



## Shenzhen Huaxia Testing Technology Co., Ltd.

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# TEST REPORT

**Application No.:** CQASZ20251102607E-01  
**Applicant:** DREO PTE. LTD.  
**Address of Applicant:** 112 ROBINSON ROAD, #03-01, ROBINSON 112, SINGAPORE 068902  
**Manufacturer:** DREO PTE. LTD.  
**Address of Manufacturer:** 112 ROBINSON ROAD, #03-01, ROBINSON 112, SINGAPORE 068902  
**Factory:** Ningbo Biyi Technology Co., Ltd.  
**Address of Factory:** No.106. Binhai Avenue, Xiaocao'e Town, YUYAO Zhejiang 315400 CHINA  
**Factory:** FUHAODA (THAILAND) CO., LTD.  
**Address of Factory:** 247/8 Moo.10 Nonglakok Subdistrict, BAAN KAI DISTRICT Rayong 21120, THAILAND  
**Equipment Under Test (EUT):**  
**Product:** Smart Town Fan  
**Model No.:** DR-HTF009S, DWTF09S  
**Test Model No.:** DR-HTF009S  
**Brand Name:** DREO, DREO HOME  
**Standards:** Item 19 of Article 2 Paragraph 1  
**Date of Receipt:** 2025-11-14  
**Date of Test:** 2025-11-14 to 2025-11-27  
**Date of Issue:** 2025-12-09  
**Test Result :** **PASS\***  
Test Method: MIC Notice No.88 Appendix No.43

**Tested By:**

*Lewis Zhou*

( Lewis Zhou )

**Reviewed By:**

*Timo Lei*

( Timo Lei )

**Approved By:**

*Jack Ai*

( Jack Ai )



\* In the configuration tested, the EUT complied with the standards specified above.

The test report is effective only with both signature and specialized stamp. The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.

## 1 Version

Revision History Of Report

| Report No.           | Version | Description    | Issue Date |
|----------------------|---------|----------------|------------|
| CQASZ20251102607E-01 | Rev.01  | Initial report | 2025-12-09 |

## 2 Test Summary

| Test                               | Test Requirement       | Result |
|------------------------------------|------------------------|--------|
| Frequency Error                    | Item 19 of Article 2-1 | PASS   |
| Occupied Bandwidth                 | Item 19 of Article 2-1 | PASS   |
| Antenna Power                      | Item 19 of Article 2-1 | PASS   |
| Spurious Emission of Tx            | Item 19 of Article 2-1 | PASS   |
| Interference prevention capability | Item 19 of Article 2-1 | PASS   |
| RF accessibility                   | Item 19 of Article 2-1 | PASS   |
| Spurious Emission of Rx            | Item 19 of Article 2-1 | PASS   |

**Remark:**

EUT: In this whole report EUT means Equipment Under Test.

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radio Frequency.

Other: NV-Normal voltage, HV-High voltage, LV-Low voltage, NTNV-Normal temperature & normal voltage

### 3 Contents

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## 4 General Information

### 4.1 General Description of E.U.T.

Product Name: Smart Town Fan  
Model No: DR-HTF009S, DWTF09S  
Test Model No: DR-HTF009S  
Trade Mark: DREO, DREO HOME

### 4.2 Details of E.U.T.

Operating Frequency: 2402 MHZ to 2480 MHZ  
Type of Modulation: GFSK  
Number of Channels: 40 Channels  
Bluetooth Version: 5.2  
Software version: V1.0  
Hardware version: PAI-051 V1.2 20210824  
Radio type: ☐ FHSS ☐ DSSS ☐ OFDM ☒ Other  
Antenna Type: FPC antenna  
Antenna gain: 5.8 dBi  
Rated power: 2.1mW  
Speciality: BLE  
Transfer Rate: 1Mbps  
Sample Type: Portable product  
Power Supply: ☒ For EUT operation: AC 100V  
☐ For other: Charge by DC5.0V  
Test Voltage: ☒ Normal voltage (EUT operation): AC 100V  
☐ Low voltage (Normal voltage -10%):  
☐ High voltage (Normal voltage+10%):

### 4.3 Description of Support Units

The EUT has been tested independently.

| Description | Manufacturer | Model No. | Remark |
|-------------|--------------|-----------|--------|
| /           | /            | /         | /      |

### 4.4 Deviation from Standards

None.

### 4.5 Abnormalities from Standard Conditions

None.

### 4.6 Other Information Requested by the Customer

None.

### 4.7 Test Location

All tests were performed at:

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District,  
Shenzhen, China

## 4.8 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L5785)**

CNAS has accredited Shenzhen Huaxia Testing Technology Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **ISED Registration No.: 22984-1**

The 3m Semi-anechoic chamber of Shenzhen Huaxia Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

- **A2LA (Certificate No. 4742.01)**

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

## 5 Equipment List

| Test Equipment List     |                    |           |            |                           |                                                                    |                    |
|-------------------------|--------------------|-----------|------------|---------------------------|--------------------------------------------------------------------|--------------------|
| Test Equipment          | Manufacturer       | Model No. | Serial No. | Cal. date<br>(yyyy-mm-dd) | Calibration<br>body                                                | Classificati<br>on |
| Humi/ Temp<br>Indicator | ANPUHUA            | HTC-1     | 212066     | 2026/8/31                 | CCIC<br>(Shenzhen)<br>Metrology &<br>Testing<br>Service<br>Co.,Ltd | (c)                |
| Spectrum Analyzer       | Rohde &<br>Schwarz | FSU26     | 200019     | 2026/8/31                 | CCIC<br>(Shenzhen)<br>Metrology &<br>Testing<br>Service<br>Co.,Ltd | (c)                |
| Multimeter              | Fluke              | 15B       | 96710318   | 2026/8/31                 | CCIC<br>(Shenzhen)<br>Metrology &<br>Testing<br>Service<br>Co.,Ltd | (c)                |
| Signal generator        | ANRITSU            | MG3692B   | 074702     | 2026/8/31                 | CCIC<br>(Shenzhen)<br>Metrology &<br>Testing<br>Service<br>Co.,Ltd | (c)                |
| DC Power Supply         | GW                 | GPC3030D  | A671672    | 2026/8/31                 | CCIC<br>(Shenzhen)<br>Metrology &<br>Testing<br>Service<br>Co.,Ltd | (c)                |

Remark:

(a) Calibration conducted by the National Institute of Information and Communications Technology (NICT) in Japan (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1) in JRL.

(b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act

No. 51 of 1992) .

- (c) Calibration conducted in countries except Japan, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1).
- (d) Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No. 3, which shall have been given any type of calibration, etc. listed above from (a) to (c).  
From JRL Article 24-2, paragraph 4, Item 2

**Notice: Calibration duration for above equipments is 1 year.**

## 6 Test Results

### 6.1 Radio Technical Requirements Specification

**Table 1: Radio Technical Requirements Specification for 2.4 GHz band wide-band low-power data communication system (Item 19 of Article 2-1)**

| Items                                       | Technical standard                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assigned frequency or designated frequency  | 2400-2483.5MHz                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Communication method                        | One-way communication, simplex, semi-duplex, or duplex operation of digital signal transmission including spread spectrum                                                                                                                                                                                                                                                                                                       |
| Tolerance of frequency ( $\times 10^{-6}$ ) | $\pm 50$                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Tolerance of occupied bandwidth             | FH: 83.5MHz or less<br>FH + DS: 83.5MHz or less<br>FH + OFDM: 83.5MHz or less<br>OFDM 40MHz System: 26~40MHz<br>Others: 26MHz or less                                                                                                                                                                                                                                                                                           |
| Antenna power                               | Designated value<br>(1) FH, FH+DS, FH+OFDM: 3mW/MHz<br>(used in the range of 2427 - 2470.75 MHz)<br>(2) OFDM, DS other than (1) 10mW/MHz<br>(3) Other than (1) & (2) 10mW<br>(4) OFDM OBW 26 - 38MHz: 5mW/MHz<br>Tolerance: +20%                                                                                                                                                                                                |
| Antenna gain                                | 1) 12.14 dBi or less in principle<br>2) In case of directional antenna<br>(1) FH, FH+DS or FH+OFDM using 2427-2470.75 MHz<br>EIRP $\leq$ 16.91 dBm/MHz<br>(2) OFDM or DS other than (1) EIRP $\leq$ 22.14 dBm/MHz<br>(3) Other than (1) and (2): 22.14 dBm or less<br>(4) OFDM OBW 26 - 38MHz: 19.14dBm/MHz<br>(5) Half-power angle of directional antenna (e) in case of the item 2): $e \leq 360/A$ (The A is 10 in maximum.) |
| Tolerance of spurious emission intensity    | (1) Below 2387 MHz: 2.5 $\mu$ W/MHz<br>(2) 2387 to 2400 MHz: 25 $\mu$ W/MHz<br>(3) 2483.5 through 2496.5 MHz: 25 $\mu$ W/MHz<br>(4) Over 2496.5 MHz: 2.5 $\mu$ W/MHz                                                                                                                                                                                                                                                            |
| Spreading bandwidth                         | DS, FH, FH+DS, FH+OFDM: 500kHz or more                                                                                                                                                                                                                                                                                                                                                                                          |
| Spreading rate of spectrum                  | For DS system; (Spreading bandwidth) / (Frequency corresponding to                                                                                                                                                                                                                                                                                                                                                              |

|                                       |                                                                                                         |
|---------------------------------------|---------------------------------------------------------------------------------------------------------|
|                                       | transmission rate) $\geq 5$                                                                             |
| limit of secondary radiated emissions | (1) Below 1 GHz: 4nW<br>(2) 1 GHz or higher: 20nW                                                       |
| Interference prevention function      | Shall have the function of automatic transmission and reception of identification sign.                 |
| Structure                             | Shall be of the structure that the RF and modulator sections excluding antenna cannot easily be opened. |
| Note                                  | DS: Direct spread<br>FH: Frequency hopping<br>OFDM: Orthogonal frequency division multiplexing          |

## 6.2 E.U.T. Test Conditions

**Power Supply:** The fluctuation of input voltage to the circuit of RF unit of test equipment is under  $\pm 1\%$ , when input voltage to the test equipment is fluctuated by  $\pm 10\%$ , So, all measurement has been conducted by only rated voltage.

| The measurement result of the voltage fluctuation at RF circuit |                              |                      |
|-----------------------------------------------------------------|------------------------------|----------------------|
|                                                                 | EUT Voltage<br>for operation | RF Circuitry Voltage |
| High voltage                                                    | 110V                         | 3.3V                 |
| Normal voltage                                                  | 100V                         | 3.3V                 |
| Low voltage                                                     | 90V                          | 3.3V                 |

**Temperature:** 5 -35.0 °C

**Humidity:** 45-85 % RH

**Atmospheric Pressure:** 1000 -1010 mbar

**Test Frequencies:** If the EUT can be set to 3 or more different (carrier) frequencies in 1 allocated band, testing shall be performed using the Lowest, Middle and the Highest frequency (L, M and H). If there are 2 or fewer frequencies, testing shall be performed with the available frequencies.

**Operation Frequency each of channel**

| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|---------|-----------|---------|-----------|
| 0       | 2402MHz   | 10      | 2422MHz   | 20      | 2442MHz   | 30      | 2462MHz   |
| 1       | 2404MHz   | 11      | 2424MHz   | 21      | 2444MHz   | 31      | 2464MHz   |
| 2       | 2406MHz   | 12      | 2426MHz   | 22      | 2446MHz   | 32      | 2466MHz   |
| 3       | 2408MHz   | 13      | 2428MHz   | 23      | 2448MHz   | 33      | 2468MHz   |
| 4       | 2410MHz   | 14      | 2430MHz   | 24      | 2450MHz   | 34      | 2470MHz   |
| 5       | 2412MHz   | 15      | 2432MHz   | 25      | 2452MHz   | 35      | 2472MHz   |
| 6       | 2414MHz   | 16      | 2434MHz   | 26      | 2454MHz   | 36      | 2474MHz   |
| 7       | 2416MHz   | 17      | 2436MHz   | 27      | 2456MHz   | 37      | 2476MHz   |
| 8       | 2418MHz   | 18      | 2438MHz   | 28      | 2458MHz   | 38      | 2478MHz   |
| 9       | 2420MHz   | 19      | 2440MHz   | 29      | 2460MHz   | 39      | 2480MHz   |

Test frequencies are the lowest channel: 0 channel(2402MHz), middle channel: 19 channel(2440MHz) and the highest channel:39 channel(2480 MHz).

