

# Passive antenna report

Manufacturer: Shenzhen Feisheng Electronics Co., Ltd.

Project: HN

Antenna modification: A0

Preparation of Engineering: Xi.Guo

Reviewer: Xi.Guo

Date: 2025.09.15



## Catalogue:

This report is a debugging of the performance of HN, with the antenna operating frequency as the Main Antenna focus: : 2400-2500MHz , 5150-5850MHz Sub: : 2400-2500MHz , 5150-5850MHz

## Test the content;

- 1、 Product graphics
- 2、 Testing System
- 3、 Antenna matching
- 4、 Test results of antenna
  - 4.1 S11 Parameters - Main Antenna Antenna
  - 4.2 Efficiency Gain - Main Antenna Antenna
  - 4.3 Two dimensional graphics - Main Antenna antenna
- 5、 Test results of antenna
  - 5.1 S11 Parameters -Sub Antenna
  - 5.2 Efficiency Gain -Sub antenna
  - 5.3 Two dimensional graphics - Sub Antenna

1. Product graphics

Main Antenna



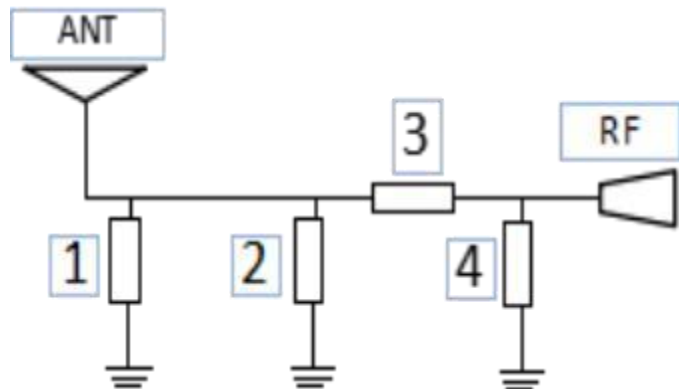
Sub Antenna



## 2、Test system

| <b>serial number</b>       | <b>testing instrument</b>                                                |
|----------------------------|--------------------------------------------------------------------------|
| <b>S11 Parameters</b>      | <b>Agilent 5071B</b>                                                     |
| <b>OTA Test</b>            | <b>Agilent 5071B &amp;CMW500 &amp; Agilent 8960 &amp; Feitu darkroom</b> |
| <b>Gain and efficiency</b> | <b>Agilent 5071B &amp;Feitu darkroom</b>                                 |

### 3、Antenna matching

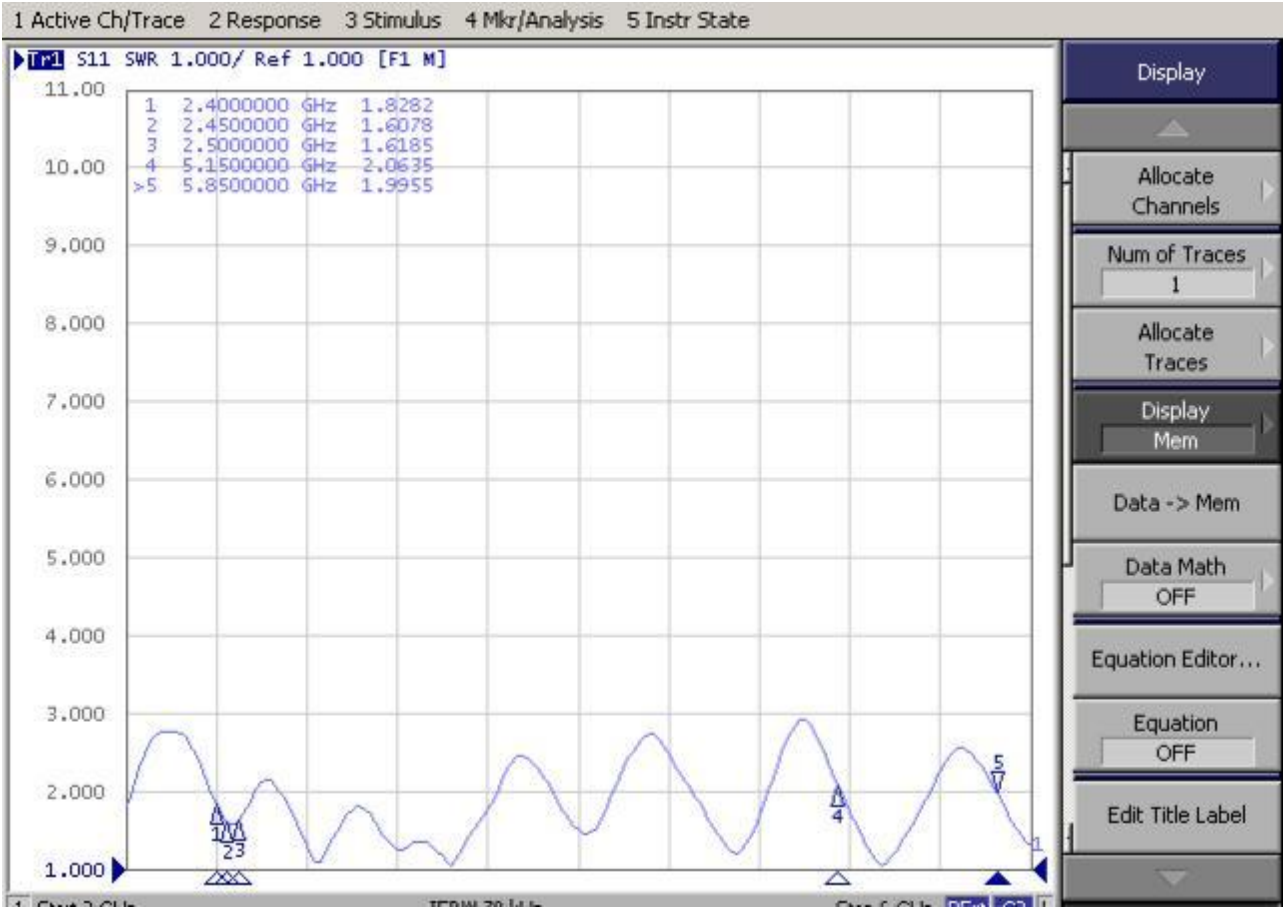


| serial number | capacitance | inductance |
|---------------|-------------|------------|
| 1             | N/A         | N/A        |
| 2             | N/A         | N/A        |
| 3             | N/A         | N/A        |
| 4             | N/A         | N/A        |

The PCB board end matching circuit has not been modified.

