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|                                          |                     | Version         | V001         |
|                                          | Antenna test report | Effective date  | 20XX/XX/XX   |
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# Antenna Test Report

|            |          |             |                 |
|------------|----------|-------------|-----------------|
| Project No | CS2304D  | PCB Version | 2820960002_V1.0 |
| Tester     | zhuwanli | Date        | 2024/8/22       |
| Auditing   | LiJinbei | Date        | 2024/8/22       |
| Approval   |          | Date        |                 |

|                                       |                     |                 |              |
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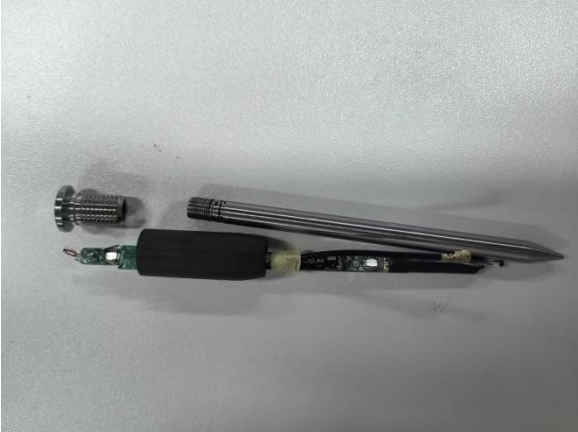
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1. Project Information

- 1.1 Antenna Coding: /
- 1.2 Antenna Type: Monopole Antenna
- 1.3 Model of the DUT: Probe
- 1.4 Test Data : 2024.8.21
- 1.5 Product picture:

|                          |                                                                                      |
|--------------------------|--------------------------------------------------------------------------------------|
| Product<br>appearance    |   |
| PCB board and<br>antenna |  |

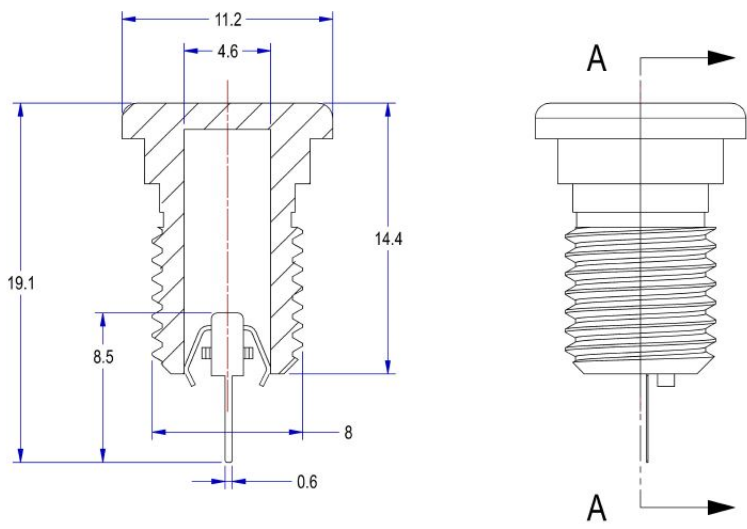
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## 2. Technical Specification

| Electrical Specifications |                  |
|---------------------------|------------------|
| Frequency Range           | 2400-2480 MHz    |
| Peak Gain                 | -3.82 dBi        |
| Efficiency                | 7.05%            |
| Return Loss               | $\leq -2.66$ dB  |
| VSWR                      | $\leq 6.57$      |
| Bandwidth                 | 80 MHz           |
| Input Impedance           | 50 $\Omega$      |
| Radiation direction       | Omni             |
| Polarization Type         | Linear           |
| Lightning Protection      | DC grounding     |
| Power Capacity            | 1000mW (30dBm)   |
| Mechanical Specifications |                  |
| Antenna Size              | 14.65 x 11.2 mm  |
| Core Radiator             | stainless steel  |
| Substrate material        | stainless steel  |
| Substrate thickness       | /                |
| Substrate Size (mm)       | 115 x 35 mm      |
| Coaxial wire              | /                |
| Connect Type              | antenna shrapnel |
| Operating Temperature     | -40 to +150° C   |
| Storage Temperature       | -40 to +150° C   |

