



REPORT No.: SZ21070262E01

TEST REPORT

APPLICANT : Dongguan Chuan OptoElectronics Limited

PRODUCT NAME : Bluetooth Module

MODEL NAME : CH16HL

TRADE NAME : N/A

BRAND NAME : N/A

STANDARD(S) : ANSI/IEEE Std 149-2008

RECEIPT DATE : 2021-07-23

TEST DATE : 2021-07-23

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MORLAB

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Change History		
Version	Date	Reason for change
1.0	2021-07-29	First edition



1. Technical Information

Note: Provide by manufacturer.

1.1. Applicant and Manufacturer Information

Applicant:	Dongguan Chuan OptoElectronics Limited
Applicant Address:	NO.43 SongShui Road,SongMuShan Village,Dalang Town, DongGuan City,Guangdong,China
Manufacturer:	Dongguan Chuan OptoElectronics Limited
Manufacturer Address:	NO.43 SongShui Road,SongMuShan Village,Dalang Town, DongGuan City,Guangdong,China

1.2. Equipment Under Test (EUT) Description

Wireless Type	Bluetooth
Test frequency band	2400MHz-2500MHz
Brand name	N/A
Antenna model	CH16HL
Antenna type	PCB Antenna
Hardware Version	N/A
Software Version	N/A
IMEI	N/A
Sample number	1#

2. Test Results

2.1. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	ANSI/IEEE Std 149-2008	IEEE Standard Test Procedures for Antennas

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

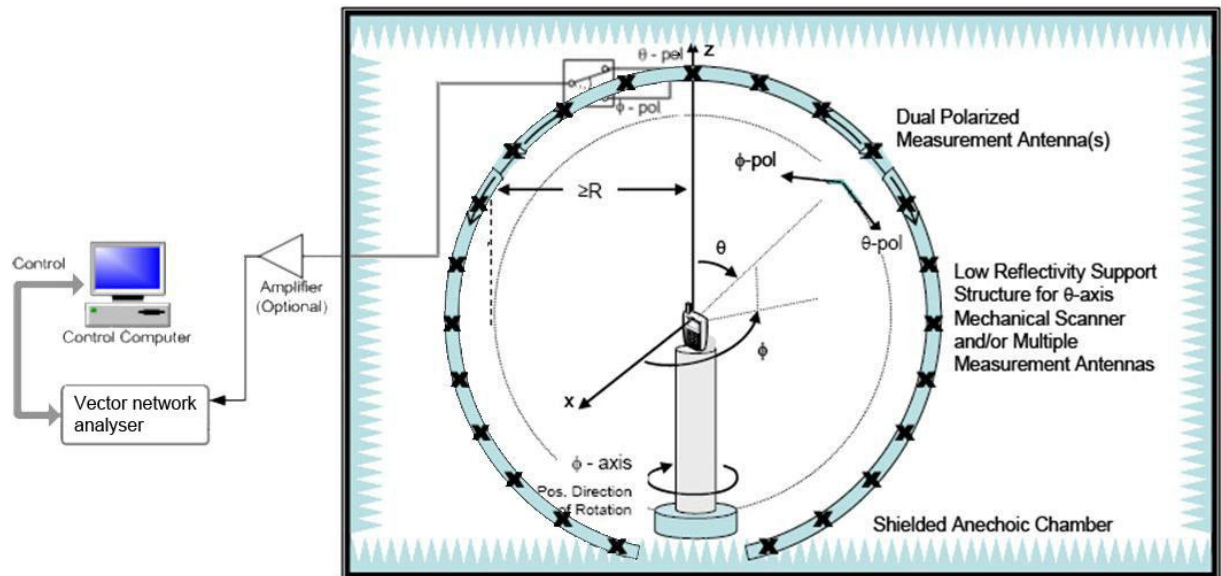
Frequency	Gain(dBi)
2402MHz	-5.47
2442MHz	-4.26
2484MHz	-4.79