## 6.3 Test Environment

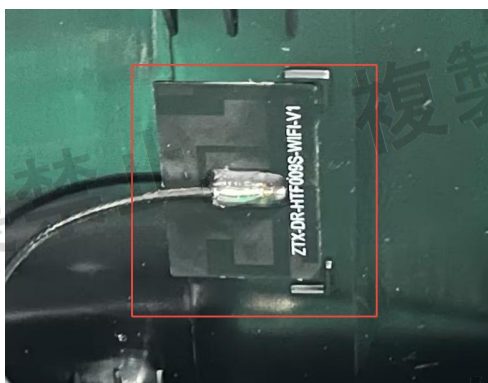
| Operating Environment: |           |
|------------------------|-----------|
| Temperature:           | 24.5°C    |
| Humidity:              | 54 % RH   |
| Atmospheric Pressure:  | 1009 mbar |

## 6.4 Antenna Requirement

### Standard requirement

Applicable for equipment with an antenna terminal, including testing terminals) If an antenna connector is available, all relevant tests will be carried out conducted. If not, tests will be carried out in an anechoic room or with a suitable test-fixture.

### EUT Antenna



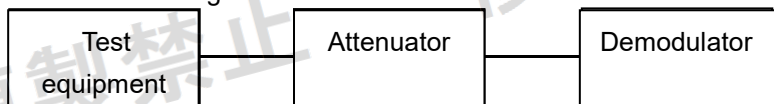
The EUT with FPC antenna, the max peak gain of the antenna is 5.8dBi.

Note: An antenna connector is available, all relevant tests will be carried out conducted.

## 6.5 Interference Prevention Function

### 1) Measurement system diagram

#### (1) When transmitting identification code



### 2) Condition of measuring instrument

(1) Demodulator must be able to demodulate the transmitting signal emitted by test equipment and to indicate the identification code.

### 3) Condition of test equipment The mode of normal use.

### 4) Measuring operation procedure

(1) When test equipment has the function to transmit identification code automatically:

A) Transmit the predetermined identification code from test equipment.

B) Confirm the transmitted identification code by demodulator.

### 5) Test result: Record the identification code and test result.

Test result: PASS

The identification code is 41:2C:1E:3D:B5:15

The unit does meet the requirements.

## 6.6 Frequency Error

Test Requirement: Item 19 of Article 2-1  
Tolerance of frequency:  $\pm 50 \times 10^{-6}$

Test Method: MIC Notice No.88 Appendix No.43

Test Status: Test the EUT in transmitting mode without modulation.

Test Configuration:



Test Procedure:

1. Test Conditions:  
Spectrum Analyzer is used for measurement.
2. EUT conditions:  
Modulation/Spread/Hopping OFF, CW Tx
3. Spectrum Analyzer conditions:  
Frequency: Test Frequency  
Span 1MHz  
RBW 10 kHz (Modulation OFF),  
VBW 10 kHz (Modulation OFF),  
Sweep Time Auto  
Detector mode Positive peak  
Indication mode Max hold

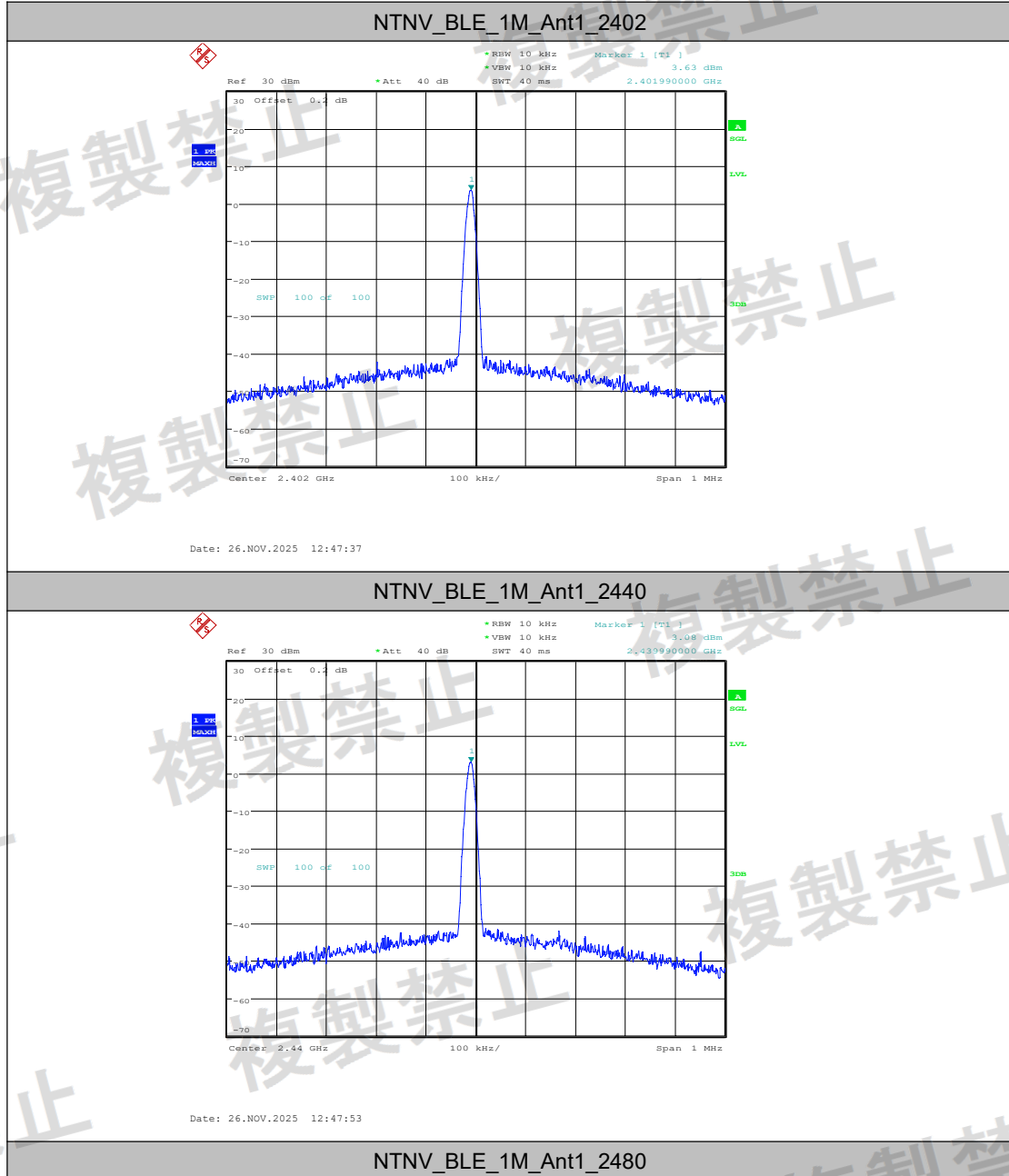
**Test Result:**

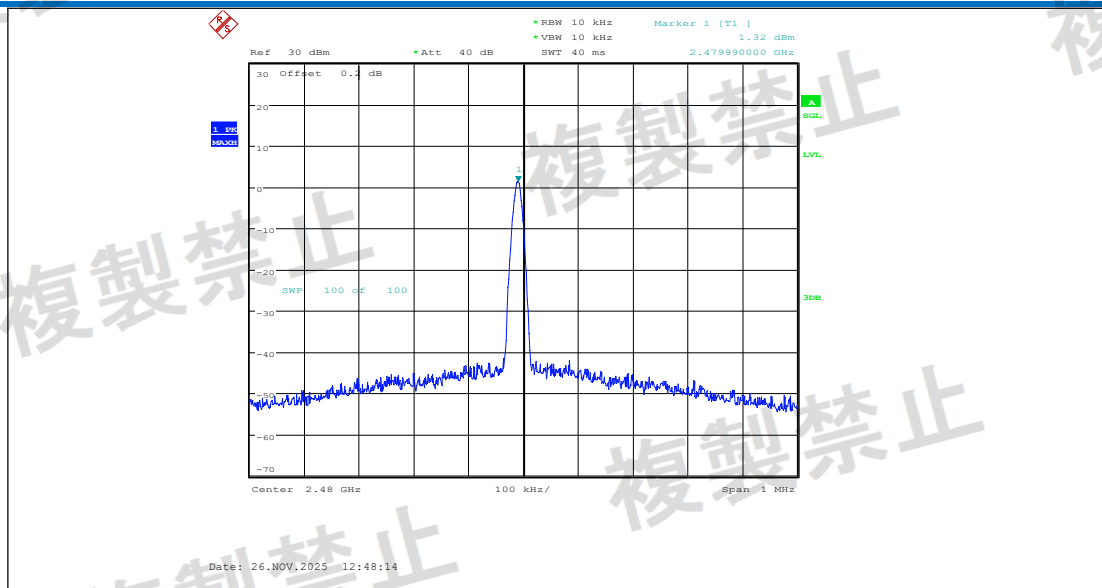
**BLE :**

| TestCondition | TestMode | Freq(MHz) | Result<br>[ppm] | Test Freq<br>(MHz) | Limit<br>[ppm] | Verdict |
|---------------|----------|-----------|-----------------|--------------------|----------------|---------|
| NTNV          | BLE_1M   | 2402      | -4.16320        | 2401.99            | ±50            | PASS    |
|               |          | 2440      | -4.09836        | 2439.99            | ±50            | PASS    |
|               |          | 2480      | -4.03226        | 2479.99            | ±50            | PASS    |

Note: The nominal frequency shall be confirmed by the applicant and test lab.

Result plot as follows:





**Test Result: The unit does meet the requirements.**

## 6.7 Occupied Bandwidth (99%)

Test Requirement: Item 19 of Article 2-1  
26MHz or less

Test Method: MIC Notice No.88 Appendix No.43

Test Status: Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).  
Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



Test Procedure:

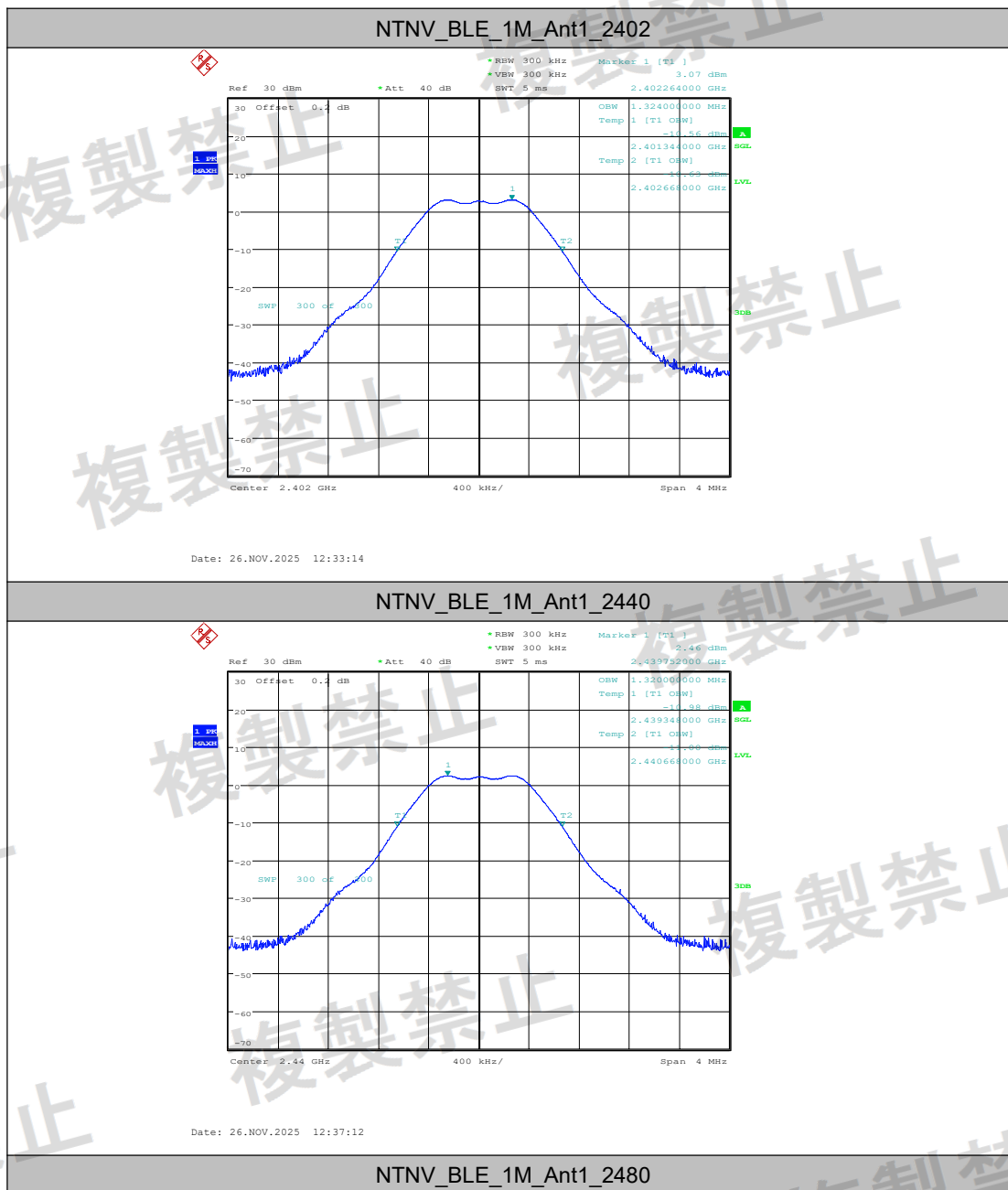
1. Test Conditions:  
Spectrum Analyzer is used for measurement.
2. EUT conditions:  
Modulation/Spread/Hopping ON, Modulation Tx  
For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.
3. Spectrum Analyzer conditions:  
Frequency: Lowest, Middle and Highest Test Frequency  
Span 4 MHz  
RBW 300 KHz  
VBW 300 KHz  
Sweep Time Auto  
detector mode Positive peak  
Indication mode Max hold  
OBW 99%

