



REPORT No. : SZ22120154E01

TEST REPORT

APPLICANT : Shenzhen C&D Electronics Co., Ltd.

PRODUCT NAME : 433M remote

MODEL NAME : RF485B

TRADE NAME : N/A

BRAND NAME : N/A

STANDARD(S) : IEEE Std 149-2021

RECEIPT DATE : 2022-12-19

TEST DATE : 2022-12-19

ISSUE DATE : 2022-12-20

NOTE: This document is issued by Shenzhen Morlab Communications Technology Co., Ltd., 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.



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

Tel: 86-755-36698555
Http://www.morlab.cn

Fax: 86-755-36698525
E-mail: service@morlab.cn





DIRECTORY

1. Technical Information	3
1.1. Applicant and Manufacturer 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. Measurement Uncertainty	4
2.4. Test Results lists	5
Annex A Test Setup Photos	6
Annex B Figures	7
1. 2D Radiation Pattern	7
2. 3D Radiation Pattern	10
Annex C EUT Photos	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	2022-12-20	First edition



1. Technical Information

Note: Provide by manufacturer.

1.1. Applicant and Manufacturer Information

Applicant:	Shenzhen C&D Electronics Co., Ltd.
Applicant Address:	9/F, Tower 9A, Baoneng Science&Technology Park, Qingxiang Road, Longhua New District, Shenzhen(518109) ,China
Manufacturer:	N/A
Manufacturer Address:	N/A

1.2. Equipment Under Test (EUT) Description

Wireless Type	N/A
Test frequency band	433.92MHz
IMEI	N/A
Sample No.	1#

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.

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(dBi)

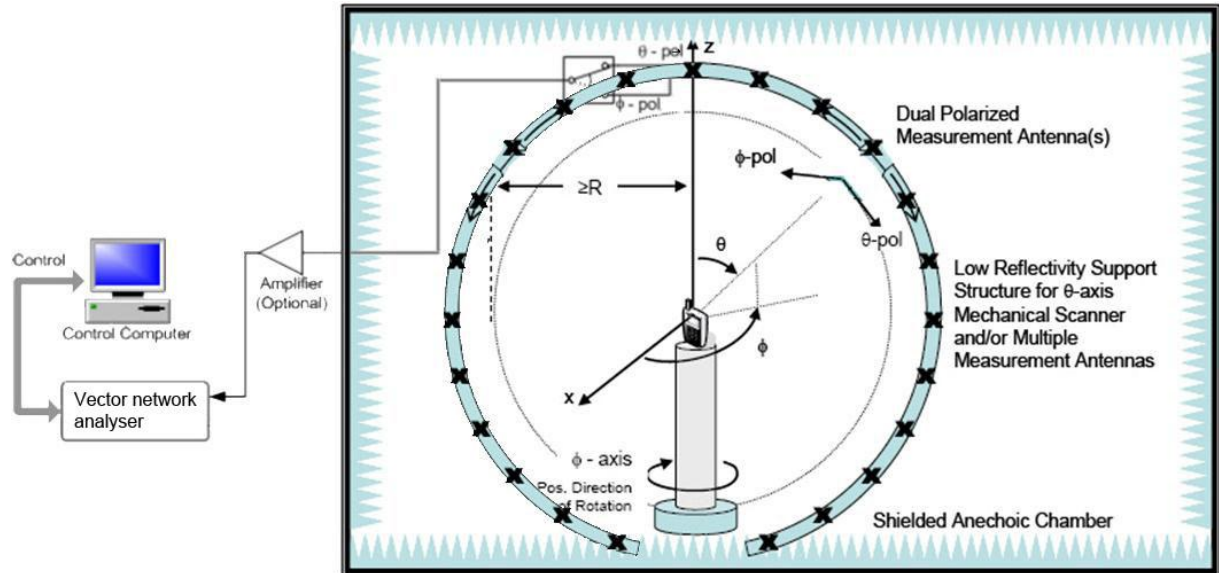
Frequency	Gain
433.87MHz	-21.75
433.92MHz	-21.73
433.97MHz	-21.75

Frequency	Phi=0°(XZ Plane)_V		Phi=0°(XZ Plane)_H	
	Peak Gain	Average Gain	Peak Gain	Average Gain
433.87MHz	-34.31	-39.64	-22.24	-27.79
433.92MHz	-34.27	-39.66	-22.25	-27.80
433.97MHz	-34.22	-39.67	-22.23	-27.80