2.4.2. Return Loss

Frequency	Return Loss(dB)
2402MHz	-4.69
2442MHz	-5.47
2484MHz	-6.53

Annex A Photographs

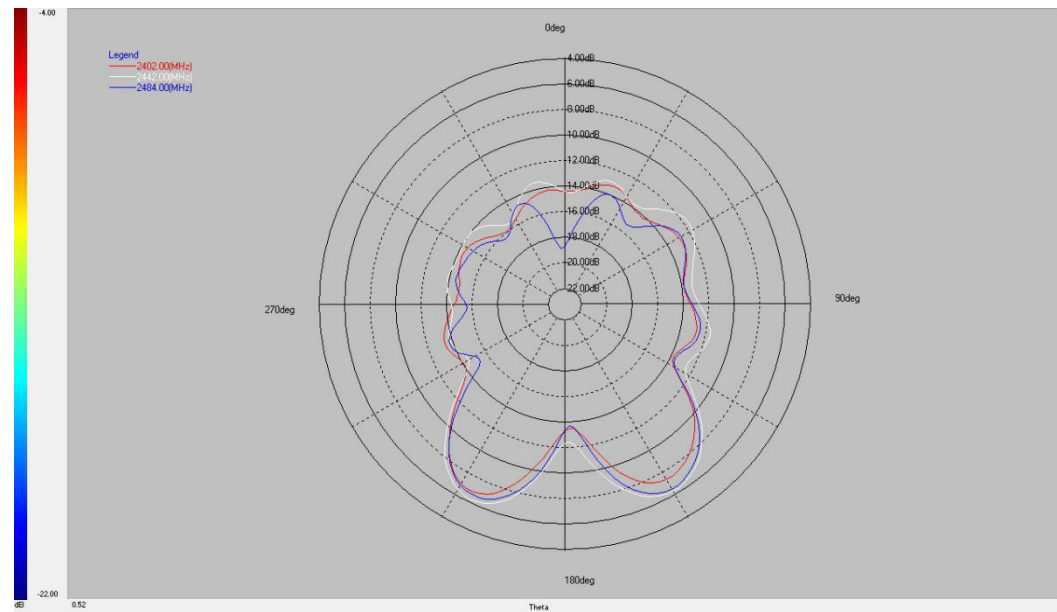
1. Test Setup



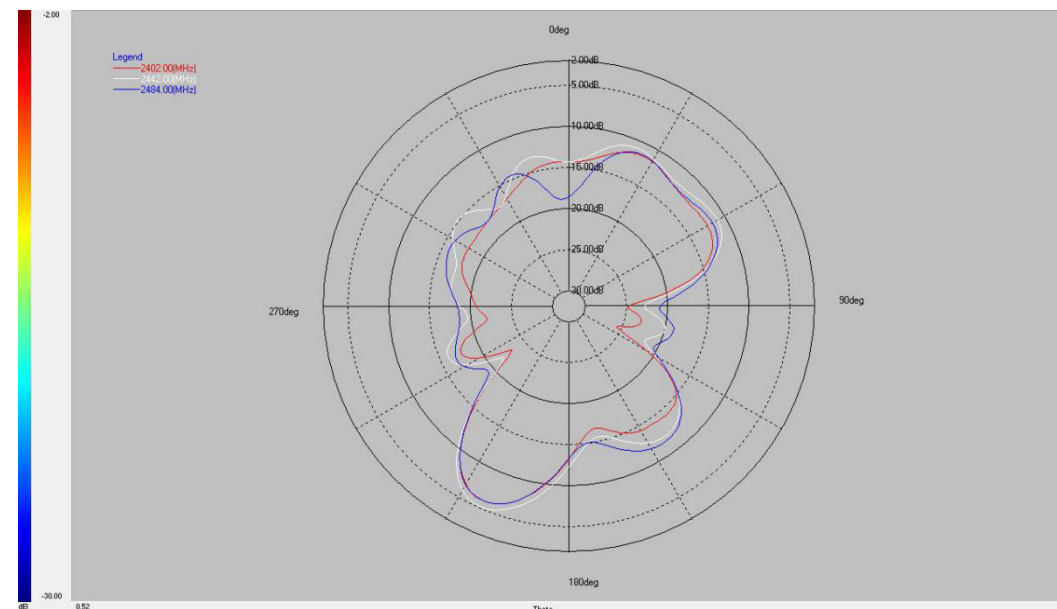
Annex B Figures

1. 2D Radiation Pattern

