

Testing Report

Customer Name: Shanghai Qiwei Cultural Technology Co., Ltd

Product Name: Remote Controller Antenna

Sample Model: XHYKZB

Reference Standard: *GB/T 9410-2008; ANSI/IEEE Std 149-1979*

Issue Date: 2024.2.7

Version

| Version No. | Date | Description | Formulate | Approval |
|-------------|----------|-------------------------------|-----------|----------|
| A0 | 2024.2.7 | For the first time, formulate | | |
| | | | | |

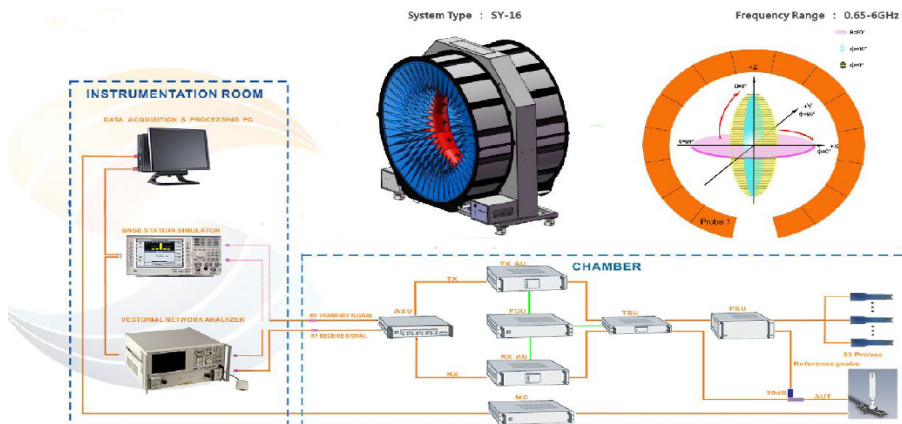
1. General Information

1.1 General information of testing institutions

| | |
|----------------|---|
| Name | Yinghuada (Nanjing) Technology Co., Ltd |
| Address | 133 Jiangjun Avenue, Jiangning District, Nanjing City |
| Tel | 025-52262313 18913802852 |
| E-mail | ji. jian-lin@iac.com.tw |

1.2 Testing principle

Multi-Probe OTA Measurement System



1.3 Test equipment

| Equipment | Model No. | Serial No. | Manufacturer | Calibration date | Next calibration date |
|----------------------------|------------------|-------------------|---------------------|-------------------------|------------------------------|
| 16 probe microwave chamber | 3*3*2.5 | RFI-LAB-RF-A00 | SUNYIELD | 2023.3.15 | 2024.3.14 |
| Network Analyzer | E5071C | RFI-LAB-RF-A02 | Agilent | 2023.5.13 | 2024.5.12 |

1.4 Test environment

| | |
|--------------------|-----------|
| Temperature | 24.6°C |
| Humidity | 59%RH |
| Pressure | 100.19kPa |

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) Any objection to this report shall be raised within 30 days after formal confirmation of the report.

(3) This report is invalid if there is any evidence that the sample information provided is falsified.

(4) The report is invalid without the signature of the auditor and approver.

2. Sample Information

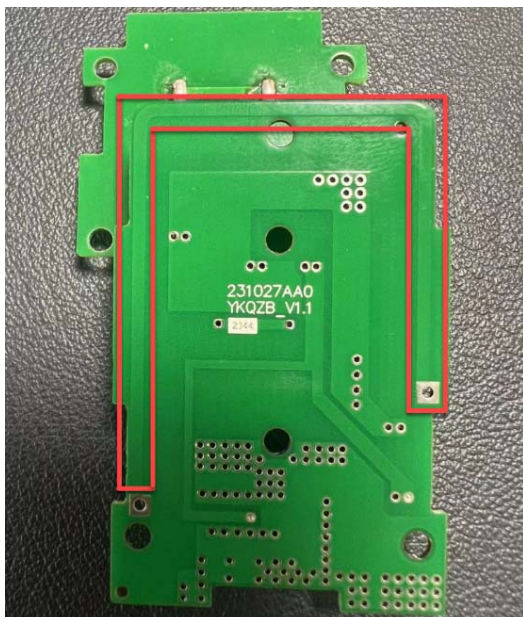
2.1 Client information

| | |
|-----------------|---|
| Name | Shanghai Qiwei Cultural Technology Co., Ltd |
| Address | |
| Contacts | |
| Tel | |
| E-mail | |

2.2 Description of EUT(S)

| | |
|------------------------|--|
| Product Name | Remote Controller Antenna |
| Sample Model | XHYKZB |
| Test Item | Antenna gain; Radiation pattern and efficiency |
| Frequency Range | 400MHz-480MHz |
| Test Date | 2024.2.7 |
| Remark | |

2.3 EUT appearance



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/T9410-2008 |
| | Radiation pattern | | |
| 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 |
|----------------------|------------------|
| Antenna gain | $\pm 1\text{dB}$ |
| Radiation efficiency | $\pm 10\%$ |