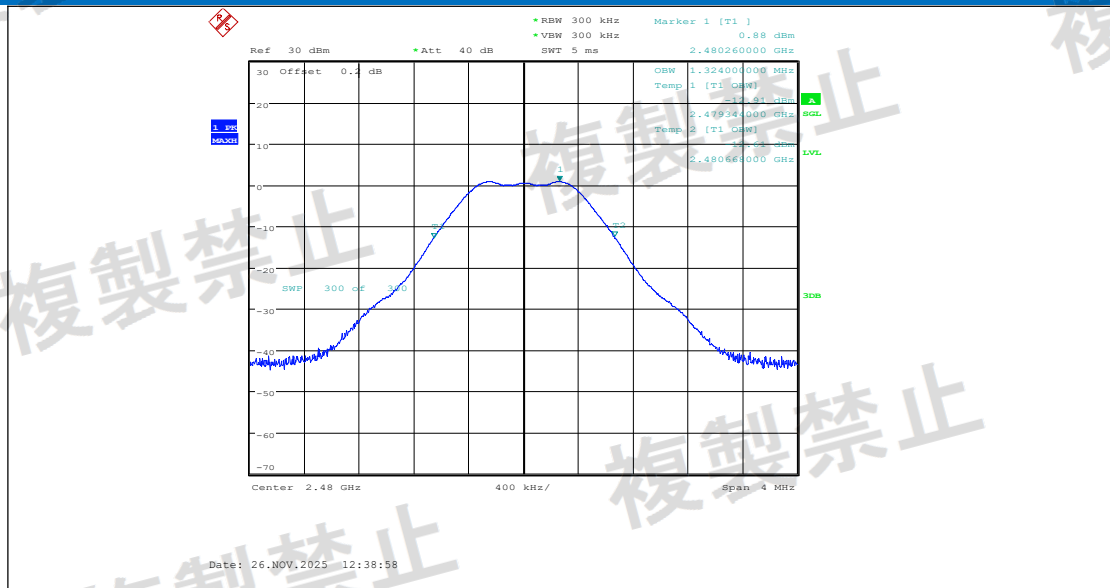
Test Result:

BLE :

| TestCondition | TestMode | Freq(MHz) | Result [MHz] | Limit [MHz] | Verdict |
|---------------|----------|-----------|--------------|-------------|---------|
| NTNV          | BLE_1M   | 2402      | 1.324        | ≤26         | PASS    |
|               |          | 2440      | 1.320        | ≤26         | PASS    |
|               |          | 2480      | 1.324        | ≤26         | PASS    |

Result plot as follows:





Test Result: The unit does meet the requirements.

## 6.8 Antenna Power

|                   |                                                                                                                                                                                                                                                                                       |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | Item 19 of Article 2-1                                                                                                                                                                                                                                                                |
| Test Method:      | MIC Notice No.88 Appendix No.43                                                                                                                                                                                                                                                       |
| Test Status:      | Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).<br>Following channel(s) was (were) selected for the final test as listed below. |

Test Configuration:



Test Procedure:

1. Test Conditions:  
Spectrum Analyzer is used for measurement.
2. EUT conditions:  
Modulation/Spread/Hopping ON, Modulation Tx  
For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.
3. Spectrum Analyzer conditions:

Step 1:

Connect the UUT to the spectrum analyzer as TEST CONFIGURATION and use the following settings:

- Centre Frequency: The centre frequency of the channel under test.
- RBW: 1 MHz
- VBW: 1 MHz
- Span: Wide enough to cover the complete power envelope of the signal of the UUT.
- Detector: Peak
- Trace Mode: Max Hold

Step 2:

When the trace is complete, find the peak value of the power envelope and record the frequency.

Step 3:

Make the following changes to the settings of the spectrum analyzer:

- Centre Frequency: Equal to the frequency recorded in step 2.
- Span: 0 MHz
- RBW: 1 MHz
- VBW: 1 MHz
- Trace Mode: Max Hold

**Test Result:**

| Antenna Power |          |         |           |              |            |           |         |
|---------------|----------|---------|-----------|--------------|------------|-----------|---------|
| TestCondition | TestMode | Antenna | Freq(MHz) | Result (dBm) | Result(mW) | Limit(mW) | Verdict |
| NTNV          | BLE_1M   | Ant1    | 2402      | 3.21         | 2.0941     | ≤10       | PASS    |
|               |          |         | 2440      | 2.75         | 1.8836     | ≤10       | PASS    |
|               |          |         | 2480      | 1.09         | 1.2853     | ≤10       | PASS    |

| Tolerance      |           |         |            |            |                 |            |           |         |
|----------------|-----------|---------|------------|------------|-----------------|------------|-----------|---------|
| Test Condition | Test Mode | Antenna | Freq (MHz) | Power (mW) | RatedPower (mW) | Result (%) | Limit (%) | Verdict |
| NTNV           | BLE_1M    | Ant1    | 2402       | 2.0941     | 2.1             | -0.28      | +20       | PASS    |
|                |           |         | 2440       | 1.8836     | 2.1             | -10.30     | +20       | PASS    |
|                |           |         | 2480       | 1.2853     | 2.1             | -38.80     | +20       | PASS    |

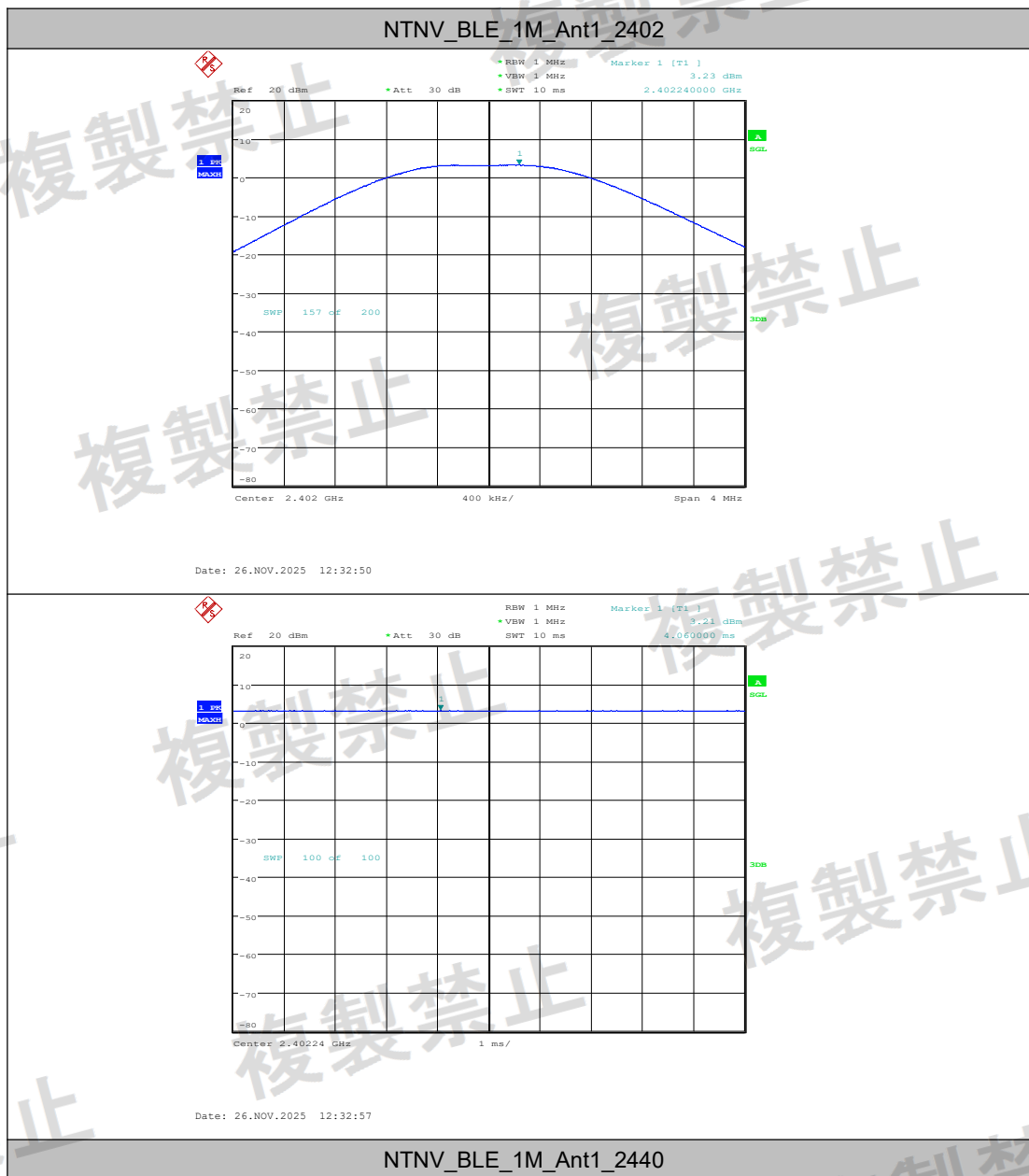
| EIRP          |          |         |           |             |           |             |         |
|---------------|----------|---------|-----------|-------------|-----------|-------------|---------|
| TestCondition | TestMode | Antenna | Freq(MHz) | Result(dBm) | EIRP(dBm) | Limit (dBm) | Verdict |
| NTNV          | BLE_1M   | Ant1    | 2402      | 3.21        | 9.01      | ≤12.14      | PASS    |
|               |          |         | 2440      | 2.75        | 8.55      | ≤12.14      | PASS    |
|               |          |         | 2480      | 1.09        | 6.89      | ≤12.14      | PASS    |

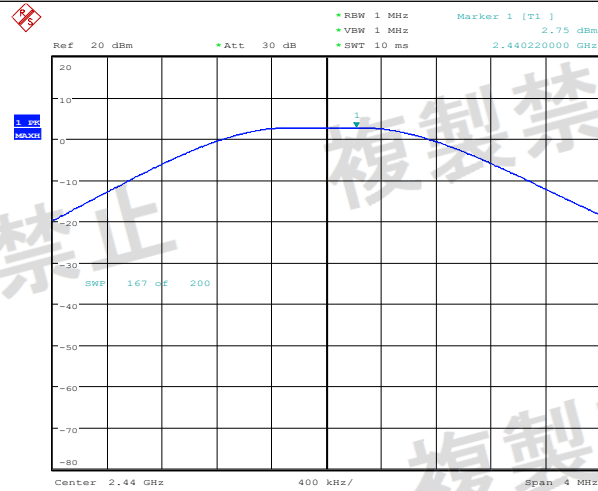
**Note:**

Antenna Power adds a duty cycle factor

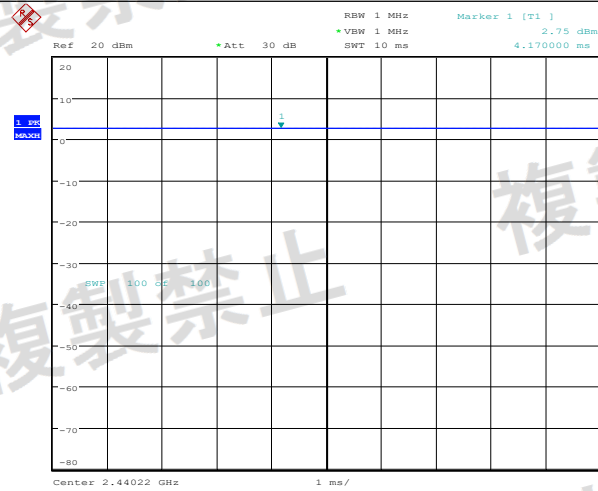
Rated power: 2.1mW

Result plot as follows:



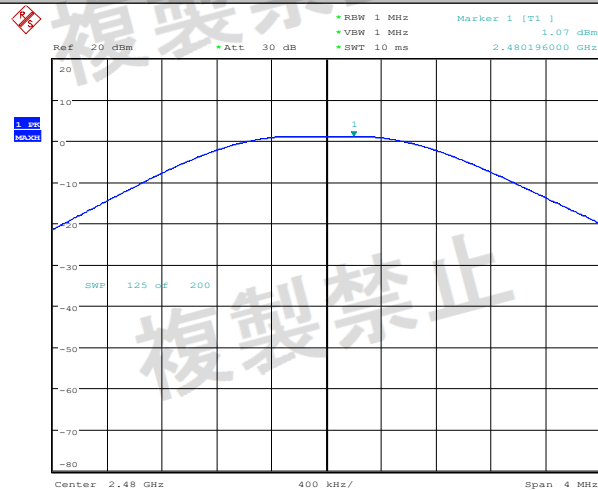


Date: 26.NOV.2025 12:36:48

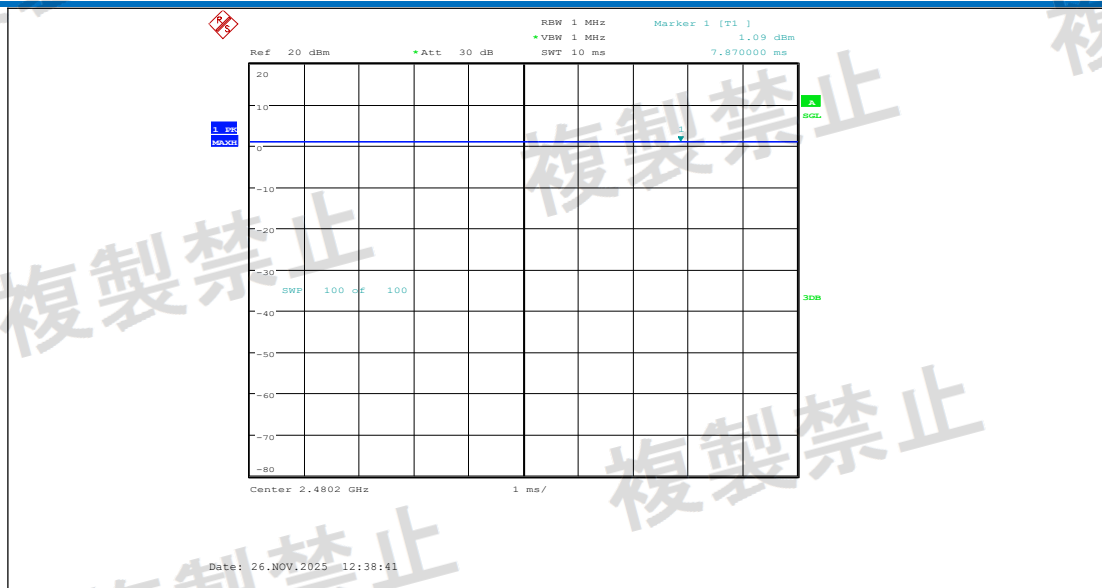


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### NTNV\_BLE\_1M\_Ant1\_2480

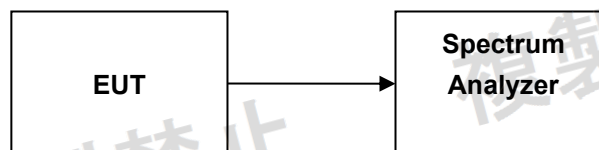


Date: 26.NOV.2025 12:38:34



## 6.9 Spurious Emissions of Tx

|                     |                                                                                                                                                                                                                                                                                       |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement:   | Item 19 of Article 2-1                                                                                                                                                                                                                                                                |
| Test Method:        | MIC Notice No.88 Appendix No.43<br>(1) Below 2387 MHz: 2.5 $\mu$ W/MHz<br>(2) 2387 to 2400 MHz: 25 $\mu$ W/MHz<br>(3) 2483.5 through 2496.5 MHz: 25 $\mu$ W/MHz<br>(4) Over 2496.5 MHz: 2.5 $\mu$ W/MHz                                                                               |
| Test Status:        | Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).<br>Following channel(s) was (were) selected for the final test as listed below. |
| Test Configuration: |                                                                                                                                                                                                                                                                                       |



|                                  |                                                                                                                                                                    |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Procedure:                  |                                                                                                                                                                    |
| 1. Test Conditions:              | Spectrum Analyzer is used for measurement.                                                                                                                         |
| 2. EUT conditions:               | Modulation/Spread/Hopping ON, , Modulation Tx<br>For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal. |
| 3. Spectrum Analyzer conditions: | Step 1<br>All spurious are measured from 30 MHz to 13 GHz by peak mode.<br>Step 2<br>IF the value measured by Step1 is 2 dB or less, measure in average mode.      |

Test setup for Step 1:

Frequency: 30 MHz – 1000 MHz

RBW 100 KHz

VBW 100 KHz

Sweep Time Auto

detector mode Positive peak

Indication mode Max hold

Frequency: 1000 MHz – 2400 MHz , 2483.5 MHz –13 GHz

RBW 1 MHz

VBW 1 MHz

Sweep Time Auto

detector mode Positive peak

Indication mode Max hold

Test setup for Step 2:

Frequency: Spurious Frequency

RBW 1 MHz

VBW 1 MHz

Sweep Time Auto

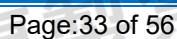
detector mode Sample

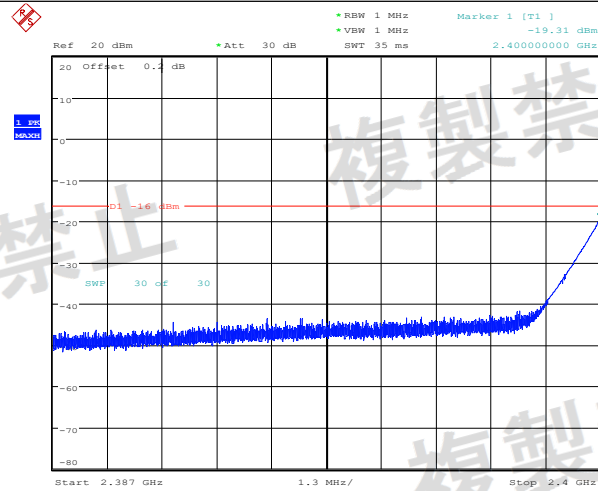
Indication mode Max hold

### 6.9.1 Test Result

| TestMode | Freq (MHz) | Freq.Range [MHz] | Freq [MHz] | Result [dBm/MHz] | Limit [dBm/MHz] | Result [μW/MHz] | Limit [μW/MHz] | Verdict |
|----------|------------|------------------|------------|------------------|-----------------|-----------------|----------------|---------|
| BLE_1M   | 2402       | 30~1000          | 87.96      | -59.88           | ≤-26            | 0.00103         | ≤2.5           | PASS    |
|          |            | 1000~2387        | 2383.01    | -47.19           | ≤-26            | 0.01910         | ≤2.5           | PASS    |
|          |            | 2387~2400        | 2400.00    | -19.31           | ≤-16            | 11.72195        | ≤25            | PASS    |
|          |            | 2483.5~2496.5    | 2484.30    | -46.88           | ≤-16            | 0.02051         | ≤25            | PASS    |
|          |            | 2496.5~13000     | 2561.62    | -57.68           | ≤-26            | 0.00171         | ≤2.5           | PASS    |
|          | 2440       | 30~1000          | 125.42     | -60.26           | ≤-26            | 0.00094         | ≤2.5           | PASS    |
|          |            | 1000~2387        | 2353.89    | -48.04           | ≤-26            | 0.01570         | ≤2.5           | PASS    |
|          |            | 2387~2400        | 2387.58    | -46.82           | ≤-16            | 0.02080         | ≤25            | PASS    |
|          |            | 2483.5~2496.5    | 2495.62    | -46.13           | ≤-16            | 0.02438         | ≤25            | PASS    |
|          |            | 2496.5~13000     | 11532.66   | -57.82           | ≤-26            | 0.00165         | ≤2.5           | PASS    |
|          | 2480       | 30~1000          | 159.98     | -60.00           | ≤-26            | 0.00100         | ≤2.5           | PASS    |
|          |            | 1000~2387        | 2241.19    | -47.93           | ≤-26            | 0.01611         | ≤2.5           | PASS    |
|          |            | 2387~2400        | 2388.32    | -46.95           | ≤-16            | 0.02018         | ≤25            | PASS    |
|          |            | 2483.5~2496.5    | 2483.51    | -39.60           | ≤-16            | 0.10965         | ≤25            | PASS    |
|          |            | 2496.5~13000     | 2559.52    | -56.57           | ≤-26            | 0.00220         | ≤2.5           | PASS    |