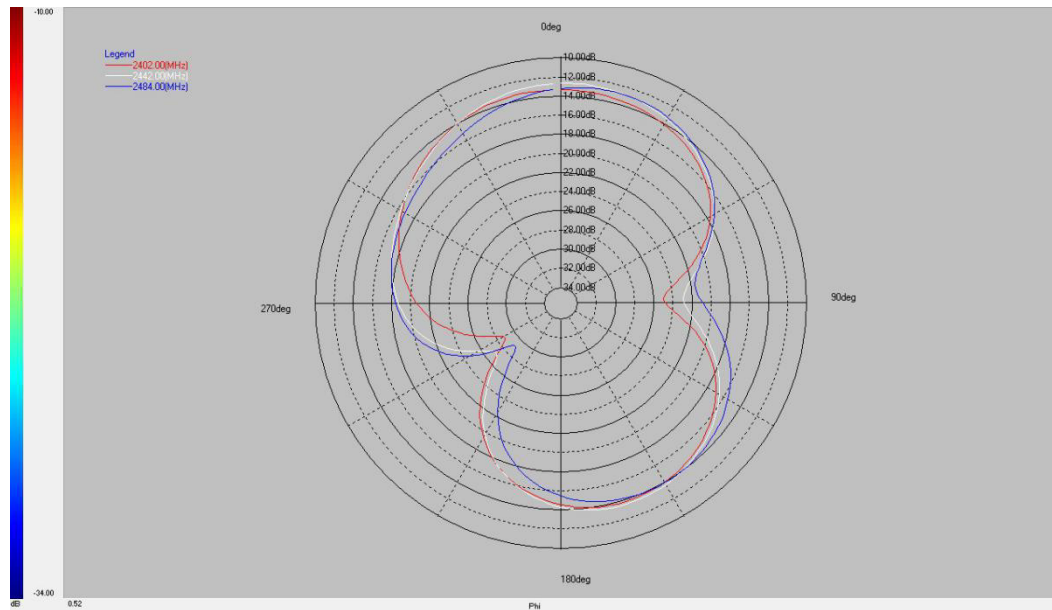
Phi=0°



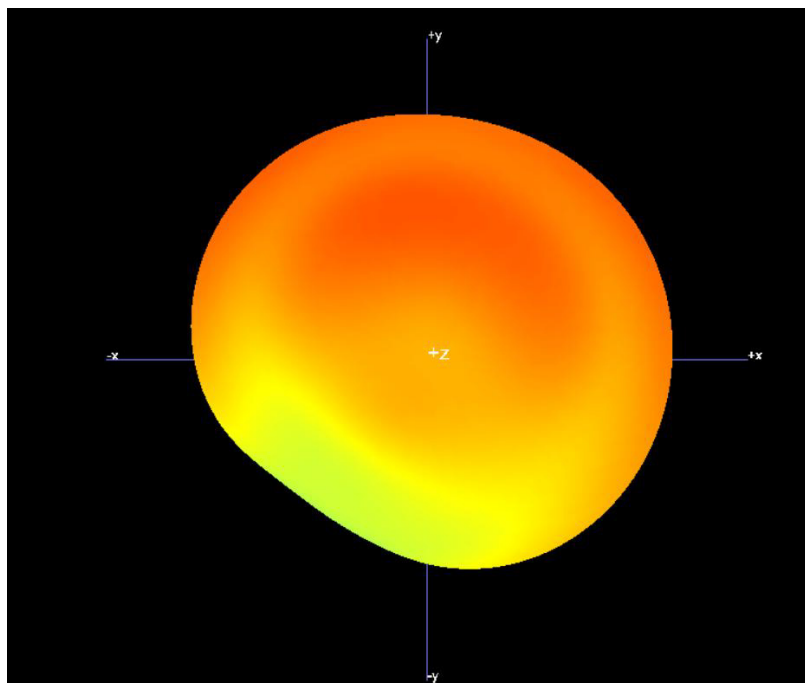
Phi=90°



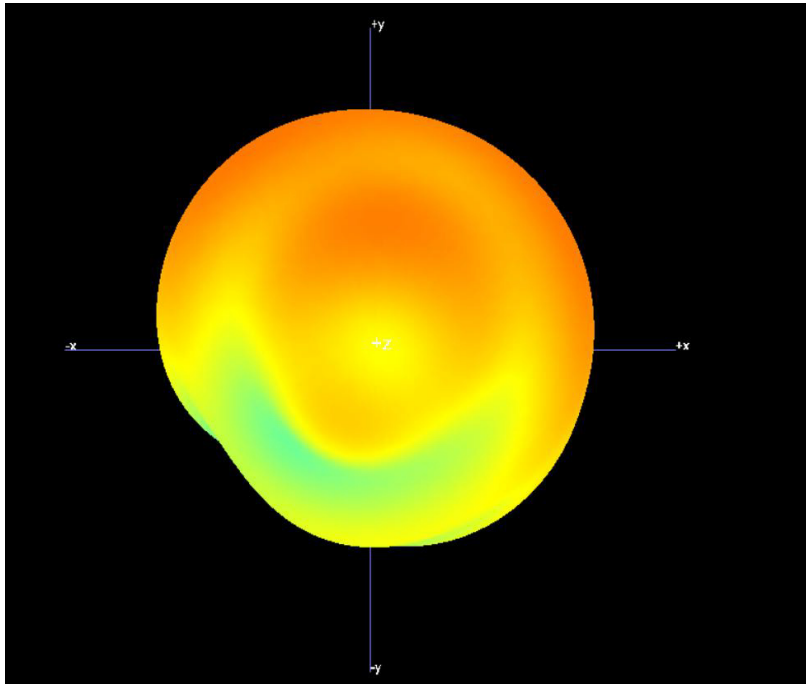