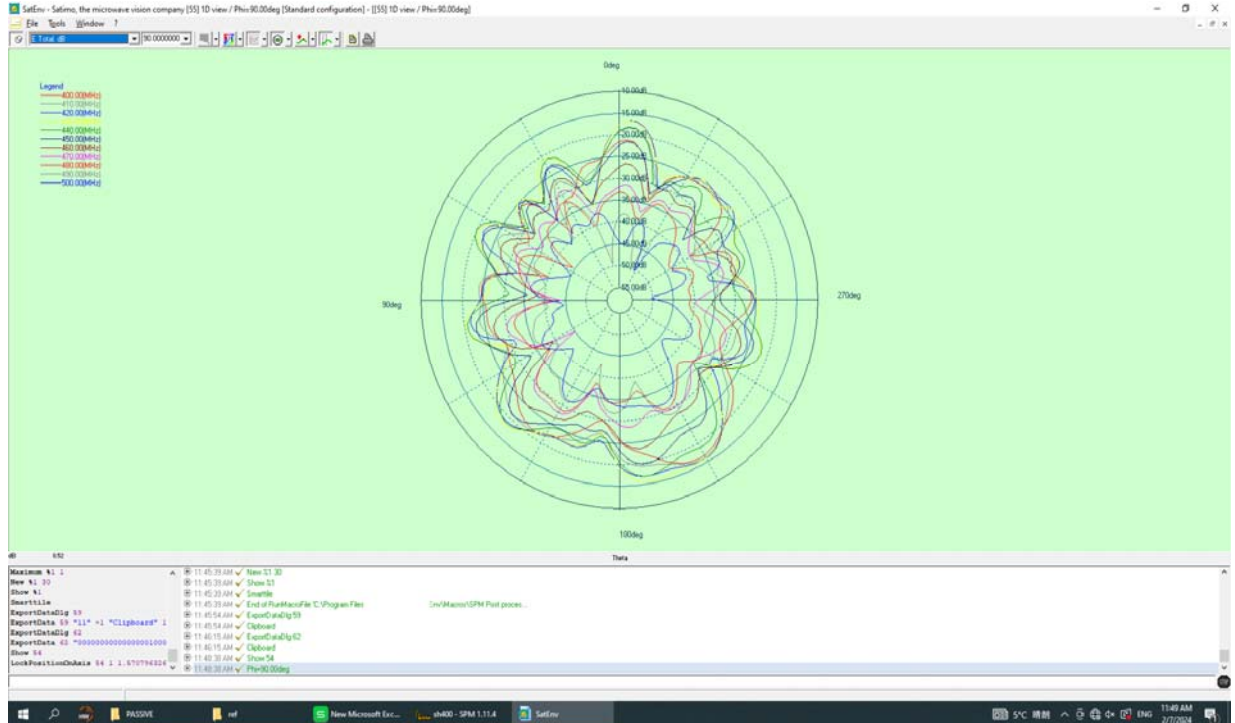
3.3 Test data

3.3.1 Typical free space efficiency and gain

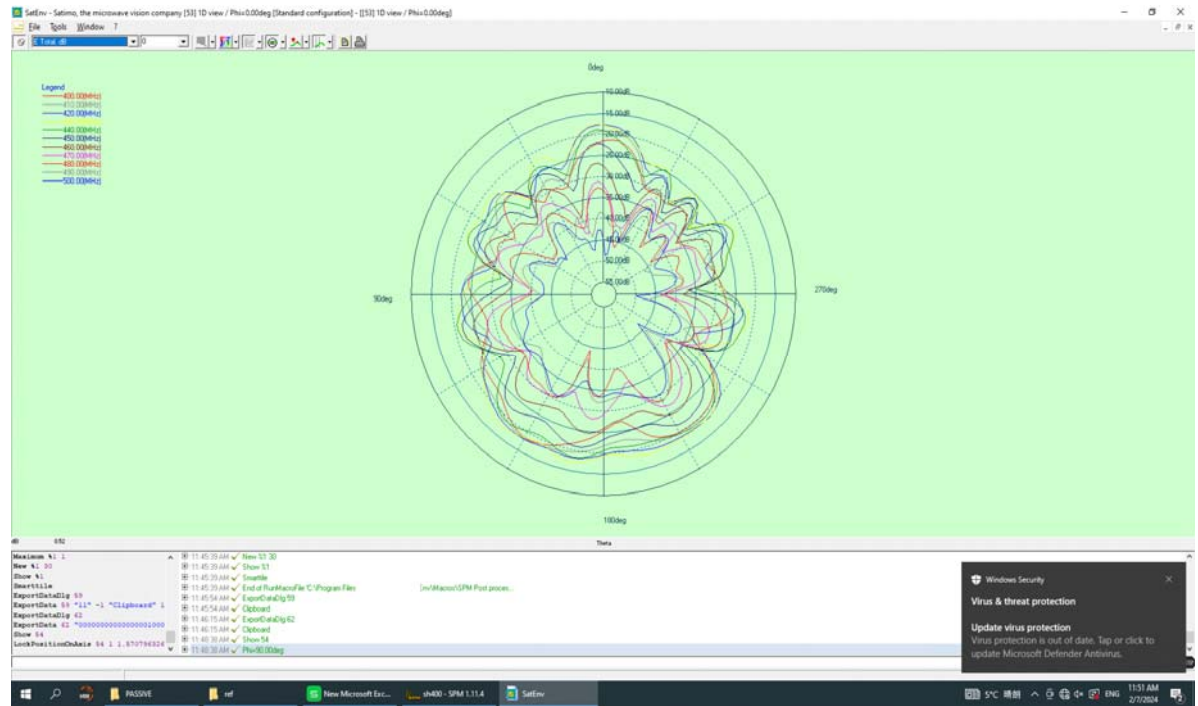
| Frequency/MHz | 400 | 410 | 420 | 430 | 440 | 450 | 460 | 470 | 480 |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Peak Gain/dB | -16.7 | -16.1 | -15.9 | -15.5 | -17.0 | -19.8 | -23.4 | -26.7 | -28.1 |
| Efficiency/% | -25.1 | -24 | -23.1 | -22.3 | -23.5 | -25.8 | -29.0 | -32.4 | -34.6 |

3.3.2 Typical free space radiation pattern

phi=90deg



phi=0deg



Theta=90deg

