



# 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)

**NOTE:** This document is issued by MORLAB, the test report shall not be reproduced except in full without prior written permission of the company. The test results apply only to the particular sample(s) tested and to the specific tests carried out which is available on request for validation and information confirmed at our website.





# DIRECTORY

- 1. Technical Information..... 3
- 1.1. Manufacturer and Factory Information ..... 3
- 1.2. Equipment Under Test (EUT) Description ..... 3
- 2. Test Results ..... 4
- 2.1. Applied Reference Documents ..... 4
- 2.2. Test Conditions ..... 4
- 2.3. Test Results lists..... 4
- Annex A Photographs ..... 6
- Annex B Figures ..... 7
- 1. 2D Radiation Pattern ..... 7
- 2. 3D Radiation Pattern ..... 9
- 3. Return Loss ..... 10
- 4. VSWR..... 11
- 5. Input Impedance ..... 11
- Annex C Photographs..... 12
- Annex D General Information ..... 14
- 1.1 Identification of the Responsible Testing Laboratory ..... 14
- 1.2 Identification of the Responsible Testing Location ..... 14
- 1.3 Test Equipments Utilized ..... 14

| 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

|               |     |
|---------------|-----|
| Wireless Type | N/A |
| 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      |

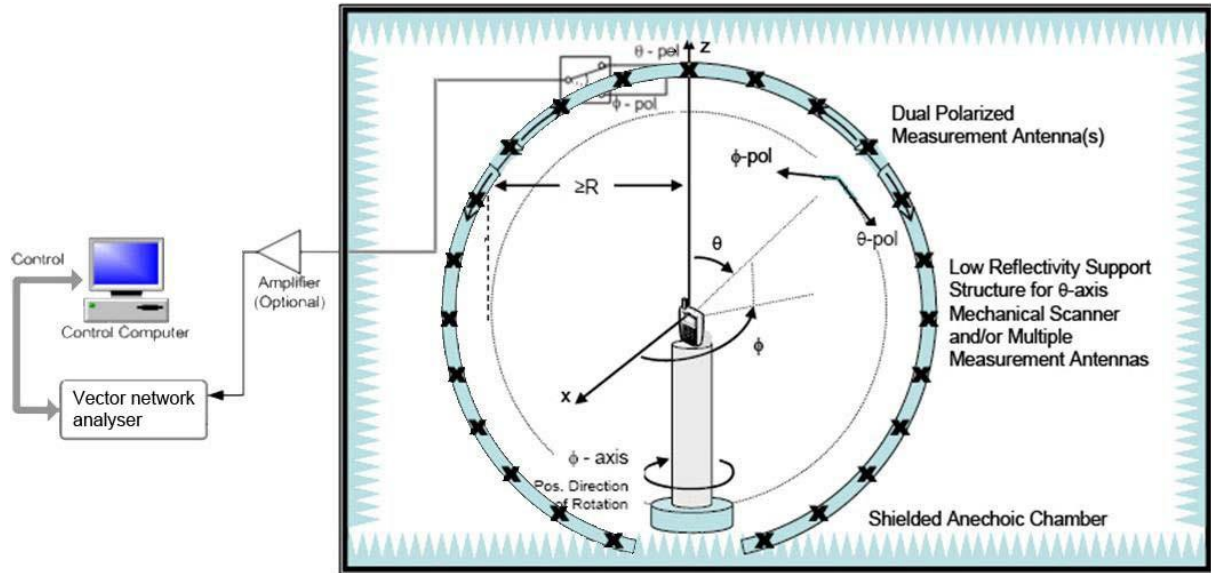


### 2.3.2.Return Loss/VSWR/Input Impedance

| 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

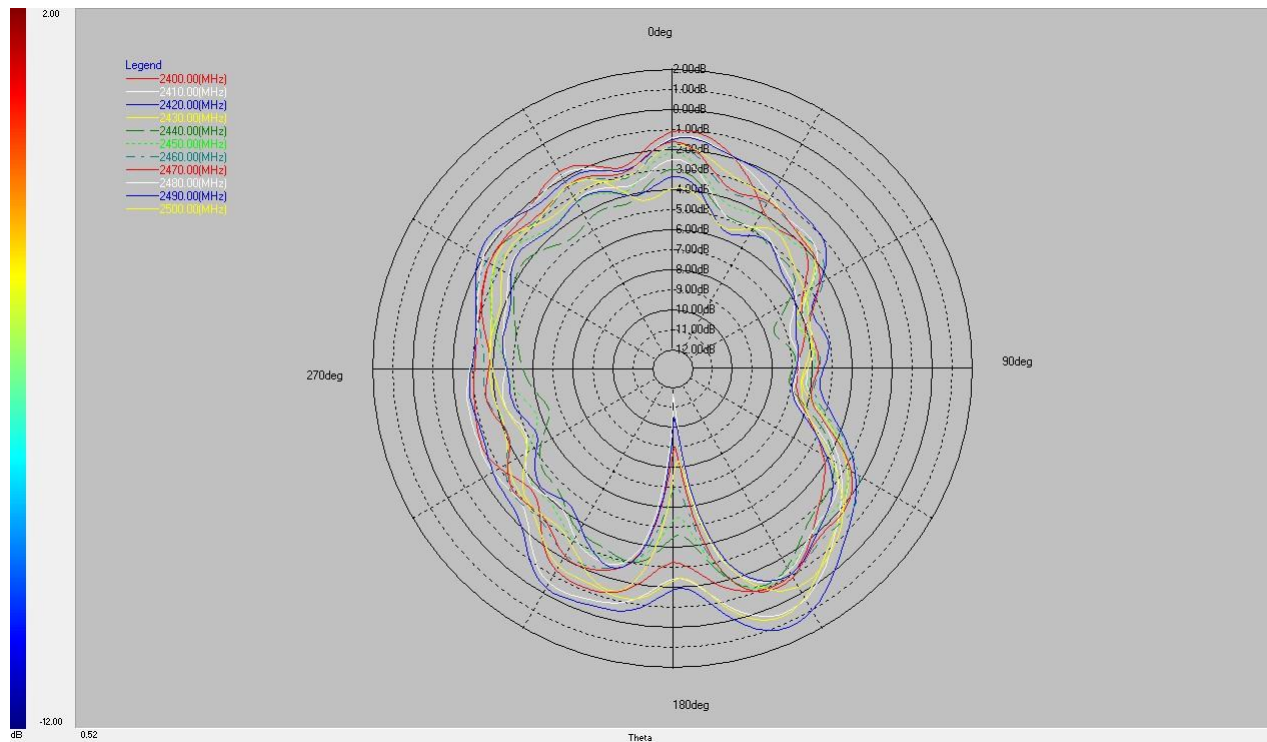
### 1. Test Setup



## Annex B Figures

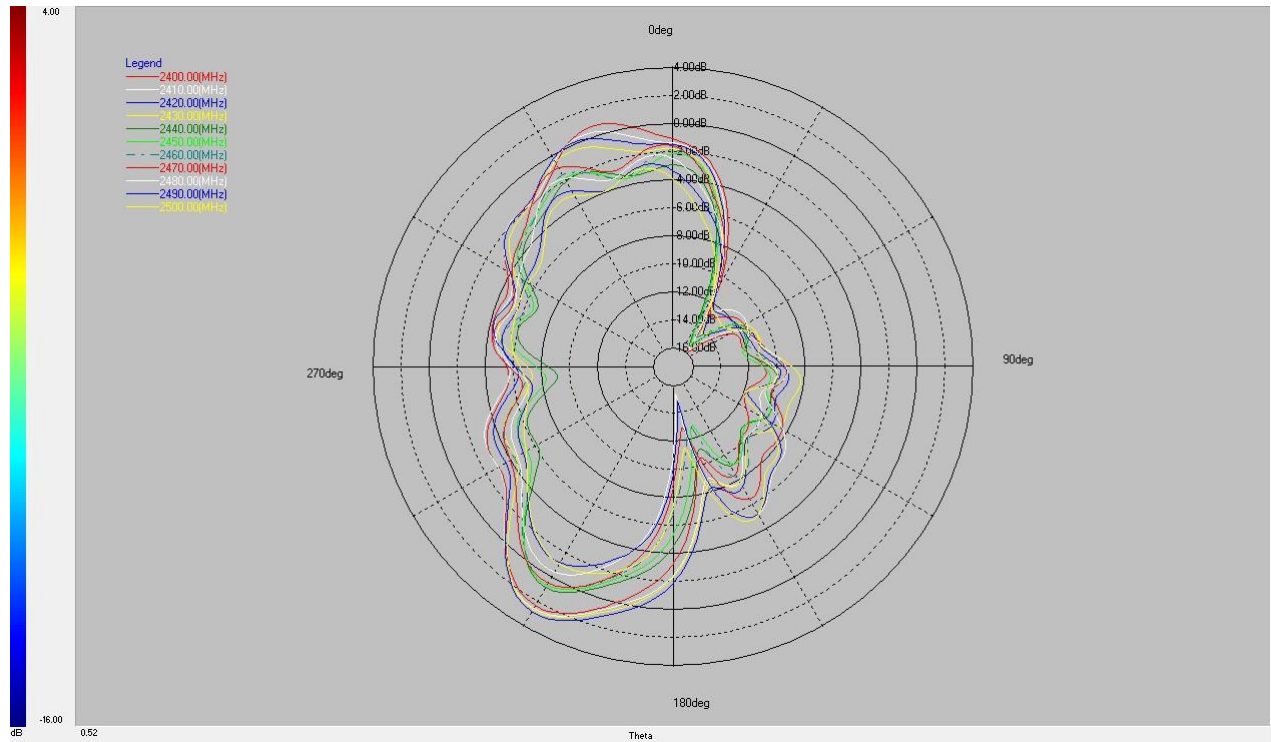
### 1. 2D Radiation Pattern

Phi=0°

