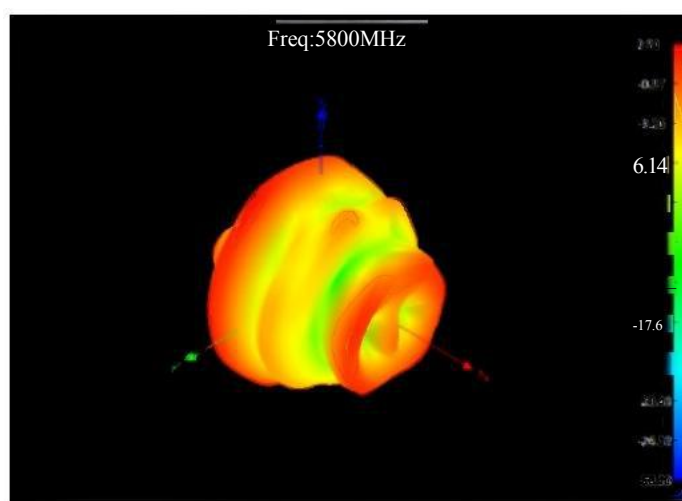
2500MHZ



5000MHZ



5400MHZ



5800MHZ

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#### 4. Antenna efficiency and gain value

| Frequenc | Efficiency | Efficiency / % |  | Frequenc | MaxGain/ | AvgGain/dBi |  |
|----------|------------|----------------|--|----------|----------|-------------|--|
| 2400     | -3.03      | 49.77          |  | 2400     | 2.66     | -3.03       |  |
| 2450     | -2.22      | 59.98          |  | 2450     | 3.79     | -2.22       |  |
| 2500     | -1.67      | 68.08          |  | 2500     | 4.38     | -1.67       |  |
| 5000     | -3.15      | 48.42          |  | 5000     | 1.65     | -3.15       |  |
| 5100     | -2.67      | 54.08          |  | 5100     | 0.26     | -2.67       |  |
| 5200     | -2.3       | 58.88          |  | 5200     | 0.17     | -2.3        |  |
| 5300     | -2.34      | 58.34          |  | 5300     | 1.16     | -2.34       |  |
| 5400     | -2.46      | 56.75          |  | 5400     | 1.55     | -2.46       |  |
| 5500     | -2.68      | 53.95          |  | 5500     | 1.66     | -2.68       |  |
| 5600     | -3.14      | 48.53          |  | 5600     | 1.64     | -3.14       |  |
| 5700     | -2.67      | 54.08          |  | 5700     | 2.18     | -2.67       |  |
| 5800     | -2.26      | 59.43          |  | 5800     | 2.51     | -2.26       |  |

Technical drawing of a vertical antenna assembly, showing two views: a side view (left) and a front view (right).

**Side View (Left):**

- Overall height: 105.4
- Top flange thickness: 12.1
- Bottom flange thickness: 13.0
- Antenna symbol is located on the upper part of the main body.

**Front View (Right):**

- Overall height: 7
- Base flange thickness: 250
- Connector type: IPEX
- Label "Line" points to the base of the antenna.

**Table:**

|                    |       |      |                         |           |                       |  |
|--------------------|-------|------|-------------------------|-----------|-----------------------|--|
|                    |       |      | design:                 |           |                       |  |
| No tolerance       |       |      | proofread:              |           |                       |  |
| General tolerances | 0~5   | ±0.5 | ratify:                 |           | name of a part:       |  |
|                    | 5~10  | ±1.0 |                         |           |                       |  |
|                    | 10~50 | ±2.0 |                         |           | Model: WIFI-W71 White |  |
|                    | 50~   | ±5.0 | Phase marker unit scale |           | Antenna Customer:     |  |
|                    | ±0.05 |      | plot                    | amplitude |                       |  |
|                    | ±0.5? |      | mm A 4                  |           |                       |  |

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## VI. Environmental performance test

|                                           |                                                                                                                                                                                                                                                                                 |                                                                                                                                                        |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Storage environment                       | Test temperature, humidity, air pressure without specified:<br><br>1. Temperature is-<br>30℃ ~ + 80℃ 2.<br>Relative humidity<br>is 45% -85%3. Air<br>pressure is 86 kpa<br>-106 kpa                                                                                             | Electrical and<br>mechanical<br>properties are<br>normal                                                                                               |
| thermocycling                             | Five cycles were performed between 70℃ and<br>40℃ and then 1-2H under normal<br>conditions.                                                                                                                                                                                     | Dimensions shall<br>meet the<br>requirements and<br>shall be<br><br>Meet the<br>satisfaction<br><br>In the mechanical<br>and electrical<br>performance |
| Resistance to constant damp and heat test | Relative humidity: $95 \pm 3\%$ , test temperature:<br>40℃. After a sustained 2H action,<br>Measure the electrical performance of the<br>test article within 5 min after<br>its removal. The test article<br>is 1-2H under normal conditions<br>to check the appearance quality | Dimensions shall<br>meet the<br>requirements and<br>shall be<br><br>Meet the<br>satisfaction<br><br>In the mechanical<br>and electrical<br>performance |
| vibration test                            | Dynamic frequency range: 10-55 HZ,<br>displacement amplitude: 0.35 MM,<br>acceleration amplitude: 50.0M/S,<br>sweep cycle times: 30 times                                                                                                                                       | Electrical and<br>mechanical<br>properties are<br>normal                                                                                               |
| fall-down test                            | 1M falls 3 times in the axis direction<br>vertical to each other                                                                                                                                                                                                                | Electrical and<br>mechanical<br>properties are<br>normal                                                                                               |