

Testing Report

Customer Name: Jiangsu Jingchuang Electronics Co.,Ltd

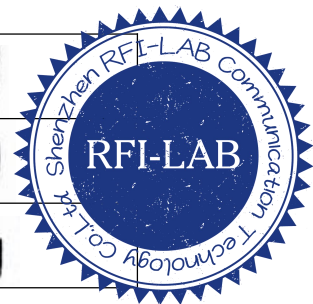
Product Name: Home Detector

Sample Model: M10+

Reference Standard: *GB/T 9410-2008; ANSI/IEEE Std149-1979*

Issue Date: 2024.5.21

| | |
|-----------------|-----------------|
| Engineer: Zkmis | Date: 2024.5.21 |
| Auditor: Eason | Date: 2024.5.21 |
| Approver: Amona | Date: 2024.5.21 |



Version

| Version No. | Date | Description | Formulate | Approval |
|-------------|-----------|-------------------------------|-----------|----------|
| A0 | 2024.5.21 | For the first time, formulate | Zkris | Eason |
| | | | | |
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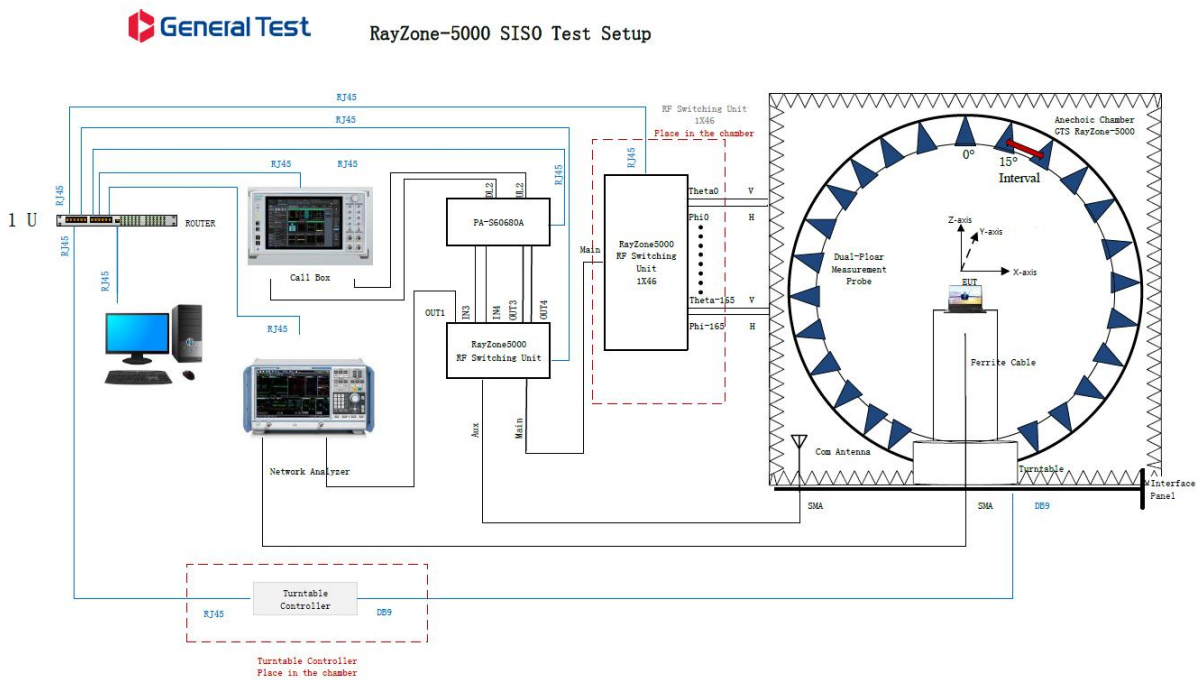
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1.General Information

