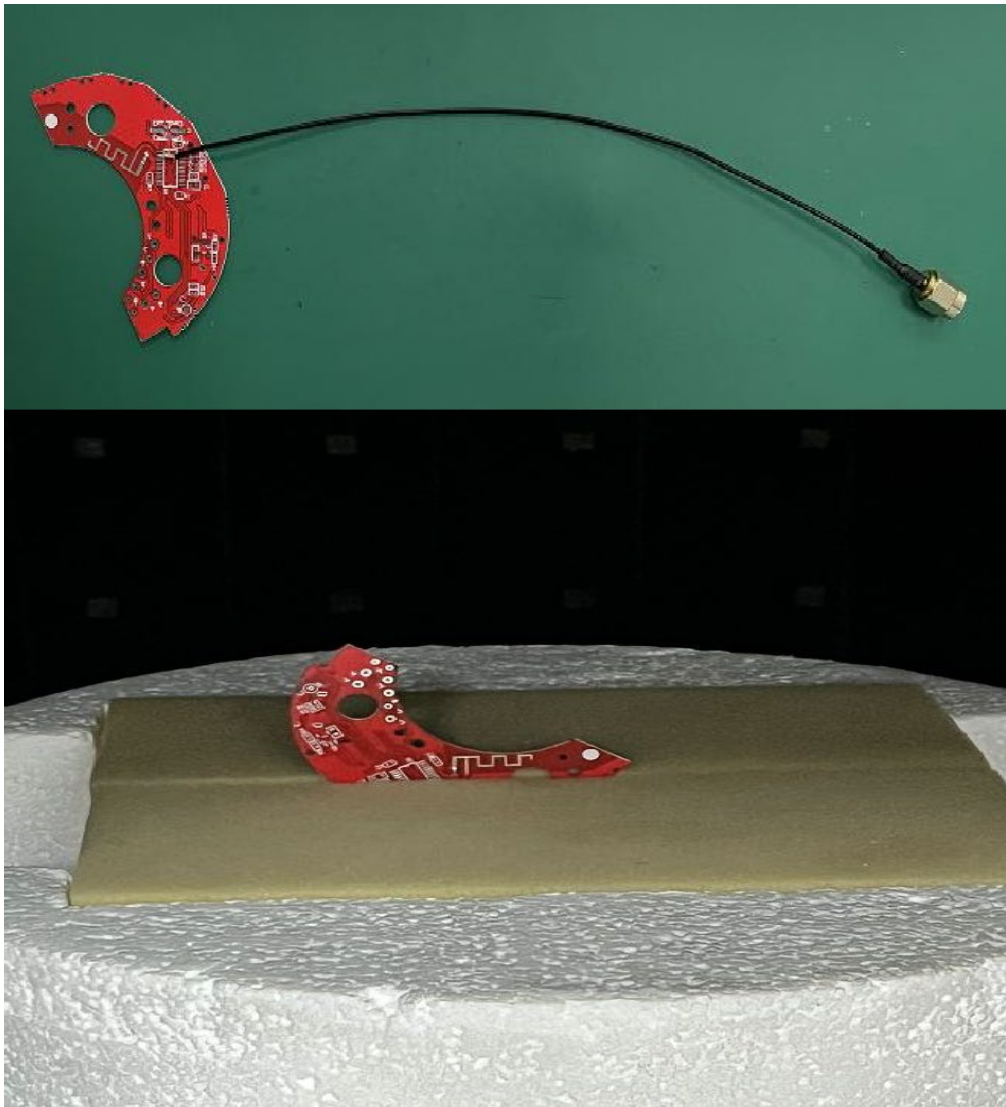


## Antenna test

- 1、 hardware test
- 2、 software test
- 3、 data reading

### 1、 hardware tes

- 1.1 、 PCBA bare board test Solder the RF car cable to the bare board, and then connect it to the OTA device. Rf car wiring and bare board connection diagram, as shown below::