4、天线的测试结果

4.1 S11参数——主天线



|                     |      |      |      |      |      |
|---------------------|------|------|------|------|------|
| Frequency<br>(工作频段) | 2400 | 2450 | 2500 | 5150 | 5850 |
| VSWR<br>(驻波比)       | 1.82 | 1.60 | 1.61 | 2.06 | 1.99 |

#### 4、Test results of antenna

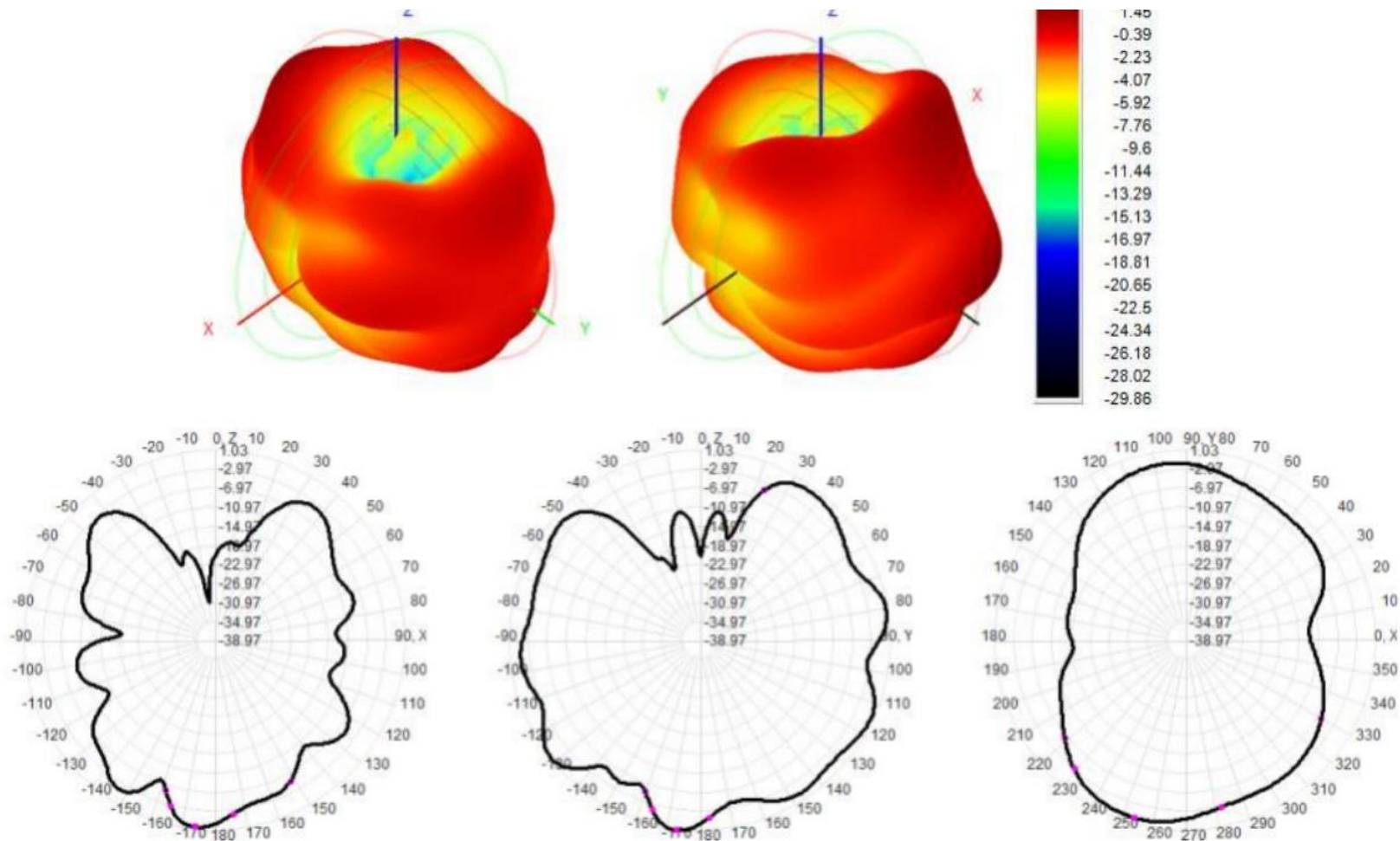
##### 4.2 Efficiency gain - main antenna

| Frequency (MHz)<br>(工作频段) | Efficiency<br>(%)<br>(效率) | Peak GAIN<br>(dBi)<br>(增益) |
|---------------------------|---------------------------|----------------------------|
| 2400                      | 46.81                     | 1.33                       |
| 2450                      | 58.59                     | 1.66                       |
| 2500                      | 53.84                     | 3.03                       |
| 5150                      | 52.71                     | 3.03                       |
| 5850                      | 50.60                     | 3.73                       |

