



REPORT No.: SZ24020123E01

TEST REPORT

APPLICANT : Zhejiang Lierda Internet of Things Technology Co.,Ltd.

PRODUCT NAME : DJ_ECR6600 WIFI Module (PCB antenna)

MODEL NAME : L-WFOMDE6-11044

TRADE NAME : N/A

BRAND NAME : Lierda

STANDARD(S) : IEEE Std 149-2021

RECEIPT DATE : 2024-02-26

TEST DATE : 2024-02-26 to 2024-02-27

ISSUE DATE : 2024-03-08



Edited by:

Fang Jinshan
Fang Jinshan(Rapporteur)

Approved by:

Chi Shide
Chi Shide(Supervisor)

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.

MORLAB

Shenzhen Morlab Communications Technology Co., Ltd., FL.1-3, 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	8
3. VSWR	10
4. Impedance	10
5. Return Loss	11
Annex C EUT Photos	12
Annex D General Information	15
1.1 Identification of the Responsible Testing Laboratory	15
1.2 Identification of the Responsible Testing Location	15
1.3 Test Equipments Utilized	15
1.4 Test Software Utilized	15

Change History		
Version	Date	Reason for change
1.0	2024-03-08	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Zhejiang Lierda Internet of Things Technology Co.,Ltd.
Applicant Address:	Room 1402, Building 1, No. 1326, Wenyi West Road, Cangqian Street, Yuhang District, Hangzhou, Zhejiang Province
Manufacturer:	Zhejiang Lierda Internet of Things Technology Co.,Ltd.
Manufacturer Address:	Room 1402, Building 1, No. 1326, Wenyi West Road, Cangqian Street, Yuhang District, Hangzhou, Zhejiang Province

1.2. Equipment Under Test (EUT) Description

Wireless Type	N/A
Frequency	2400MHz-2500MHz
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(°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)	Efficiency(%)
2400	1.65	57.03
2410	2.01	58.06
2420	2.24	58.66
2430	2.39	58.45
2440	2.66	60.40
2450	2.81	62.37
2460	2.69	62.86
2470	2.40	61.65
2480	1.99	59.83
2490	1.64	57.69
2500	1.47	56.83

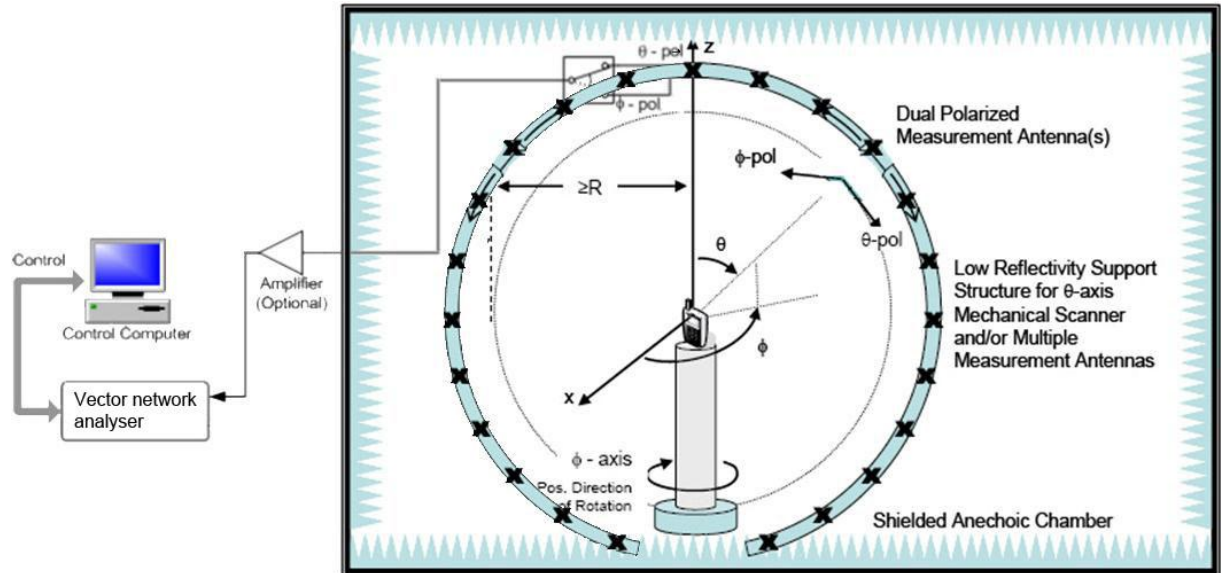
2.4.2. VSWR and Impedance

Frequency (MHz)	VSWR	Impedance (Ω)
2400	2.15	31.30
2450	1.24	59.21
2500	1.46	45.24

