



REPORT No. : SZ19080340E01

# TEST REPORT

**Applicant** : SHANGHAI MOUNTAIN VIEW SILICON CO., LTD

**PRODUCT NAME** : MV\_BP10xx PCB Antenna

**MODEL NAME** : MV\_BP10

**TRADE NAME** : MVSILICON

**BRAND NAME** : MVSILICON

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

**RECEIPT DATE** : 2019-08-30

**TEST DATE** : 2019-09-02

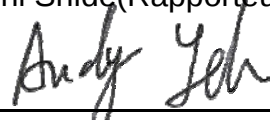
**ISSUE DATE** : 2019-10-15



Edited by:

  
Chi Shide(Rapporteur)

Approved by:

  
Andy Yeh(Technical Director)

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**MORLAB**

SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.  
FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road,  
Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China

Tel: 86-755-36698555  
Http://www.morlab.cn

Fax: 86-755-36698525  
E-mail: service@morlab.cn





# DIRECTORY

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| Change History |            |                   |
|----------------|------------|-------------------|
| Version        | Date       | Reason for change |
| 1.0            | 2019-10-15 | First edition     |
|                |            |                   |

# 1. Technical Information

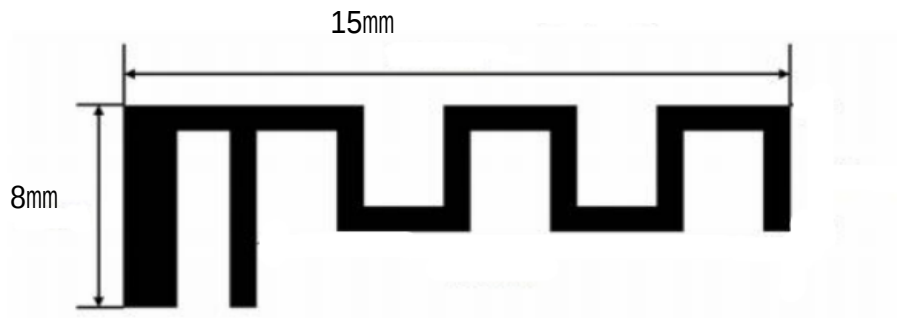
**Note:** Provide by manufacturer.

## 1.1. Manufacturer and Factory Information

|                              |                                                                                  |
|------------------------------|----------------------------------------------------------------------------------|
| <b>Applicant:</b>            | SHANGHAI MOUNTAIN VIEW SILICON CO., LTD                                          |
| <b>Applicant Address:</b>    | Suite 4C, Building 3, 1238 Zhangjiang Road, Pudong New District, Shanghai, China |
| <b>Manufacturer:</b>         | SHANGHAI MOUNTAIN VIEW SILICON CO., LTD                                          |
| <b>Manufacturer Address:</b> | Suite 4C, Building 3, 1238 Zhangjiang Road, Pudong New District, Shanghai, China |

## 1.2. Equipment Under Test (EUT) Description

|              |             |
|--------------|-------------|
| Antenna type | PCB Antenna |
| Frequency    | N/A         |



## 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. Test Results lists

#### 2.3.1. Gain

| Frequency | Gain(dBi) |
|-----------|-----------|
| 2400MHz   | 2.81      |
| 2410MHz   | 2.74      |
| 2420MHz   | 3.38      |
| 2430MHz   | 2.73      |
| 2440MHz   | 1.01      |
| 2450MHz   | 1.26      |
| 2460MHz   | 1.50      |
| 2470MHz   | 1.49      |
| 2480MHz   | 1.42      |
| 2490MHz   | 0.36      |
| 2500MHz   | 0.33      |