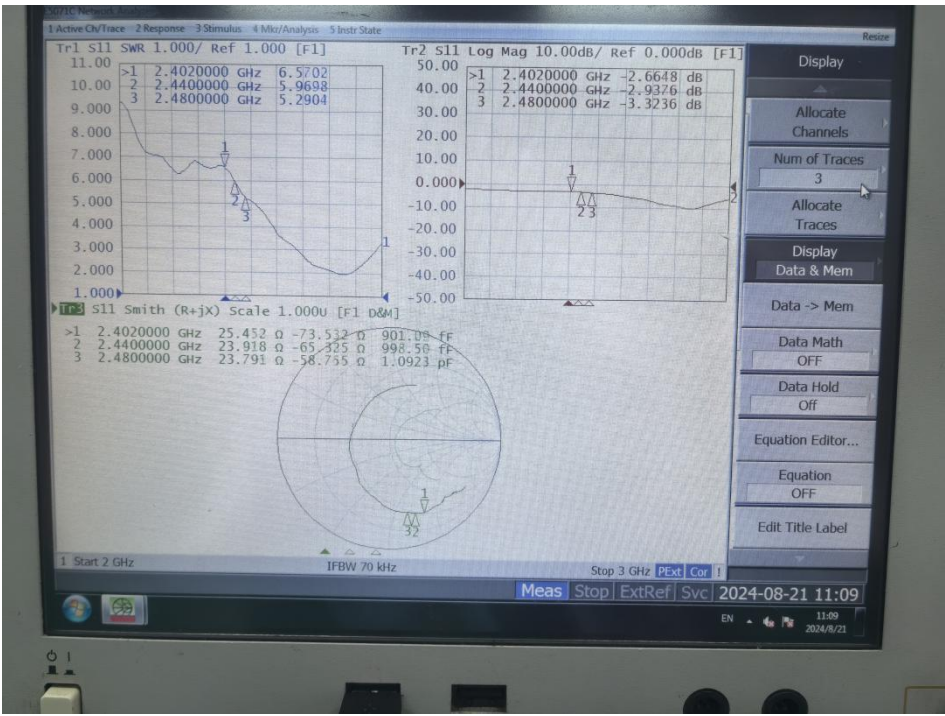
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3. The shape and size of the antenna



4. The result of the test

4.1 VSWR & Return loss & Smith

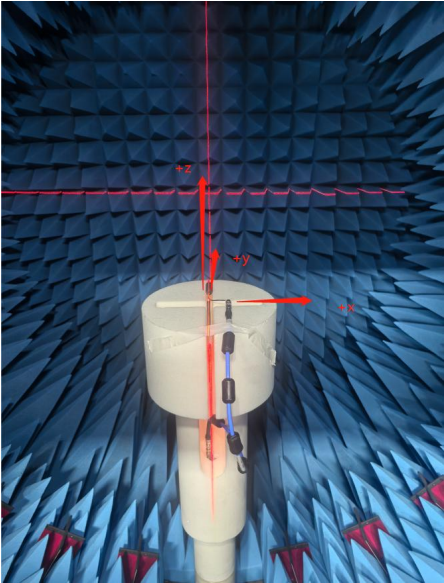
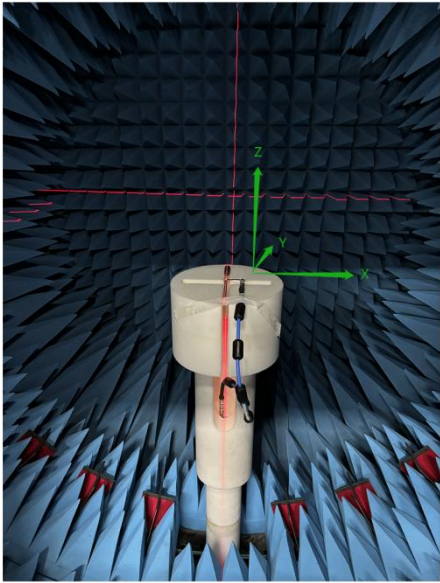


