

# MIC2.4G WIFI TEST REPORT

**Applicant** : Quantex GmbH  
**Address** : Rueckertstrasse 10, 32257 Buende, Germany  
**Product Name** : ScanDoc NANO ET  
**Trade mark** : N/A  
**Mode No.** : nano  
**Series model** : N/A  
**Report Number** : BLA-RF-202505-A0302  
**Date of Issue** : Jun. 23, 2025  
**Test standard** : Item 19 of Article 2 Paragraph 1  
Item 19-2 of Article 2 Paragraph 1  
**Test result** : PASS

Compiled by:

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Review by:

Xavier

Approved by:

Blue Zheng

Issued Date:

Jun. 23, 2025

## BlueAsia Technical Services (Shenzhen) Co., Ltd

Address: No.41, South of Beihuan Road, Shangwu Community, Shiyan Subdistrict, Bao'an District, Shenzhen, Guangdong, China



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## 1 Version

| Version No. | Date          | Description |
|-------------|---------------|-------------|
| 00          | Jun. 23, 2025 | Original    |
|             |               |             |
|             |               |             |

## 2 Test Summary

| Test Items                | Test Requirement                                             | Limit/Severity                                                                                                                                                                                                                                                                                                   | Result |
|---------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Antenna Requirement       | Item 19 of Article 2-1<br>Item 19-2 of Article 2 Paragraph 1 | Notice 88 Appendix 43,B-1 (1)&(2)<br>MIC notification. No.88 of 2004,<br>Annex 44                                                                                                                                                                                                                                | PASS   |
| Test frequency            | Item 19 of Article 2-1<br>Item 19-2 of Article 2 Paragraph 1 | Notice 88 Appendix 43, A-3<br>MIC notification. No.88 of 2004,<br>Annex 44                                                                                                                                                                                                                                       | PASS   |
| Frequency Error           | Item 19 of Article 2-1<br>Item 19-2 of Article 2 Paragraph 1 | ±50 PPM or less                                                                                                                                                                                                                                                                                                  | PASS   |
| Occupied Bandwidth        | Item 19 of Article 2-1<br>Item 19-2 of Article 2 Paragraph 1 | OFDM: 26MHz or less<br>OFDM : 26MHz -40MHz<br>DSSS : 26MHz or less                                                                                                                                                                                                                                               | PASS   |
| Spread-spectrum Bandwidth | Item 19 of Article 2-1<br>Item 19-2 of Article 2 Paragraph 1 | For 2412-2472MHz: N/A<br>For 2484MHz: ≥500kHz<br>Spread Factor: ≥10                                                                                                                                                                                                                                              | PASS   |
| Antenna Power             | Item 19 of Article 2-1<br>Item 19-2 of Article 2 Paragraph 1 | OFDM, DSSS: 10mW /MHz or less<br>OFDM OBW 26 - 40MHz:<br>5mW/MHz or less<br>Tolerance: +20%<br>For 2484MHz<br>Tolerance: -80%, +20%<br>Antenna Absolute Gain:<br>2.14dBi or less (When an E.I.R.P is<br>less than a limit, the shortage shall<br>be compensated for by the gain of<br>the transmitting antenna.) | PASS   |
| E.I.R.P                   | Item 19 of Article 2-1<br>Item 19-2 of Article 2 Paragraph 1 | OFDM, DSSS: 12.14dBm /MHz or<br>less<br>OFDM OBW 26 - 40MHz:<br>9.13dBm/MHz or less                                                                                                                                                                                                                              | PASS   |
| Half Power Beam Angle     | Item 19-2 of Article 2 Paragraph 1                           | Notice 88 Appendix 43,B-1 (1)&(2)<br>MIC notification. No.88 of 2004,<br>Annex 44                                                                                                                                                                                                                                | N/A    |
| Spurious Emission of Tx   | Item 19 of Article 2-1<br>Item 19-2 of Article 2 Paragraph 1 | for 2412-2472MHz<br>(1).Below 2387 MHz : 2.5μW/MHz<br>(2).2387 to 2400 MHz : 25μW/MHz<br>(3).2483.5 through 2496.5 MHz :<br>25μW/MHz<br>(4).Over 2496.5 MHz : 2.5μW/MHz<br>For 2484MHz                                                                                                                           | PASS   |

|                                    |                                                              |                                                                                                                                                            |      |
|------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|                                    |                                                              | (5)Below 2458 MHz : 2.5 $\mu$ W/MHz<br>(6)2458 to 2471 MHz : 25 $\mu$ W/MHz<br>(7)2497 through 2510MHz : 25 $\mu$ W/MHz<br>Over 2510 MHz : 2.5 $\mu$ W/MHz |      |
| Interference prevention capability | Item 19 of Article 2-1                                       | Notice 88 Appendix 43                                                                                                                                      | PASS |
|                                    | Item 19-2 of Article 2 Paragraph 1                           | MIC notification. No.88 of 2004, Annex 44                                                                                                                  |      |
| Carrier sense capability           | Item 19 of Article 2-1                                       | Notice 88 Appendix 43                                                                                                                                      | PASS |
|                                    | Item 19-2 of Article 2 Paragraph 1                           | MIC notification. No.88 of 2004, Annex 44                                                                                                                  |      |
| RF accessibility                   | Item 19 of Article 2-1                                       | Notice 88 Appendix 43                                                                                                                                      | PASS |
|                                    | Item 19-2 of Article 2 Paragraph 1                           | MIC notification. No.88 of 2004, Annex 44                                                                                                                  |      |
| Spurious Emission of Rx            | Item 19 of Article 2-1<br>Item 19-2 of Article 2 Paragraph 1 | (1) Below 1 GHz : 4 nW<br>(2) 1 GHz or higher : 20 nW                                                                                                      | PASS |

**Remark:**

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

Tx:In this whole report Tx (or tx) means the product in transmitting status.

Rx: In this whole report Rx (or rx) means the product in receiving status.

RF:In this whole report RF means Radiated Frequency.

N/A:This test item will not be applied to E.I.R.P. power of EUT is lower than 12.14dBm/MHz.

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## 4 General Information

### 4.1 Client Information

|                          |                                                                                                                                                        |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Applicant:               | Quantex GmbH                                                                                                                                           |
| Address of Applicant:    | Rueckertstrasse 10, 32257 Buende, Germany                                                                                                              |
| Manufacturer:            | SHENZHEN JIECHUANG ELECTRONIC TECHNOLOGY CO., LTD                                                                                                      |
| Address of Manufacturer: | 3RD FLOOR, BUILDING 3, FACTORY BUILDING 3, LINGXIA ROAD, FENGHUANG COMMUNITY, FUYONG STREET, BAO'AN DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, CHINA |
| Factory:                 | SHENZHEN JIECHUANG ELECTRONIC TECHNOLOGY CO., LTD                                                                                                      |
| Address of Factory:      | 3RD FLOOR, BUILDING 3, FACTORY BUILDING 3, LINGXIA ROAD, FENGHUANG COMMUNITY, FUYONG STREET, BAO'AN DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, CHINA |

### 4.2 General Description of EUT

|                      |                                                                                                                                                                                                     |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name:        | ScanDoc NANO ET                                                                                                                                                                                     |
| Model No.:           | nano                                                                                                                                                                                                |
| Operating Frequency: | IEEE 802.11b/g/n(HT20): 2412MHz to 2472MHz<br>IEEE 802.11n(HT40): 2422MHz to 2462MHz<br>IEEE 802.11b CH14: 2471MHz to 2497MHz                                                                       |
| Rate power:          | 802.11b: 1.00mW/MHz      802.11b CH14: 1.00mW/MHz<br>802.11g: 1.00mW/MHz<br>802.11n (HT20): 1.00mW/MHz      802.11n (HT40): 1.00mW/MHz                                                              |
| Number of Channels:  | 802.11b: 14 Channels<br>802.11g: 13 Channels<br>802.11n (HT20): 13 Channels<br>802.11n (HT40): 9 Channels                                                                                           |
| Type of Modulation:  | 802.11b: DSSS(CCK/QPSK/BPSK)<br>802.11g: OFDM(BPSK/QPSK/16QAM/64QAM)<br>802.11n (HT20 and HT40): OFDM (64QAM, 16QAM, QPSK, BPSK)                                                                    |
| Channel Separation:  | 5 MHz                                                                                                                                                                                               |
| Transmit Data Rate:  | 802.11b: 1M/2M/5.5M/11M bps<br>802.11g: 6M/9M/12M/18M/24M/36M/48M/54M bps<br>802.11n(HT20): 6.5M/13M/19.5M/26M/39M/52M/58.5M/64M bps<br>802.11n(HT40): 13.5M/27M/40.5M/54M/81M/108M/121.5M/135M bps |
| Antenna Type:        | PCB antenna                                                                                                                                                                                         |
| Antenna gain:        | 4.16dBi(Provided by customer)                                                                                                                                                                       |
| Voltage Supply:      | DC 12V                                                                                                                                                                                              |
| Hardware Version:    | V1.0                                                                                                                                                                                                |
| Software Version:    | V75                                                                                                                                                                                                 |

|                       |                               |
|-----------------------|-------------------------------|
| Sample Received Date: | May 07, 2025                  |
| Sample tested Date:   | May 07, 2025 to Jun. 23, 2025 |

### 4.3 Test Location

All tests were performed at:  
BlueAsia Technical Services (Shenzhen) Co.,Ltd.  
No.41, South of Beihuan Road, Shangwu Community, Shiyan Subdistrict, Bao'an District,  
Shenzhen,Guangdong ,China  
Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673  
No tests were sub-contracted.

#### 4.4 Equipment List

| Equipment                       | Manufacturer | Model    | Serial No.  | Cal Date  | Due Date  | Calibration body | Classification |
|---------------------------------|--------------|----------|-------------|-----------|-----------|------------------|----------------|
| Communication test set test set | Anritsu      | MT8852B  | 06262047872 | 2024/9/7  | 2025/9/6  | GRGT             | (c)            |
| Spectrum Analyzer               | Keysight     | N9030A   | MY52350152  | 2024/9/7  | 2025/9/6  | GRGT             | (c)            |
| Signal Generator                | Agilent      | E4438C   | MY45092582  | 2024/9/7  | 2025/9/6  | GRGT             | (c)            |
| DC regulated power supply       | ZHAOXIN      | KXN-305D | BLA-EMC-027 | 2024/9/24 | 2025/9/23 | GRGT             | (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.**

## 5 Test Results

### 5.1 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, Item 19-2 of Article 2 Paragraph 1)**

| Items                                       | Technical standard                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assigned frequency or designated frequency  | 2400-2483.5MHz, 2471MHz-2497MHz                                                                                                                                                                                                                                                                                                                                                                                                 |
| 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: 26MHz or less<br>OFDM: 26MHz -40MHz<br>DSSS: 26MHz or less                                                                                                                                                                                                                                                                            |
| Spread-spectrum Bandwidth                   | For 2412-2472MHz: N/A<br>For 2484MHz: $\geq 500\text{kHz}$<br>Spread Factor: $\geq 10$                                                                                                                                                                                                                                                                                                                                          |
| 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 - 40MHz: 5mW/MHz<br>Tolerance: +20%<br>For 2484MHz<br>Tolerance: -80%, +20%                                                                                                                                                      |
| E.I.R.P                                     | OFDM, DSSS: 12.14dBm/MHz or less<br>OFDM OBW 26 - 40MHz: 9.13dBm/MHz or less                                                                                                                                                                                                                                                                                                                                                    |
| 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 - 40MHz: 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    | for 2412-2472Mz<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<br>For 2484MHz<br>(5) Below 2458 MHz : 2.5 $\mu$ W/MHz<br>(6) 2458 to 2471 MHz : 25 $\mu$ W/MHz<br>(7) 2497 through 2510MHz : 25 $\mu$ W/MHz<br>Over 2510 MHz : 2.5 $\mu$ W/MHz                                                     |

|                                       |                                                                                                         |
|---------------------------------------|---------------------------------------------------------------------------------------------------------|
| Limit of secondary radiated emissions | (1) Below 1 GHz : 4 nW<br>(2) 1 GHz or higher : 20 nW                                                   |
| 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          |

### 5.2.1 EUT test voltage and Frequency

Version:v1.0

EUT channels and frequencies list:

802.11b

| Channel | Frequency (MHz) |
|---------|-----------------|
| 1       | 2412            |
| 2       | 2417            |
| 3       | 2422            |
| 4       | 2427            |
| 5       | 2432            |
| 6       | 2437            |
| 7       | 2442            |
| 8       | 2447            |
| 9       | 2452            |
| 10      | 2457            |
| 11      | 2462            |
| 12      | 2467            |
| 13      | 2472            |
| 14      | 2484            |

Test frequencies are the lowest channel: 1 channel(2412MHz), middle channel: 7 channel(2442 MHz) and the highest channel: 13 channel(2472 MHz), 14 channel(2484 MHz)

802.11g/n (HT20)

| Channel | Frequency (MHz) |
|---------|-----------------|
| 1       | 2412            |
| 2       | 2417            |
| 3       | 2422            |
| 4       | 2427            |
| 5       | 2432            |
| 6       | 2437            |
| 7       | 2442            |
| 8       | 2447            |
| 9       | 2452            |
| 10      | 2457            |
| 11      | 2462            |
| 12      | 2467            |
| 13      | 2472            |

Test frequencies are the lowest channel: 1 channel(2412MHz), middle channel: 7 channel(2442 MHz) and the highest channel: 13 channel(2472 MHz)

802.11n HT40

| Channel | Frequency (MHz) |
|---------|-----------------|
| 3       | 2422            |
| 4       | 2427            |
| 5       | 2432            |
| 6       | 2437            |
| 7       | 2442            |
| 8       | 2447            |
| 9       | 2452            |
| 10      | 2457            |
| 11      | 2462            |

Test frequencies are the lowest channel: 3 channel(2422MHz), middle channel: 7 channel(2442 MHz) and the highest channel: 11 channel(2462 MHz)

### 5.3 Test Environment

| Operating Environment: |           |
|------------------------|-----------|
| Temperature:           | 25℃       |
| Humidity:              | 49% RH    |
| Atmospheric Pressure:  | 1010 mbar |

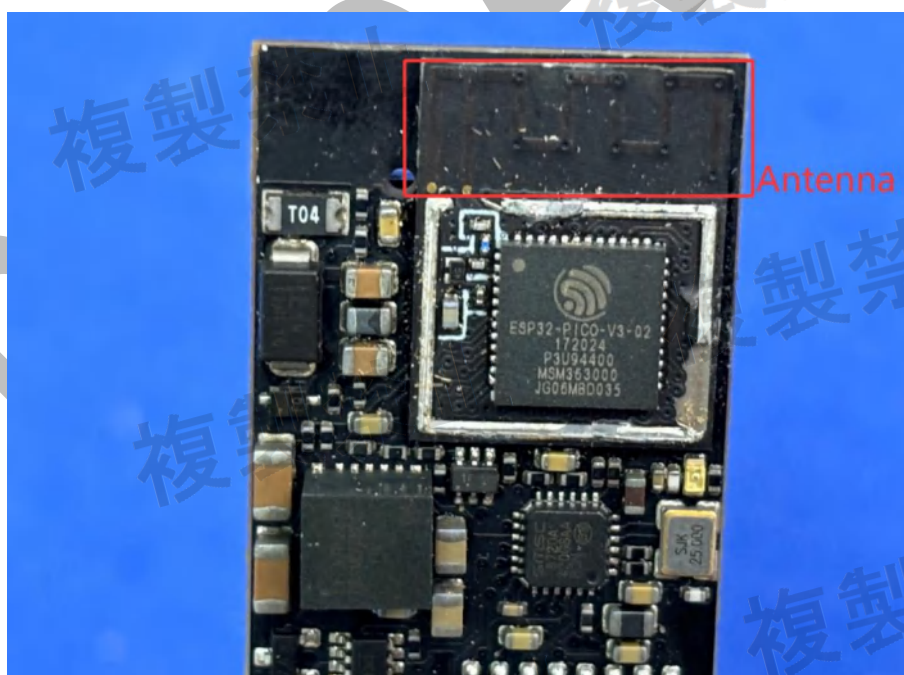
### 5.4 Antenna Requirement

#### 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 antenna is PCB antenna.The best case gain of the antenna is 4.16dBi.

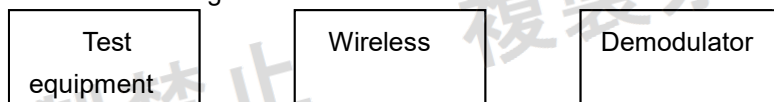


**Result:** An antenna connector is available, all relevant tests will be carried out conducted

## 5.5 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.

MAC Address:

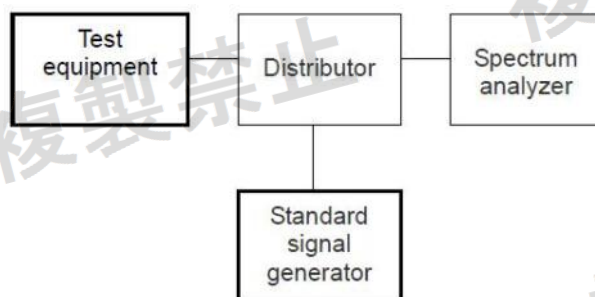
DE:54:E0:86:DB:01

### 5) Test result: The unit does meet the requirements (Good).

## 5.6 Carrier sense capability

### 1) Measurement system diagram

#### (1) Test with test equipment only



### 2) Condition of measuring instrument

#### (1) Set the standard signal generator as follows:

Carrier frequency: Center frequency of receiving frequency band of test equipment

Modulation: No modulation. (note1)

Output level: regulated level on antenna input of test equipment

Note 1: The un-modulated carrier in the center frequency, when the carrier sense function of test equipment is not worked, if necessary, change the frequency or modulate it.

#### (2) Set the spectrum analyzer as follows:

Center frequency: Center frequency of the bandwidth used. (note2)

Sweep frequency band: 50MHz (note2)

Resolution bandwidth: Approximately 1 MHz

Video bandwidth: Comparable level with resolution bandwidth

Trigger condition: Free-run

Detective mode: positive peak

Note 2: Under 26MHz of OFDM or other modulated method that with transmit function, set sweep frequency band as 0Hz, detective mode as sample, center frequency as the carrier frequency from 13MHz to 19MHz.

### 3) Condition of test equipment

Set the test equipment at the test frequency and the test spread code, and set it to the receiving mode in the beginning. When using external test device, connect with the test equipment by line connection.

### 4) Measuring operation procedure

#### (1) Test with test equipment only:

A) Set the spectrum analyzer according to (2) of 2).

B) Set the test equipment to the transmitting operation with the output of standard signal generator OFF, and confirm that it emits over 26MHz occupied frequency bandwidth OFDM radio wave, by using spectrum analyzer.

C) Set the test equipment to the receiving mode.

D) With the output of standard signal generator ON, set the test equipment to the transmitting operation, and confirm that it does not emit over 26MHz occupied frequency bandwidth OFDM radio wave, by using spectrum analyzer.

#### 5) Test result: 802.11n(HT40)

| Channel | Test result | Verdict |
|---------|-------------|---------|
| Low     | Good        | Pass    |
| Middle  | Good        | Pass    |
| High    | Good        | Pass    |

## 5.7 FrequencyError

Test Requirement: Item 19 of Article 2-1, Item 19-2 of Article 2 Paragraph 1

Tolerance of frequency:  $\pm 50 \times 10^{-6}$

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

Test Configuration:



Test Procedure:

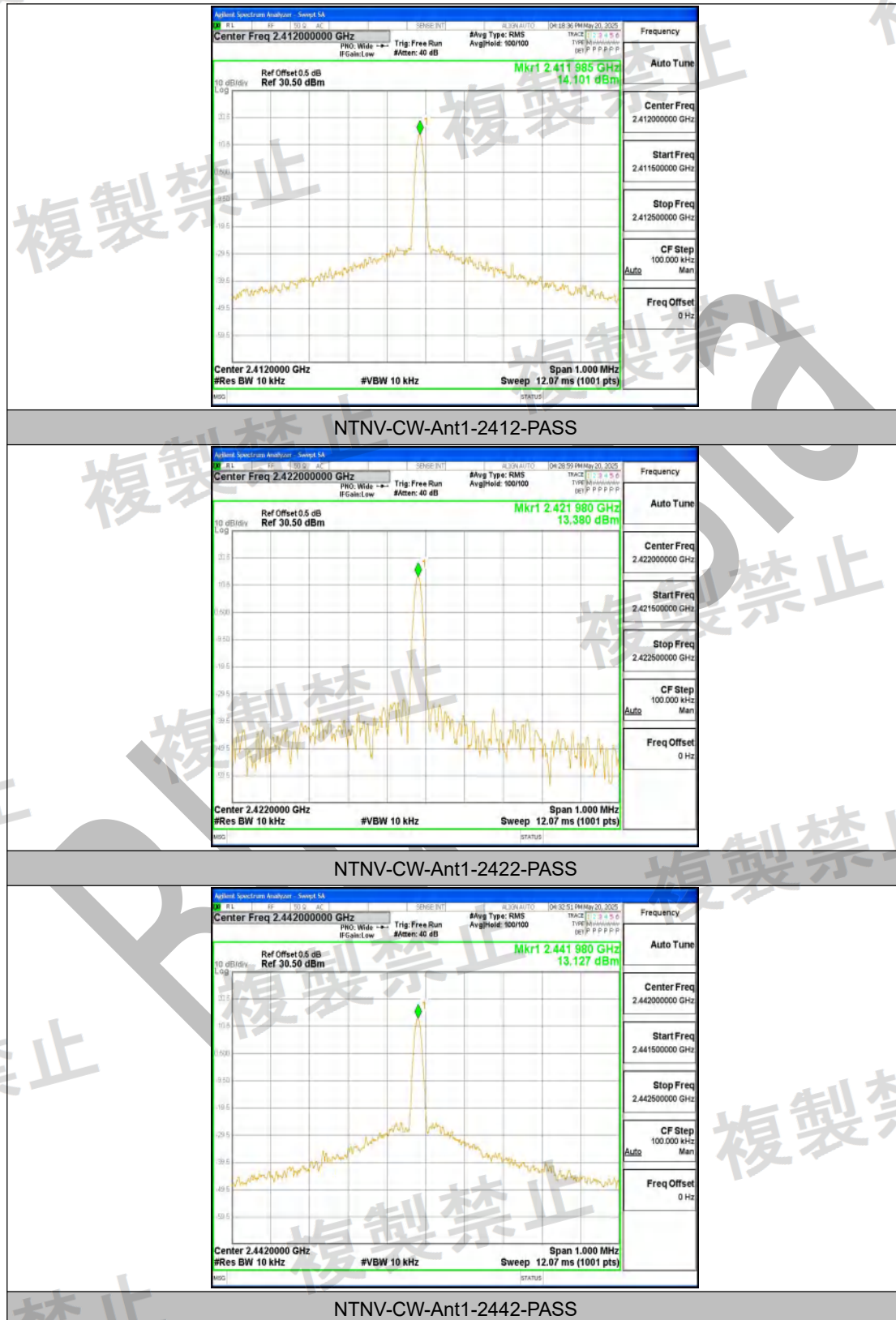
1. Test Conditions:  
Spectrum Analyzer is used for measurement.
2. EUT conditions:  
Modulation/Spread/Hopping OFF, CW Tx
3. Spectrum Analyzer conditions:  
Frequency: Test Frequency  
Span 1MHz  
RBW 10 kHz (Modulation OFF),  
VBW 10 kHz (Modulation OFF),  
Sweep Time Auto  
Detector mode Positive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

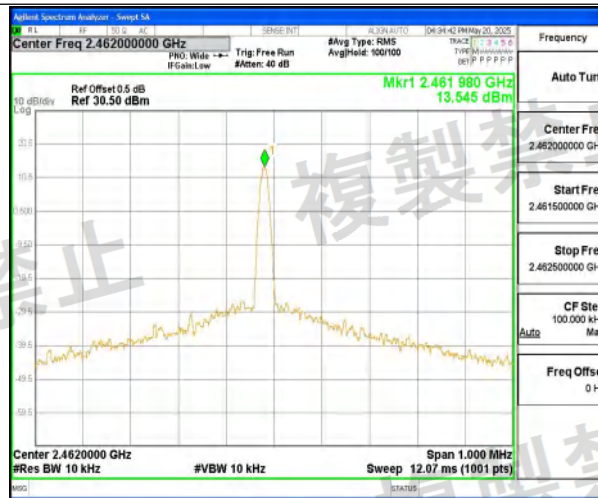
**5.7.1 Test result:**

| TestCondition | TestMode | Antenna | Channel | Result[ppm] | Limit[ppm] | Verdict |
|---------------|----------|---------|---------|-------------|------------|---------|
| NTNV          | CW       | Ant1    | 2412    | -6.21891    | ±50        | PASS    |
|               |          |         | 2422    | -8.25764    | ±50        | PASS    |
|               |          |         | 2442    | -8.19001    | ±50        | PASS    |
|               |          |         | 2462    | -8.12348    | ±50        | PASS    |
|               |          |         | 2472    | -8.09062    | ±50        | PASS    |
|               |          |         | 2484    | -6.03865    | ±50        | PASS    |

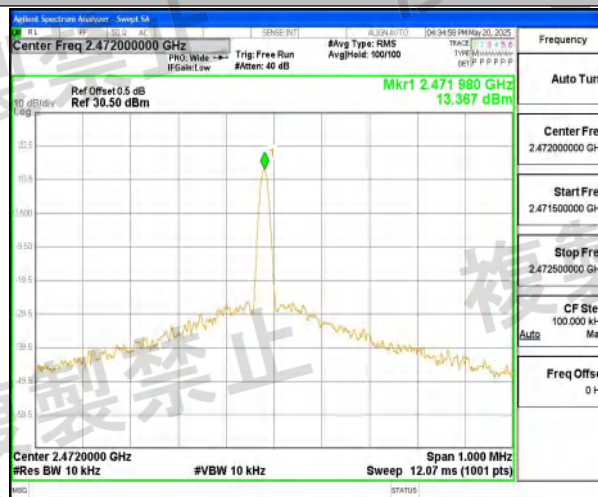
Note: The nominal frequency shall be confirmed by the applicant and test lab.

## 5.7.2 Test Graphs

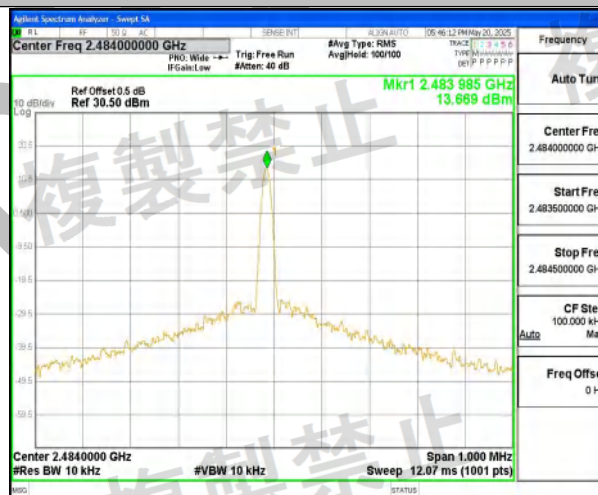




NTNV-CW-Ant1-2462-PASS



NTNV-CW-Ant1-2472-PASS



NTNV-CW-Ant1-2484-PASS

Test result: The unit does meet the requirements.

