REPORT No.: SZ22070351E01

# TEST REPORT

| | | |
|---|---|---|
| **APPLICANT** | : | GSOU Technology(Shen Zhen)Co., LTD |
| **PRODUCT NAME** | : | BLUETOOTH SPEAKER |
| **MODEL NAME** | : | MF8405 |
| **TRADE NAME** | : | CREATIVE |
| **BRAND NAME** | : | N/A |
| **STANDARD(S)** | : | ANSI/IEEE Std 149-2008 |
| **RECEIPT DATE** | : | 2022-07-29 |
| **TEST DATE** | : | 2022-08-02 |
| **ISSUE DATE** | : | 2022-08-03 |

Edited by: Fang Jinshan(Rapporteur)

Approved by: Chi Shide(Supervisor)

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MORLAB

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# DIRECTORY



| Change History | | |
|---|---|---|
| Version | Date | Reason for change |
| 1.0 | 2022-08-03 | First edition |

# 1.Technical Information

**Note:** Provide by manufacturer.

## 1.1. Applicant and Manufacturer Information

| | |
|---|---|
| **Applicant:** | GSOU Technology(Shen Zhen)Co., LTD |
| **Applicant Address:** | Room 1246, Jiaxiye Plaza, 328 Minzhi Avenue, Longhua Distric.Shenzhen ,China |
| **Manufacturer:** | N/A |
| **Manufacturer Address:** | N/A |

## 1.2. Equipment Under Test (EUT) Description

| | |
|---|---|
| **Wireless Type** | Bluetooth |
| **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 | 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. 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

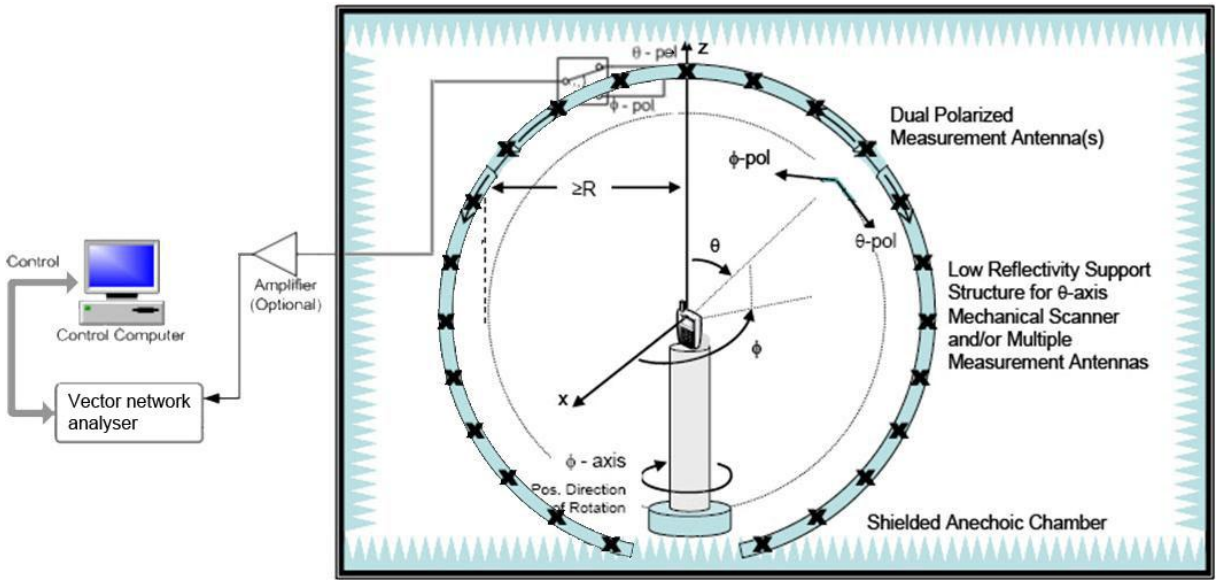
| Frequency(MHz) | Gain(dBi) |
|---|---|
| 2400 | 1.91 |
| 2410 | 2.01 |
| 2420 | 1.90 |
| 2430 | 1.86 |
| 2440 | 1.94 |
| 2450 | 2.04 |
| 2460 | 2.08 |
| 2470 | 2.10 |
| 2480 | 2.07 |
| 2490 | 2.07 |
| 2500 | 2.12 |

