



REPORT No.: SZ21060239E01

# TEST REPORT

**Applicant** : Zhuhai HiVi Technology Co., Ltd.

**PRODUCT NAME** : HiVi-D100 PCB Antenna

**MODEL NAME** : HiVi-D100

**TRADE NAME** : HiVi

**BRAND NAME** : HiVi

**STANDARD(S)** : ANSI/IEEE Std 149-2008

**RECEIPT DATE** : 2021-06-18

**TEST DATE** : 2021-06-21

**ISSUE DATE** : 2021-06-25



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**MORLAB**

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# DIRECTORY

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| Change History |            |                                                                              |
|----------------|------------|------------------------------------------------------------------------------|
| Version        | Date       | Reason for change                                                            |
| 1.0            | 2021-06-24 | First edition                                                                |
| 2.0            | 2021-06-25 | Add antenna sample photos,the version 1.0 report is replaced by version 2.0. |



# 1. Technical Information

**Note:** Provide by manufacturer.

## 1.1. Manufacturer and Factory Information

|                              |                                                                                   |
|------------------------------|-----------------------------------------------------------------------------------|
| <b>Applicant:</b>            | Zhuhai HiVi Technology Co., Ltd.                                                  |
| <b>Applicant Address:</b>    | NO.1, South Dongcheng Road, Liangang Industrial Zone Zhuhai, Guangdong, P.R.China |
| <b>Manufacturer:</b>         | Zhuhai HiVi Technology Co., Ltd.                                                  |
| <b>Manufacturer Address:</b> | NO.1, South Dongcheng Road, Liangang Industrial Zone Zhuhai, Guangdong, P.R.China |

## 1.2. Equipment Under Test (EUT) Description

|                     |                 |
|---------------------|-----------------|
| Wireless Type       | N/A             |
| Test frequency band | 2400MHz-2500MHz |
| Hardware Version    | N/A             |
| Software Version    | N/A             |
| IMEI                | N/A             |
| Sample number       | 1#              |

## 2. Test Results

### 2.1. Applied Reference Documents

Leading reference documents for testing:

| No. | Identity               | Document Title                             |
|-----|------------------------|--------------------------------------------|
| 1   | ANSI/IEEE Std 149-2008 | IEEE Standard Test Procedures for Antennas |

### 2.2. Test Conditions

Test Environment Conditions:

|                    |                  |
|--------------------|------------------|
| Relative Humidity: | 25 ... 75 %      |
| Temperature:       | +10 °C to +30 °C |

### 2.3. Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

| Item                                                 | Measurement Uncertainty(dB) |
|------------------------------------------------------|-----------------------------|
| Gain                                                 | $\pm 0.5$                   |
| VSWR                                                 | $\pm 0.2$                   |
| Measurement Uncertainty(95% Confidence Interval) K=2 |                             |

