

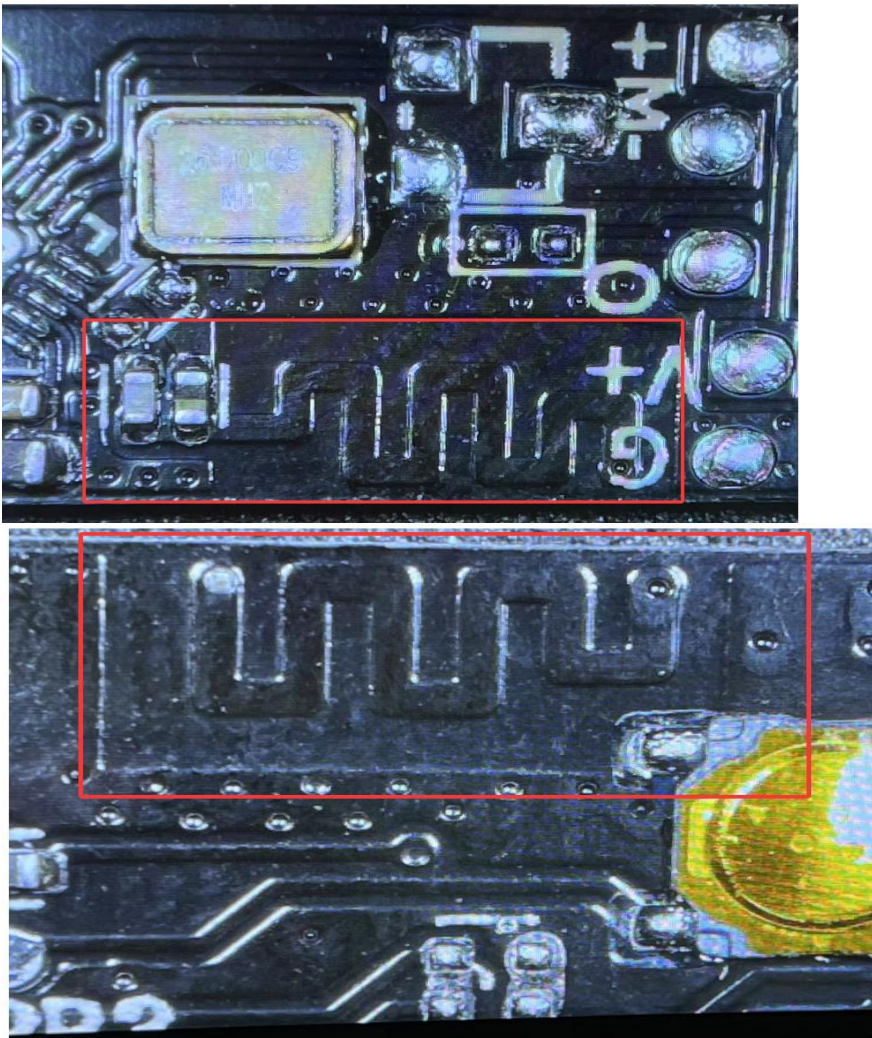
# Antenna Testing

1. Hardware Testing
2. Software Testing
3. Data Reading

## 1. Hardware Testing

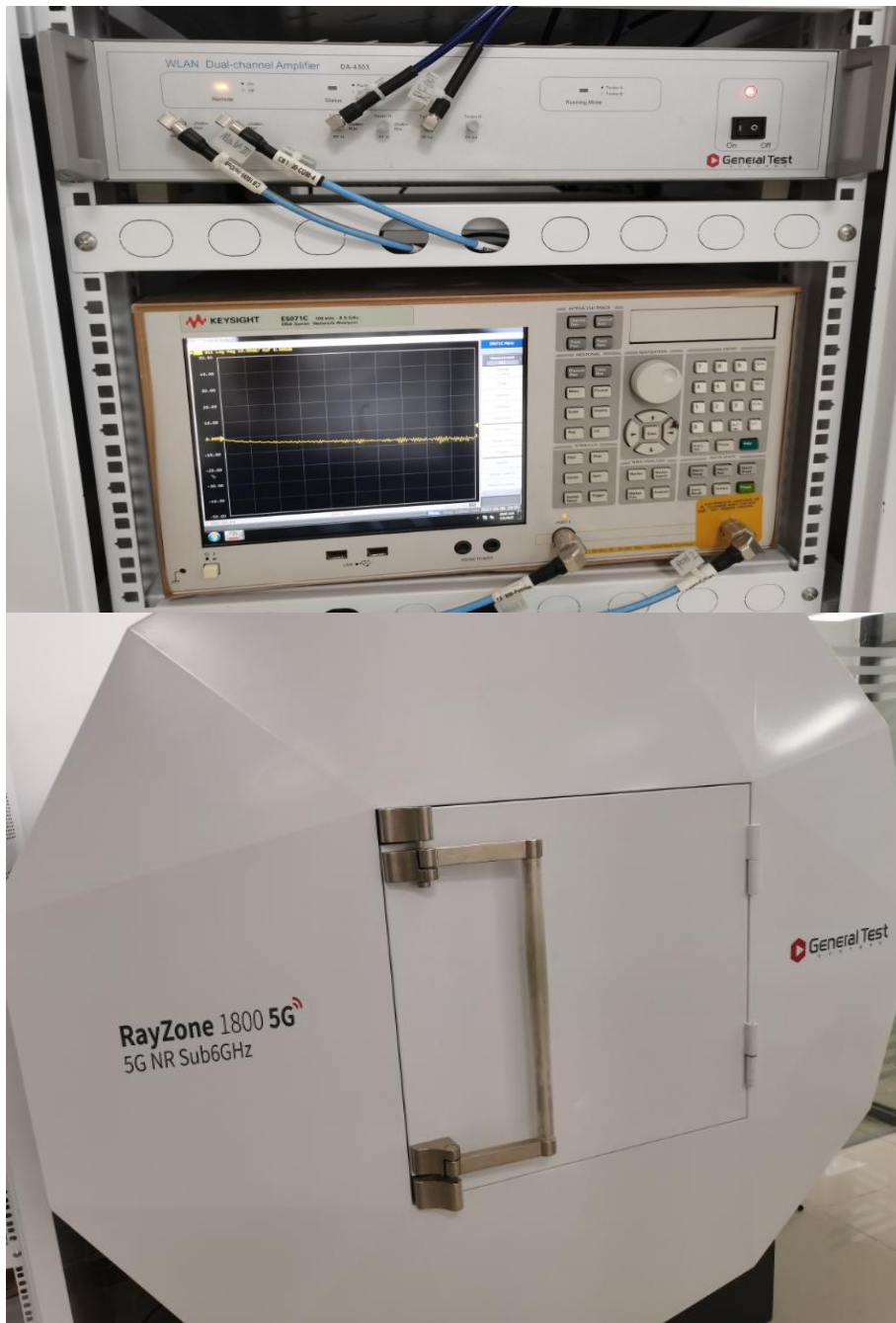
### 1.1 PCBA Bare Board Testing

Solder the RF connecting wire to the bare board, and then connect it to the OTA device. The connection diagram of the RF connecting wire and the bare board is as shown in the following figure:

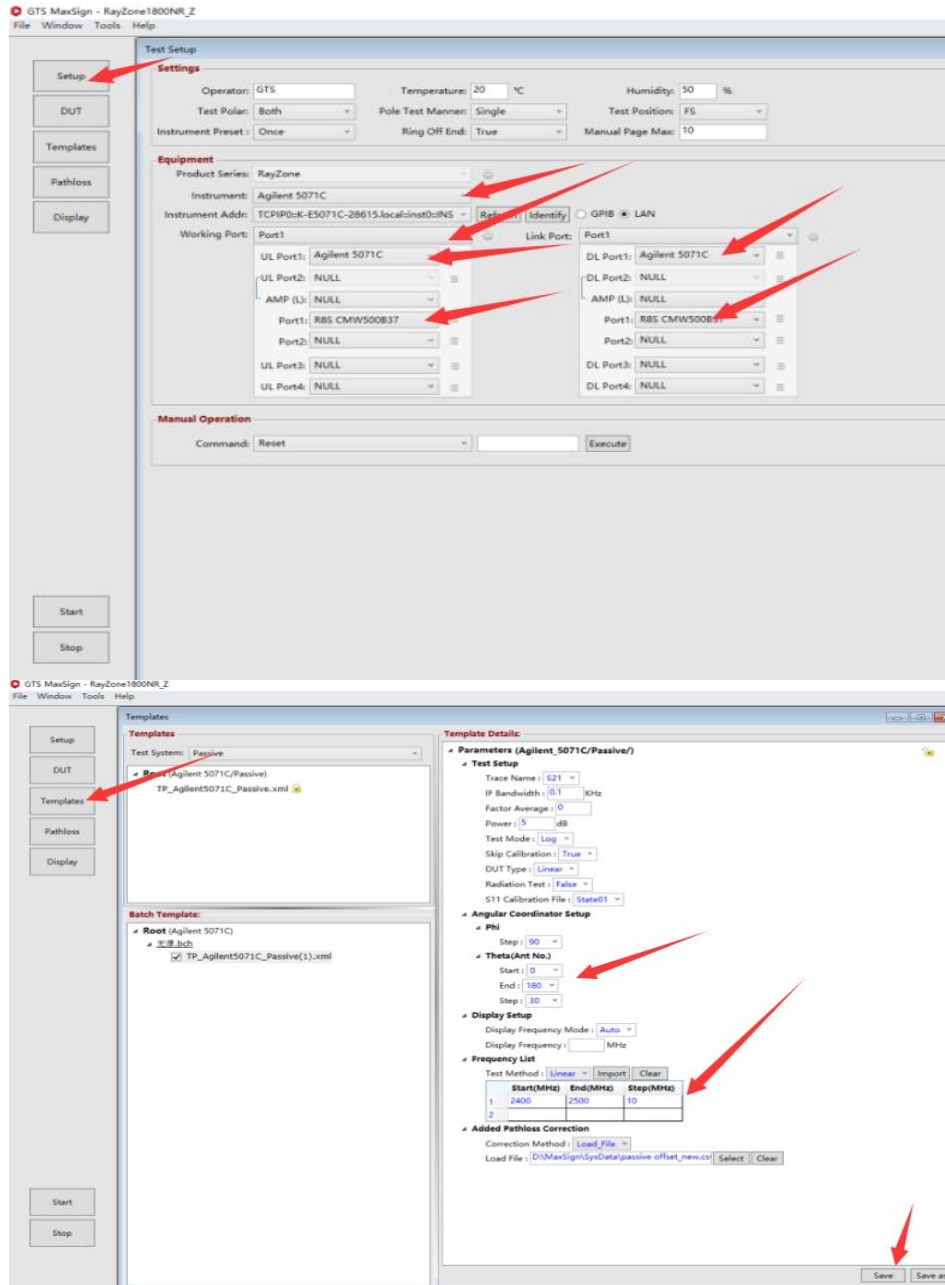


## 1.2 Equipment Environment

The equipment needed for this test includes a computer, a spectrum analyzer, an amplifier and an anechoic chamber, as shown in the following figure:



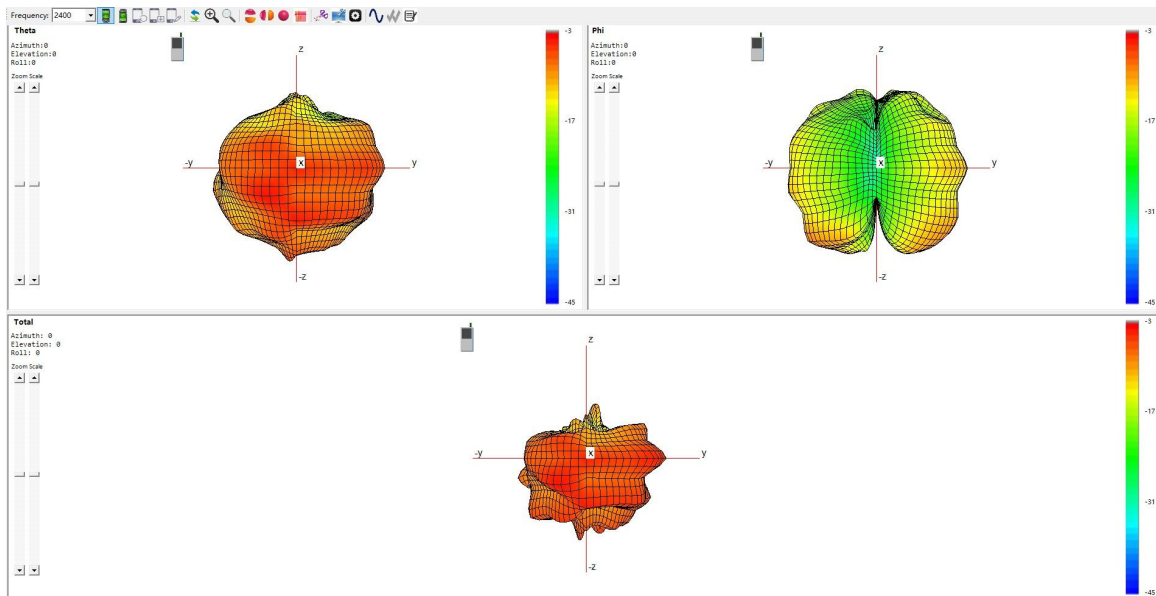
## 2. Software Testing



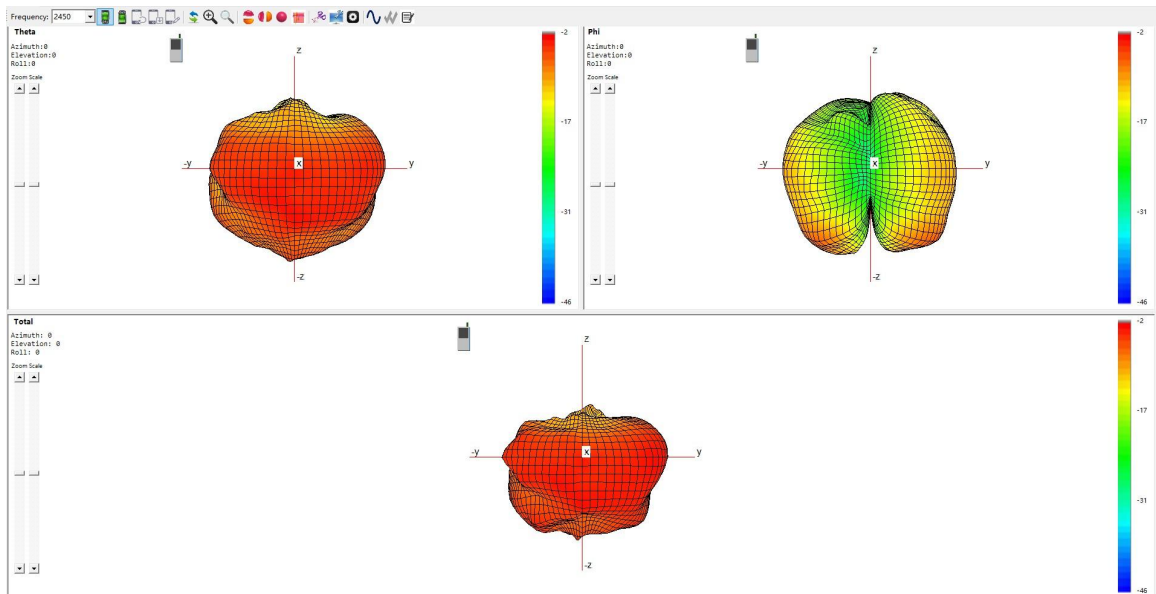
### 3. Data Reading

#### 3.1 Scan