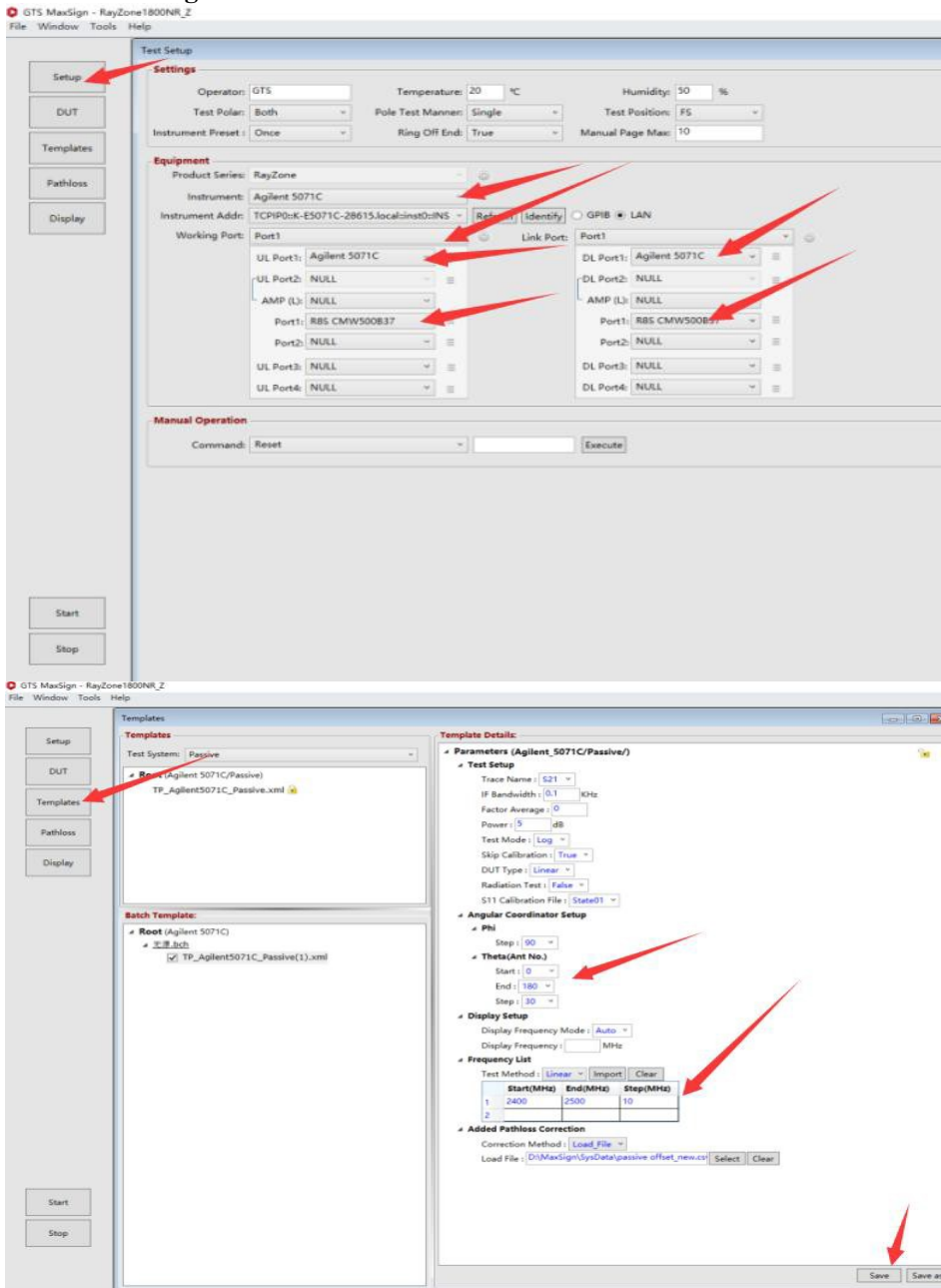
## 1.2 、 Equipment environment

1.3 The equipment required for this test includes