1.1 General information of testing institutions

| | |
|------------------|---|
| Name | Shenzhen RFI-LAB Communication Technology Co., Ltd. |
| Address | 103 Building 1 Tingwei Industrial Park, No.6, Liufang Road, Zone 67Xingdong, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong, China |
| Tel | 13682621346 |
| E-mail | rfi-lab@tech-now.com |
| Equipment | All the equipment used in the report is fixed in 103 Building 1 Tingwei Industrial Park, No.6, Liufang Road, Zone 67Xingdong, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong, China |

1.2 Testing principle



1.3 Test equipment

| Equipment | Model No. | Serial No. | Manufacturer | Calibration date | Next calibration date |
|------------------|--------------|----------------|--------------|------------------|-----------------------|
| OTA Test System | RayZone-5000 | RFI-LAB-RF-D00 | GTS | 2023.3.14 | 2025.3.13 |
| Network Analyzer | E5071C | RFI-LAB-RF-D01 | KEYSIGHT | 2024.5.6 | 2025.5.5 |
| Network Analyzer | E5071C | RFI-LAB-RF-C02 | KEYSIGHT | 2024.5.6 | 2025.5.5 |

1.4 Test environment

| | |
|-------------|-----------|
| Temperature | 24.2°C |
| Humidity | 58%RH |
| Pressure | 100.23kPa |

1.5 Statement

- (1) The test results in the report are only applicable to the tested samples and the tested samples work under the environment described in the report.
- (2) Only Shenzhen RFI-LAB Communication Technology Co., Ltd. have the right to modify the report, and the modification information shall be annotated in the revision form.
- (3) Any objection to this report shall be raised within 30 days after formal confirmation of the report.
- (4) This report is invalid if there is any evidence that the sample information provided is falsified.
- (5) The report is invalid without the signature of the auditor and approver.

2. Sample Information

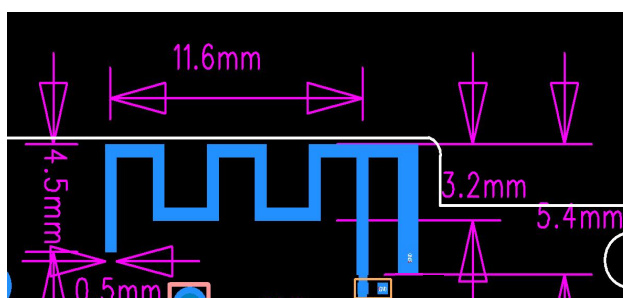
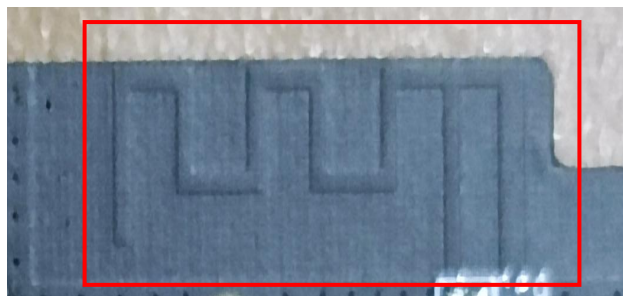
2.1 Client information

| | |
|---------------------|--|
| Name | Jiangsu Jingchuang Electronics Co.,Ltd |
| Address | The third Industrial Park, 21 Zhujiang East Road, High-tech Industrial Development Zone,Xuzhou,Jiangsu CHINA |
| Contacts | / |
| Tel | / |
| E-mail | / |
| Manufacturer | Jiangsu Jingchuang Electronics Co.,Ltd |