## 2.4. Test Results lists

### 2.4.1. Gain

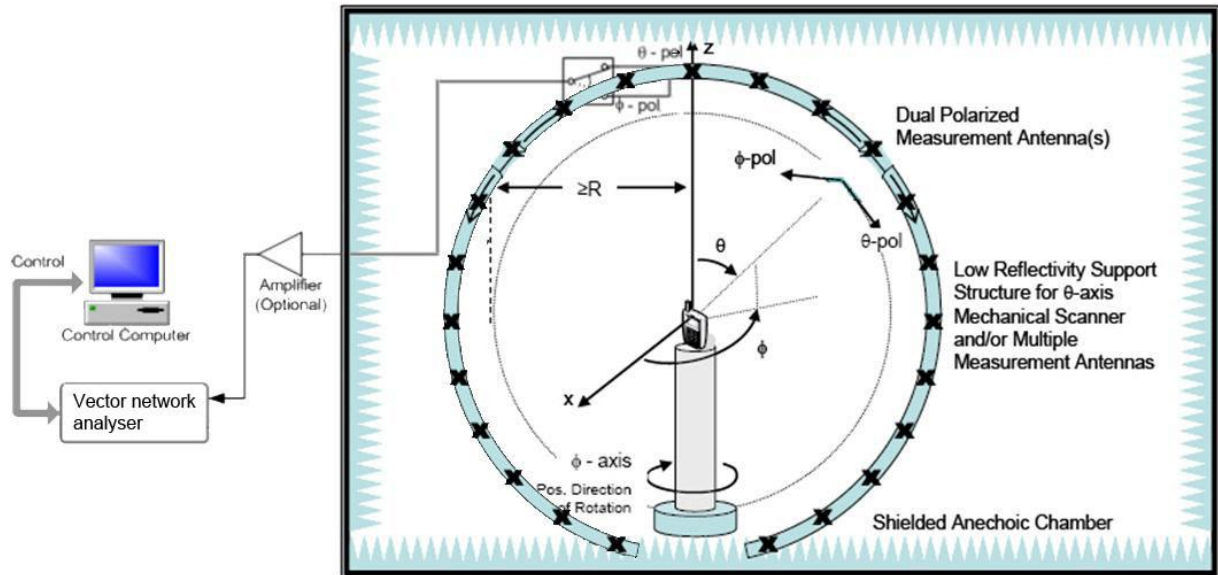
| Frequency | Gain(dBi) |
|-----------|-----------|
| 2400MHz   | -3.55     |
| 2410MHz   | -3.04     |
| 2420MHz   | -2.90     |
| 2430MHz   | -3.40     |
| 2440MHz   | -2.52     |
| 2450MHz   | -1.47     |
| 2460MHz   | -0.04     |
| 2470MHz   | 0.75      |
| 2480MHz   | 1.28      |
| 2490MHz   | 1.46      |
| 2500MHz   | 1.69      |

### 2.4.2. Return Loss/VSWR/Input Impedance

| Frequency | Return Loss (dB) | VSWR | Input Impedance( $\Omega$ ) |
|-----------|------------------|------|-----------------------------|
| 2400MHz   | -15.18           | 1.42 | 43.31                       |
| 2440MHz   | -10.37           | 1.86 | 60.23                       |
| 2450MHz   | -10.08           | 1.91 | 74.10                       |
| 2480MHz   | -11.54           | 1.71 | 84.36                       |
| 2500MHz   | -13.48           | 1.53 | 63.02                       |