2.4.3. Return Loss

Frequency (MHz)	Return Loss (dB)
2400	-8.74
2450	-19.28
2500	-14.44

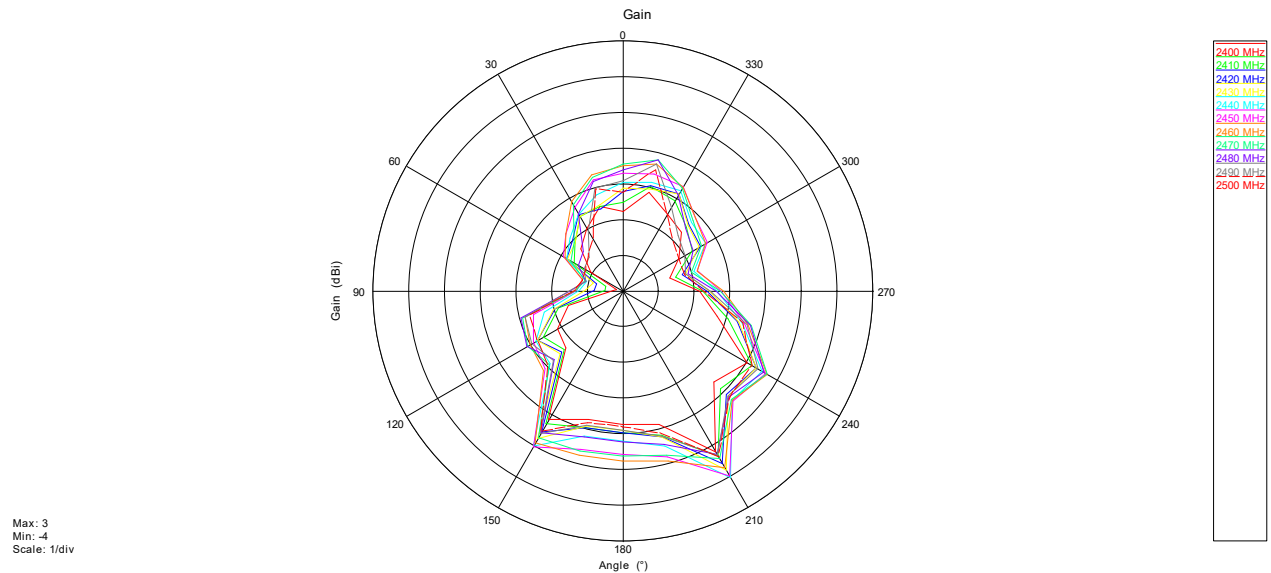