the 3D Radiation Pattern of the Antenna

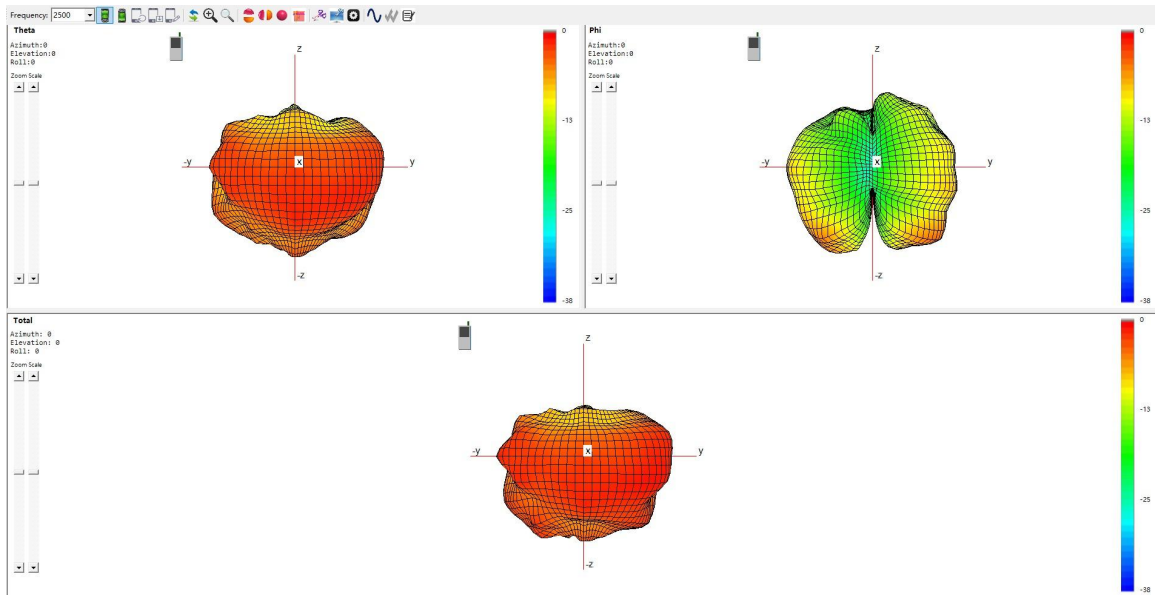
2400MHz:



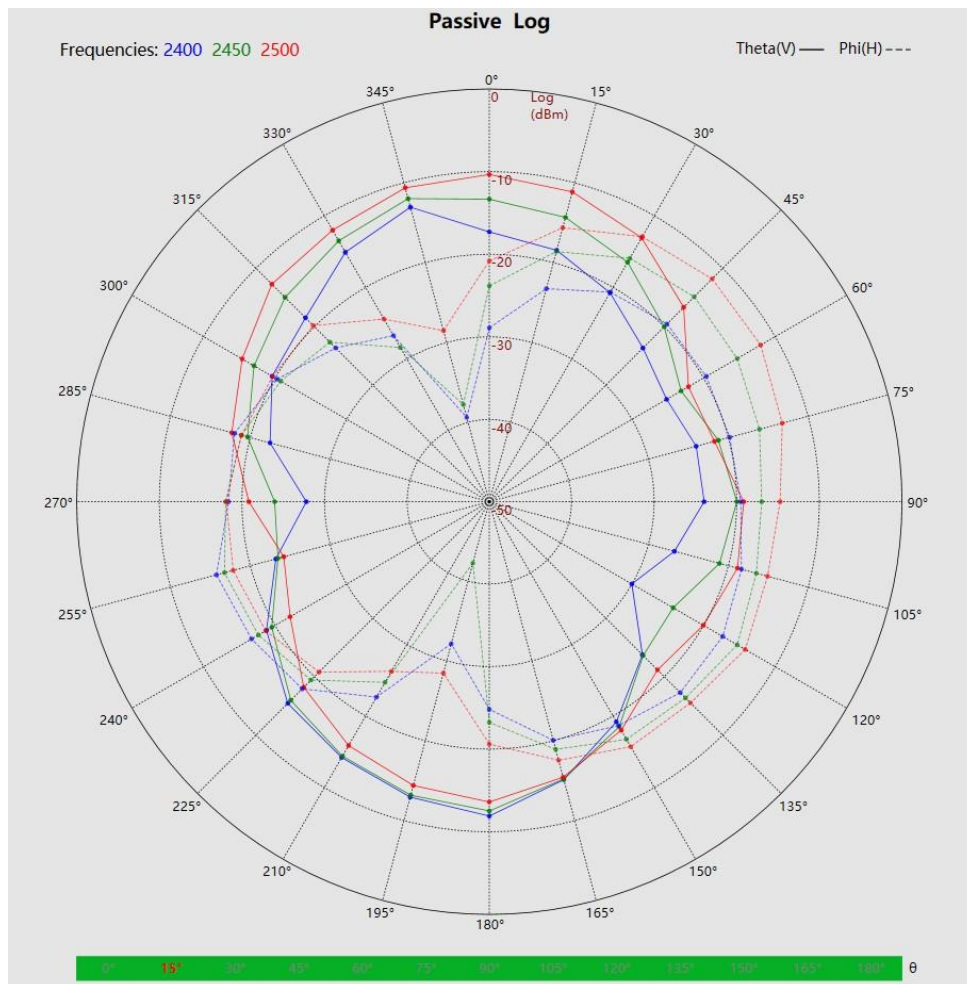
2450MHz:



2500MHz



### 一、3.2 Scan the 2D Radiation Pattern of the Antenna



3.3 Detailed Scanning Output

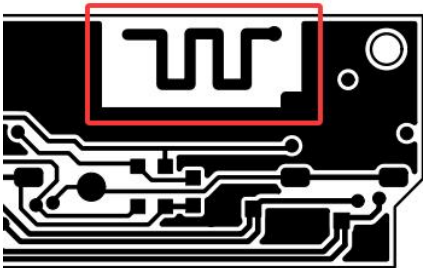
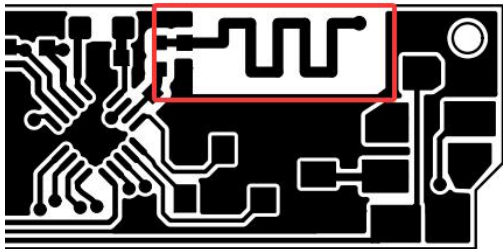
DataResults

| Freq(MHz) | Gain(dBi) | Efficiency(dB) | Efficiency(%) |
|-----------|-----------|----------------|---------------|
| 2400      | -3.70     | -9.21          | 12.01         |
| 2410      | -3.31     | -8.63          | 13.71         |
| 2420      | -3.03     | -8.08          | 15.57         |
| 2430      | -3.12     | -7.64          | 17.22         |
| 2440      | -2.81     | -7.32          | 18.54         |
| 2450      | -2.44     | -6.72          | 21.28         |
| 2460      | -2.15     | -6.23          | 23.85         |
| 2470      | -1.72     | -5.98          | 25.22         |
| 2480      | -1.10     | -5.60          | 27.54         |
| 2490      | -0.81     | -5.35          | 29.14         |
| 2500      | -0.63     | -5.01          | 31.57         |

Summary

| ITEM             | ANT SPEC                |          |          |
|------------------|-------------------------|----------|----------|
| Model Name       | 2.4G ANT                |          |          |
| Antenna plate    | PCB antenna             |          |          |
| Center Frequency | 2400MHz                 | 2450MHz  | 2500MHz  |
|                  | -3.70dBi                | -2.44dBi | -0.63dBi |
| MAX. Gain        | -0.63dBi                |          |          |
| Polarization     | Horizontal and Vertical |          |          |
| Impedance        | 50Ohm                   |          |          |
| Manufacture      |                         |          |          |

AntennaPhoto&Length(mm)



| Frequency<br>(MHz) | Gain(dBi)  |          |
|--------------------|------------|----------|
|                    | Horizontal | Vertical |

|      | MAX   | MIN    | MAX   | MIN    |
|------|-------|--------|-------|--------|
| 2400 | -8.79 | -44.56 | -3.71 | -43.45 |
| 2450 | -5.96 | -45.86 | -2.46 | -35.98 |
| 2500 | -3.91 | -37.31 | -1.23 | -32.32 |

|                    |                                       |
|--------------------|---------------------------------------|
| COMPANY            | Shenzhen huashiyu Technology Co., LTD |
| DESCRIPTION        | PCB On-board antenna                  |
| OUR MODEL NO       | FVIP-V2.71                            |
| Dimension (mm)L*1T | 29.3mm*0.4MM                          |

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