



REPORT No.: SZ23040377E01

TEST REPORT

APPLICANT : Qingdao Magene Intelligence Technology Co.,Ltd.

PRODUCT NAME : PCB Antenna

MODEL NAME : E100100222

TRADE NAME : N/A

BRAND NAME : N/A

STANDARD(S) : IEEE Std 149-2021

RECEIPT DATE : 2023-04-28

TEST DATE : 2023-04-28

ISSUE DATE : 2023-05-05

Edited by:

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Approved by:

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Chi Shide(Supervisor)

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MORLAB

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Change History		
Version	Date	Reason for change
1.0	2023-05-05	First edition

1. Technical Information

Note: Provide by applicant.

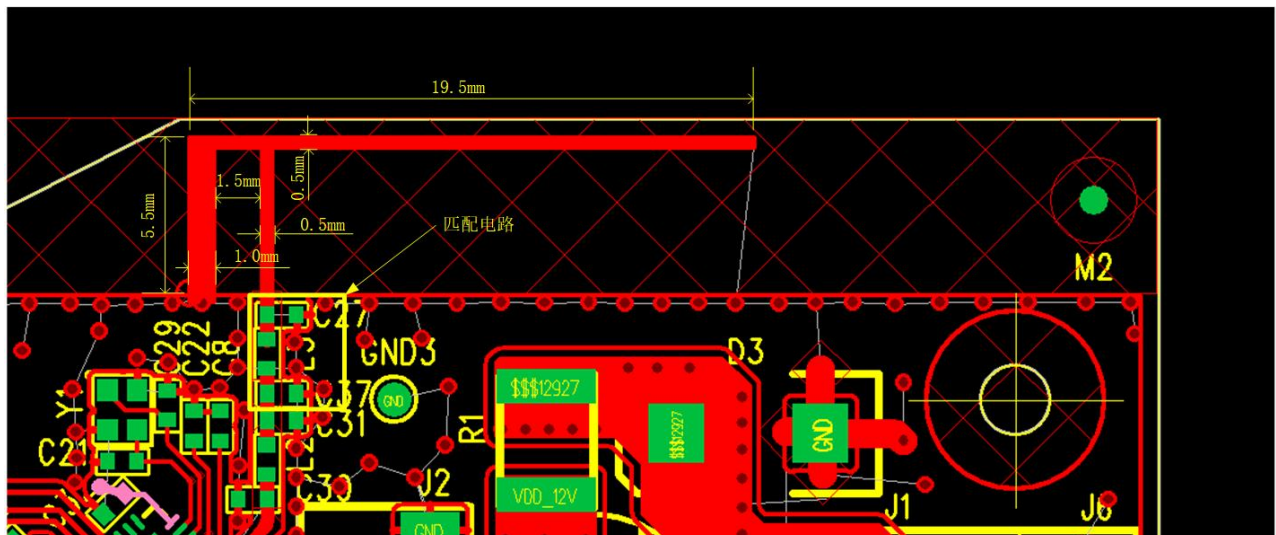
1.1. Applicant and Manufacturer Information