#### 4、Test results of antenna

##### 4.3 2、 3D graphics - main antenna

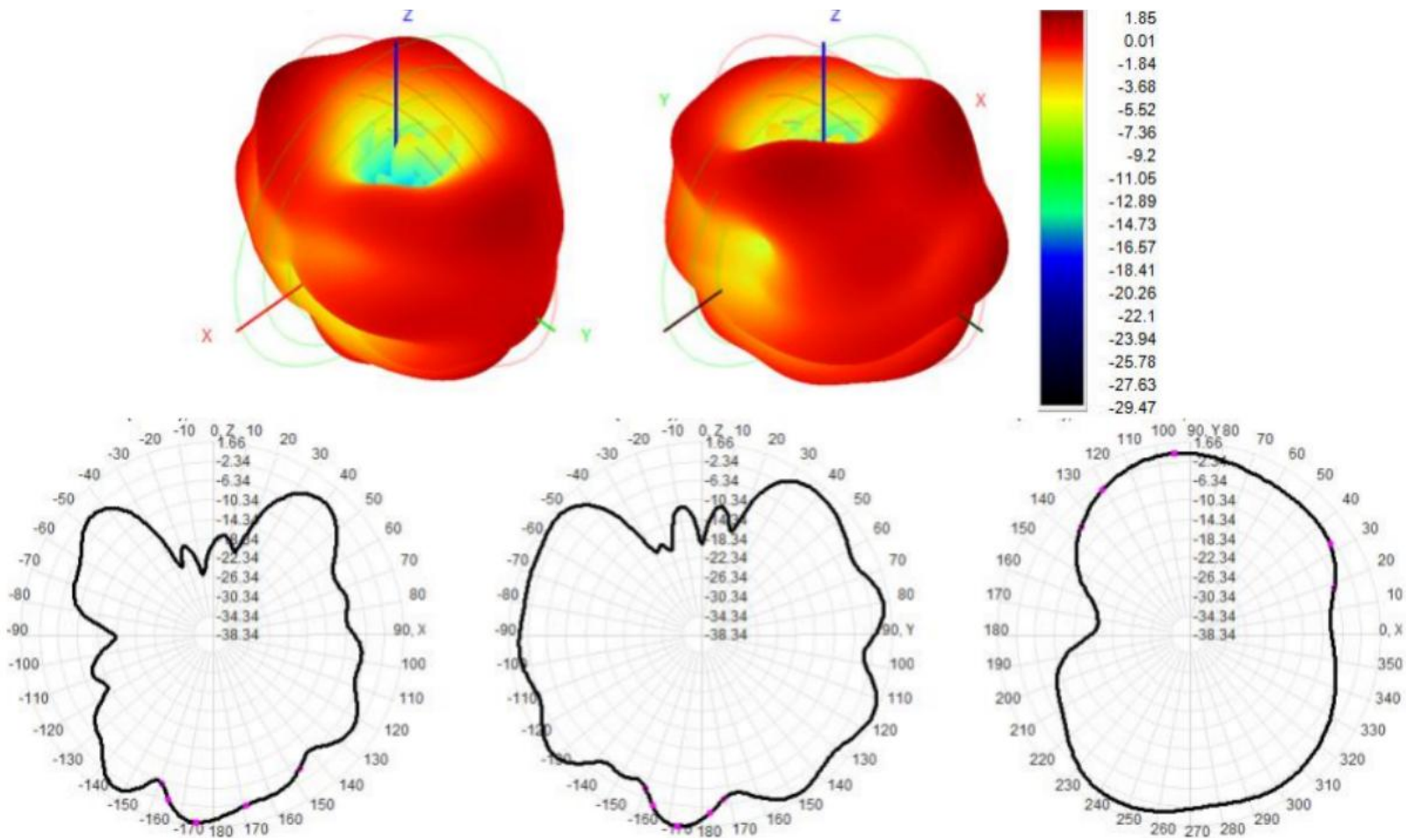
2400MHz



#### 4、Test results of antenna

##### 4.3 2、 3D graphics - main antenna

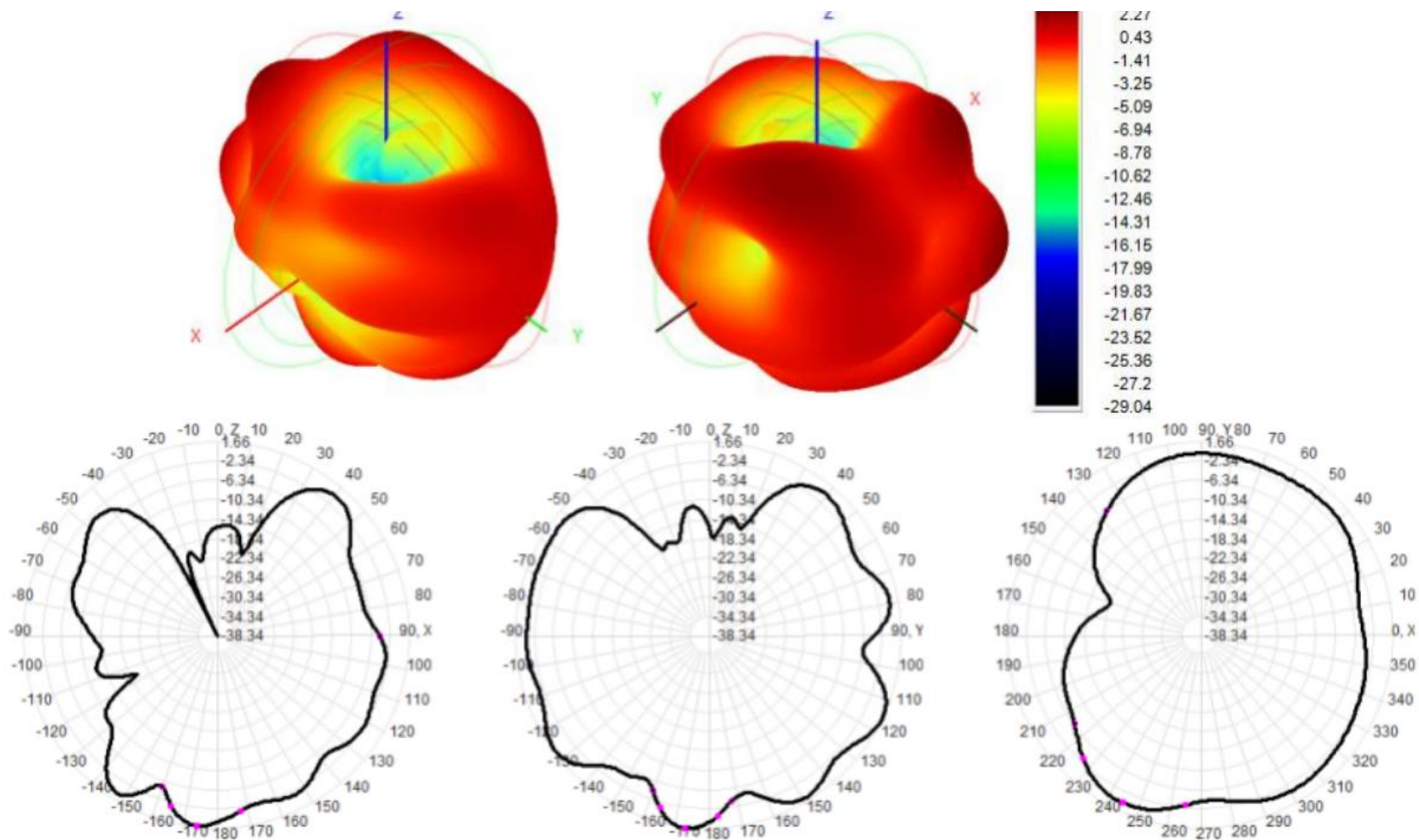
2450MHz



#### 4、Test results of antenna

##### 4.3 2、 3D graphics - main antenna

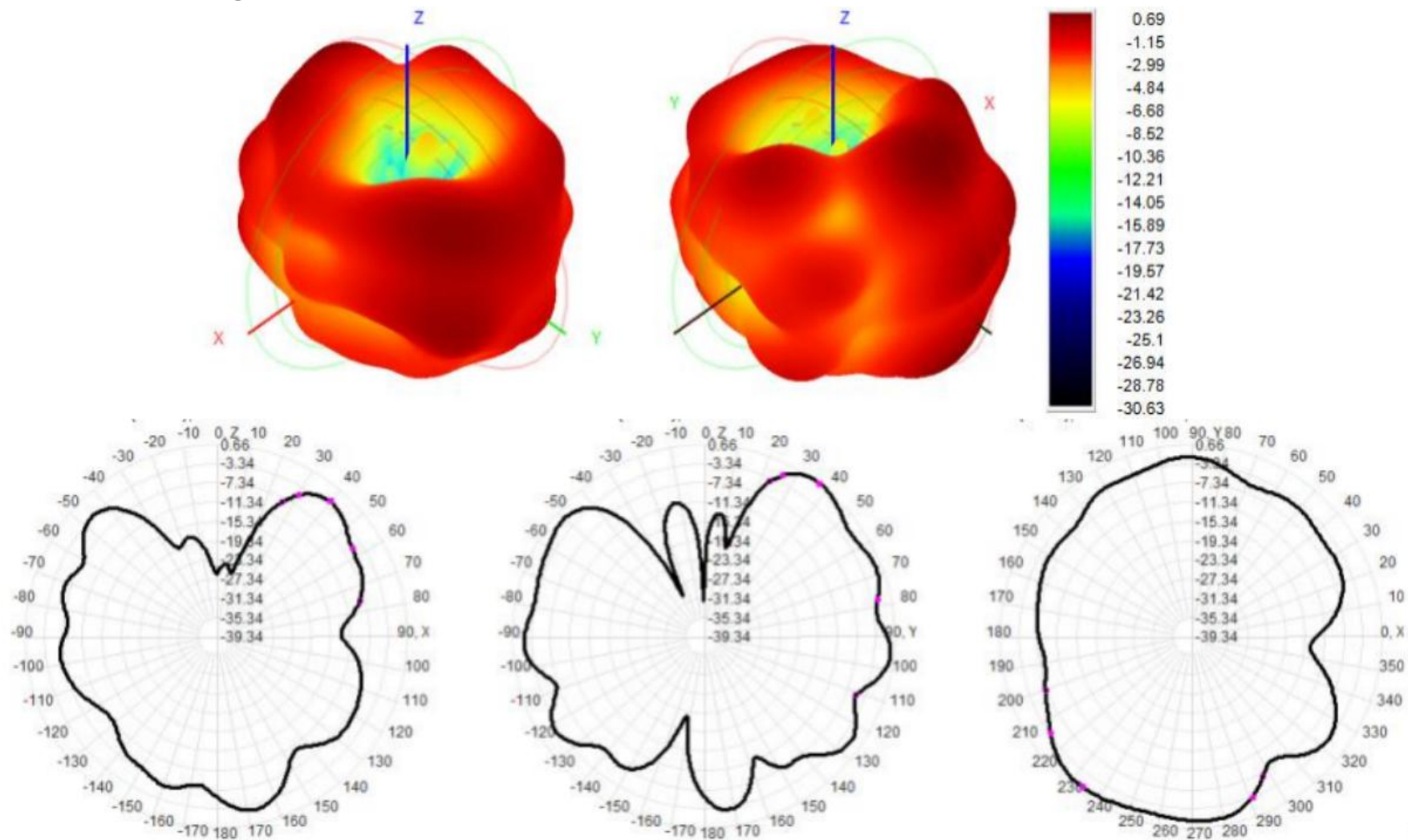
2500MHz