## 5.8 Occupied Bandwidth (99%)

Test Requirement:

Item 19 of Article 2-1, Item 19-2 of Article 2 Paragraph 1

OFDM: 26MHz or less

OFDM: 26MHz -40MHz

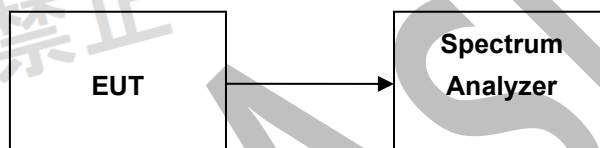
DSSS: 26MHz or less

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:

Frequency: Test Frequency

Span 40MHz (DSSS, OFDM)

RBW 300kHz

VBW 300kHz

Sweep Time Auto

detector mode Positive peak

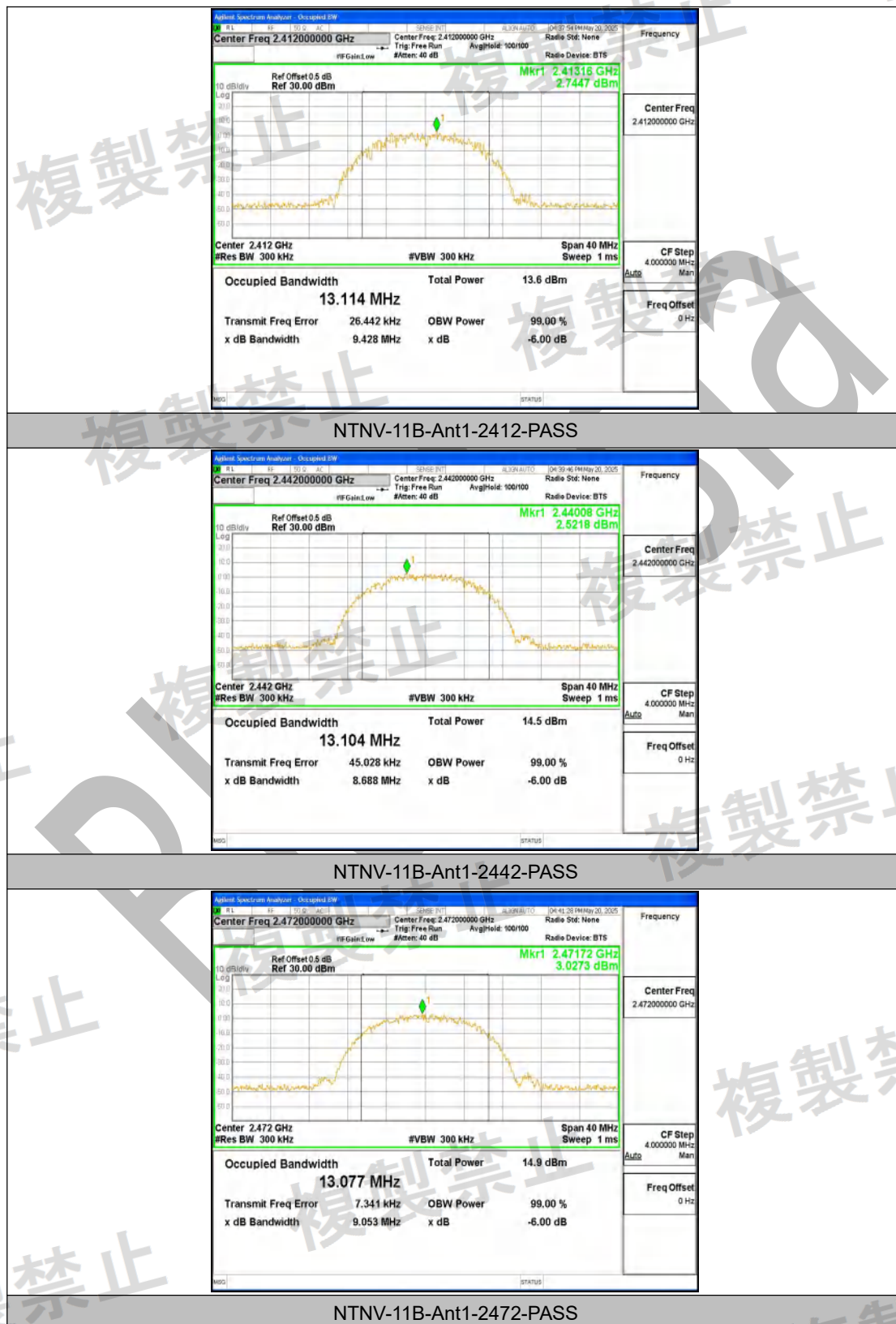
Indication mode Max hold

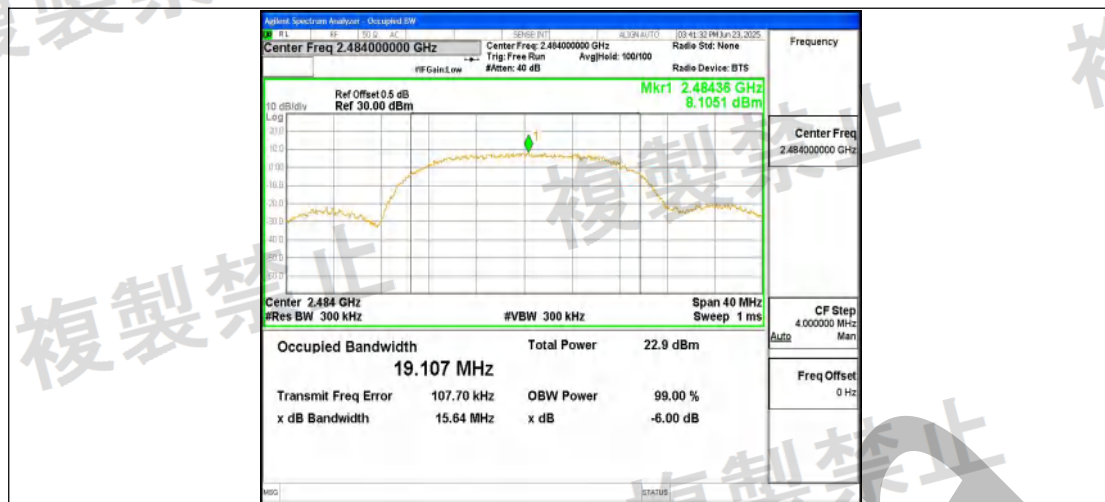
OBW 99%

### 5.8.1 Test Result

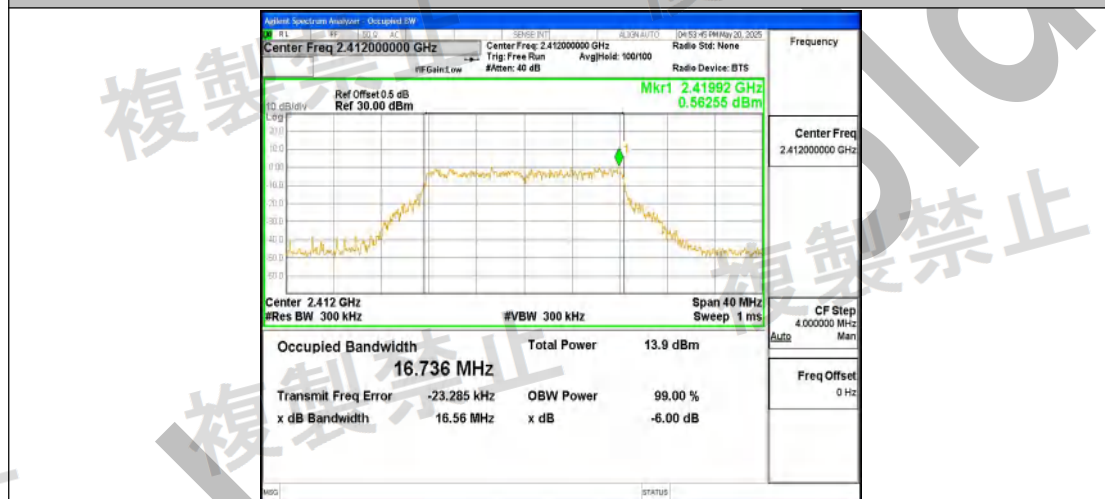
| TestCondition | TestMode      | Antenna | Frequency[MHz] | Result [MHz] | Limit [MHz] | Verdict |
|---------------|---------------|---------|----------------|--------------|-------------|---------|
| NTNV          | 11B           | Ant1    | 2412           | 13.114       | ≤26         | PASS    |
| NTNV          | 11B           | Ant1    | 2442           | 13.104       | ≤26         | PASS    |
| NTNV          | 11B           | Ant1    | 2472           | 13.077       | ≤26         | PASS    |
| NTNV          | 11B           | Ant1    | 2484           | 19.107       | ≤26         | PASS    |
| NTNV          | 11G           | Ant1    | 2412           | 16.736       | ≤26         | PASS    |
| NTNV          | 11G           | Ant1    | 2442           | 16.621       | ≤26         | PASS    |
| NTNV          | 11G           | Ant1    | 2472           | 16.617       | ≤26         | PASS    |
| NTNV          | 11N20SI<br>SO | Ant1    | 2412           | 17.853       | ≤26         | PASS    |
| NTNV          | 11N20SI<br>SO | Ant1    | 2442           | 17.906       | ≤26         | PASS    |
| NTNV          | 11N20SI<br>SO | Ant1    | 2472           | 17.968       | ≤26         | PASS    |
| NTNV          | 11N40SI<br>SO | Ant1    | 2422           | 36.660       | 26-40       | PASS    |
| NTNV          | 11N40SI<br>SO | Ant1    | 2442           | 36.274       | 26-40       | PASS    |
| NTNV          | 11N40SI<br>SO | Ant1    | 2462           | 36.444       | 26-40       | PASS    |

## 5.8.2 Test Graphs

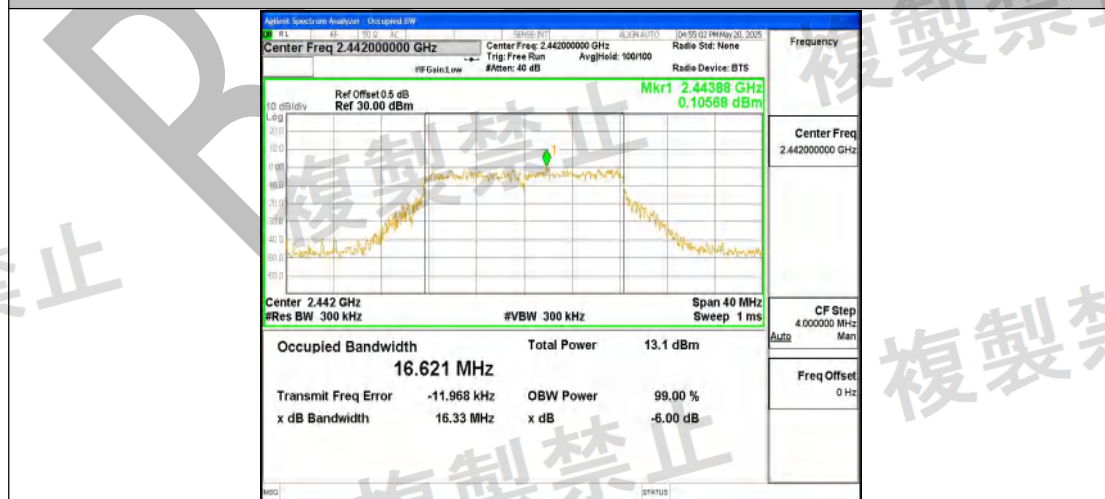




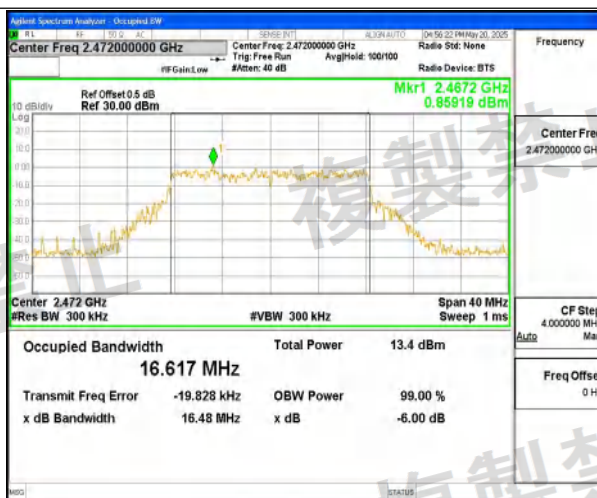
NTNV-11B-Ant1-2484-PASS



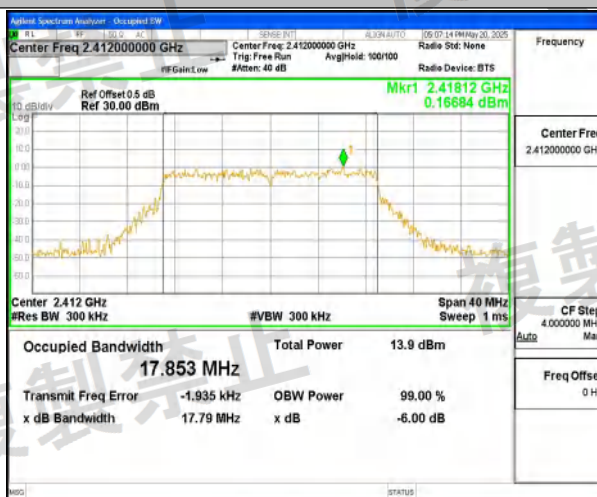
NTNV-11G-Ant1-2412-PASS



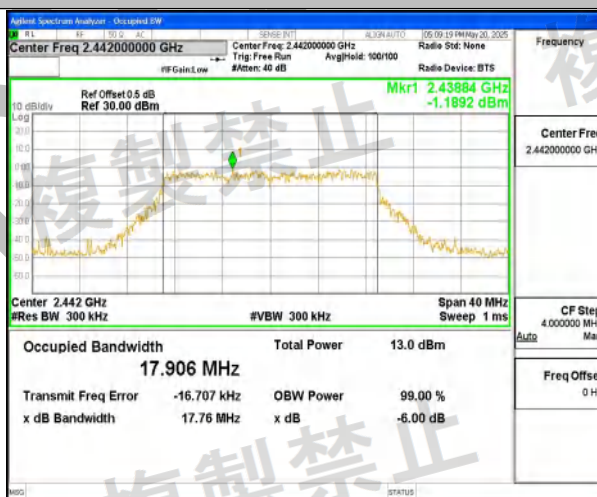
NTNV-11G-Ant1-2442-PASS



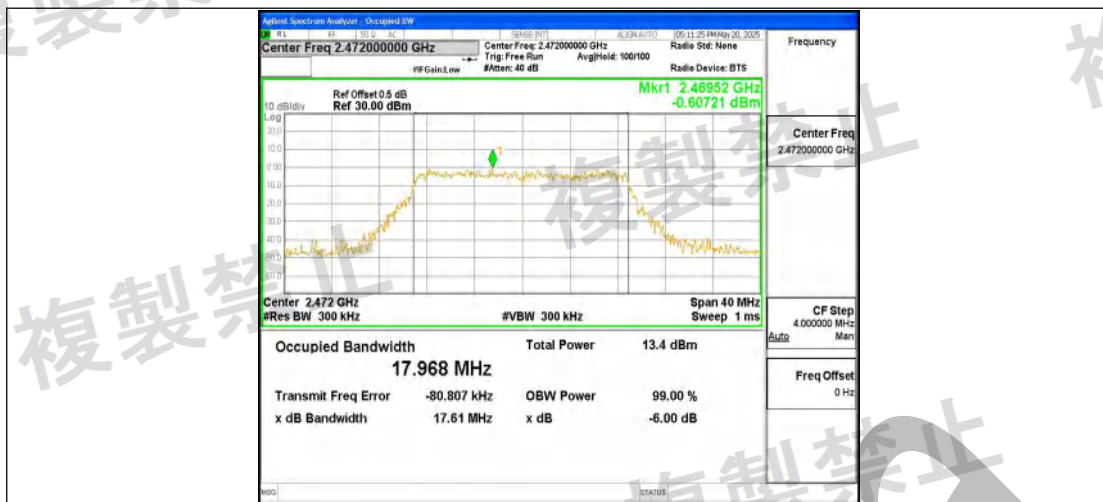
NTVN-11G-Ant1-2472-PASS



NTVN-11N20SISO-Ant1-2412-PASS



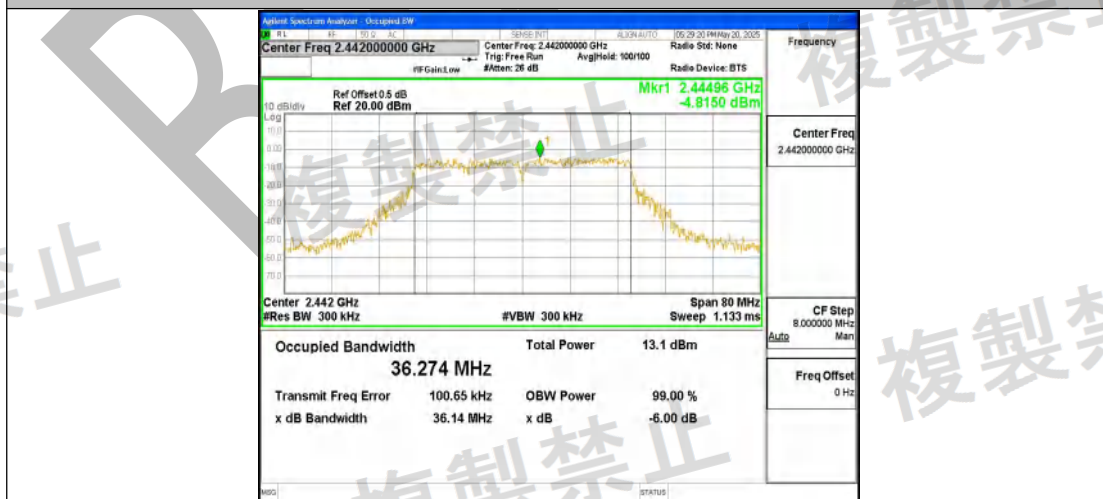
NTVN-11N20SISO-Ant1-2442-PASS



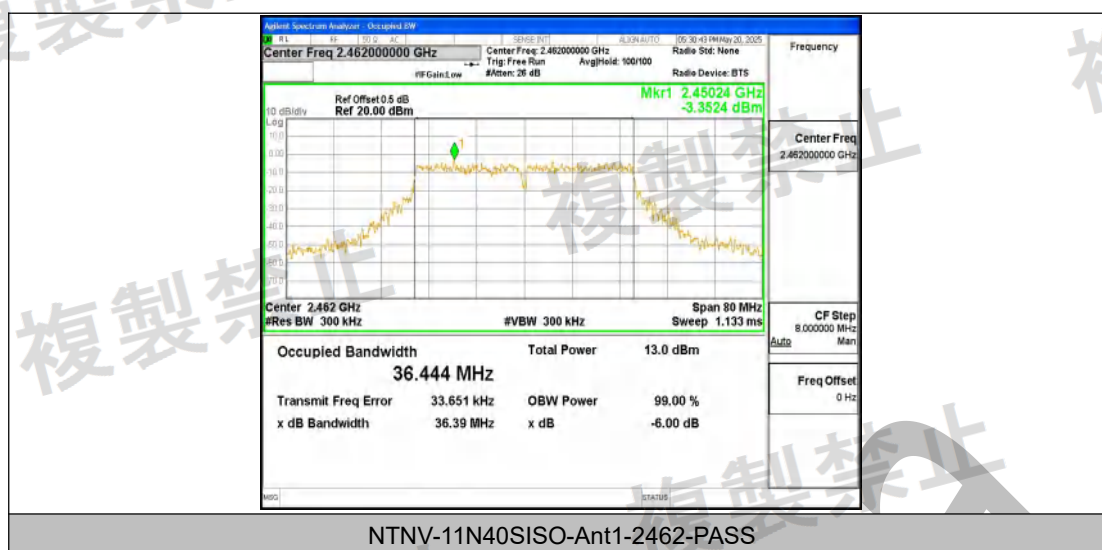
NTVN-11N20SISO-Ant1-2472-PASS



NTVN-11N40SISO-Ant1-2422-PASS



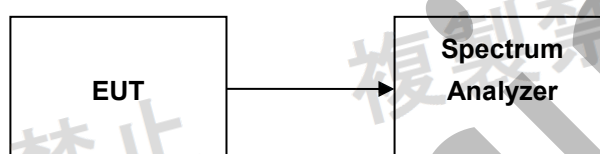
NTVN-11N40SISO-Ant1-2442-PASS



Test result: The unit does meet the requirements.

## 5.9 Spread spectrum Bandwidth (90%)

|                     |                                                                                                                                                                                                                                                                                    |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement:   | Item 19 of Article 2-1, Item 19-2 of Article 2 Paragraph 1                                                                                                                                                                                                                         |
| 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: |                                                                                                                                                                                                                                                                                    |



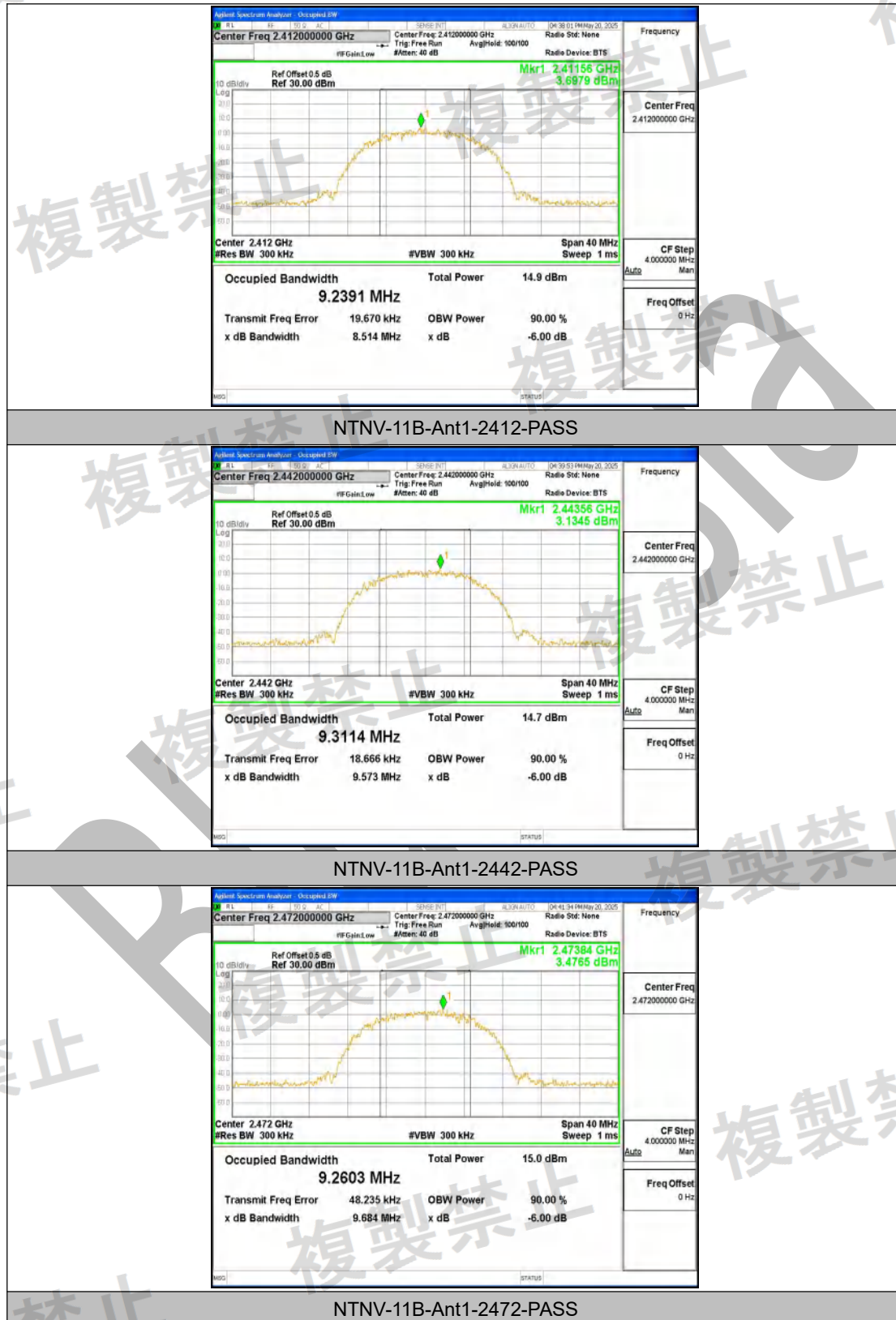
### Test Procedure:

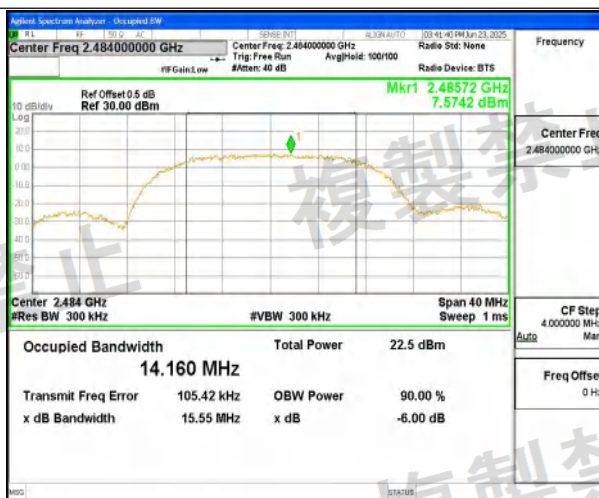
1. Test Conditions:  
Spectrum Analyzer is used for measurement.
2. EUT conditions:  
Modulation/Spread/Hopping ON  
For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.
3. Spectrum Analyzer conditions:  
Frequency: Test Frequency  
Span 40MHz (DSSS, OFDM)  
RBW 300kHz  
VBW 300kHz  
Sweep Time Auto  
detector mode Positive peak  
Indication mode Max hold  
OBW 90%