computer, spectrometer, amplifier and darkroom, as shown below

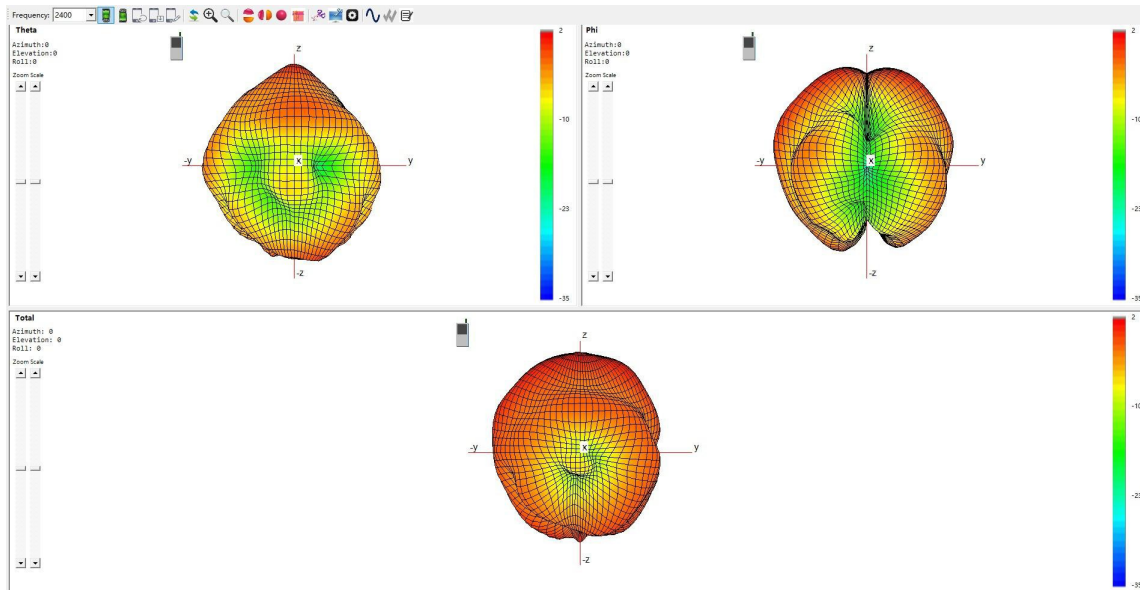
## 2. Software testing



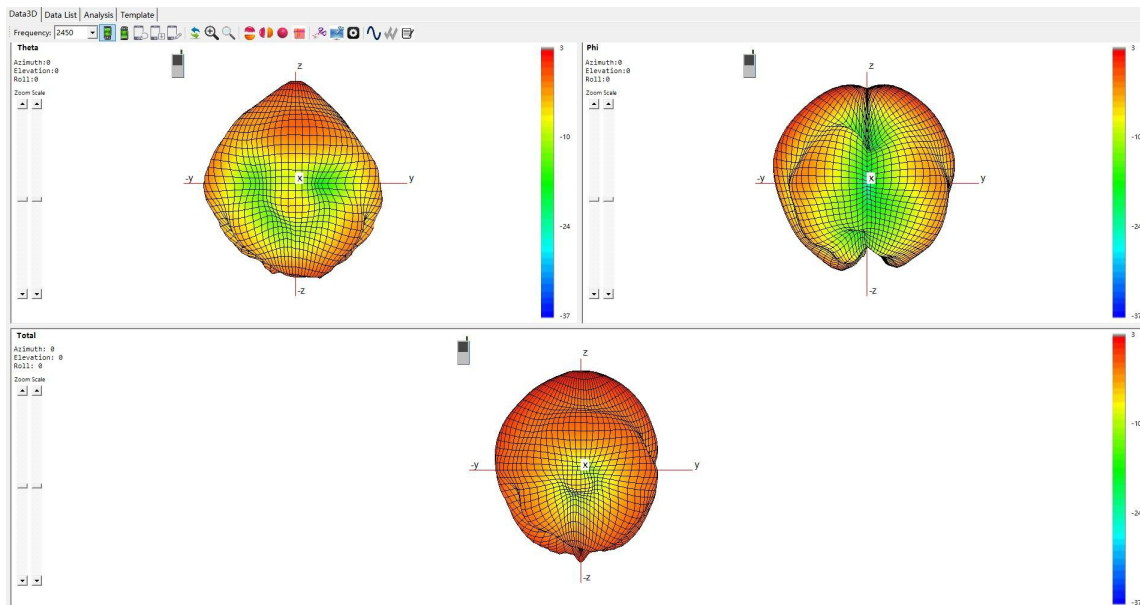