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| Frequency (MHz) | Return Loss (dB) | VSWR |
|-----------------|------------------|------|
| 2402            | -2.66            | 6.57 |
| 2440            | -2.93            | 5.96 |
| 2480            | -3.32            | 5.29 |
| Bandwidth       | 80MHz            |      |

4.2 Antenna Testing Environment

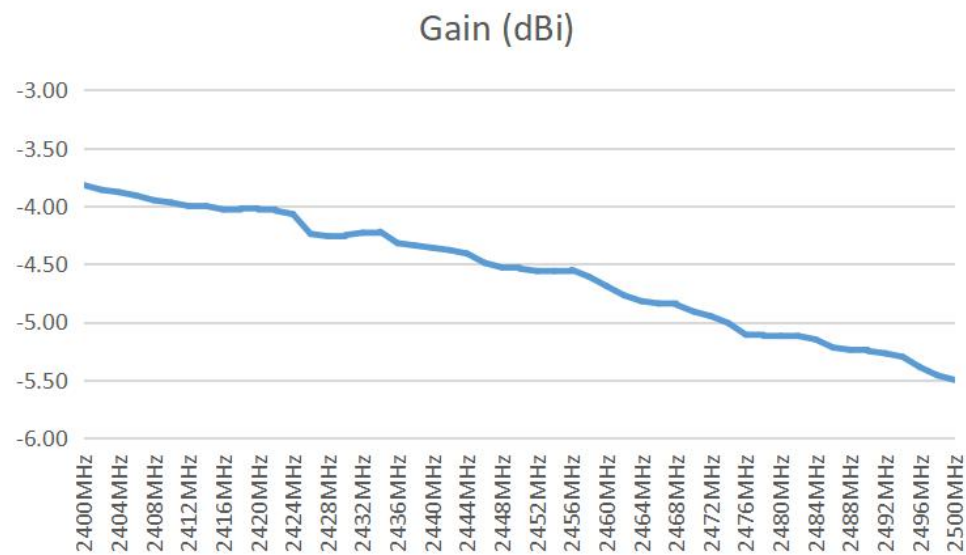
- A. Test Equipment : SATIMO, SG24-L, Agilent-E5071C
- B. Test Engineer : zhuwanli
- C. Test Environment : The microwave unreflected chamber

| Inside the microwave anechoic chamber                                               | Product coordinate axis position                                                     |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |

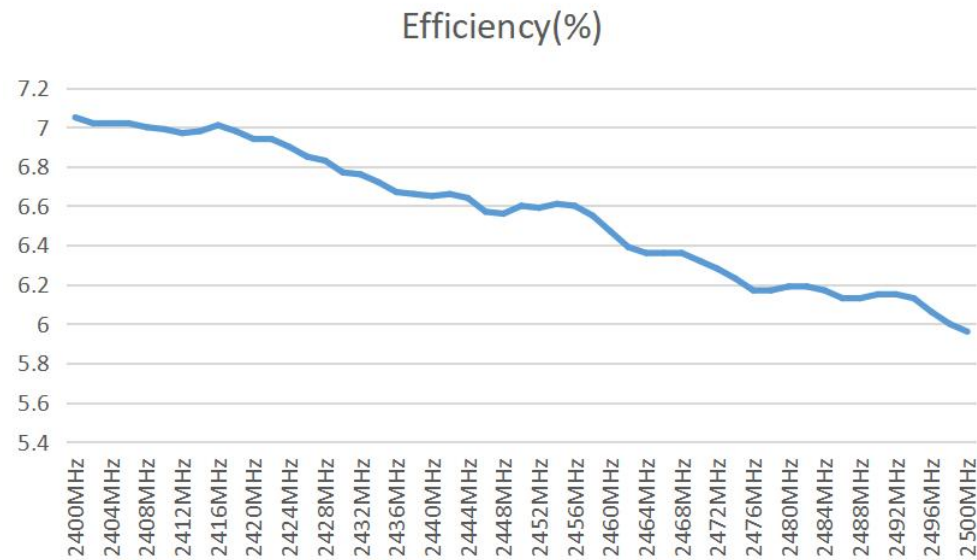
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4.3 Gain and Efficiency