### 5.9.1 Test Result

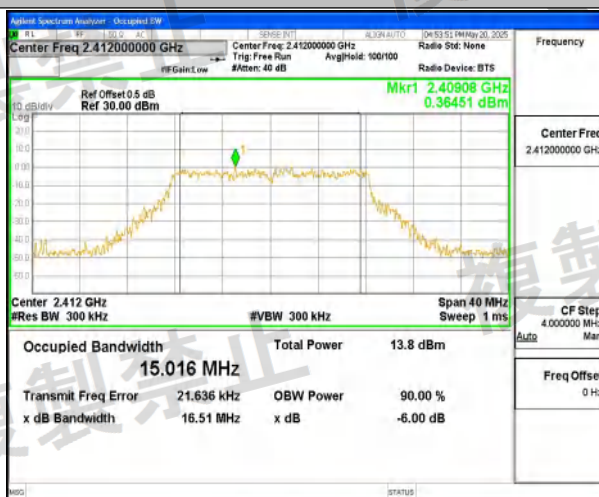
| TestCondition | TestMode  | Antenna | Frequency [MHz] | Result [MHz] | Limit [MHz] | Spread Factor | Limit | Verdict |
|---------------|-----------|---------|-----------------|--------------|-------------|---------------|-------|---------|
| NTNV          | 11B       | Ant1    | 2412            | 9.239        | ≥0.5        | /             | /     | PASS    |
| NTNV          | 11B       | Ant1    | 2442            | 9.311        | ≥0.5        | /             | /     | PASS    |
| NTNV          | 11B       | Ant1    | 2472            | 9.260        | ≥0.5        | /             | /     | PASS    |
| NTNV          | 11B       | Ant1    | 2484            | 14.160       | ≥0.5        | 10.298        | 10    | PASS    |
| NTNV          | 11G       | Ant1    | 2412            | 15.016       | ≥0.5        | /             | /     | PASS    |
| NTNV          | 11G       | Ant1    | 2442            | 15.253       | ≥0.5        | /             | /     | PASS    |
| NTNV          | 11G       | Ant1    | 2472            | 15.109       | ≥0.5        | /             | /     | PASS    |
| NTNV          | 11N20SISO | Ant1    | 2412            | 16.002       | ≥0.5        | /             | /     | PASS    |
| NTNV          | 11N20SISO | Ant1    | 2442            | 16.056       | ≥0.5        | /             | /     | PASS    |
| NTNV          | 11N20SISO | Ant1    | 2472            | 15.987       | ≥0.5        | /             | /     | PASS    |
| NTNV          | 11N40SISO | Ant1    | 2422            | 33.071       | ≥0.5        | /             | /     | PASS    |
| NTNV          | 11N40SISO | Ant1    | 2442            | 33.230       | ≥0.5        | /             | /     | PASS    |
| NTNV          | 11N40SISO | Ant1    | 2462            | 32.496       | ≥0.5        | /             | /     | PASS    |

## 5.9.2 Test Graphs

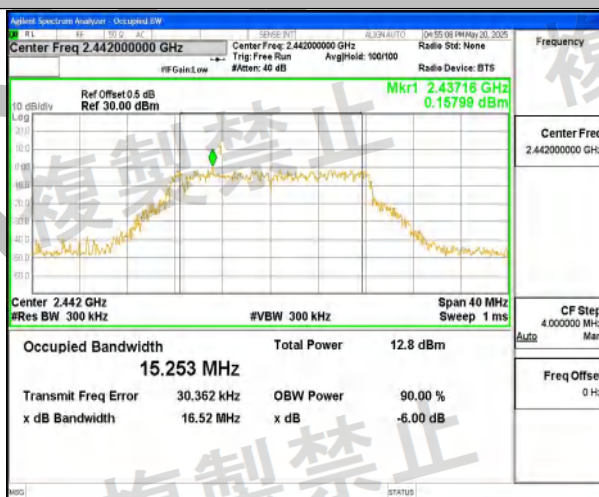




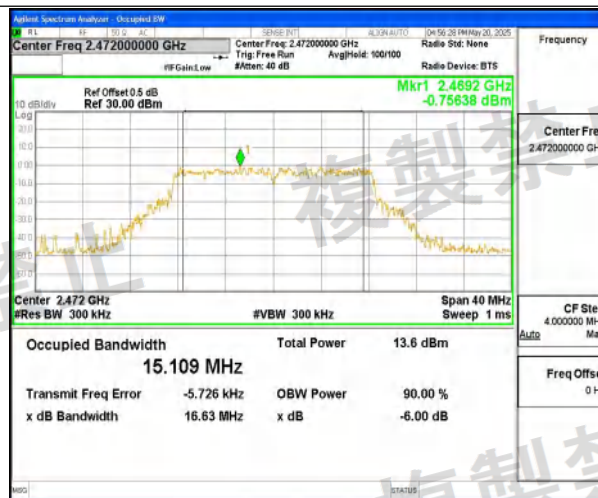
NTNV-11B-Ant1-2484-PASS



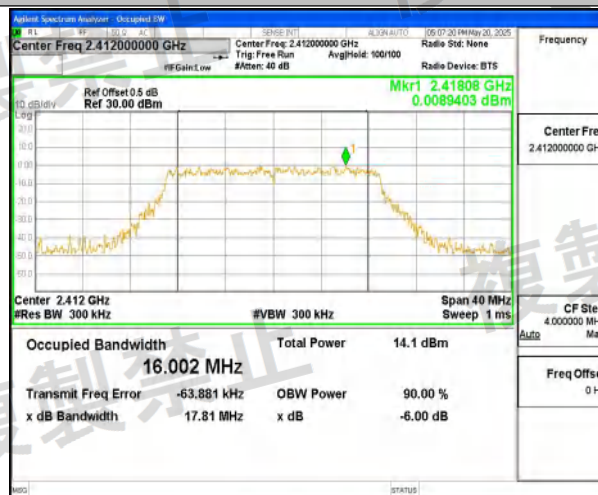
NTNV-11G-Ant1-2412-PASS



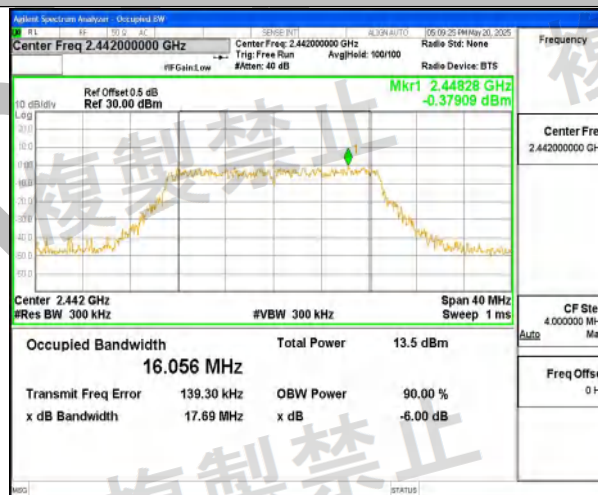
NTNV-11G-Ant1-2442-PASS



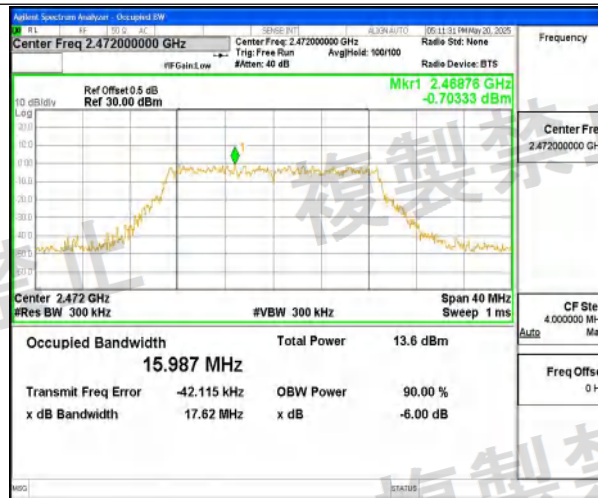
NTVN-11G-Ant1-2472-PASS



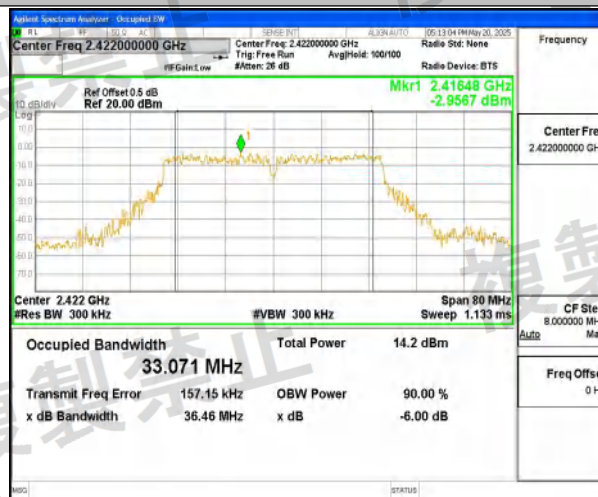
NTVN-11N20SISO-Ant1-2412-PASS



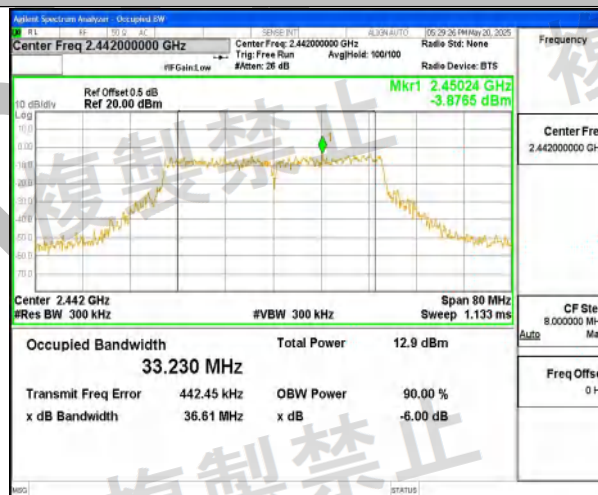
NTVN-11N20SISO-Ant1-2442-PASS



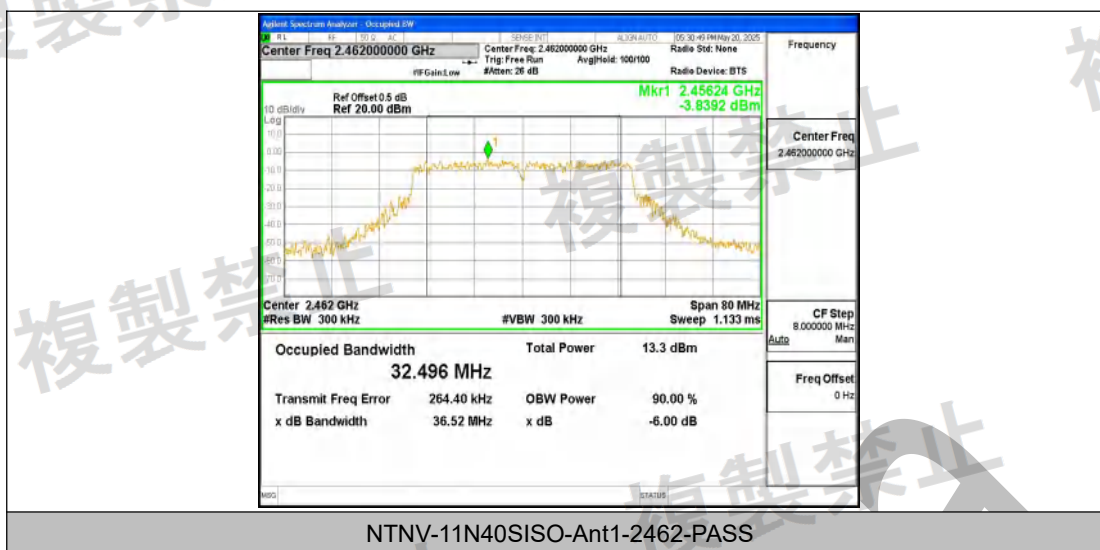
NTVN-11N20SISO-Ant1-2472-PASS



NTVN-11N40SISO-Ant1-2422-PASS



NTVN-11N40SISO-Ant1-2442-PASS



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

## 5.10 Antenna Power

|                     |                                                                                                                                                                                                                                                                                    |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement:   | Item 19 of Article 2-1, Item 19-2 of Article 2 Paragraph 1<br>OFDM, DSSS: 10mW /MHz or less<br>OFDM OBW 26 - 40MHz: 5mW /MHz 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:

Setup 1:

Settings for search:

Frequency: Test Frequency

Span OBW×2

RBW 1 MHz

VBW 1 MHz

Sweep Time Auto

detector mode Positive peak

Indication mode Max hold

Setup2:

Settings when measuring.

Center frequency: searched frequency.

Span: about 0MHz

RBW:1MHz

VBW:1MHz

Sweep: Enough capture the burst.

Detector: RMS

Display mode (Trace): Trigger approx.

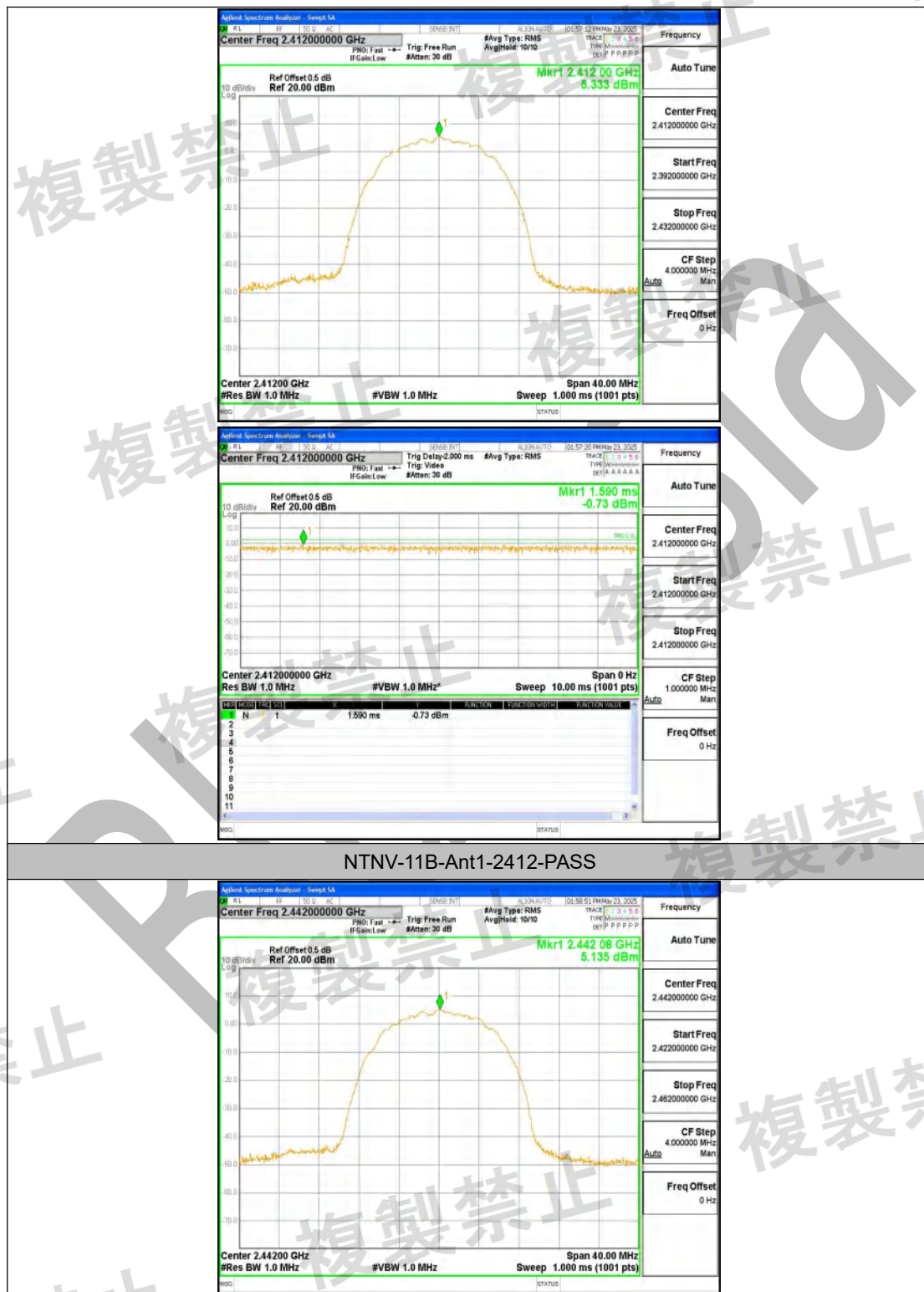
### 5.10.1 Test Result

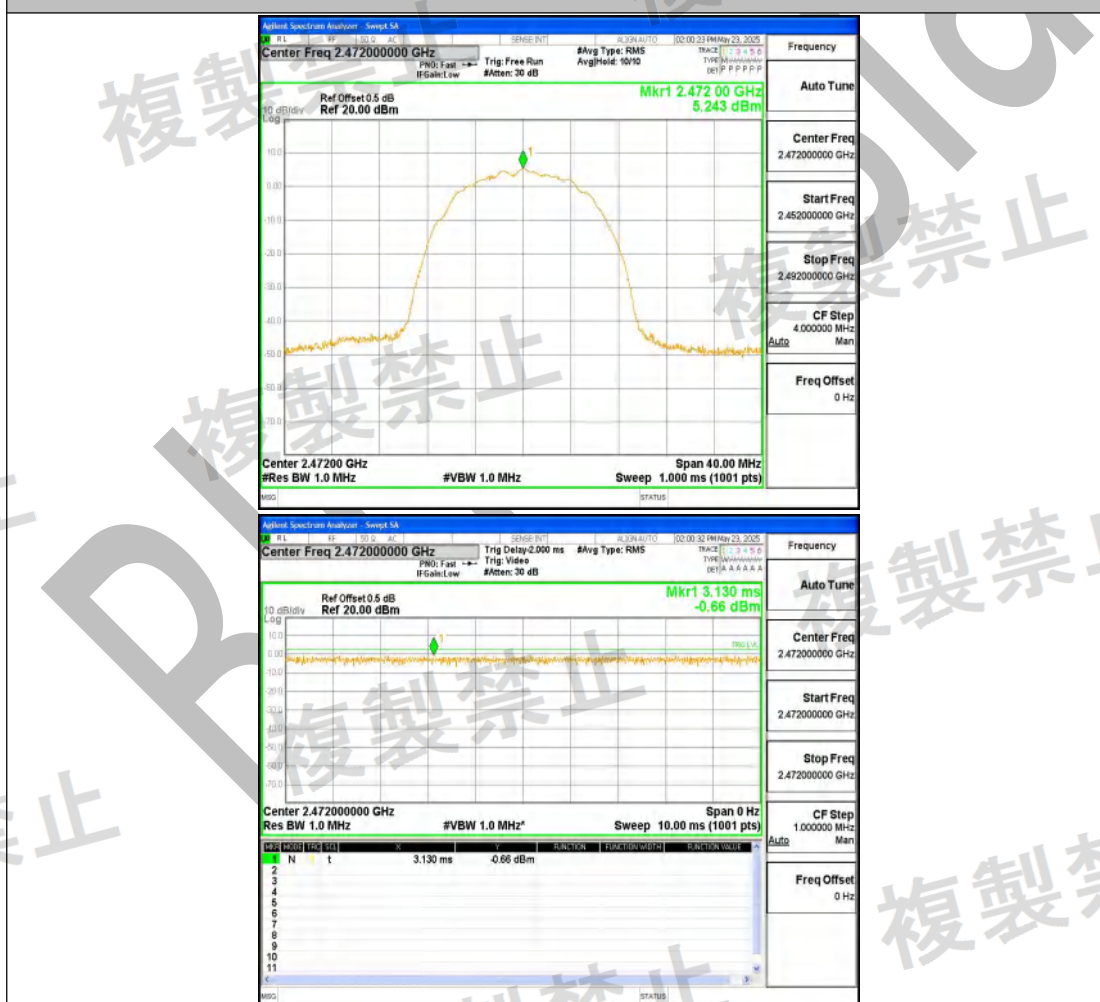
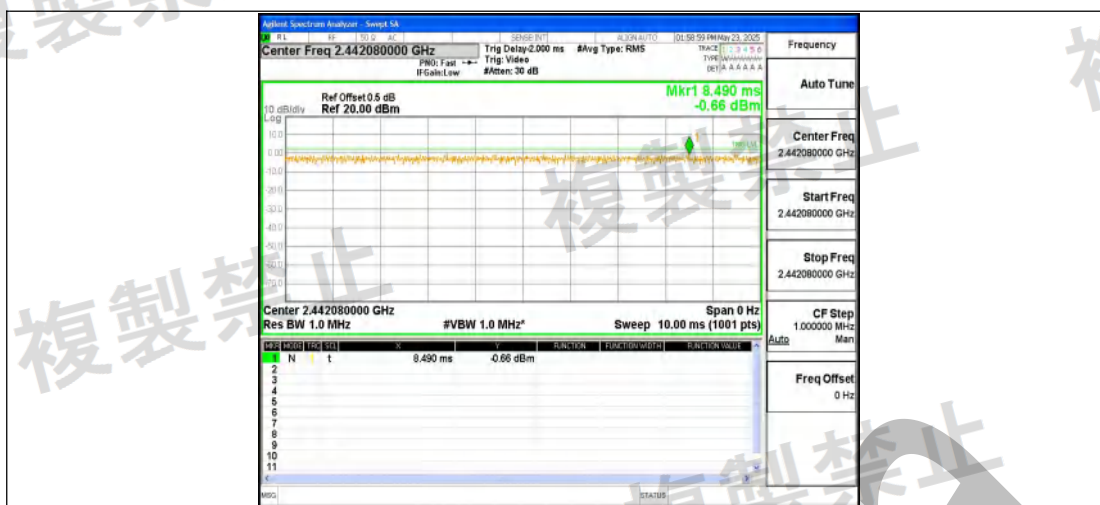
| Antenna Power  |            |         |                 |                  |                 |               |         |
|----------------|------------|---------|-----------------|------------------|-----------------|---------------|---------|
| Test Condition | Test Mode  | Antenna | Frequency [MHz] | Result (dBm/MHz) | Result (mW/MHz) | Limit(mW/MHz) | Verdict |
| NTNV           | 11B        | Ant1    | 2412            | -0.73            | 0.845           | ≤10           | PASS    |
|                |            |         | 2442            | -0.66            | 0.859           | ≤10           | PASS    |
|                |            |         | 2472            | -0.66            | 0.859           | ≤10           | PASS    |
|                |            |         | 2484            | -0.90            | 0.813           | ≤10           | PASS    |
|                | 11G        | Ant1    | 2412            | -1.31            | 0.740           | ≤10           | PASS    |
|                |            |         | 2442            | -2.32            | 0.586           | ≤10           | PASS    |
|                |            |         | 2472            | -2.33            | 0.585           | ≤10           | PASS    |
|                | 11N20SI SO | Ant1    | 2412            | -2.52            | 0.560           | ≤10           | PASS    |
|                |            |         | 2442            | -3.34            | 0.463           | ≤10           | PASS    |
|                |            |         | 2472            | -2.81            | 0.524           | ≤10           | PASS    |
|                | 11N40SI SO | Ant1    | 2422            | -3.63            | 0.434           | ≤5            | PASS    |
|                |            |         | 2442            | -2.72            | 0.535           | ≤5            | PASS    |
|                |            |         | 2462            | -3.48            | 0.449           | ≤5            | PASS    |

| Tolerance      |           |         |                 |                |                      |           |           |         |
|----------------|-----------|---------|-----------------|----------------|----------------------|-----------|-----------|---------|
| Test Condition | Test Mode | Antenna | Frequency [MHz] | Power (mW/MHz) | Rated Power (mW/MHz) | Result(%) | Limit(%)  | Verdict |
| NTNV           | 11B       | Ant1    | 2412            | 0.845          | 1.00                 | -15.50    | +20       | PASS    |
|                |           |         | 2442            | 0.859          | 1.00                 | -14.10    | +20       | PASS    |
|                |           |         | 2472            | 0.859          | 1.00                 | -14.10    | +20       | PASS    |
|                |           |         | 2484            | 0.813          | 1.00                 | -18.70    | -80%, +20 | PASS    |
|                | 11G       | Ant1    | 2412            | 0.740          | 1.00                 | -26.00    | +20       | PASS    |
|                |           |         | 2442            | 0.586          | 1.00                 | -41.40    | +20       | PASS    |
|                |           |         | 2472            | 0.585          | 1.00                 | -41.50    | +20       | PASS    |
|                | 11N20SISO | Ant1    | 2412            | 0.560          | 1.00                 | -44.00    | +20       | PASS    |
|                |           |         | 2442            | 0.463          | 1.00                 | -53.70    | +20       | PASS    |
|                |           |         | 2472            | 0.524          | 1.00                 | -47.60    | +20       | PASS    |
|                | 11N40SISO | Ant1    | 2422            | 0.434          | 1.00                 | -56.60    | +20       | PASS    |
|                |           |         | 2442            | 0.535          | 1.00                 | -46.50    | +20       | PASS    |
|                |           |         | 2462            | 0.449          | 1.00                 | -55.10    | +20       | PASS    |

| EIRP           |               |         |                 |                  |                |                 |         |
|----------------|---------------|---------|-----------------|------------------|----------------|-----------------|---------|
| Test Condition | Test Mode     | Antenna | Frequency [MHz] | Result (dBm/MHz) | EIRP (dBm/MHz) | Limit (dBm/MHz) | Verdict |
| NTNV           | 11B           | Ant1    | 2412            | -0.73            | 3.43           | ≤12.14          | PASS    |
|                |               |         | 2442            | -0.66            | 3.50           | ≤12.14          | PASS    |
|                |               |         | 2472            | -0.66            | 3.50           | ≤12.14          | PASS    |
|                |               |         | 2484            | -0.90            | 3.26           | ≤12.14          | PASS    |
|                | 11G           | Ant1    | 2412            | -1.31            | 2.85           | ≤12.14          | PASS    |
|                |               |         | 2442            | -2.32            | 1.84           | ≤12.14          | PASS    |
|                |               |         | 2472            | -2.33            | 1.83           | ≤12.14          | PASS    |
|                | 11N20SI<br>SO | Ant1    | 2412            | -2.52            | 1.64           | ≤12.14          | PASS    |
|                |               |         | 2442            | -3.34            | 0.82           | ≤12.14          | PASS    |
|                |               |         | 2472            | -2.81            | 1.35           | ≤12.14          | PASS    |
|                | 11N40SI<br>SO | Ant1    | 2422            | -3.63            | 0.53           | ≤9.13           | PASS    |
|                |               |         | 2442            | -2.72            | 1.44           | ≤9.13           | PASS    |
|                |               |         | 2462            | -3.48            | 0.68           | ≤9.13           | PASS    |