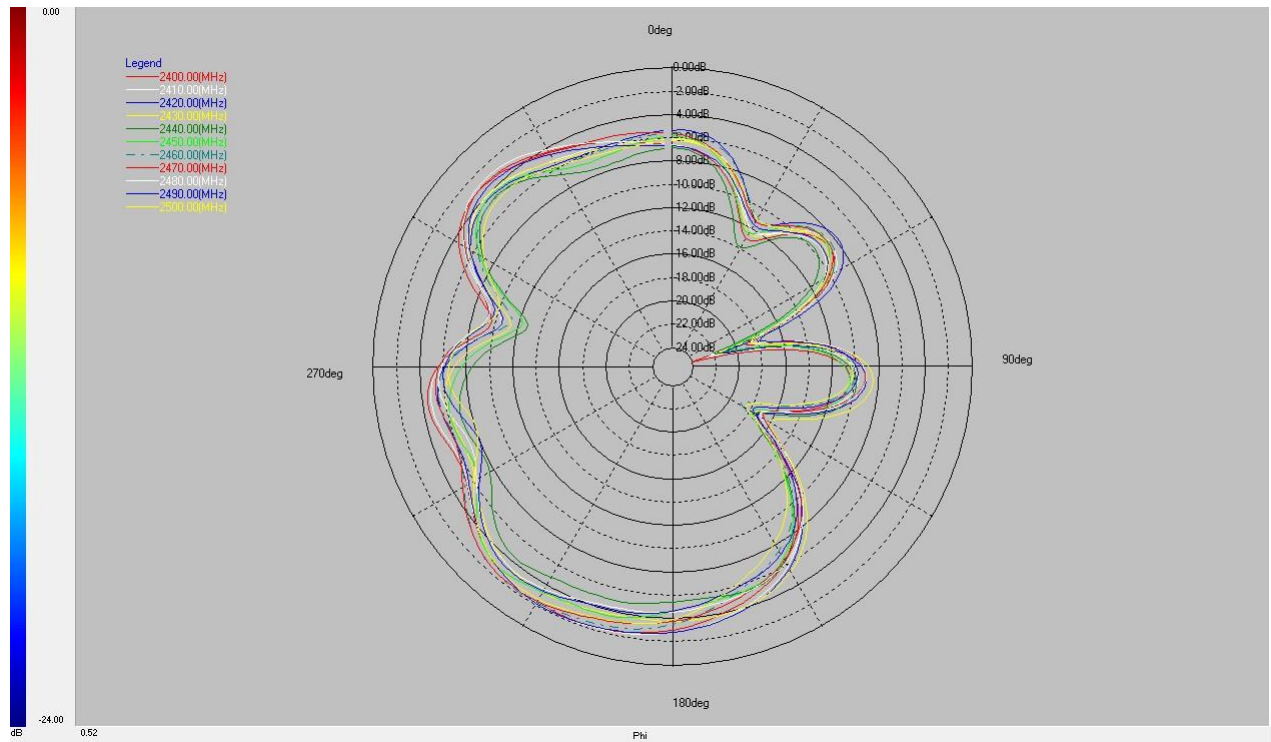




Phi=90°

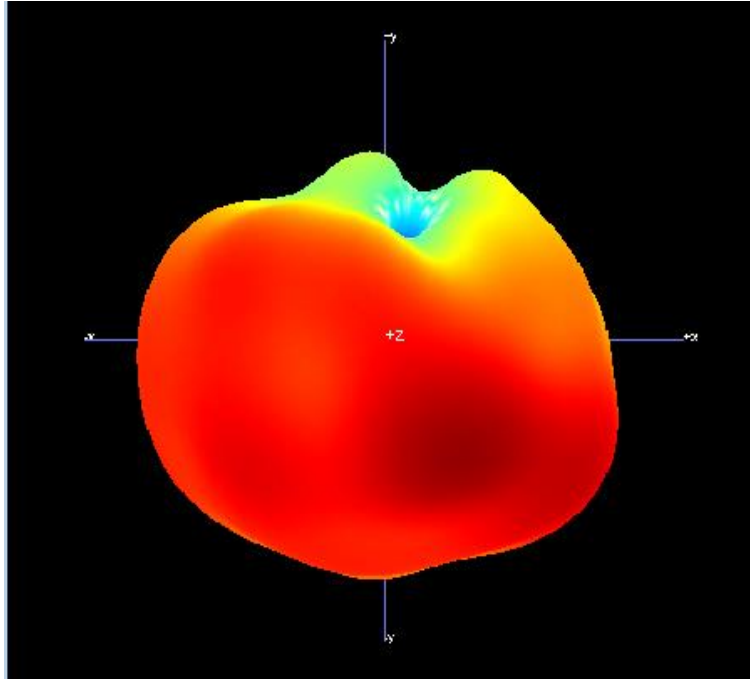


Theta=90°

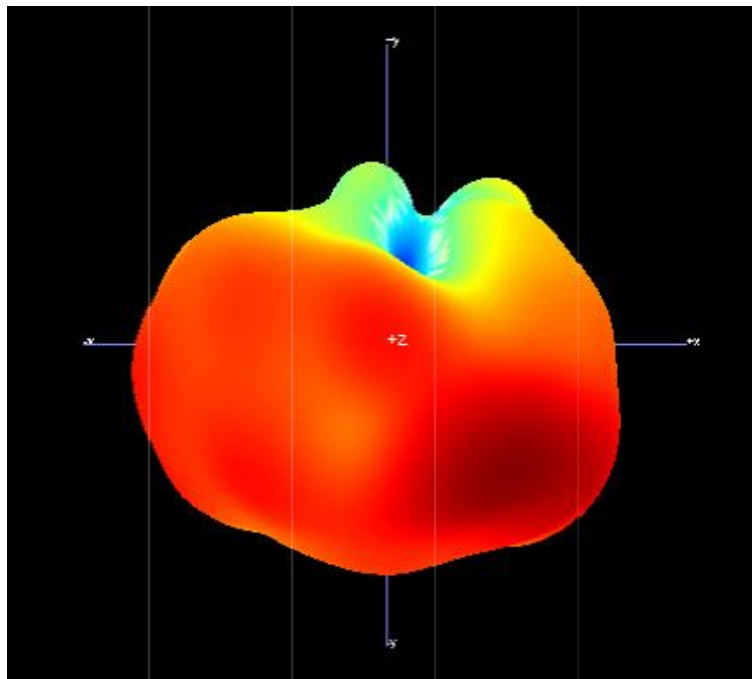




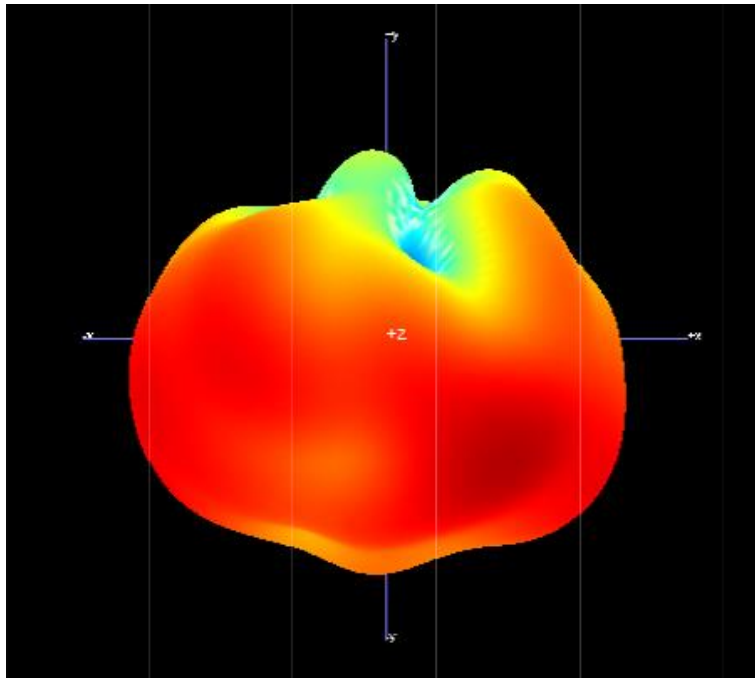
## 2. 3D Radiation Pattern



2400MHz

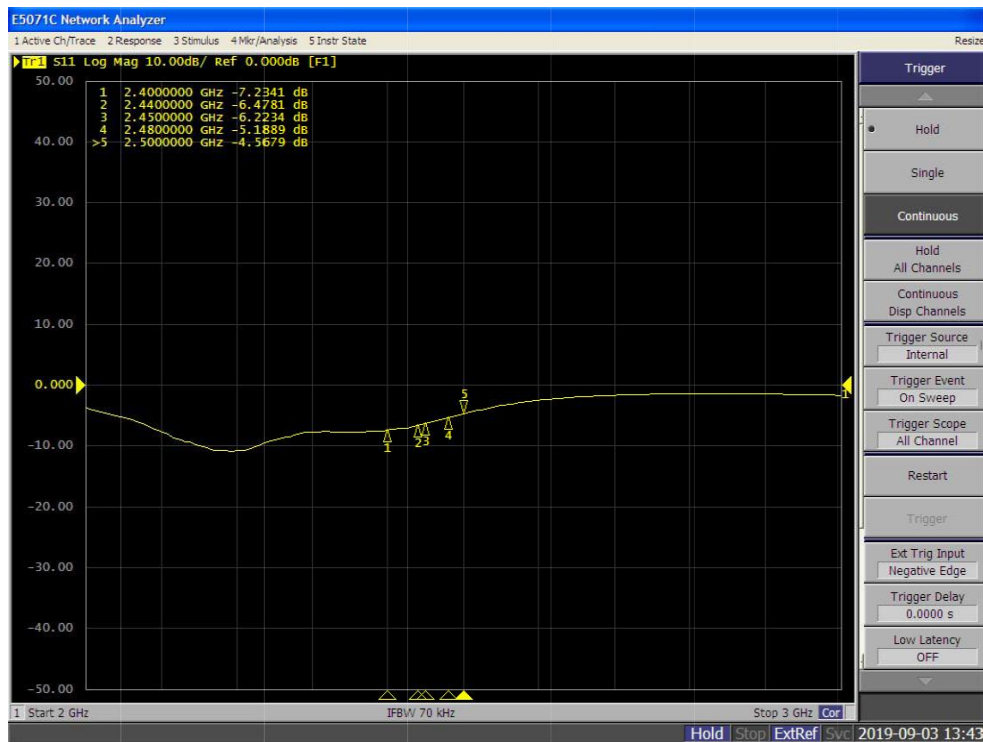


2450MHz



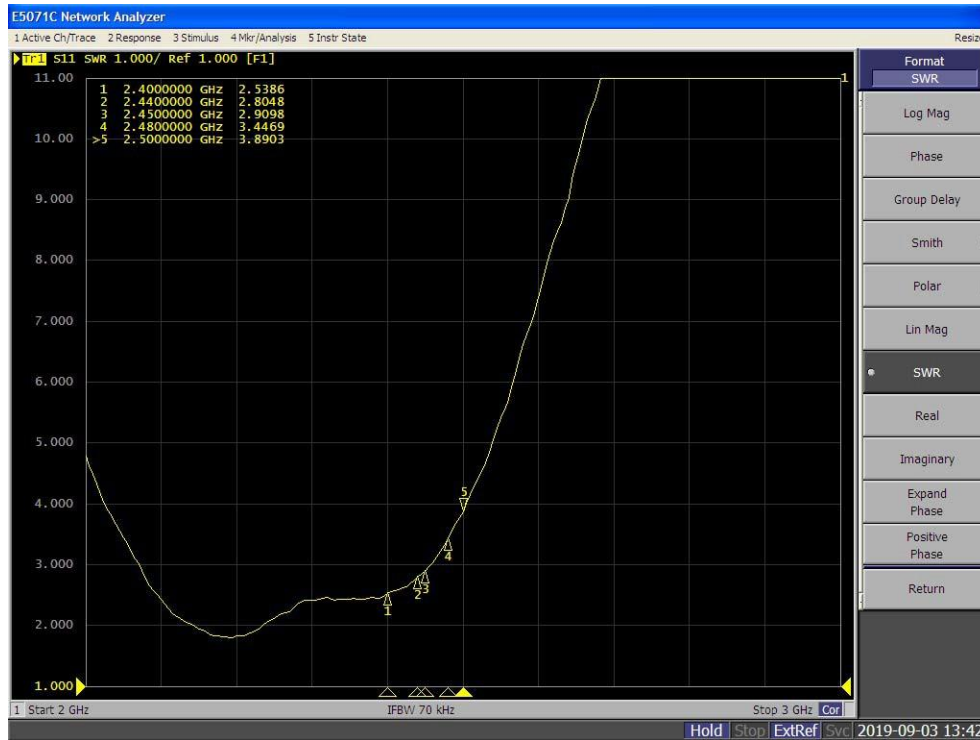
2500MHz