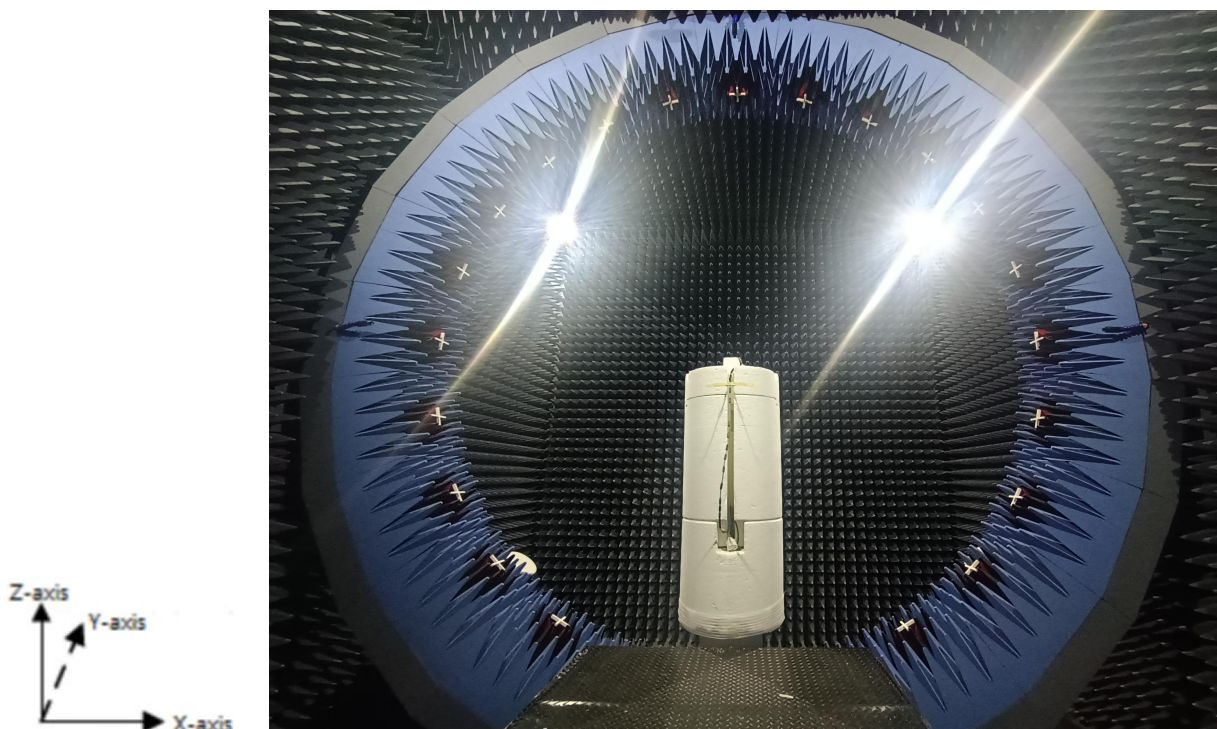
2.2 Description of EUT(S)

| | |
|------------------------|--|
| Product Name | Home Detector |
| Sample Model | M10+ |
| Antenna Size | / |
| Serial No. | / |
| Antenna Type | PCB Antenna |
| Test Item | VSWR;Antenna gain; Efficiency; Radiation pattern |
| Frequency Range | 2400-2500MHz |
| Received Date | 2024.5.21 |
| Test Date | 2024.5.21 |
| Remark | / |

2.3 EUT appearance



2.4 EUT setup photo of free space OTA testing



3. Test Results

3.1 Test standard

| Name | Parameter | Method | Standard no. |
|------------------------------|----------------------|--|------------------------|
| Mobile communication antenna | Antenna gain | Generic specification for antennas used in the mobile communications | GB/T 9410-2008 |
| | Radiation pattern | | |
| | VSWR | | |
| Antenna | Radiation efficiency | IEEE Standard Test Procedures for Antennas | ANSI/IEEE Std 149-1979 |
| | Gain and directivity | | |