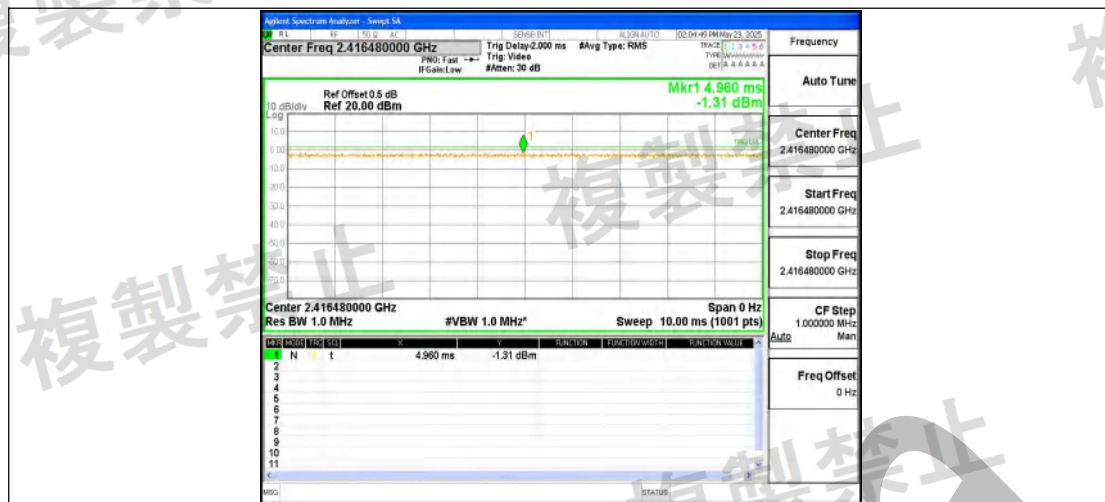
### 5.10.2 Test Graphs



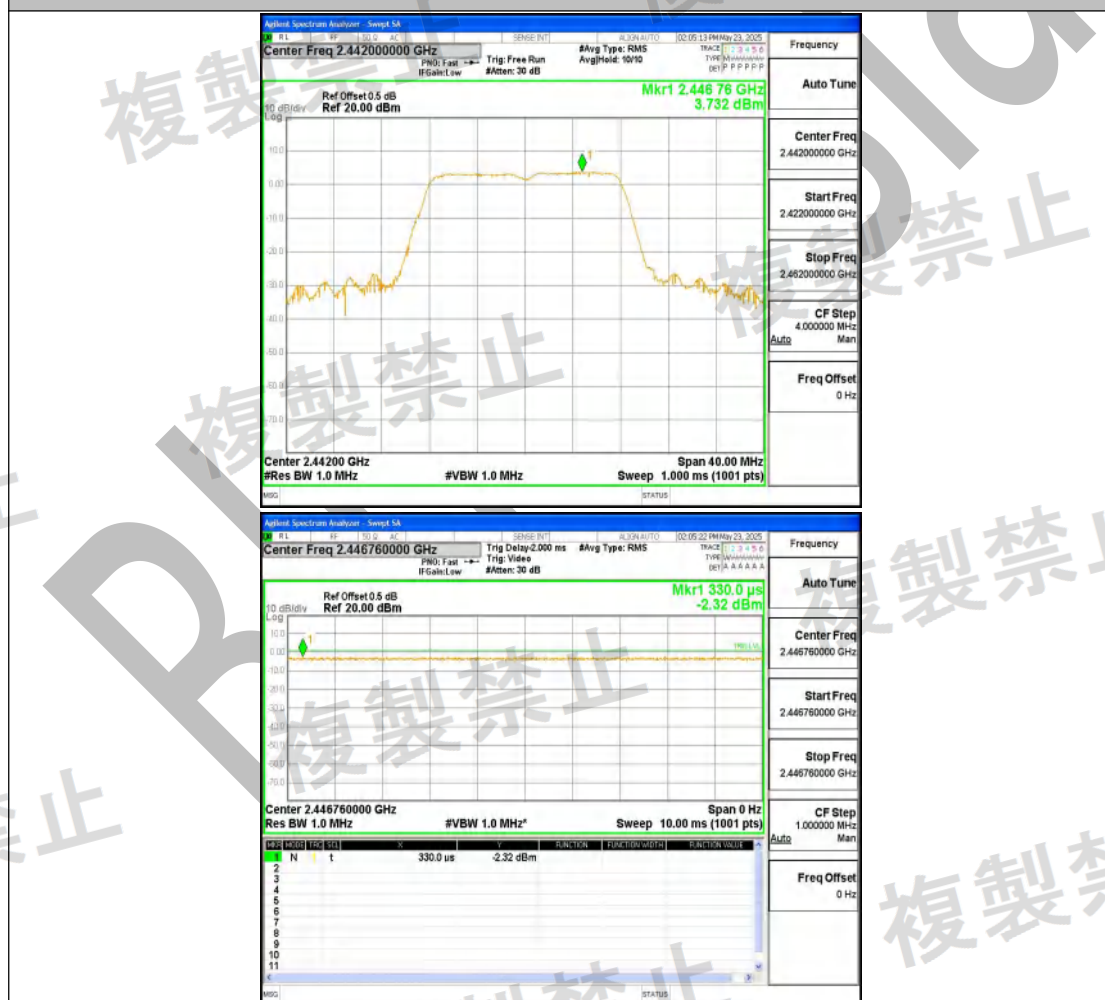




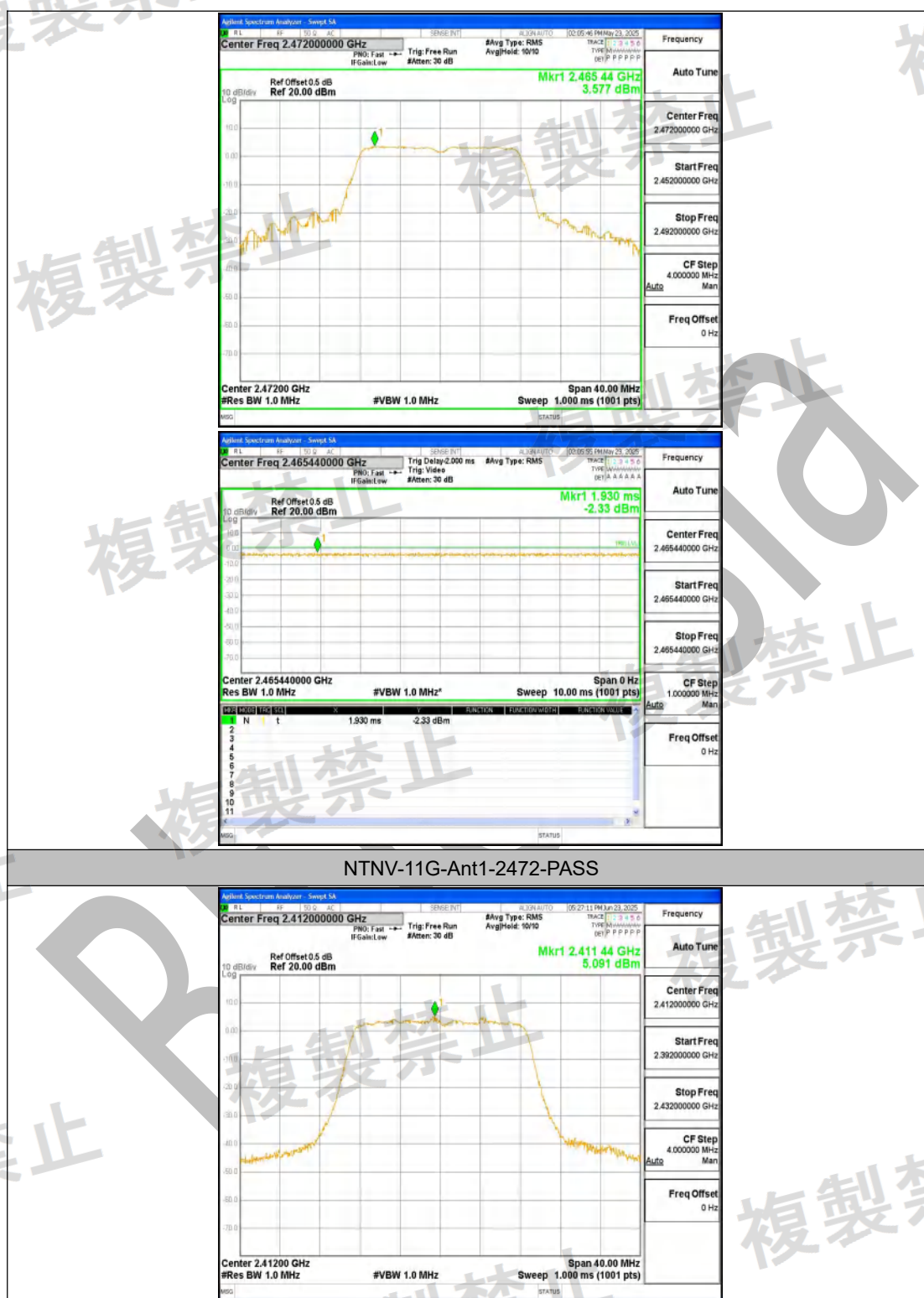
NTNV-11B-Ant1-2484-PASS



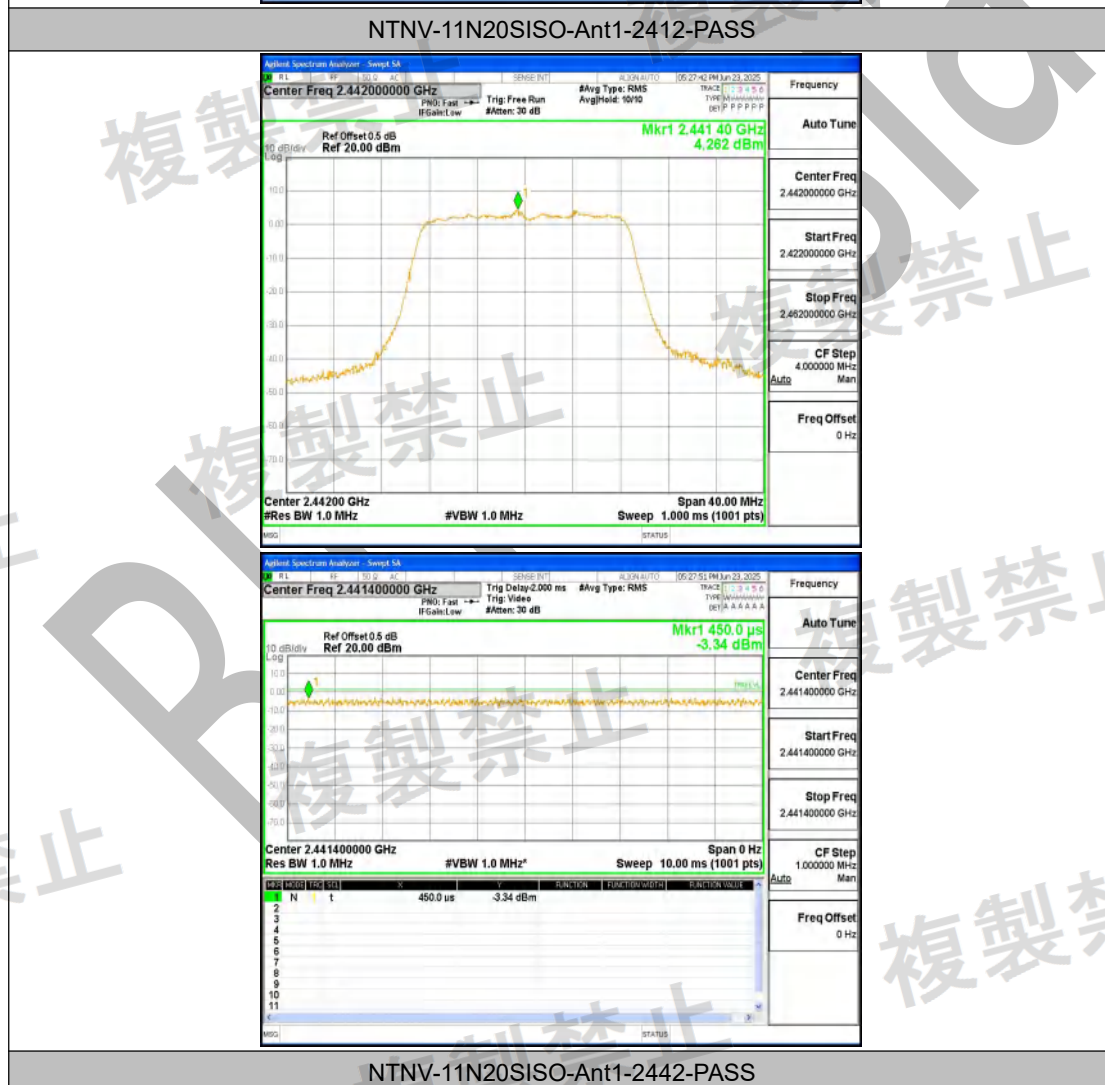
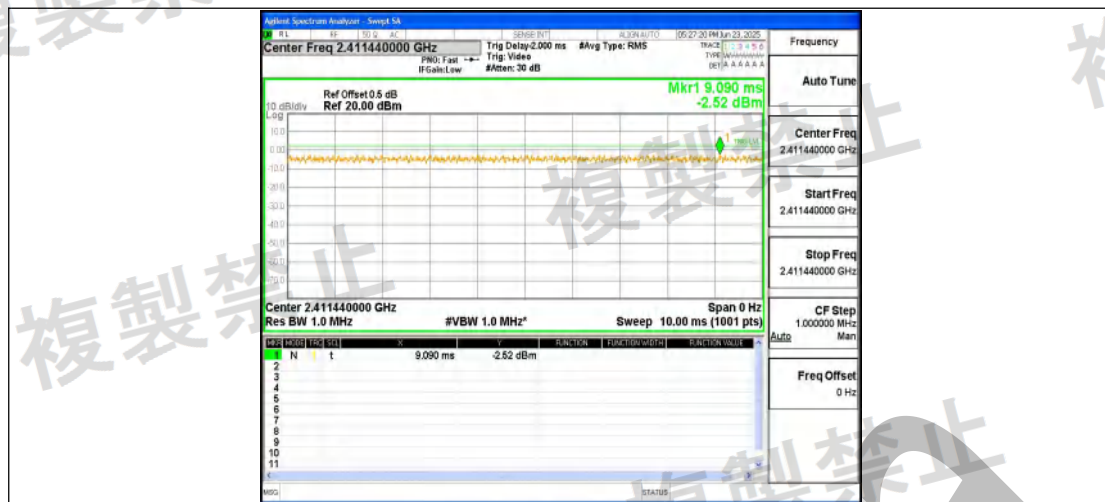
NTNV-11G-Ant1-2412-PASS

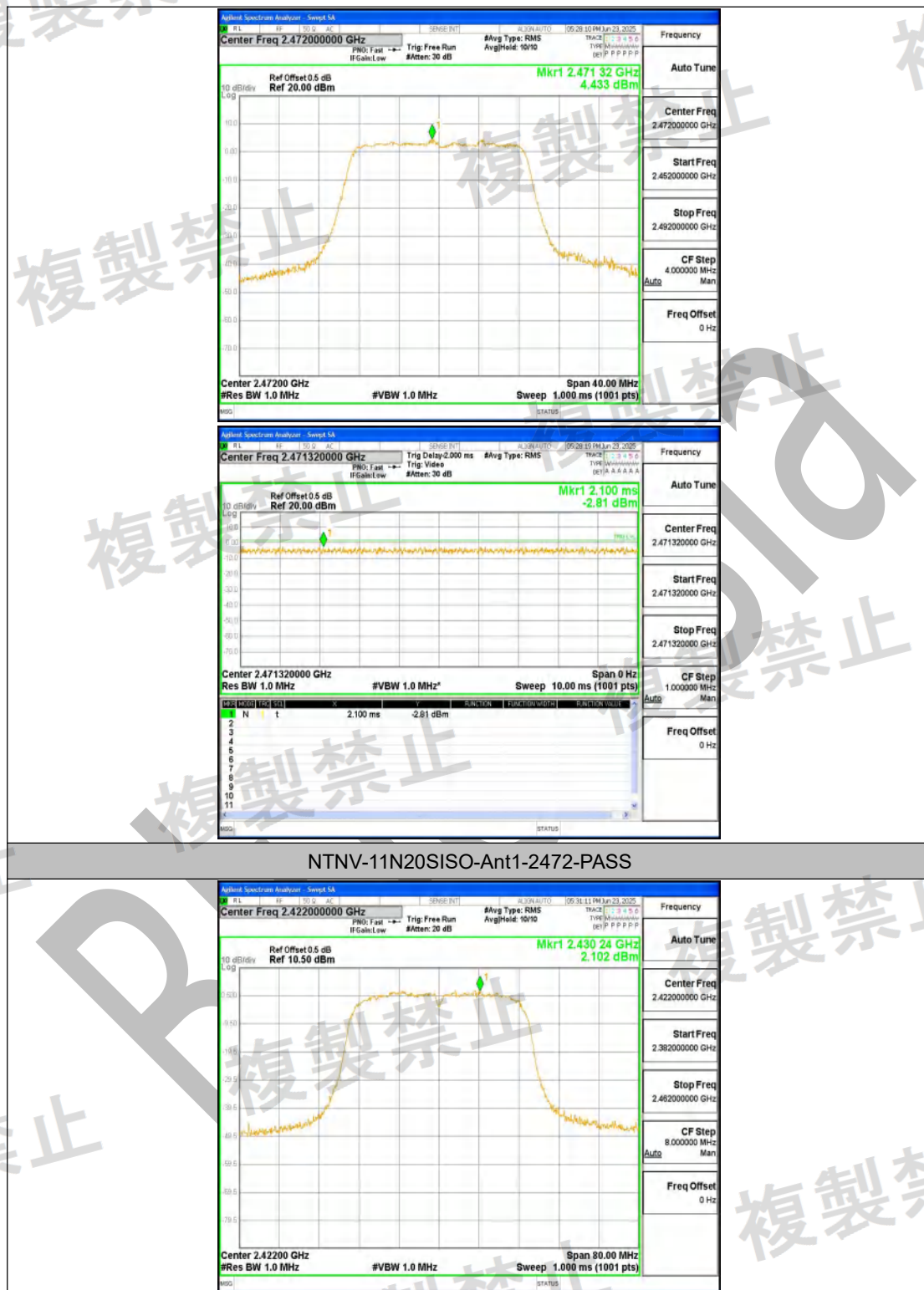


NTNV-11G-Ant1-2442-PASS

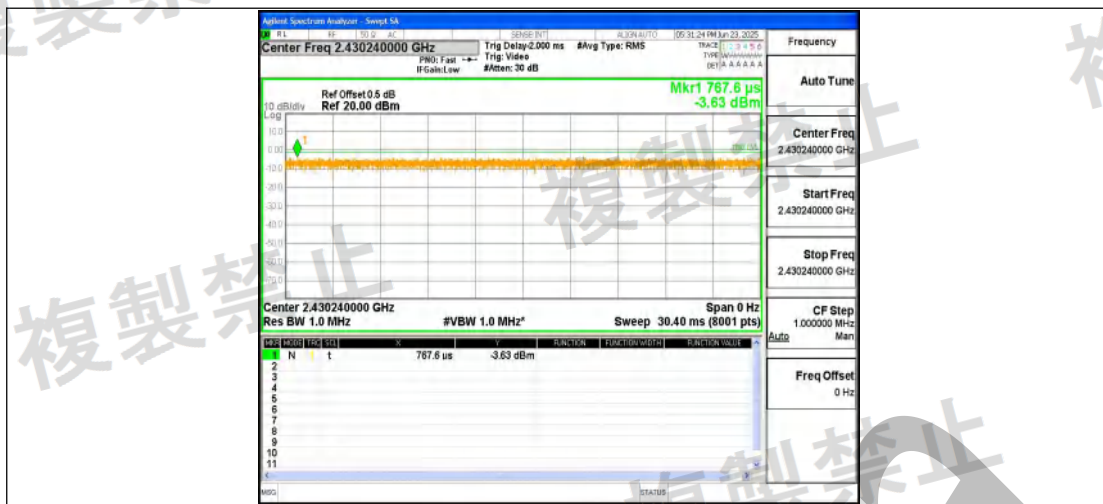


NTNV-11G-Ant1-2472-PASS





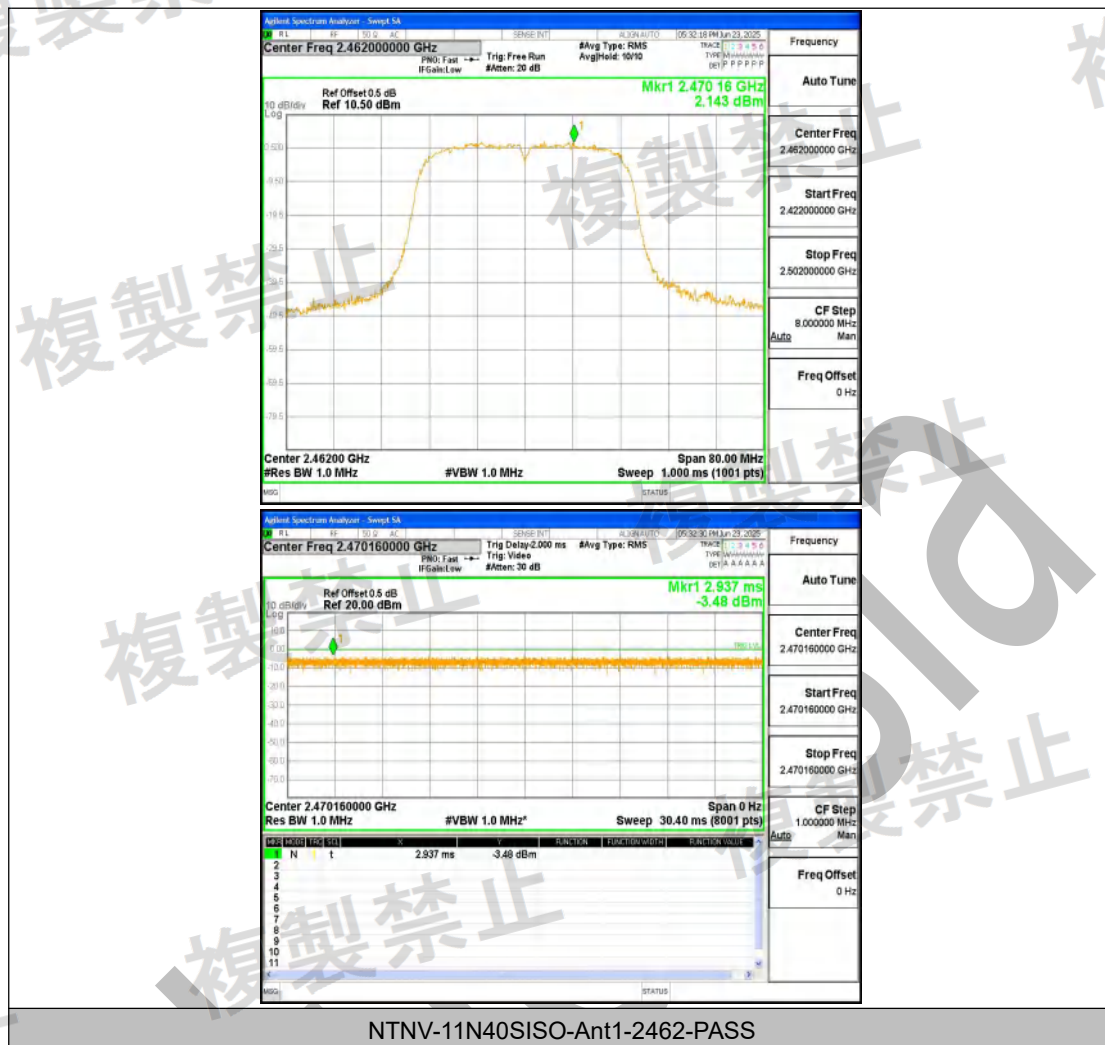
NTNV-11N20SISO-Ant1-2472-PASS



NTNV-11N40SISO-Ant1-2422-PASS



NTNV-11N40SISO-Ant1-2442-PASS

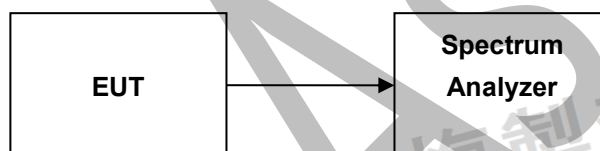


NTVN-11N40SISO-Ant1-2462-PASS

Test result: The unit does meet the requirements.

## 5.11 Spurious Emissions of Tx

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement:   | Item 19 of Article 2-1, Item 19-2 of Article 2 Paragraph 1<br>For 2412-2472MHz<br>(1) Below 2387 MHz : 2.5μW/MHz (-26dBm)<br>(2) 2387 to 2400 MHz : 25μW/MHz (-16dBm)<br>(3) 2483.5 through 2496.5 MHz : 25μW/MHz (-16dBm)<br>(4) Over 2496.5 MHz : 2.5μW/MHz (-26dBm)<br>For 2484MHz<br>(5)Below 2458 MHz : 2.5μW/MHz (-26dBm)<br>(6)2458 to 2471 MHz : 25μW/MHz(-16dBm)<br>(7)2497 through 2510MHz : 25μW/MHz (-16dBm)<br>(8)Over 2510 MHz : 2.5μW/MHz (-26dBm) |
| 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:  
Step1  
All spurious are measured from 30MHz to 13 GHz by peak mode.  
  