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	

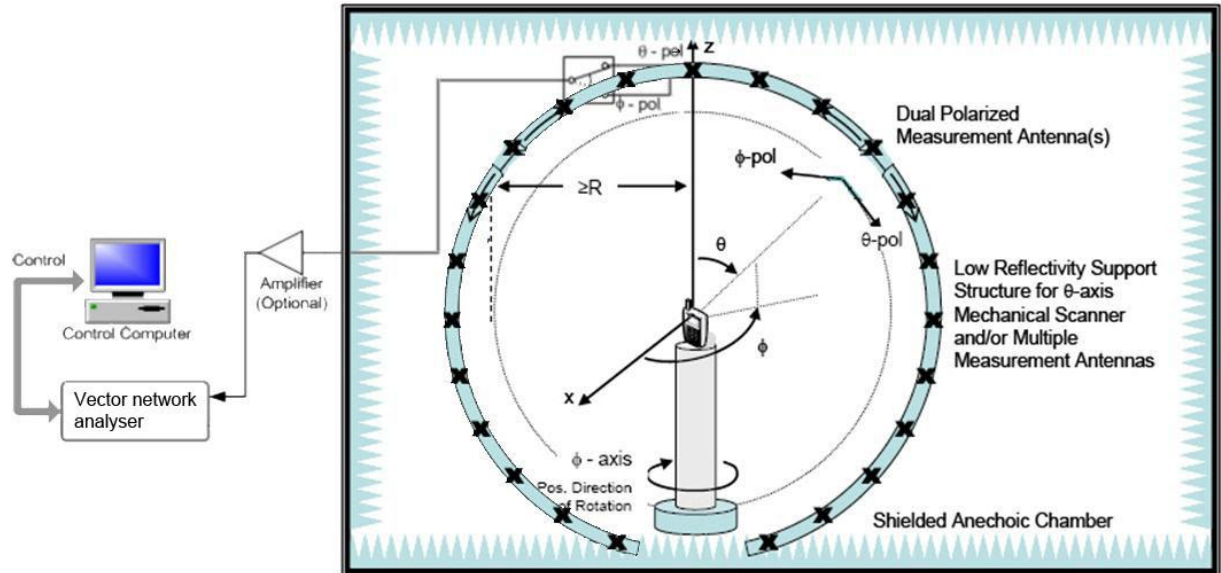


2.4. Test Results lists

2.4.1. Gain

Frequency	Gain(dBi)
2400MHz	1.54
2410MHz	1.55
2420MHz	1.55
2430MHz	1.45
2440MHz	1.31
2450MHz	1.20
2460MHz	1.21
2470MHz	1.22
2480MHz	1.27
2490MHz	1.11
2500MHz	0.90

