





TEST REPORT

APPLICANT : Qingdao Magene Intelligence Technology Co.,Ltd.
PRODUCT NAME : PCB Antenna
MODEL NAME : E100100214
TRADE NAME : N/A
BRAND NAME : N/A
STANDARD(S) : IEEE Std 149-2021
RECEIPT DATE : 2023-03-31
TEST DATE : 2023-04-04
ISSUE DATE : 2023-04-07

Edited by: 
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Approved by: 
Chi Shide(Supervisor)

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DIRECTORY

- 1. Technical Information3
- 1.1. Applicant and Manufacturer Information3
- 1.2. Equipment Under Test (EUT) Description3
- 2. Test Results 4
- 2.1. Applied Reference Documents4
- 2.2. Test Conditions 4
- 2.3. Measurement Uncertainty 4
- 2.4. Test Results lists5
- Annex A Test Setup Photos6
- Annex B Figures7
- 1. 2D Radiation Pattern 7
- 2. 3D Radiation Pattern 8
- Annex C Photographs 10
- Annex D General Information13
- 1.1 Identification of the Responsible Testing Laboratory13
- 1.2 Identification of the Responsible Testing Location13
- 1.3 Test Equipments Utilized 13

Change History		
Version	Date	Reason for change
1.0	2023-04-07	First edition

1. Technical Information

Note: Provide by applicant.

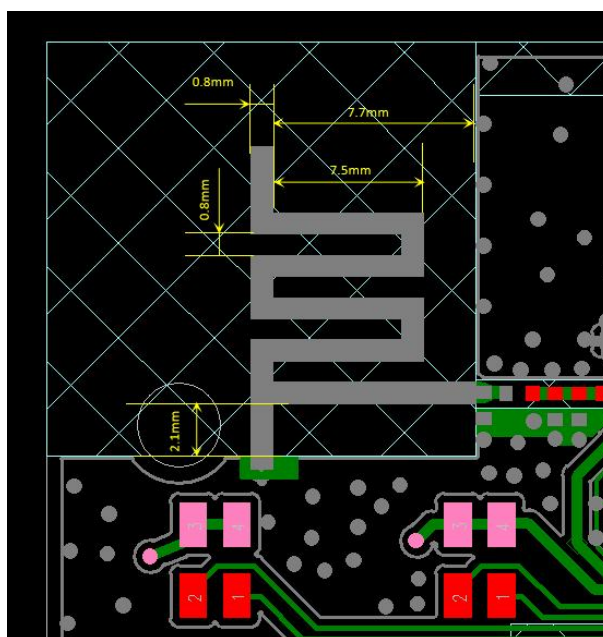
1.1. Applicant and Manufacturer Information

Applicant:	Qingdao Magene Intelligence Technology Co.,Ltd.
Applicant Address:	Room 302, Building 3, No.328A Chengkang Road, Xiazhuang Subdistrict, Chengyang District, Qingdao, Shandong, China
Manufacturer:	Qingdao Magene Intelligence Technology Co.,Ltd.
Manufacturer Address:	Room 302, Building 3, No.328A Chengkang Road, Xiazhuang Subdistrict, Chengyang District, Qingdao, Shandong, China

1.2. Equipment Under Test (EUT) Description

Wireless Type	N/A
Test frequency band	2400MHz-2500MHz
Brand name	N/A
Hardware Version	N/A
Software Version	N/A
IMEI	N/A
Sample number	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:	+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. When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% Confidence intervals.

Item	Measurement Uncertainty(dB)
Gain	±0.5
VSWR	±0.2
Measurement Uncertainty(95% Confidence Interval) K=2	

