



# ANTENNA REPORT

Manufacture: TUYA

Product Name: CB2S Antenna

Antenna Type: PCB

Test Date: 2021.03.18

Tested by: Haigang Ruan

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 S11 .....                 | 3 |
| 3.2 Gain and Efficiency ..... | 4 |
| 3.3 Radiation Pattern.....    | 5 |
| 4.Antenna Dimensions .....    | 6 |
| 5.EUT Photo .....             | 6 |
| 6.Test Setup Photo .....      | 7 |



# 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   | CB2S Antenna                                                                                   |
| Product model  | CB2S                                                                                           |
| Antenna Type   | PCB Antenna                                                                                    |
| Test Items     | Gain; Efficiency; Radiation Pattern                                                            |
| Test Frequency | 2400-2500MHz                                                                                   |
| Test Standard  | ANSI/IEEE Std 149-1979                                                                         |

## 2. Test Configurations

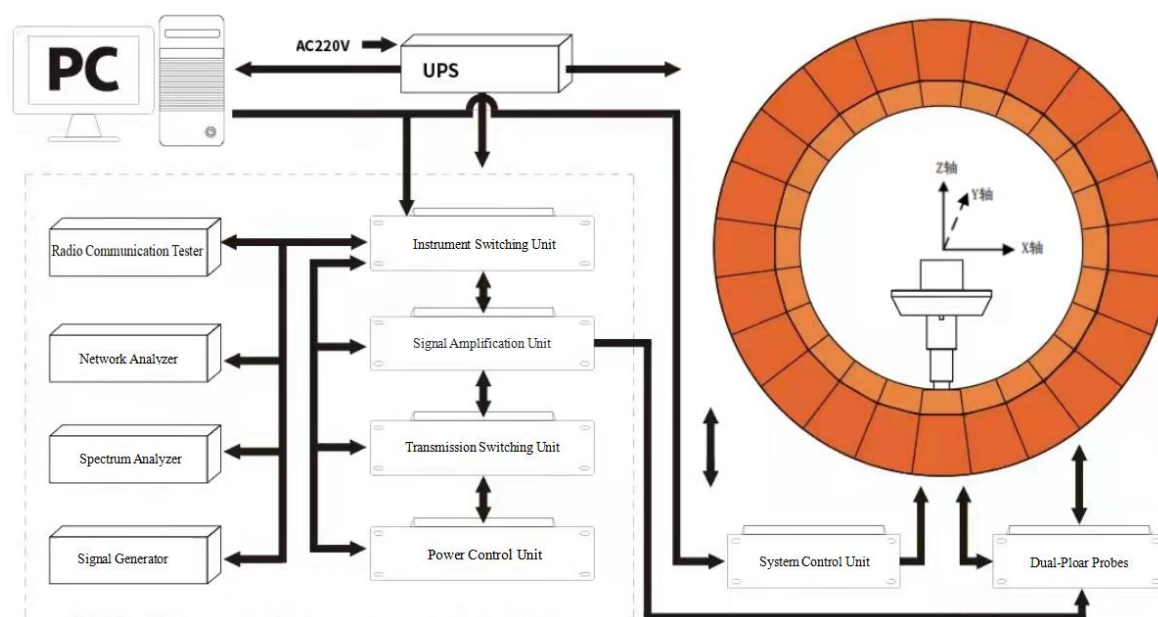
### 2.1 Test Environment

|                            |       |
|----------------------------|-------|
| 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 S11



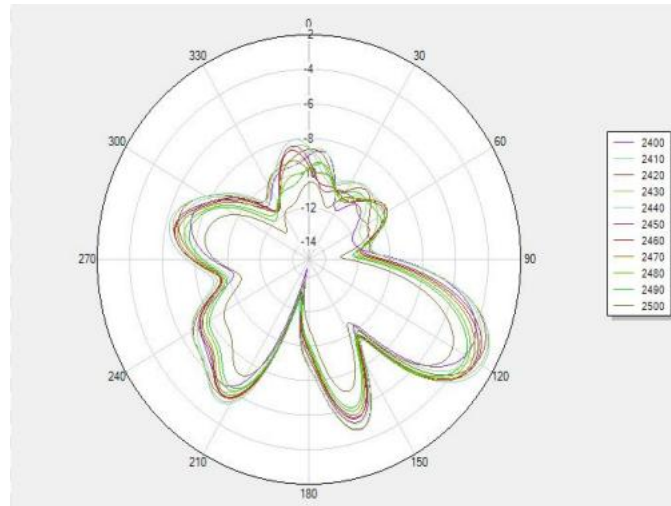
|                  |      |        |        |
|------------------|------|--------|--------|
| Frequency (MHz)  | 2400 | 2450   | 2500   |
| Return Loss (dB) | 0    | -11.76 | -11.21 |
| VSWR             | 2.16 | 1.71   | 1.77   |