Frequency	Phi=90°(YZ Plane)_V		Phi=90°(YZ Plane)_H	
	Peak Gain	Average Gain	Peak Gain	Average Gain
433.87MHz	-29.23	-31.70	-22.53	-29.19
433.92MHz	-29.32	-31.72	-22.52	-29.19
433.97MHz	-29.32	-31.72	-22.52	-29.19

Frequency	Theta=90°(XY Plane)_V		Theta=90°(XY Plane)_H	
	Peak Gain	Average Gain	Peak Gain	Average Gain
433.87MHz	-30.97	-33.22	-26.68	-27.55
433.92MHz	-30.95	-33.24	-26.72	-27.56
433.97MHz	-31.01	-33.26	-26.69	-27.57

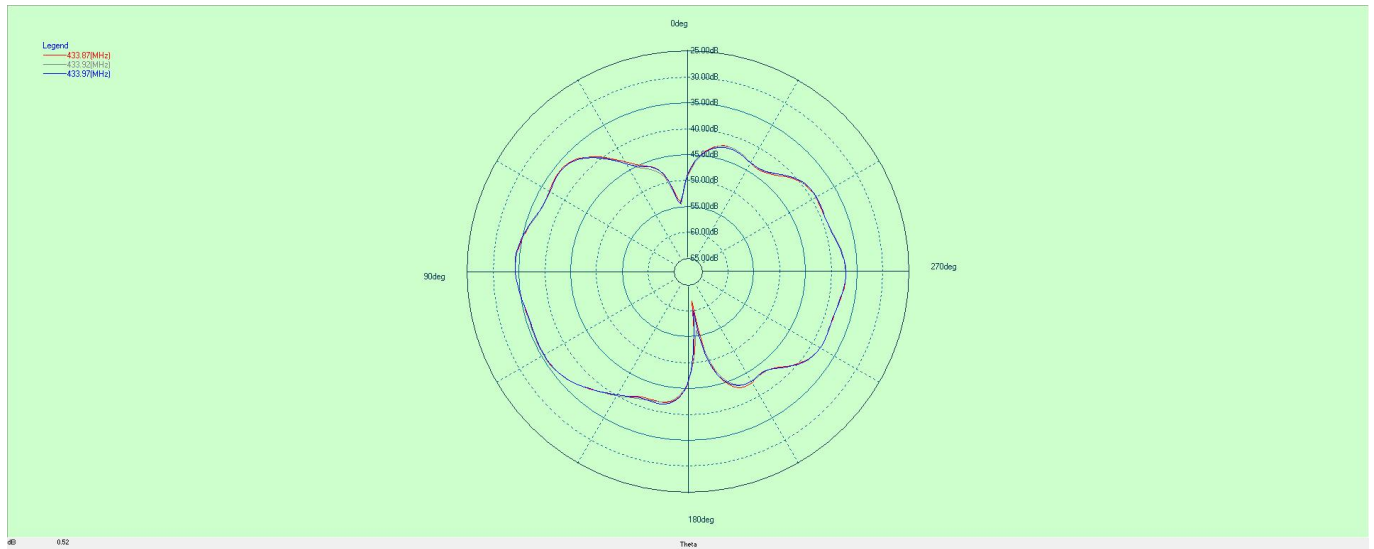
