



TEST REPORT

APPLICANT : Xiamen Hanin Co.,Ltd.

PRODUCT NAME : PCB Antenna

MODEL NAME : Ant-HM-A200U

TRADE NAME : N/A

BRAND NAME : N/A

STANDARD(S) : IEEE Std 149-2021

RECEIPT DATE : 2024-04-07

TEST DATE : 2024-04-07

ISSUE DATE : 2024-05-06



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Change History		
Version	Date	Reason for change
1.0	2024-05-06	First edition

1. Technical Information

Note: Provide by applicant.

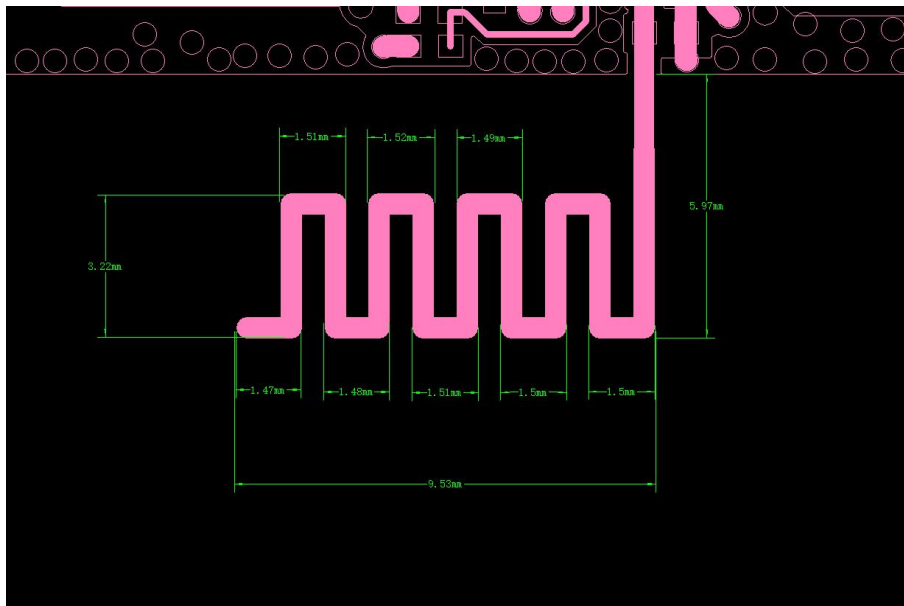
1.1. Applicant and Manufacturer Information

Applicant:	Xiamen Hanin Co.,Ltd.
Applicant Address:	Room 305A, Angye Building, Pioneering Park, Torch High-tech,Zone,Xiamen
Manufacturer:	Xiamen Hanin Co.,Ltd.
Manufacturer Address:	Room 305A, Angye Building, Pioneering Park, Torch High-tech,Zone,Xiamen

1.2. Equipment Under Test (EUT) Description

Wireless Type	Bluetooth
Frequency	2400MHz-2500MHz
IMEI	N/A
Sample No.	1#

Dimensions:





2. Test Results

2.1. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	IEEE Std 149-2021	IEEE Recommended Practice for Antenna Measurements

2.2. Test Conditions

Test Environment Conditions:

Relative Humidity(%):	25 - 75
Temperature(°C):	10 - 30

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. When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% Confidence intervals.



