

## MIC 5G WIFI TEST REPORT

**Applicant** : Shenzhen Shanling Digital Technology Development Co.,Ltd.  
**Address** : No.10, Chiwan 1 Road, Shekou Nanshan District of Shenzhen City, China.  
**Product Name** : Streaming Transport  
**Trade mark** : SHANLING  
**Model No.** : SMT1.3  
**Serial Number** : N/A  
**Report Number** : BLA-RF-202504-A5302  
**Date of Issue** : May 12, 2025  
**Test standard** : Item 19-3 of Article 2 Paragraph 1  
**Test result** : PASS

Compiled by:

Mark Chen

Review by:

Xavier

Approved by:

Blue Zheng

Issued Date:

May 12, 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          | May 12, 2025 | Original    |
|             |              |             |
|             |              |             |

## 2 Test Summary

| Test                                           | Test Requirement         | Limit/Severity                                                                           | Result |
|------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------|--------|
| Antenna Requirement                            | Item 19-3 of Article 2-1 | Notice 88 Appendix 43,B-1 (1)&(2)                                                        | PASS   |
| Frequency Error                                | Item 19-3 of Article 2-1 | ±20 PPM or less                                                                          | PASS   |
| Occupied Bandwidth                             |                          | 19MHz or less for 20MHz system;<br>38MHz or less for 40MHz system                        | PASS   |
| Spurious Emission of Tx                        |                          | (1) Below 5140 MHz: -26dBm<br>(2) Over 5360 MHz: -26dBm                                  | PASS   |
| Antenna Power                                  |                          | 10mW/MHz or less for 20MHz system<br>5mW/MHz or less for 40MHz system<br>Tolerance: +20% | PASS   |
| Equivalent isotropically radiated power (EIRP) |                          | 10mW MHz or less                                                                         | PASS   |
| Adjacent channel power tolerance               |                          | ±9MHz bandwidth at 20MHz detuning: -25dB<br>±9MHz bandwidth at 40MHz detuning: -40dB     | PASS   |
| Out-band emission power                        |                          | Attached table 1, 2 and 3                                                                | PASS   |
| Spurious Emission of Rx                        |                          | (1) Below 1 GHz: -54dBm<br>(2) 1GHz-10GHz: -47dBm<br>(3) 10GHz or higher: -47dBm         | PASS   |
| Interference prevention function               |                          | Notice 88 Appendix 43, 44, 45                                                            | PASS   |
| Carrier sense function                         |                          | Shall not transmit radio wave when receiving over 100mV/m                                | PASS   |
| Transmission Burst Length                      |                          | 8ms or less                                                                              | 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.

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## 4 General Information

### 4.1 Client Information

|                          |                                                                        |
|--------------------------|------------------------------------------------------------------------|
| Applicant:               | Shenzhen Shanling Digital Technology Development Co.,Ltd.              |
| Address of Applicant:    | No.10, Chiwan 1 Road, Shekou Nanshan District of Shenzhen City, China. |
| Manufacturer:            | Shenzhen Shanling Digital Technology Development Co.,Ltd.              |
| Address of Manufacturer: | No.10, Chiwan 1 Road, Shekou Nanshan District of Shenzhen City, China. |
| Factory:                 | Shenzhen Shanling Digital Technology Development Co.,Ltd.              |
| Address of Factory:      | No.10, Chiwan 1 Road, Shekou Nanshan District of Shenzhen City, China. |