## Annex A Photographs

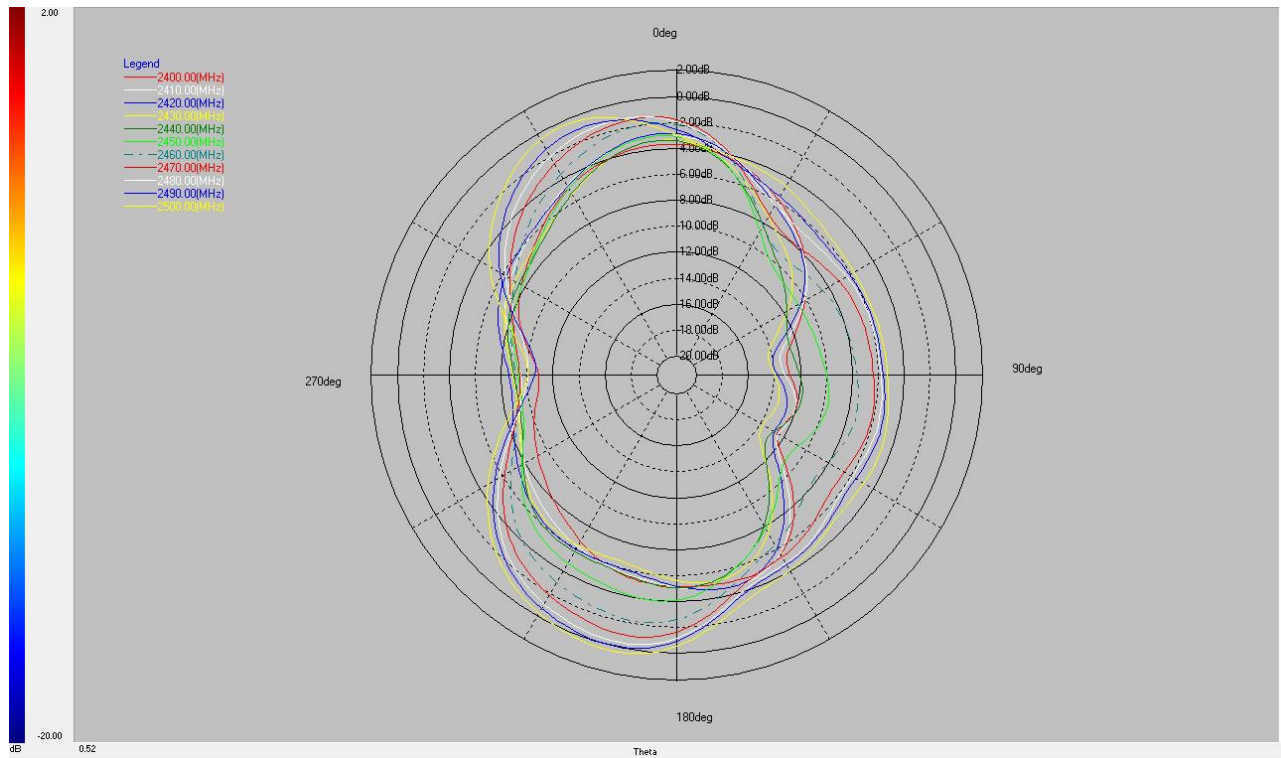
### 1. Test Setup



## Annex B Figures

### 1. 2D Radiation Pattern

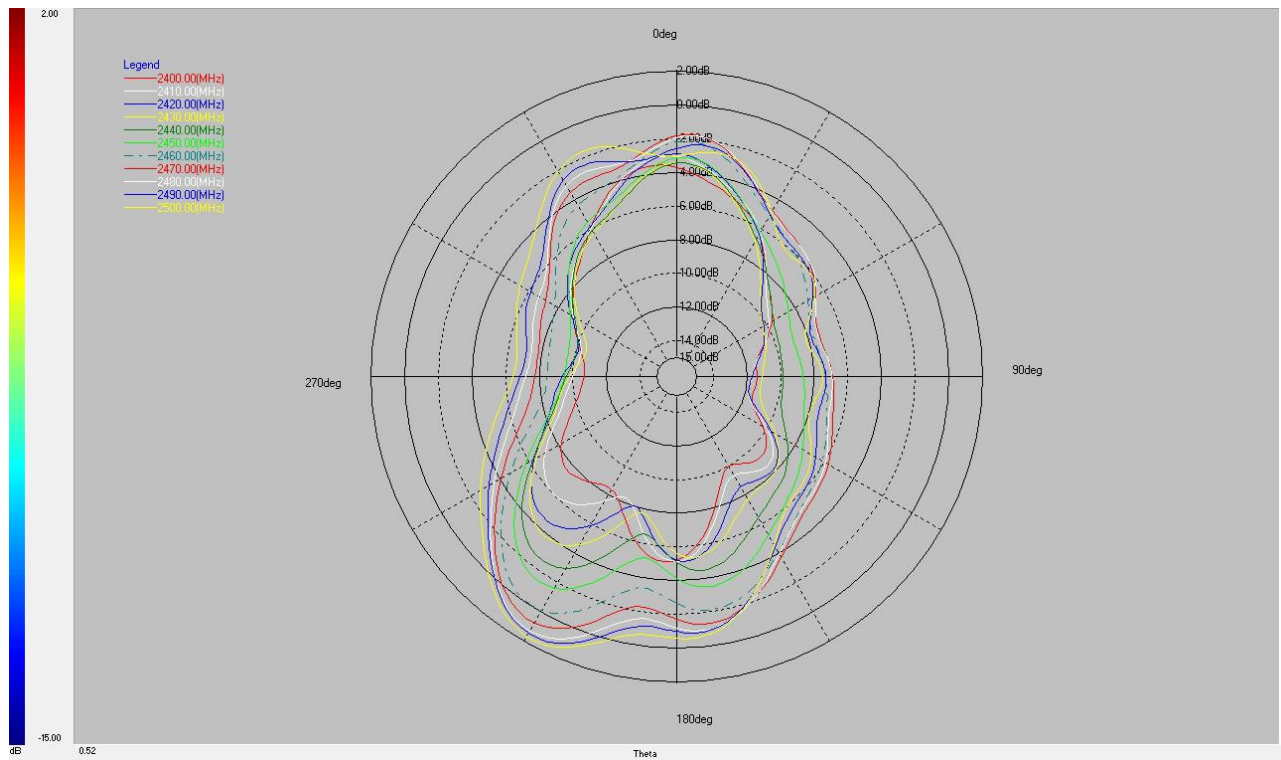