Annex A Test Setup Photos



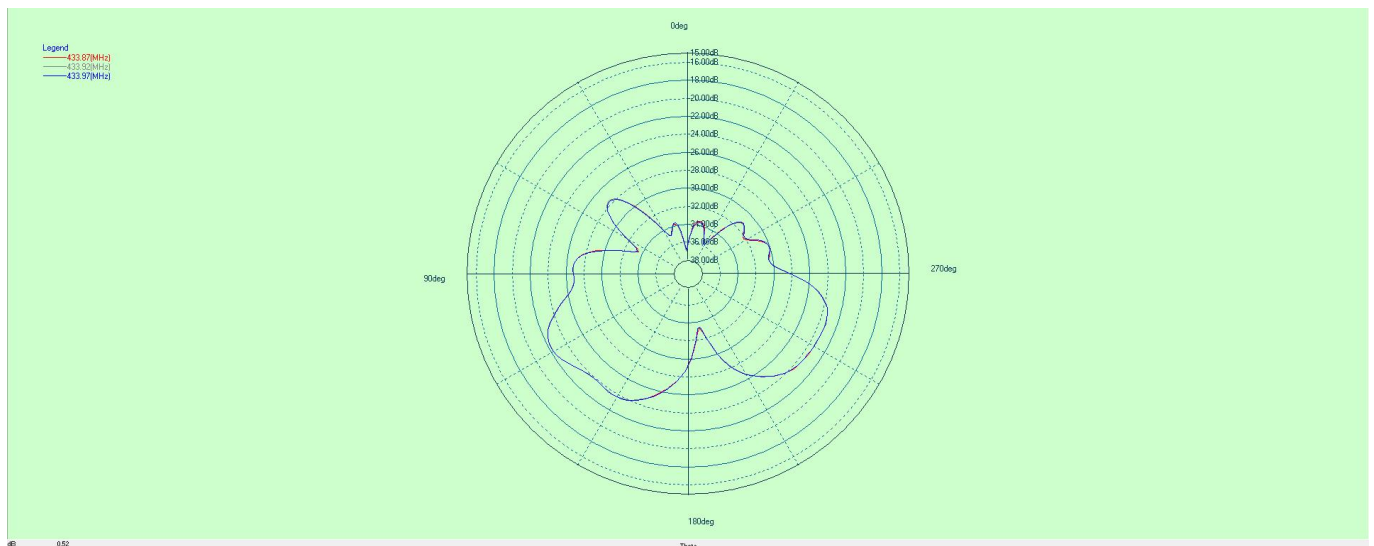
Annex B Figures

1. 2D Radiation Pattern

Phi=0°



Phi=0°(XZ Plane)_V

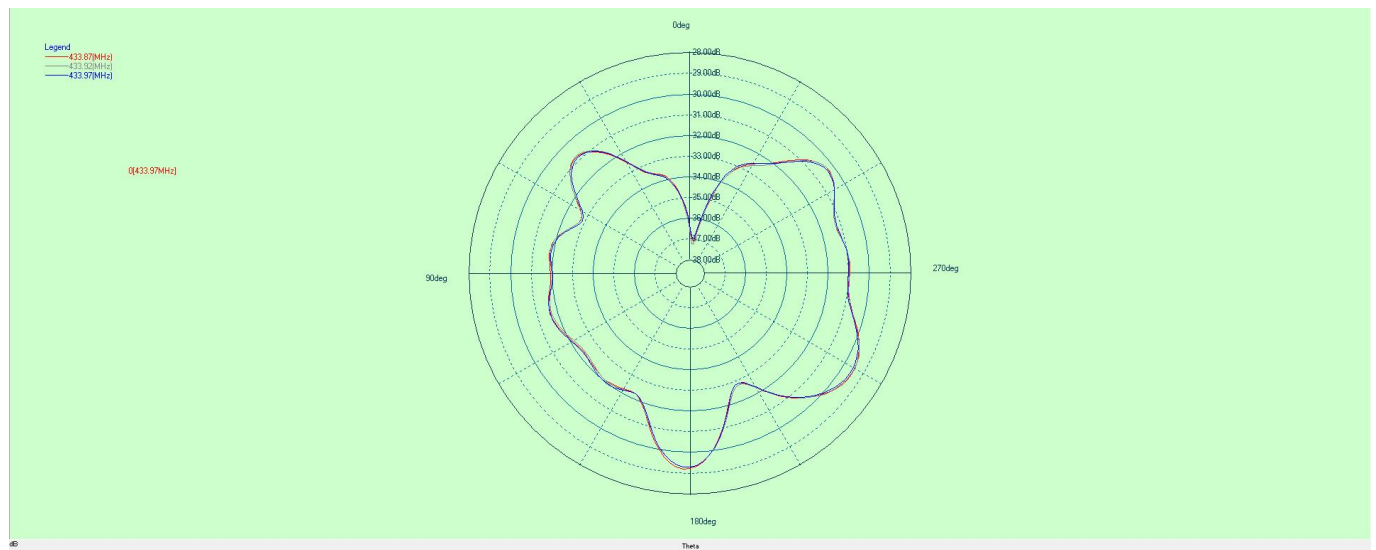


Phi=0°(XZ Plane)_H