Test setup for Step 1:  
Frequency: 30MHz – 2400MHz , 2483.5MHz –13GHz (for 2412-2472MHz)  
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

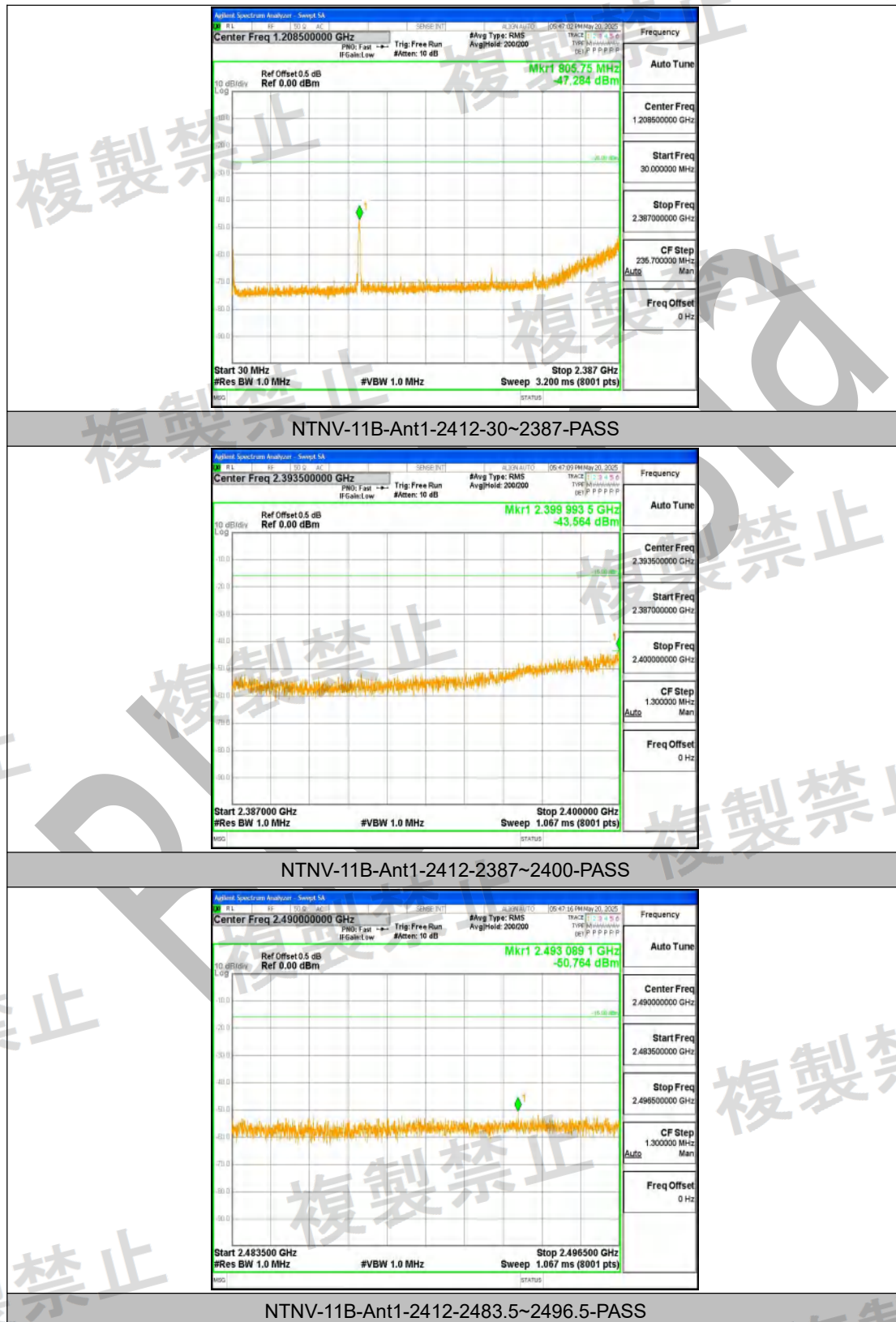
Span 0 Hz

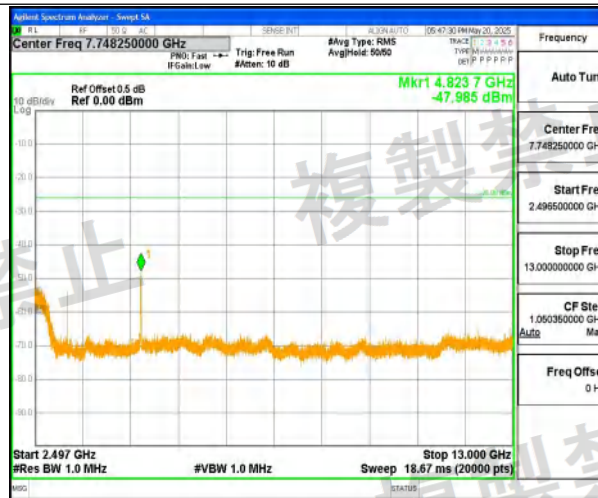
### 5.11.1 Test Result

| TestCondition | TestMode      | Antenna | Frequency [MHz] | Freq.Range [MHz] | Result [dBm/MHz] | Limit [dBm/MHz] | Verdict |
|---------------|---------------|---------|-----------------|------------------|------------------|-----------------|---------|
| NTNV          | 11B           | Ant1    | 2412            | 30~2387          | -47.28           | ≤-26            | PASS    |
| NTNV          | 11B           | Ant1    | 2412            | 2387~2400        | -43.56           | ≤-16            | PASS    |
| NTNV          | 11B           | Ant1    | 2412            | 2483.5~2496.5    | -50.76           | ≤-16            | PASS    |
| NTNV          | 11B           | Ant1    | 2412            | 2496.5~13000     | -47.99           | ≤-26            | PASS    |
| NTNV          | 11B           | Ant1    | 2442            | 30~2387          | -49.28           | ≤-26            | PASS    |
| NTNV          | 11B           | Ant1    | 2442            | 2387~2400        | -53.81           | ≤-16            | PASS    |
| NTNV          | 11B           | Ant1    | 2442            | 2483.5~2496.5    | -51.98           | ≤-16            | PASS    |
| NTNV          | 11B           | Ant1    | 2442            | 2496.5~13000     | -50.25           | ≤-26            | PASS    |
| NTNV          | 11B           | Ant1    | 2472            | 30~2387          | -49.62           | ≤-26            | PASS    |
| NTNV          | 11B           | Ant1    | 2472            | 2387~2400        | -54.14           | ≤-16            | PASS    |
| NTNV          | 11B           | Ant1    | 2472            | 2483.5~2496.5    | -41.88           | ≤-16            | PASS    |
| NTNV          | 11B           | Ant1    | 2472            | 2496.5~13000     | -53.06           | ≤-26            | PASS    |
| NTNV          | 11B           | Ant1    | 2484            | 30~2458          | -51.32           | ≤-26            | PASS    |
| NTNV          | 11B           | Ant1    | 2484            | 2458~2471        | -45.64           | ≤-16            | PASS    |
| NTNV          | 11B           | Ant1    | 2484            | 2497~2510        | -43.40           | ≤-16            | PASS    |
| NTNV          | 11B           | Ant1    | 2484            | 2510~13000       | -50.03           | ≤-26            | PASS    |
| NTNV          | 11G           | Ant1    | 2412            | 30~2387          | -39.86           | ≤-26            | PASS    |
| NTNV          | 11G           | Ant1    | 2412            | 2387~2400        | -20.18           | ≤-16            | PASS    |
| NTNV          | 11G           | Ant1    | 2412            | 2483.5~2496.5    | -46.71           | ≤-16            | PASS    |
| NTNV          | 11G           | Ant1    | 2412            | 2496.5~13000     | -46.45           | ≤-26            | PASS    |
| NTNV          | 11G           | Ant1    | 2442            | 30~2387          | -47.71           | ≤-26            | PASS    |
| NTNV          | 11G           | Ant1    | 2442            | 2387~2400        | -44.22           | ≤-16            | PASS    |
| NTNV          | 11G           | Ant1    | 2442            | 2483.5~2496.5    | -46.48           | ≤-16            | PASS    |
| NTNV          | 11G           | Ant1    | 2442            | 2496.5~13000     | -47.56           | ≤-26            | PASS    |
| NTNV          | 11G           | Ant1    | 2472            | 30~2387          | -48.32           | ≤-26            | PASS    |
| NTNV          | 11G           | Ant1    | 2472            | 2387~2400        | -50.67           | ≤-16            | PASS    |
| NTNV          | 11G           | Ant1    | 2472            | 2483.5~2496.5    | -19.44           | ≤-16            | PASS    |
| NTNV          | 11G           | Ant1    | 2472            | 2496.5~13000     | -47.26           | ≤-26            | PASS    |
| NTNV          | 11N20SIS<br>O | Ant1    | 2412            | 30~2387          | -36.37           | ≤-26            | PASS    |
| NTNV          | 11N20SIS<br>O | Ant1    | 2412            | 2387~2400        | -20.98           | ≤-16            | PASS    |
| NTNV          | 11N20SIS<br>O | Ant1    | 2412            | 2483.5~2496.5    | -45.84           | ≤-16            | PASS    |
| NTNV          | 11N20SIS<br>O | Ant1    | 2412            | 2496.5~13000     | -45.18           | ≤-26            | PASS    |
| NTNV          | 11N20SIS<br>O | Ant1    | 2442            | 30~2387          | -47.62           | ≤-26            | PASS    |

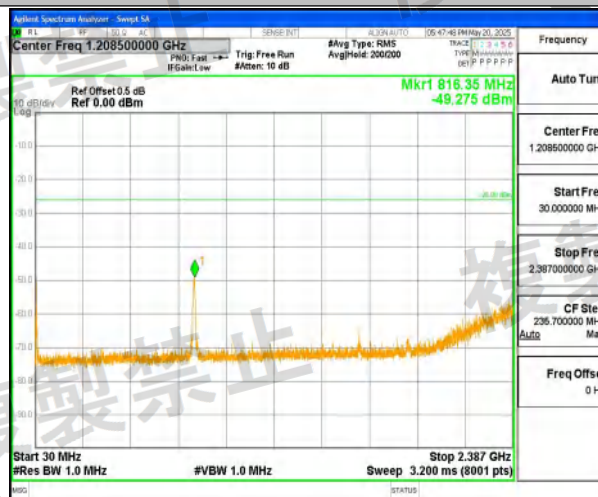
|      |               |      |      |               |        |      |                       |
|------|---------------|------|------|---------------|--------|------|-----------------------|
| NTNV | 11N20SIS<br>O | Ant1 | 2442 | 2387~2400     | -44.68 | ≤-16 | PASS                  |
| NTNV | 11N20SIS<br>O | Ant1 | 2442 | 2483.5~2496.5 | -45.87 | ≤-16 | PASS                  |
| NTNV | 11N20SIS<br>O | Ant1 | 2442 | 2496.5~13000  | -47.29 | ≤-26 | PASS                  |
| NTNV | 11N20SIS<br>O | Ant1 | 2472 | 30~2387       | -48.26 | ≤-26 | PASS                  |
| NTNV | 11N20SIS<br>O | Ant1 | 2472 | 2387~2400     | -49.52 | ≤-16 | PASS                  |
| NTNV | 11N20SIS<br>O | Ant1 | 2472 | 2483.5~2496.5 | -18.77 | ≤-16 | PASS                  |
| NTNV | 11N20SIS<br>O | Ant1 | 2472 | 2496.5~13000  | -47.42 | ≤-26 | PASS                  |
| NTNV | 11N40SIS<br>O | Ant1 | 2422 | 30~2387       | -43.61 | ≤-26 | PASS                  |
| NTNV | 11N40SIS<br>O | Ant1 | 2422 | 2387~2400     | -17.33 | ≤-16 | See<br>table<br>below |
| NTNV | 11N40SIS<br>O | Ant1 | 2422 | 2483.5~2496.5 | -46.48 | ≤-16 | PASS                  |
| NTNV | 11N40SIS<br>O | Ant1 | 2422 | 2496.5~13000  | -47.61 | ≤-26 | PASS                  |
| NTNV | 11N40SIS<br>O | Ant1 | 2442 | 30~2387       | -49.68 | ≤-26 | PASS                  |
| NTNV | 11N40SIS<br>O | Ant1 | 2442 | 2387~2400     | -42.50 | ≤-16 | PASS                  |
| NTNV | 11N40SIS<br>O | Ant1 | 2442 | 2483.5~2496.5 | -42.75 | ≤-16 | PASS                  |
| NTNV | 11N40SIS<br>O | Ant1 | 2442 | 2496.5~13000  | -47.81 | ≤-26 | PASS                  |
| NTNV | 11N40SIS<br>O | Ant1 | 2462 | 30~2387       | -50.02 | ≤-26 | PASS                  |
| NTNV | 11N40SIS<br>O | Ant1 | 2462 | 2387~2400     | -48.85 | ≤-16 | PASS                  |
| NTNV | 11N40SIS<br>O | Ant1 | 2462 | 2483.5~2496.5 | -16.64 | ≤-16 | See<br>table<br>below |
| NTNV | 11N40SIS<br>O | Ant1 | 2462 | 2496.5~13000  | -44.78 | ≤-26 | PASS                  |

### 5.11.2 Test Graphs

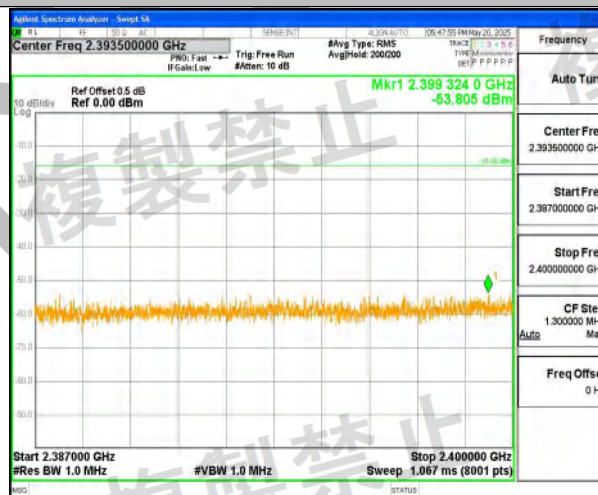




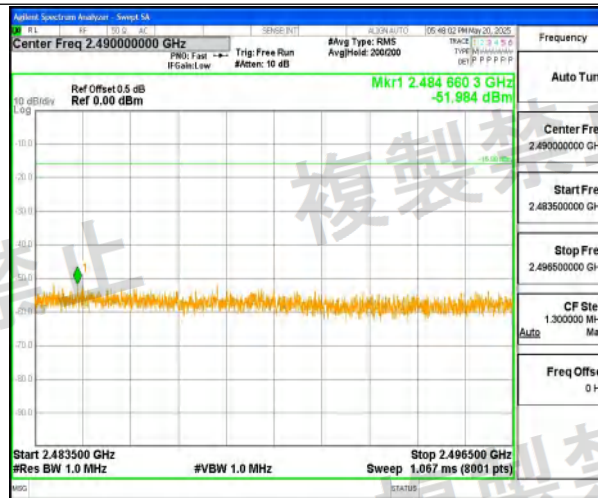
NTNV-11B-Ant1-2412-2496.5~13000-PASS



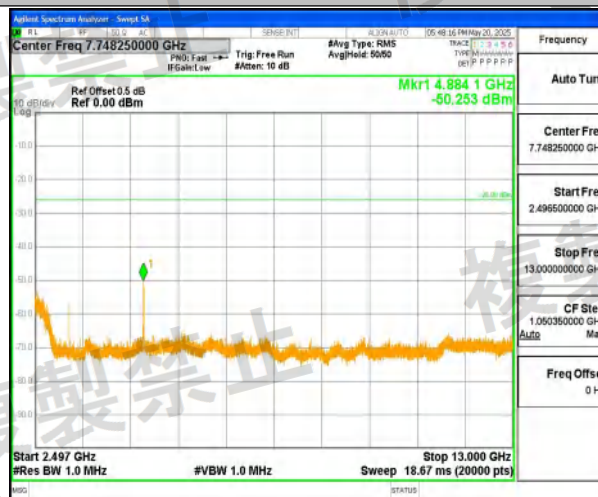
NTNV-11B-Ant1-2442-30~2387-PASS



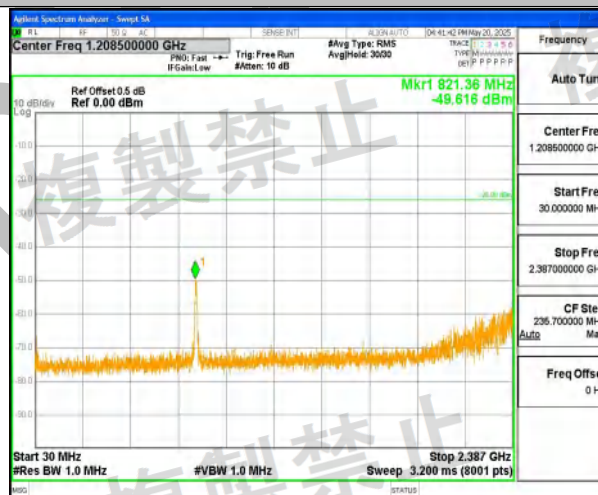
NTNV-11B-Ant1-2442-2387~2400-PASS



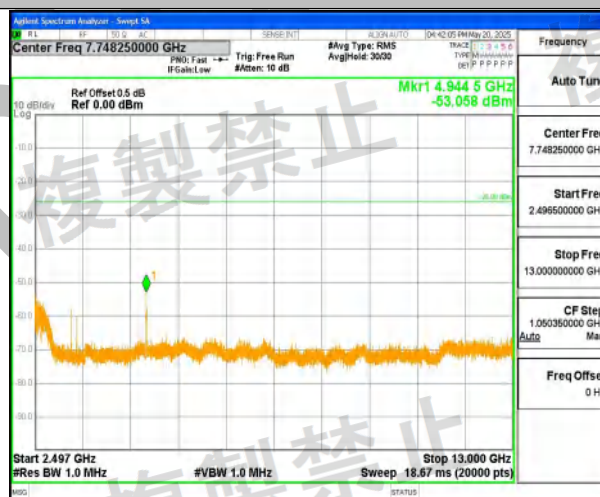
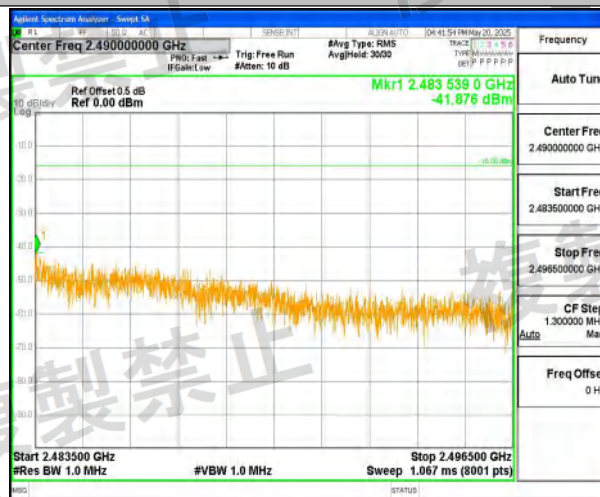
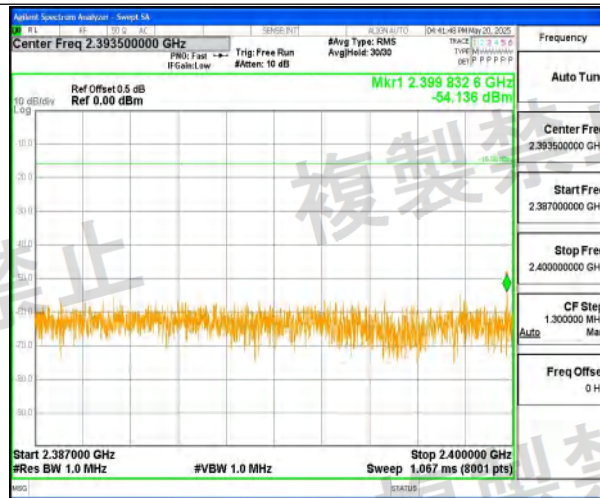
NTNV-11B-Ant1-2442-2483.5~2496.5-PASS

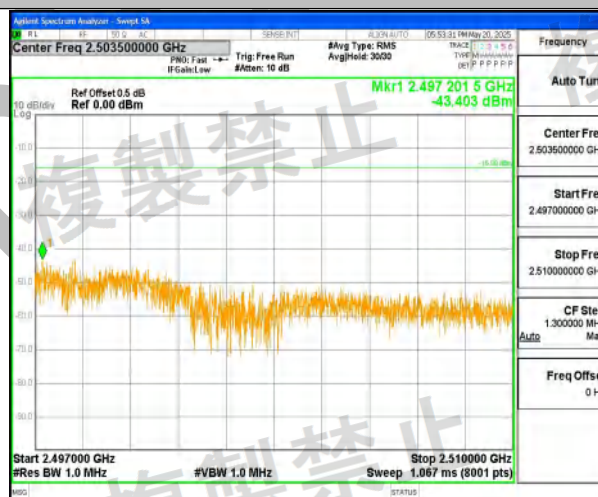
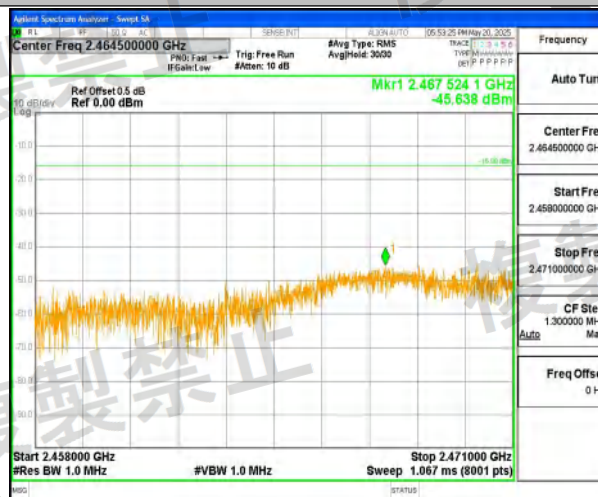
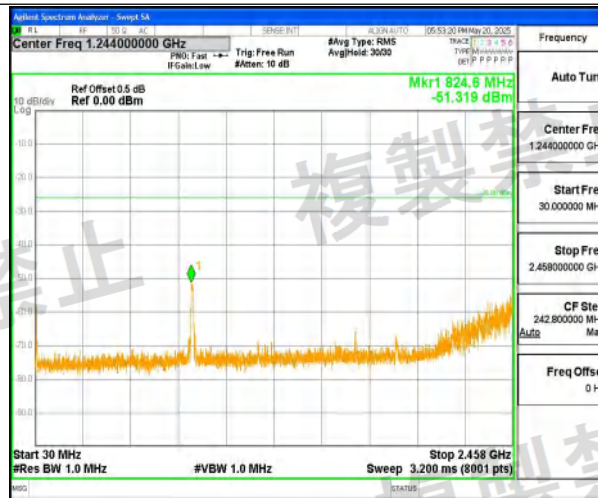


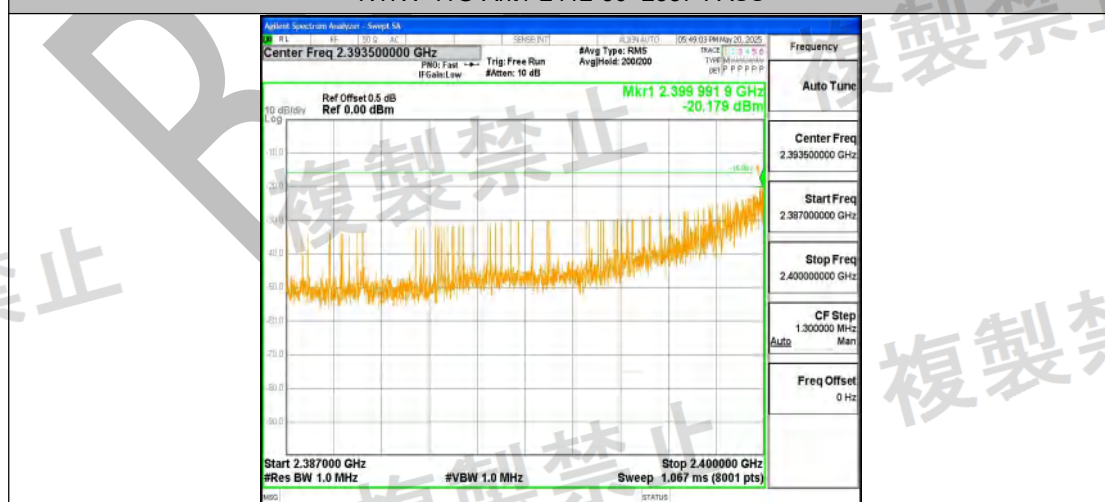
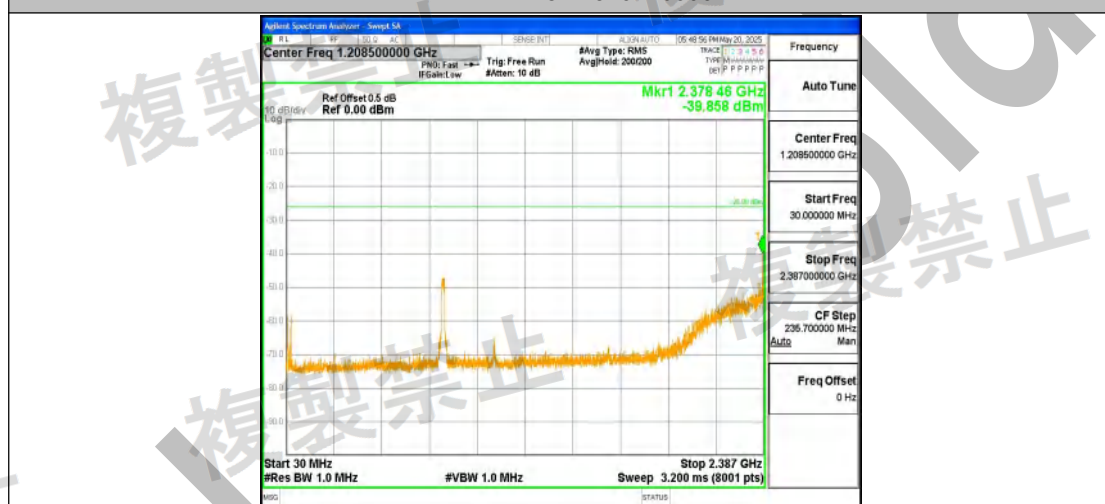
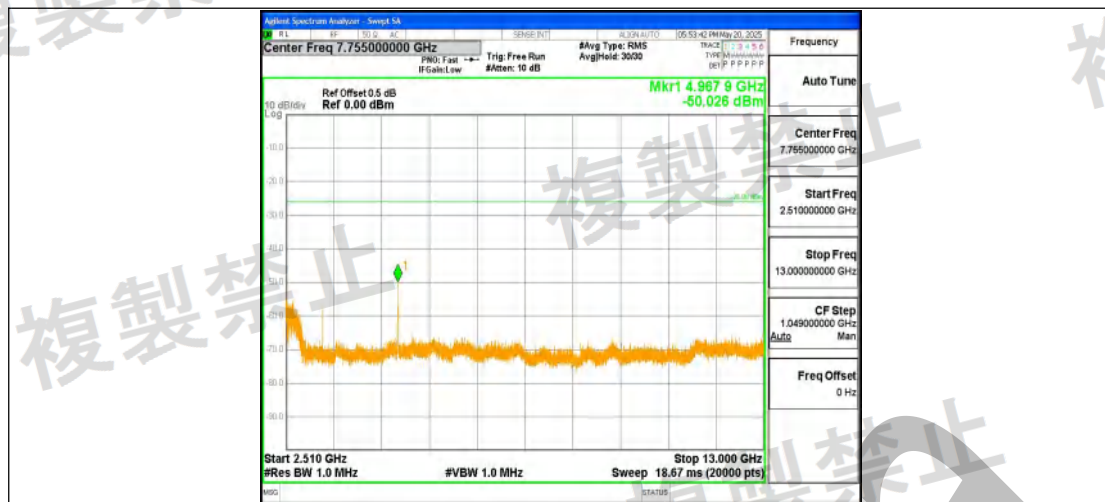
NTNV-11B-Ant1-2442-2496.5~13000-PASS