### 2.4.2.VSWR

| Frequency(MHz) | VSWR |
|---|---|
| 2400 | 1.25 |
| 2440 | 1.21 |
| 2480 | 1.53 |

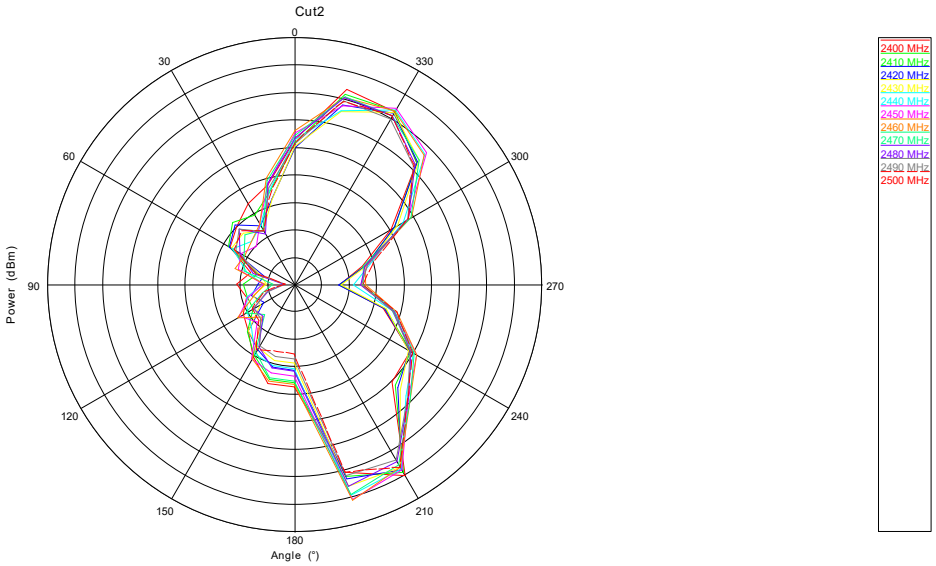
# Annex A Photographs

1. Test Setup



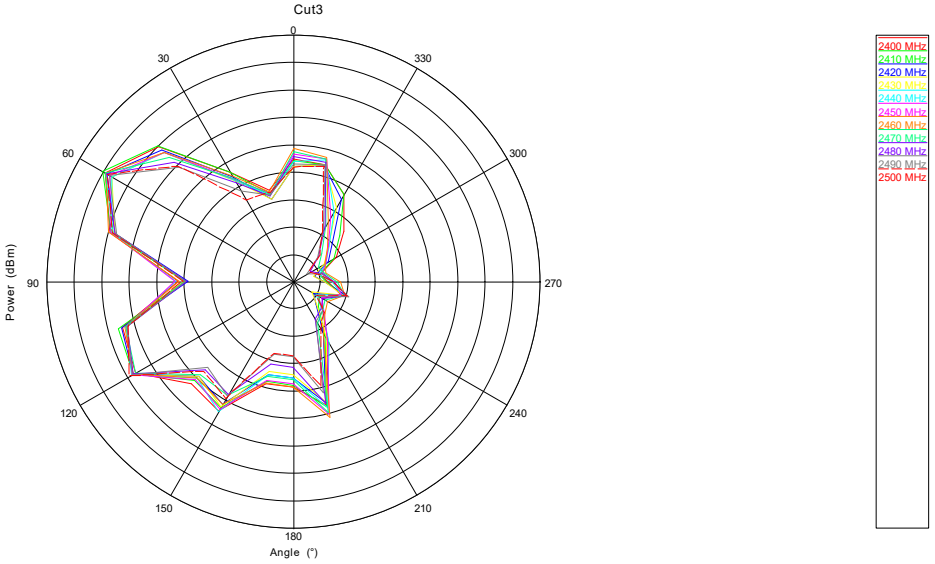