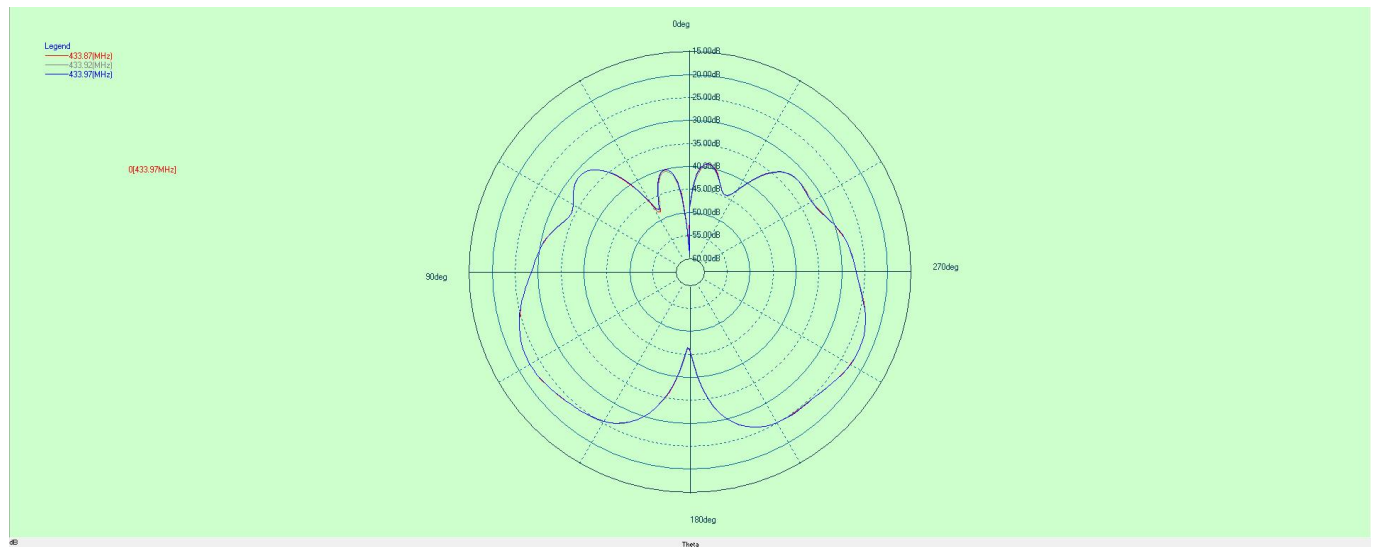


REPORT No. : SZ22120154E01

Phi=90°

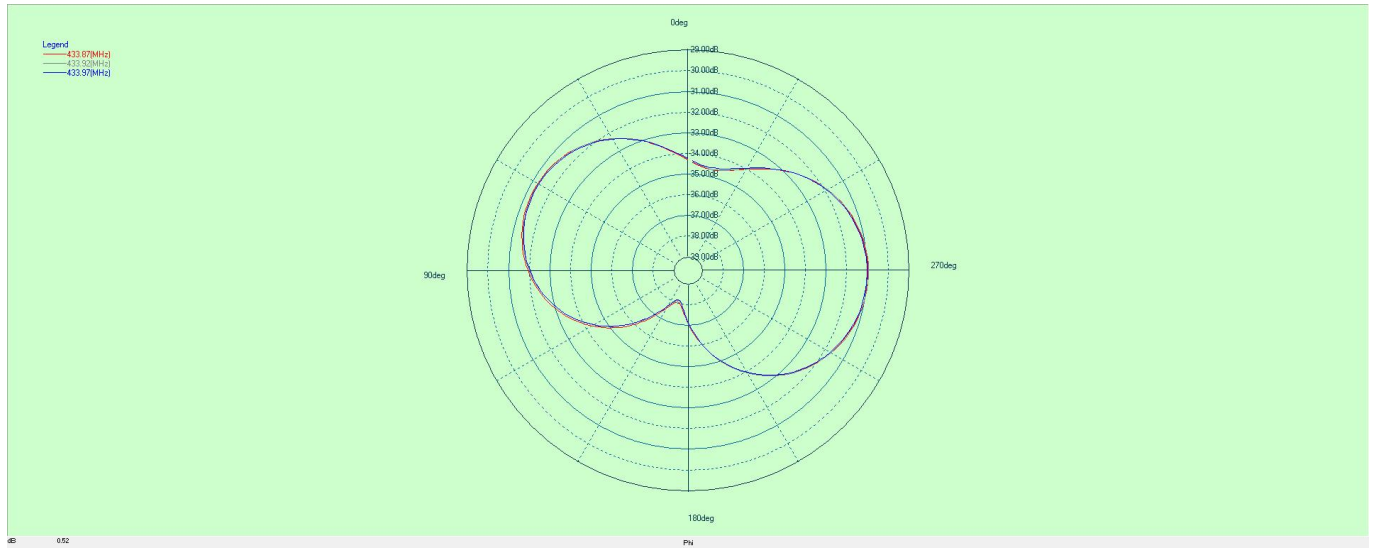


Phi=90°(YZ Plane)_V



Phi=90°(YZ Plane)_H

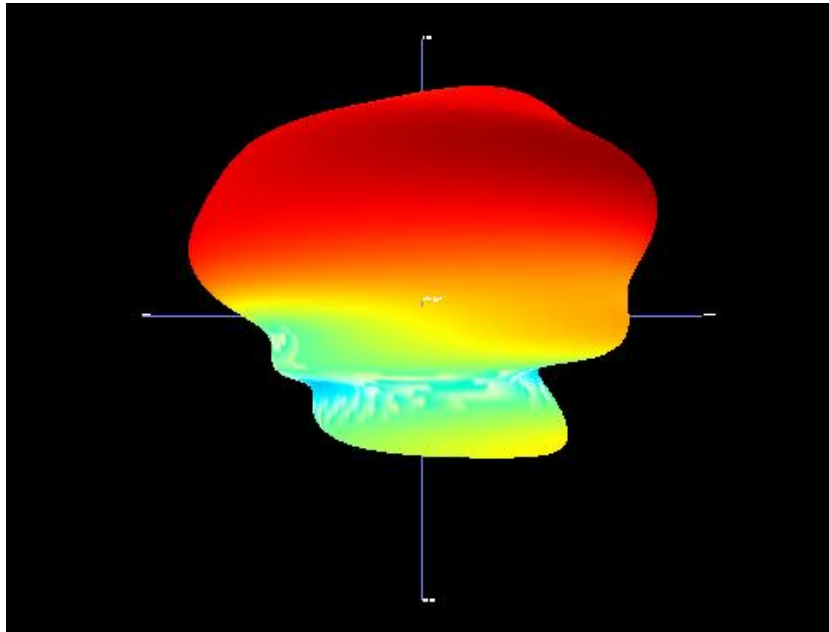
Theta=90°



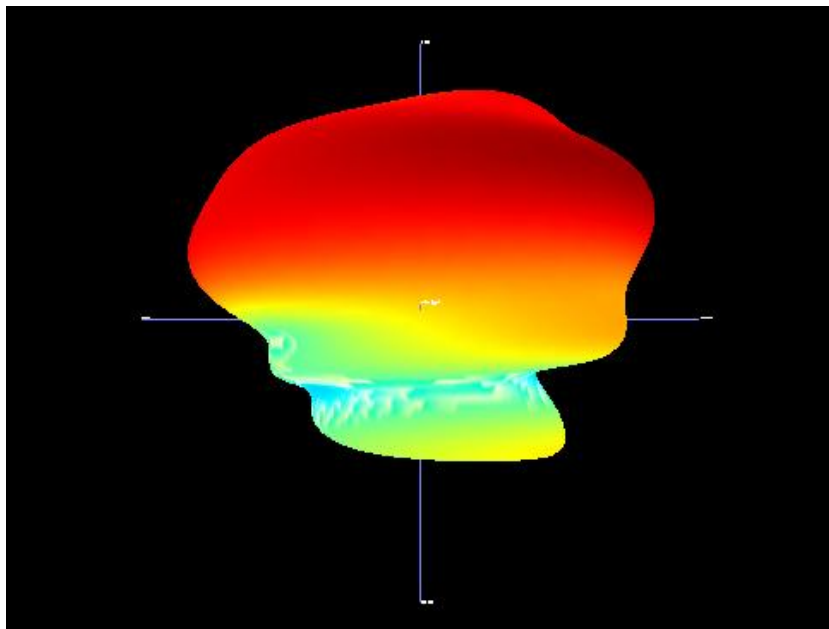