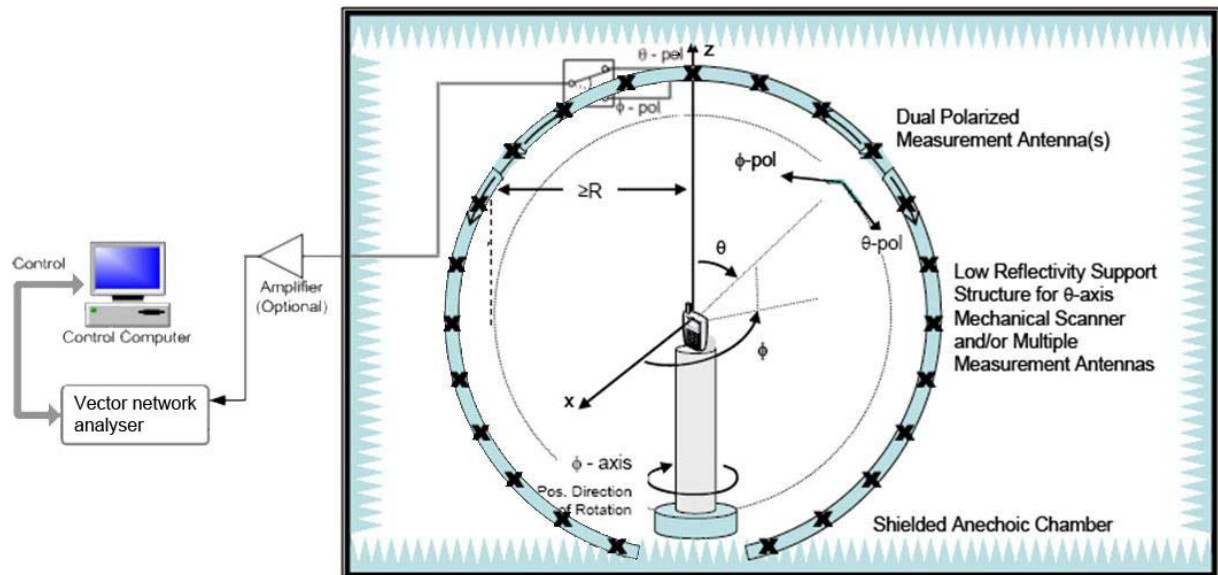


### 2.3.2.Return Loss/VSWR/Input Impedance

| Frequency | Return Loss (dB) | VSWR | Input Impedance( $\Omega$ ) |
|-----------|------------------|------|-----------------------------|
| 2400MHz   | -7.23            | 2.53 | 25.37                       |
| 2440MHz   | -6.47            | 2.80 | 17.99                       |
| 2450MHz   | -6.22            | 2.90 | 17.18                       |
| 2480MHz   | -5.18            | 3.44 | 15.55                       |
| 2500MHz   | -4.56            | 3.89 | 15.48                       |