### 3. Return Loss

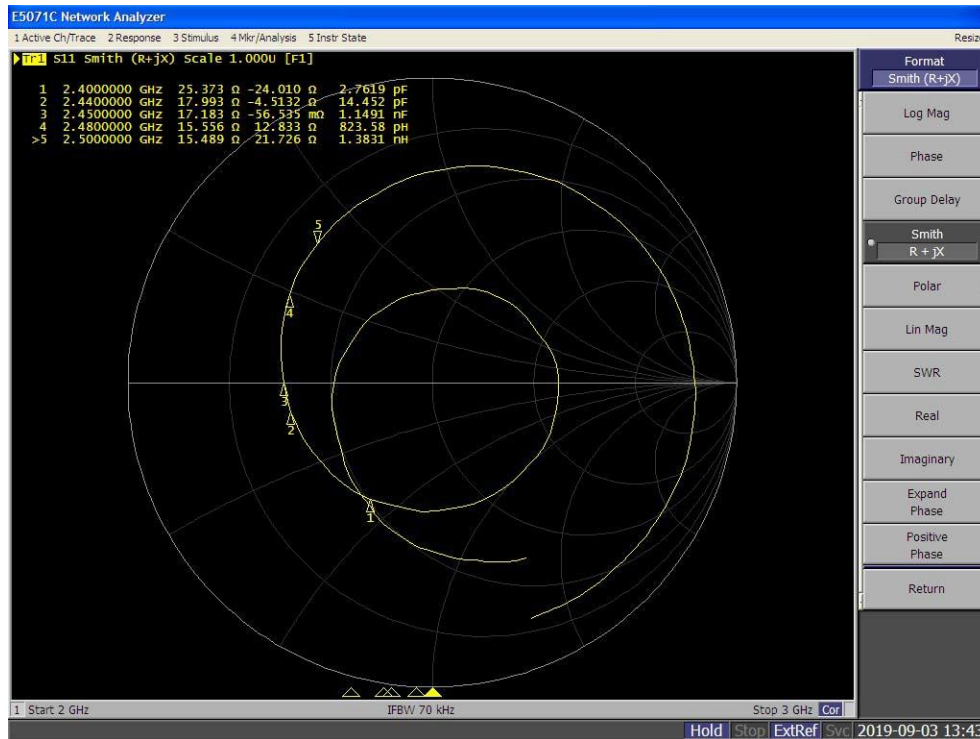




### 4. VSWR

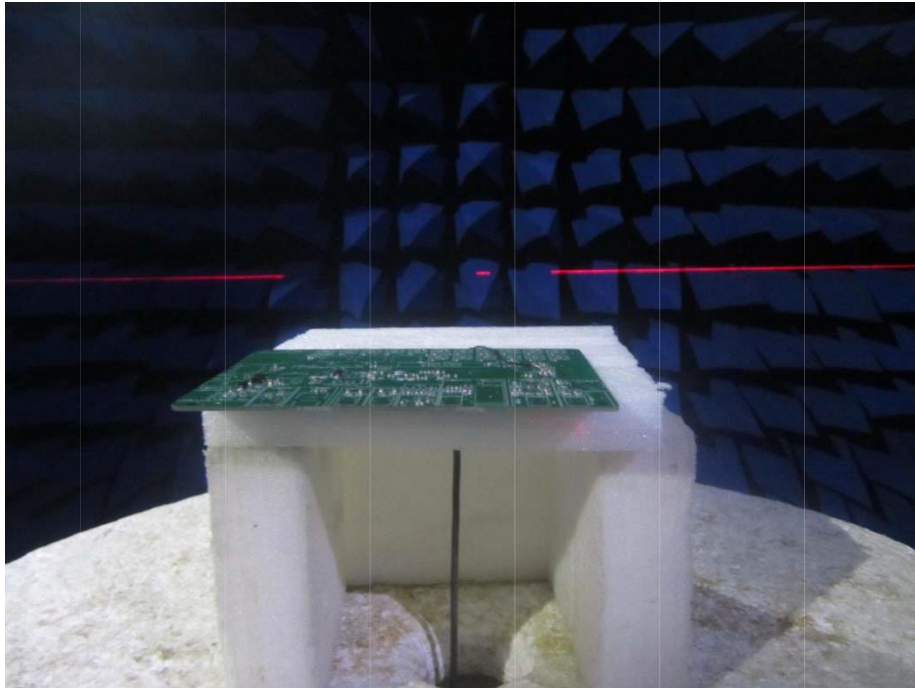


### 5. Input Impedance



## Annex C Photographs

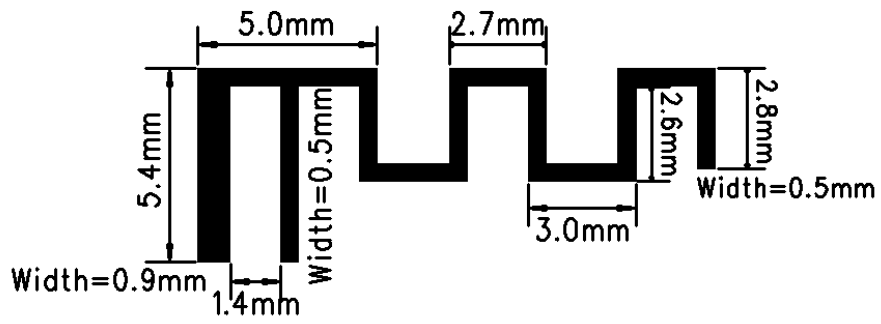
### 1. Test environment



### 2. EUT



Antenna



Actual Size



## 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 —————