2.4. Test Results lists

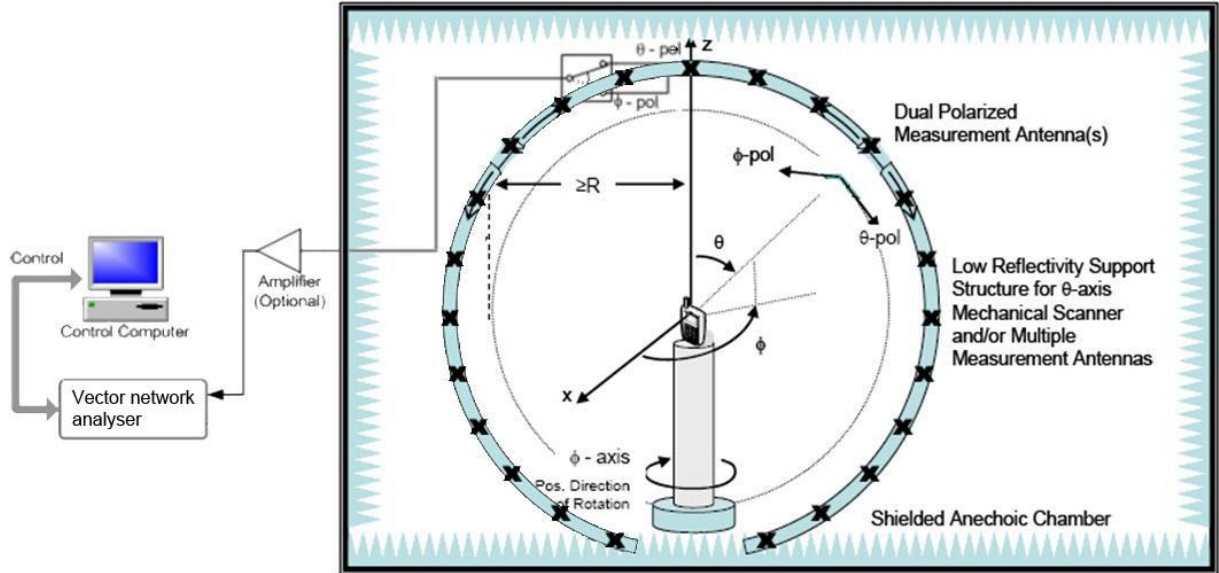
2.4.1. Gain and Efficiency

Frequency (MHz)	Gain(dBi)
2400	-4.43
2410	-4.41
2420	-4.41
2430	-4.39
2440	-4.13
2450	-3.99
2460	-4.02
2470	-4.22
2480	-4.23
2490	-4.06
2500	-3.77