#### 4、Test results of antenna

##### 4.3 2、 3D graphics - main antenna

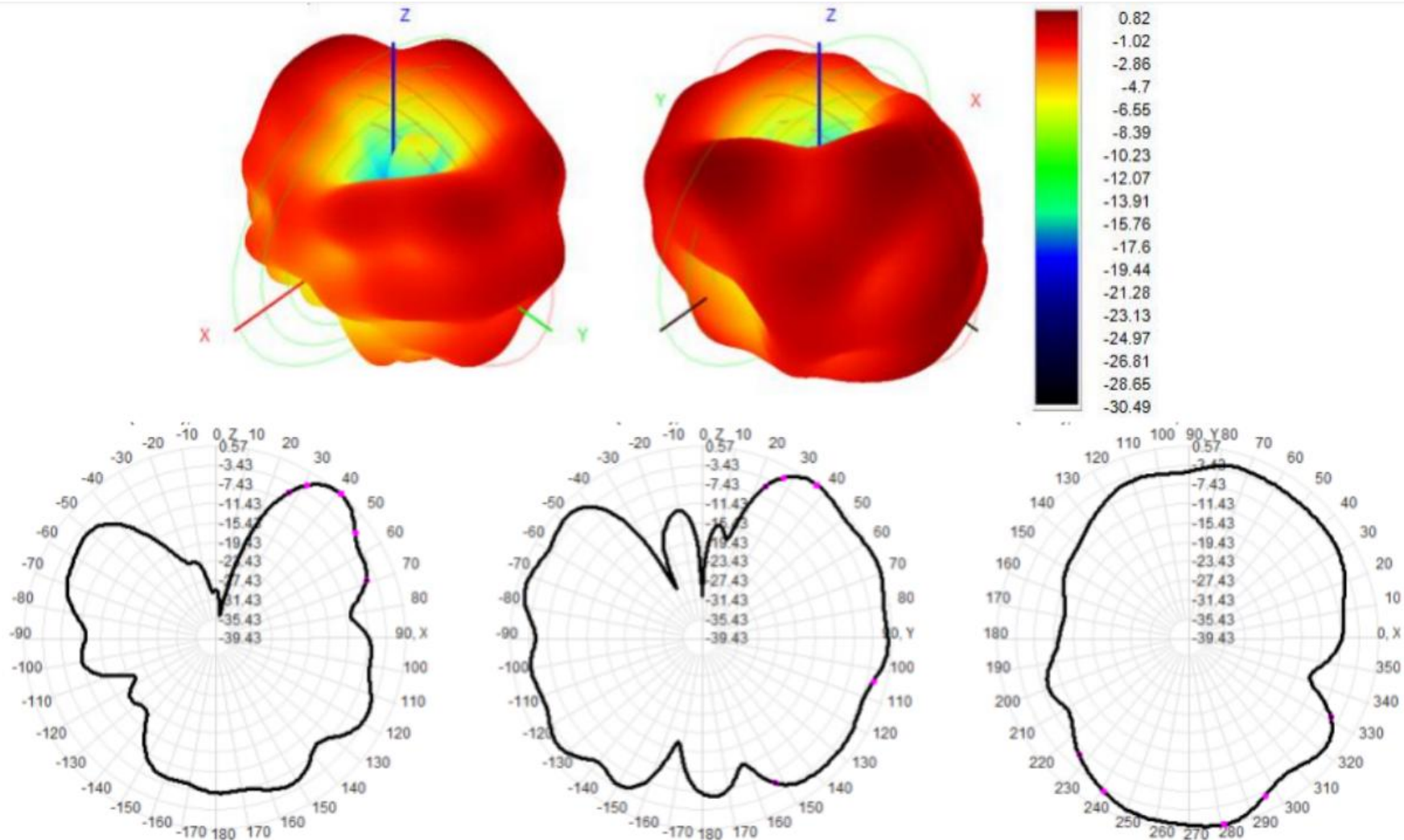
5150MHz



#### 4、Test results of antenna

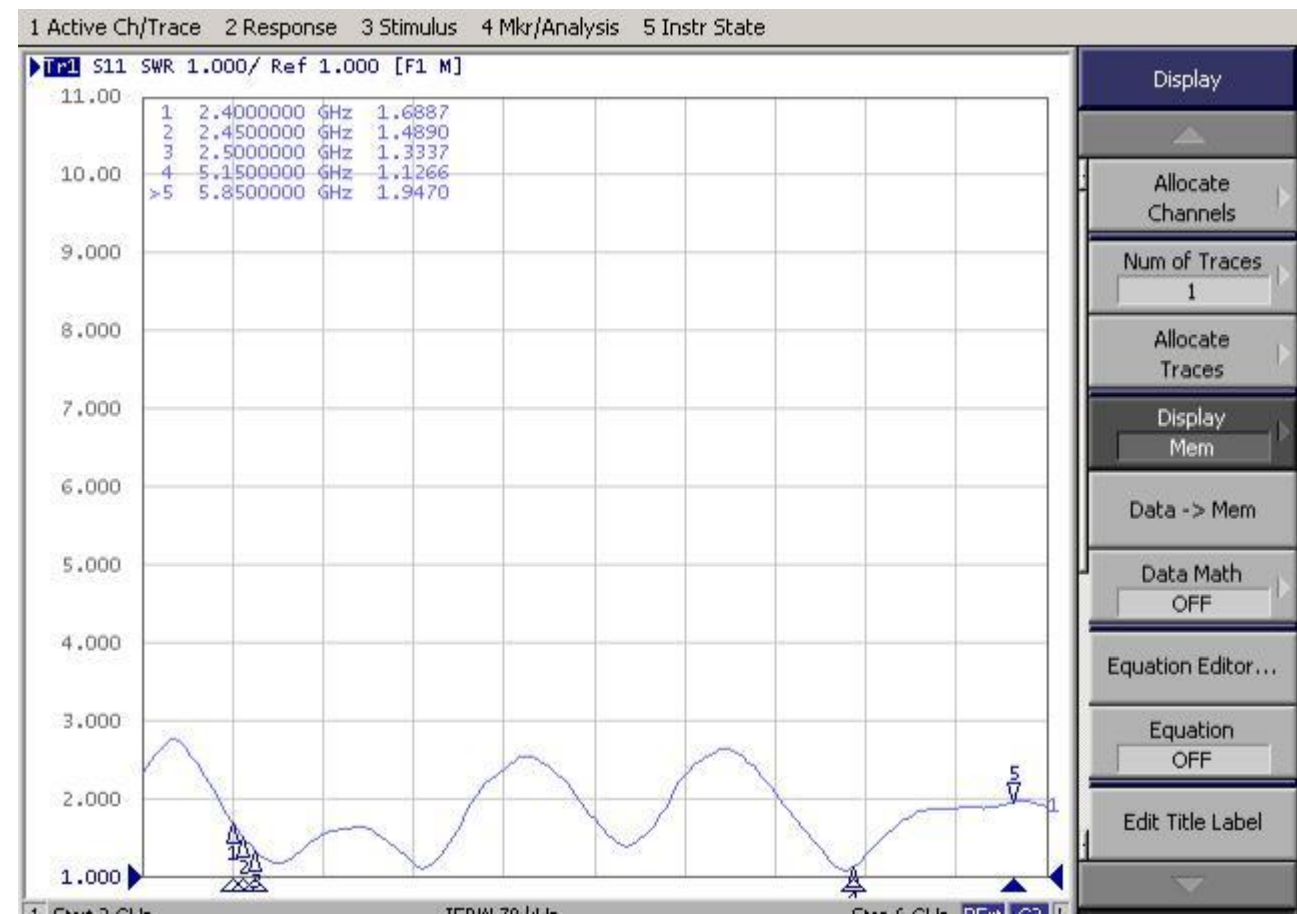
##### 4.3 2、 3D graphics - main antenna

5850MHz



5、Test results of antenna

5.1 S11 parameter - sub antenna



|                     |      |      |      |      |      |
|---------------------|------|------|------|------|------|