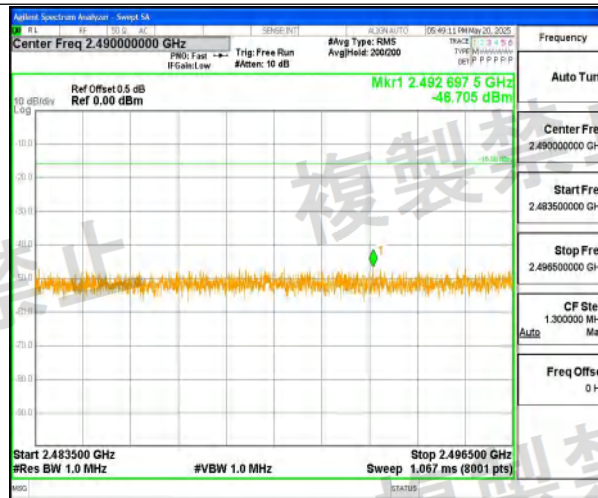


NTNV-11B-Ant1-2472-30~2387-PASS

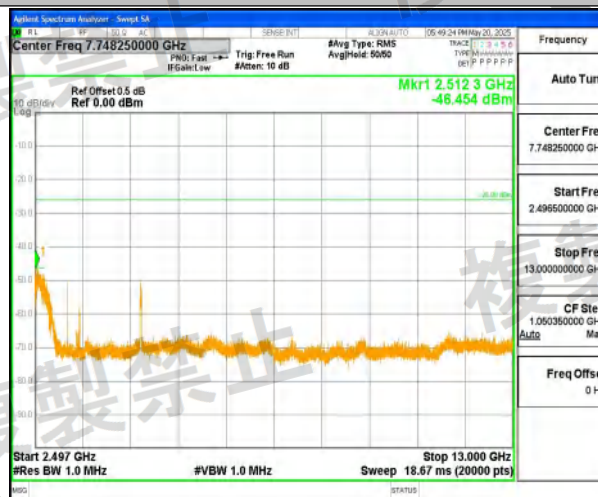




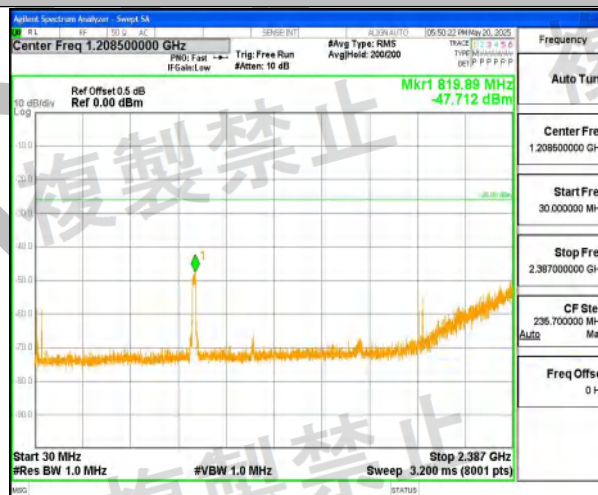




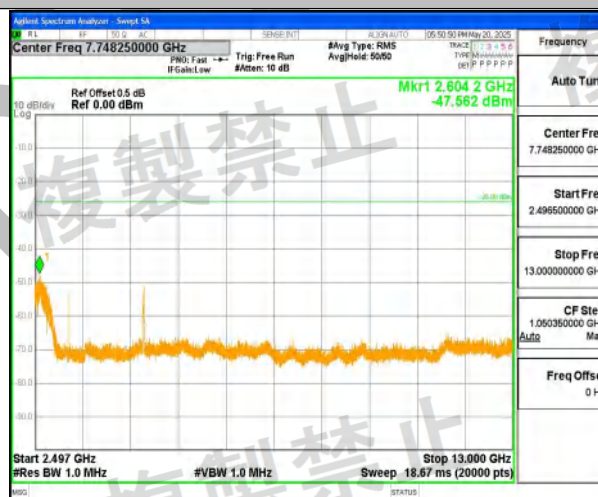
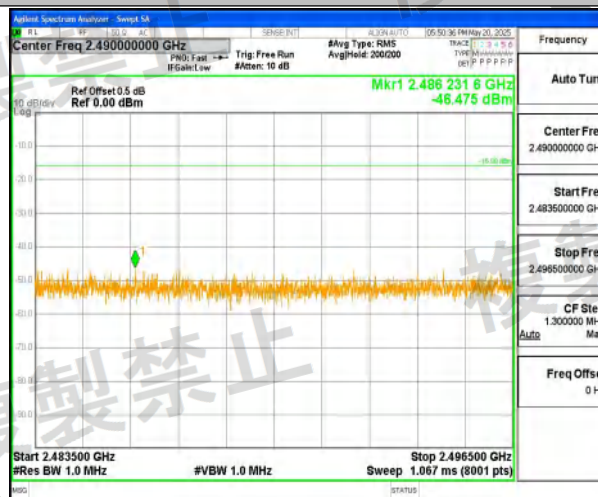
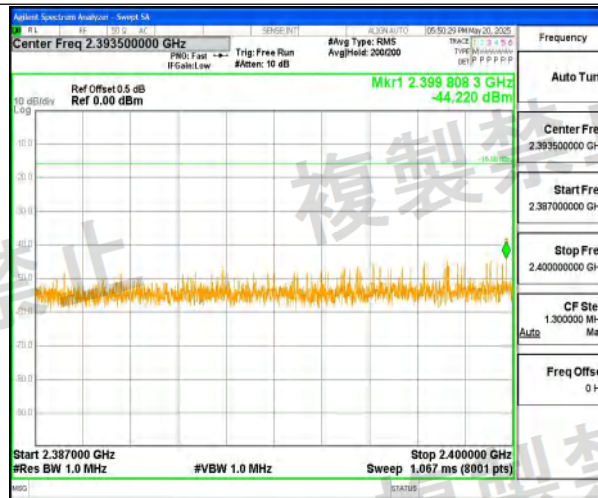
NTNV-11G-Ant1-2412-2483.5~2496.5-PASS

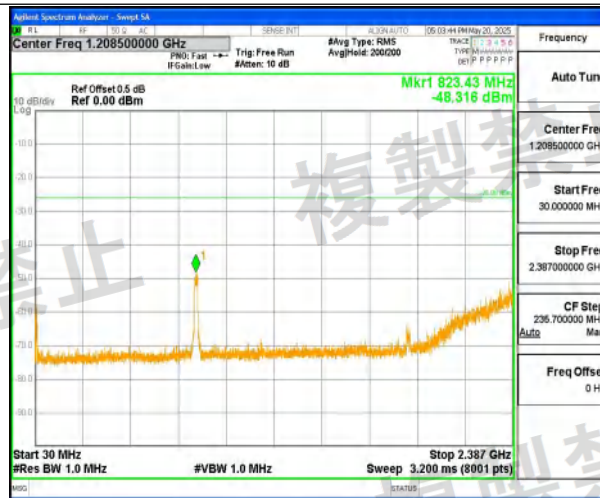


NTNV-11G-Ant1-2412-2496.5~13000-PASS

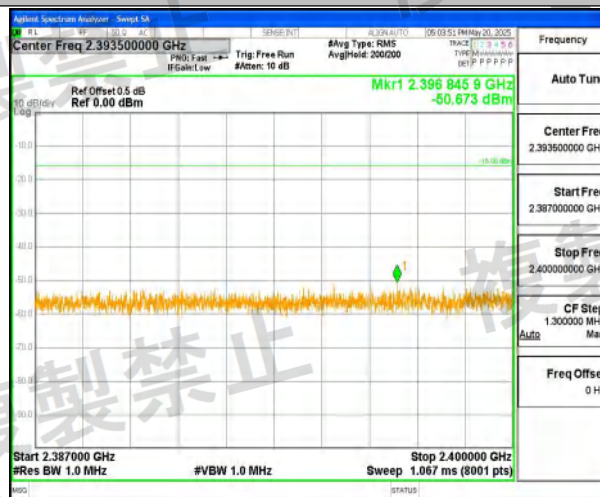


NTNV-11G-Ant1-2442-30~2387-PASS

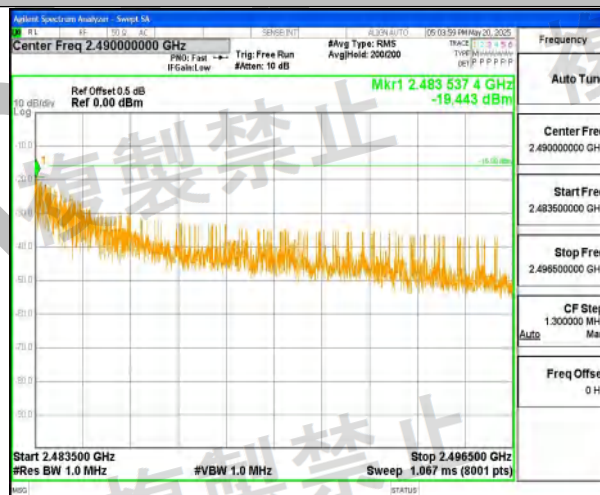




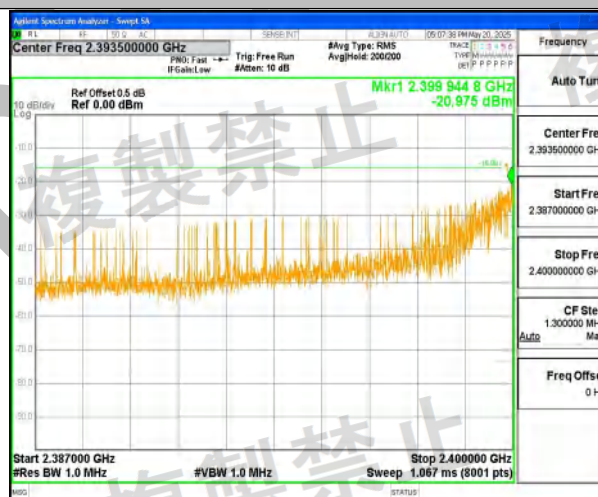
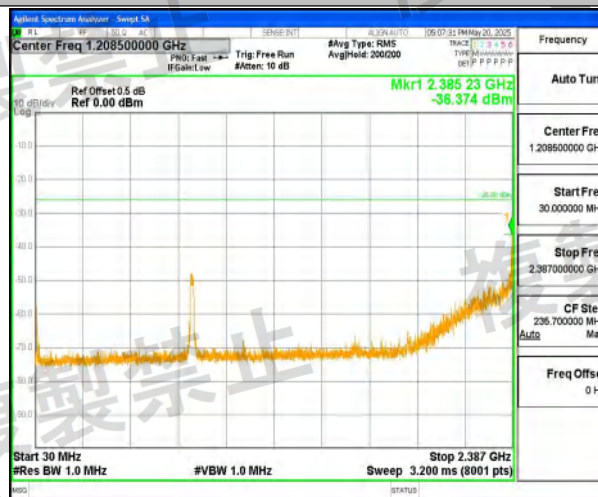
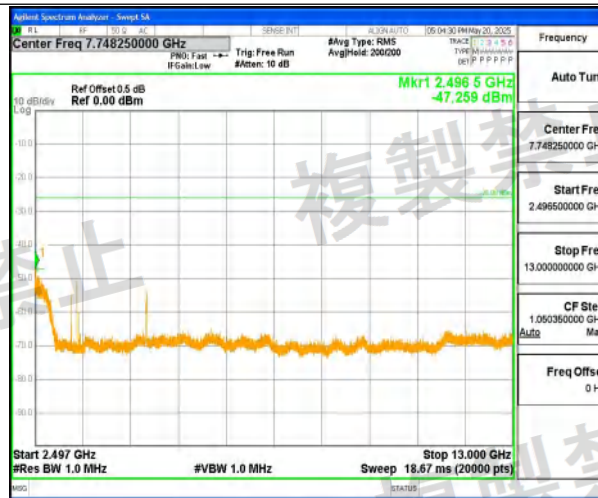
NTNV-11G-Ant1-2472-30~2387-PASS

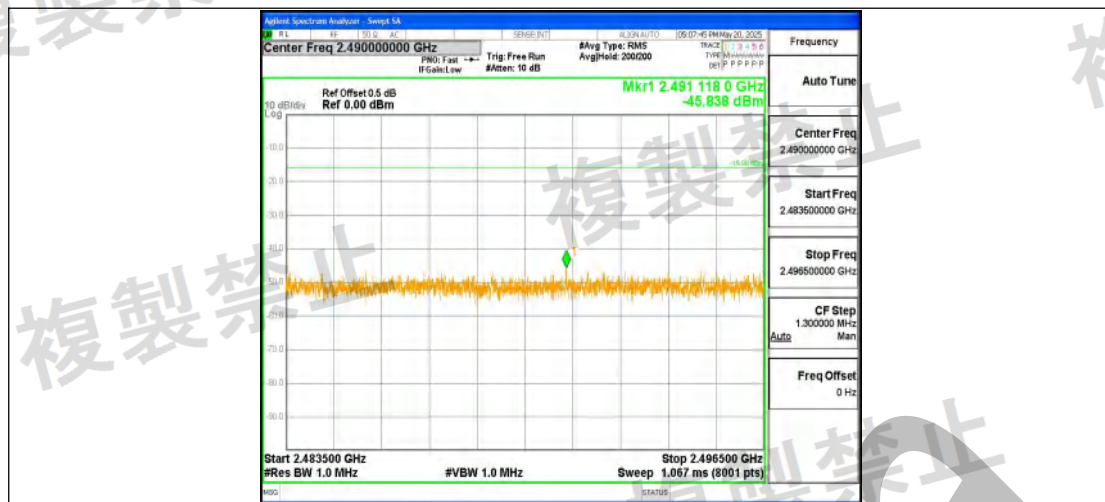


NTNV-11G-Ant1-2472-2387~2400-PASS

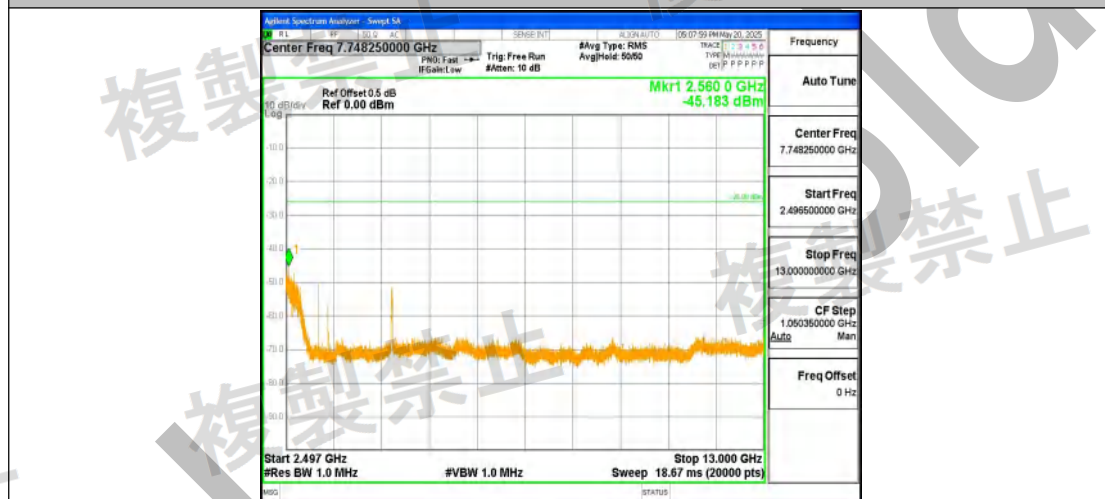


NTNV-11G-Ant1-2472-2483.5~2496.5-PASS

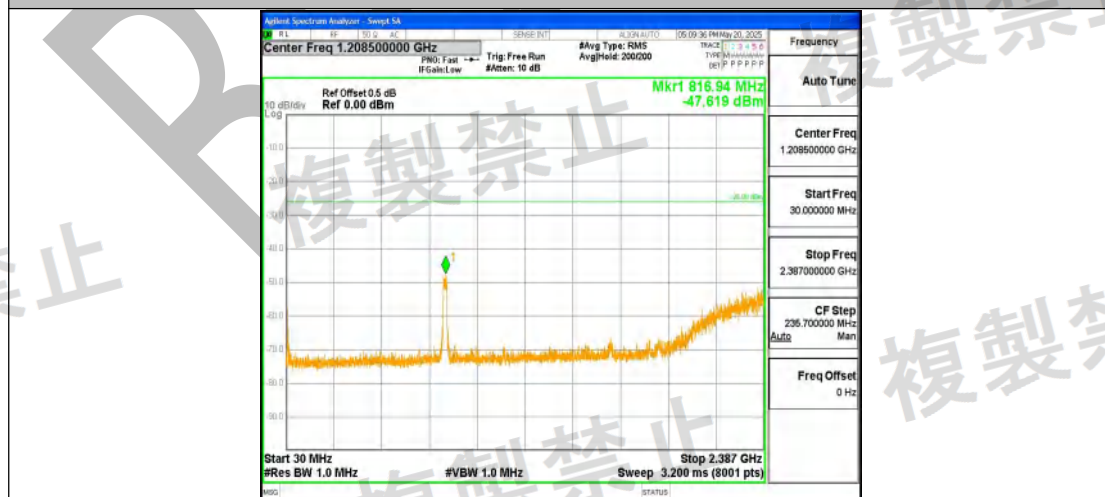




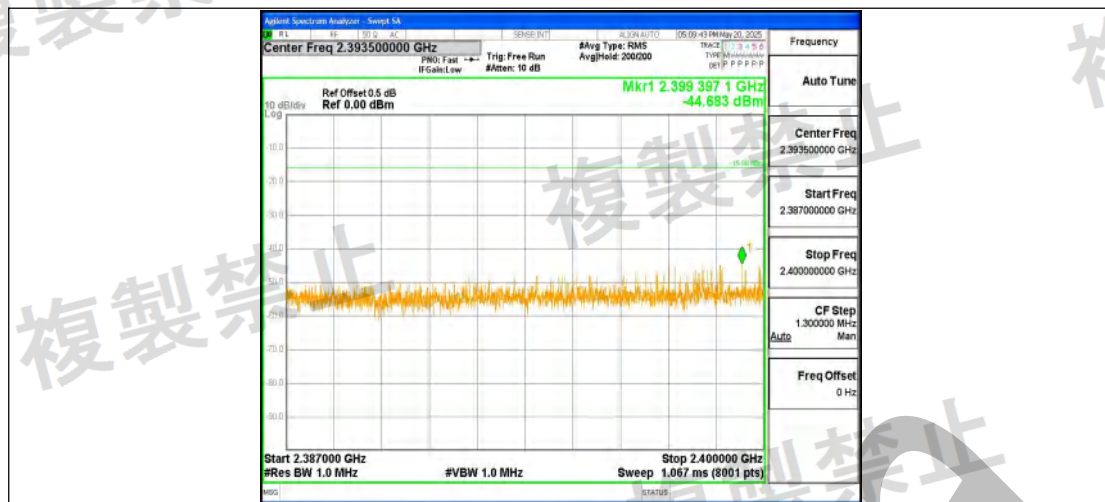
NTNV-11N20SISO-Ant1-2412-2483.5~2496.5-PASS



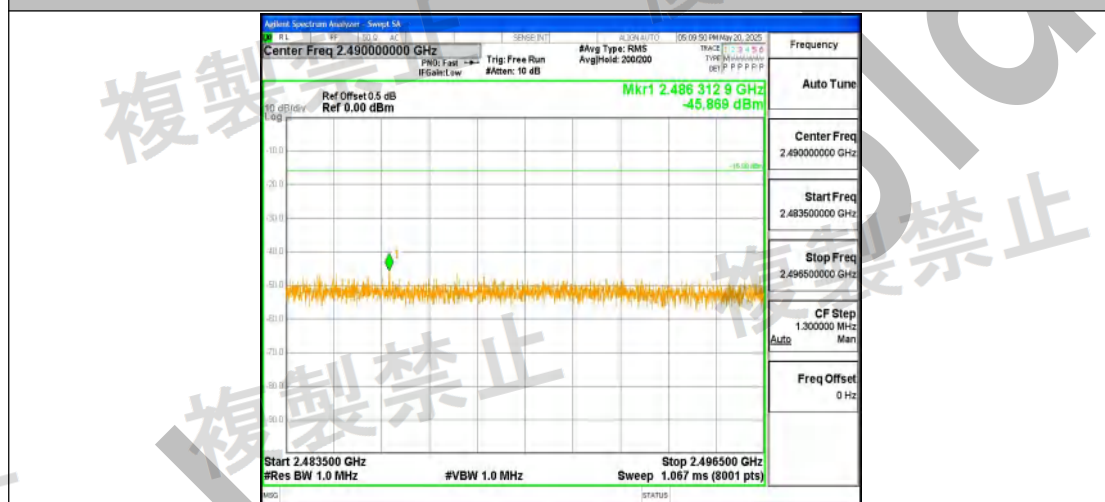
NTNV-11N20SISO-Ant1-2412-2496.5~13000-PASS



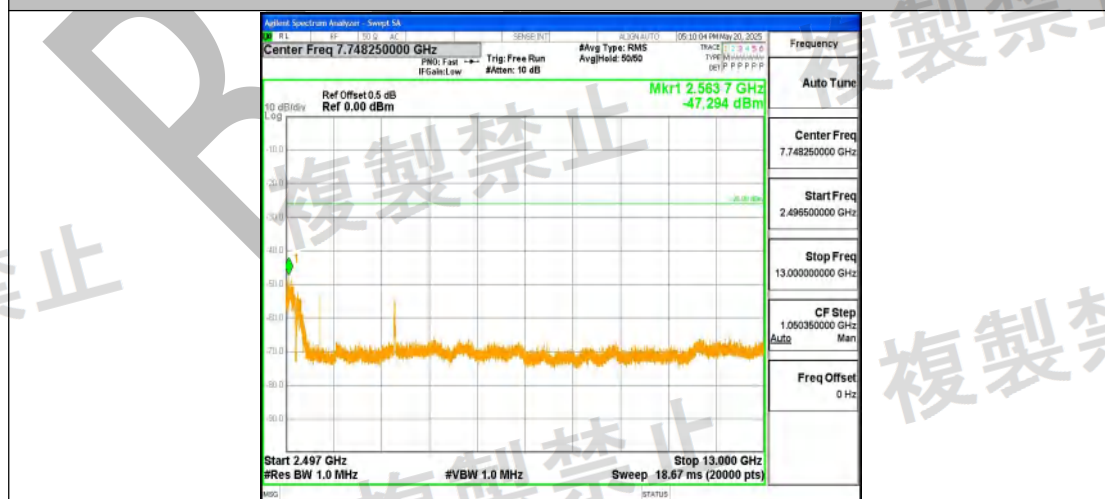
NTNV-11N20SISO-Ant1-2442-30~2387-PASS



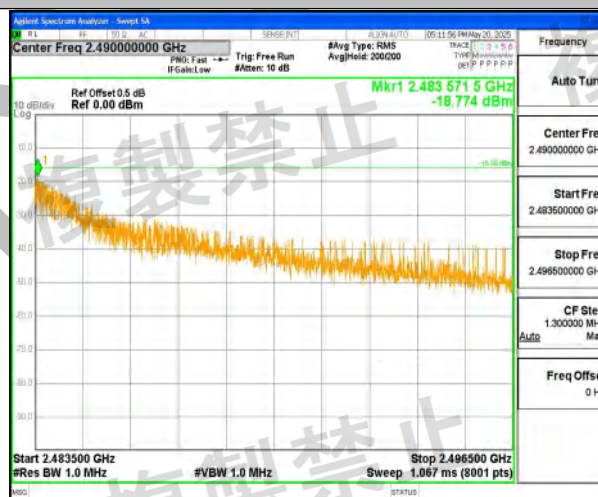
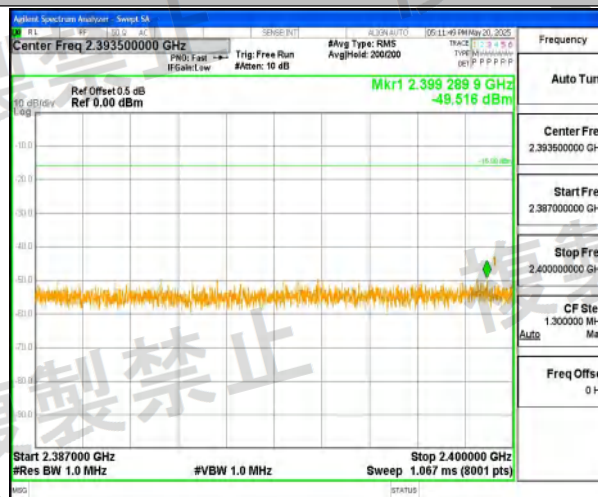
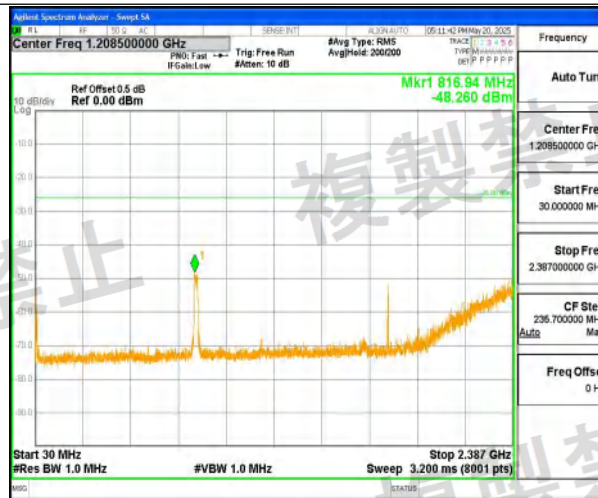
NTVN-11N20SISO-Ant1-2442-2387~2400-PASS