2.4.2. VSWR

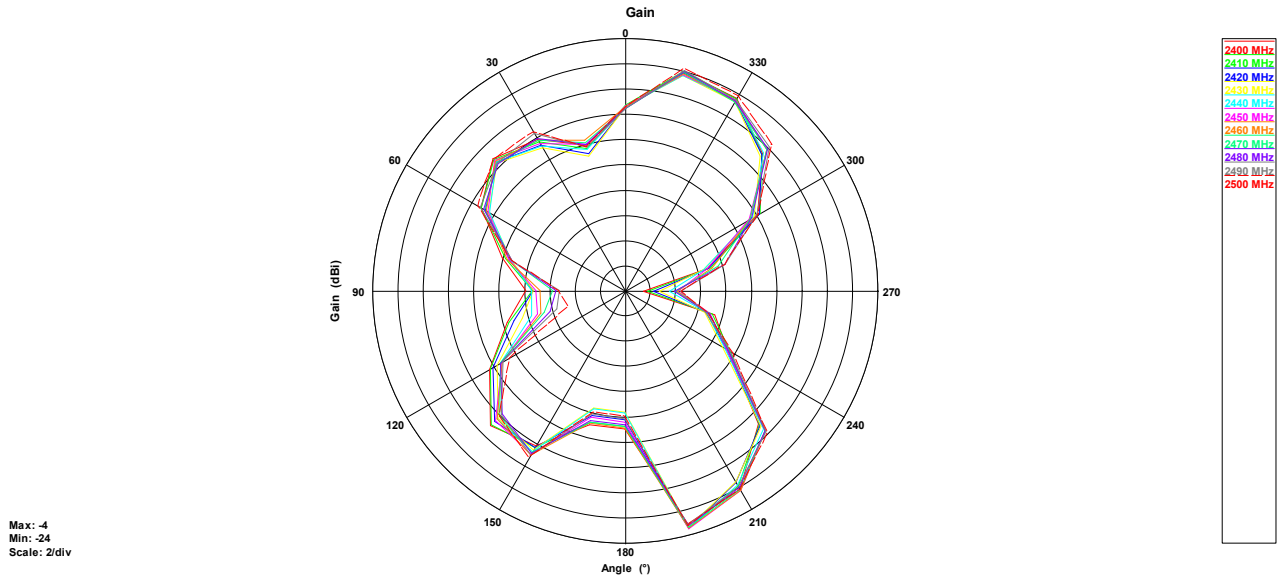
Frequency (MHz)	VSWR
2400-2500	3.23

Annex A Test Setup Photos

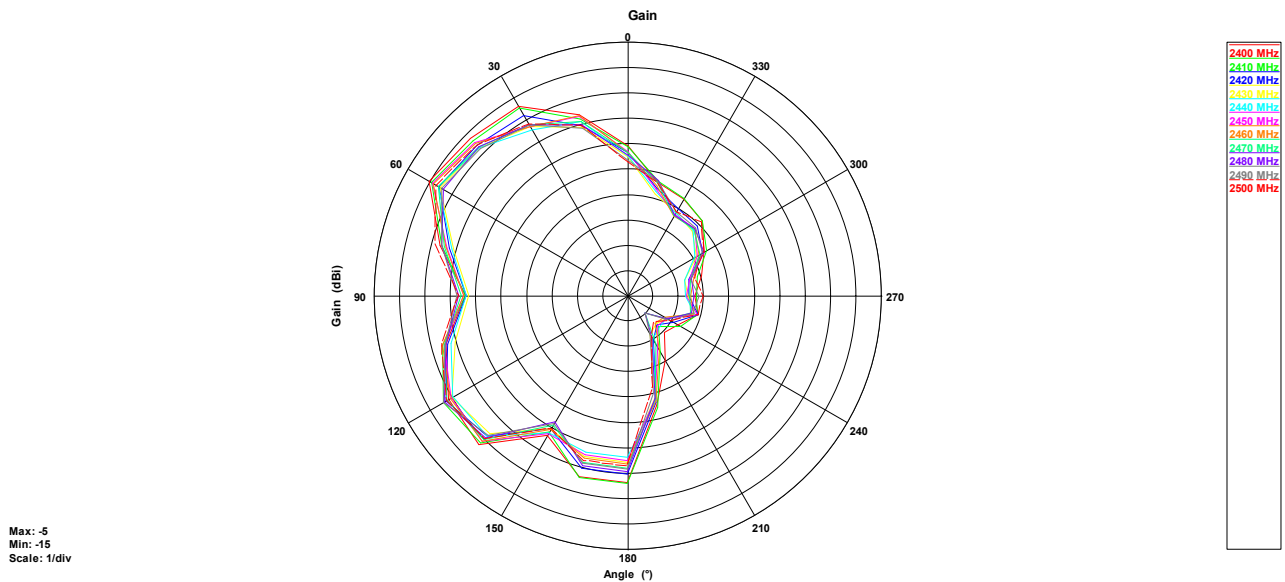