| Frequency<br>(工作频段) | 2400 | 2450 | 2500 | 5150 | 5850 |
| VSWR<br>(驻波比)       | 1.68 | 1.48 | 1.33 | 1.12 | 1.94 |

5、Test results of antenna

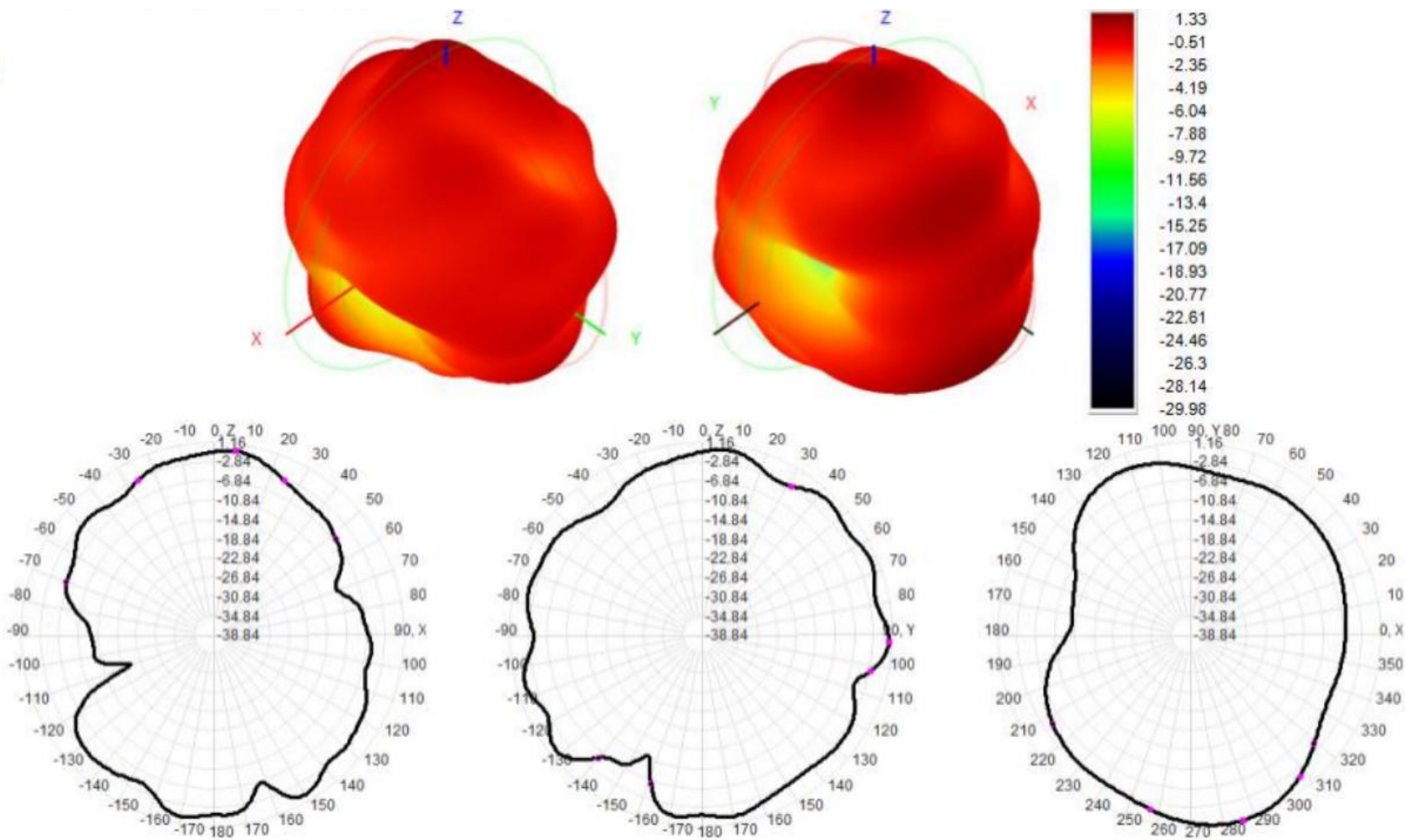
5.2 Efficiency gain - sub antenna

| Frequency (MHz)<br>(工作频段) | Efficiency<br>(%)<br>(效率) | Peak GAIN<br>(dBi)<br>(增益) |
|---------------------------|---------------------------|----------------------------|
| 2400                      | 37.97                     | 1.45                       |
| 2450                      | 48.11                     | 1.85                       |
| 2500                      | 54.31                     | 2.27                       |
| 5150                      | 34.41                     | 0.69                       |
| 5850                      | 34.61                     | 0.82                       |

