



# 安特微智能通讯(深圳)有限公司

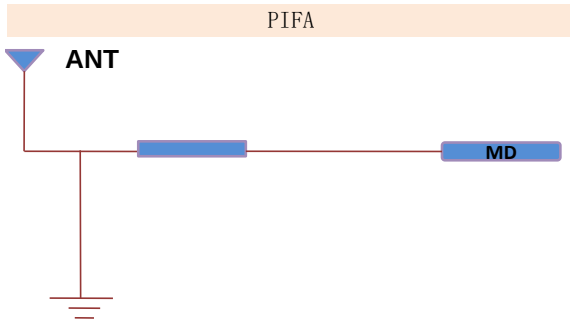
Ante Intelligent Communications (Shenzhen) Co., Ltd.

## MR014G Antenna Test Report V4

### Description:

- \* Carry out test of customer provided antenna sample
- \* This report shows test data
- \* This report do not provide conclusions

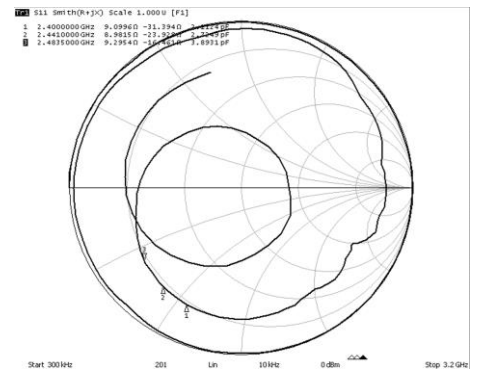
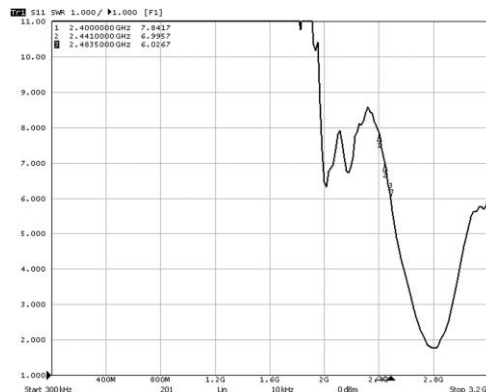
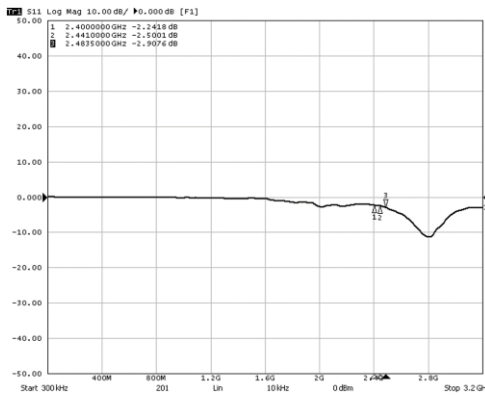
### Antenna matching wiring



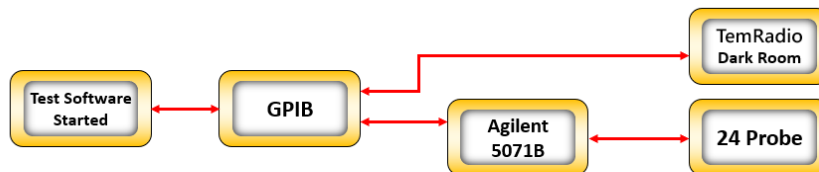
| PIFA                     |      |
|--------------------------|------|
| Antenna matching circuit |      |
| E1-(0402)                | None |
| E2-(0402)                | None |
| E3-(0402)                | None |