# Annex B Figures

## 1. 2D Radiation Pattern



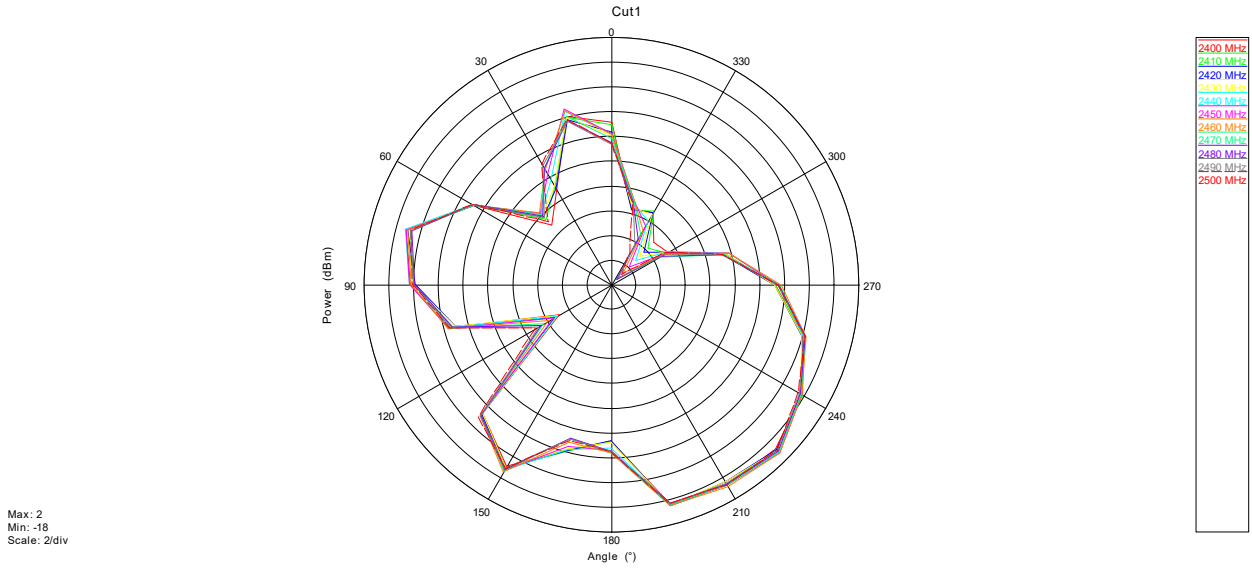

Max: 2
Min: -7
Scale: 1/div

Phi=0°



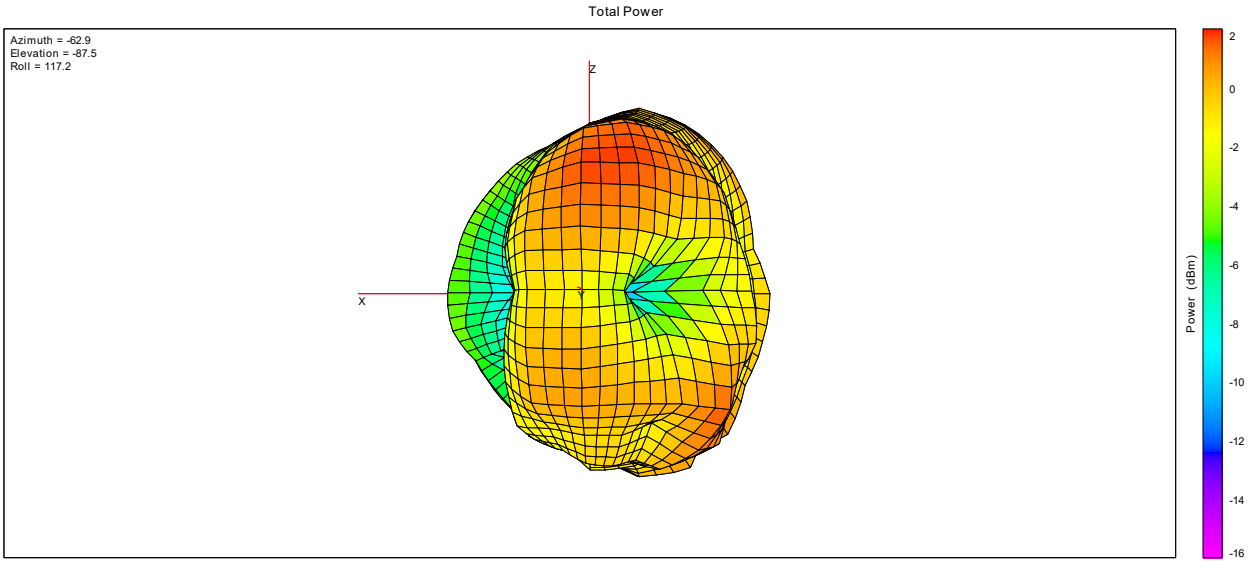

Max: 3
Min: -6
Scale: 1/div

Phi=90°

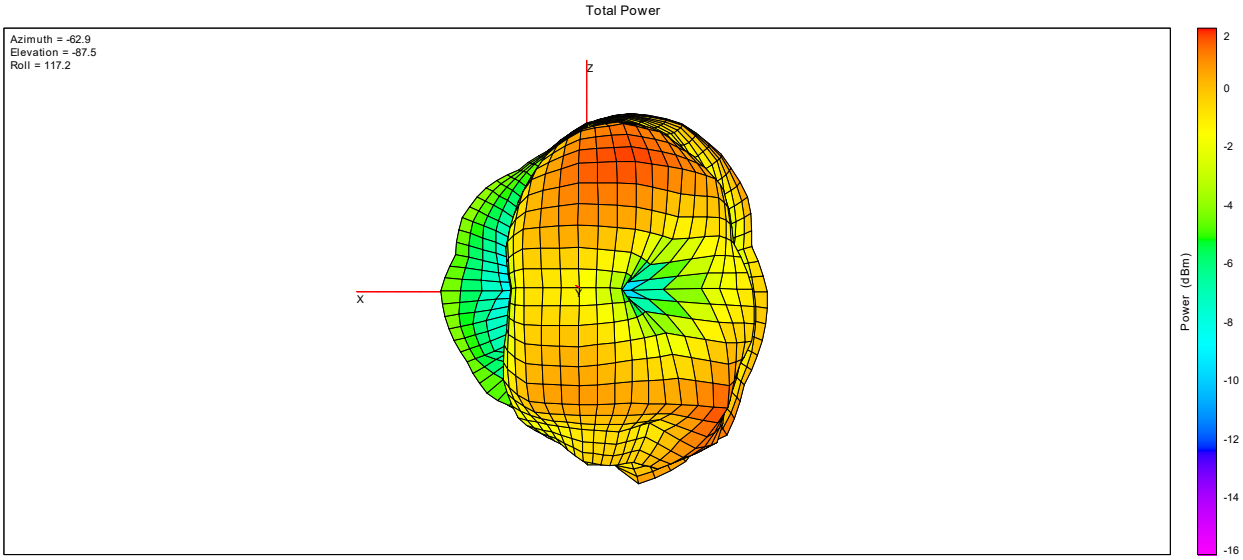



Theta=90°

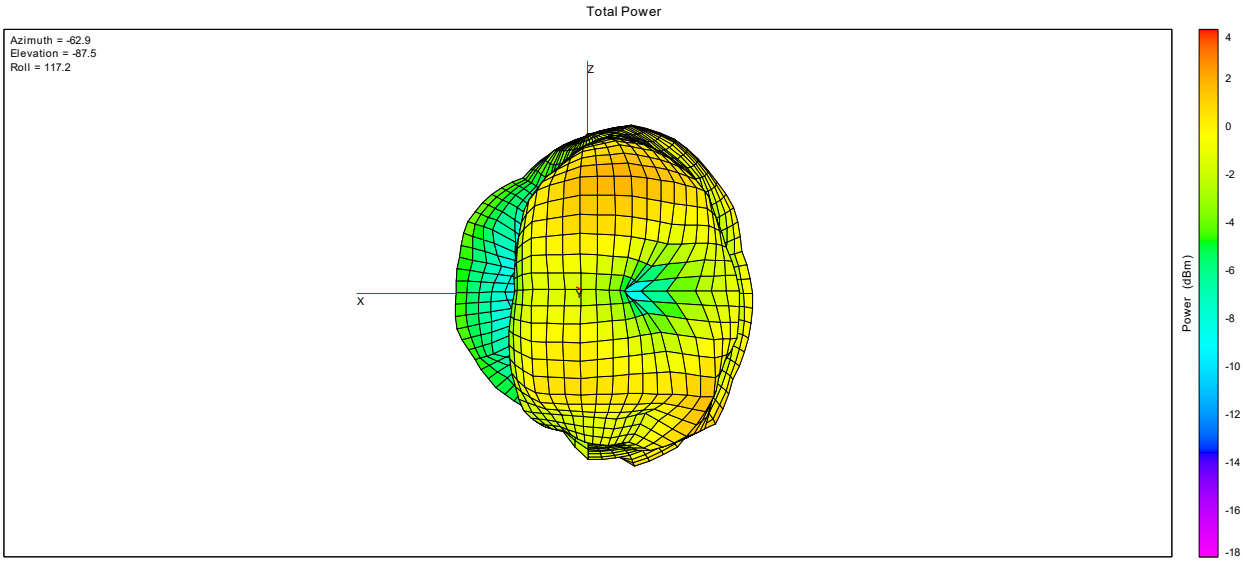