## 5、Test results of antenna

### 5.3 2、 3D graphics - sub antenna

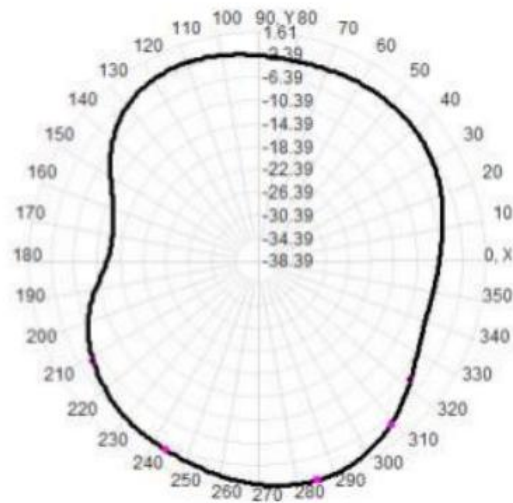
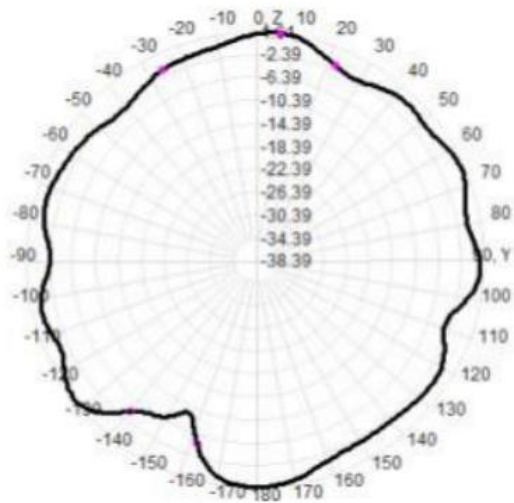
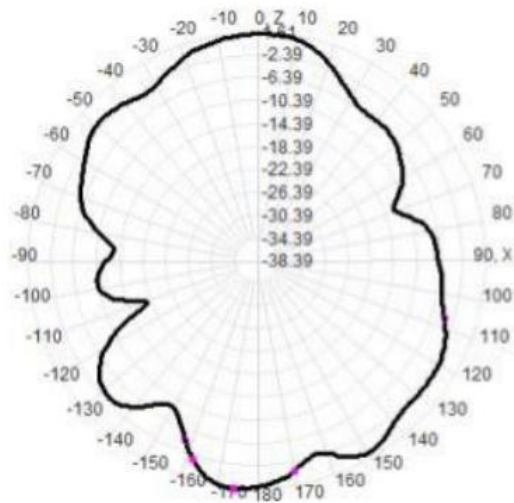
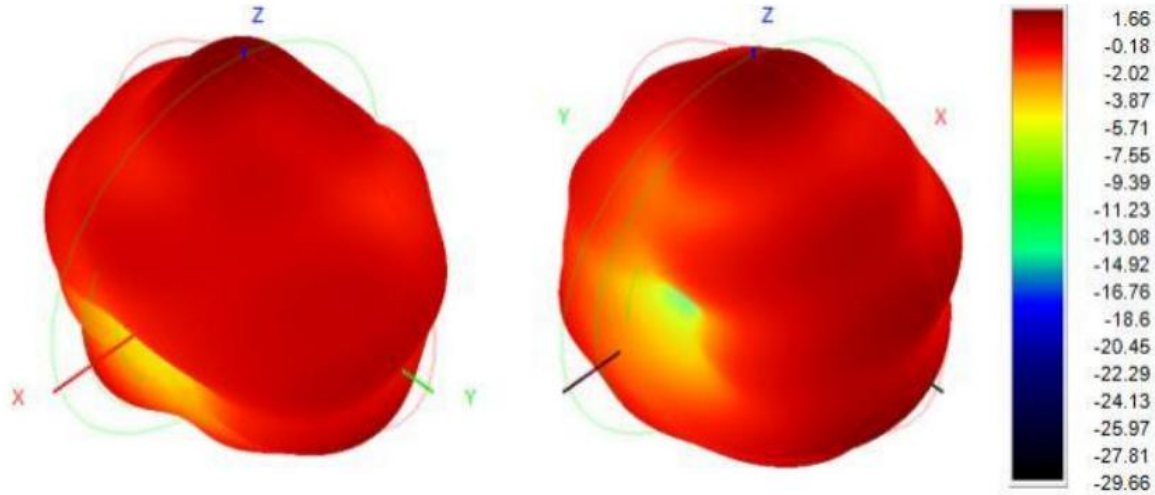
2400MHz