Theta=90°(XY Plane)_V

Theta=90°(XY Plane)_H

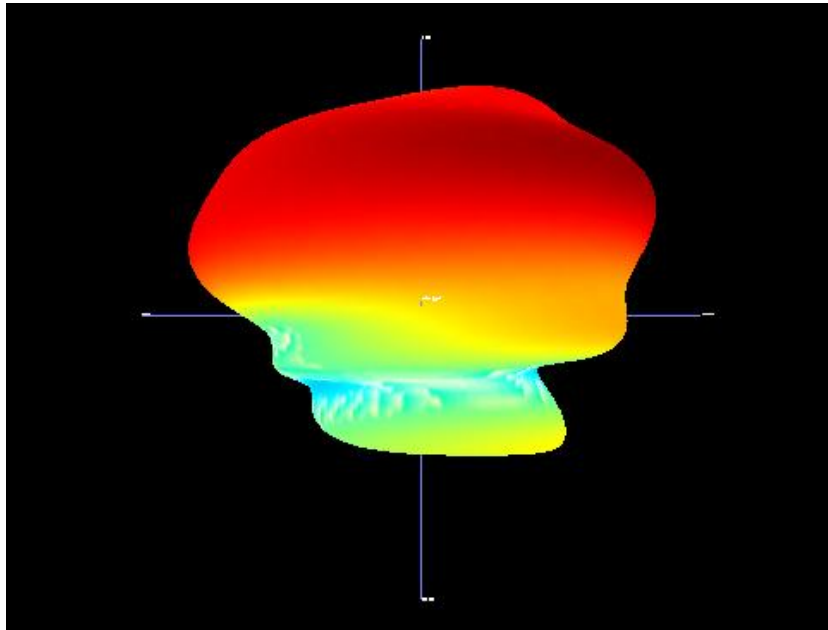
2. 3D Radiation Pattern



433.87MHz



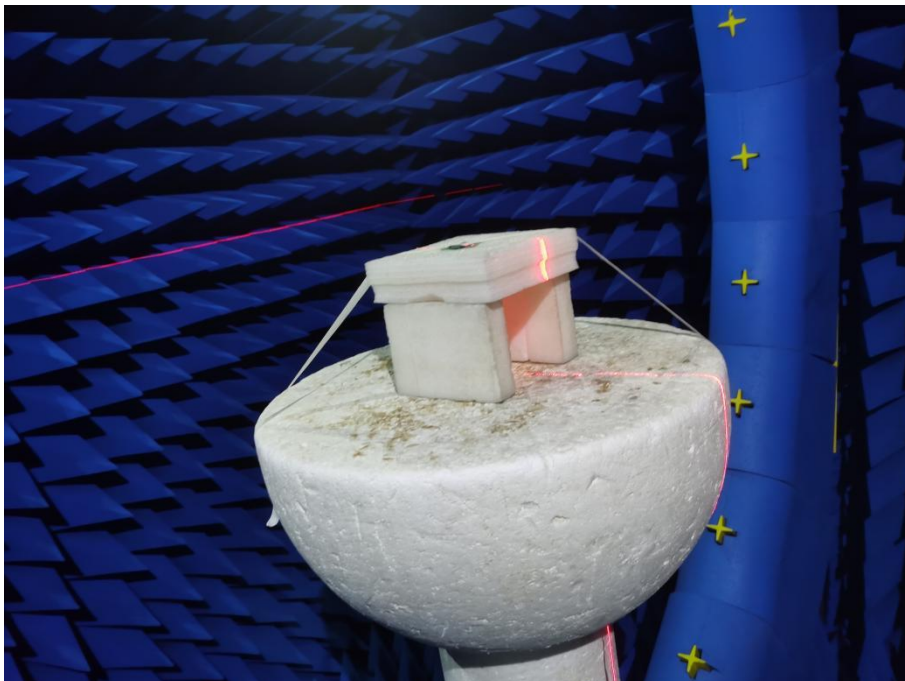
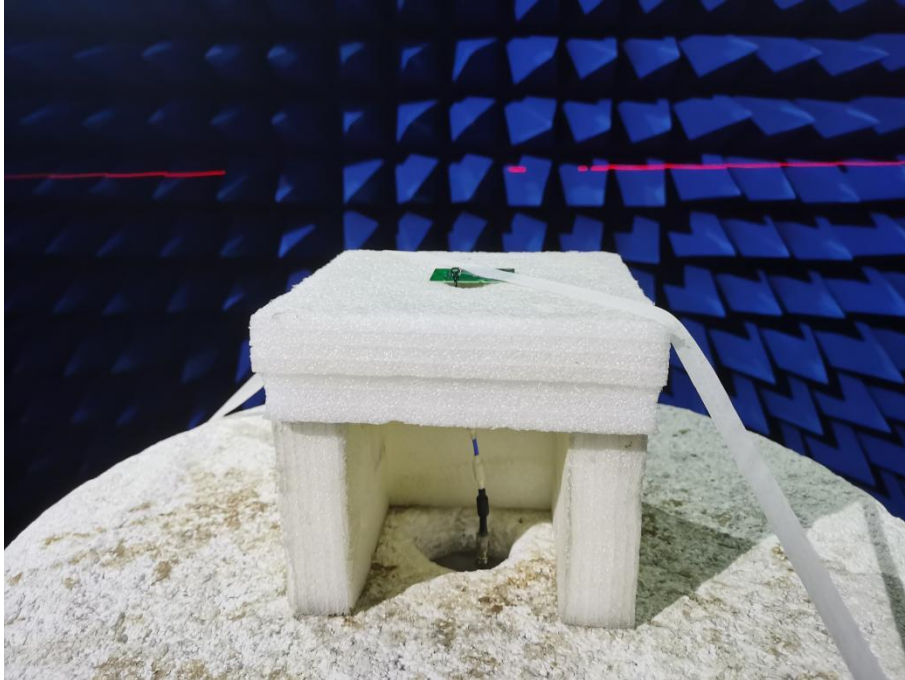
433.92MHz



