



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

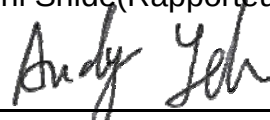
STANDARD(S) : ANSI/IEEE Std 149-2008

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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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

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

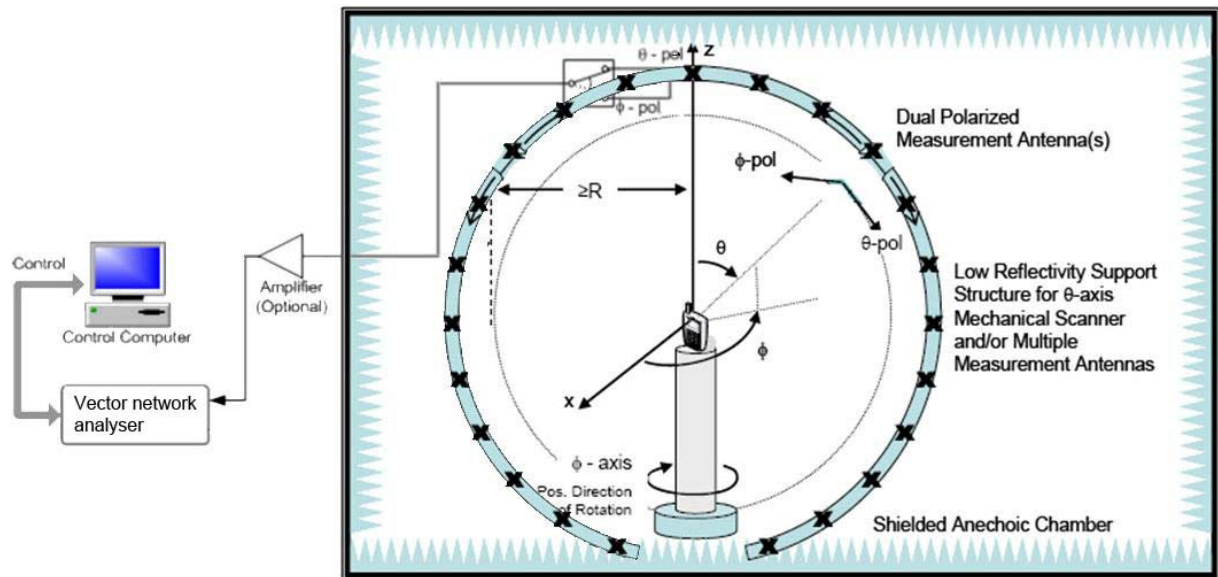


2.3.2.Return Loss/VSWR/Input Impedance

Frequency	Return Loss (dB)	VSWR	Input Impedance(Ω)
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