Annex A Test Setup Photos



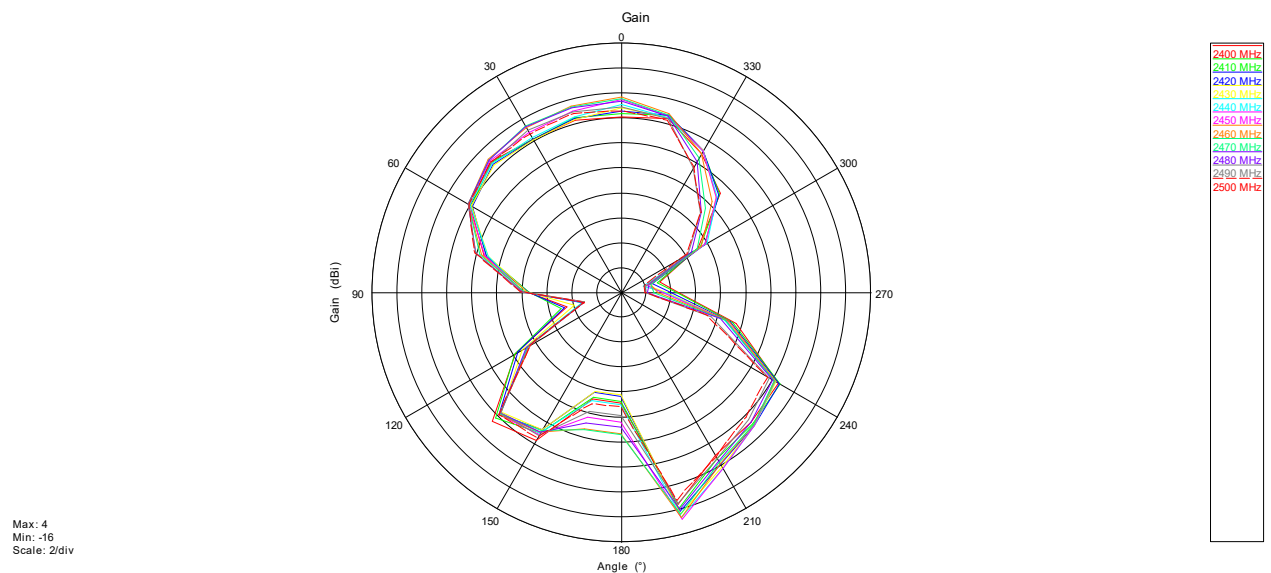


Annex B Figures

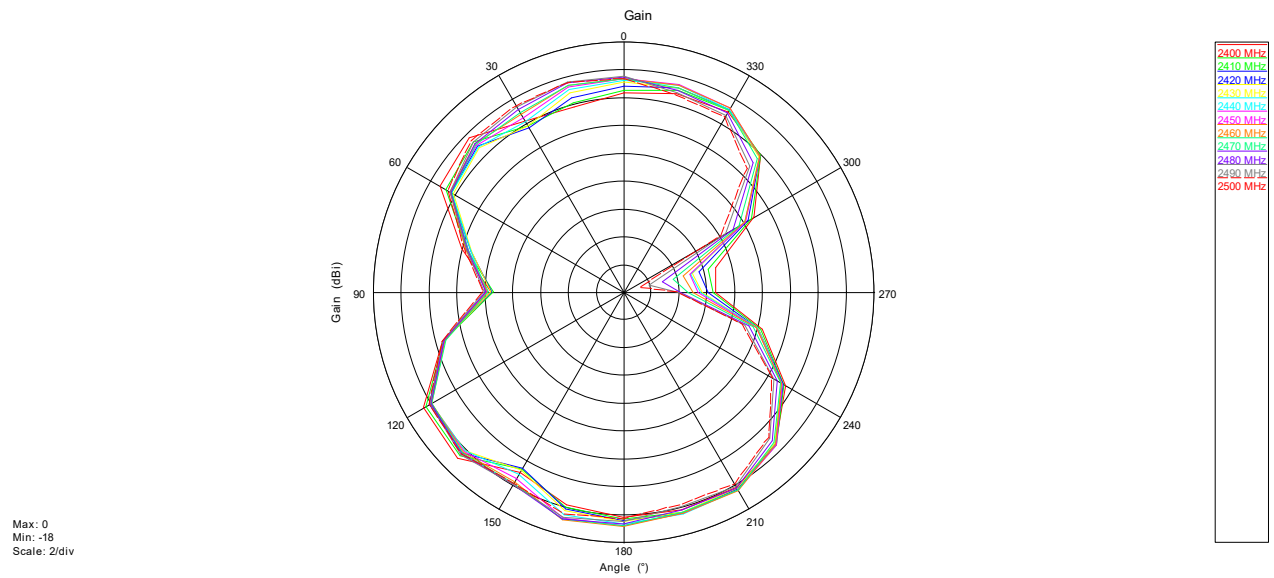
1. 2D Radiation Pattern