Annex B Figures

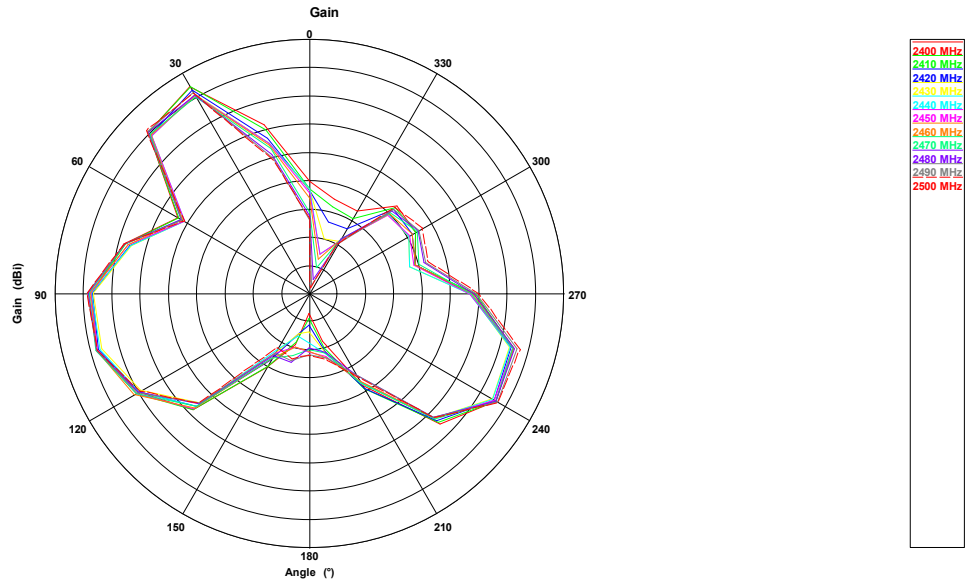
1. 2D Radiation Pattern



Phi=0°



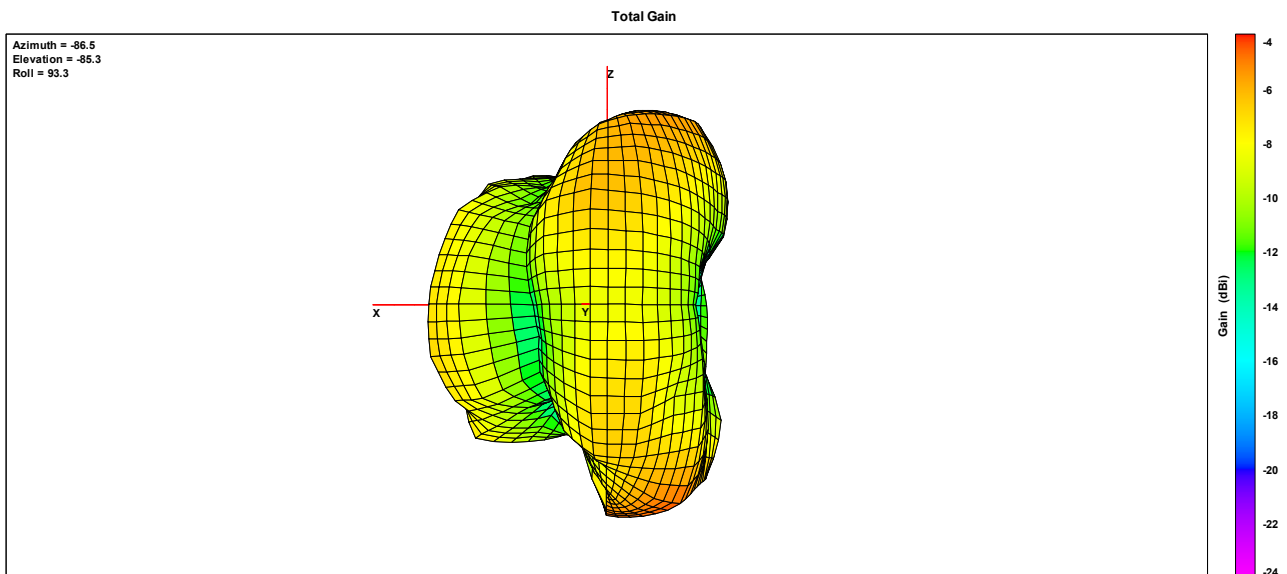