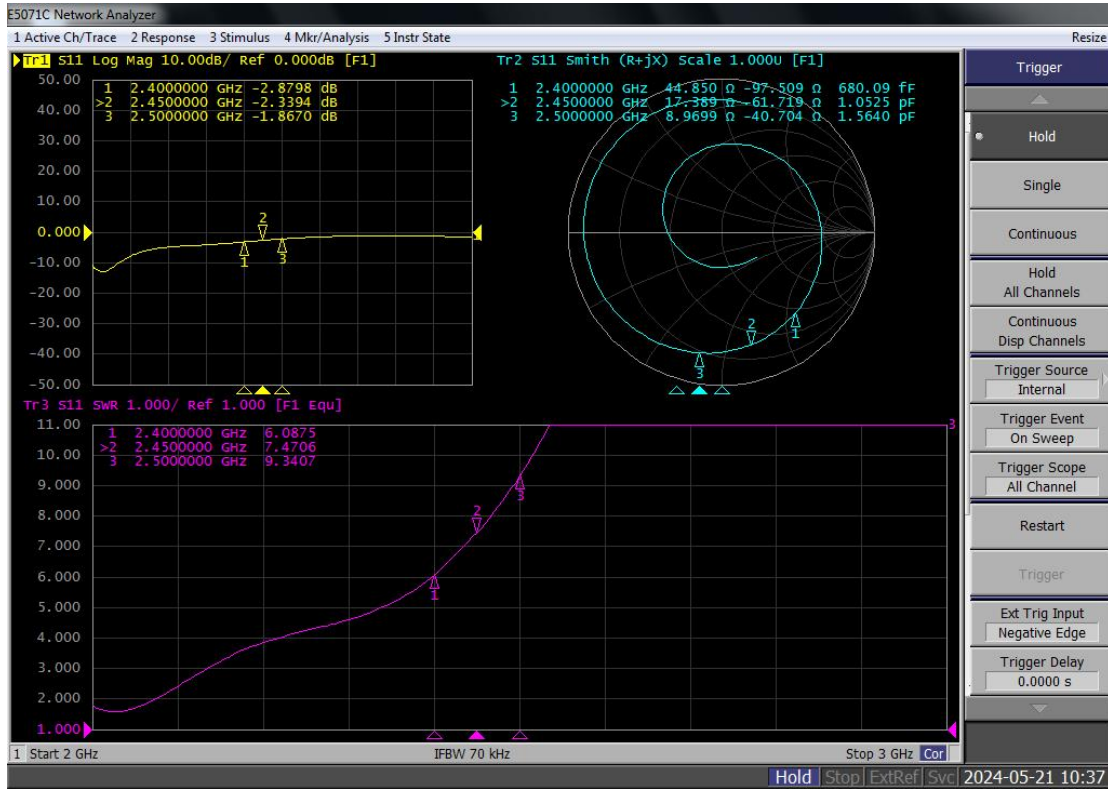
3.2 Test uncertainty

The uncertainty was calculated on the basis of the GUM published by ISO, using the inclusion factor of $K=2$ and the 95% confidence level to express the extended uncertainty.

| Item | Uncertainty |
|----------------------|---------------------|
| VSWR | ± 0.3 |
| Antenna gain | $\pm 0.72\text{dB}$ |
| Radiation efficiency | $\pm 0.72\text{dB}$ |