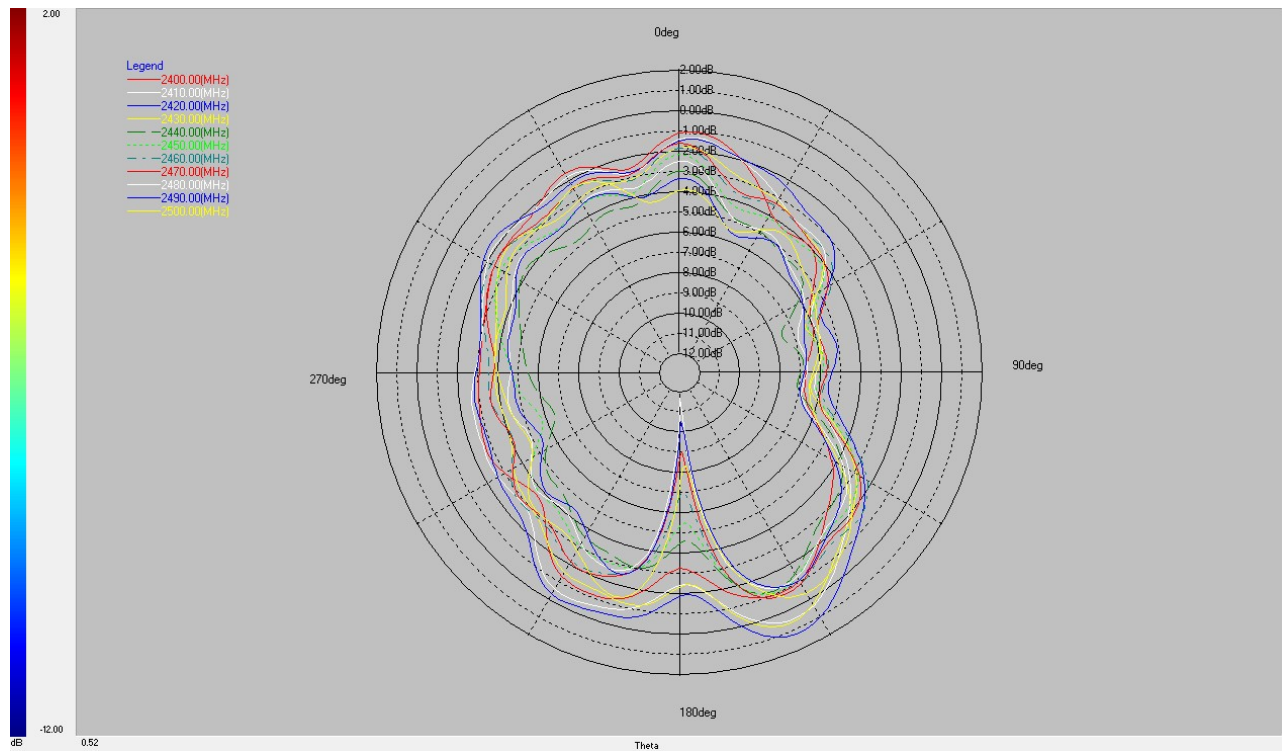
1. Test Setup



Annex B Figures

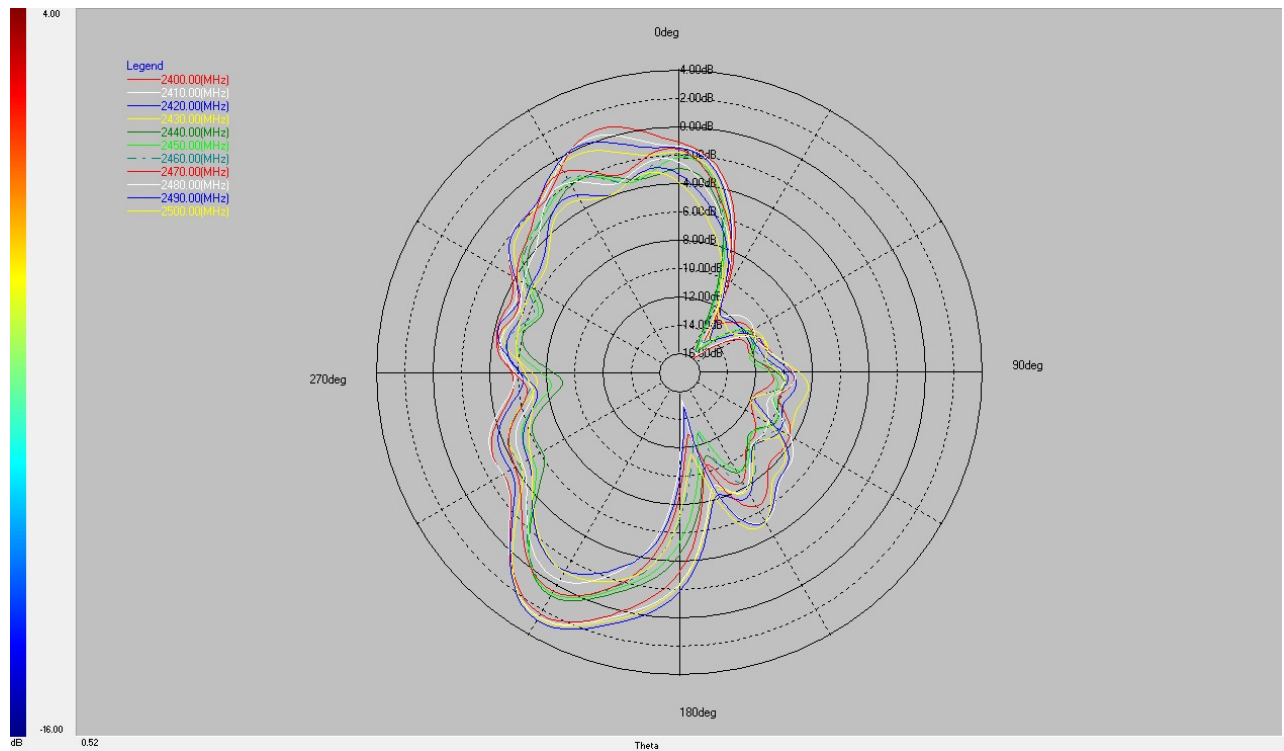
1. 2D Radiation Pattern