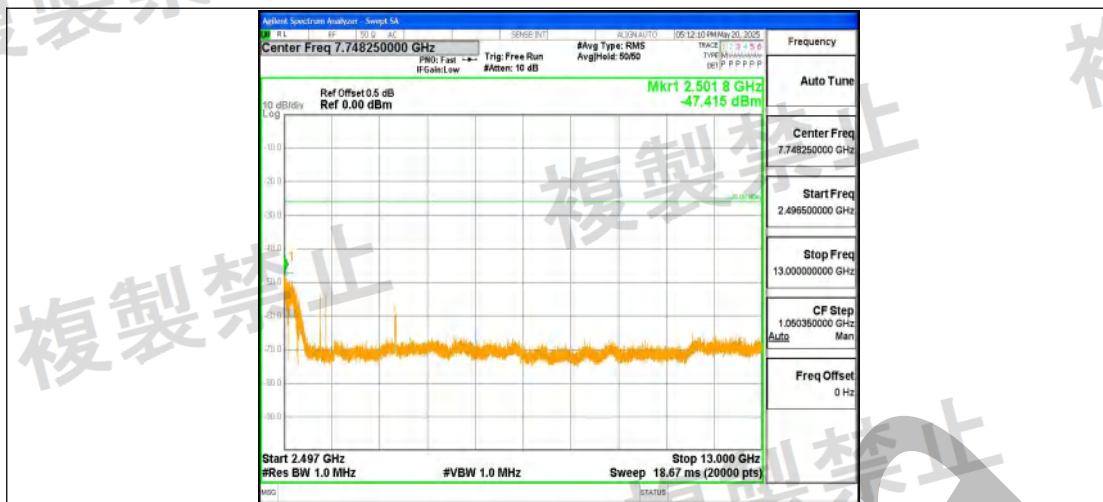


NTVN-11N20SISO-Ant1-2442-2483.5~2496.5-PASS

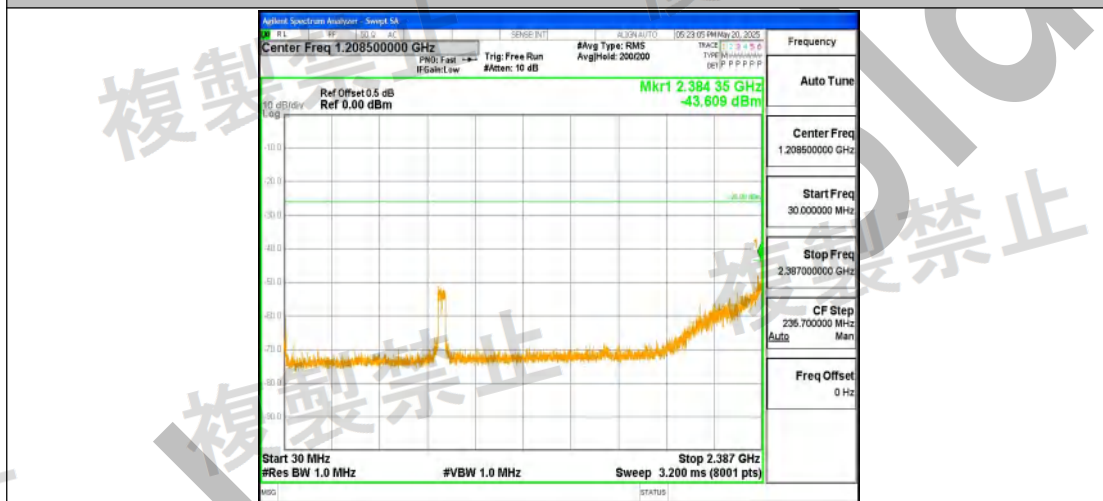


NTVN-11N20SISO-Ant1-2442-2496.5~13000-PASS

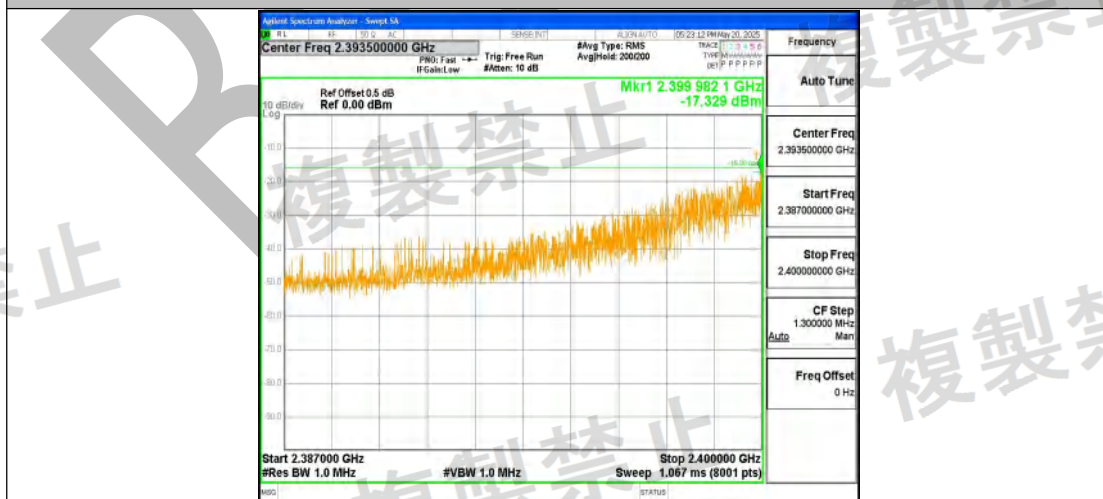




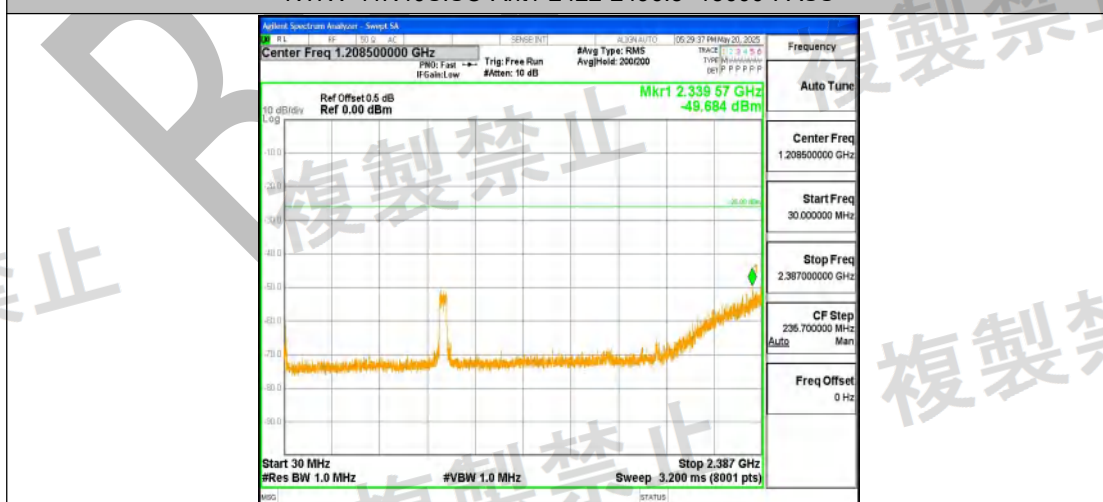
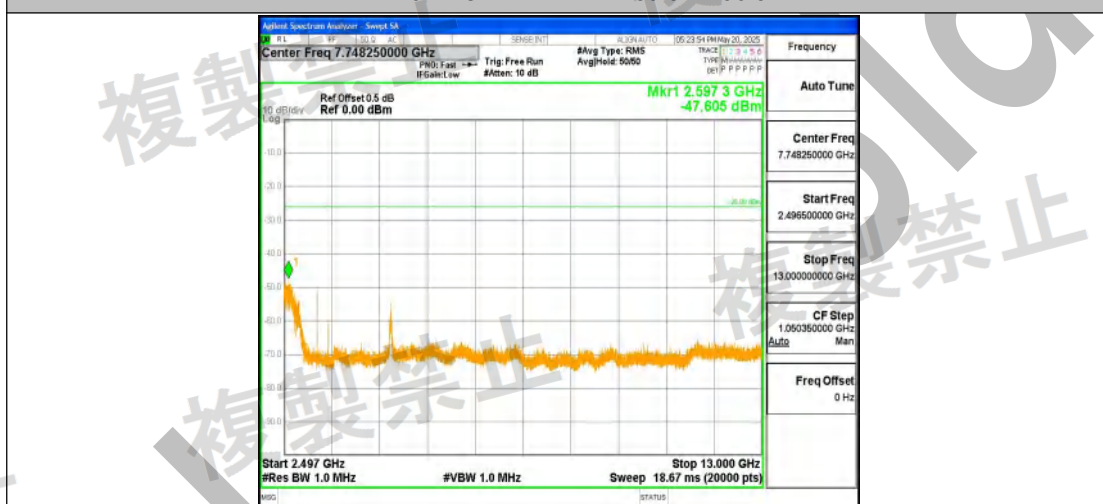
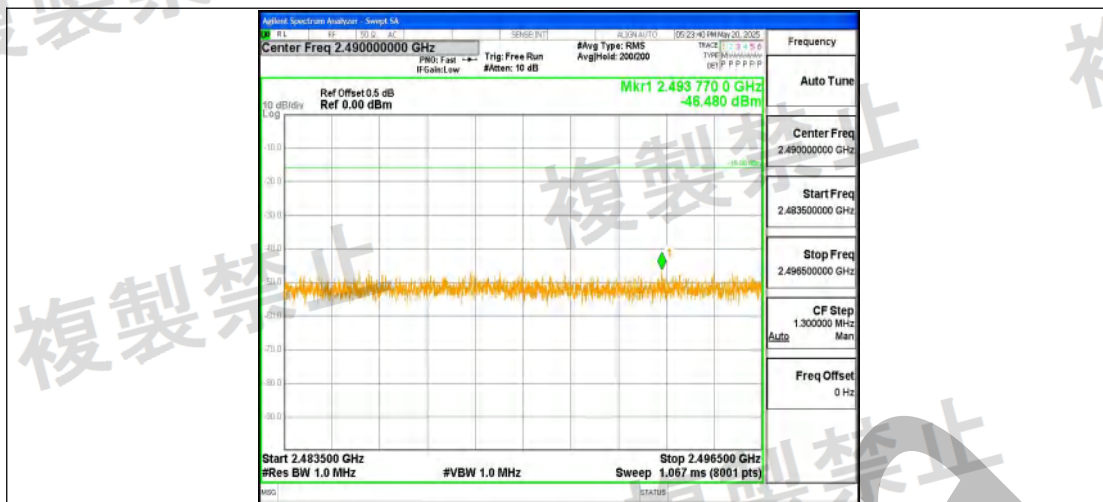
NTNV-11N20SISO-Ant1-2472-2496.5~13000-PASS

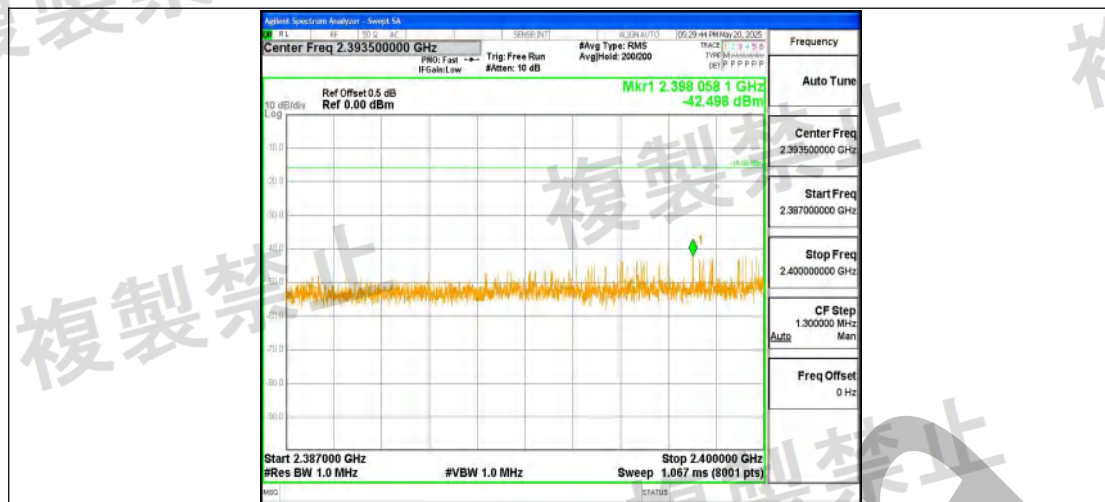


NTNV-11N40SISO-Ant1-2422-30~2387-PASS

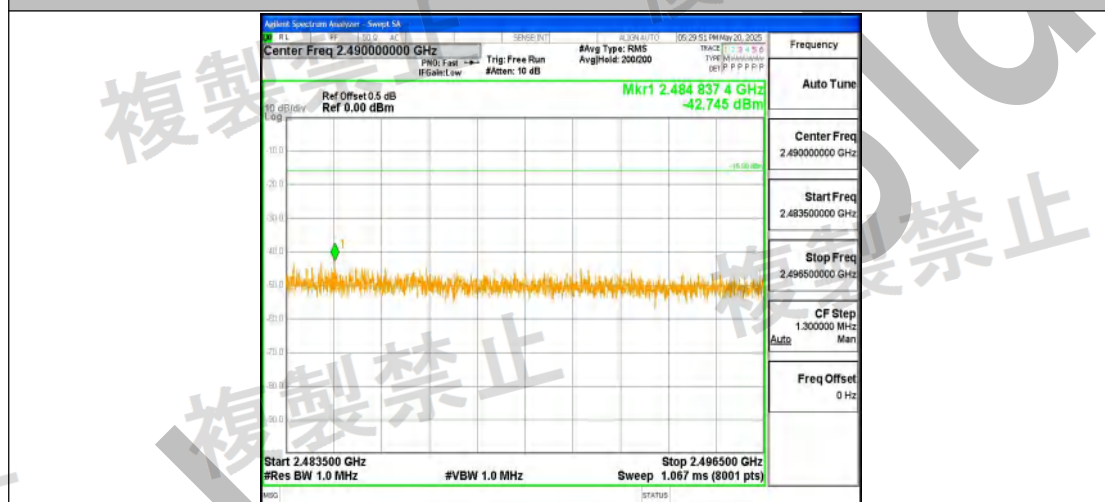


NTNV-11N40SISO-Ant1-2422-2387~2400-See table below

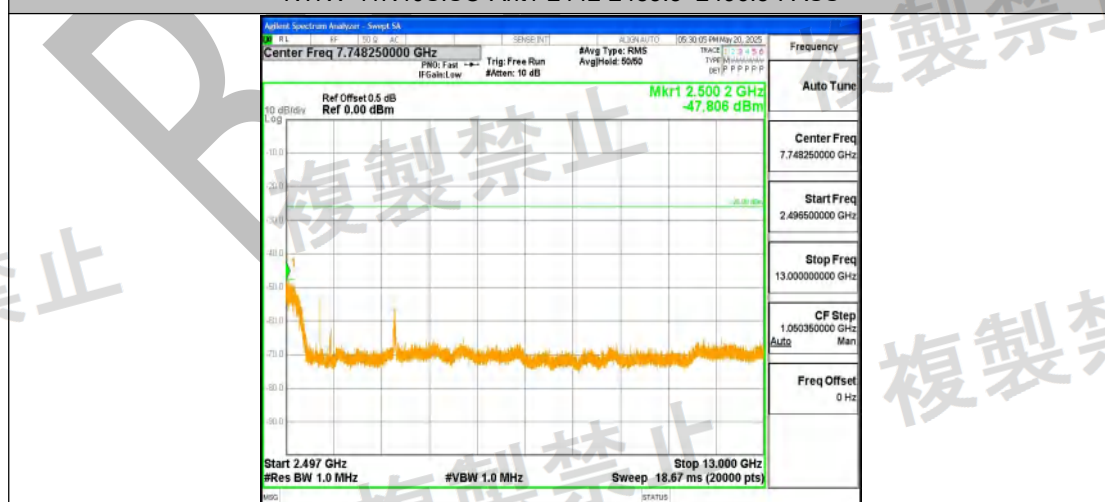




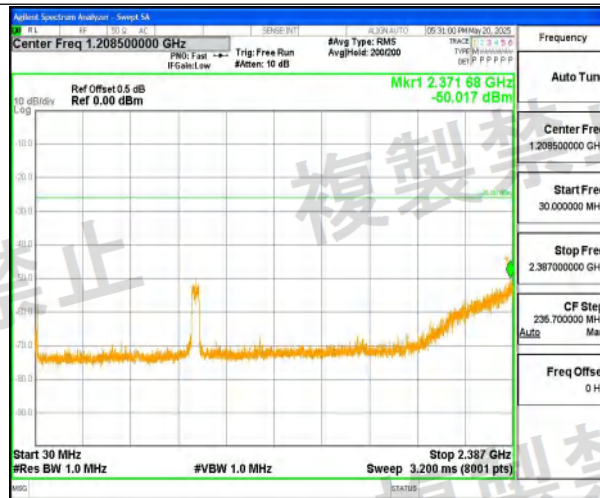
NTVN-11N40SISO-Ant1-2442-2387~2400-PASS



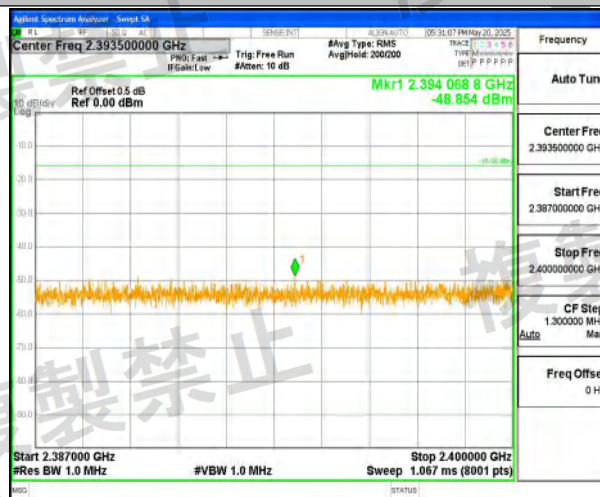
NTVN-11N40SISO-Ant1-2442-2483.5~2496.5-PASS



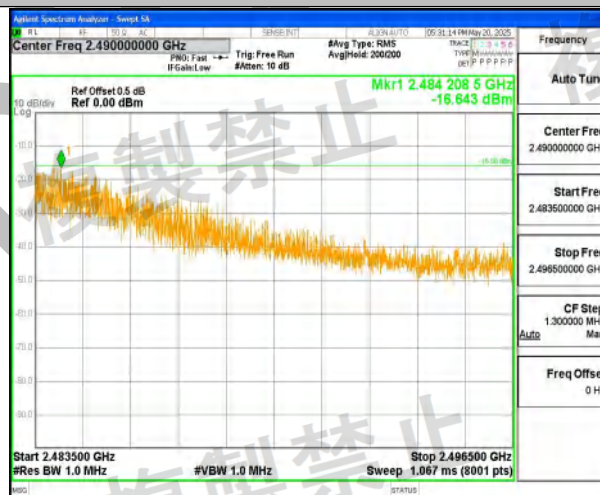
NTVN-11N40SISO-Ant1-2442-2496.5~13000-PASS



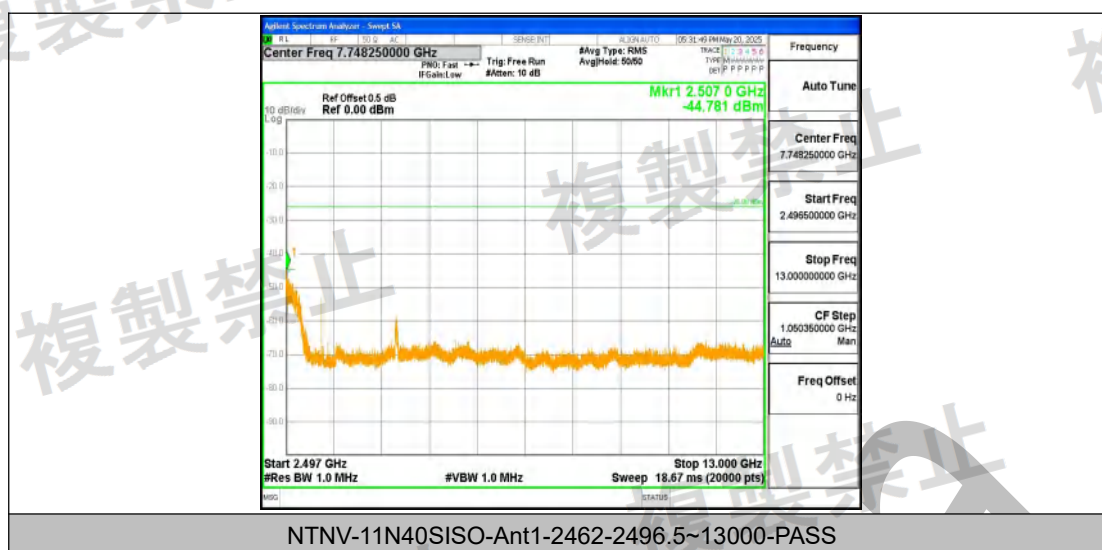
NTNV-11N40SISO-Ant1-2462-30~2387-PASS



NTNV-11N40SISO-Ant1-2462-2387~2400-PASS



NTNV-11N40SISO-Ant1-2462-2483.5~2496.5-See table below



Test result: The unit does meet the requirements.

## 5.12 RF accessibility

### Standard requirement

Article 49-20, paragraph 1 (a)

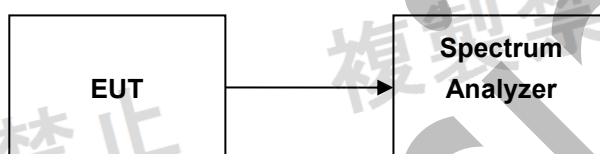
The EUT shall be constructed in such a way that sensitive RF parts, (like modulation and oscillator parts) cannot be reached easily by the user. These parts shall be covered by soldered metal caps or glue or by other mechanical covers. If the covers are fixed with screws, these shall be not the common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

RF and Modulation components are covered with shielding case and this shielding case is soldered.



### 5.13 Spurious Emissions of Rx

|                     |                                                                                                                                                                                                                                                                                    |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement:   | Item 19 of Article 2-1, Item 19-2 of Article 2 Paragraph 1<br>(1) Below 1 GHz : 4 nW (-54dBm)<br>(2) 1 GHz and over : 20 nW (-47dBm)                                                                                                                                               |
| 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:

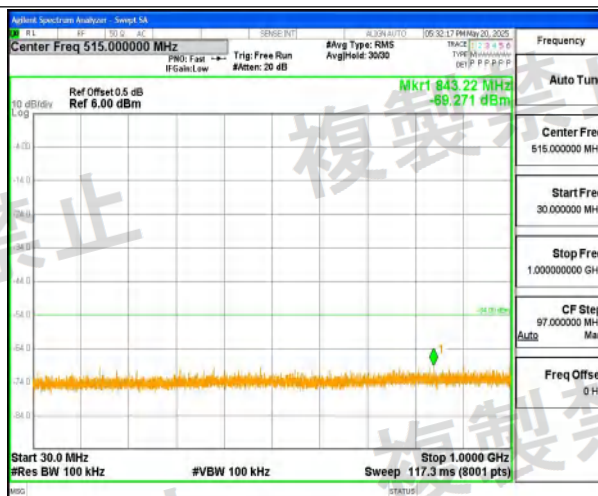
1. Test Conditions:  
Spectrum Analyzer is used for measurement.
2. EUT conditions:  
Modulation/Spread/Hopping ON  
For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.
3. Spectrum Analyzer conditions:  
Step1  
All spurious are measured from 30MHz to 13 GHz by peak mode.  
Test setup for Step 1:  
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

### 5.13.1 Test Result

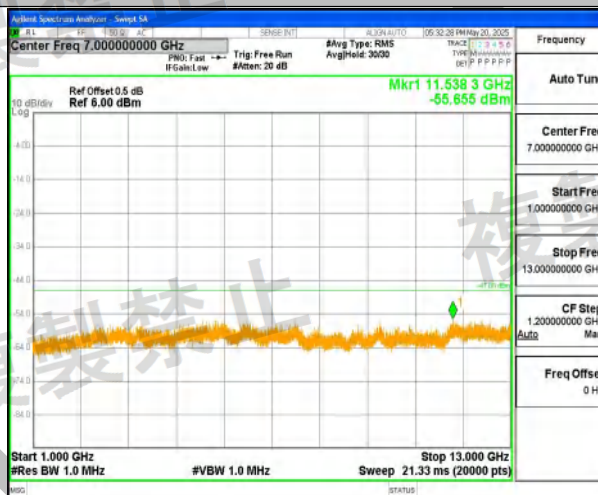
| TestCondition | TestMode      | Antenna | Frequency [MHz] | Freq.Range [MHz] | Result [dBm] | Limit [dBm] | Verdict         |
|---------------|---------------|---------|-----------------|------------------|--------------|-------------|-----------------|
| NTNV          | 11B           | Ant1    | 2412            | 30~1000          | -69.27       | ≤-54        | PASS            |
| NTNV          | 11B           | Ant1    | 2412            | 1000~1300<br>0   | -55.66       | ≤-47        | PASS            |
| NTNV          | 11B           | Ant1    | 2442            | 30~1000          | -68.99       | ≤-54        | PASS            |
| NTNV          | 11B           | Ant1    | 2442            | 1000~1300<br>0   | -55.67       | ≤-47        | PASS            |
| NTNV          | 11B           | Ant1    | 2472            | 30~1000          | -69.16       | ≤-54        | PASS            |
| NTNV          | 11B           | Ant1    | 2472            | 1000~1300<br>0   | -55.22       | ≤-47        | PASS            |
| NTNV          | 11B           | Ant1    | 2484            | 30~1000          | -68.99       | ≤-54        | PASS            |
| NTNV          | 11B           | Ant1    | 2484            | 1000~1300<br>0   | -54.83       | ≤-47        | PASS            |
| NTNV          | 11G           | Ant1    | 2412            | 30~1000          | -69.36       | ≤-54        | PASS            |
| NTNV          | 11G           | Ant1    | 2412            | 1000~1300<br>0   | -55.35       | ≤-47        | PASS            |
| NTNV          | 11G           | Ant1    | 2442            | 30~1000          | -69.58       | ≤-54        | PASS            |
| NTNV          | 11G           | Ant1    | 2442            | 1000~1300<br>0   | -55.89       | ≤-47        | PASS            |
| NTNV          | 11G           | Ant1    | 2472            | 30~1000          | -68.70       | ≤-54        | PASS            |
| NTNV          | 11G           | Ant1    | 2472            | 1000~1300<br>0   | -55.35       | ≤-47        | PASS            |
| NTNV          | 11N20SIS<br>O | Ant1    | 2412            | 30~1000          | -69.32       | ≤-54        | PASS            |
| NTNV          | 11N20SIS<br>O | Ant1    | 2412            | 1000~1300<br>0   | -55.15       | ≤-47        | PASS            |
| NTNV          | 11N20SIS<br>O | Ant1    | 2442            | 30~1000          | -68.36       | ≤-54        | PASS            |
| NTNV          | 11N20SIS<br>O | Ant1    | 2442            | 1000~1300<br>0   | -55.00       | ≤-47        | PASS            |
| NTNV          | 11N20SIS<br>O | Ant1    | 2472            | 30~1000          | -69.02       | ≤-54        | PASS            |
| NTNV          | 11N20SIS<br>O | Ant1    | 2472            | 1000~1300<br>0   | -54.99       | ≤-47        | PASS            |
| NTNV          | 11N40SIS<br>O | Ant1    | 2422            | 30~1000          | -69.43       | ≤-54        | PASS            |
| NTNV          | 11N40SIS<br>O | Ant1    | 2422            | 1000~1300<br>0   | -55.05       | ≤-47        | See table below |
| NTNV          | 11N40SIS      | Ant1    | 2442            | 30~1000          | -68.64       | ≤-54        | PASS            |

|      |               |      |      |                |        |      |                    |
|------|---------------|------|------|----------------|--------|------|--------------------|
|      | O             |      |      |                |        |      |                    |
| NTNV | 11N40SIS<br>O | Ant1 | 2442 | 1000~1300<br>0 | -55.09 | ≤-47 | See table<br>below |
| NTNV | 11N40SIS<br>O | Ant1 | 2462 | 30~1000        | -69.21 | ≤-54 | PASS               |
| NTNV | 11N40SIS<br>O | Ant1 | 2462 | 1000~1300<br>0 | -54.90 | ≤-47 | See table<br>below |