Theta=90°



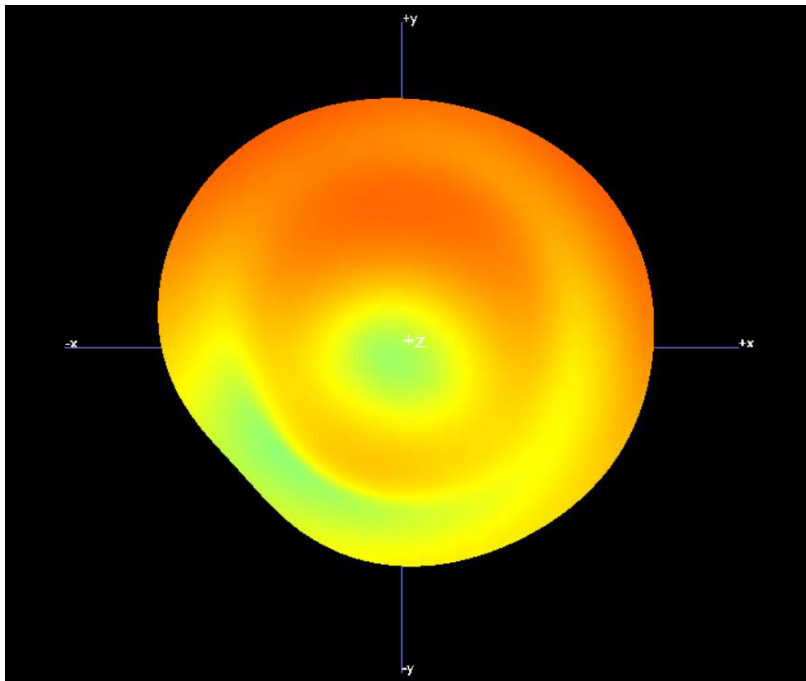
2. 3D Radiation Pattern



2402MHz