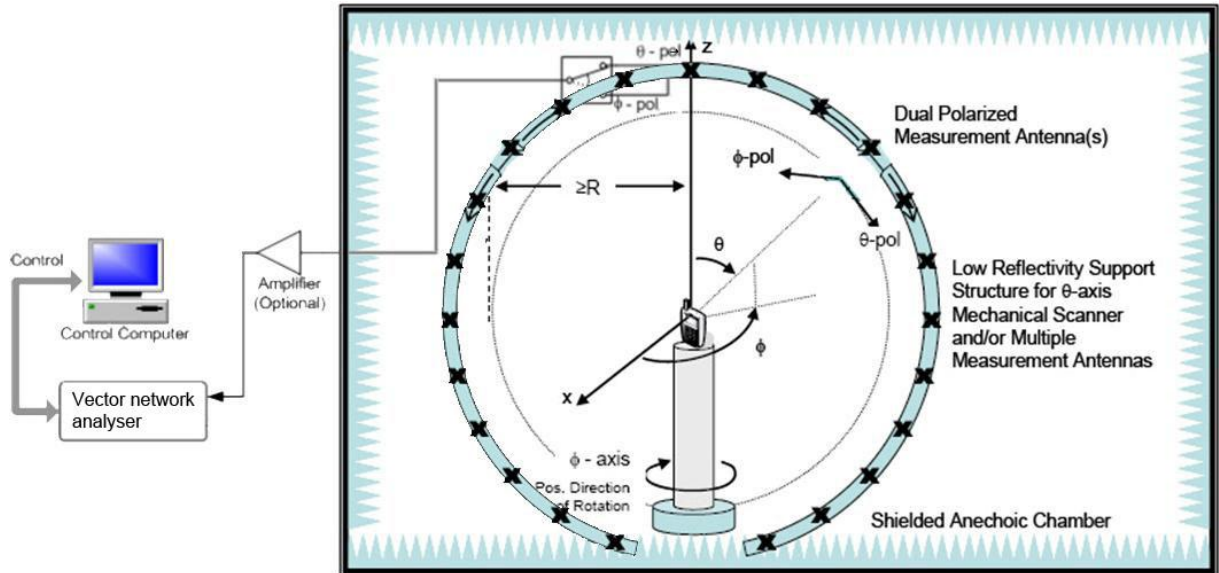


2.4. Test Results lists

2.4.1. Gain

Frequency	Gain(dBi)
2400MHz	-1.23
2410MHz	-0.98
2420MHz	-0.81
2430MHz	-0.68
2440MHz	-0.65
2450MHz	-0.53
2460MHz	-0.66
2470MHz	-0.63
2480MHz	-0.45
2490MHz	-0.57
2500MHz	-0.45