### 3.2 Gain and Efficiency

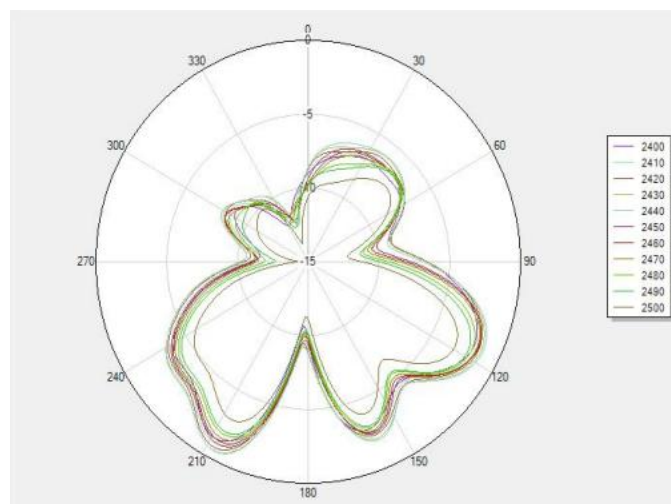
| Frequency (MHz) | Peak Gain (dBi) | Efficiency (%) |
|-----------------|-----------------|----------------|
| 2400            | -0.98           | 24.43          |
| 2410            | -0.67           | 25.64          |
| 2420            | -0.37           | 26.24          |
| 2430            | -0.12           | 27.04          |
| 2440            | 0.04            | 27.48          |
| 2450            | -0.45           | 25.25          |
| 2460            | -0.55           | 23.88          |
| 2470            | -0.69           | 22.65          |
| 2480            | -0.93           | 21.78          |
| 2490            | -1.11           | 20.04          |
| 2500            | -2.07           | 16.18          |

### 3.3 Radiation Pattern

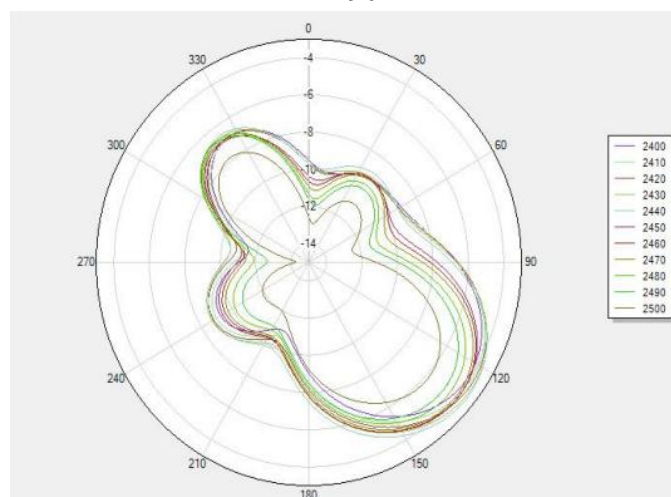
Phi 0 2D



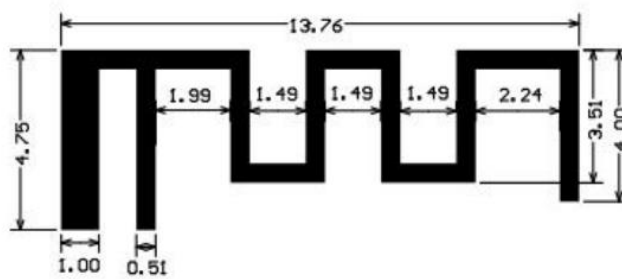
Phi 90 2D



Theta 90 2D

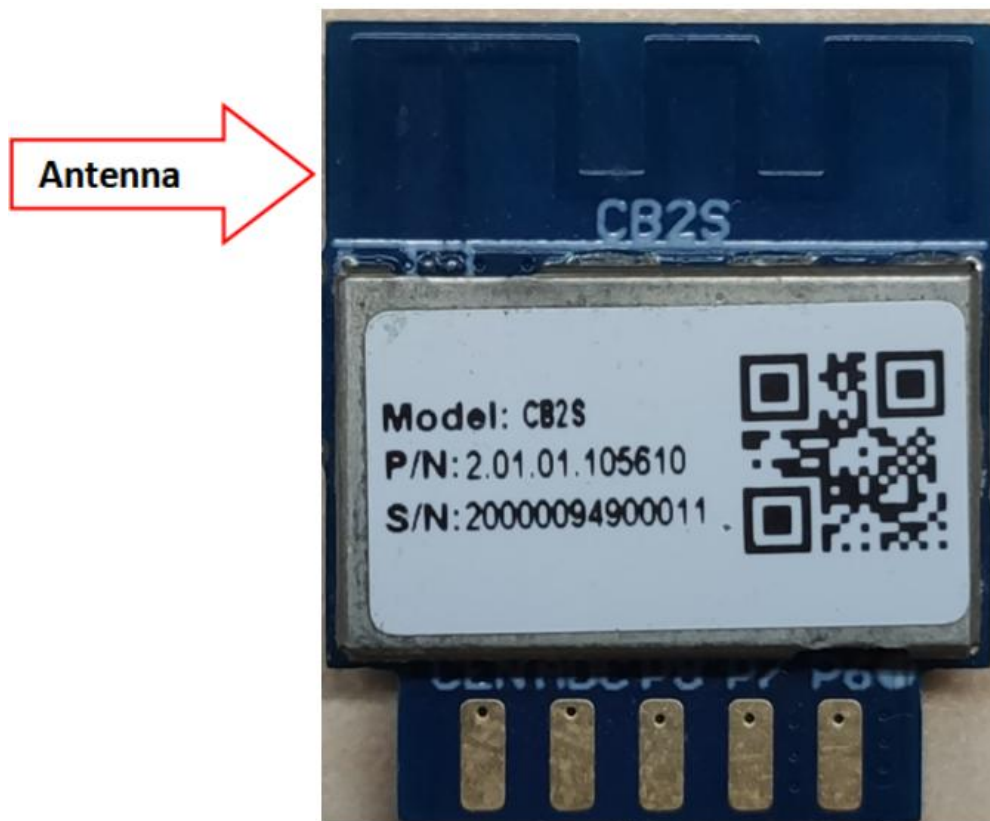


## 4. Antenna Dimensions



单位: mm  
unit

## 5. EUT Photo



## 6. Test Setup Photo