### 4.2 General Description of EUT

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name:         | Streaming Transport                                                                                                                                                                                                                                                                                                                                                                                                  |
| Model No.:            | SMT1.3                                                                                                                                                                                                                                                                                                                                                                                                               |
| Operating Frequency:  | 5.15-5.25GHz(Only indoor use)                                                                                                                                                                                                                                                                                                                                                                                        |
| Rated power:          | 5.15-5.25GHz:<br>3.50mW/MHz (W52 Band_802.11a-HT20)<br>5.00mW/MHz (W52 MIMO Band_802.11n-HT20)<br>2.00mW/MHz (W52 MIMO Band_802.11n-HT40)<br>3.00mW/MHz (W52 MIMO Band_802.11ac-VHT20)<br>2.00mW/MHz (W52 MIMO Band_802.11ac-VHT40)<br>1.00mW/MHz (W52 MIMO Band_802.11ac-VHT80)<br>2.50mW/MHz (W52 MIMO Band_802.11ax-HE20)<br>2.00mW/MHz (W52 MIMO Band_802.11ax-HE40)<br>1.00mW/MHz (W52 MIMO Band_802.11ax-HE80) |
| Type of Modulation:   | IEEE 802.11a:OFDM (BPSK, QPSK, 16QAM, 64QAM)<br>IEEE 802.11n(HT20/HT40):OFDM (BPSK, QPSK, 16QAM, 64QAM)<br>IEEE for 802.11ac :OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK)<br>IEEE for 802.11ax(HE20/HE40/HE80):OFDMA(1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)                                                                                                                                                           |
| Antenna Type:         | External Antenna                                                                                                                                                                                                                                                                                                                                                                                                     |
| Antenna gain:         | WIFI Ant1:2.32dBi<br>WIFI Ant2:2.32dBi                                                                                                                                                                                                                                                                                                                                                                               |
| Device type:          | Client device                                                                                                                                                                                                                                                                                                                                                                                                        |
| Power Supply:         | AC 100V                                                                                                                                                                                                                                                                                                                                                                                                              |
| Function:             | <input checked="" type="checkbox"/> SISO <input checked="" type="checkbox"/> 2x2 MIMO <input type="checkbox"/> TPC                                                                                                                                                                                                                                                                                                   |
| Hardware Version:     | N/A                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Software Version:     | N/A                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Sample Received Date: | Apr. 16, 2025                                                                                                                                                                                                                                                                                                                                                                                                        |
| Sample tested Date:   | Apr. 16, 2025 to Apr. 29, 2025                                                                                                                                                                                                                                                                                                                                                                                       |

#### 4.3 Test Location

All tests were performed at:

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

Building C, No. 107, Shihuan Road, Shiyuan Sub-District, Baoan District, Shenzhen, Guangdong Province, China

Telephone: TEL: +86-755-2305 9481 FAX: +86-755-2305 9481

No tests were sub-contracted.

#### 4.4 Measurement Uncertainty

| No. | Parameter                     | Measurement Uncertainty                                                |
|-----|-------------------------------|------------------------------------------------------------------------|
| 1   | Radio Frequency               | $<\pm 1 \times 10^{-5}$                                                |
| 2   | Total RF power, conducted     | $<\pm 1.5 \text{ dB}$                                                  |
| 3   | RF power density, conducted   | $<\pm 3 \text{ dB}$                                                    |
| 4   | Spurious emissions, conducted | $<\pm 3 \text{ dB}$                                                    |
| 5   | All emissions, radiated       | $<\pm 6 \text{ dB}$ (30MHz – 1GHz)<br>$<\pm 6 \text{ dB}$ (above 1GHz) |
| 6   | Temperature                   | $<\pm 1^{\circ}\text{C}$                                               |
| 7   | Humidity                      | $<\pm 5 \%$                                                            |
| 8   | DC and low frequency voltages | $<\pm 3 \%$                                                            |

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .

## 5 Instruments Used during Test

| 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.**

## 6 Test Results

### 6.1 Radio Technical Requirements Specification

**Tabel 1: 5 GHz band low-power data communication system (1)**

| Items                                                                  | Technical standard                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assigned frequency or designated frequency                             | 5180, 5200, 5220, 5240, 5260, 5280, 5300, 5320MHz<br>On board aircraft; 5180, 5200, 5220, 5240 only                                                                                                                                                                    |
| Number of channels or channel separation                               | 8<br>On board aircraft : 4                                                                                                                                                                                                                                             |
| Tolerance of frequency                                                 | $20 \times 10^{-6}$                                                                                                                                                                                                                                                    |
| Tolerance of occupied bandwidth                                        | 20MHz                                                                                                                                                                                                                                                                  |
| Tolerance of unwanted emission intensity                               | (1) Below 5140MHz : 2.5 $\mu$ W / MHz<br>(2) Over 5360MHz : 2.5 $\mu$ W / MHz                                                                                                                                                                                          |
| Antenna power                                                          | (1) OFDM, DS : 10mW / MHz or less<br>(2) Others : 10mW or less<br>Tolerance : +20%                                                                                                                                                                                     |
| Equivalent isotropically radiated power (EIRP)                         | (1) 5180, 5200, 5220, 5240MHz : 10mW MHz or less<br>(2) 5260, 5280, 5300, 5320MHz :<br>(a) 10mW/MHz or less for equipment having a function to reduce the mean antenna power in one communication system by 3dB<br>(b) 5mW/MHz or less for other than equipment in (a) |
| Tolerance of adjacent channel leakage power and out-band leakage power | Adjacent channel leakage power<br>$\pm 9$ MHz bandwidth at 20MHz detuning : -25dB<br>$\pm 9$ MHz bandwidth at 40MHz detuning : -40dB<br>Out-band leakage power<br>EIRP: See Attached Table 1, 2 and 3.                                                                 |
| Limit of secondary radiated emissions                                  | (1) Below 1GHz : 4nW<br>(2) 1GHz - 10GHz : 20nW<br>(3) 10GHz or higher : 20nW                                                                                                                                                                                          |
| Interference prevention function                                       | Shall have the function of automatic transmission or reception of identification code.                                                                                                                                                                                 |
| Carrier sensing function (1)                                           | Shall not transmit radio wave when receiving over 100mV/m                                                                                                                                                                                                              |
| Carrier sensing function (2)                                           | See Attached Table 4.                                                                                                                                                                                                                                                  |
| Transmission burst length                                              | 8ms or less                                                                                                                                                                                                                                                            |
| Note                                                                   | DS: Direct spreading<br>OFDM : Orthogonal frequency division multiplexing                                                                                                                                                                                              |

## 6.2 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 External Antenna. The best case gain of the antenna are WIFI Ant1:2.32dBi and WIFI Ant2:2.32dBi.



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

### 6.3.1 EUT test voltage and Frequency

Version:v1.0

| Operation Frequency of channel |           |
|--------------------------------|-----------|
| Band I (5.15-5.25GHz)          |           |
| Channel                        | Frequency |
| 36                             | 5180 MHz  |
| 38                             | 5190 MHz  |
| 40                             | 5200 MHz  |
| 42                             | 5210 MHz  |
| 46                             | 5230 MHz  |
| 48                             | 5240 MHz  |

For 802.11a/n/ac(HT20)/ax(HE20):

| Channel | Frequency |
|---------|-----------|
| 36      | 5180 MHz  |
| 40      | 5200 MHz  |
| 48      | 5240 MHz  |

For 802.11n(HT40)/ac(VHT40)/ax(HE40):

| Channel | Frequency |
|---------|-----------|
| 38      | 5190 MHz  |
| 46      | 5230 MHz  |

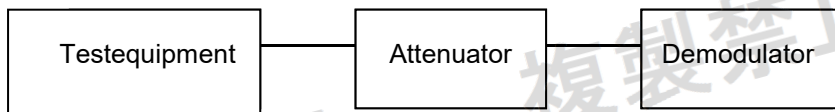
For 802.11ac(VHT80)/ax(HE80):