## Annex A Photographs

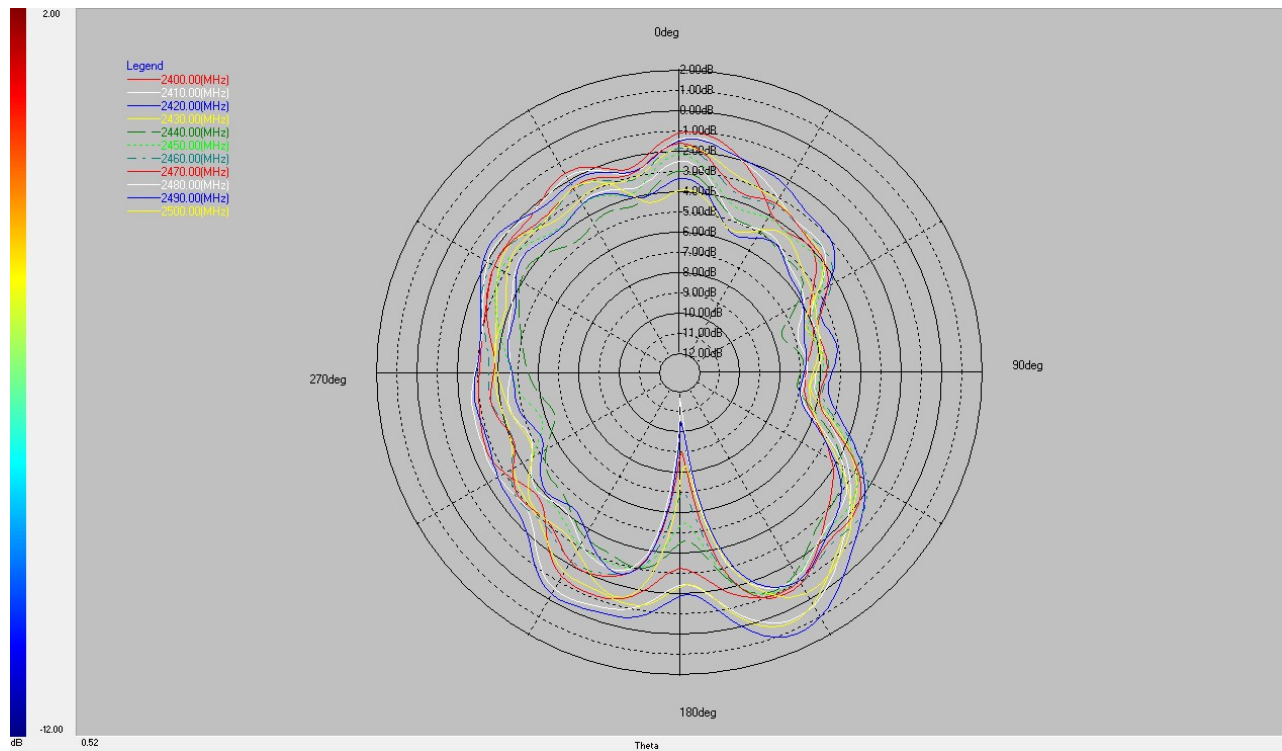
### 1. Test Setup



## Annex B Figures

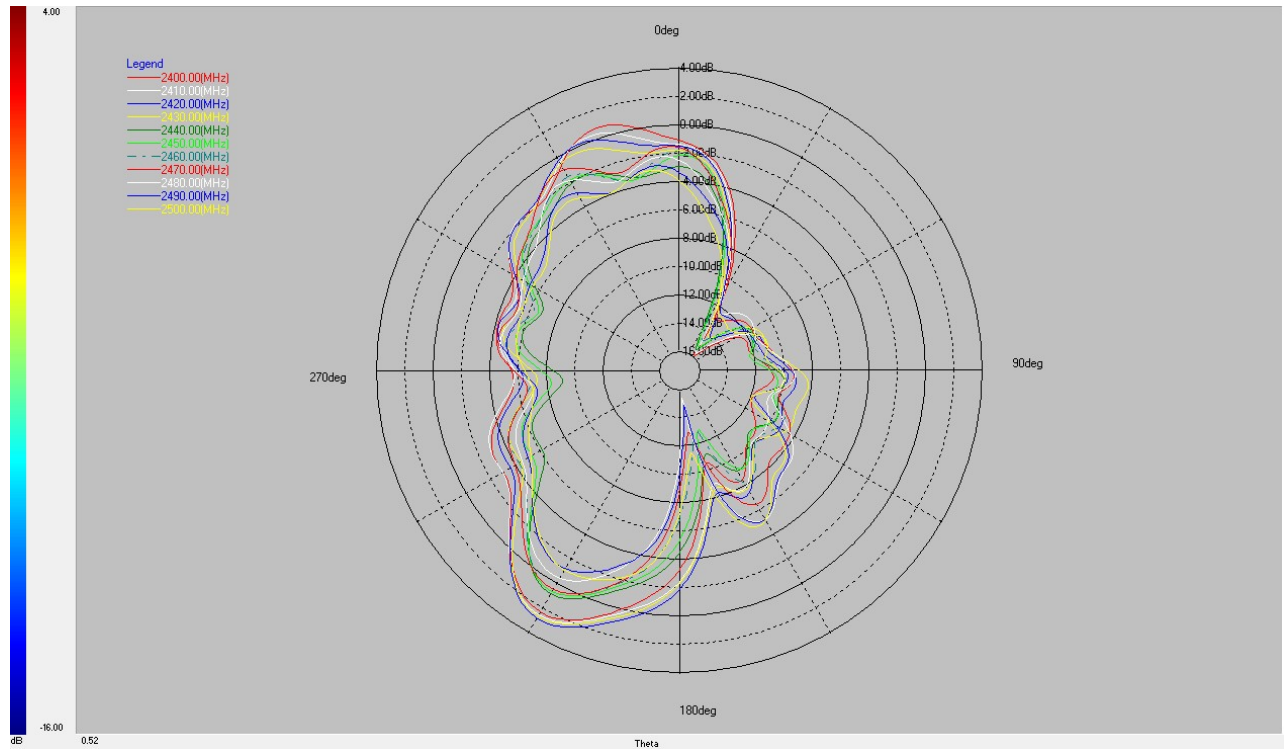
### 1. 2D Radiation Pattern

Phi=0°

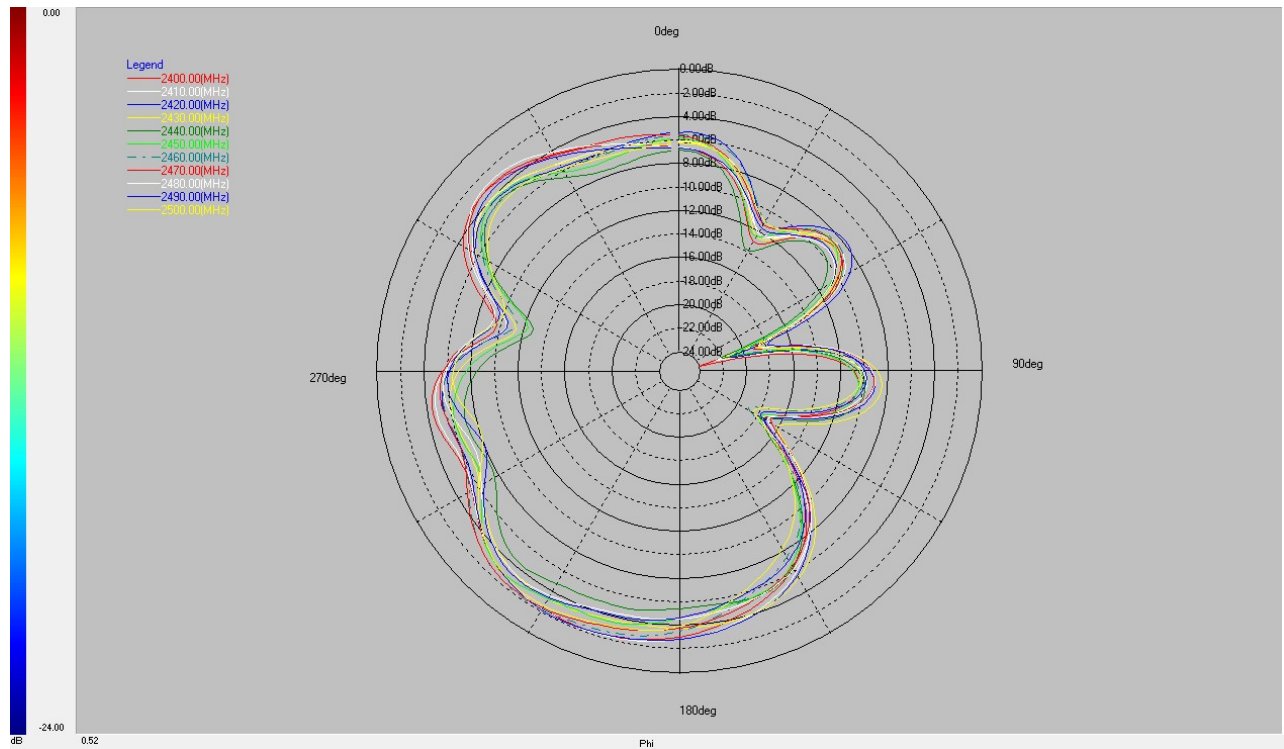




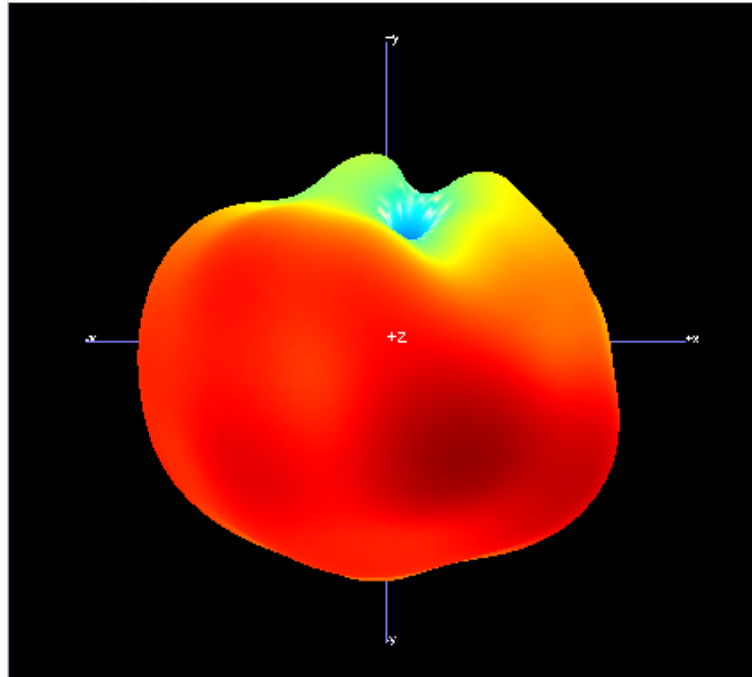