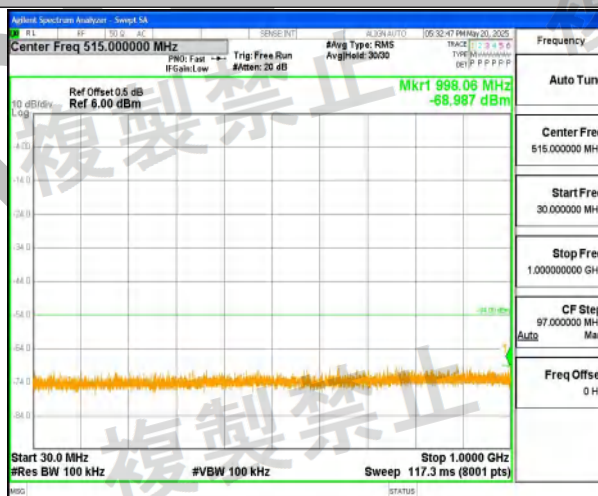
### 5.13.2 Test Graphs



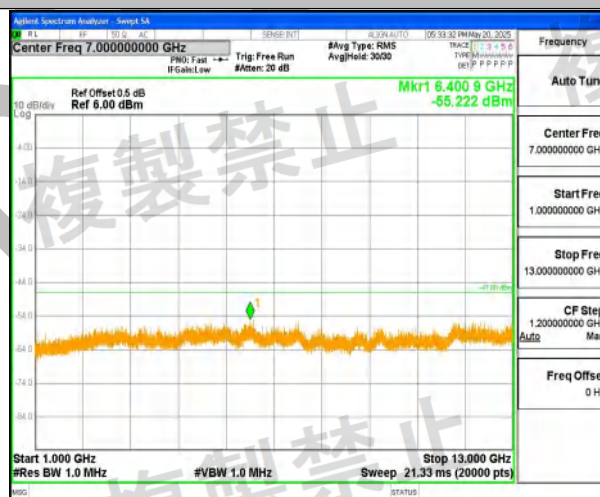
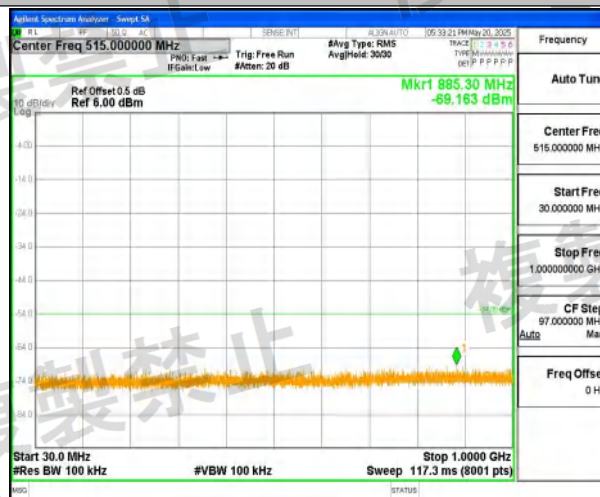
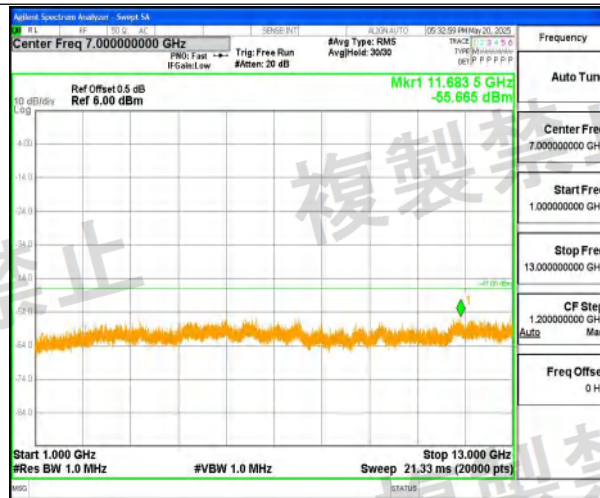
NTNV-11B-Ant1-2412-30~1000-PASS

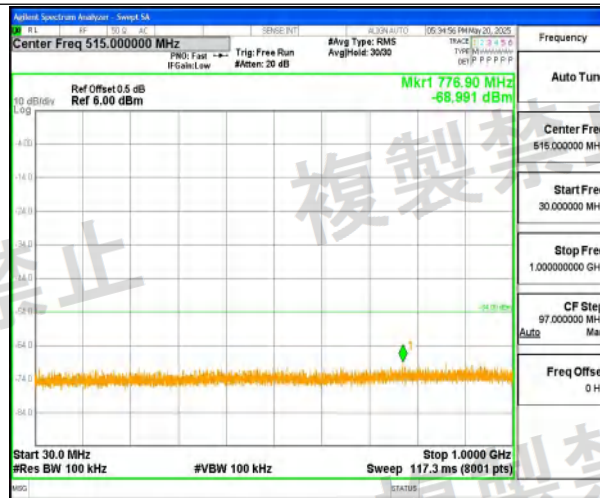


NTNV-11B-Ant1-2412-1000~13000-PASS

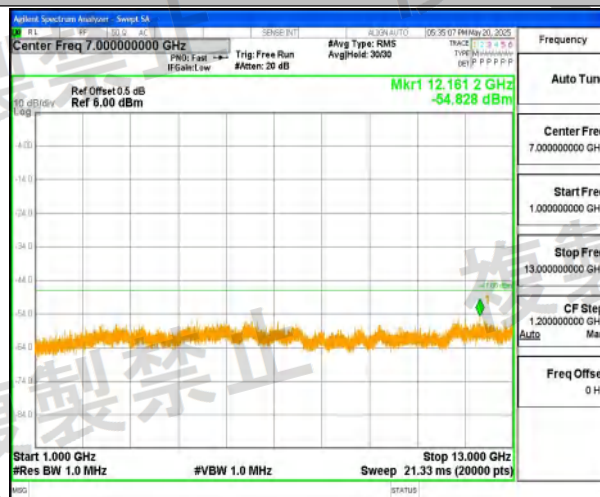


NTNV-11B-Ant1-2442-30~1000-PASS

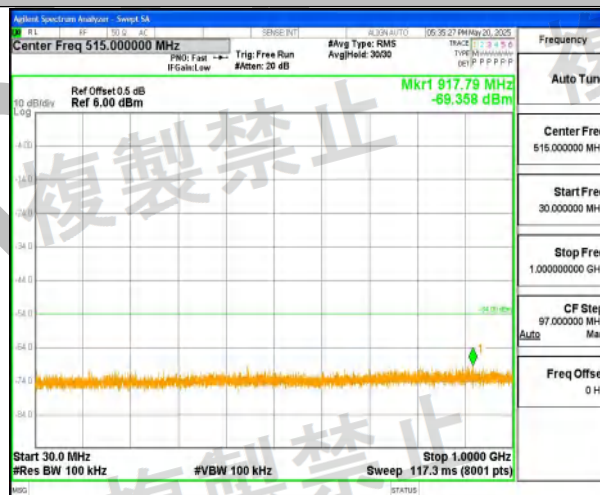




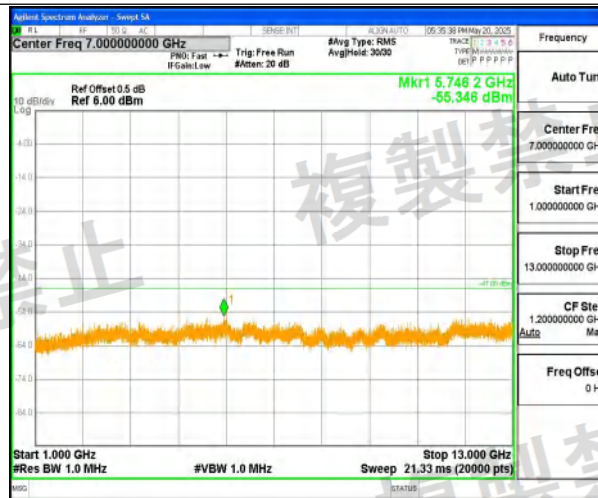
NTNV-11B-Ant1-2484-30~1000-PASS



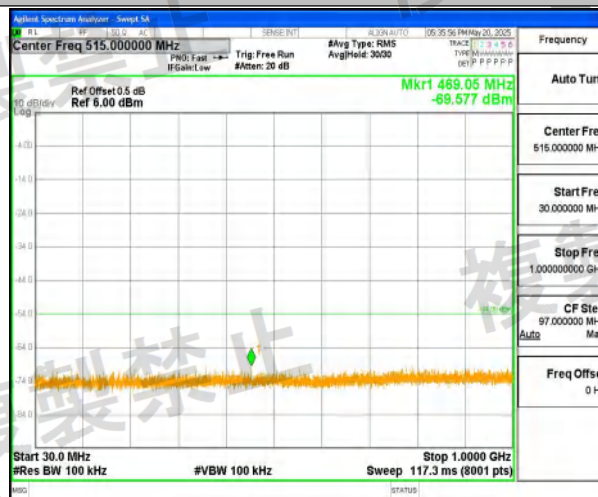
NTNV-11B-Ant1-2484-1000~13000-PASS



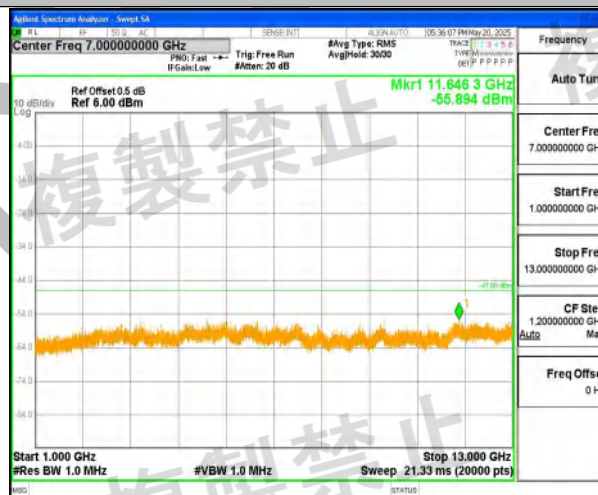
NTNV-11G-Ant1-2412-30~1000-PASS



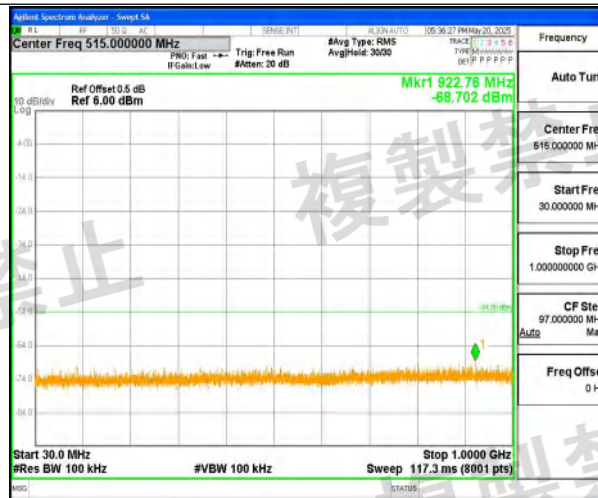
NTVN-11G-Ant1-2412-1000~13000-PASS



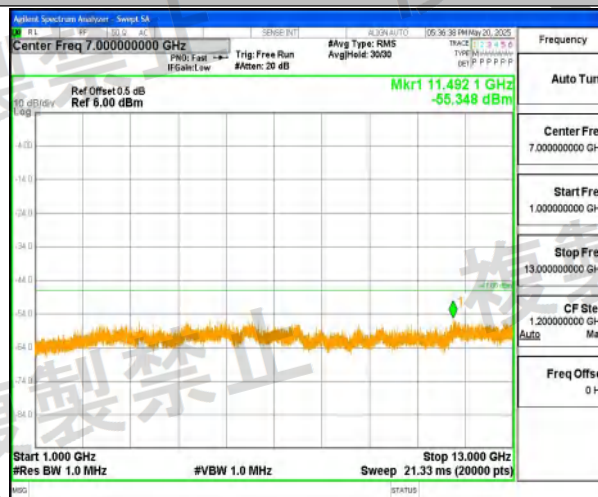
NTVN-11G-Ant1-2442-30~1000-PASS



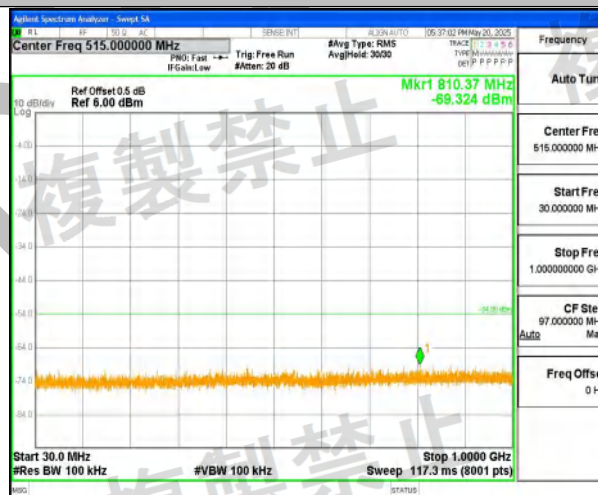
NTVN-11G-Ant1-2442-1000~13000-PASS



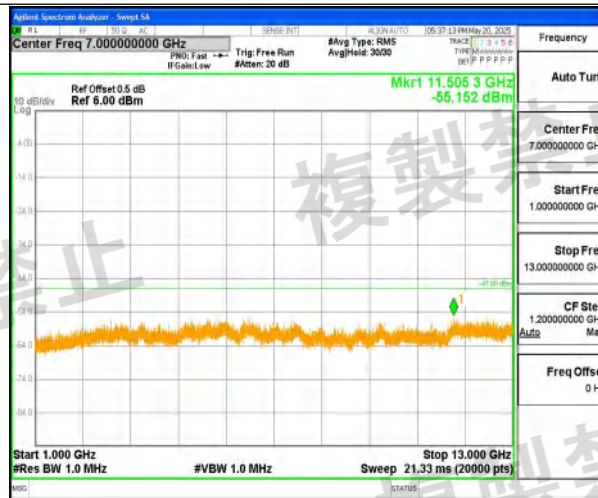
NTVN-11G-Ant1-2472-30~1000-PASS



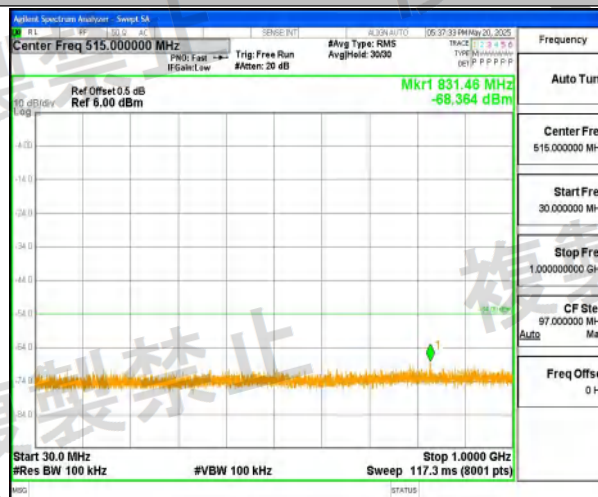
NTVN-11G-Ant1-2472-1000~13000-PASS



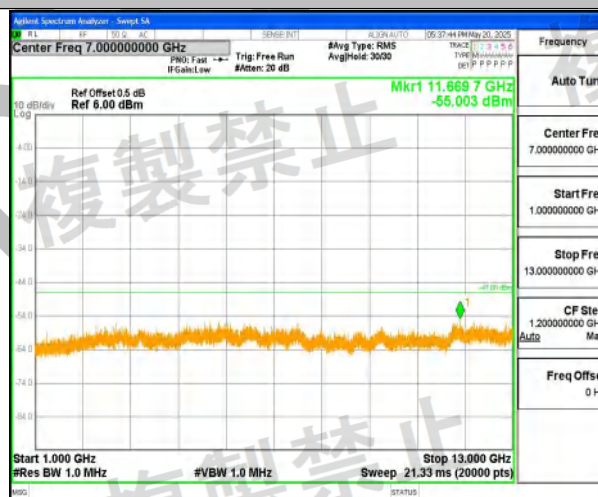
NTVN-11N20SISO-Ant1-2412-30~1000-PASS



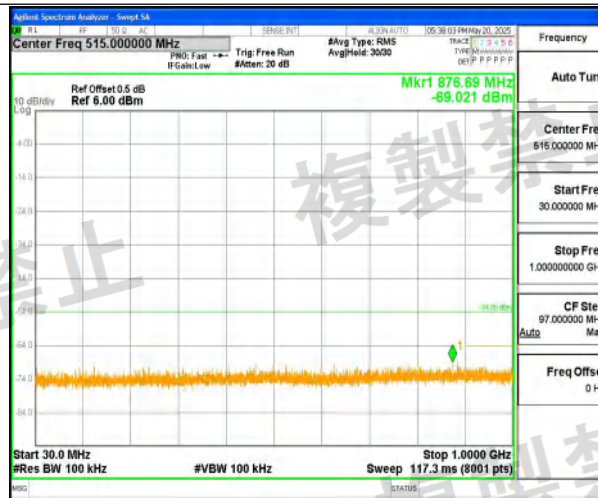
NTVN-11N20SISO-Ant1-2412-1000~13000-PASS



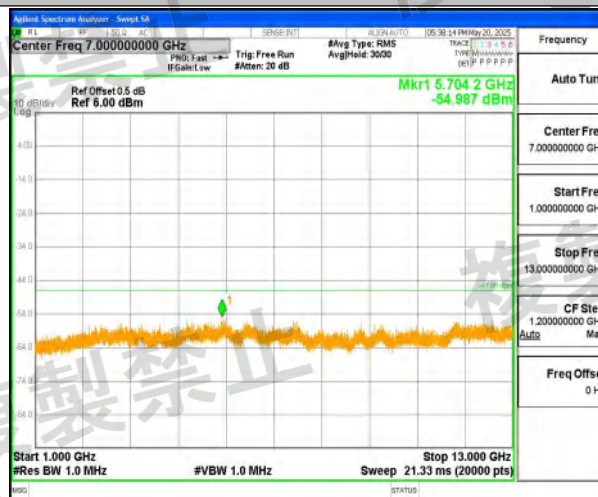
NTVN-11N20SISO-Ant1-2442-30~1000-PASS



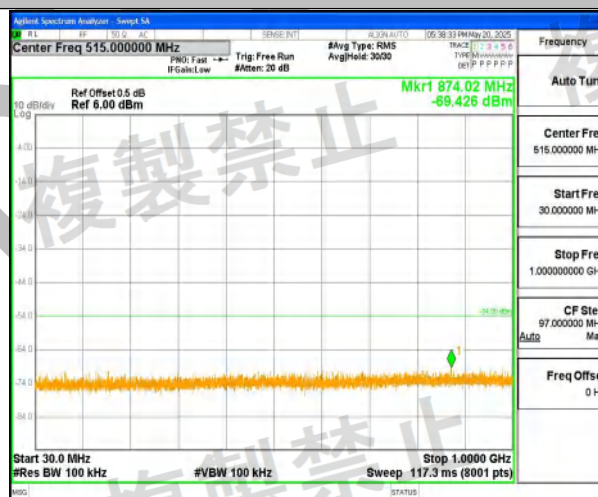
NTVN-11N20SISO-Ant1-2442-1000~13000-PASS



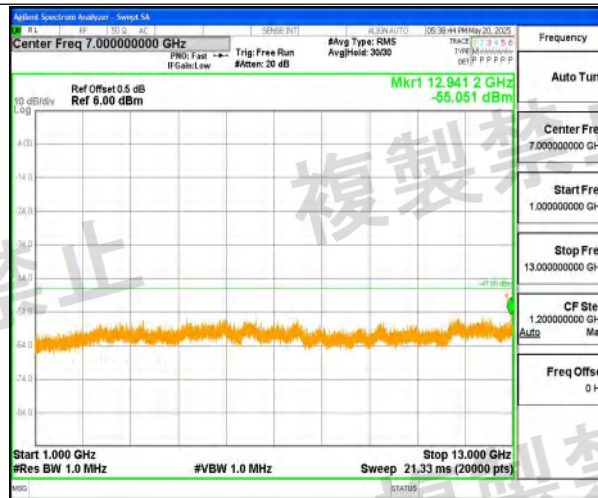
NTNV-11N20SISO-Ant1-2472-30~1000-PASS



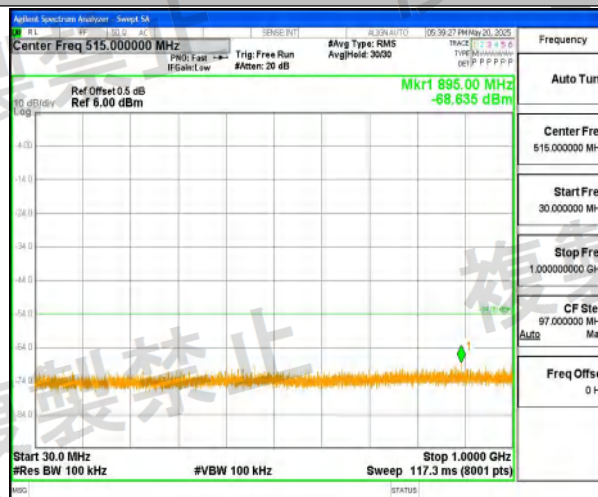
NTNV-11N20SISO-Ant1-2472-1000~13000-PASS



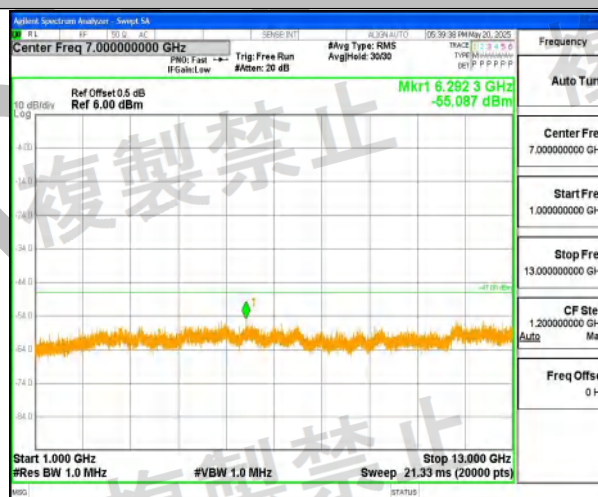
NTNV-11N40SISO-Ant1-2422-30~1000-PASS



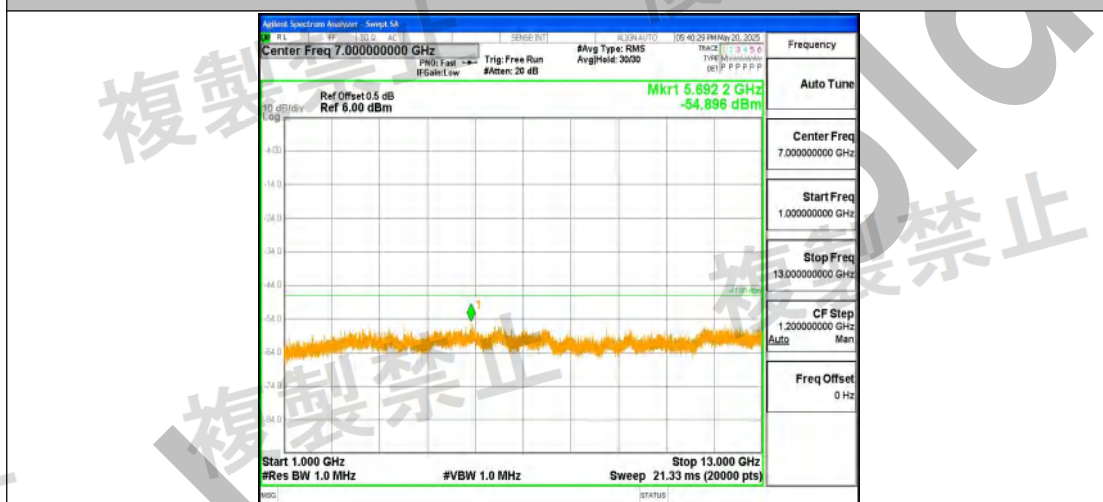
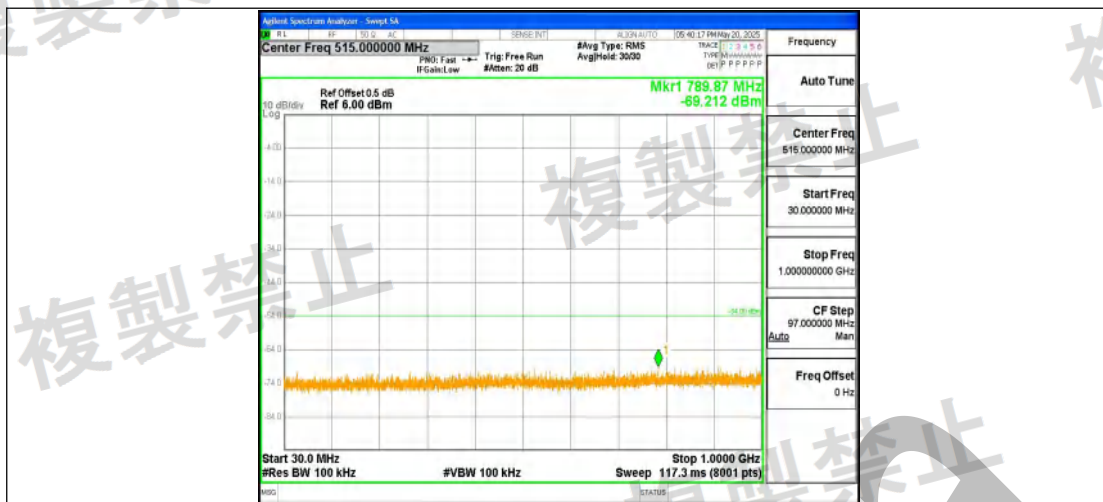
NTVN-11N40SISO-Ant1-2422-1000~13000-See table below



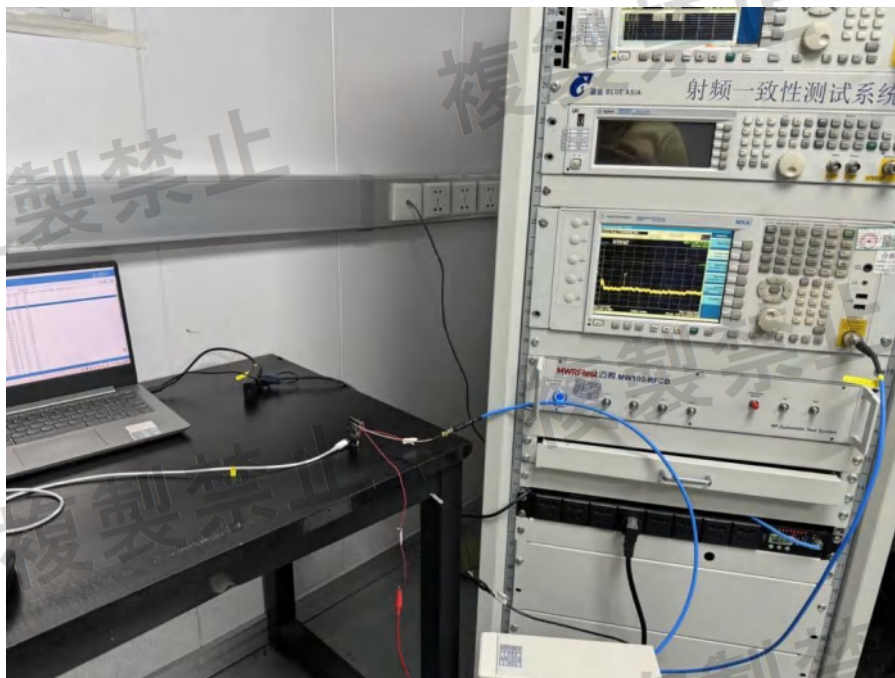
NTVN-11N40SISO-Ant1-2442-30~1000-PASS



NTVN-11N40SISO-Ant1-2442-1000~13000-See table below



## 6 Test setup photo



## 7 Photographs

### 7.1 EUT Constructional Details

Reference to the test report no. BLA-RF-202505-A0301

\*\*\* End of Report \*\*\*

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