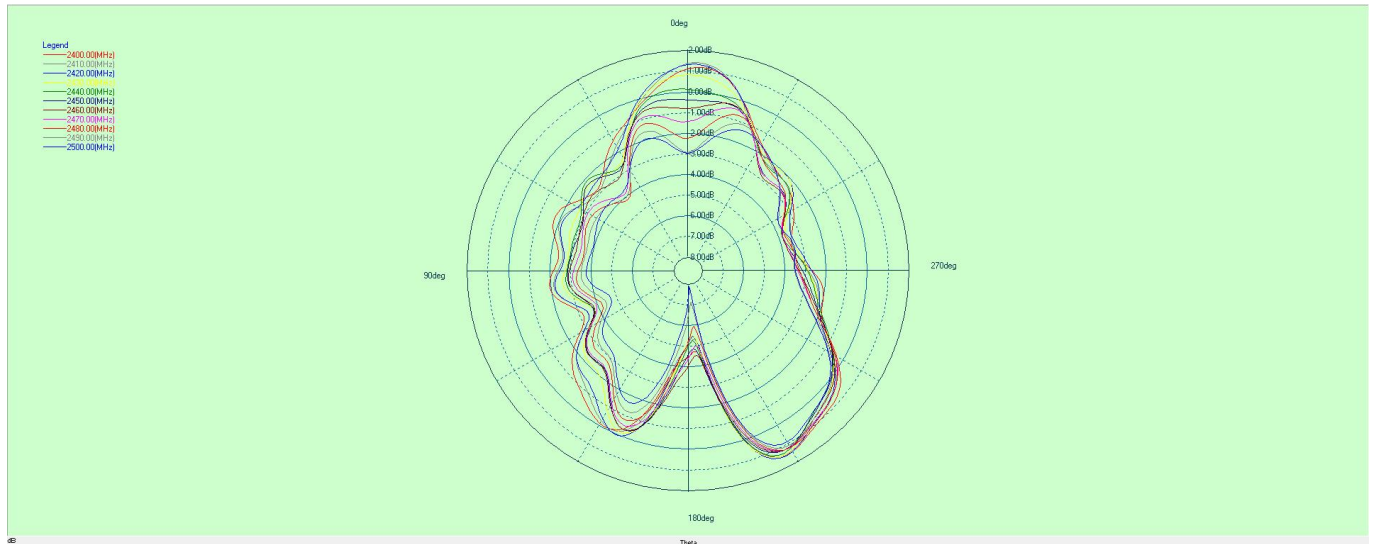
Annex A Test Setup Photos



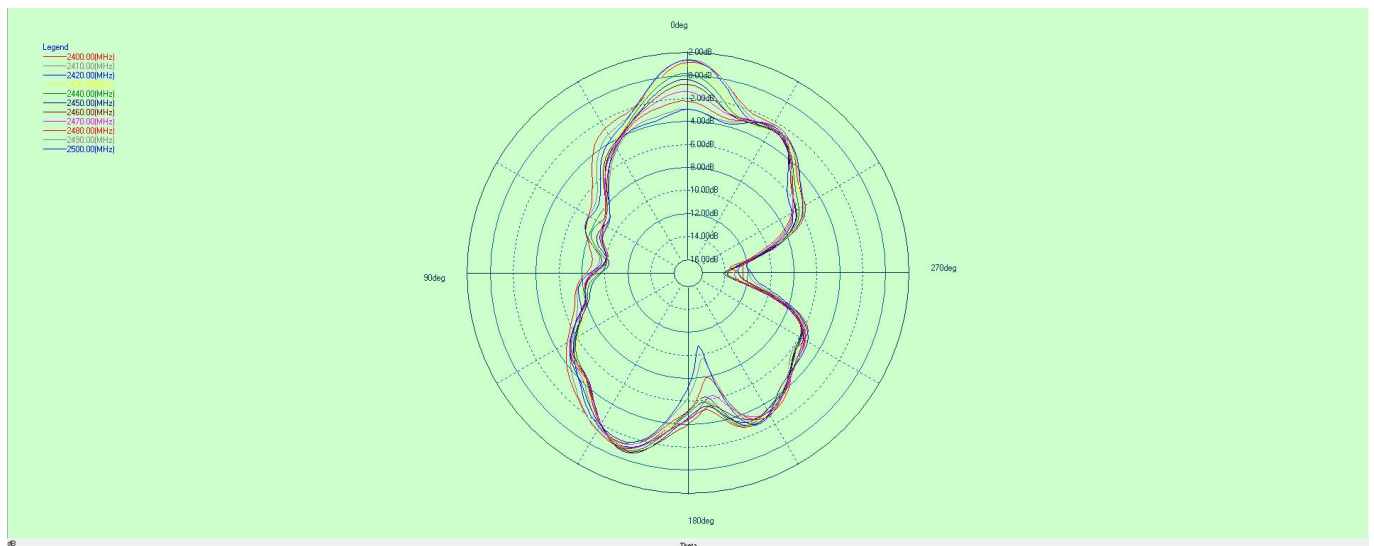
Annex B Figures

1. 2D Radiation Pattern

Phi=0°