Phi=0°



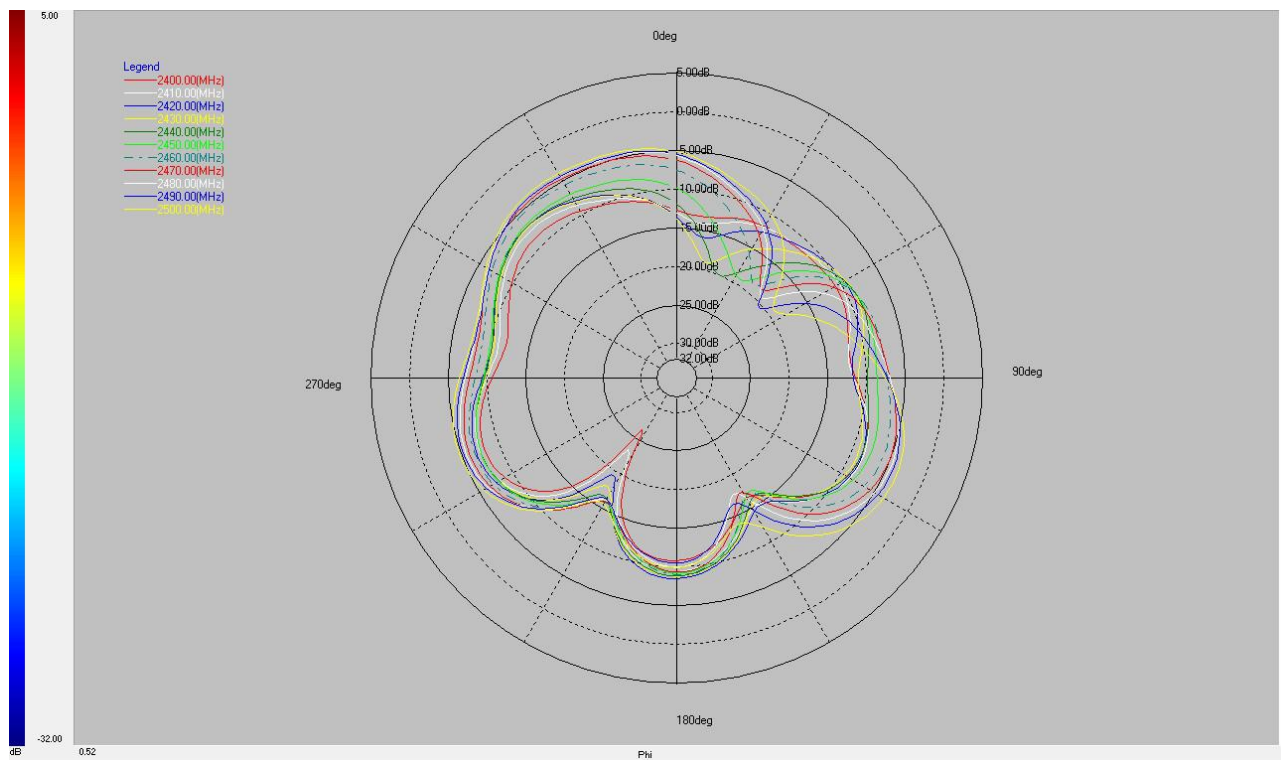


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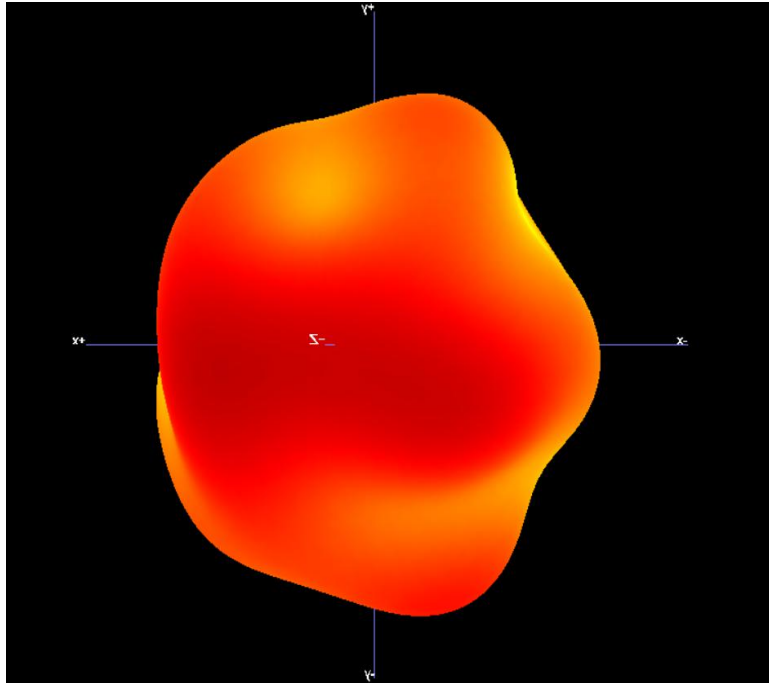
Phi=90°