Phi=0°

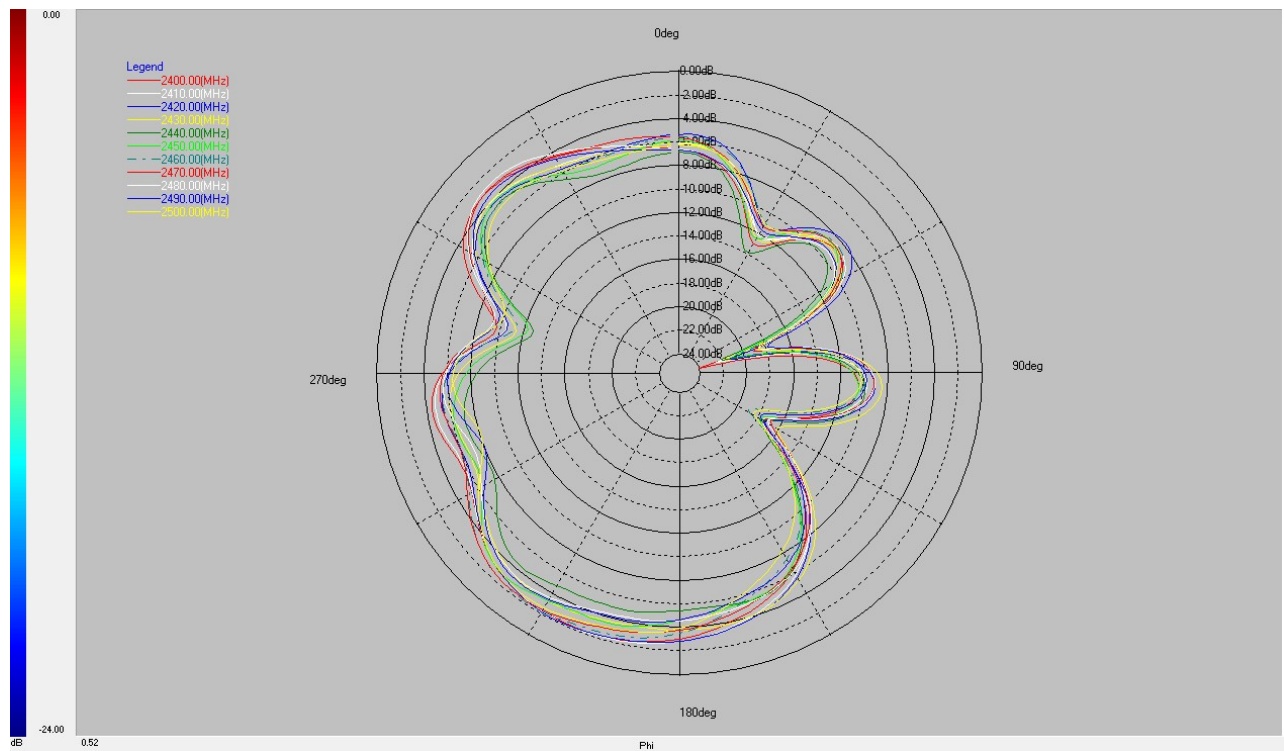




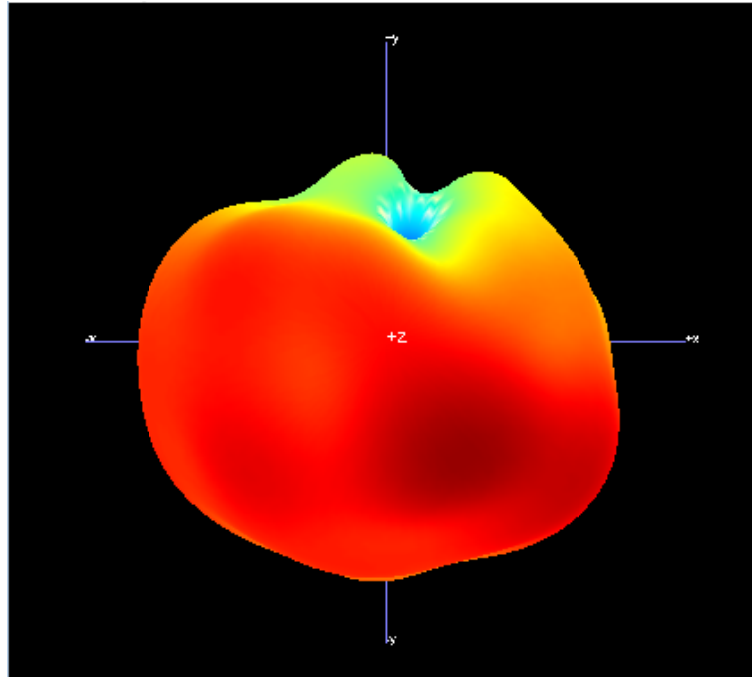
Phi=90°



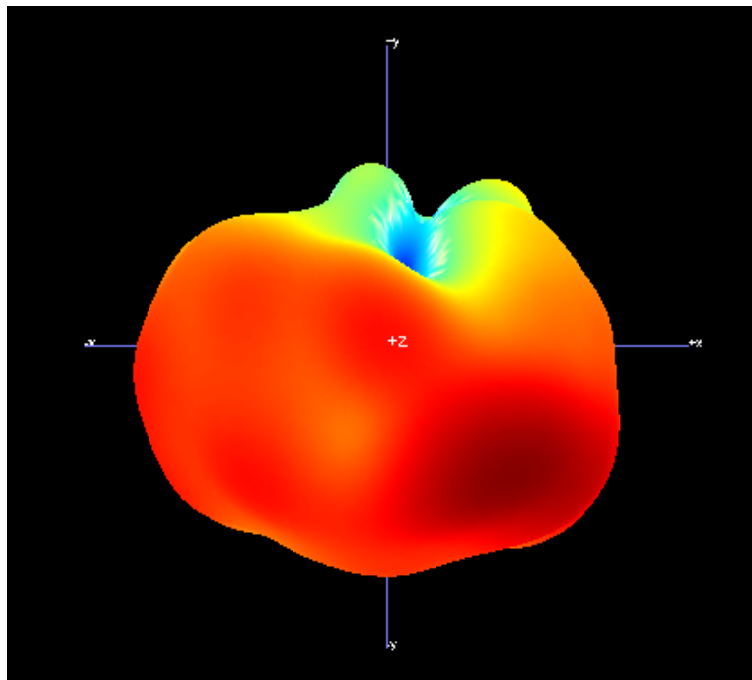