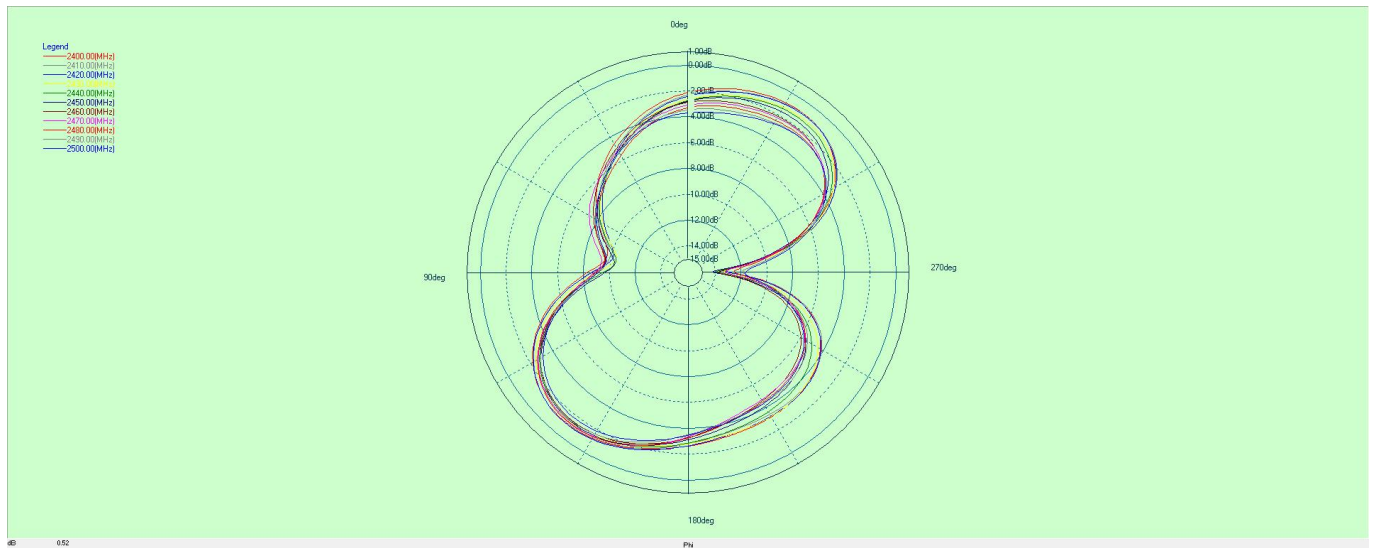


Phi=90°

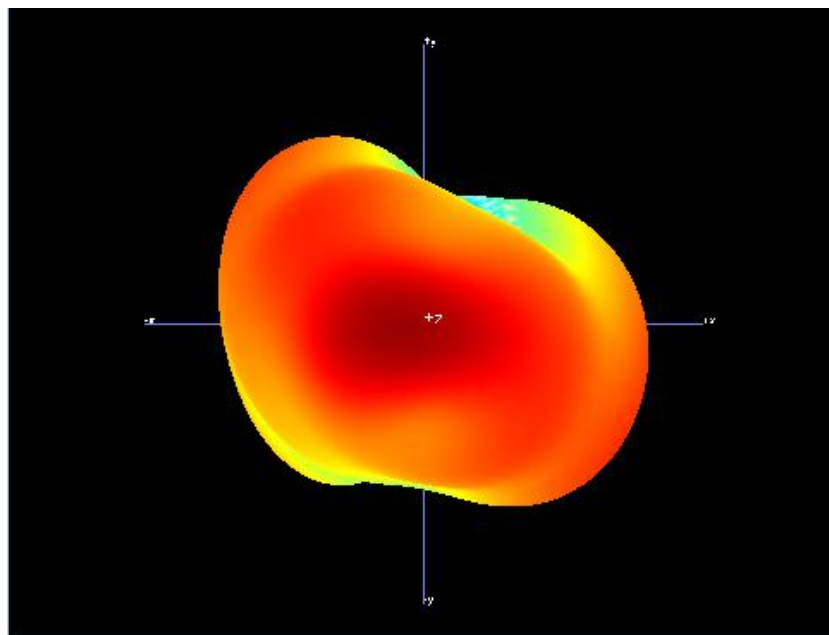




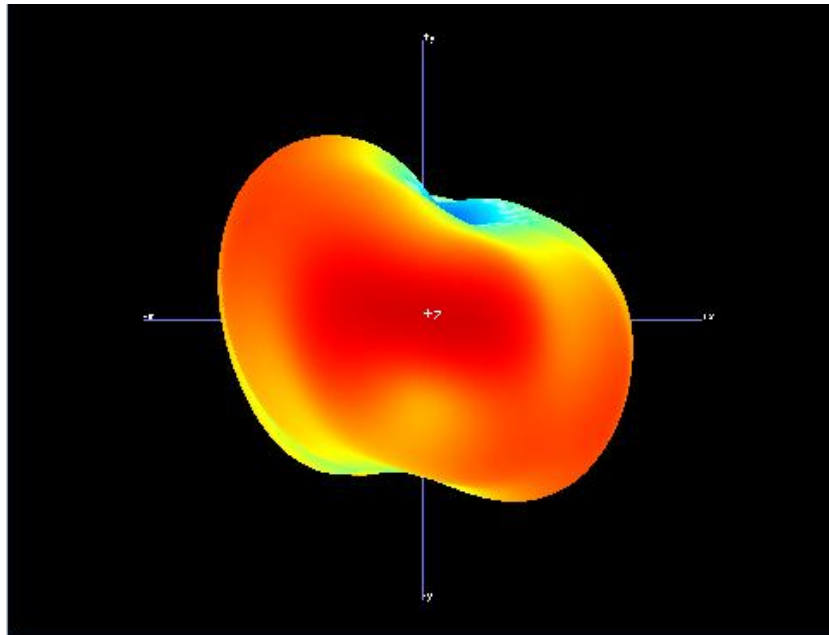
Theta=90°