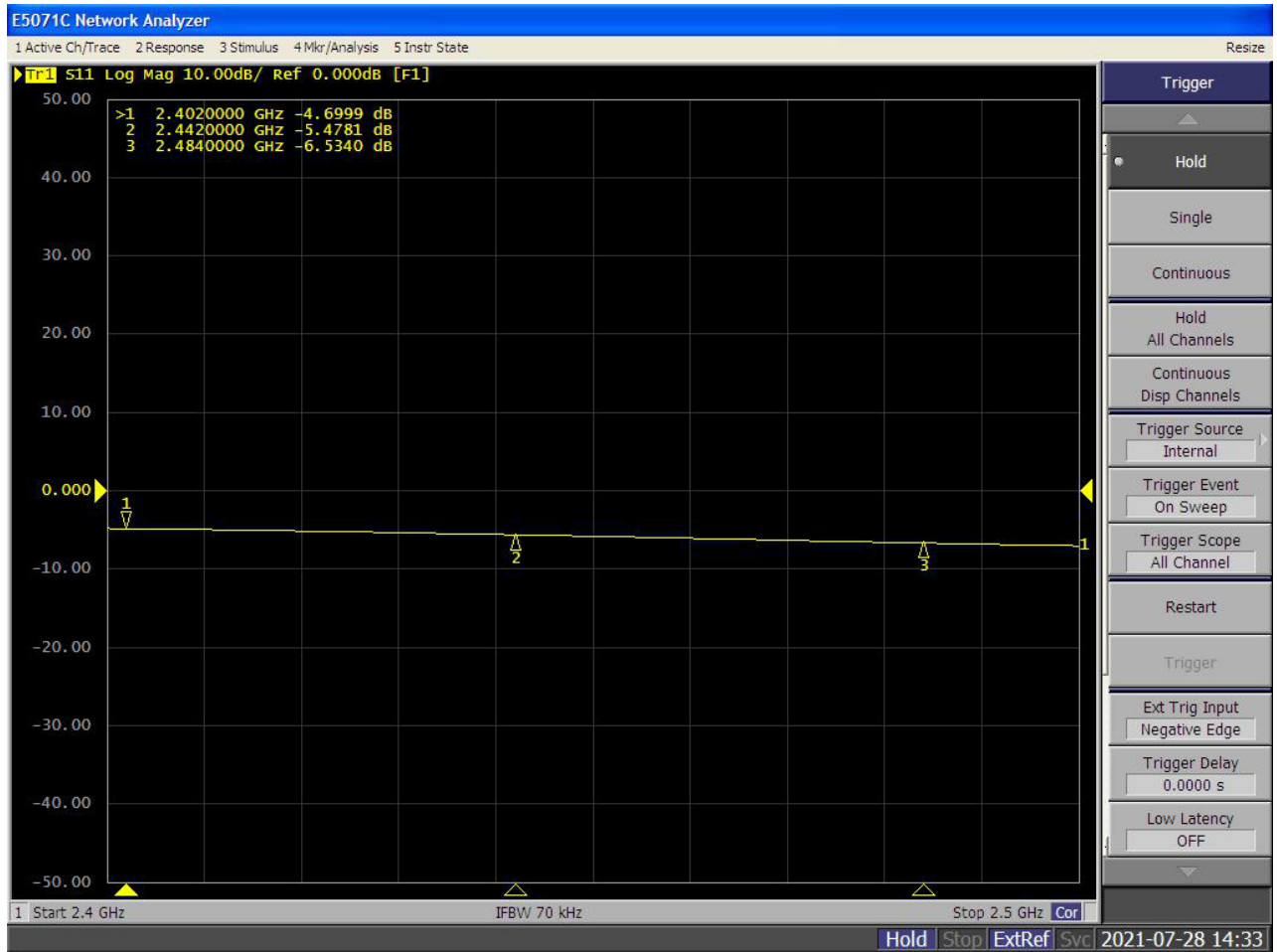
2442MHz



2484MHz

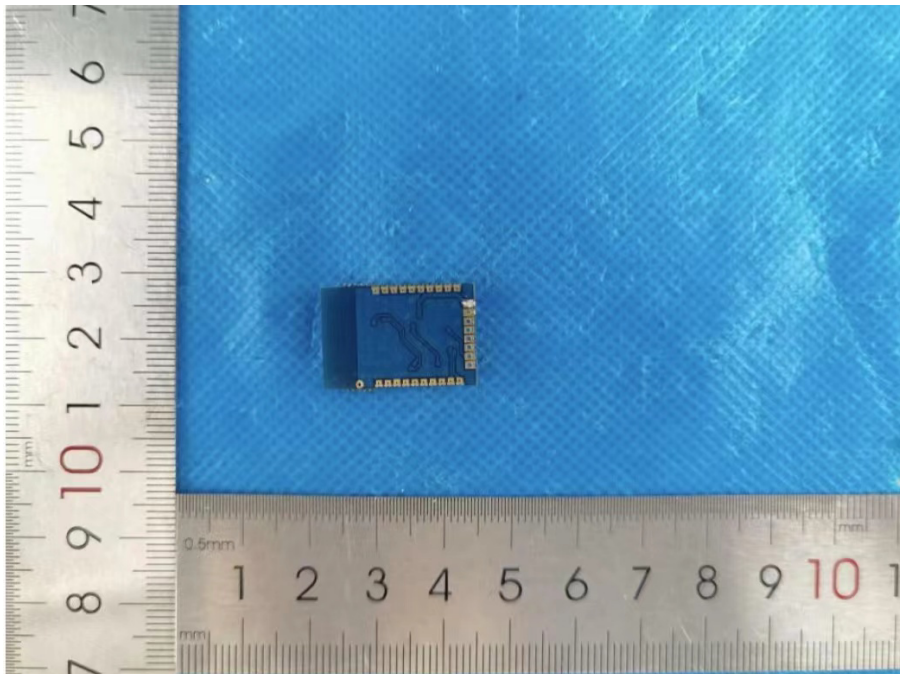
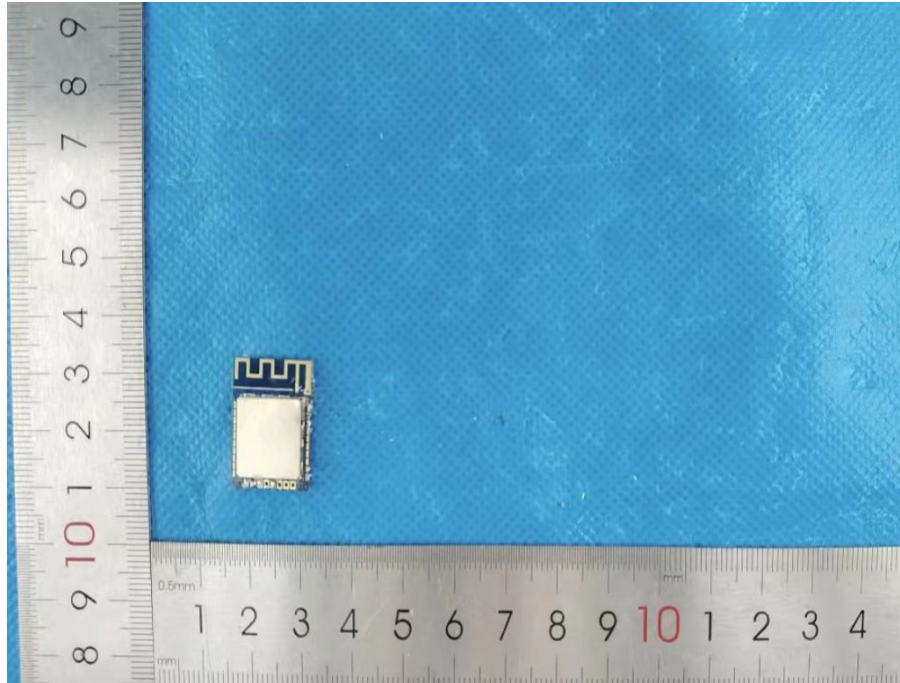