Theta=90°



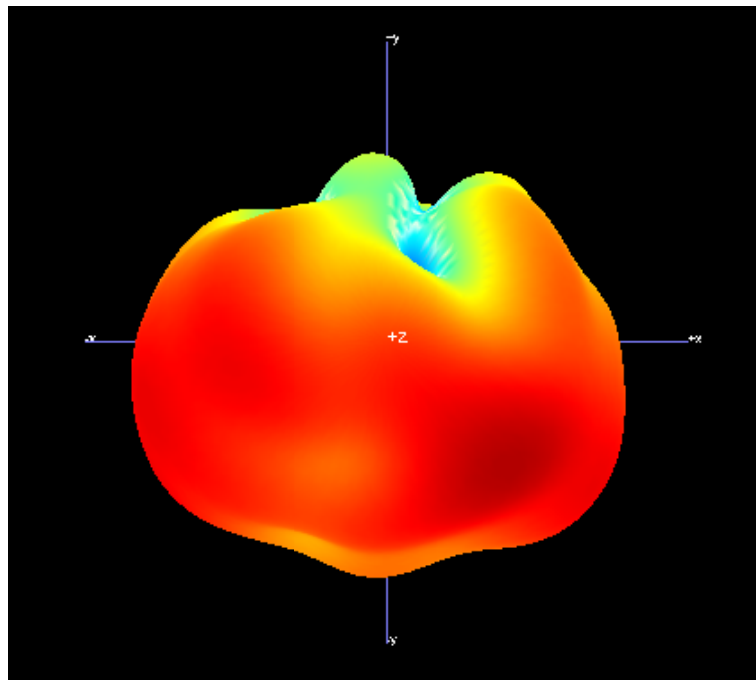
2. 3D Radiation Pattern



2400MHz

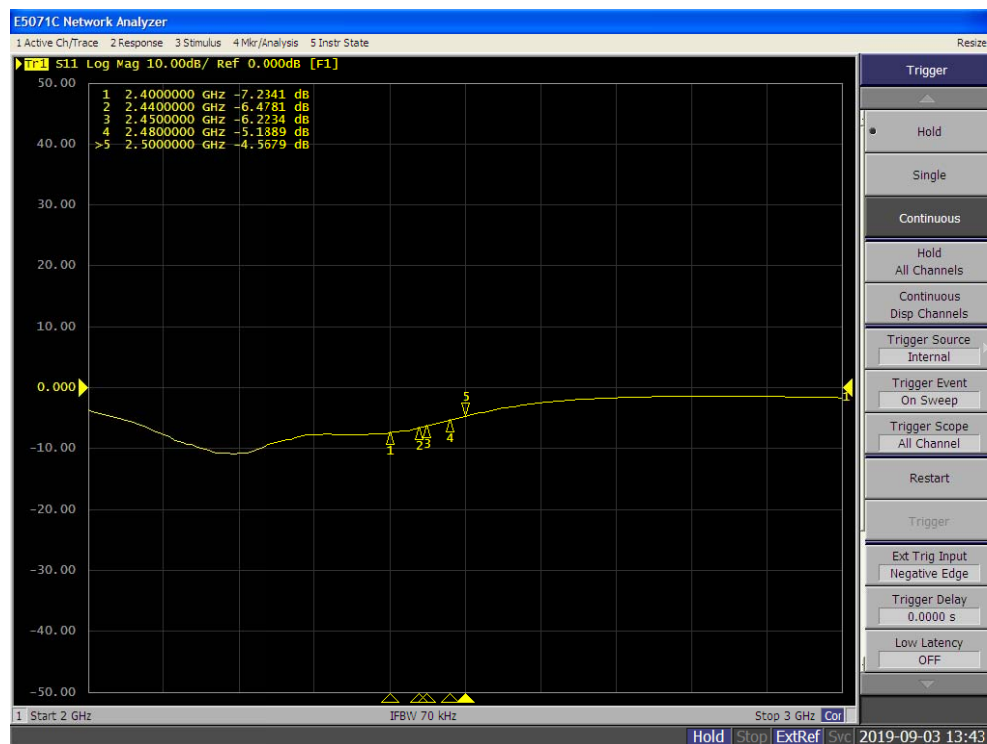


2450MHz