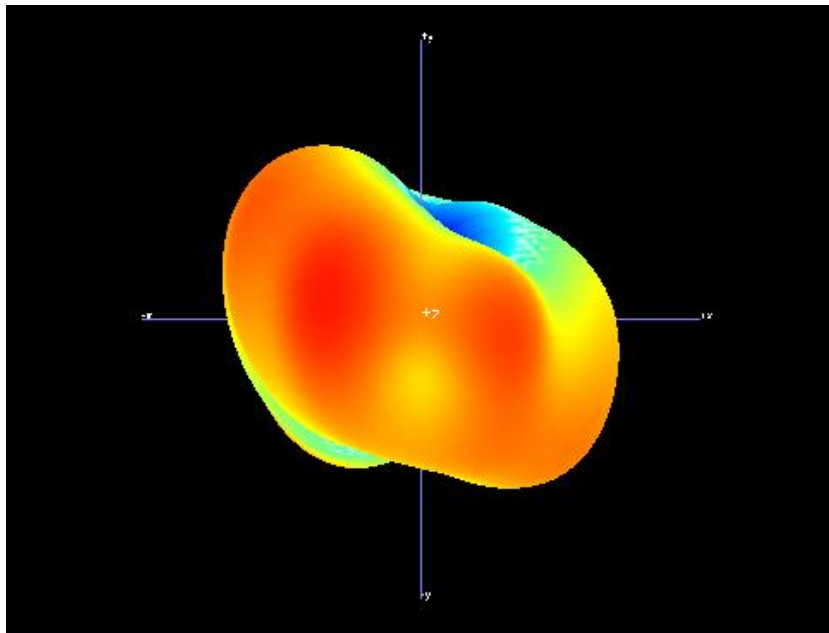
2. 3D Radiation Pattern



2400MHz



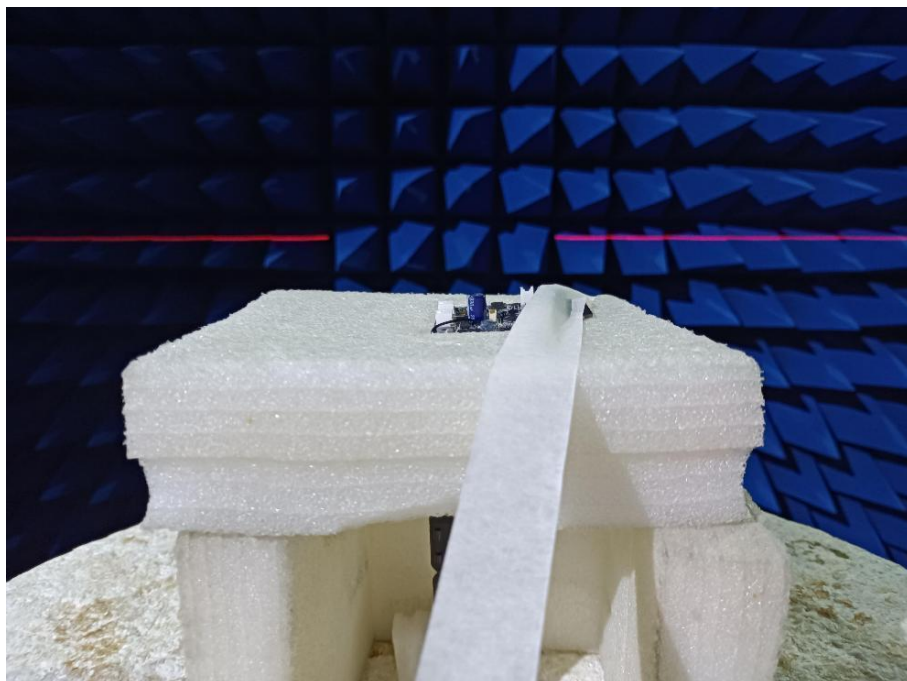
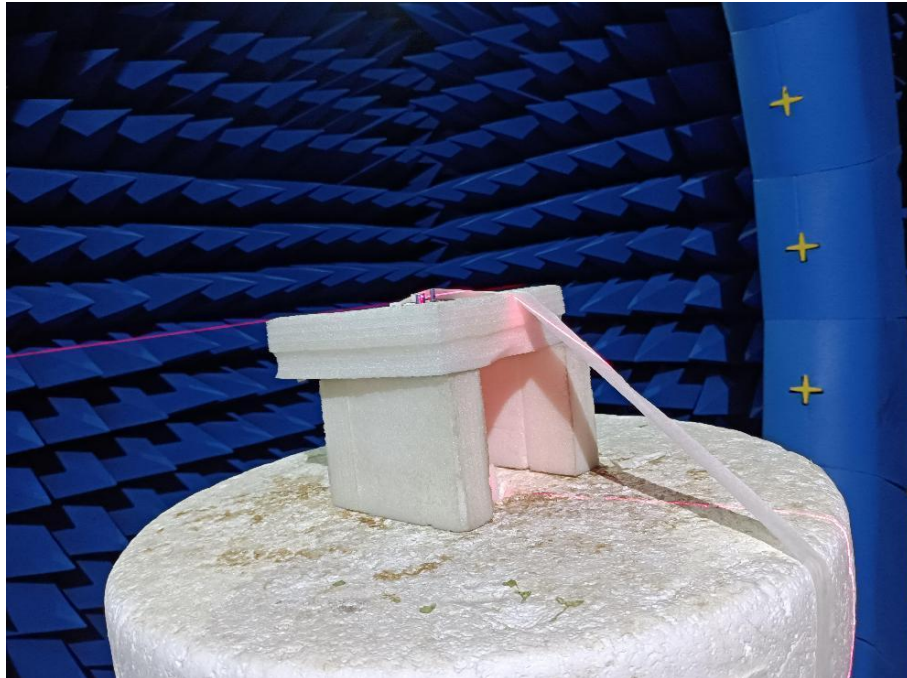
2440MHz



