



# ANTENNA REPORT

Manufacture: TUYA

Product Name: TTFM-50 Antenna

Antenna Type: PCB

Test Date: 2023.8.18

Tested by: Caiquan

Approved by: Licco

## Content

|                              |   |
|------------------------------|---|
| 1.General Description .....  | 1 |
| 2.Test Configurations .....  | 2 |
| 2.1 Test Environment .....   | 2 |
| 2.2 Test Equipment .....     | 2 |
| 2.3 Test Principle.....      | 2 |
| 3.Test Results .....         | 3 |
| 3.1 Gain and Efficiency..... | 3 |
| 3.2 Radiation Pattern .....  | 4 |
| 4.Antenna Dimensions .....   | 6 |
| 5.EUT Photo.....             | 7 |
| 6.Test Setup Photo .....     | 8 |



## 1.General Description

|                |                                                                                                |
|----------------|------------------------------------------------------------------------------------------------|
| Manufacturer   | Hangzhou Tuya Information Technology Co.,Ltd                                                   |
| Address        | Room 701,Building 3,More Center,No.87 GuDun Road,<br>Hangzhou, Zhejiang,China                  |
| Test Location  | Room 106, Building 3, Letong Science Park, No. 500,<br>Qiuyi Road, Binjiang District, Hangzhou |
| Product Name   | TTFM-50 Antenna                                                                                |
| Product model  | TTFM-50 Antenna                                                                                |
| Antenna Type   | PCB Antenna                                                                                    |
| Test Items     | Gain; Efficiency; Radiation Pattern                                                            |
| Test Frequency | 2400-2500MHz                                                                                   |
| Test Standard  | ANSI/IEEE Std 149-1979                                                                         |

## 2.Test Configurations

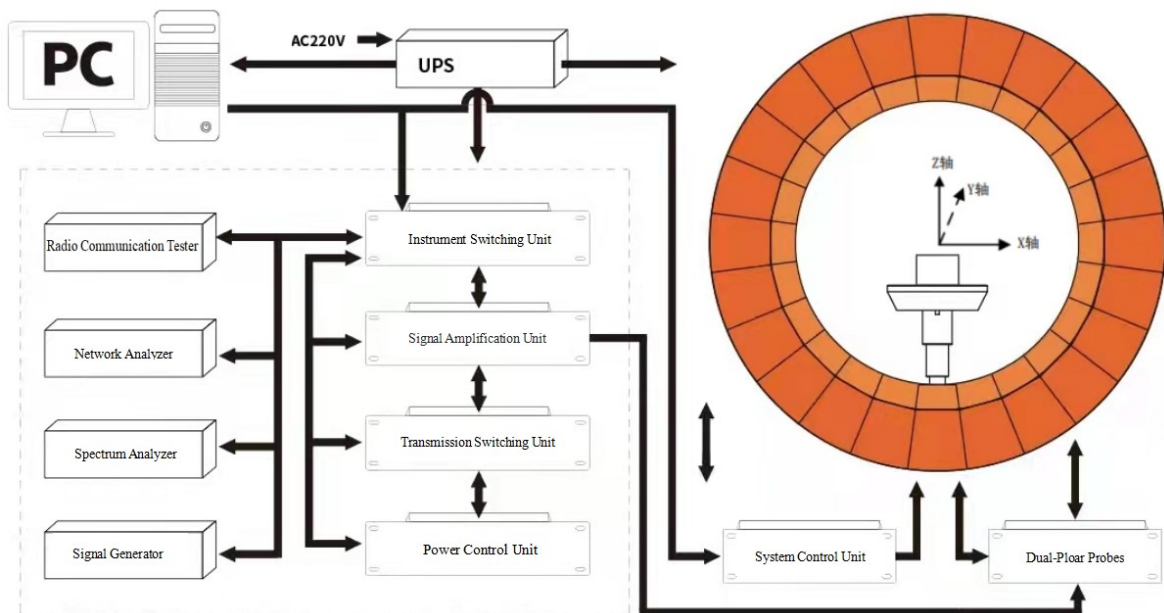
### 2.1 Test Environment

|                            |       |
|----------------------------|-------|
| Temperature (°C)           | 25    |
| Humidity (%RH)             | 60    |
| Atmospheric Pressure (kPa) | 100.5 |

### 2.2 Test Equipment

|                 |                                      |
|-----------------|--------------------------------------|
| Test System     | TEM 24 Multi-probe Microwave Chamber |
| Test Instrument | Agilent E5071B                       |