## 2. 3D Radiation Pattern




2400MHz

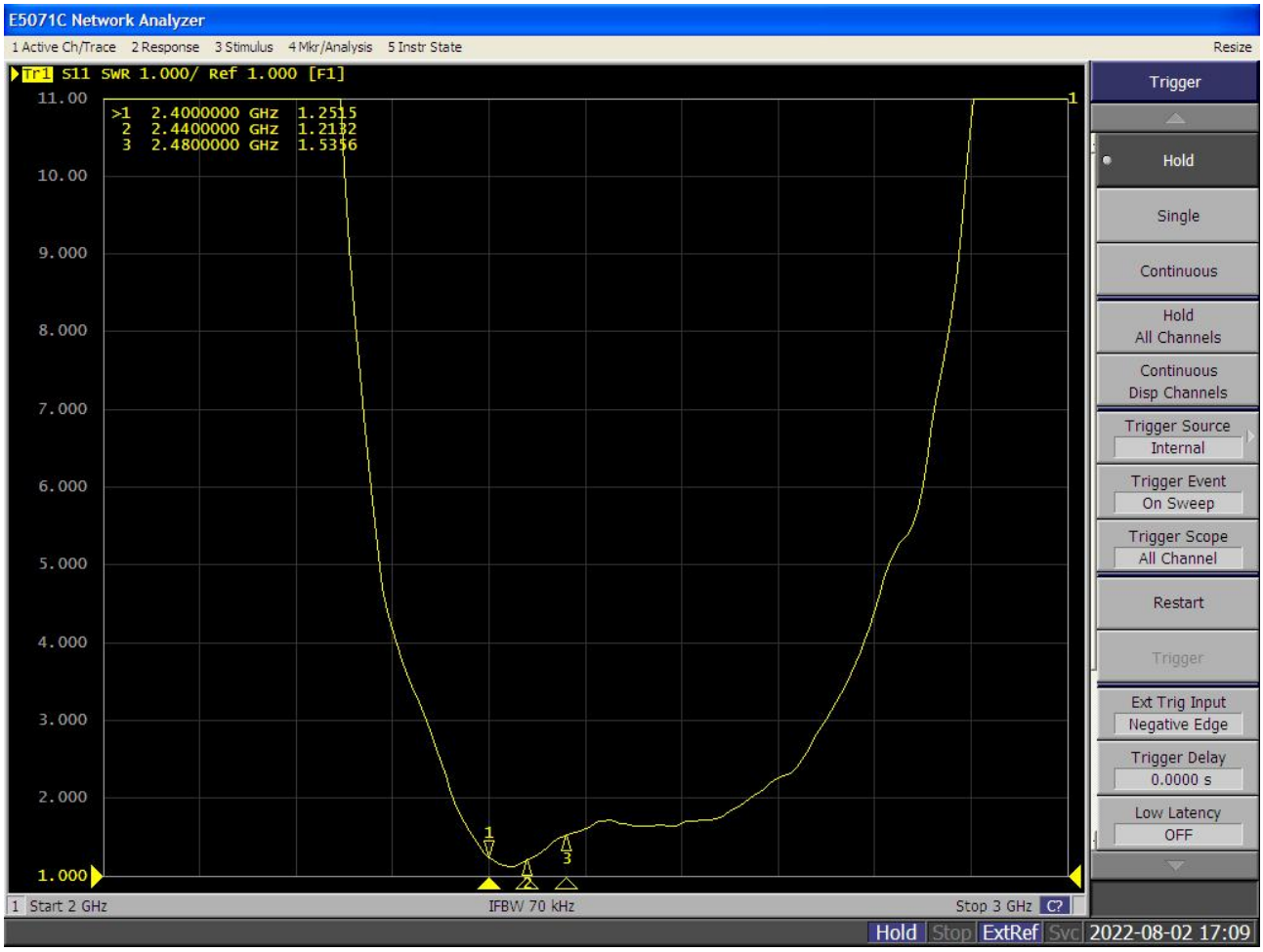



2440MHz



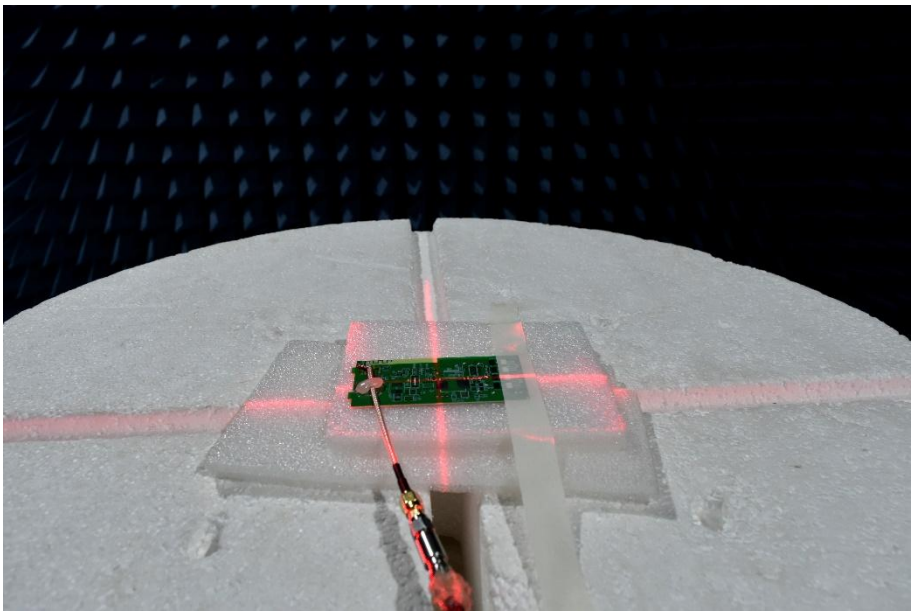

2480MHz

# 3. VSWR

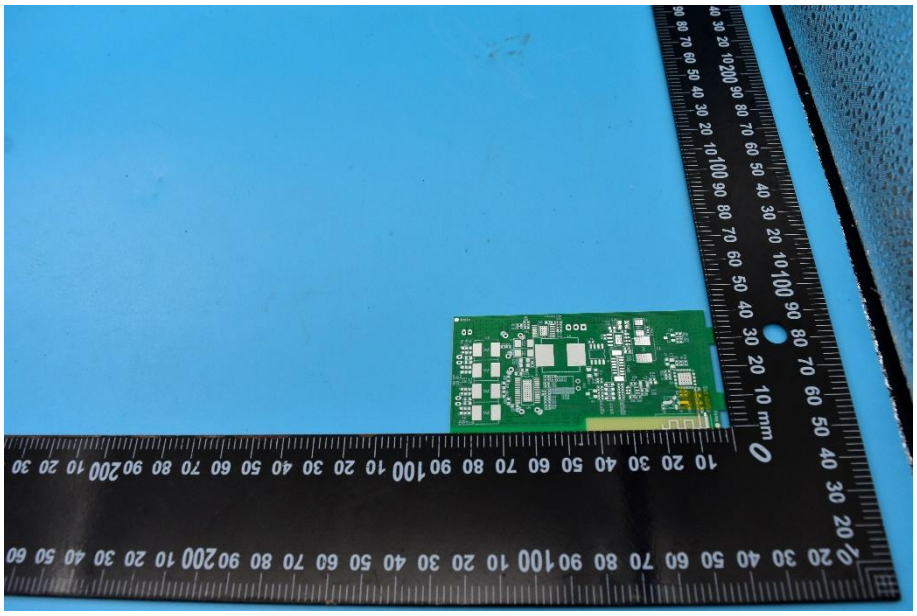

E5071C Network Analyzer
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State
Resize
Tr1 S11 SWR 1.000/ Ref 1.000 [F1]
>1 2.4000000 GHz 1.2515
2 2.4400000 GHz 1.2132
3 2.4800000 GHz 1.5356
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
1 Start 2 GHz
IFBW 70 kHz
Stop 3 GHz
Trigger
Hold
Single
Continuous
Hold All Channels
Continuous Disp Channels
Trigger Source Internal
Trigger Event On Sweep
Trigger Scope All Channel
Restart
Trigger
Ext Trig Input Negative Edge
Trigger Delay 0.0000 s
Low Latency OFF
Hold Stop ExtRef Svc 2022-08-02 17:09