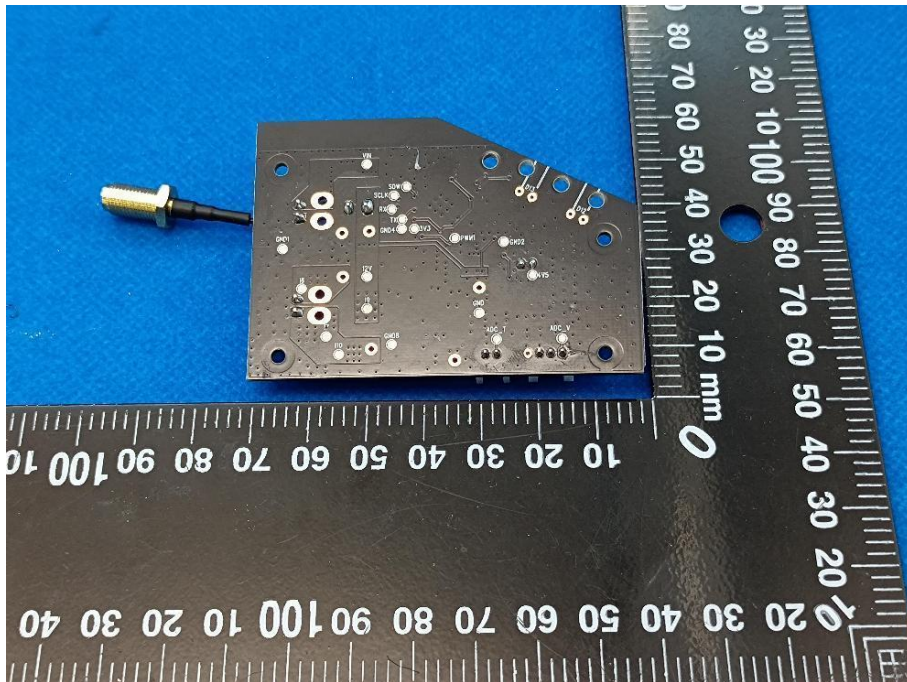
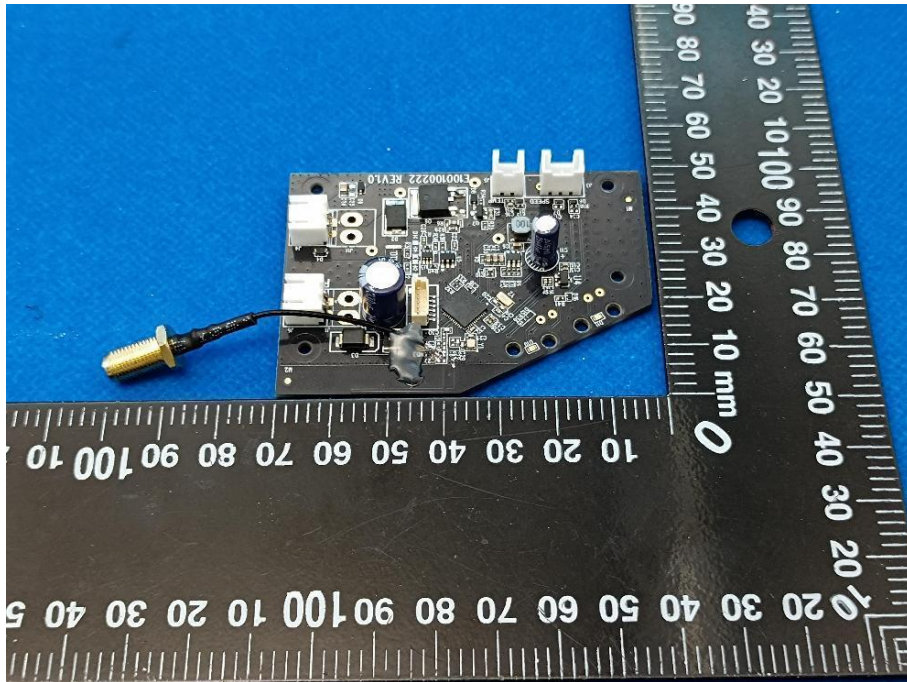
2480MHz