A. Antenna Efficiency

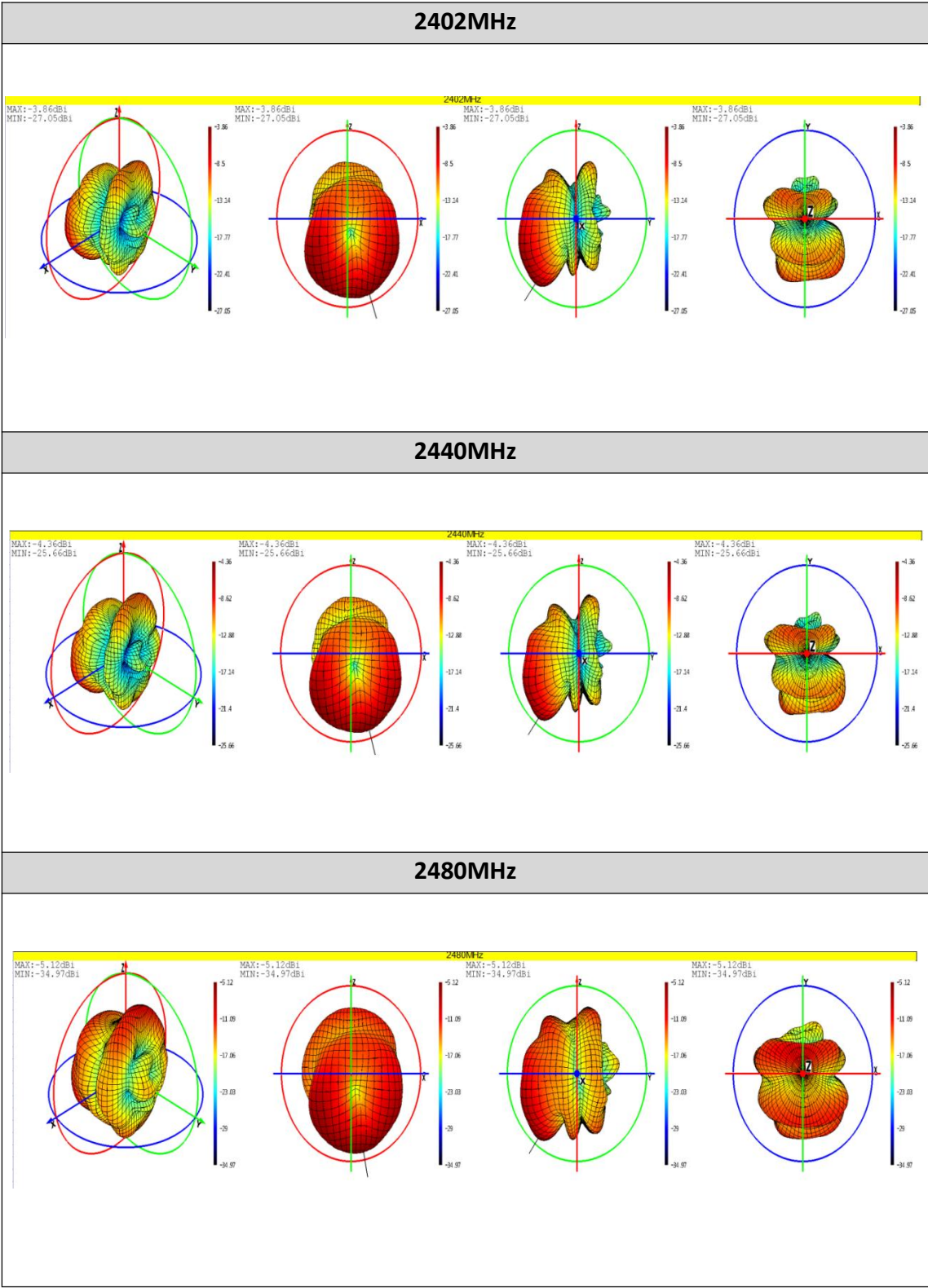


B. Antenna Gain



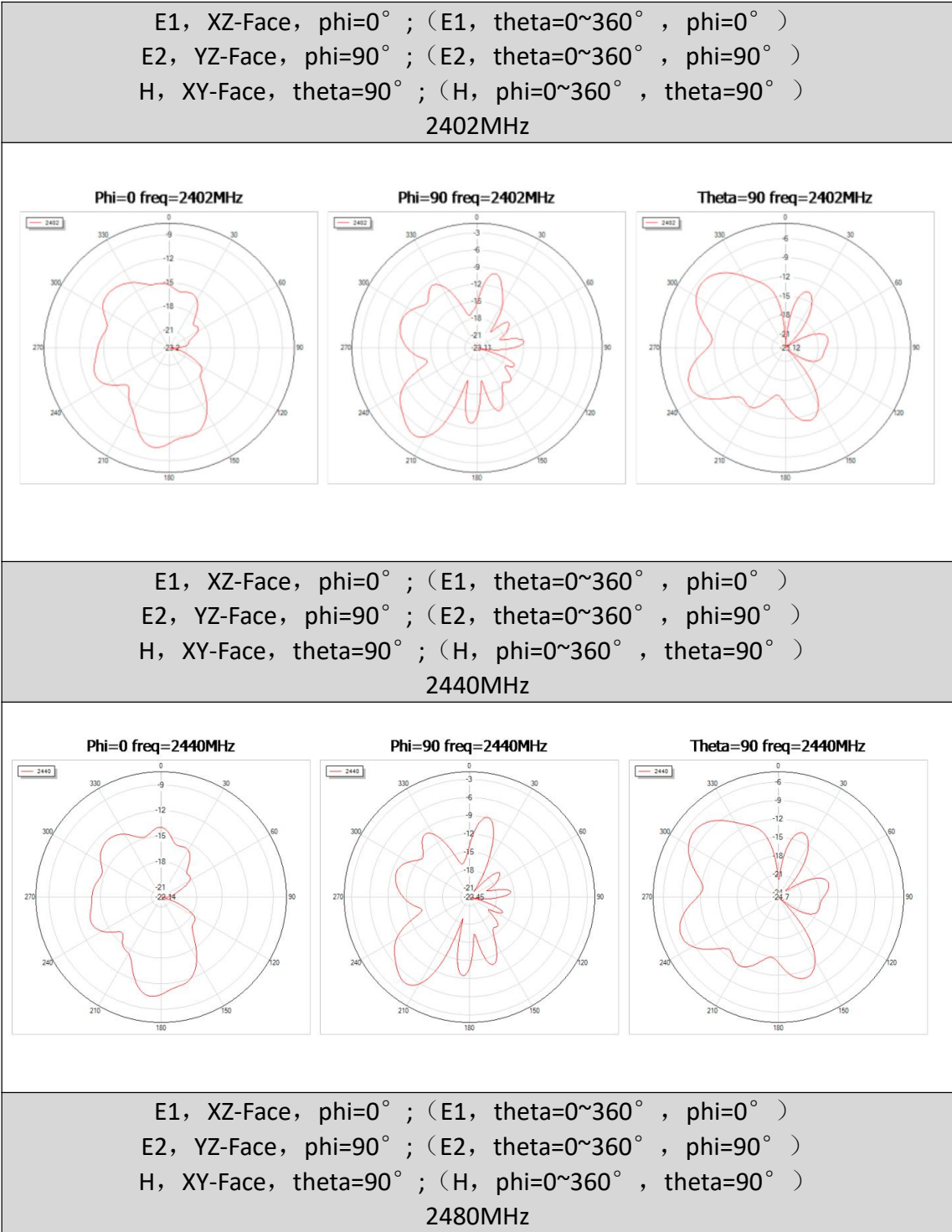
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4.4 3D Radiation Pattern



|                                          |                     |                 |               |
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4.5 2D Radiation Pattern



|                                          |                     |                 |               |
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