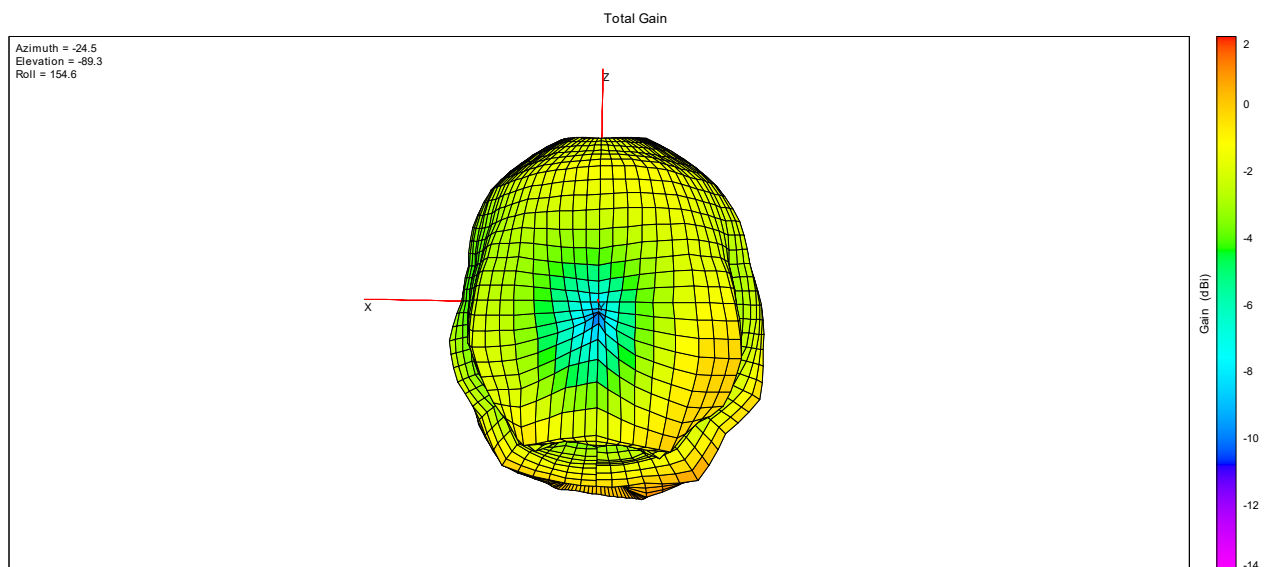
Phi=0°

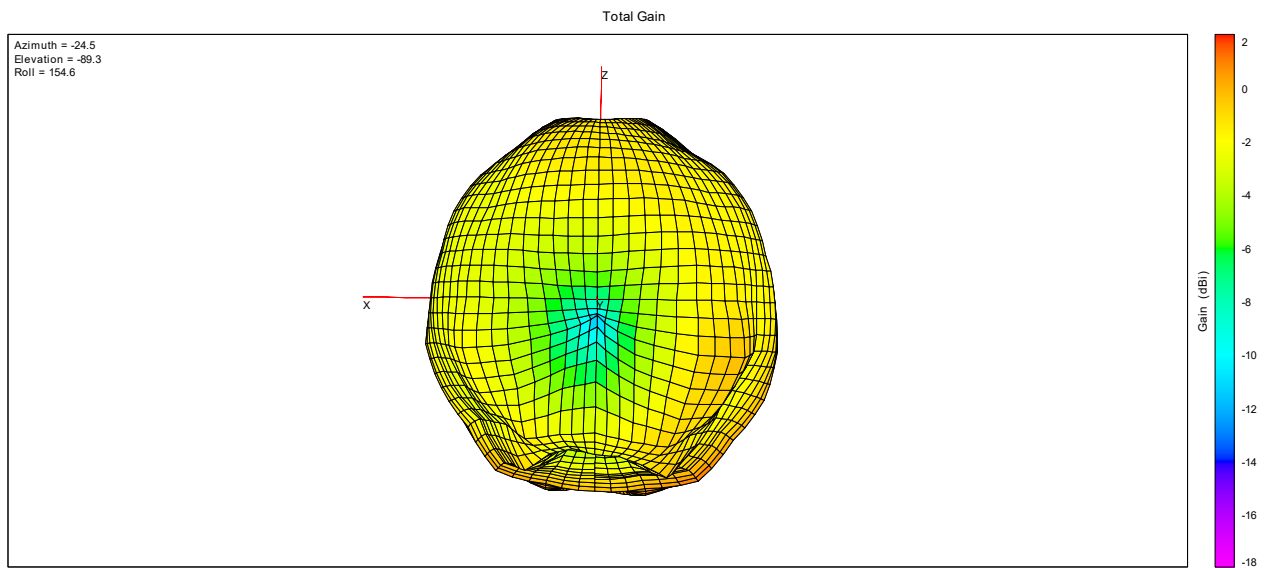
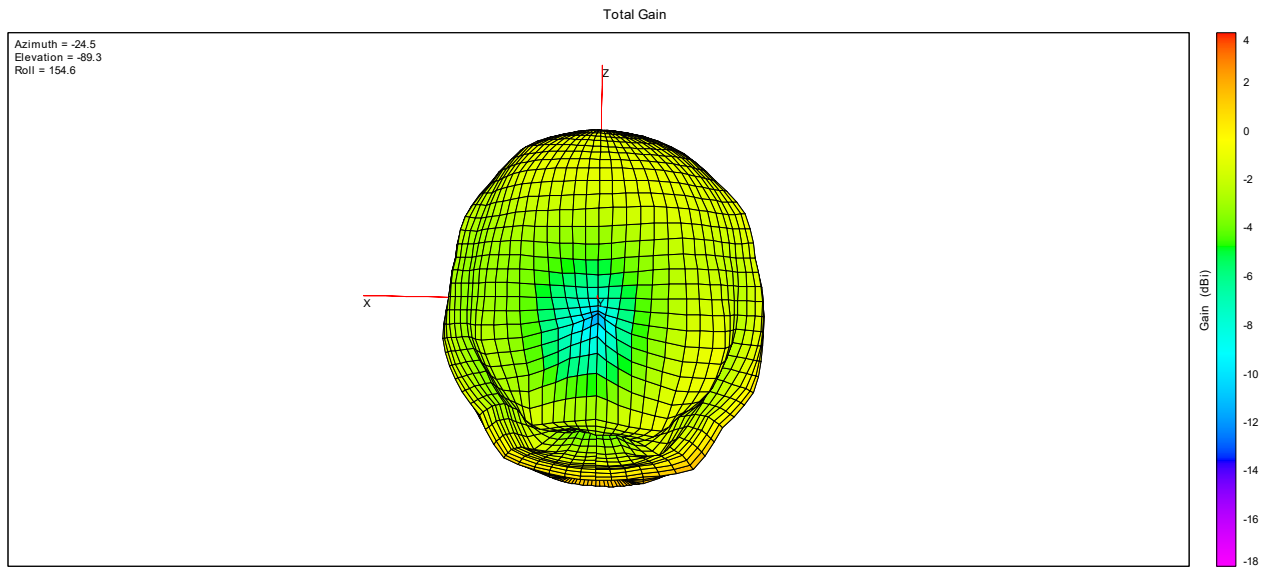