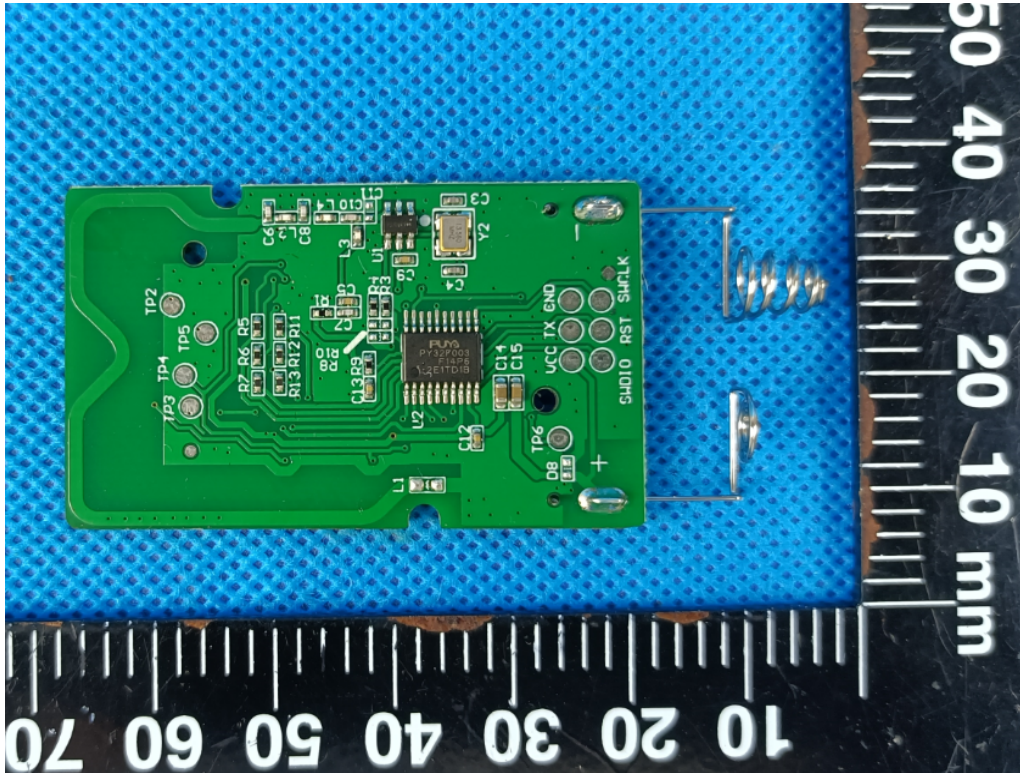
433.97MHz

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:	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