### 2.3 Test Principle





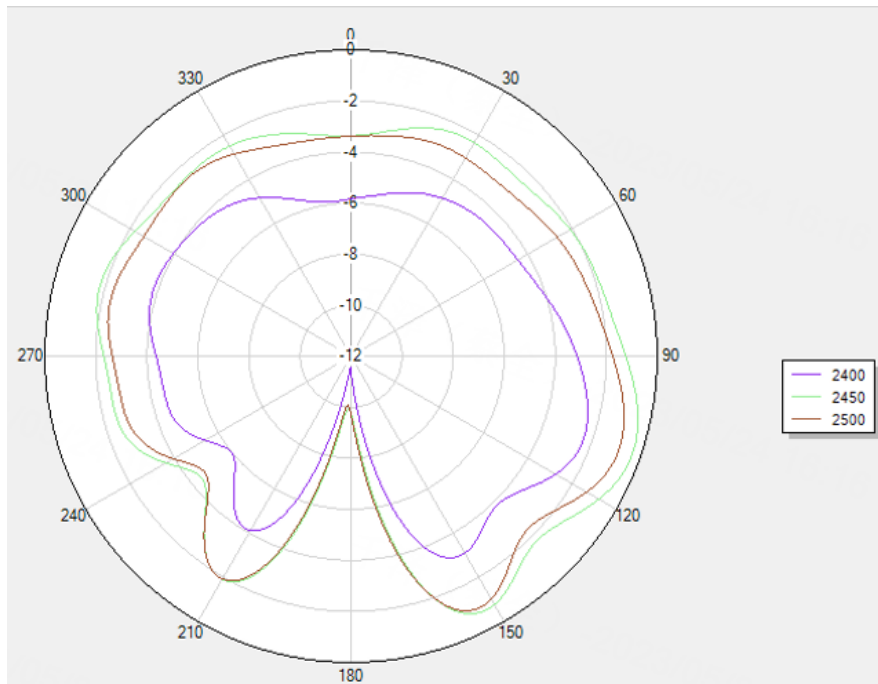
## 3.Test Results

### 3.1 Gain and Efficiency

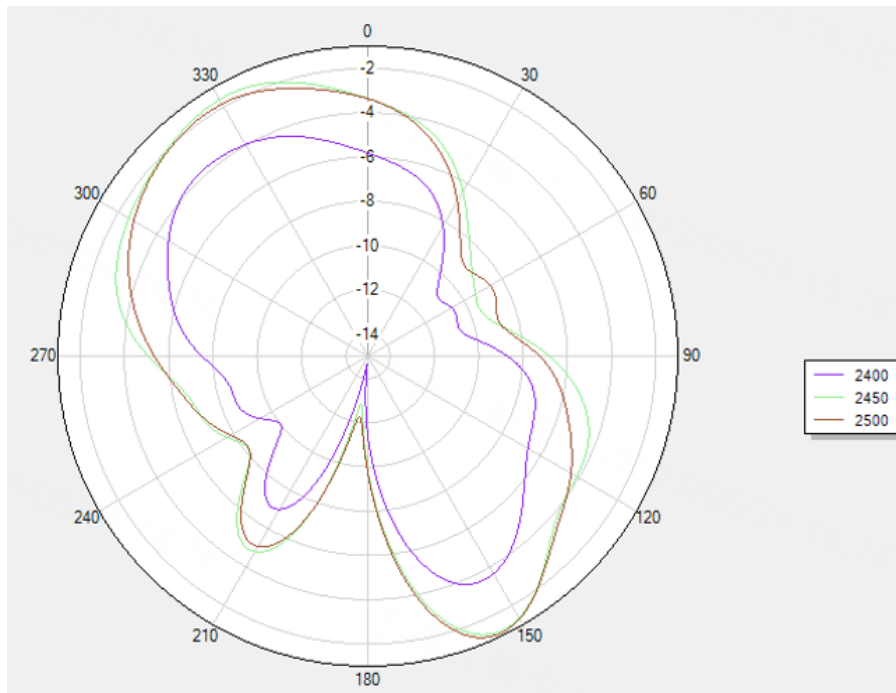
| Frequency (MHz) | Peak Gain (dBi) | Efficiency (%) |
|-----------------|-----------------|----------------|
| 2410            | 0.67            | 33.88          |
| 2420            | 0.83            | 38.19          |
| 2430            | 0.98            | 41.78          |
| 2440            | 1.1             | 45.92          |
| 2450            | 1.18            | 49.09          |
| 2460            | 1.23            | 49.77          |
| 2470            | 1.27            | 50.58          |
| 2480            | 1.21            | 48.87          |
| 2490            | 1.19            | 47.42          |
| 2500            | 0.64            | 44.46          |