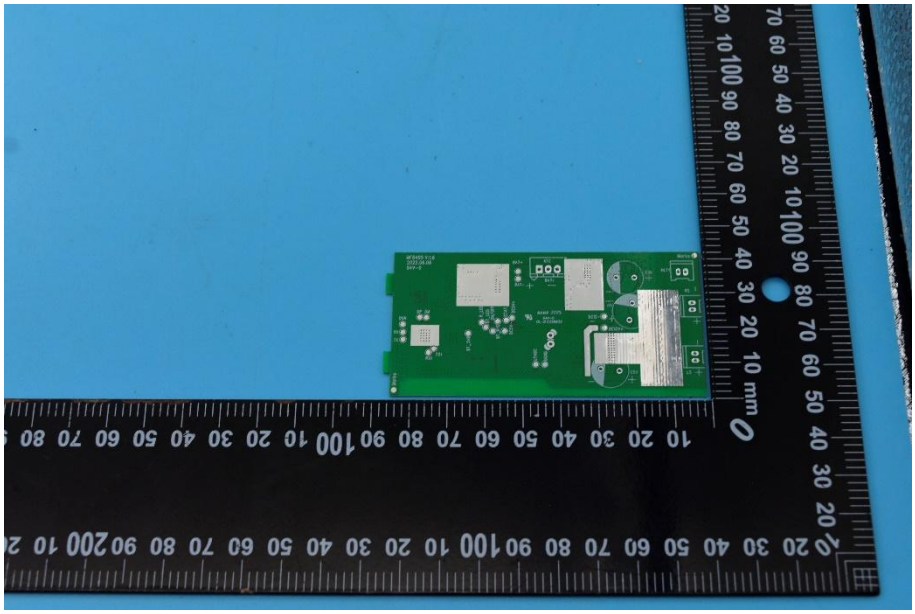
# Annex C Photographs

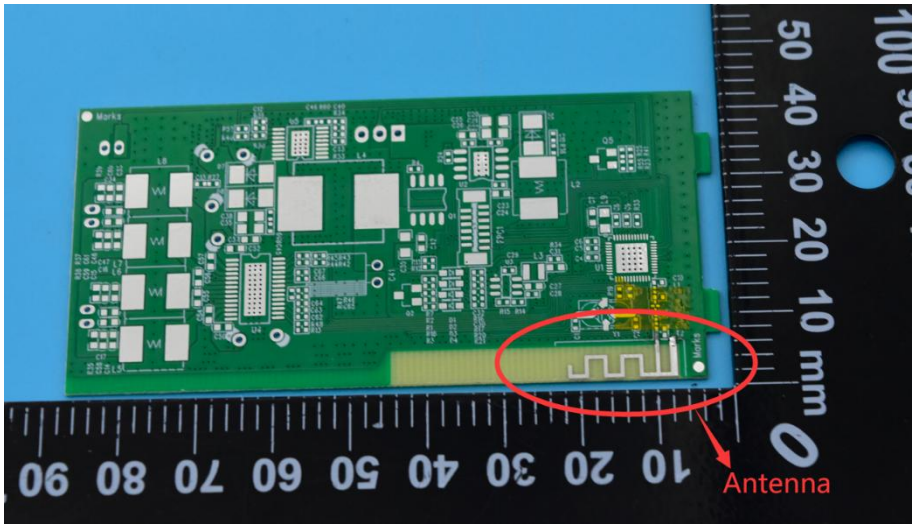
1. Test environment



2. EUT






Antenna

# 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. | Equipement Name | Serial No. | Type | Manufacturer | Cal.Date | Cal.Due Date |
|---|---|---|---|---|---|---|
| 1 | Network Analyzer | MY46110140 | E5071C | Agilent | 2022.07.04 | 2023.07.03 |
| 2 | OTA Chamber | TJ2235-Q1793 | AMS-8923-150 | ETS | 2020.01.06 | 2023.01.05 |
| 3 | Antenna Measurement System | 1685 | EMQuest EMQ-100 V 1.13 Build 21267 | ETS | N/A | N/A |

END OF REPORT