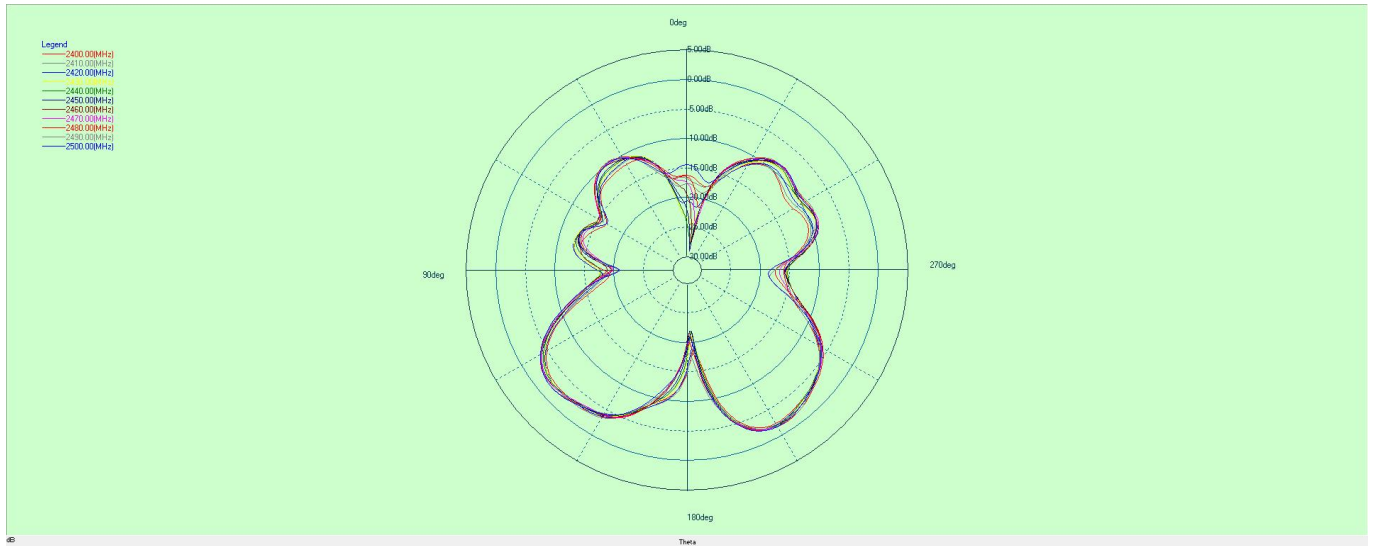
Annex A Test Setup Photos



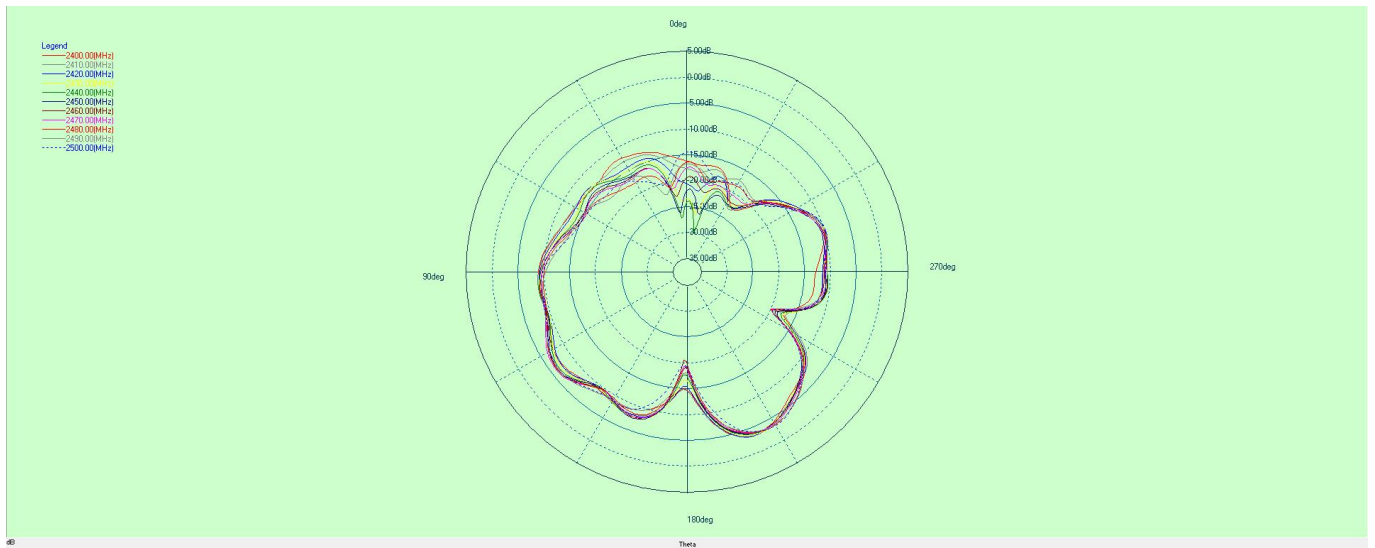
Annex B Figures

1. 2D Radiation Pattern