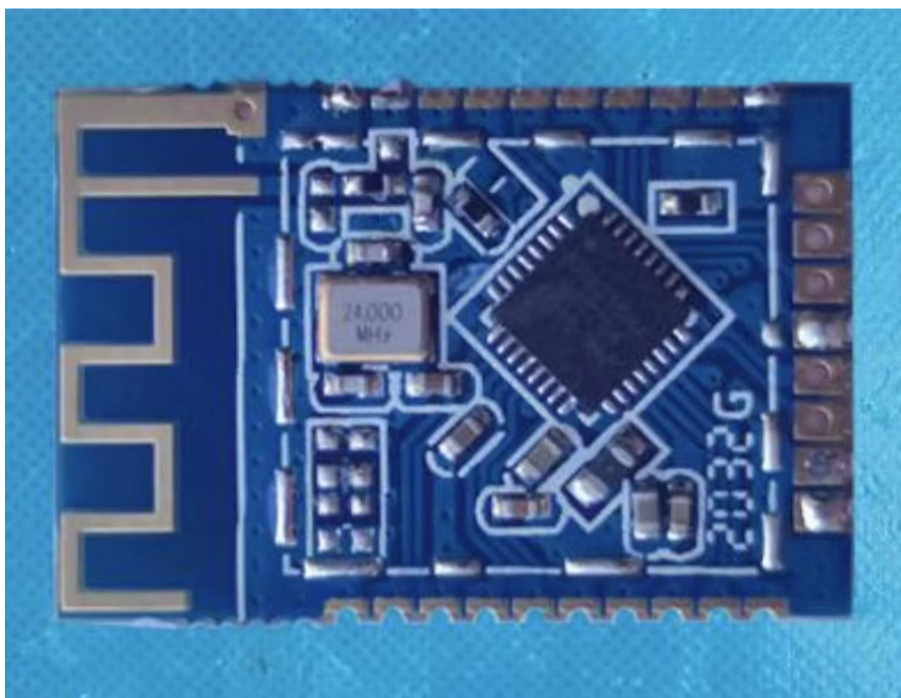
3. Return Loss



Annex C Photographs

1. EUT







Annex D General Information

1.1 Identification of the Responsible Testing Laboratory

Laboratory Name:	Dongguan Chuan OptoElectronics Limited
Laboratory Address:	NO.43 SongShui Road,SongMuShan Village, Dalang Town,DongGuan City,Guangdong,China
Telephone:	+86 769-88342687
Facsimile:	+86 769-88342687

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

1.3.1 List of Test Equipment

NO.	Equipment Name	Serial NO.	Type	Manufa cturer	Cal.Date	Cal.Due Date
1	Vector Network Analyzer	MY46214666	E5071C	Agilent	2021.03.17	2022.03.16
2	OTA Chamber	N/A	SG24	Satimo	2021.01.12	2024.01.11
3	Antenna Measurement System	N/A	Satenv V1.4.1.14 build1	Satimo	N/A	N/A

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