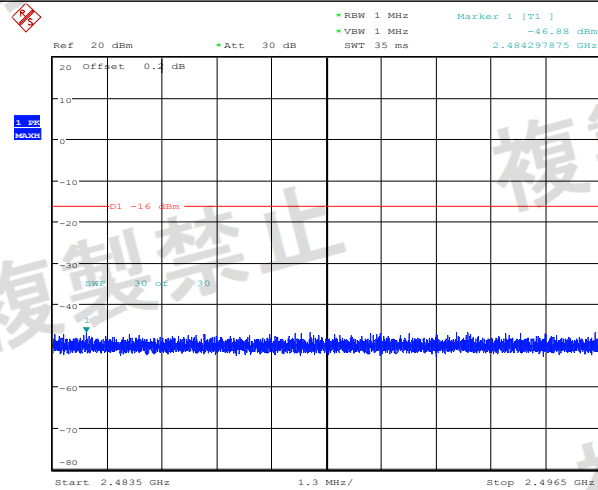
### 6.9.2 Test Graphs





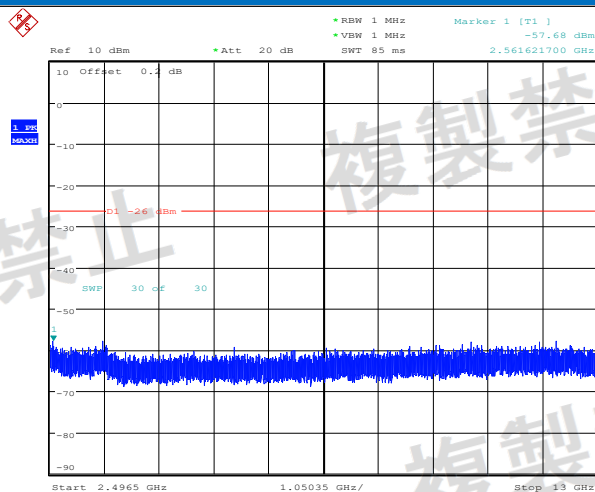
Date: 26.NOV.2025 12:33:46

### NTNV\_BLE\_1M\_Ant1\_2402\_2483.5~2496.5



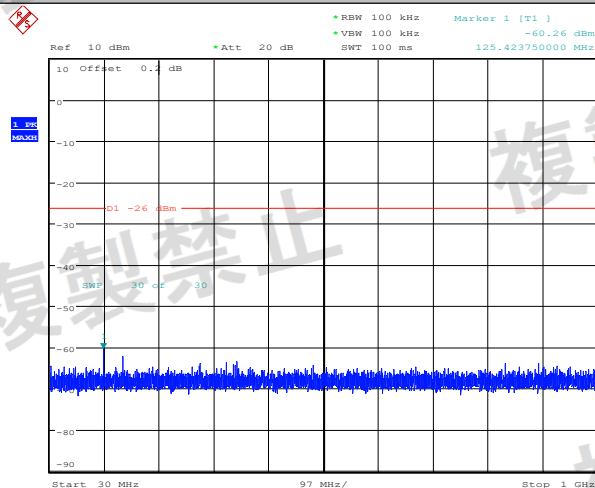
Date: 26.NOV.2025 12:33:54

### NTNV\_BLE\_1M\_Ant1\_2402\_2496.5~13000



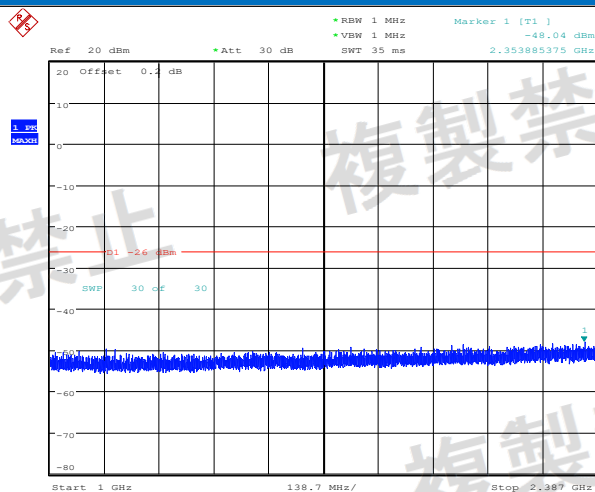
Date: 26.NOV.2025 12:34:10

### NTNV\_BLE\_1M\_Ant1\_2440\_30~1000



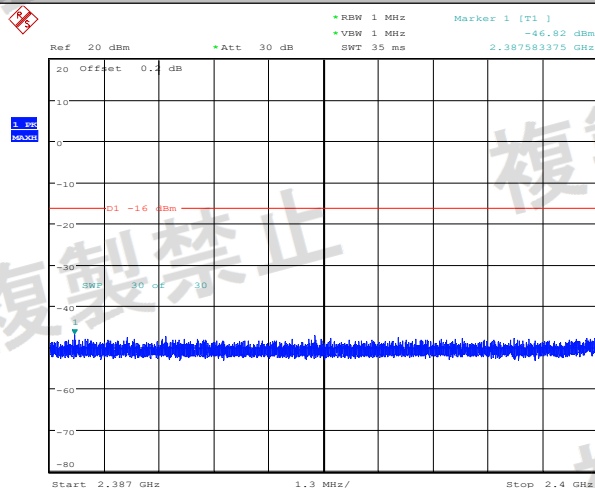
Date: 26.NOV.2025 12:37:24

### NTNV\_BLE\_1M\_Ant1\_2440\_1000~2387



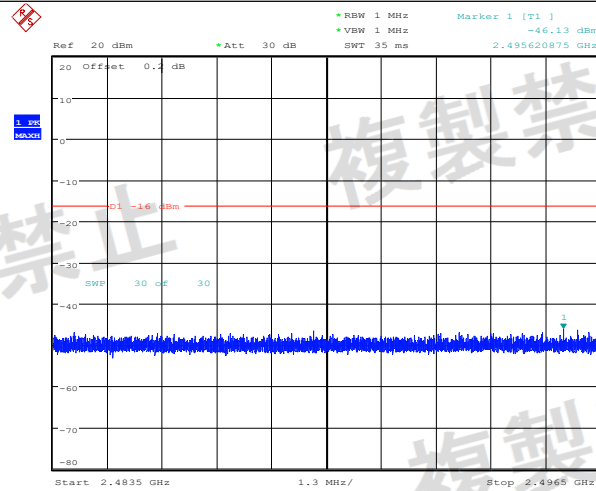
Date: 26.NOV.2025 12:37:34

NTNV\_BLE\_1M\_Ant1\_2440\_2387~2400



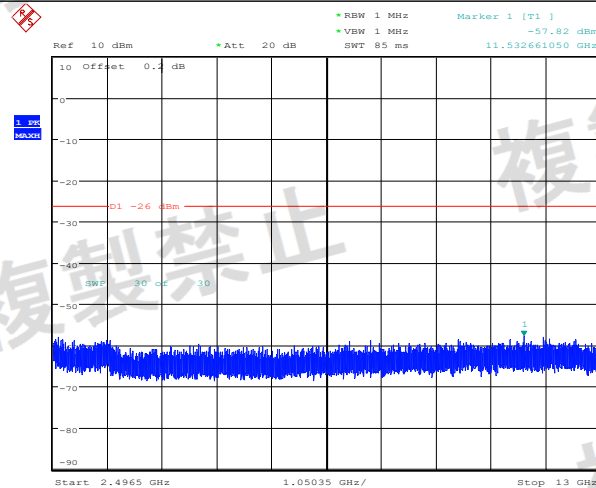
Date: 26.NOV.2025 12:37:43

NTNV\_BLE\_1M\_Ant1\_2440\_2483.5~2496.5



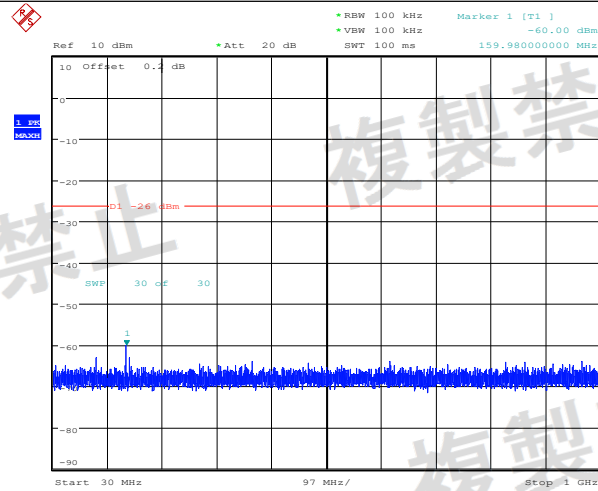
Date: 26.NOV.2025 12:37:51

NTNV\_BLE\_1M\_Ant1\_2440\_2496.5~13000



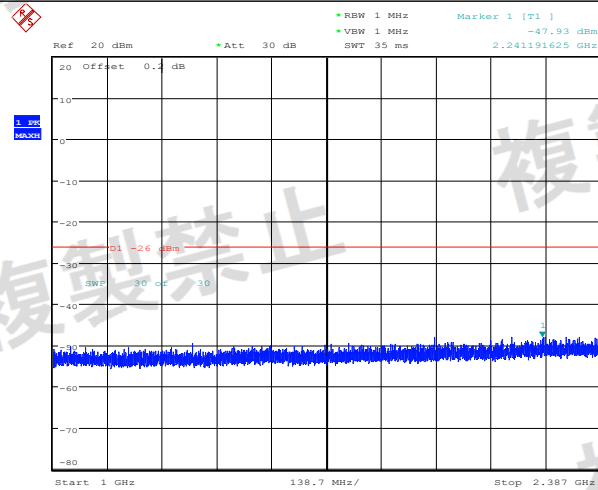
Date: 26.NOV.2025 12:38:07

NTNV\_BLE\_1M\_Ant1\_2480\_30~1000



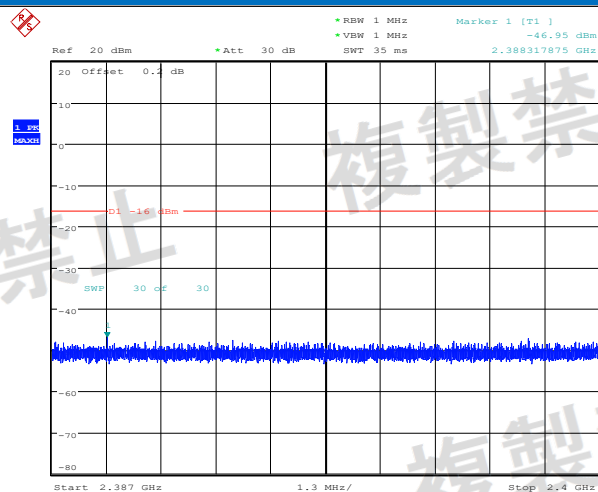
Date: 26.NOV.2025 12:39:10

NTNV\_BLE\_1M\_Ant1\_2480\_1000~2387



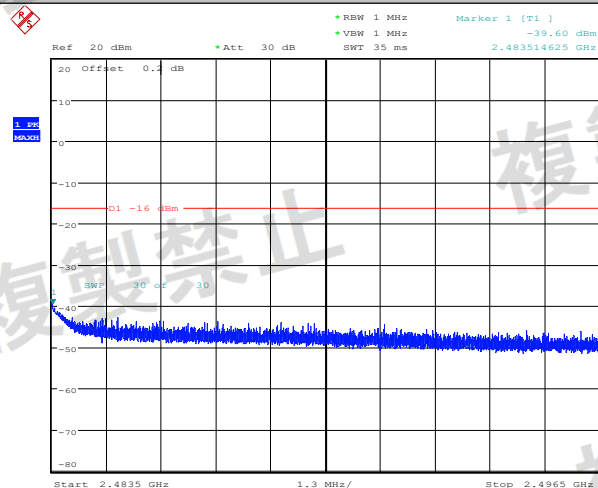
Date: 26.NOV.2025 12:39:20

NTNV\_BLE\_1M\_Ant1\_2480\_2387~2400



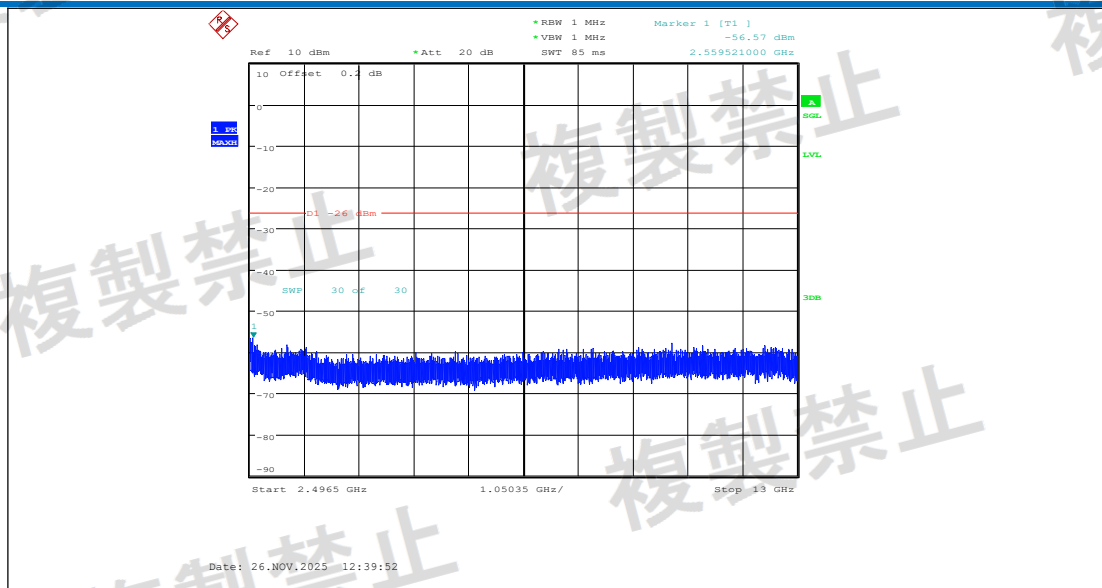
Date: 26.NOV.2025 12:39:29

NTNV\_BLE\_1M\_Ant1\_2480\_2483.5~2496.5



Date: 26.NOV.2025 12:39:37

NTNV\_BLE\_1M\_Ant1\_2480\_2496.5~13000



Test Result: The unit does meet the requirements.

## 6.11 RF accessibility

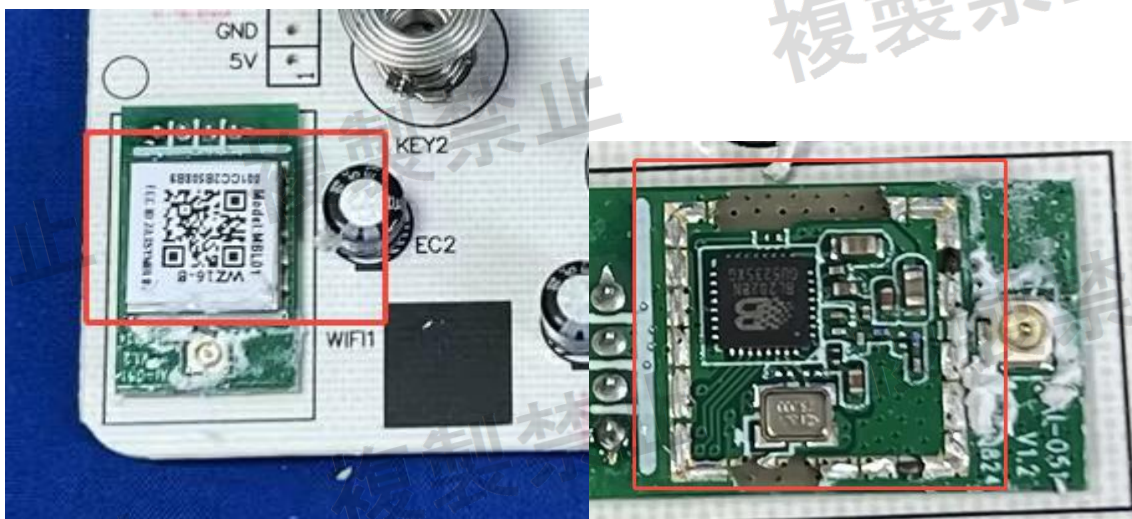
### Standard requirement

Article 49-20, paragraph 1 (a)

The EUT shall be constructed in such a way that sensitive RF parts, (like modulation and oscillator parts) cannot be reached easily by the user. These parts shall be covered by soldered metal caps or glue or by other mechanical covers. If the covers are fixed with screws, these shall be not the common type(s) like a Phillips, but special versions like Torx, so that the user cannot open the device with common tools.

### Tamper proof Declaration:

- ☐ 1. Sealed with special screws.
- ☐ 2. Plastic chassis is being welded using ultrasonic waves.
- ☐ 3. Chassis is glued using a special adhesive.
- ☐ 4. Metal covers are spot-fused.
- ☐ 5. Cover is specially interlocked.
- ☐ 6. RF and Modulation components are covered with shielding case and this shielding case is soldered.
- ☒ 7. Shield case is welded at RF and modulation parts, and ID-ROM is welded using the BGA Method.
- ☐ 8. Shield case is welded at RF and modulation parts, and ID-ROM is glued at its lead with a special adhesive.
- ☐ 9. Shield case is welded at RF and modulation parts, and ID-ROM is glued with a non-transparent laminating agent.
- ☒ 10. RF and Modulation parts are mounted on PCB with surface mount technology, and there is no any adjustable parts on PCB or adjustable parts are not exposed.



The method used to meet the "cannot be opened easily" is to use a shielding cover to seal it.

Any attempt to modify the RF chip will invalidate the normal operation of the device.