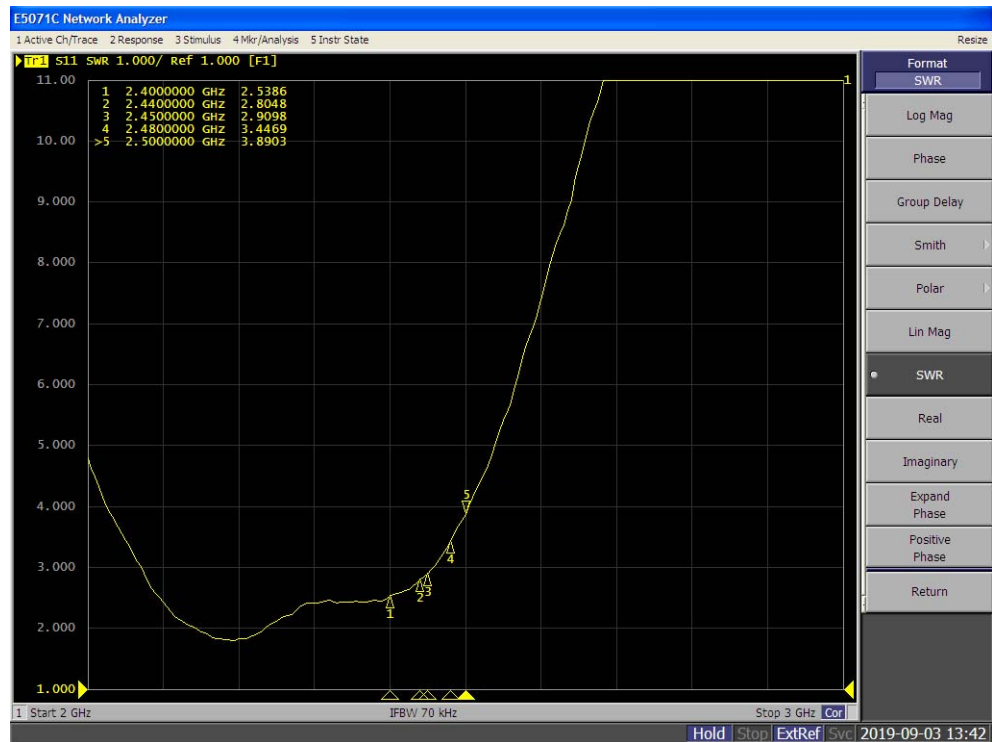
2500MHz

3. Return Loss

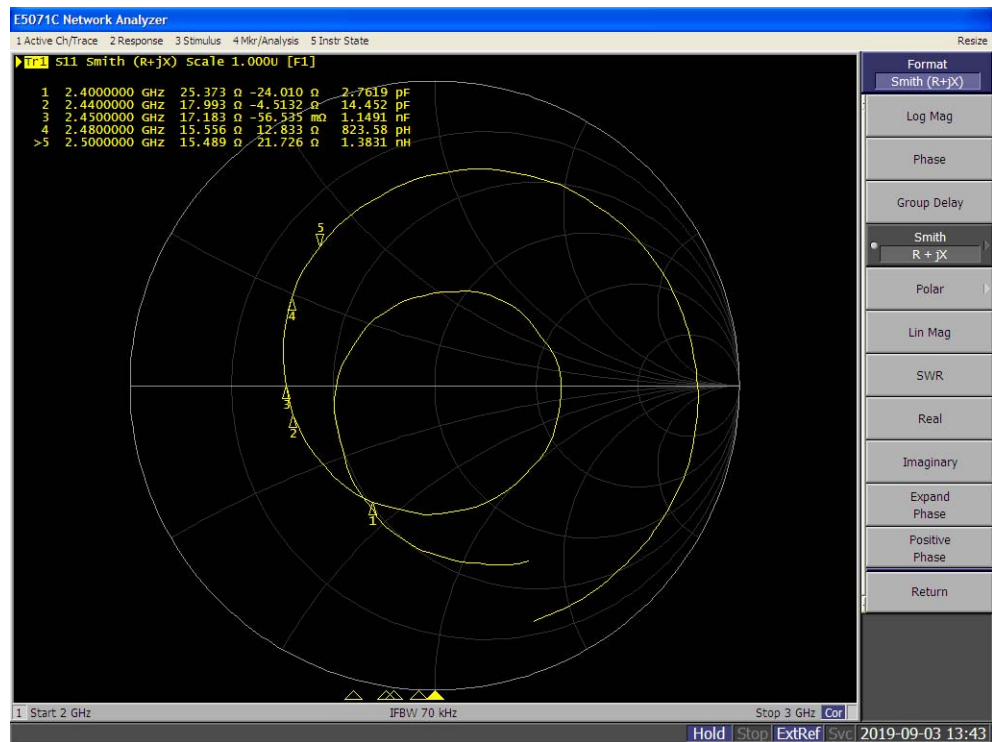




4. VSWR

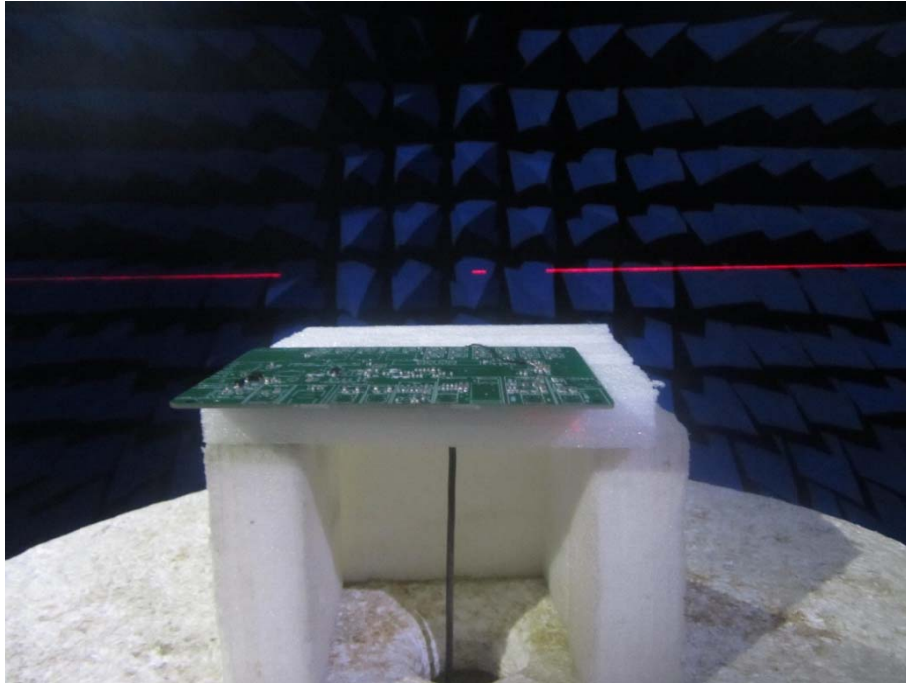