Phi=90°



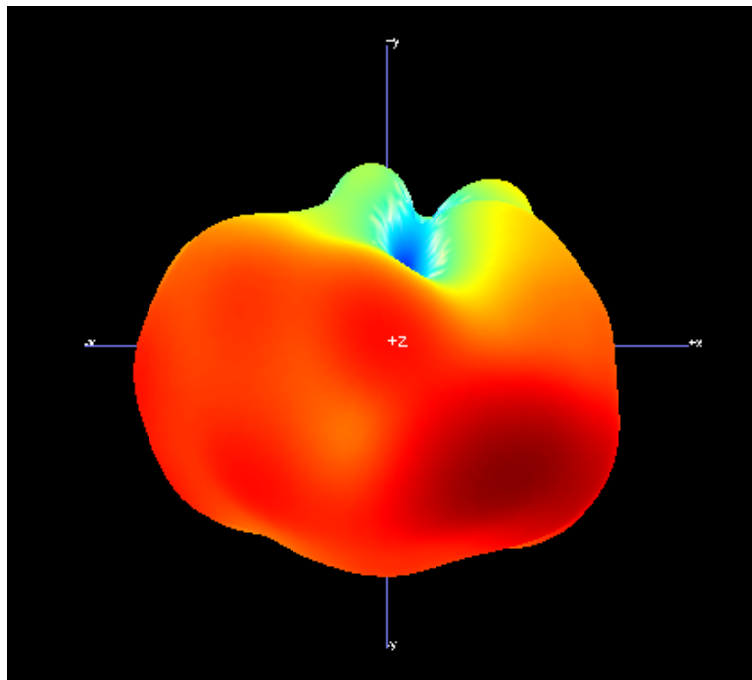
Theta=90°



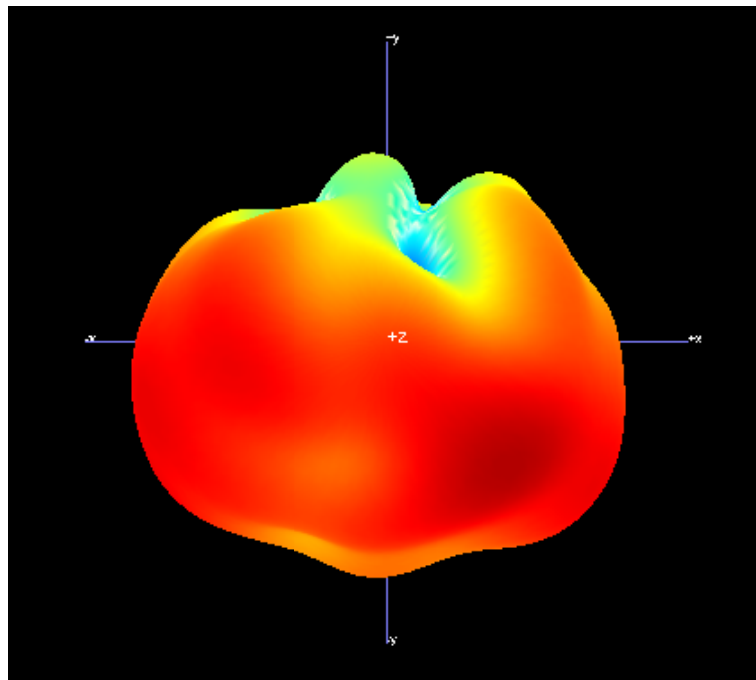
## 2. 3D Radiation Pattern



2400MHz

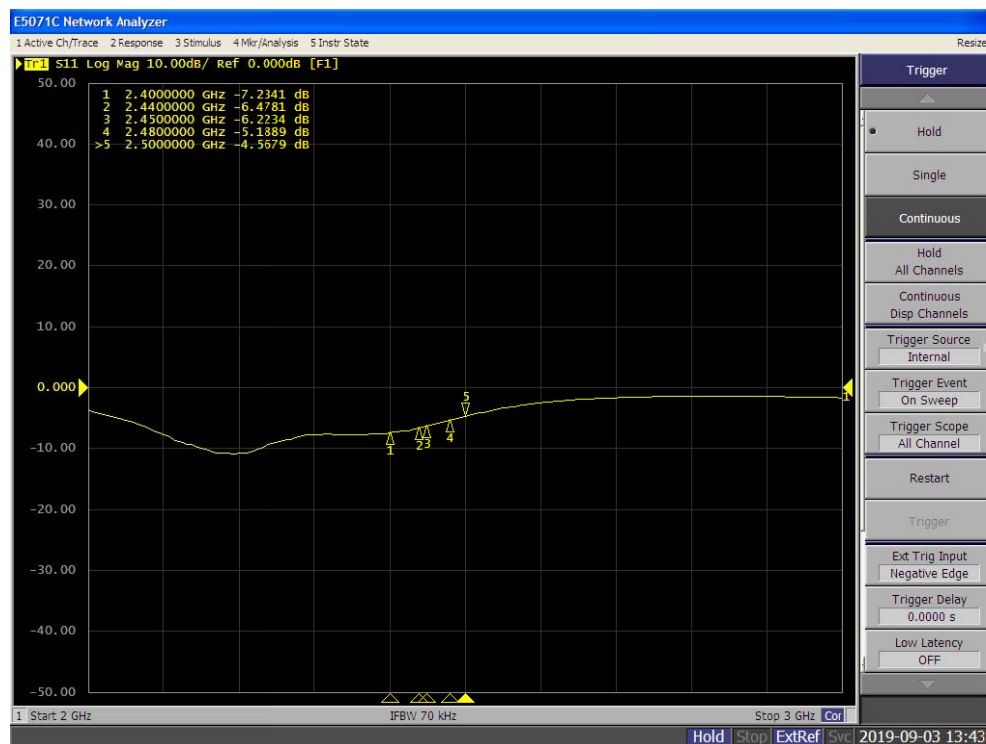


2450MHz



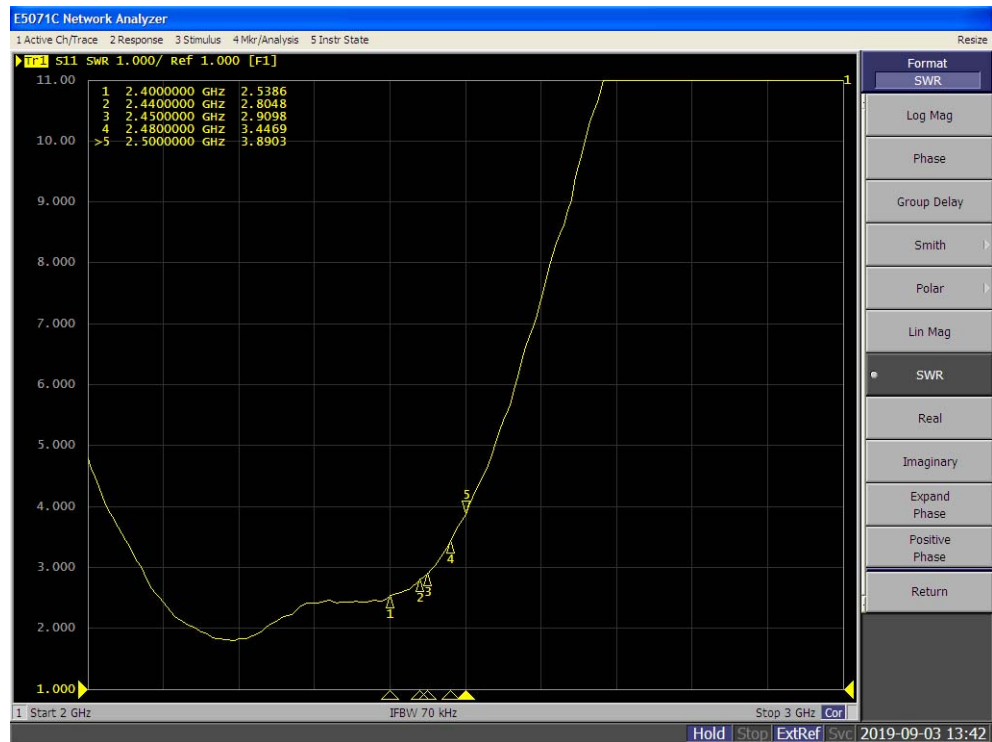