## 6.12 Spurious Emissions of Rx

|                     |                                                                                                                                                                                                                                                                                    |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement:   | Item 19 of Article 2-1                                                                                                                                                                                                                                                             |
| Test Method:        | MIC Notice No.88 Appendix No.43<br>(1) Below 1 GHz : 4 nW or less<br>(2) 1 GHz and over : 20 nW or less                                                                                                                                                                            |
| Test Status:        | Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below. |
| Test Configuration: |                                                                                                                                                                                                                                                                                    |



### Test Procedure:

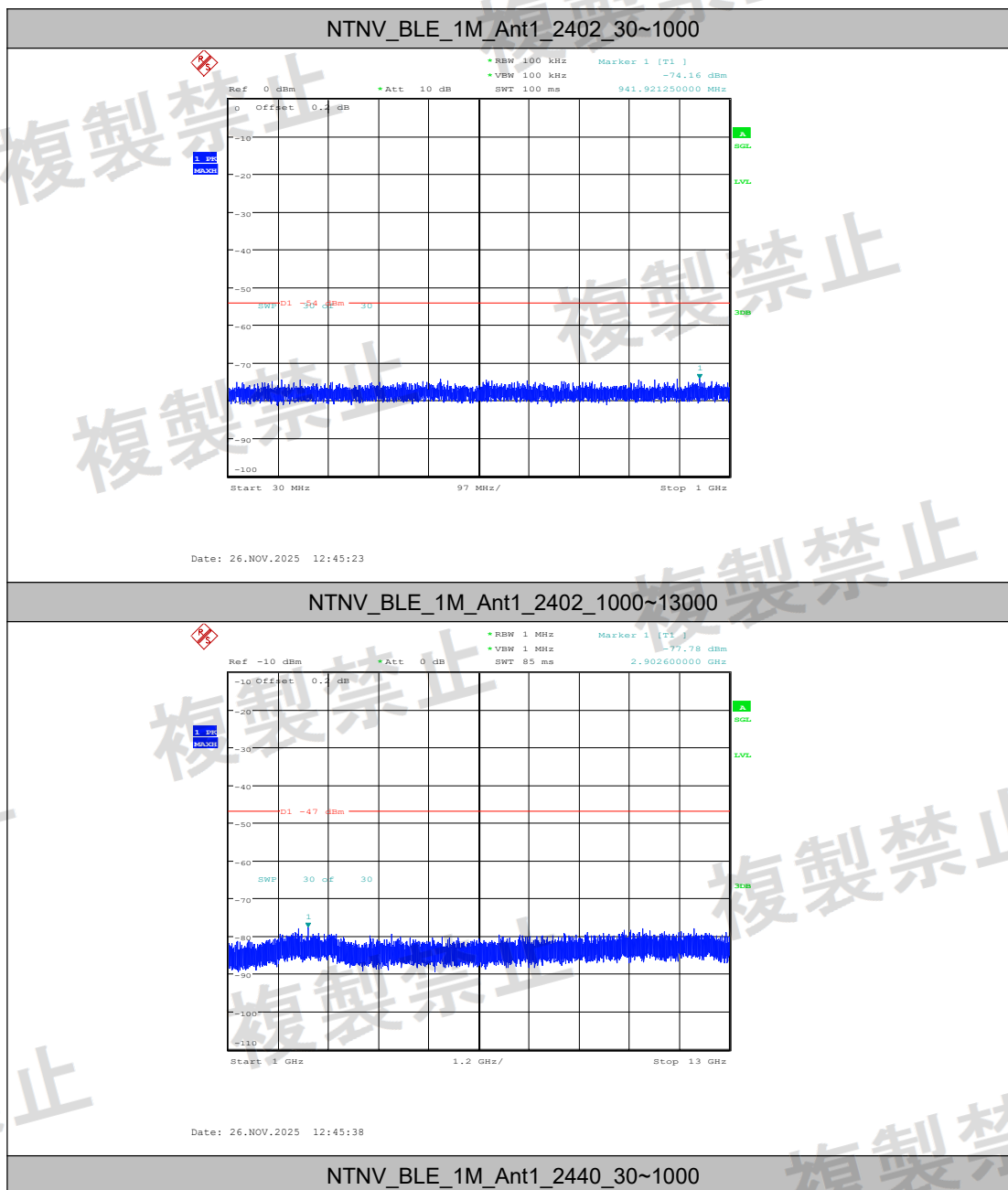
1. Test Conditions:  
Spectrum Analyzer is used for measurement.
2. EUT conditions:  
Modulation/Spread/Hopping ON  
For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.
3. Spectrum Analyzer conditions:  
Step 1  
All spurious are measured from 30 MHz to 13 GHz by peak mode.  
Step 2  
IF the value measured by Step1 is 2 dB or less, measure in average mode.  
Test setup for Step 1:  
Frequency: 30 MHz – 2400 MHz , 2483.5 MHz –13 GHz  
RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)  
VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)  
Sweep Time Auto  
detector mode Positive peak  
Indication mode Max hold  
Test setup for Step 2:  
Frequency: Spurious Frequency  
Span 0 Hz  
RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)  
VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)  
Sweep Time Auto  
detector mode Sample  
Indication mode Max hold

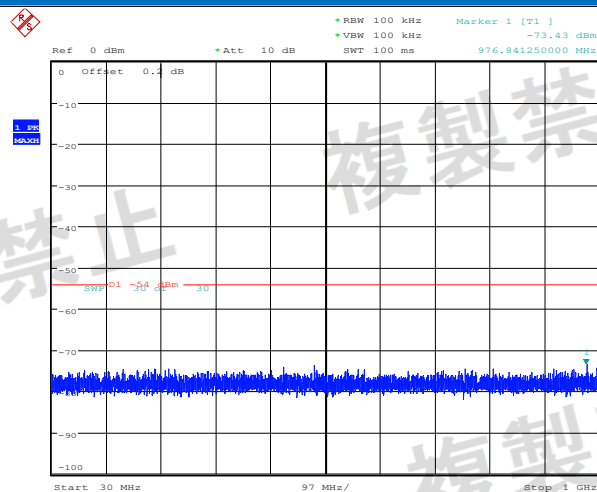
### 6.12.1 Test Result

| TestMode | Freq<br>(MHz) | Freq.Range<br>[MHz] | Freq<br>[MHz] | Result<br>[dBm] | Limit<br>[dBm] | Result<br>[nW] | Limit<br>[nW] | Verdict |
|----------|---------------|---------------------|---------------|-----------------|----------------|----------------|---------------|---------|
| BLE_1M   | 2402          | 30~1000             | 941.92        | -74.16          | ≤-54           | 0.03837        | ≤4            | PASS    |
|          |               | 1000~13000          | 2902.60       | -77.78          | ≤-47           | 0.01667        | ≤20           | PASS    |
|          | 2440          | 30~1000             | 976.84        | -73.43          | ≤-54           | 0.04539        | ≤4            | PASS    |
|          |               | 1000~13000          | 1921.00       | -69.76          | ≤-47           | 0.10568        | ≤20           | PASS    |
|          | 2480          | 30~1000             | 891.72        | -73.64          | ≤-54           | 0.04325        | ≤4            | PASS    |
|          |               | 1000~13000          | 3490.60       | -77.54          | ≤-47           | 0.01762        | ≤20           | PASS    |

Result plot as follows:

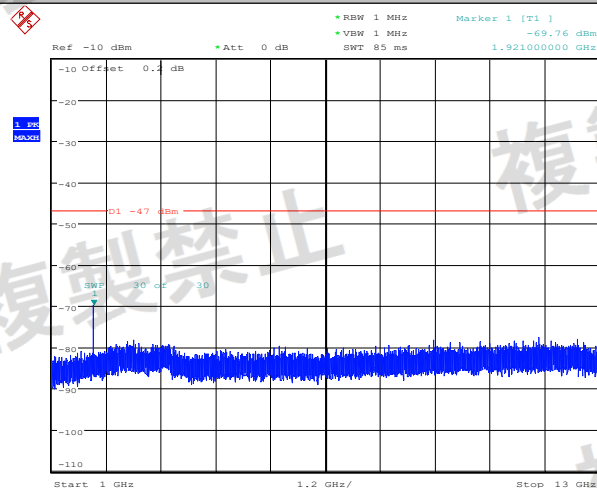
### 6.12.2 Test Graphs





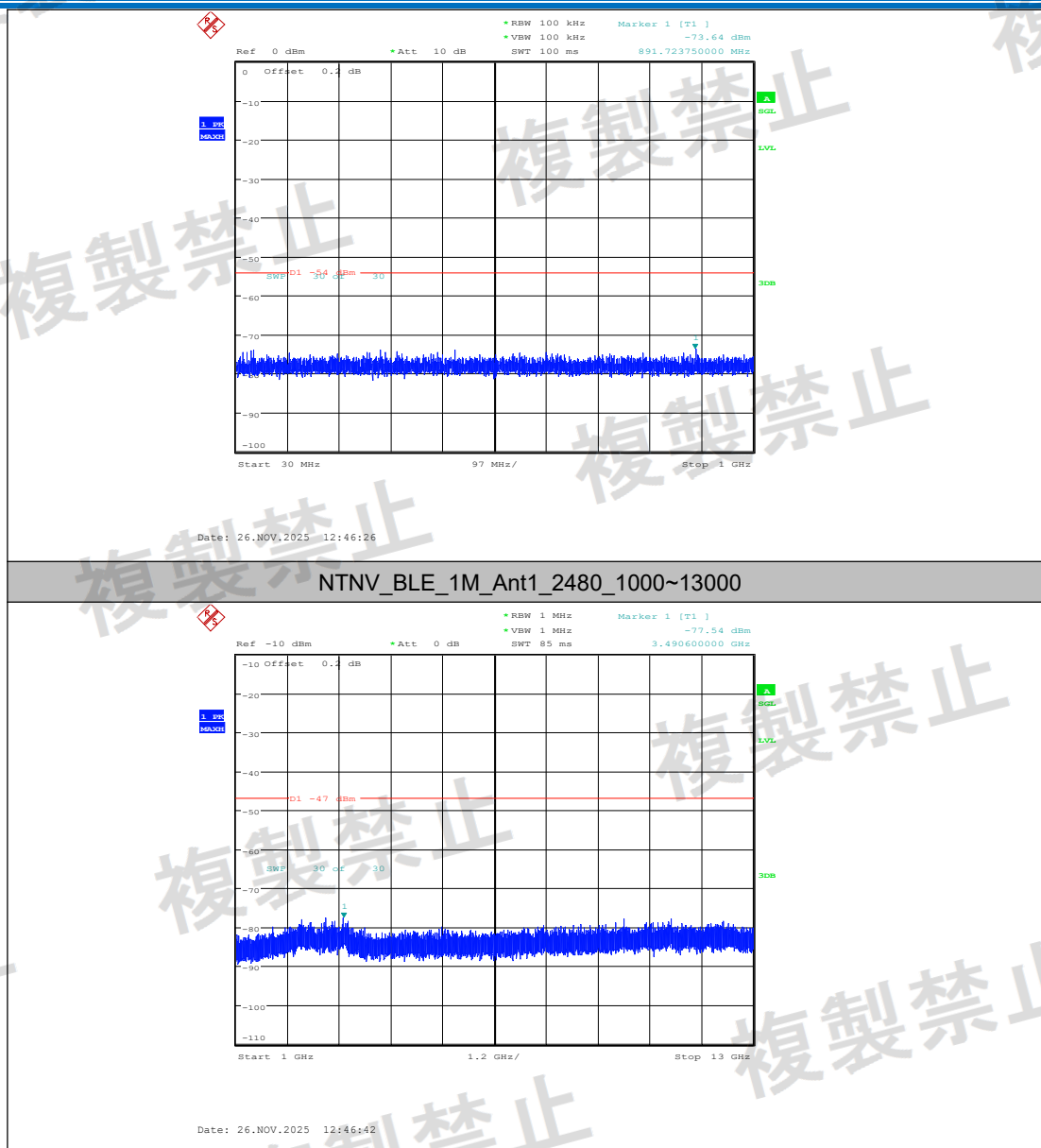
Date: 26.NOV.2025 12:45:53

### NTNV\_BLE\_1M\_Ant1\_2440\_1000~13000



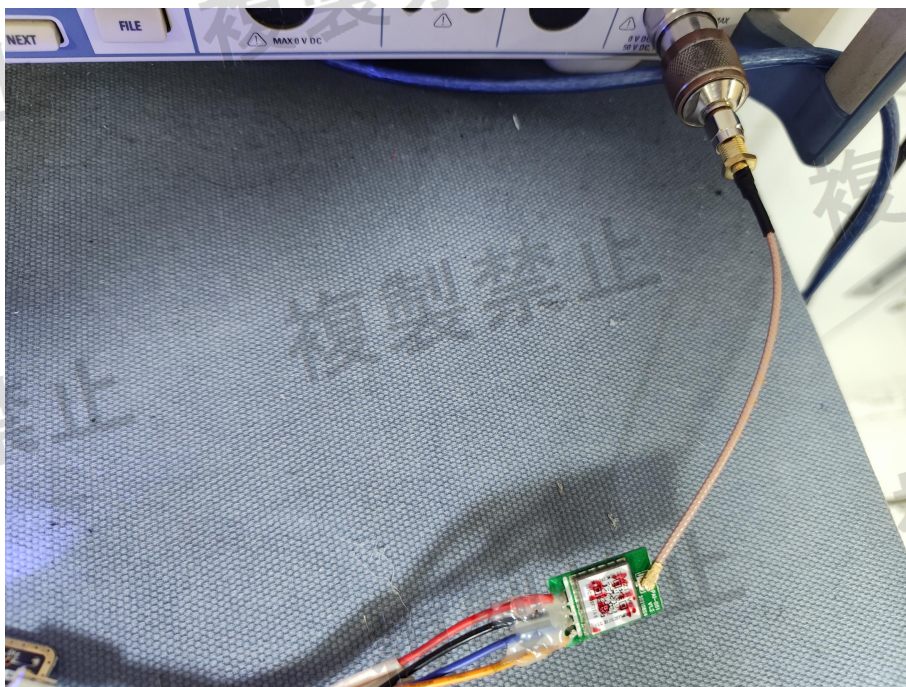
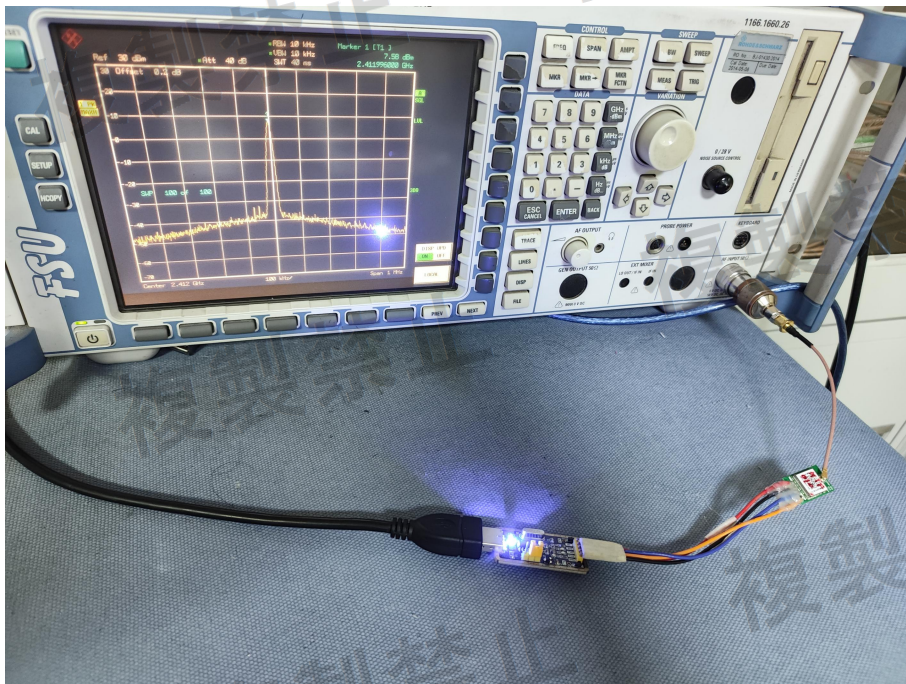
Date: 26.NOV.2025 12:46:08

### NTNV\_BLE\_1M\_Ant1\_2480\_30~1000

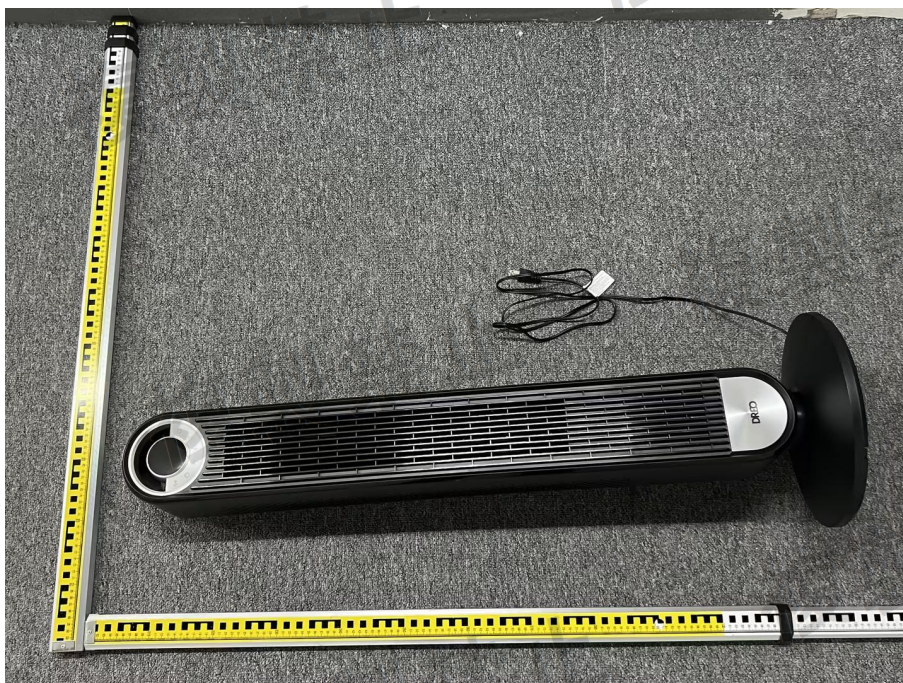


## 7 Photographs

### 7.1 EUT Test Setup

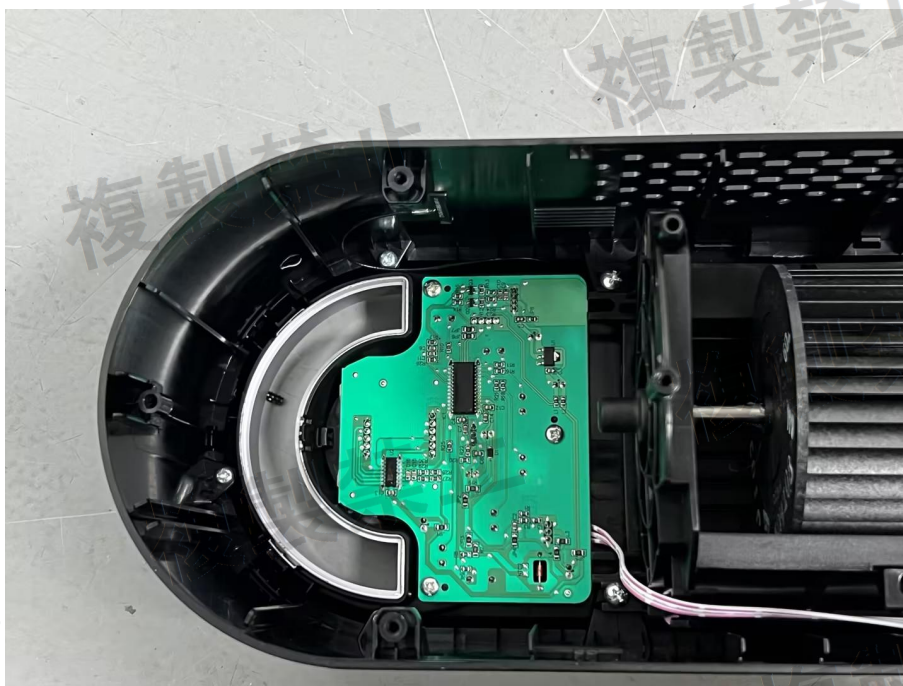
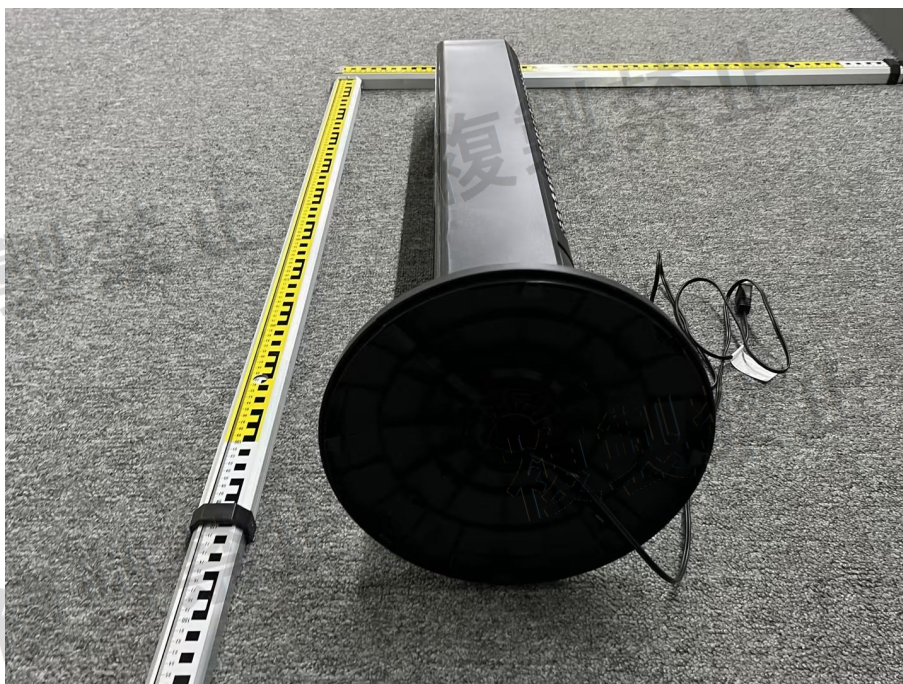


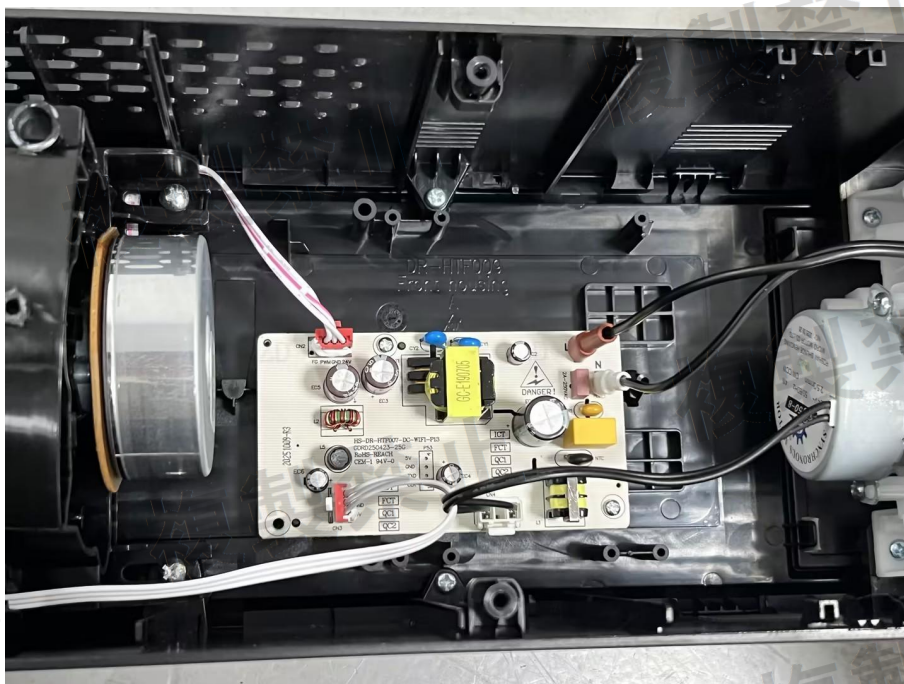
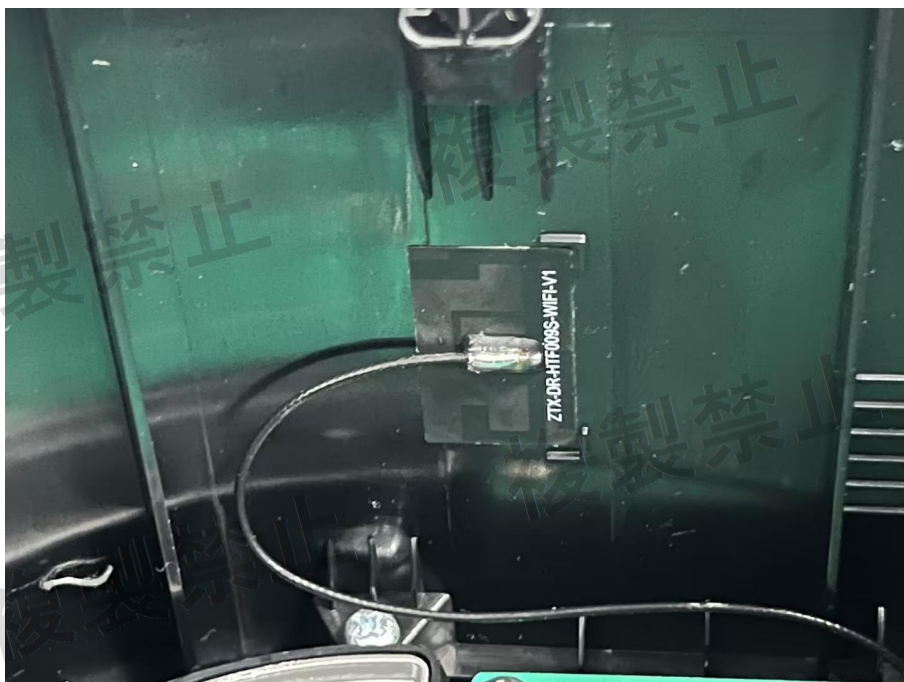
## 8 Photographs - EUT Constructional Details