5. Input Impedance

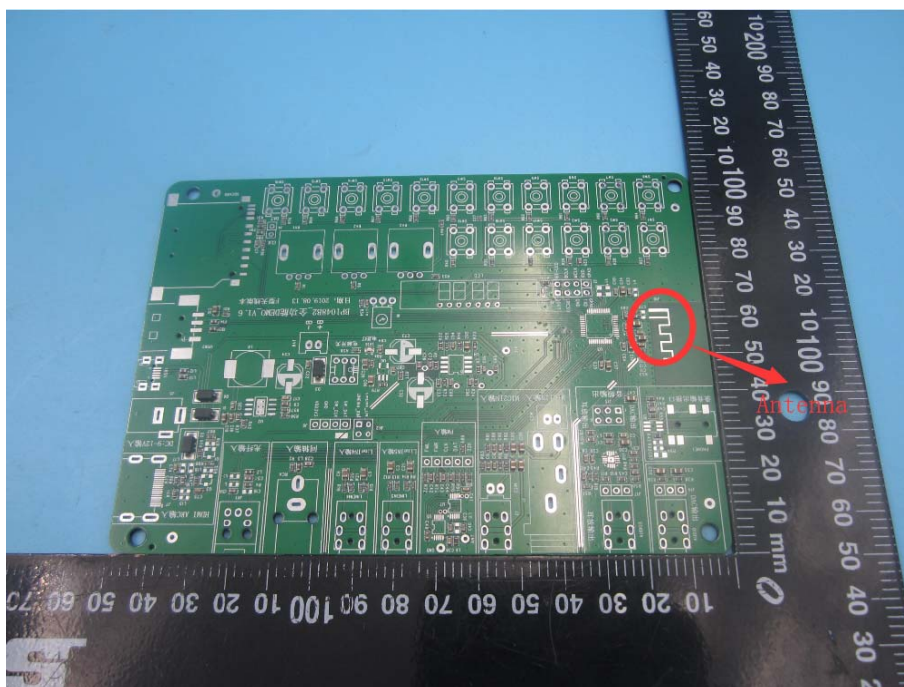


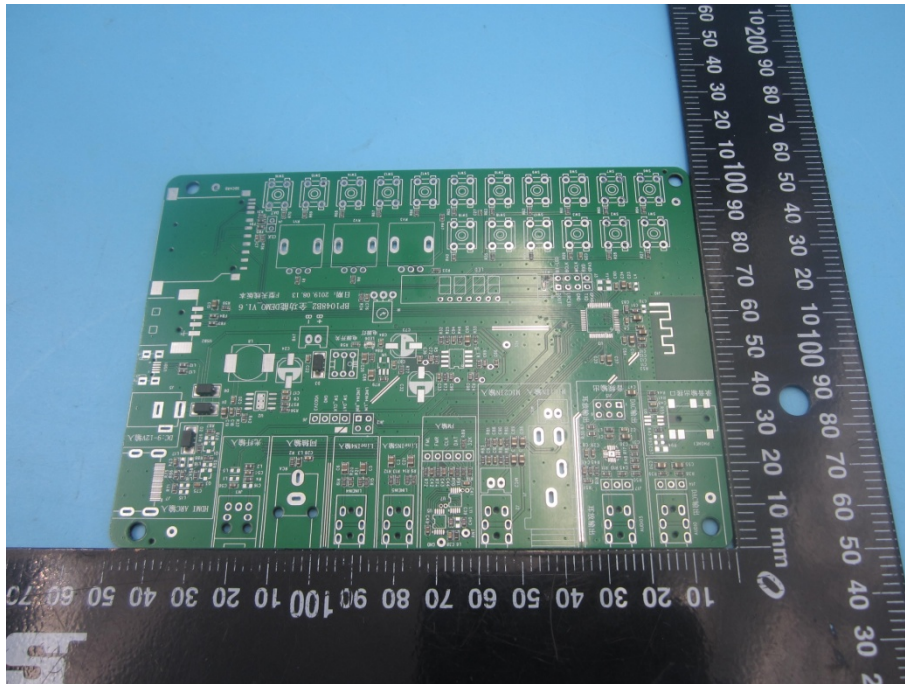
Annex C Photographs

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. Morlab Laboratory
Laboratory Address:	FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