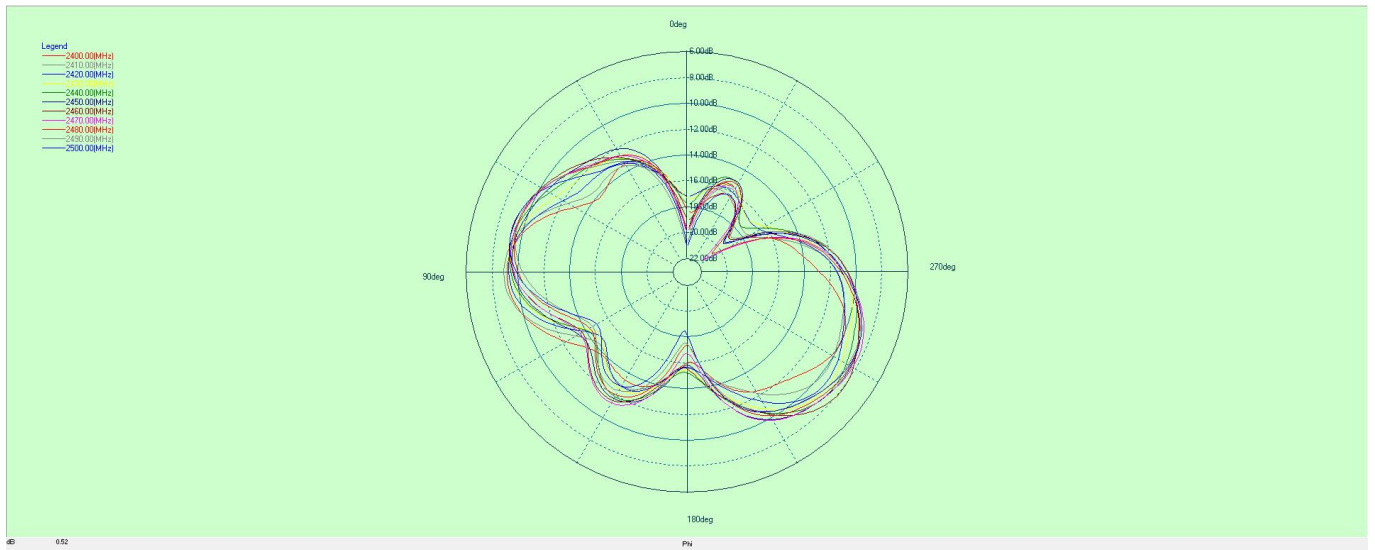
Phi=0°



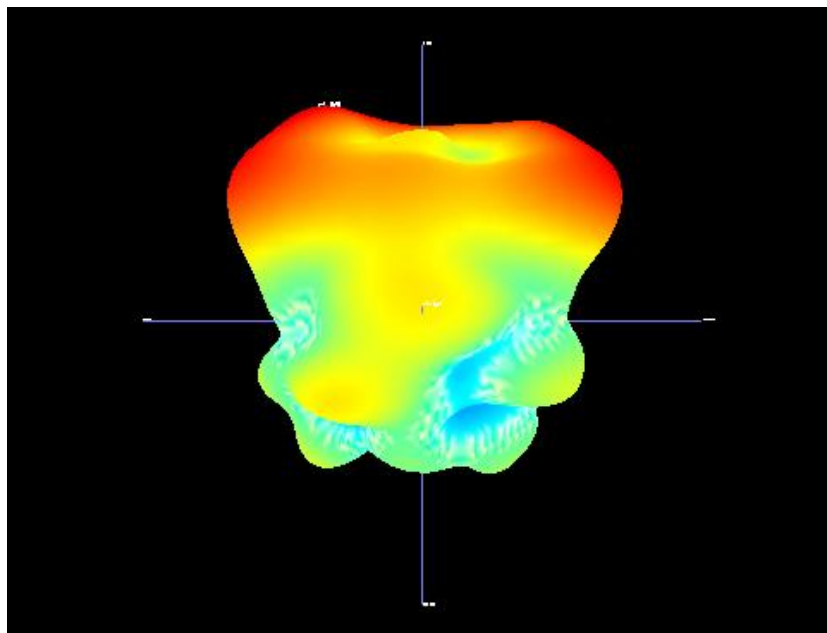
Phi=90°



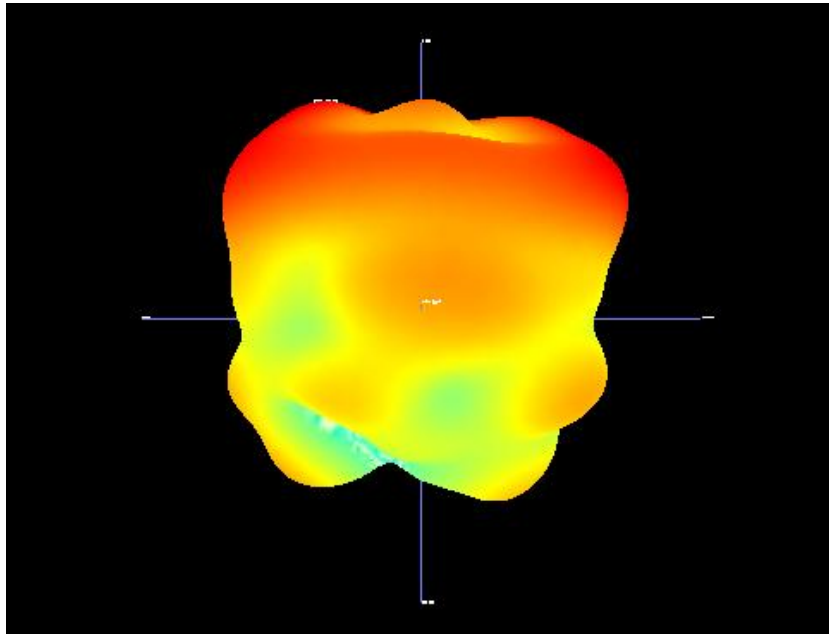
Theta=90°