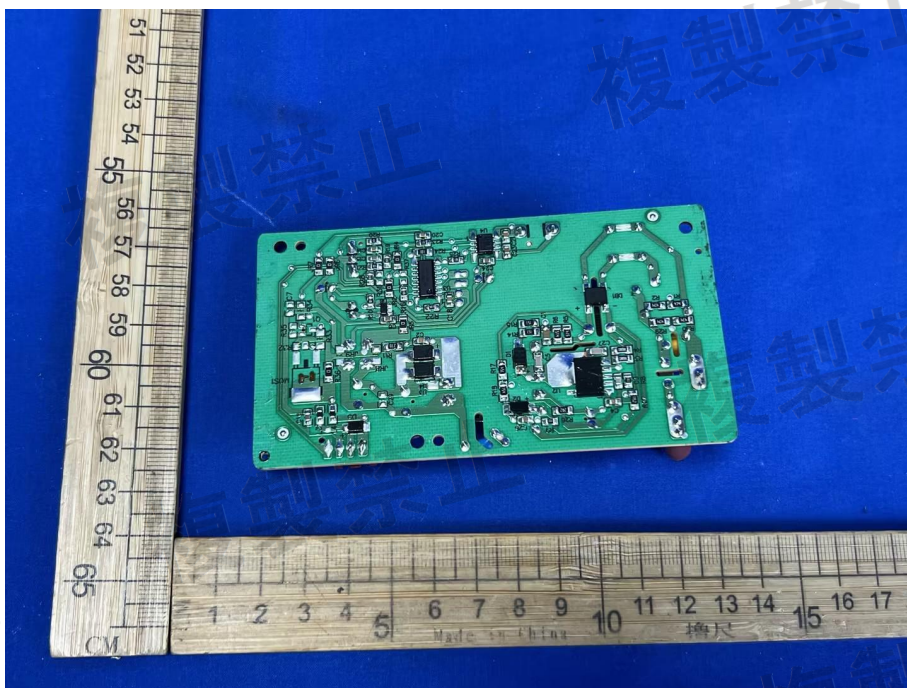
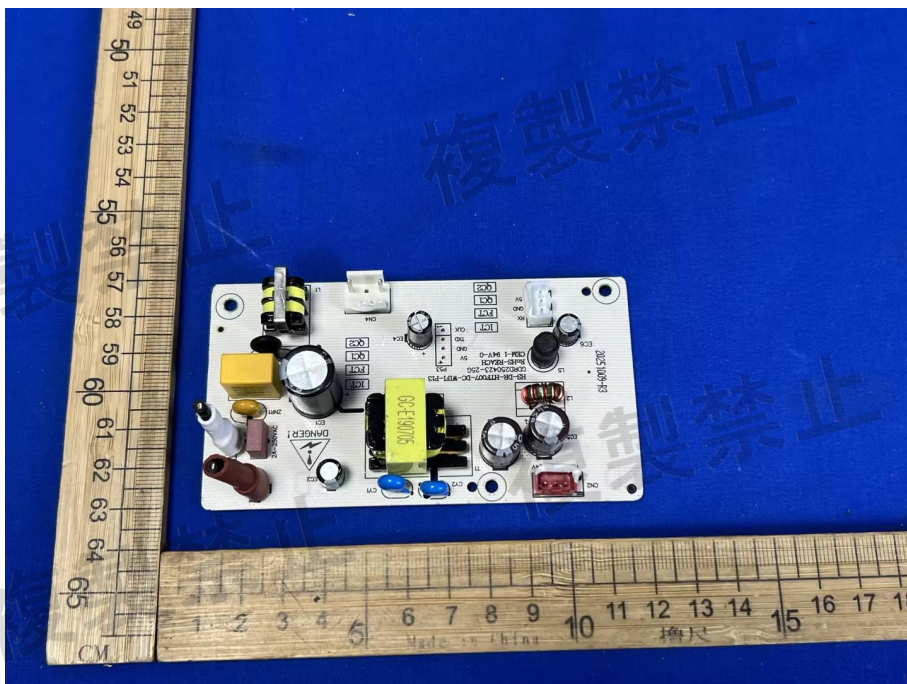


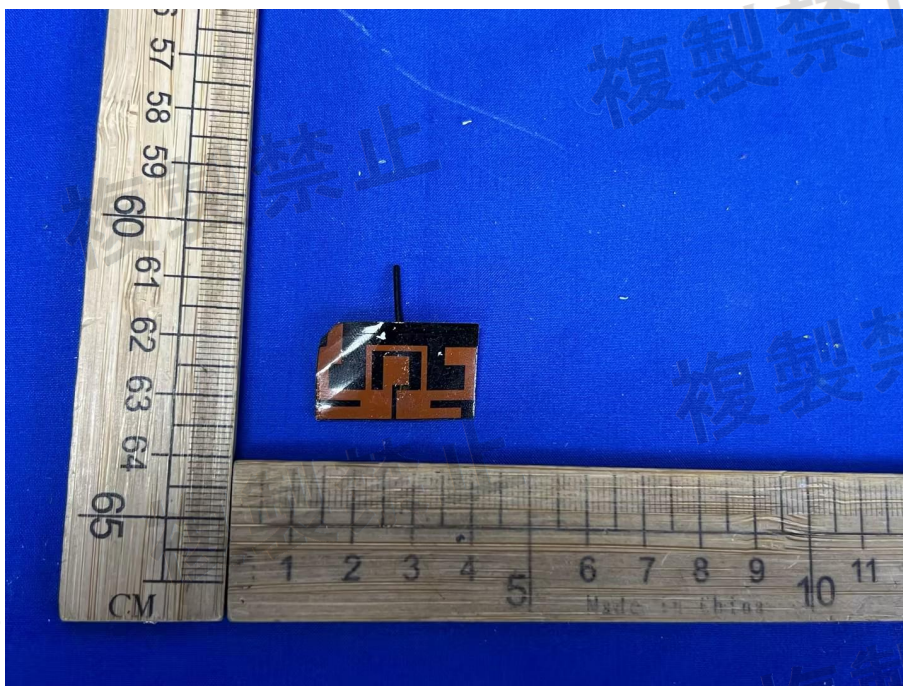
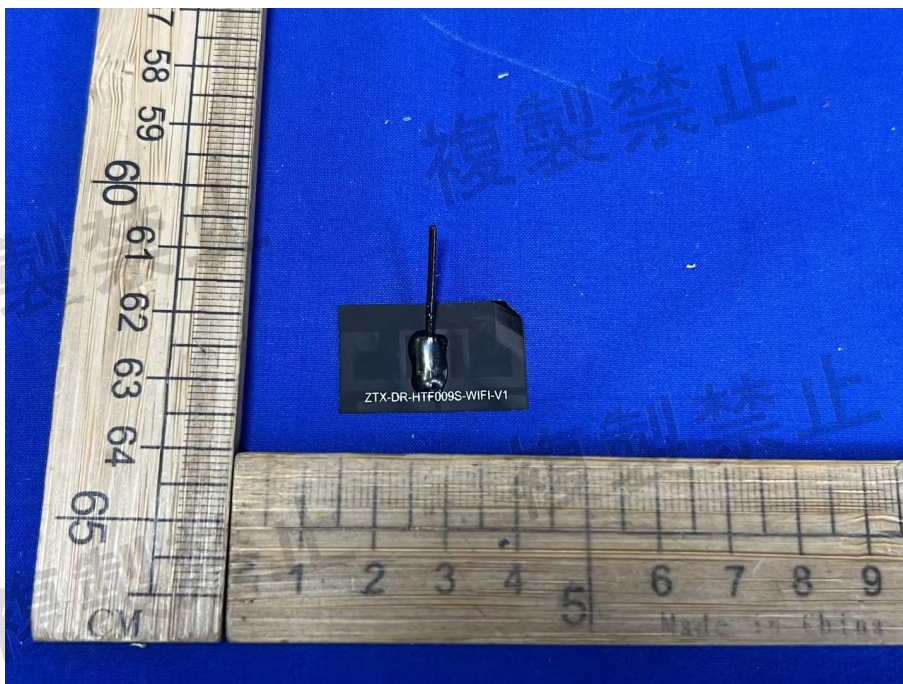


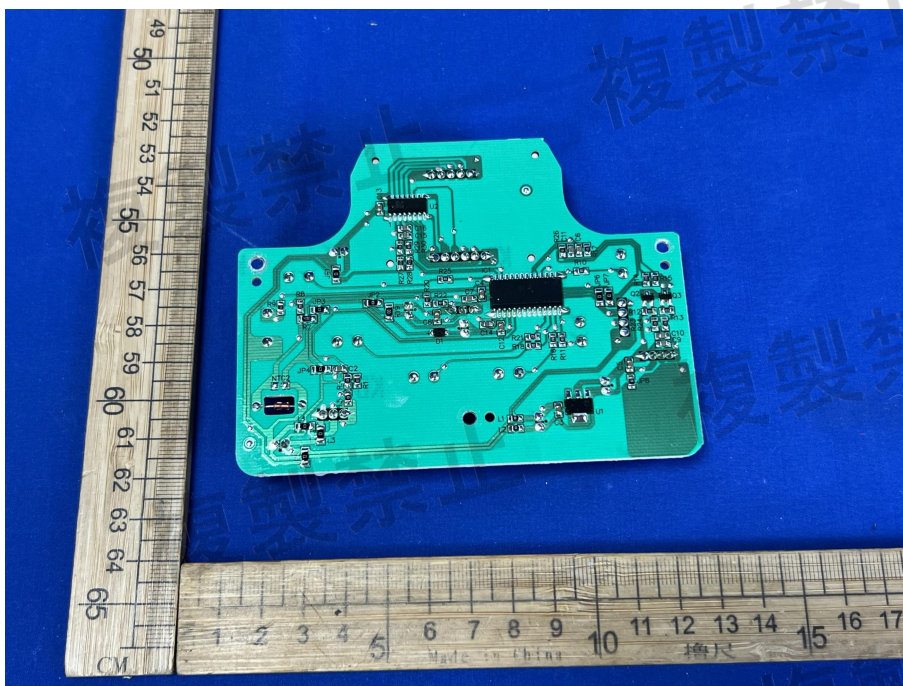


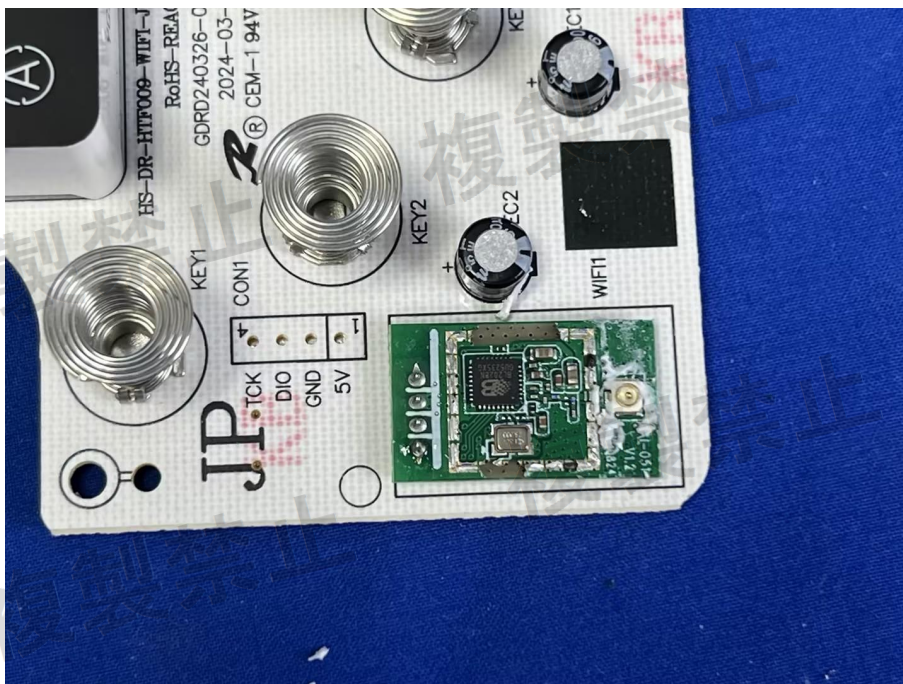












\*\*\* END OF REPORT \*\*\*