3.3 Test data

3.3.1 VSWR parameters



3.3.2 VSWR data

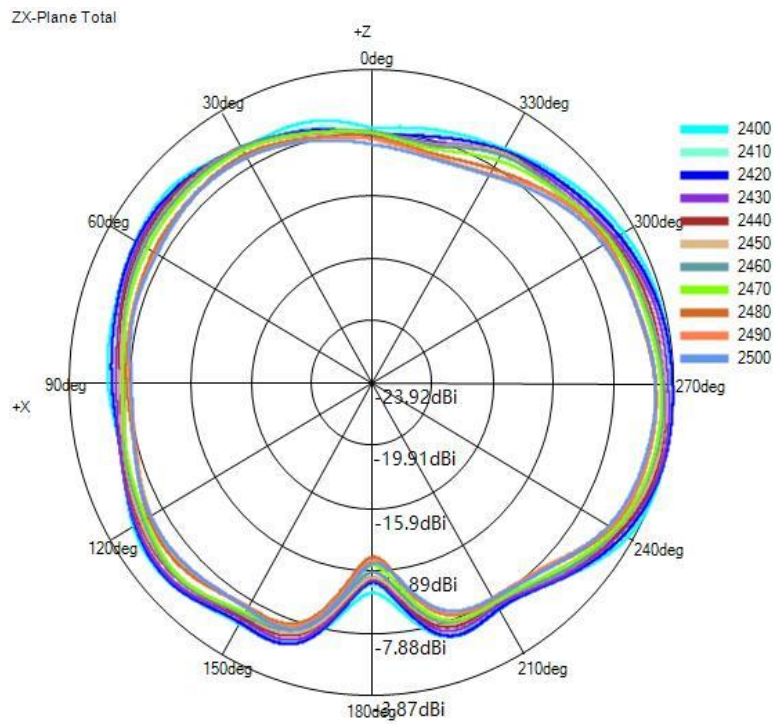
| Frequency/MHz | 2400 | 2450 | 2500 |
|---------------|--------|--------|--------|
| VSWR | 6.0875 | 7.4706 | 9.3407 |

3.3.3 Typical free space efficiency and gain

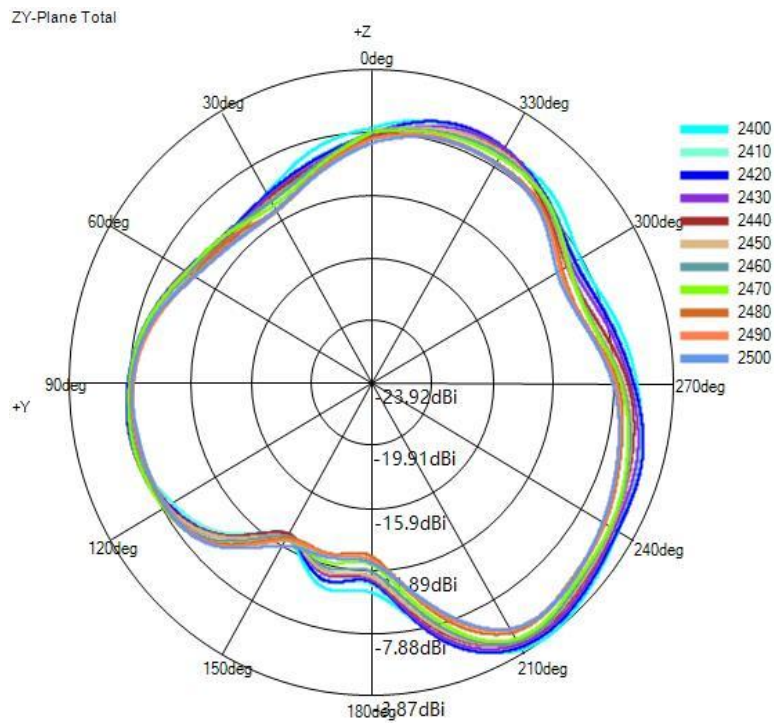
| Frequency/MHz | 2400 | 2410 | 2420 | 2430 | 2440 | 2450 | 2460 | 2470 | 2480 | 2490 | 2500 |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Peak Gain/dBi | -3.90 | -4.05 | -3.89 | -3.99 | -4.20 | -4.38 | -4.54 | -4.66 | -5.00 | -5.03 | -5.10 |
| Efficiency/% | 18.23 | 17.63 | 17.67 | 16.91 | 16.12 | 15.83 | 15.74 | 15.37 | 14.10 | 13.85 | 13.70 |