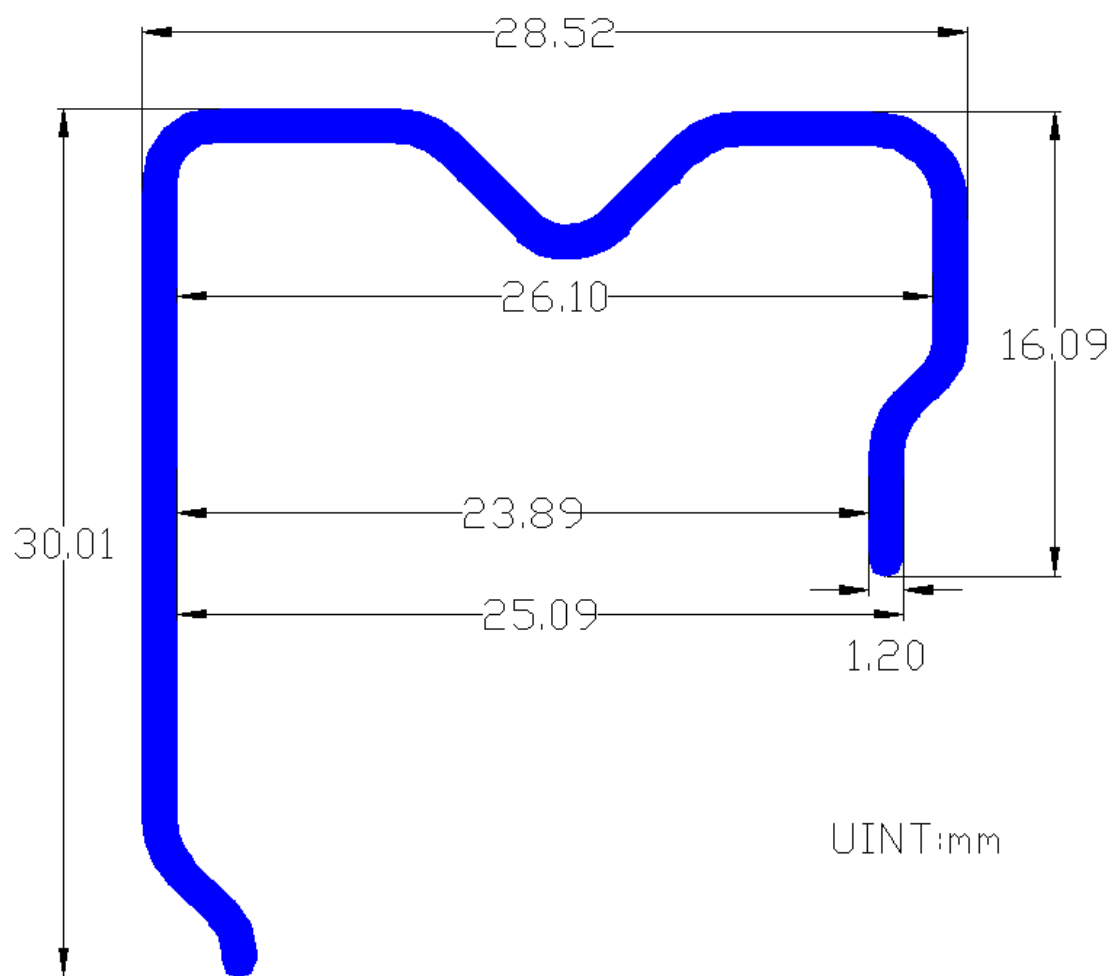
1.2 Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
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

NO.	Equipment Name	Serial NO.	Type	Manufa cturer	Cal.Date	Cal.Due Date
1	Vector Network Analyzer	MY46214666	E5071C	Agilent	2022.03.01	2023.02.28
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 —————



UNIT:mm