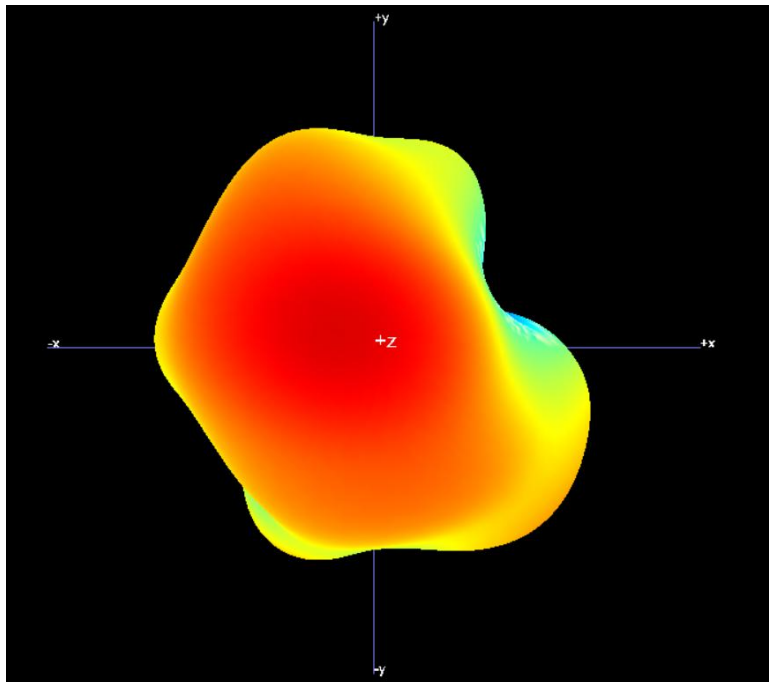
Theta=90°



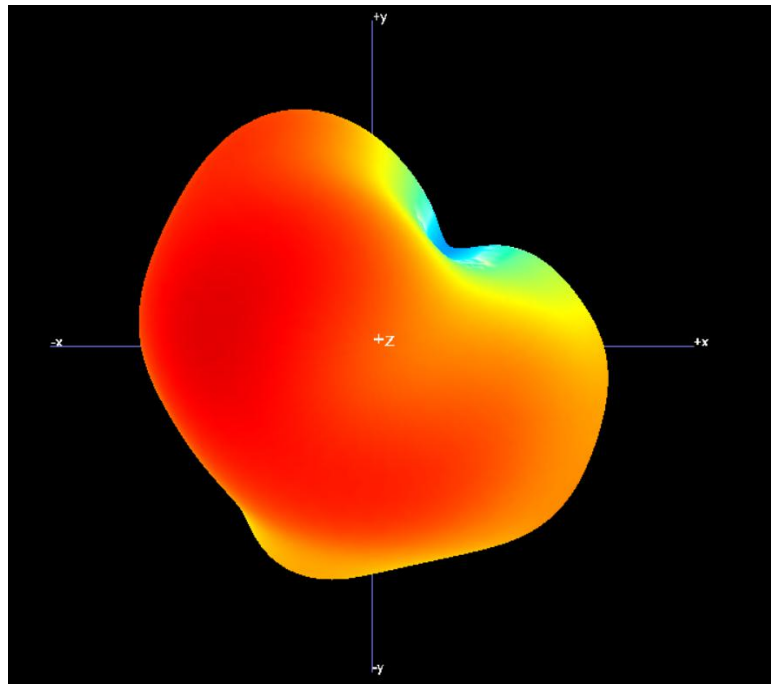
## 2. 3D Radiation Pattern



2400MHz



2450MHz



2500MHz

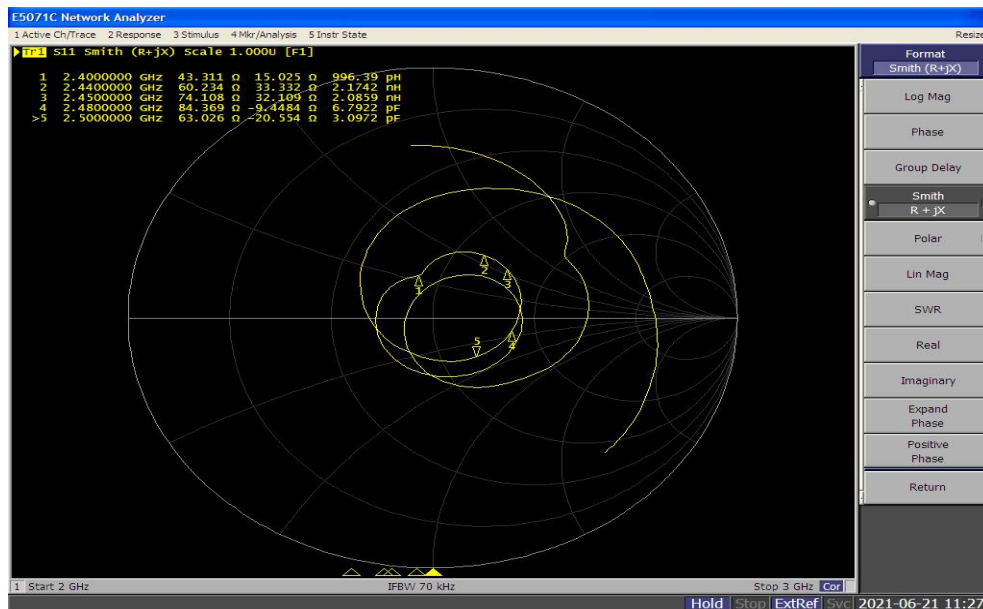
### 3. Return Loss



#### 4. VSWR

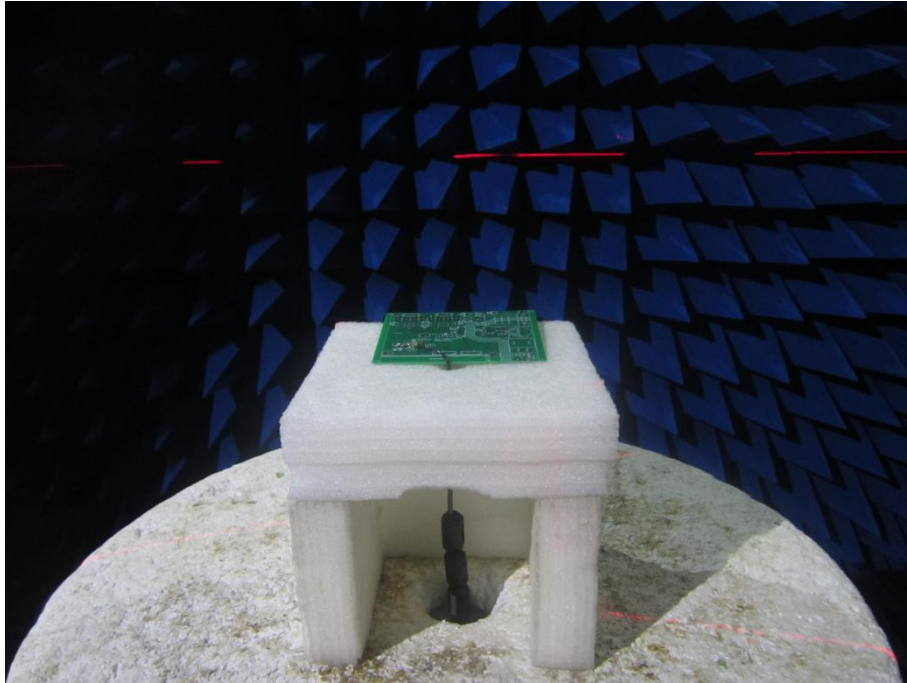


#### 5. Input Impedance

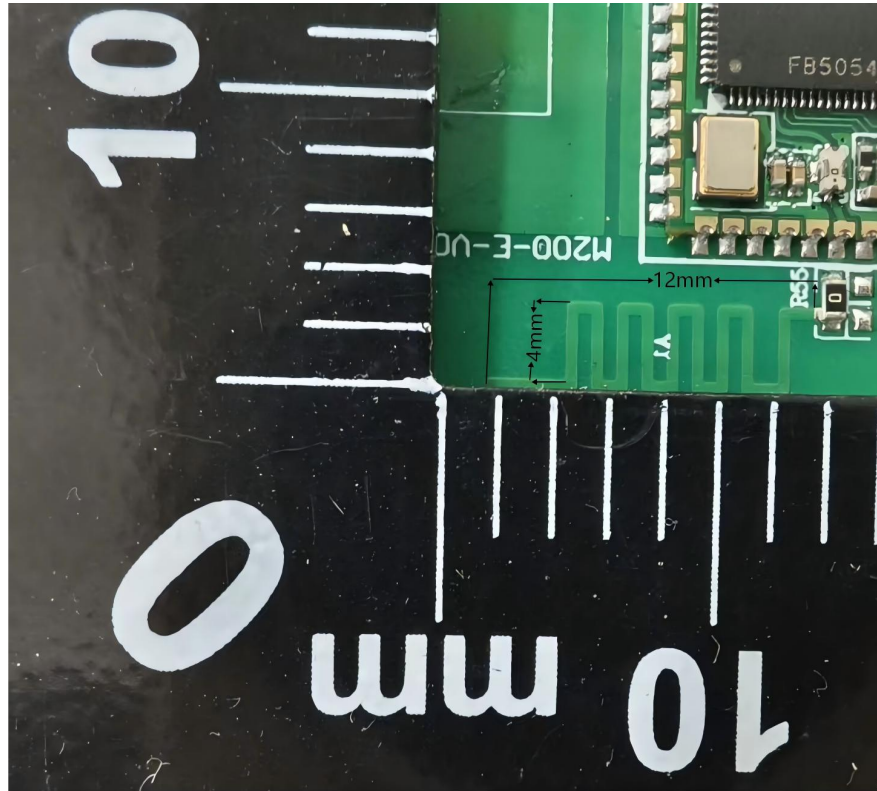


## Annex C    Photographs

### 1.    Test environment



### 2.    EUT





## Annex D General Information

### 1.1 Identification of the Responsible Testing Laboratory

|                     |                                                                                                                                         |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Laboratory Name:    | Shenzhen Morlab Communications Technology Co., Ltd.                                                                                     |