2500MHz

### 3. Return Loss

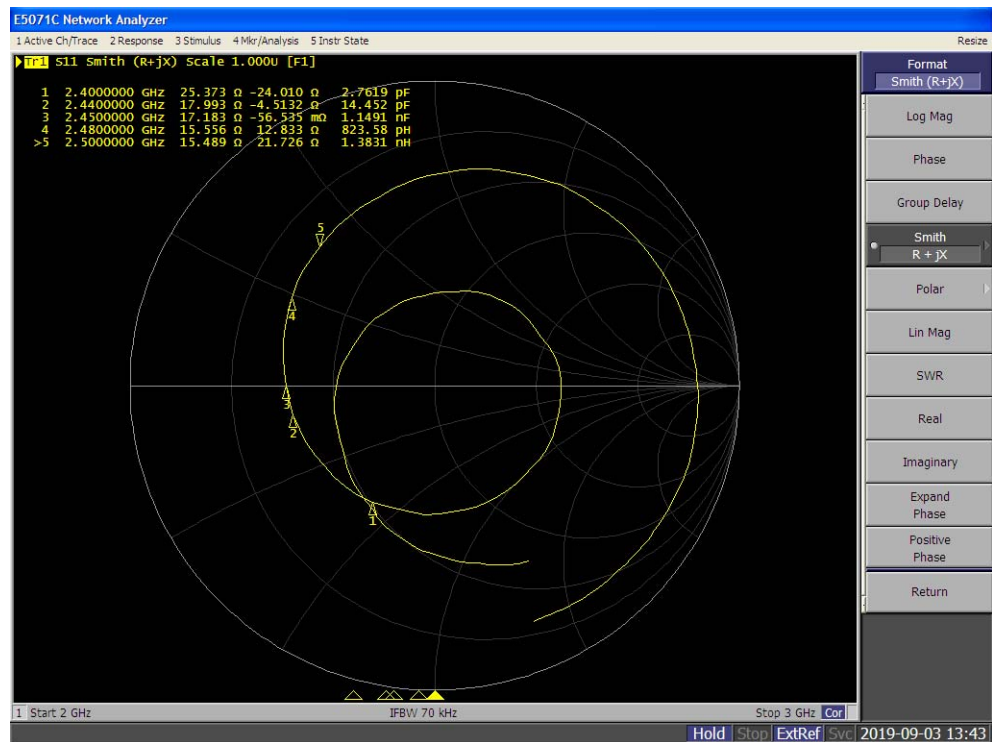




## 4. VSWR

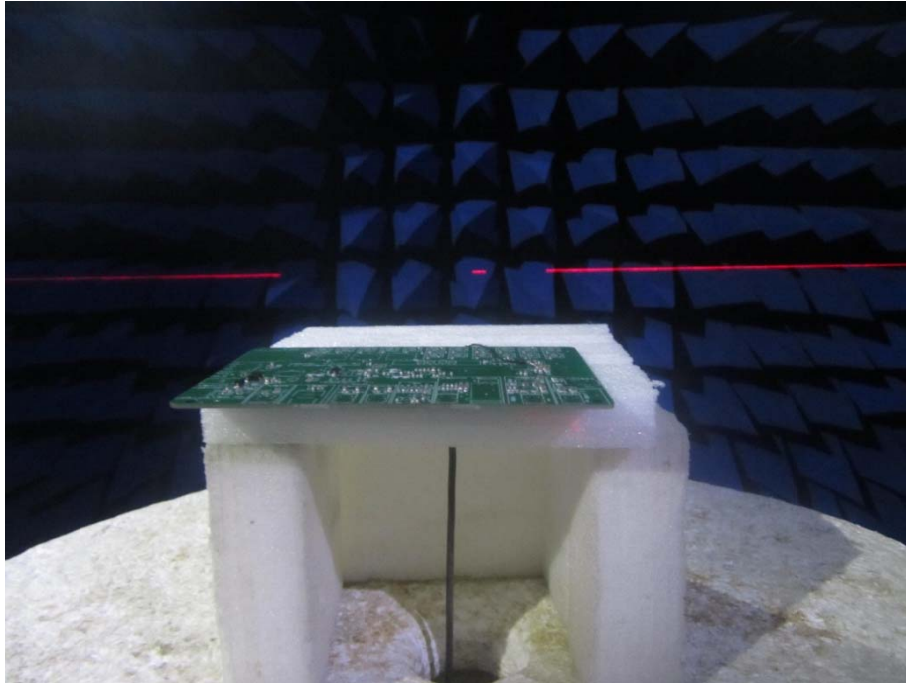


## 5. Input Impedance

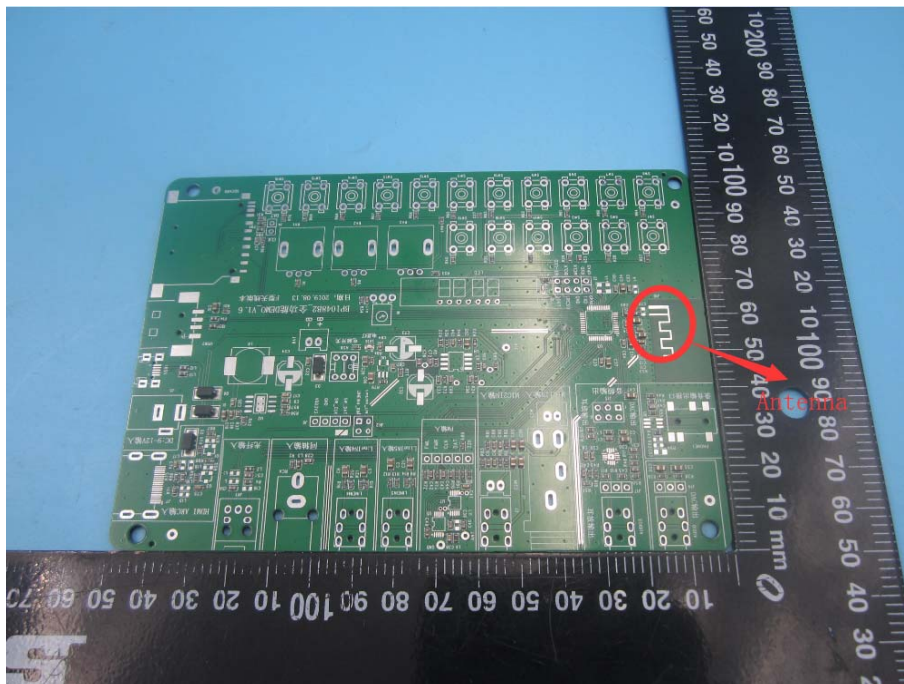


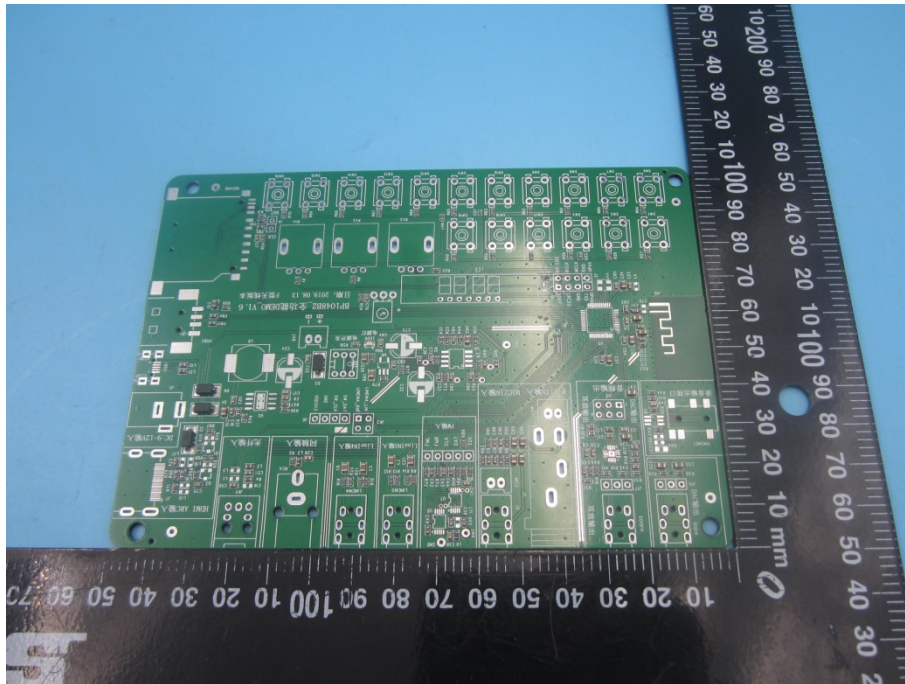
## Annex C Photographs

### 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.<br>Morlab Laboratory                                                                |
| 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.<br>Morlab Laboratory                                                                |
| 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. | Type                                           | Specification         |
|-----|------------------------------------------------|-----------------------|
| 1   | E5071C Vector Network Analyzer                 | Manufacturer: Agilent |
| 2   | 4*4*4 Full Anechoic Chamber                    | Manufacturer: Satimo  |
| 3   | SG24 Multi-probe Antenna<br>Measurement System | Manufacturer: Satimo  |

————— END OF REPORT —————