Phi=90°



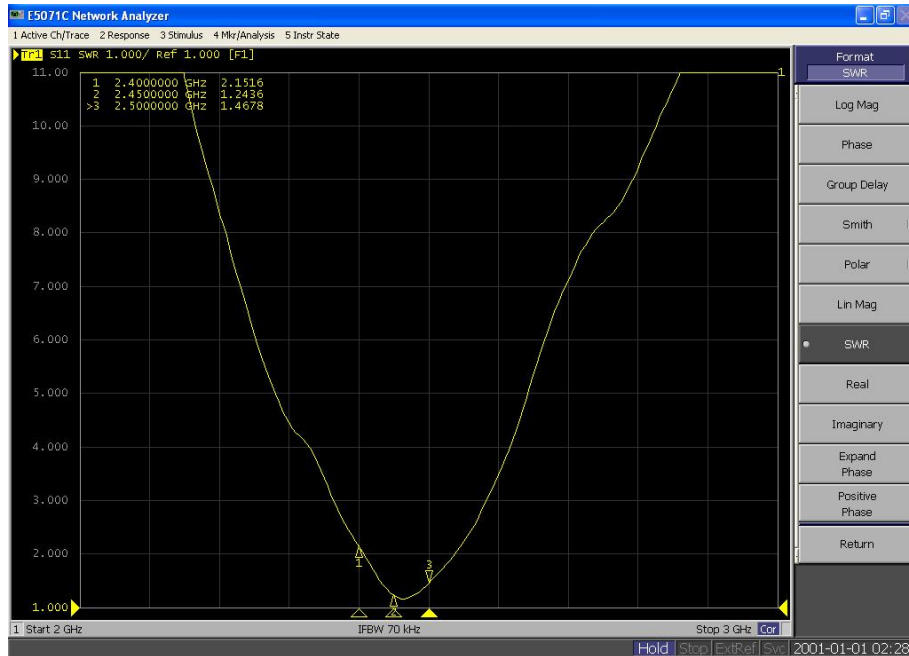
2. 3D Radiation Pattern



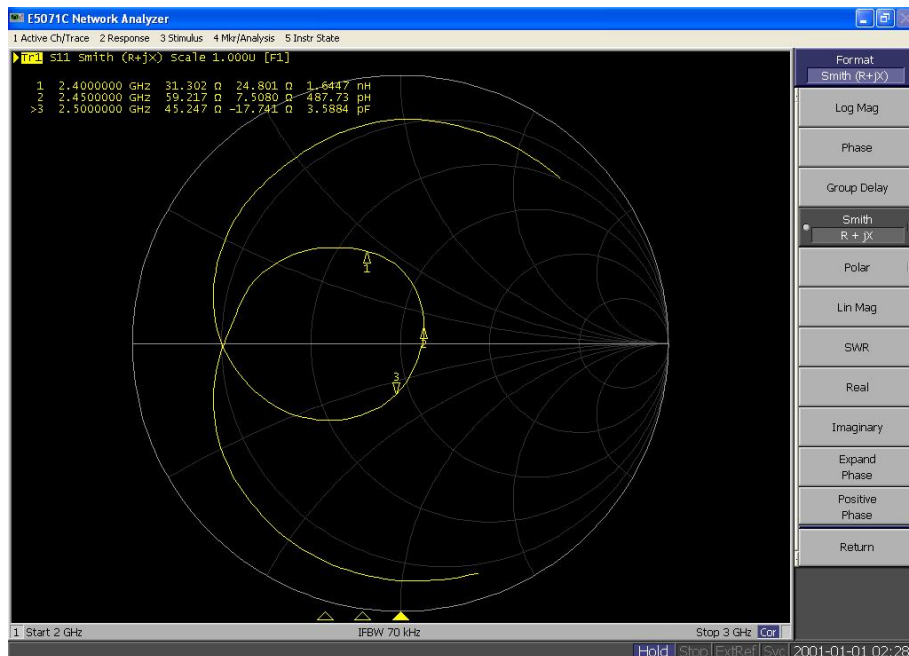




3. VSWR