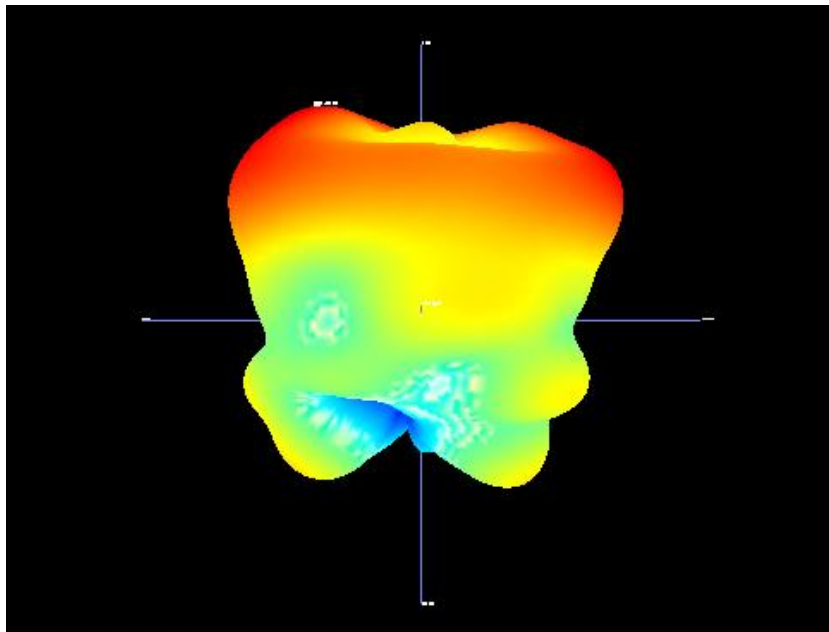
2. 3D Radiation Pattern



2400MHz



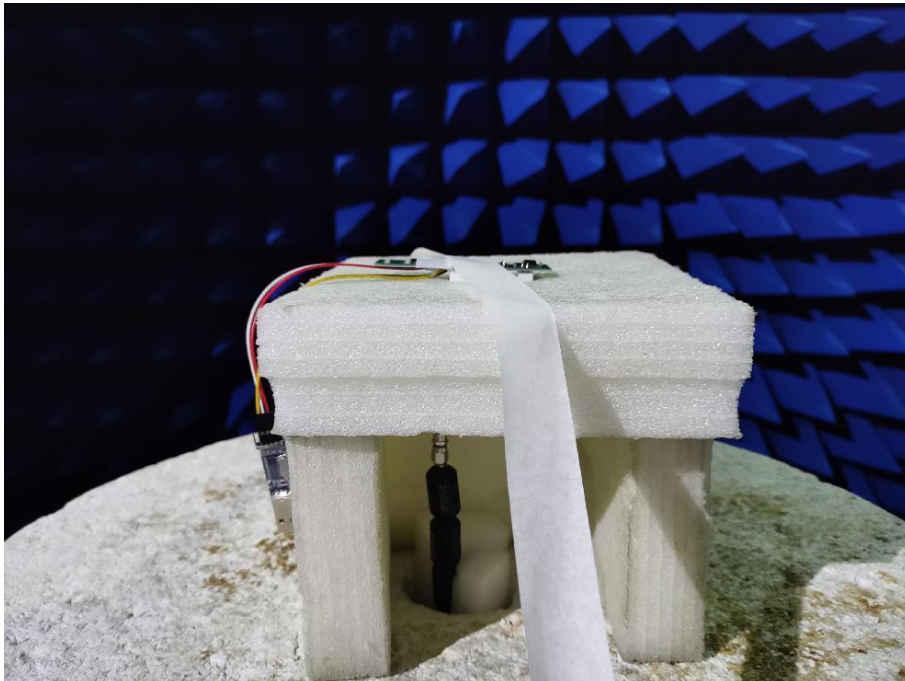
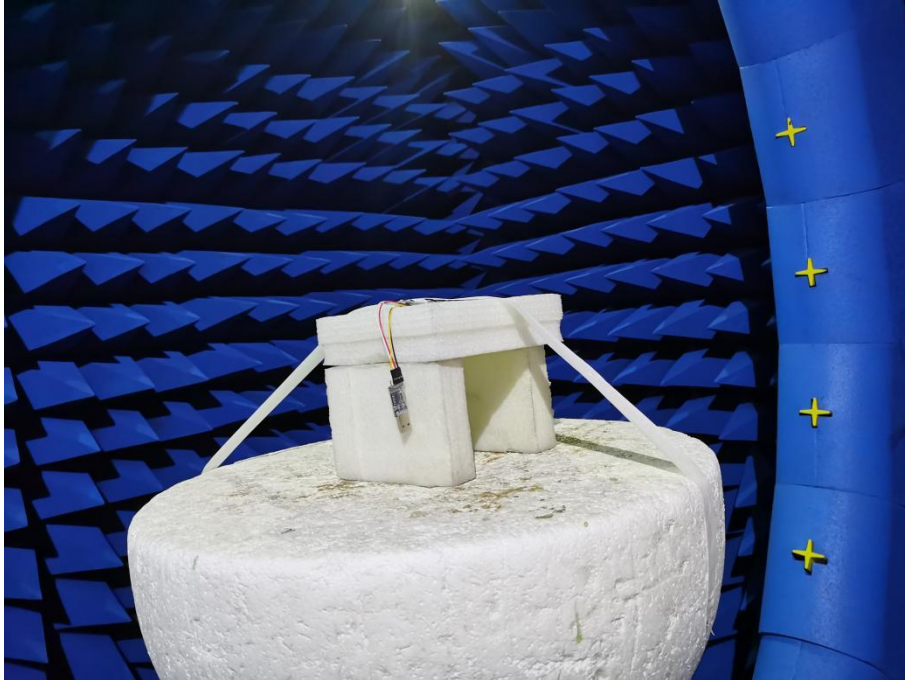
2440MHz