1.2 Identification of the Responsible Testing Location

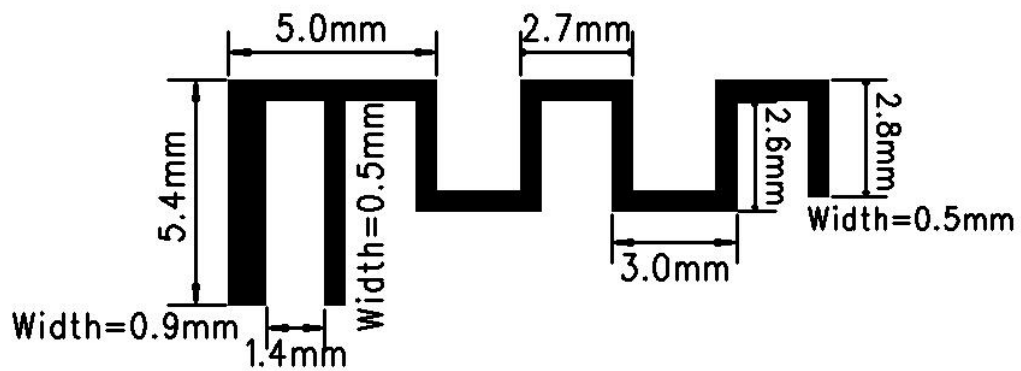
Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China

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 Measurement System	Manufacturer: Satimo

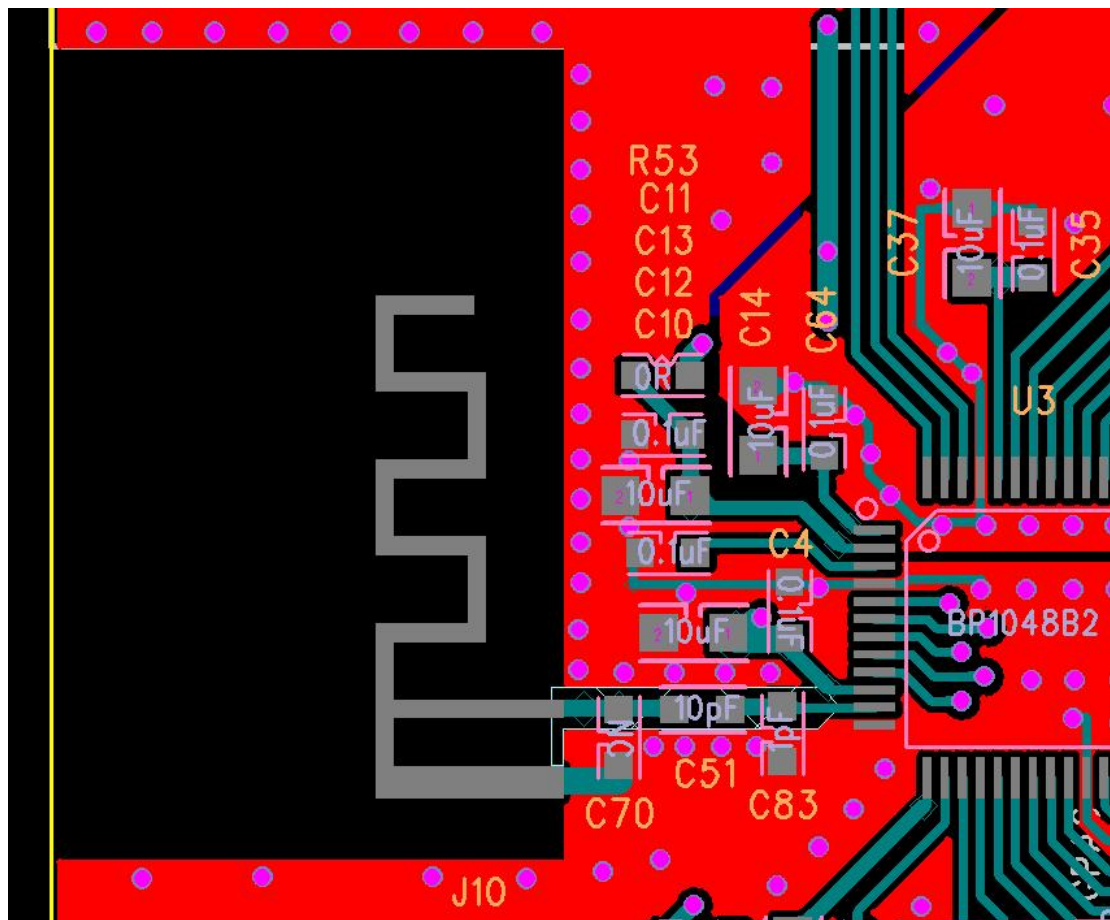
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Actual Size

Notes:

- 1, The pin of the Bluetooth antenna with a wire diameter of 0.9mm should be connected to GND.
- 2, The wire diameter of the Bluetooth antenna is 0.5mm, as shown in the diagram below.
- 3, The copper gap between Bluetooth antenna lines is 2.3mm, as shown in the diagram.



4, The attachment is a reference circuit network for antenna matching. It is recommended to place the matching components as close as possible to the chip pins.