### 3. Data reading

#### 3.1. Scan the 3D radiation pattern of the antenna

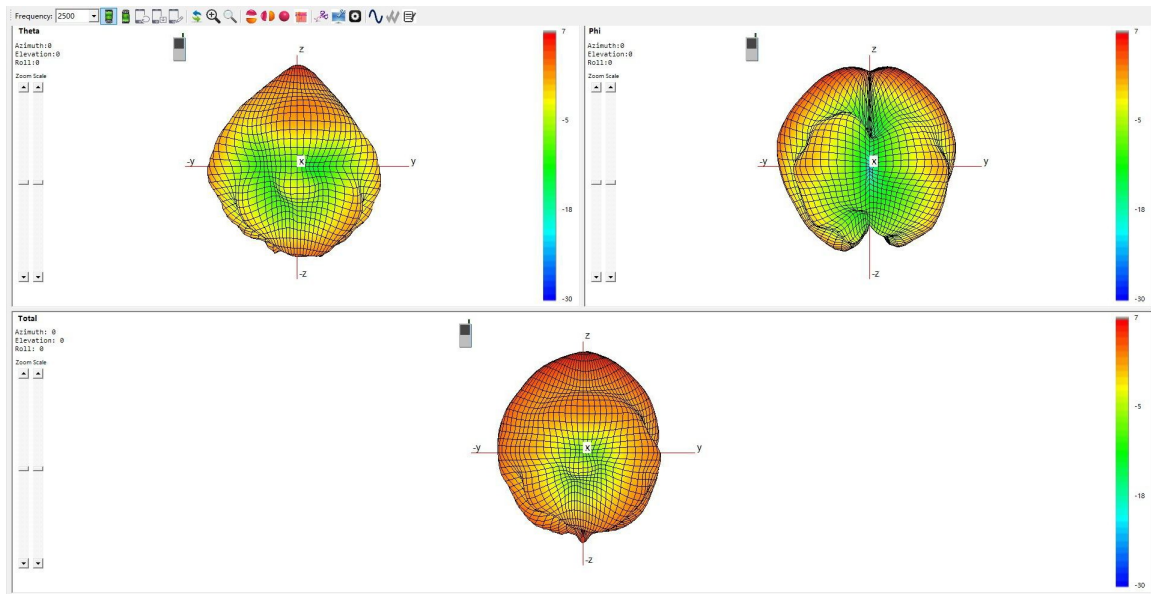
2400MHz:



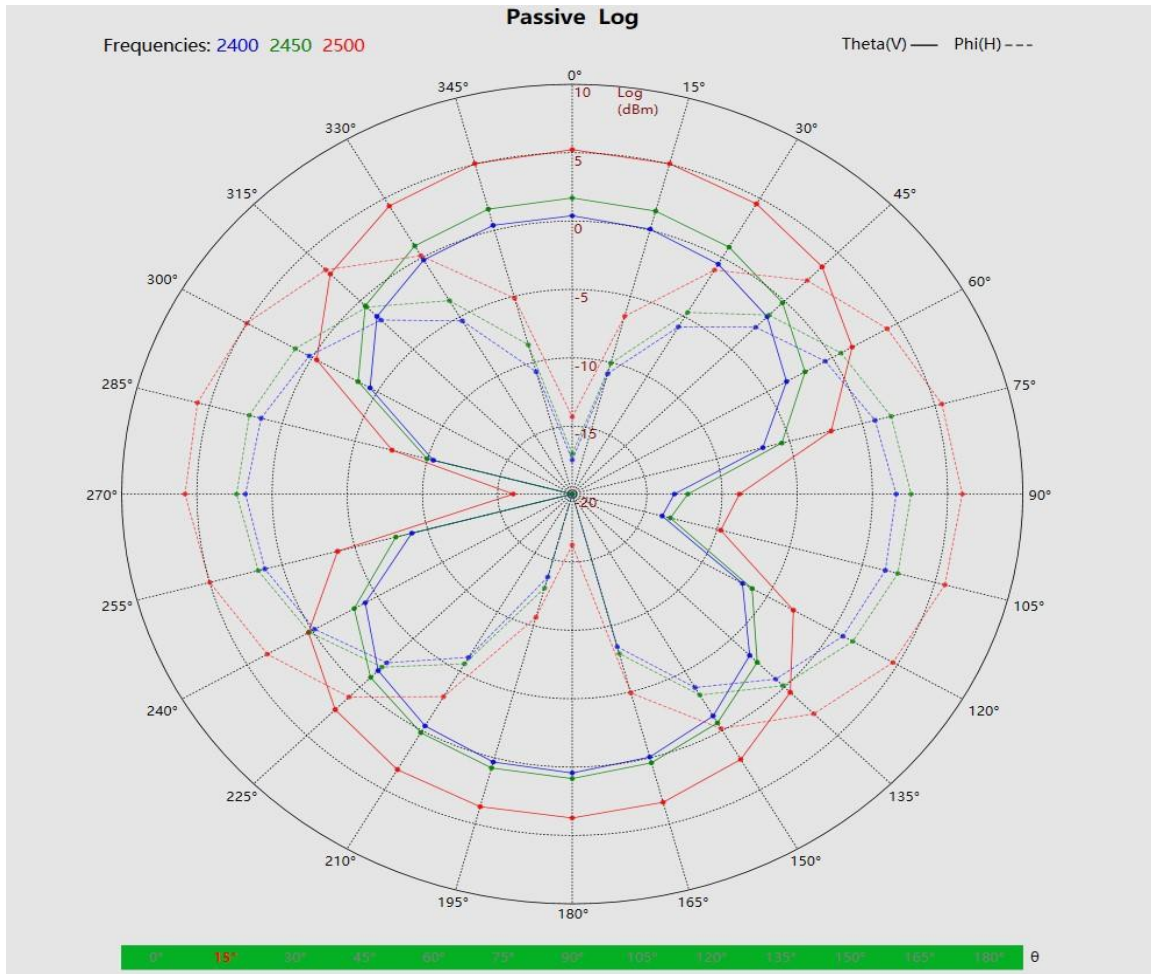
2450MHz:



2500MHz



### 3.1、 Scan the 2D radiation pattern of the antenna



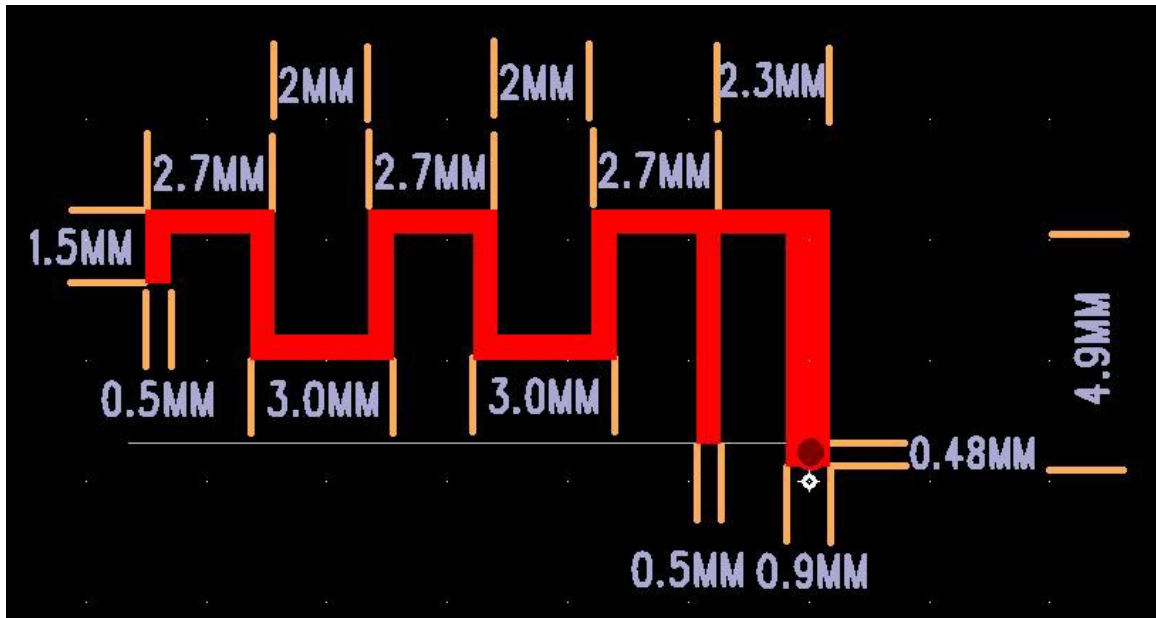
### 3.2、Detailed scan output data results

| Freq(MHz) | Gain(dBi)   | Efficiency(dB) | Efficiency(%) |
|-----------|-------------|----------------|---------------|
| 2400      | 1.815831909 | -2.499486625   | 56.24078029   |
| 2410      | 1.939995668 | -2.580640208   | 55.19960617   |
| 2420      | 1.77499888  | -2.884243292   | 51.47254842   |
| 2430      | 1.943168315 | -2.880329896   | 51.51895086   |
| 2440      | 2.715976951 | -2.201989271   | 60.22836489   |
| 2450      | 3.032635009 | -1.945437241   | 63.89344072   |
| 2460      | 3.506054659 | -1.60520093    | 69.10029588   |
| 2470      | 4.184921528 | -1.029561927   | 78.89396939   |
| 2480      | 4.713058465 | -0.473151401   | 89.67778232   |
| 2490      | 5.716965927 | 0.441459087    | 110.6995636   |
| 2500      | 6.397169322 | 1.014302939    | 126.3078358   |

#### Summary

| ITEM             | ANT SPEC                |         |         |
|------------------|-------------------------|---------|---------|
| Model Name       | 2.4G ANT                |         |         |
| Antenna plate    | PCB antenna             |         |         |
| Center Frequency | 2400MHz                 | 2450MHz | 2500MHz |
|                  | 1.74dBi                 | 2.68dBi | 6.4dBi  |
| MAX. Gain        | 6.4dBi                  |         |         |
| Polarization     | Horizontal and Vertical |         |         |
| Impedance        | 50Ohm                   |         |         |
| Manufacture      |                         |         |         |

AntennaPhoto&Length(mm)



| Frequency<br>(MHz) | Gain(dBi)  |        |          |        |
|--------------------|------------|--------|----------|--------|
|                    | Horizontal |        | Vertical |        |
|                    | MAX        | MIN    | MAX      | MIN    |
| 2400               | 1.76       | -34.76 | 1.76     | -29.84 |
| 2450               | 2.95       | -34.03 | 2.95     | -36.2  |
| 2500               | 6.4        | -27.86 | 4.7      | -29.82 |