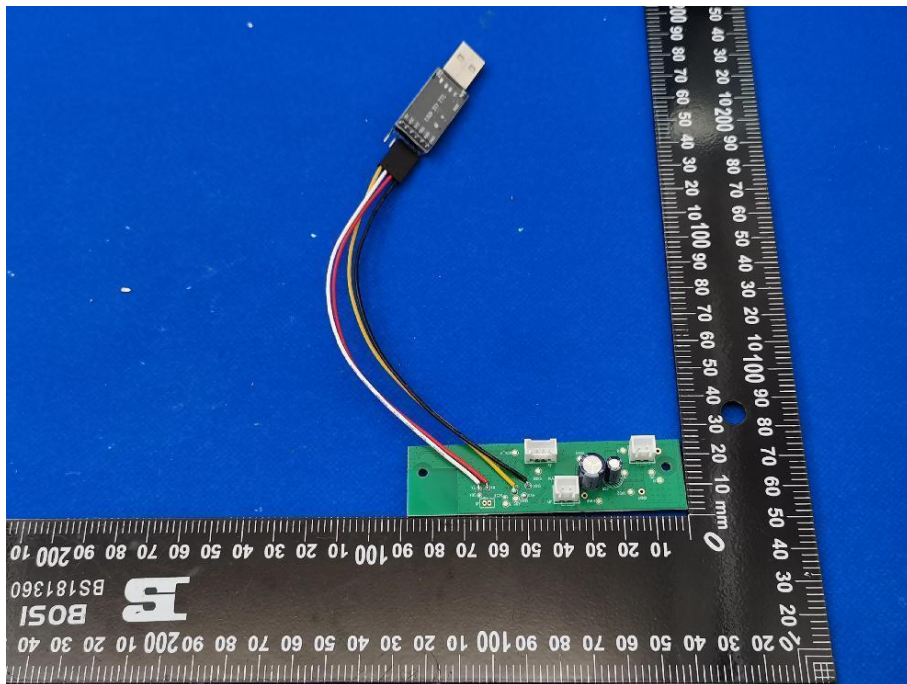
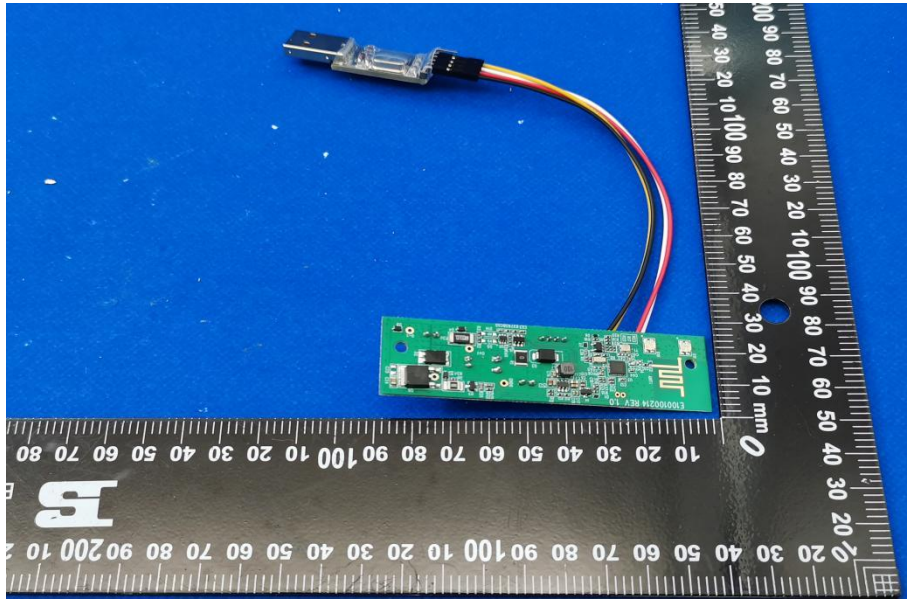
2480MHz