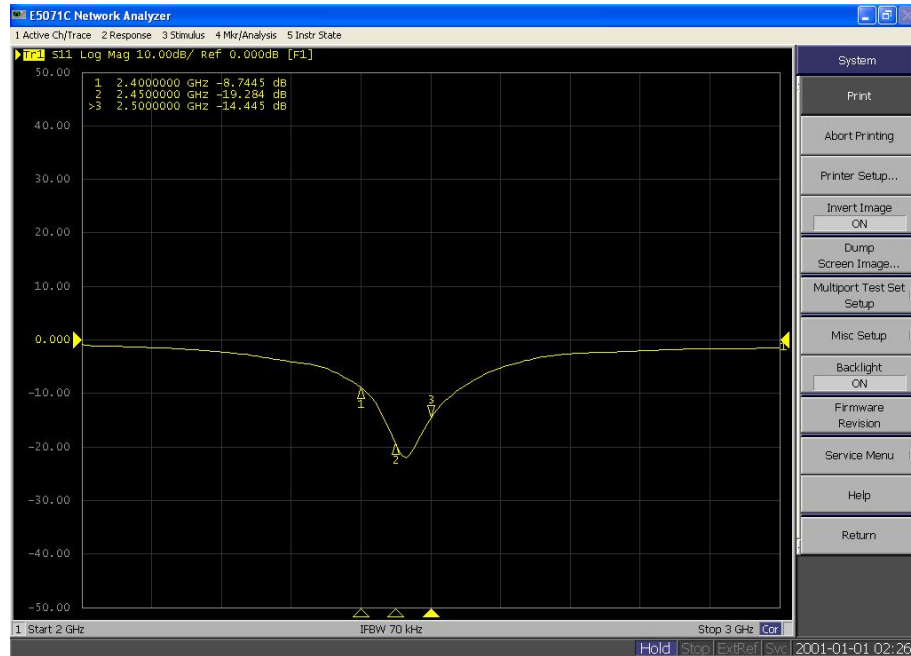


4. Impedance



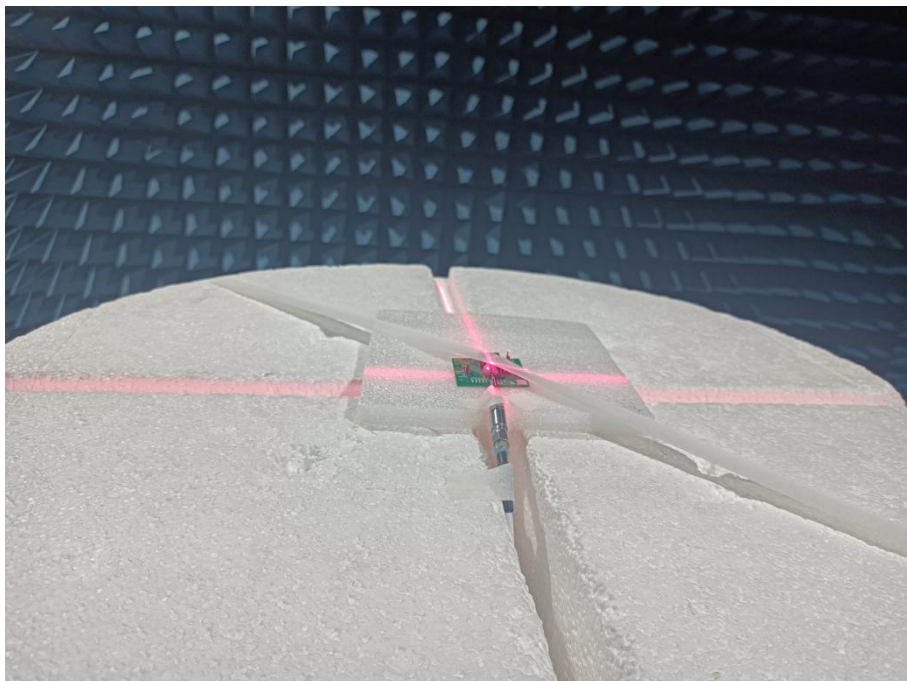
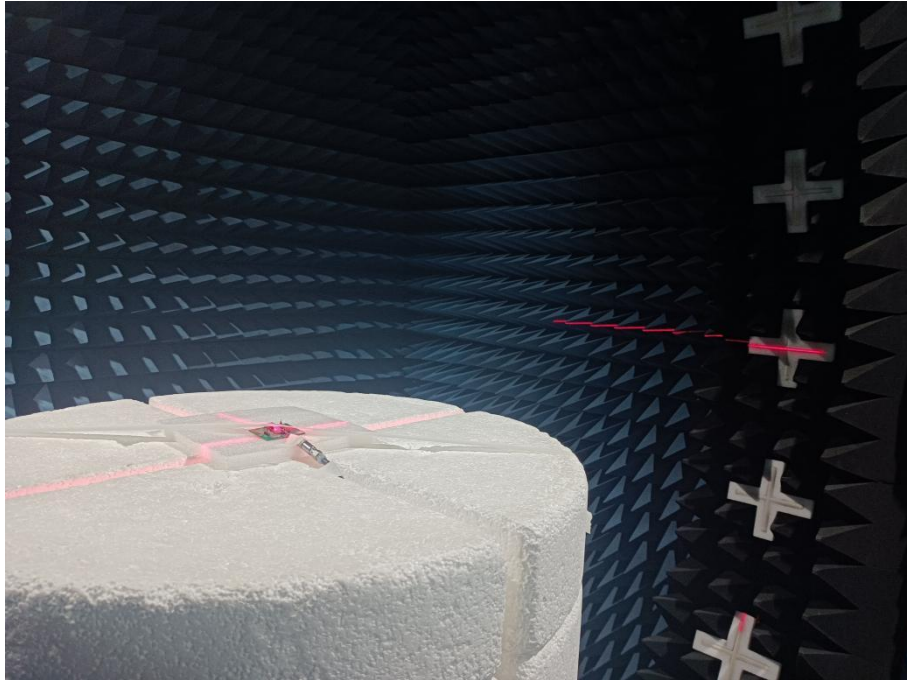