Phi=90°



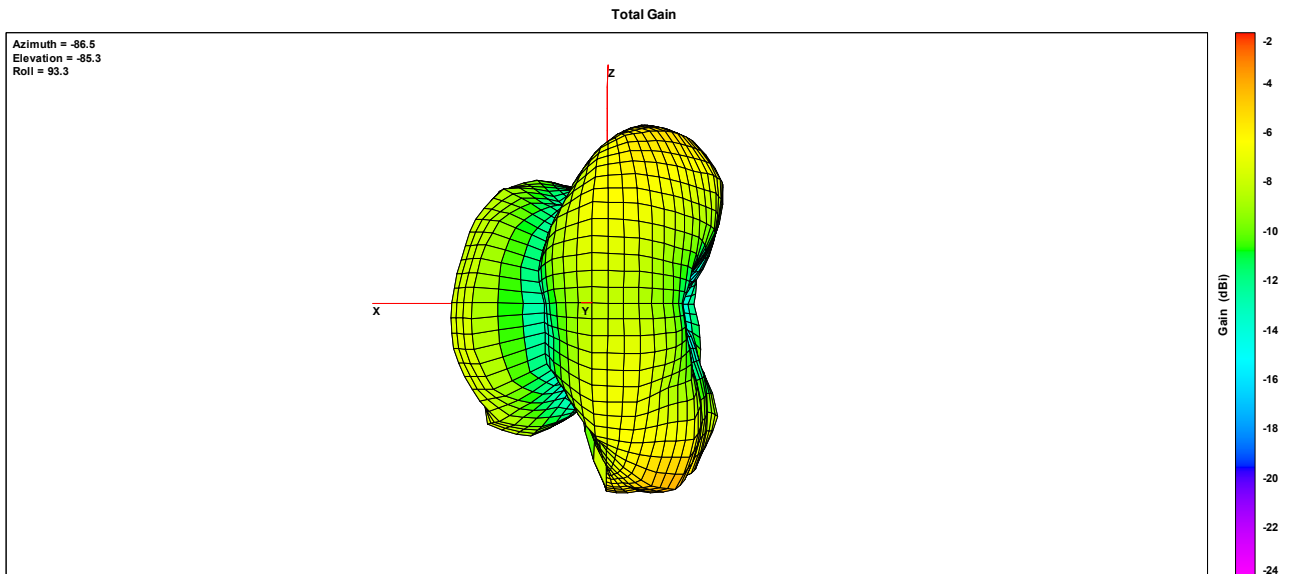
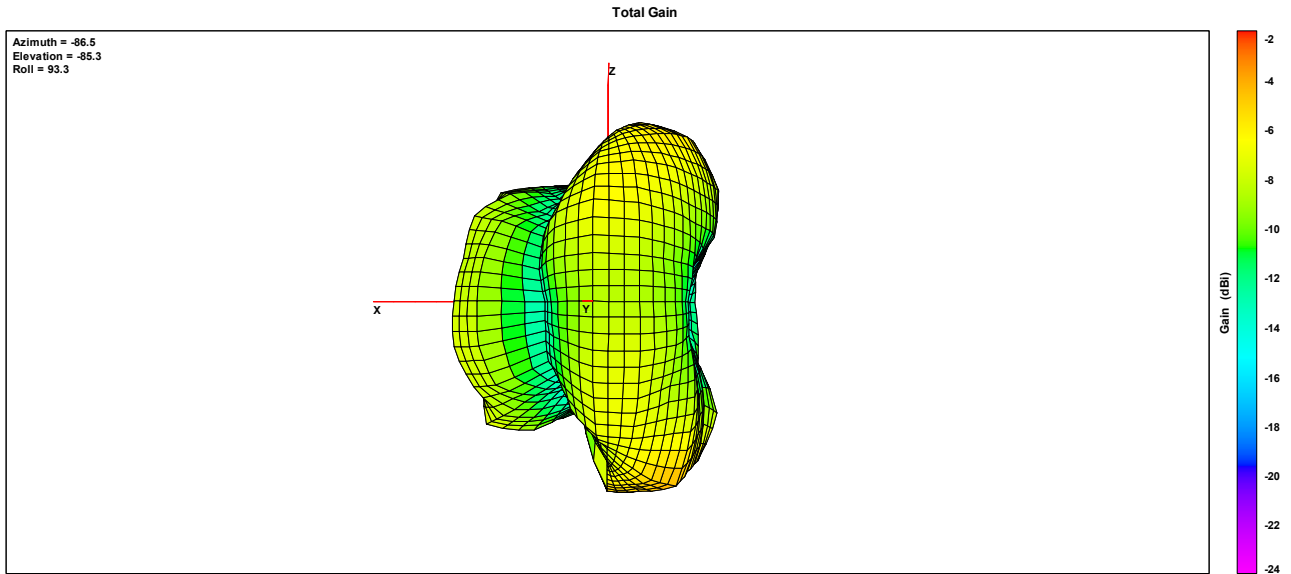
Max: -6
Min: -24
Scale: 2/div