| Channel | Frequency |
|---------|-----------|
| 42      | 5210 MHz  |

## 6.4 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:

A8:96:09:7C:EC:0A

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

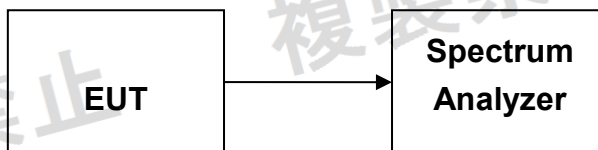
## 6.5 Frequency Error

Test Requirement: Item 19-3 of Article 2-1

Tolerance of frequency:  $\pm 20 \times 10^{-6}$

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

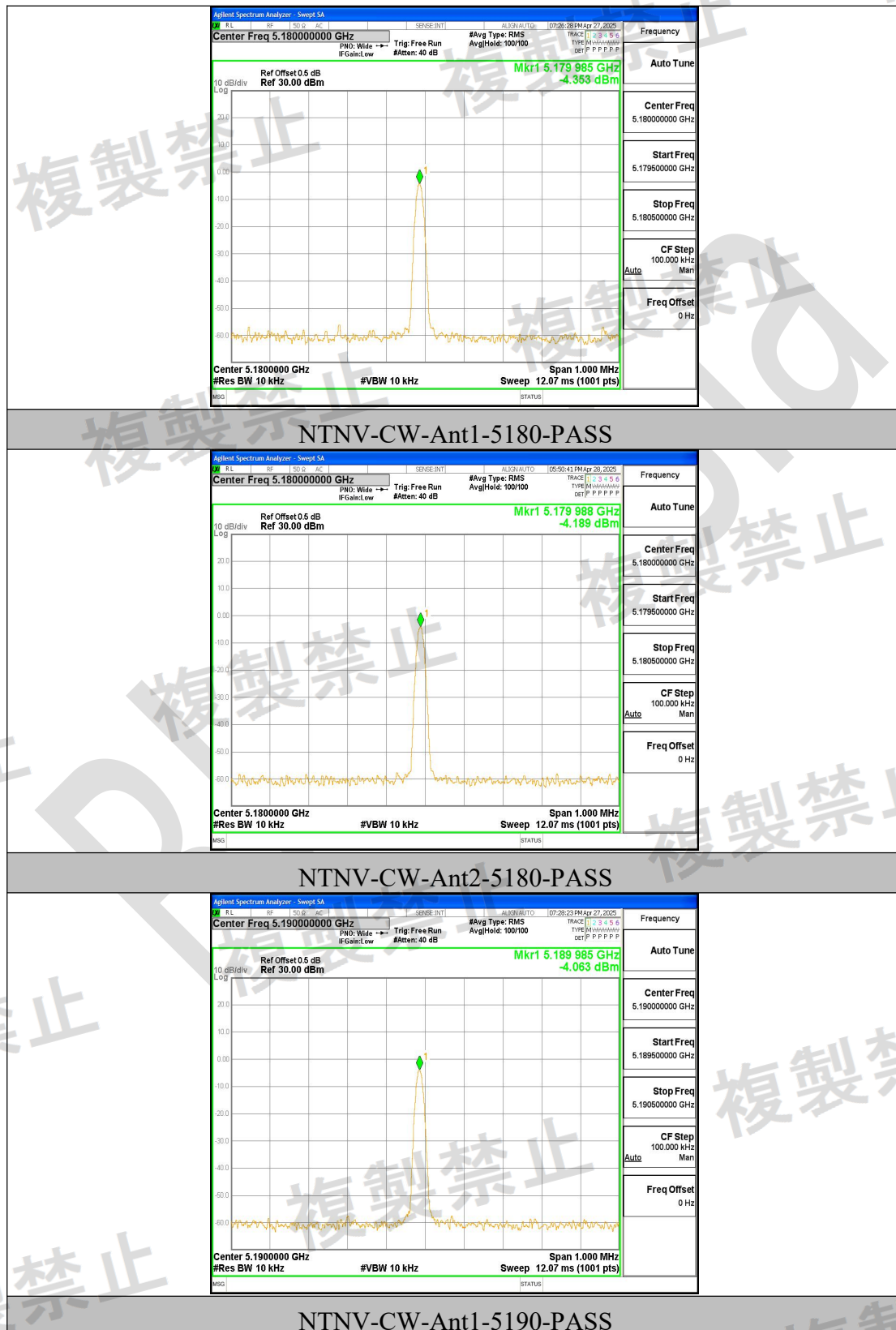
Indication mode Max hold

### 6.5.1 Test Result

| TestCondition | TestMode | Antenna | Frequency<br>[MHz] | CenterFreq<br>[MHz] | Result<br>[ppm] | Limit<br>[ppm] | Verdict |
|---------------|----------|---------|--------------------|---------------------|-----------------|----------------|---------|
| NTNV          | CW       | Ant1    | 5180               | 5179.985            | -2.89575        | ±20            | PASS    |
| NTNV          | CW       | Ant2    | 5180               | 5179.988            | -2.31660        | ±20            | PASS    |
| NTNV          | CW       | Ant1    | 5190               | 5189.985            | -2.89017        | ±20            | PASS    |
| NTNV          | CW       | Ant2    | 5190               | 5189.986            | -2.69750        | ±20            | PASS    |