5. Return Loss

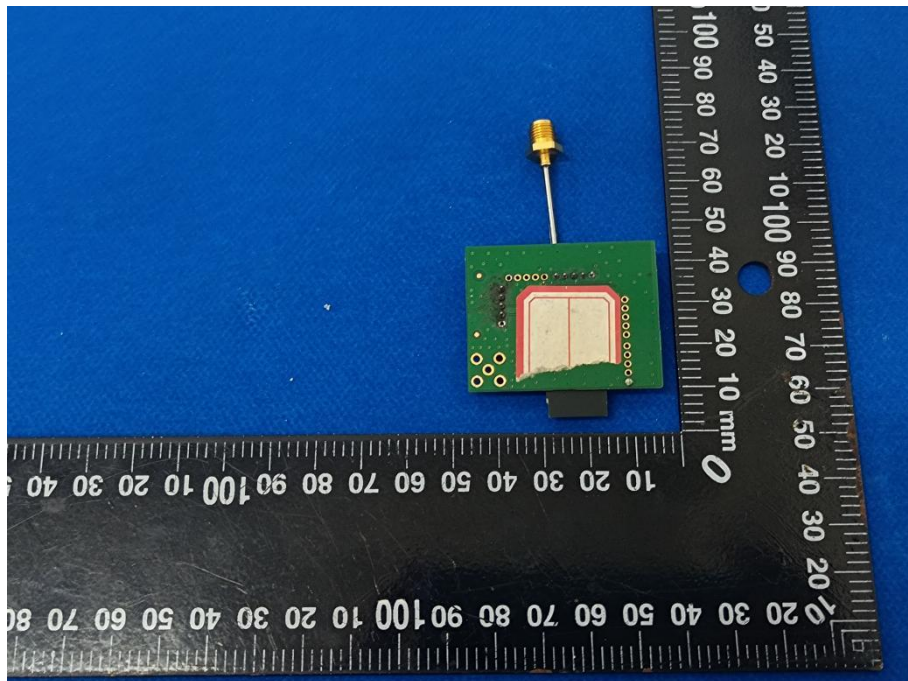
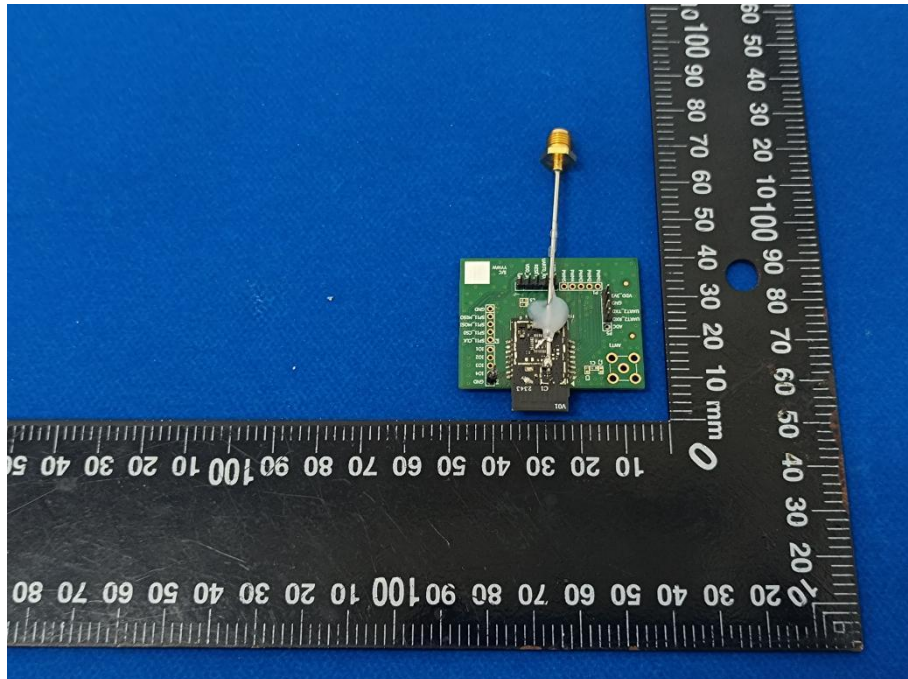


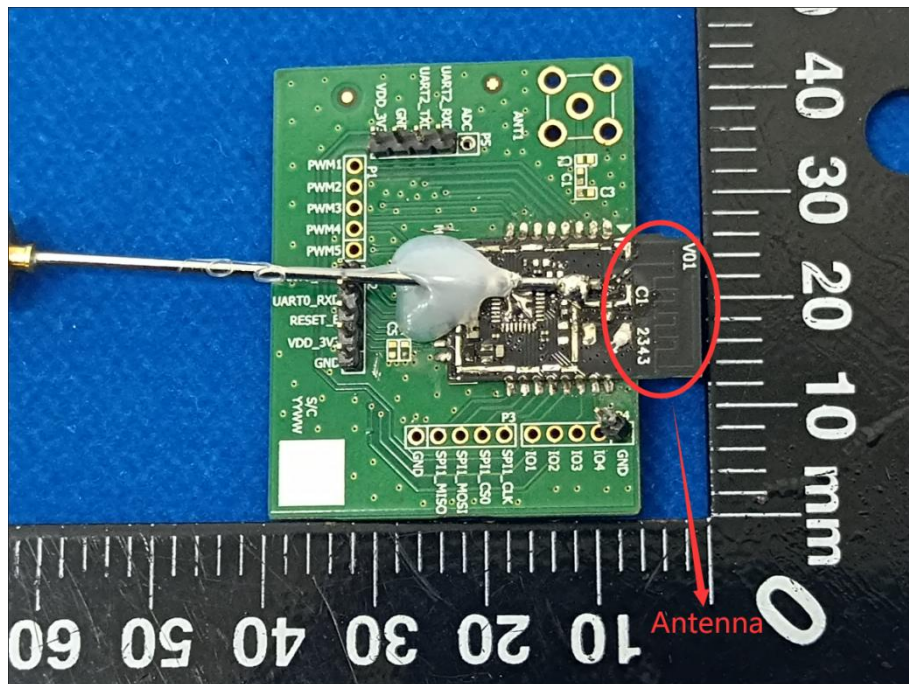
Annex C EUT Photos

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

————— END OF MIAN REPORT —————