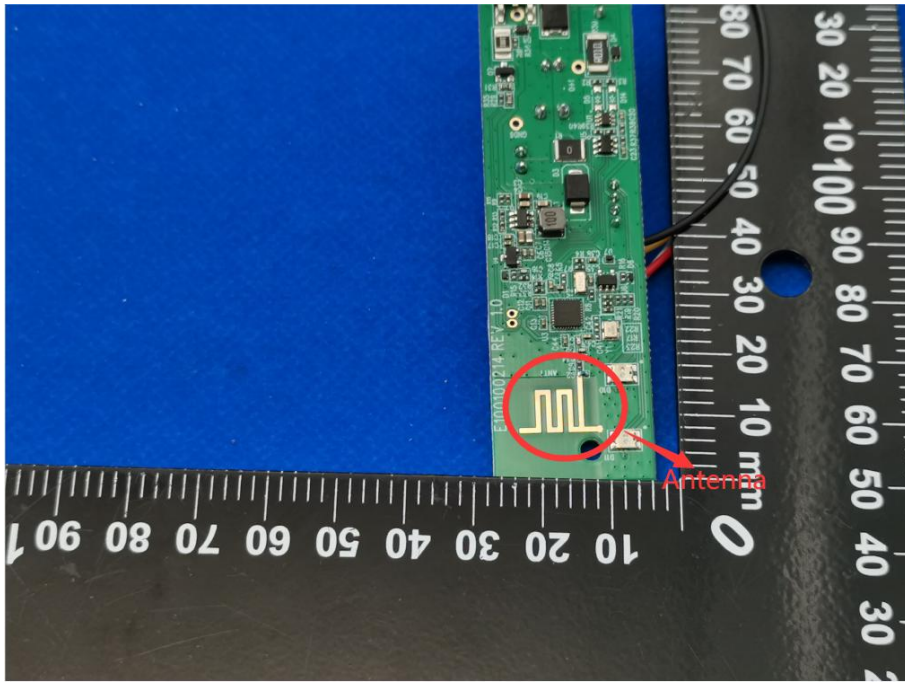
Annex C Photographs

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:	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.	Equipment Name	Serial NO.	Type	Manufacturer	Cal.Date	Cal.Due Date
1	Vector Network Analyzer	MY46214666	E5071C	Agilent	2023.02.09	2024.02.08
2	OTA Chamber	N/A	SG24	Satimo	2021.01.12	2024.01.11
3	SatEnv	N/A	2.0.1.5 build 12	Satimo	N/A	N/A
4	SPM	N/A	1.11	Satimo	N/A	N/A

————— END OF REPORT —————