### Antenna Passsive test data (Free space) Return Loss

#### Antenna sample :MR-014G



### Test Procedure:

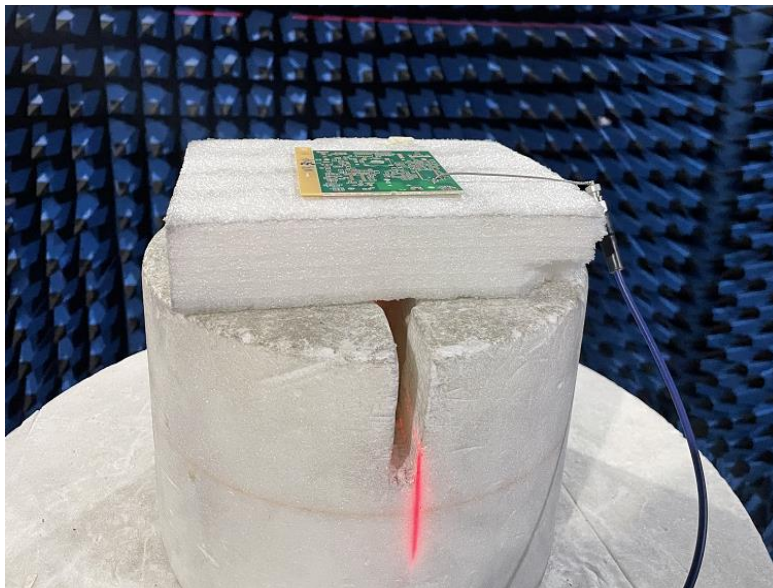


1. TemRadio turn on the Test Software, Name: XH-IOE Active Suite, Version No.: V 3.5.05;
2. XH-IOE Active Suite via GPIB (General Purpose Interface Bus) to control the shielding room (darkroom)'s TemRadio;
3. Meanwhile, GPIB control the Agilent 5071B to read the Antenna data by 24 Probe;
4. Agilent 5071B will analysis the data and generate the result;
5. Agilent 5071B will feedback to XH-IOE Active Suite to generate the test report.

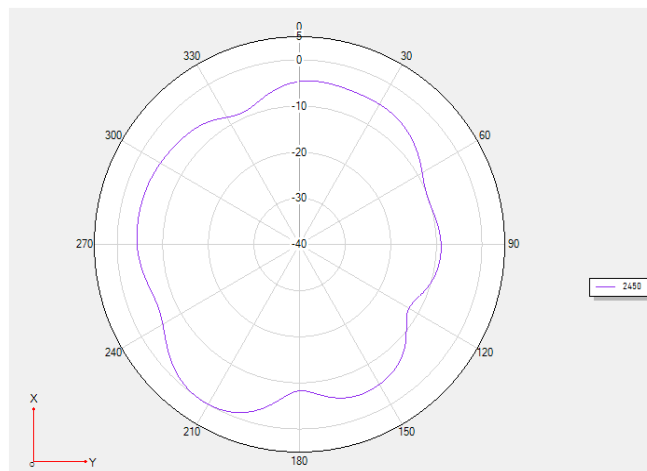
## Antenna Efficiency Test

| BT              |                 |                |            |
|-----------------|-----------------|----------------|------------|
| Frequency / MHz | Efficiency / dB | Efficiency / % | Gain / dBi |
| 2400            | -5.02           | 29.41          | 0.15       |
| 2410            | -5.19           | 28.42          | 0.17       |
| 2430            | -5.23           | 28.01          | 0.23       |
| 2450            | -5.11           | 27.98          | 0.36       |
| 2460            | -5.06           | 28.46          | 0.32       |
| 2470            | -5.08           | 28.13          | 0.25       |
| 2480            | -5.21           | 28.56          | 0.32       |
| 2490            | -5.25           | 28.47          | 0.29       |