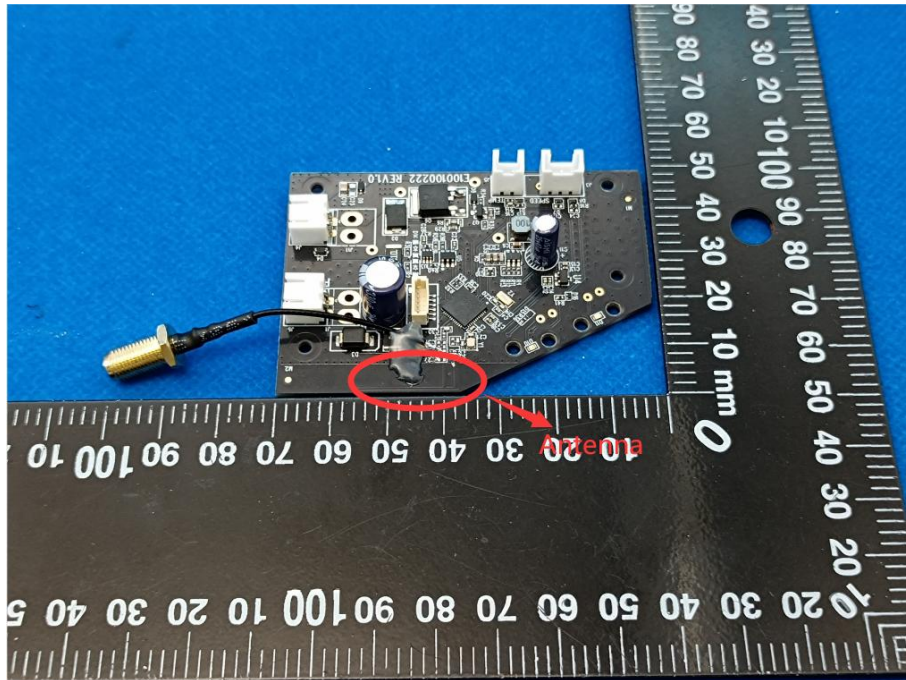
Annex C Photographs

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

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