## 5、Test results of antenna

### 5.3 2、 3D graphics - sub antenna

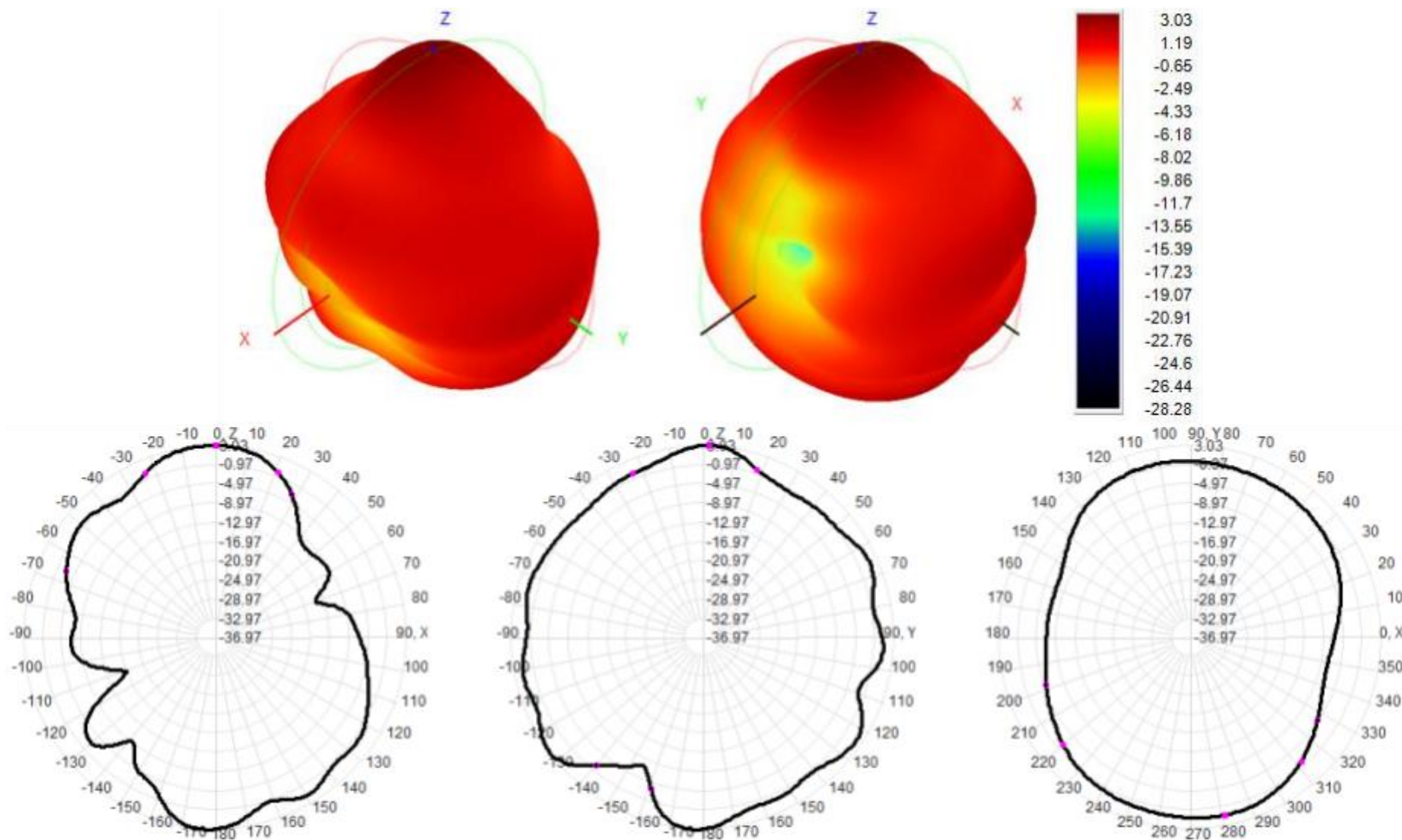
2450MHz



## 5、Test results of antenna

### 5.3 2、 3D graphics - sub antenna

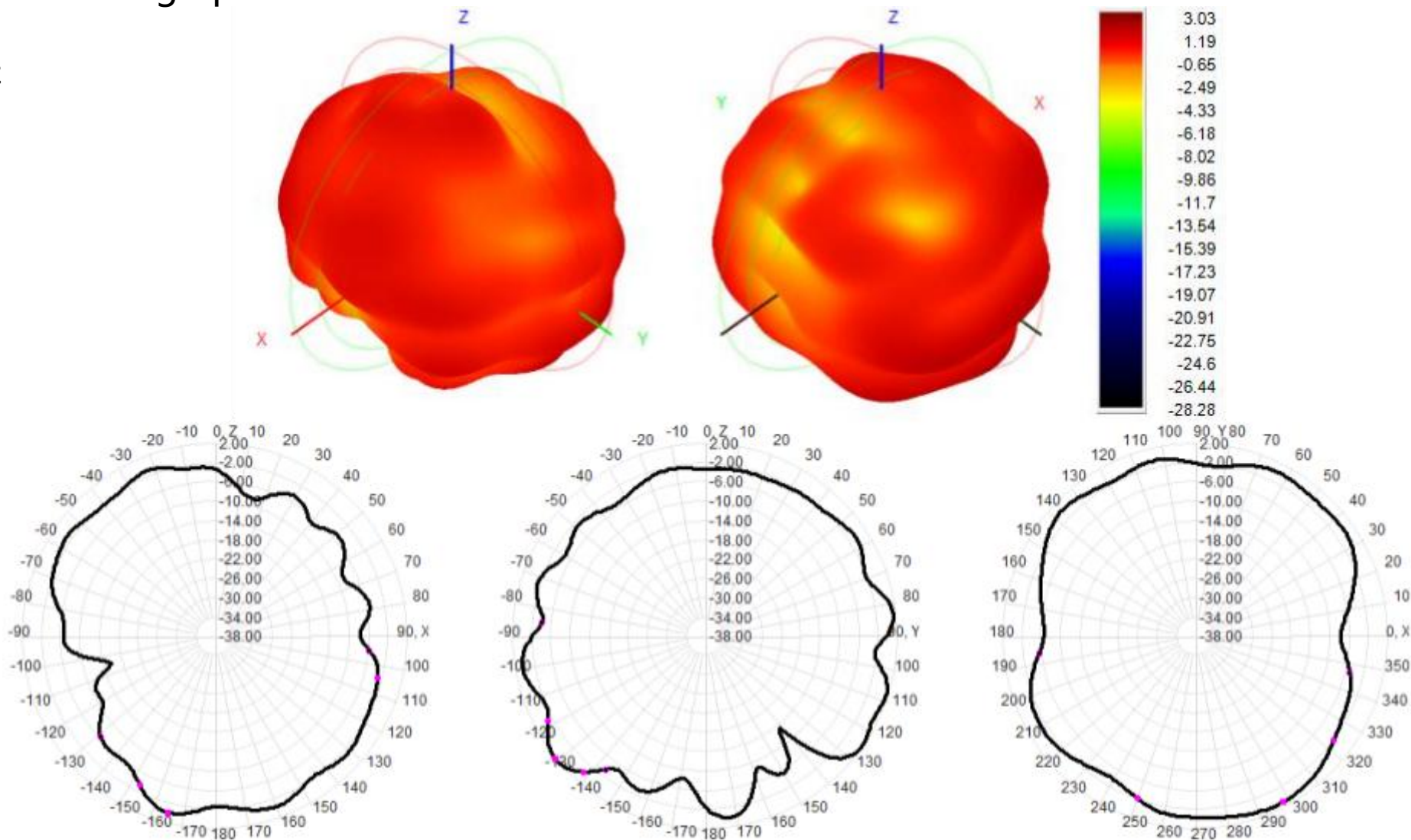
2500MHz



## 5、Test results of antenna

### 5.3 2、3D graphics - sub antenna

5150MHz



## 5、Test results of antenna

### 5.3 2、3D graphics - sub antenna

5850MHz