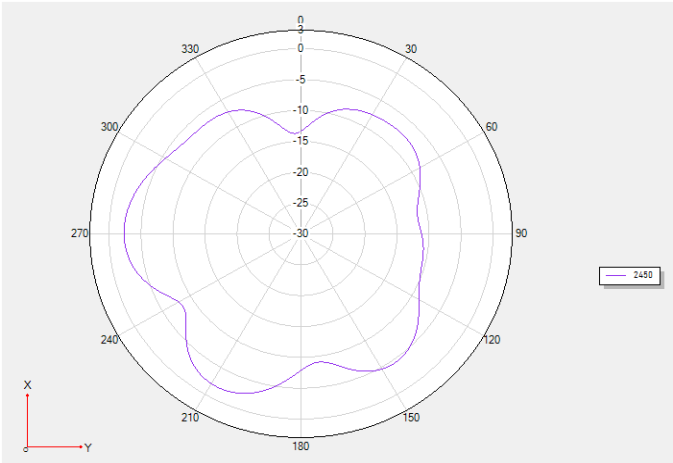
## Reference test environment



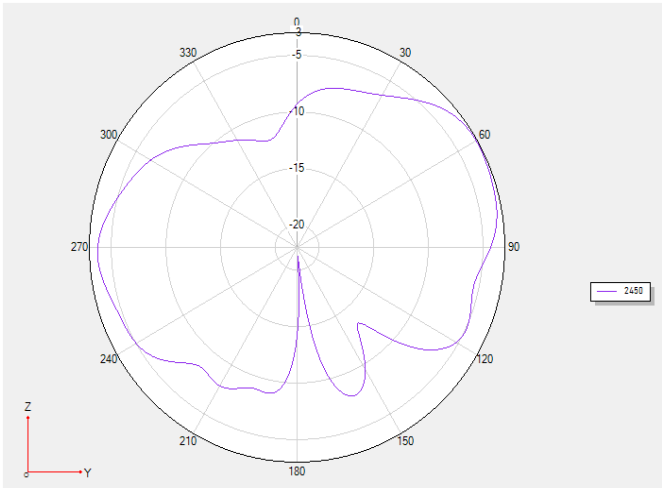
## 2D direction diagram



Phi 0 2D diagram



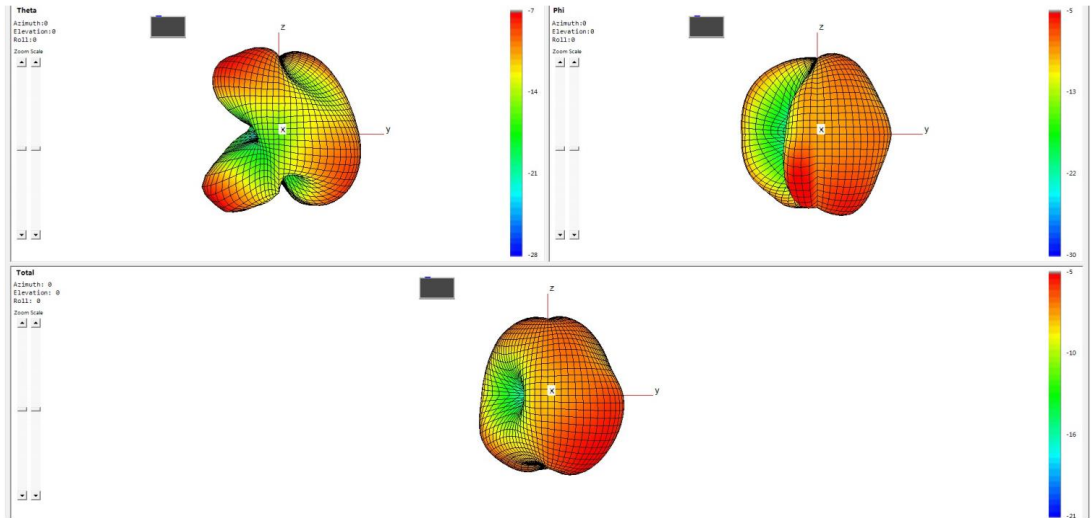
Phi 90 2D diagram



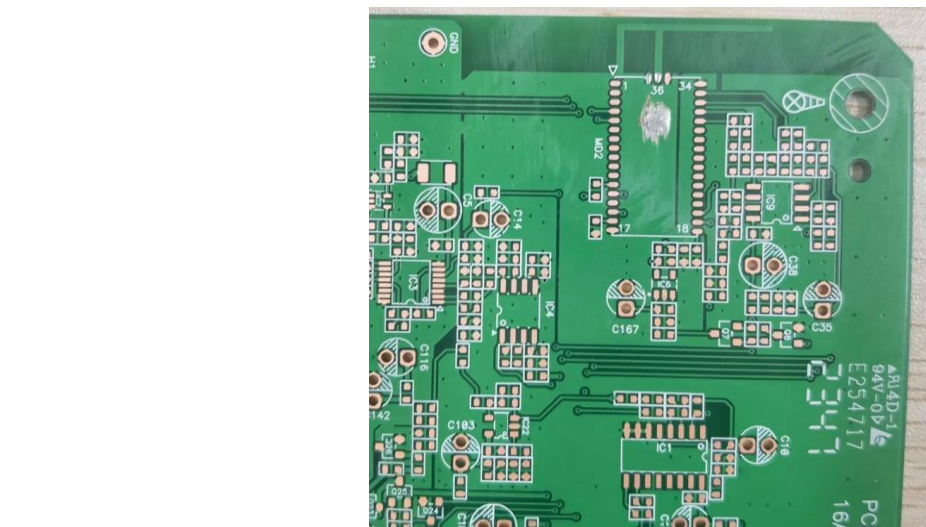
Theta 90 2D diagram

3D direction diagram

2450MHz



Antenna Photo



## Testing Equipment List

|                            | Test items        | Equipments                                       | Calibration Date |
|----------------------------|-------------------|--------------------------------------------------|------------------|
| S Parameters               | Return loss       | RF Network Analyzer:<br>Agilent E5071B           | 1 Apr 2023       |
|                            | SWR               |                                                  |                  |
| Coupled Power Test         | Tx Power          | Wireless communication Test: Agilent 8960 E5515C | 1 Apr 2023       |
|                            | Rx Sensitivity    | LTE/WiFi/BT tester : R&S CMW500                  | 1 Apr 2023       |
| Radiation Pattern and Gain | radiation pattern | Dark Room: 8x4x4 m (3D)                          | 1 Apr 2023       |
|                            | Antenna Gain      | RF Network Analyzer:<br>Agilent E5071B           | 1 Apr 2023       |

Test Date: 27 Dec 2023

Test Personnel: Mr. Yang Xiang

Antenna Brand: Sangean

Antenna Model: MR014G