3.3.4 Typical free space radiation pattern

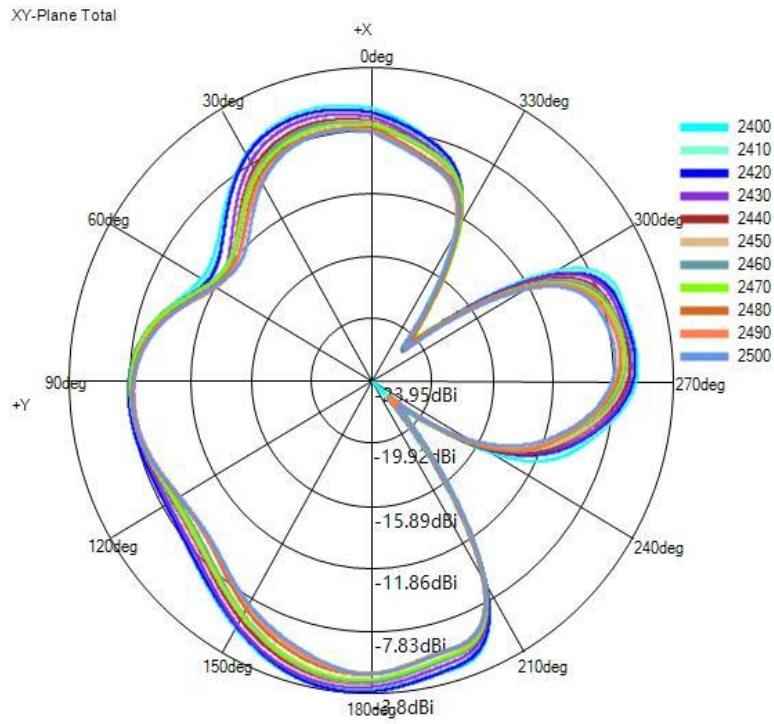
(1) X-Z Plane(unit:dBi):



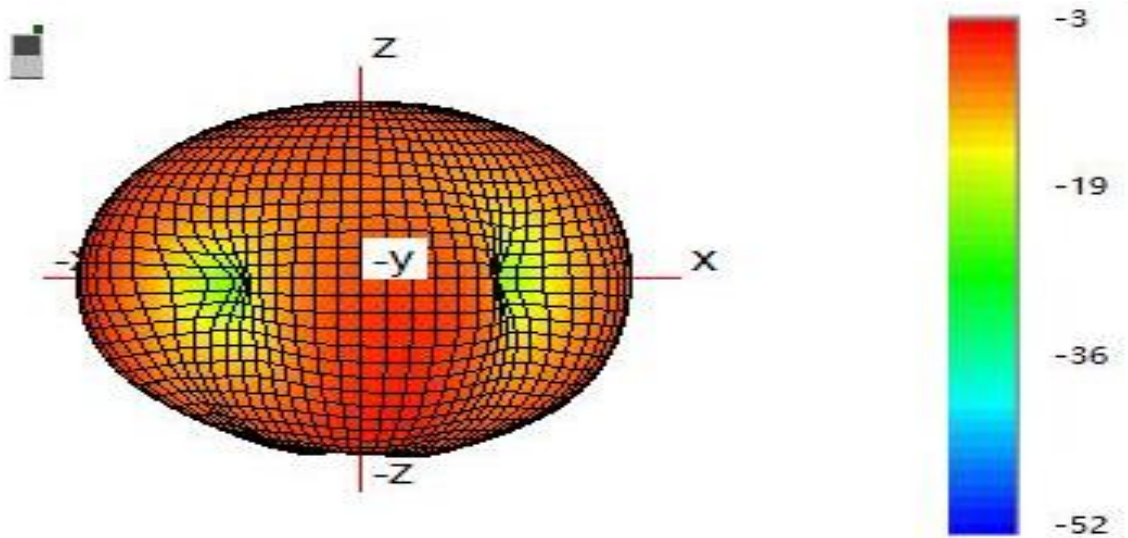
(2) Y-Z Plane(unit:dBi):



(3) X-Y Plane(unit:dBi):



(4) Typical Free Space 3D Radiation Pattern at 2.42GHz(unit:dBi):



End

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