Theta=90°

2. 3D Radiation Pattern

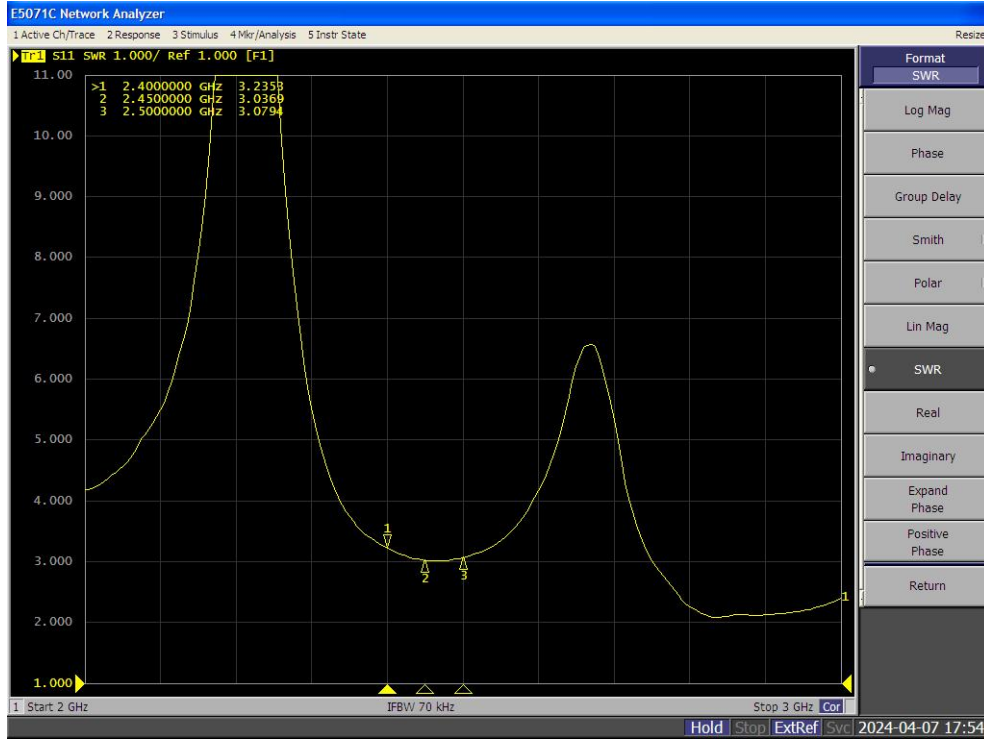


2400MHz



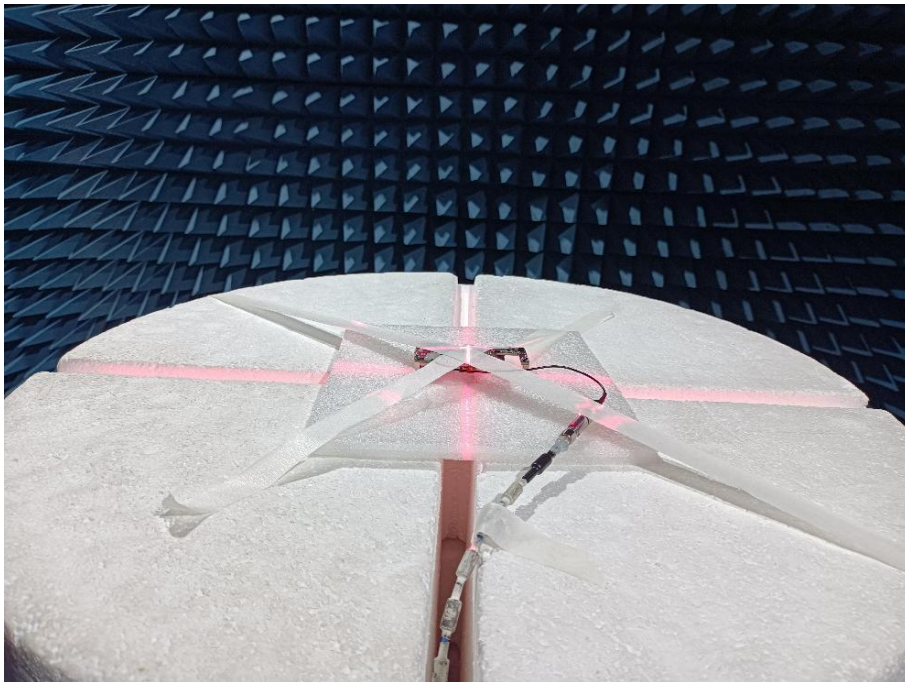
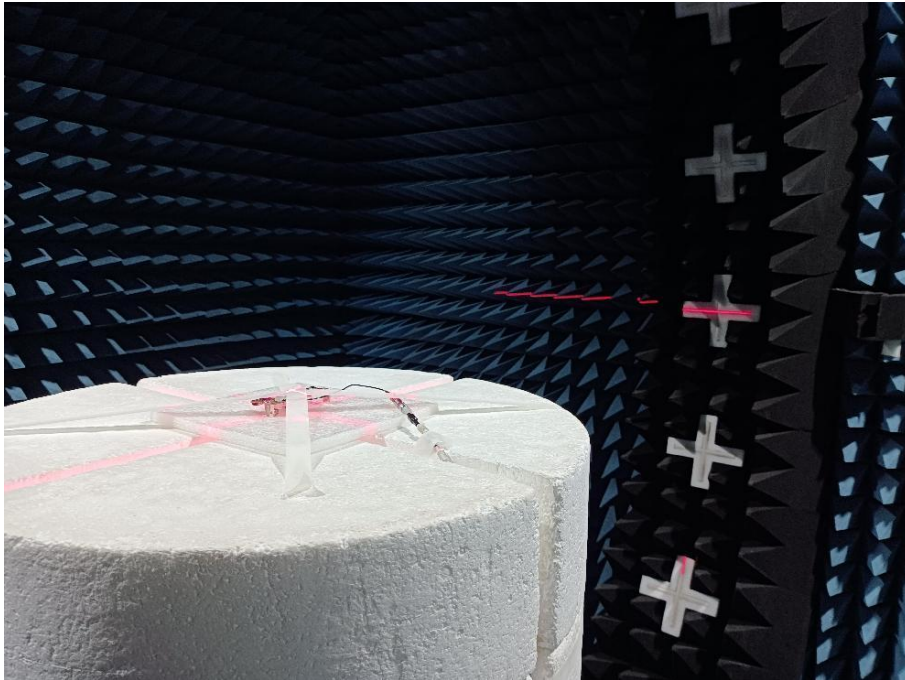