| Laboratory Address: | FL1-3, Building A, FeiYang Science Park, No.8<br>LongChang Road, Block67, BaoAn District, ShenZhen ,<br>GuangDong Province, P. R. China |
| Telephone:          | +86 755 36698555                                                                                                                        |
| Facsimile:          | +86 755 36698525                                                                                                                        |

### 1.2 Identification of the Responsible Testing Location

|          |                                                                                                                                         |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Name:    | Shenzhen Morlab Communications Technology Co., Ltd.                                                                                     |
| Address: | FL1-3, Building A, FeiYang Science Park, No.8<br>LongChang Road, Block67, BaoAn District, ShenZhen ,<br>GuangDong Province, P. R. China |

### 1.3 Test Equipments Utilized

#### 1.3.1 List of Test Equipment

| NO. | Equipment Name                   | Serial NO. | Type                          | Manufa<br>cturer | Cal.Date   | Cal.Due<br>Date |
|-----|----------------------------------|------------|-------------------------------|------------------|------------|-----------------|
| 1   | Vector<br>Network Analyzer       | MY46214666 | E5071C                        | Agilent          | 2021.03.17 | 2022.03.16      |
| 2   | OTA Chamber                      | N/A        | SG24                          | Satimo           | 2021.01.12 | 2024.01.11      |
| 3   | Antenna<br>Measurement<br>System | N/A        | Satenv<br>V1.4.1.14<br>build1 | Satimo           | N/A        | N/A             |

————— END OF REPORT —————