## 3.2 Radiation Pattern

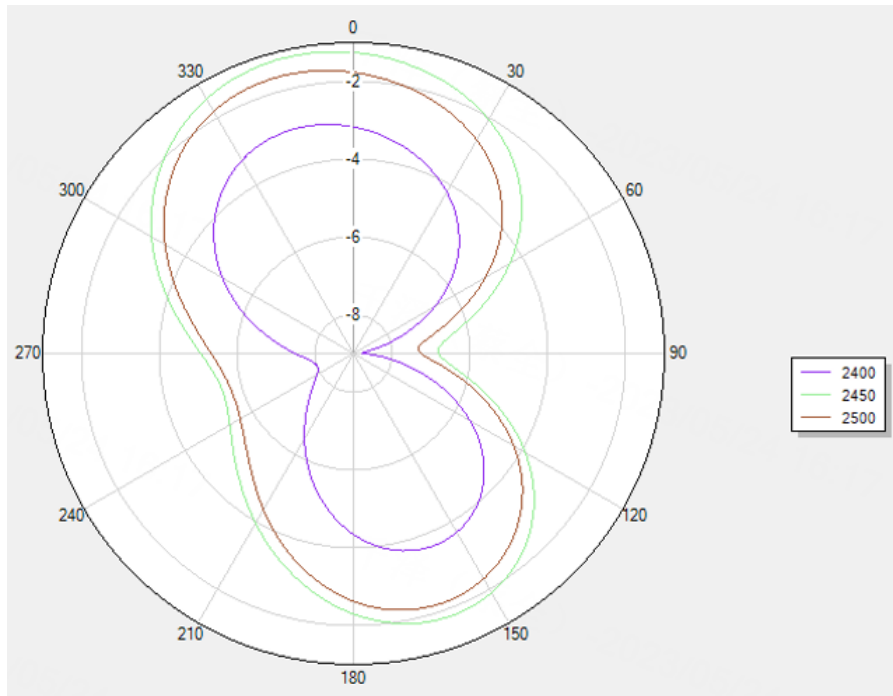
Phi 0 2D



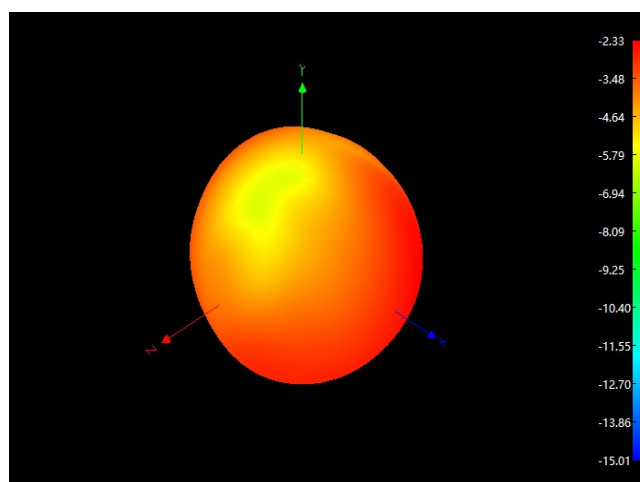
Phi 90 2D



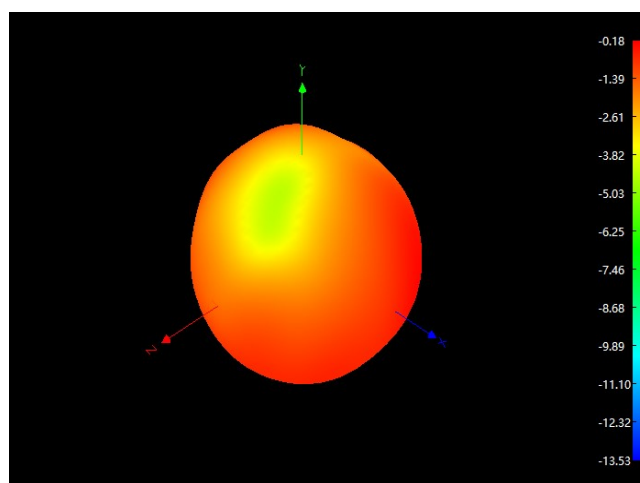
Theta 90 2D



2400MHz 3D



2450MHz 3D



2500MHz 3D