3. VSWR

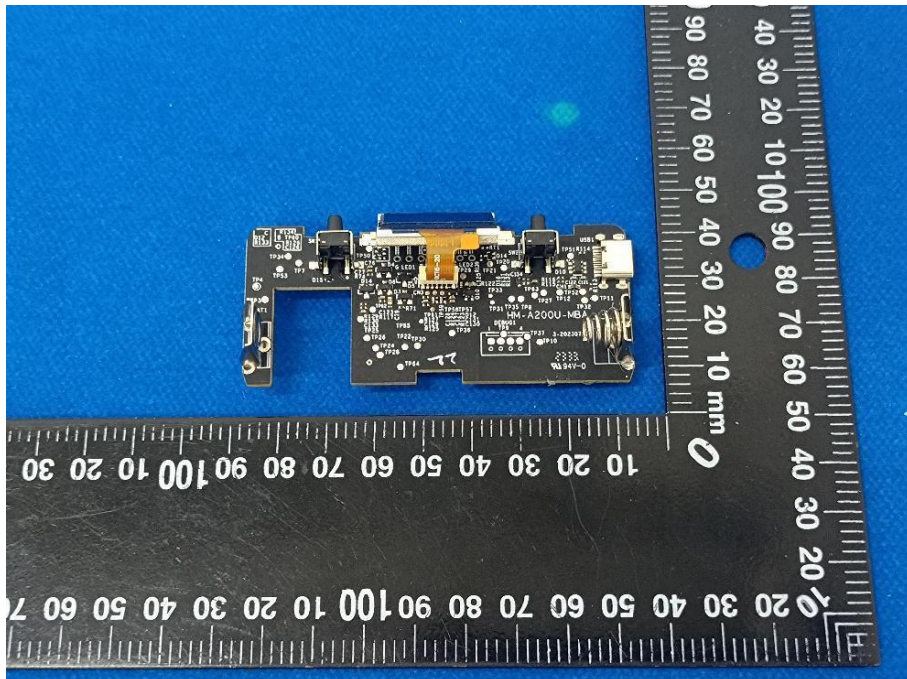
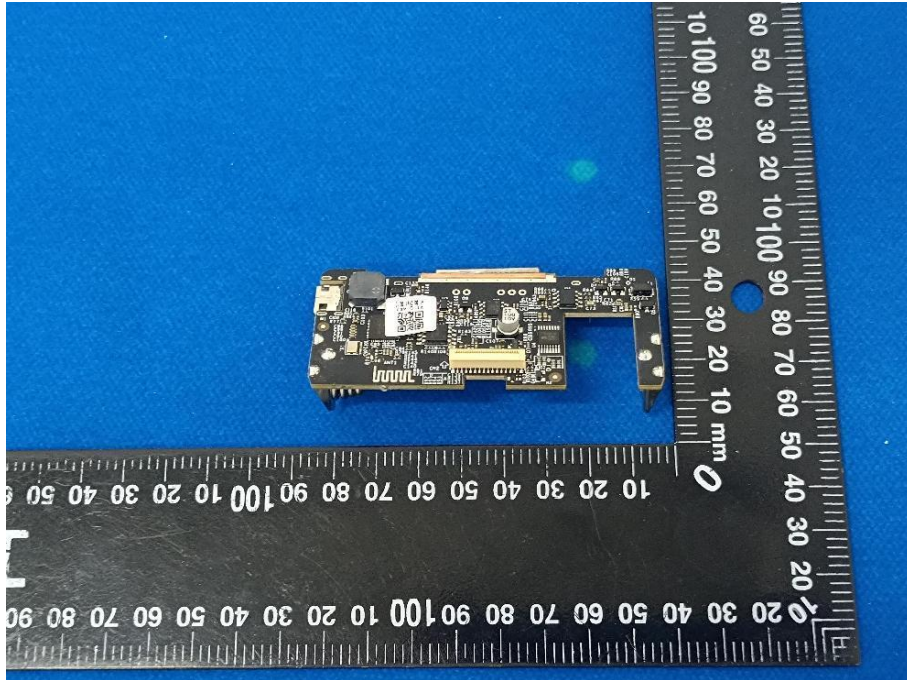


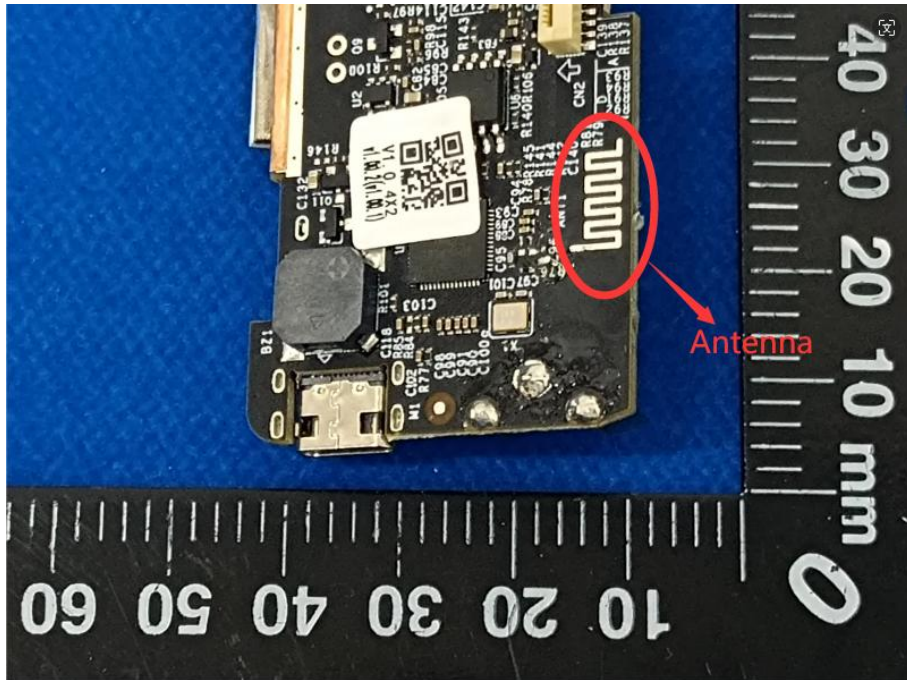
Annex C EUT Photos

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:	FL.1-3, 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.
Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen , Guangdong Province, P. R. China

1.3 Test Equipments Utilized

No.	Equipement Name	Serial No.	Type	Manufacturer	Cal.Date	Cal.Due Date
1	Network Analyzer	MY46110140	E5071C	Agilent	2023.06.21	2024.06.20
2	OTA Chamber	TJ2235-Q1793	AMS-8923 -150	ETS	2022.11.30	2025.11.29

1.4 Test Software Utilized

No.	Software Name	Serial No.	Version	Manufacturer
1	Antenna Measurement System	1685	EMQuest EMQ-100 V 1.13 Build 21267	ETS

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