| NTNV          | CW       | Ant1    | 5200               | 5199.985            | -2.88462        | ±20            | PASS    |
| NTNV          | CW       | Ant2    | 5200               | 5199.987            | -2.50000        | ±20            | PASS    |
| NTNV          | CW       | Ant1    | 5210               | 5209.985            | -2.87908        | ±20            | PASS    |
| NTNV          | CW       | Ant2    | 5210               | 5209.986            | -2.68714        | ±20            | PASS    |
| NTNV          | CW       | Ant1    | 5230               | 5229.985            | -2.86807        | ±20            | PASS    |
| NTNV          | CW       | Ant2    | 5230               | 5229.986            | -2.67686        | ±20            | PASS    |
| NTNV          | CW       | Ant1    | 5240               | 5239.985            | -2.86260        | ±20            | PASS    |
| NTNV          | CW       | Ant2    | 5240               | 5239.987            | -2.48092        | ±20            | PASS    |

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

## 6.5.2 Test Graphs

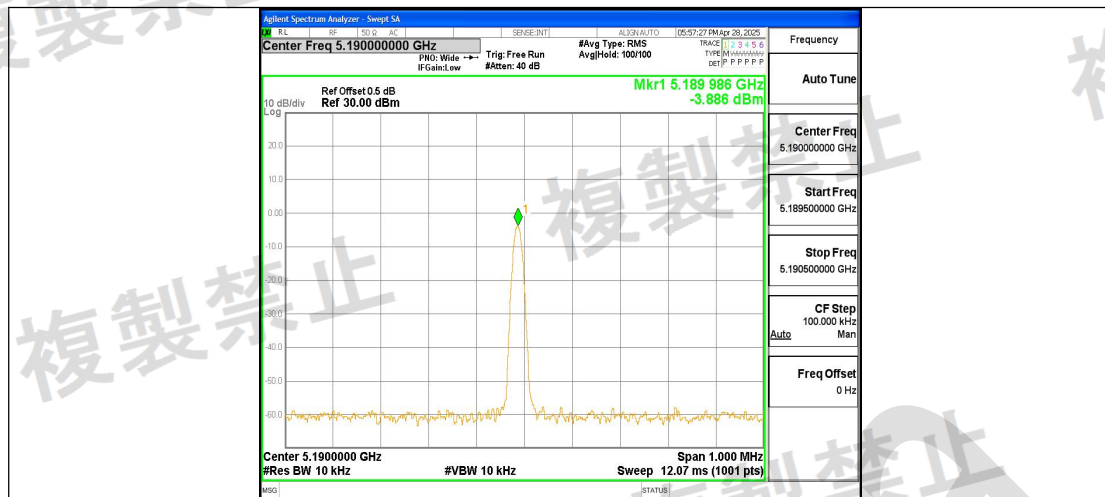


BlueAsia Technical Services (Shenzhen) Co., Ltd

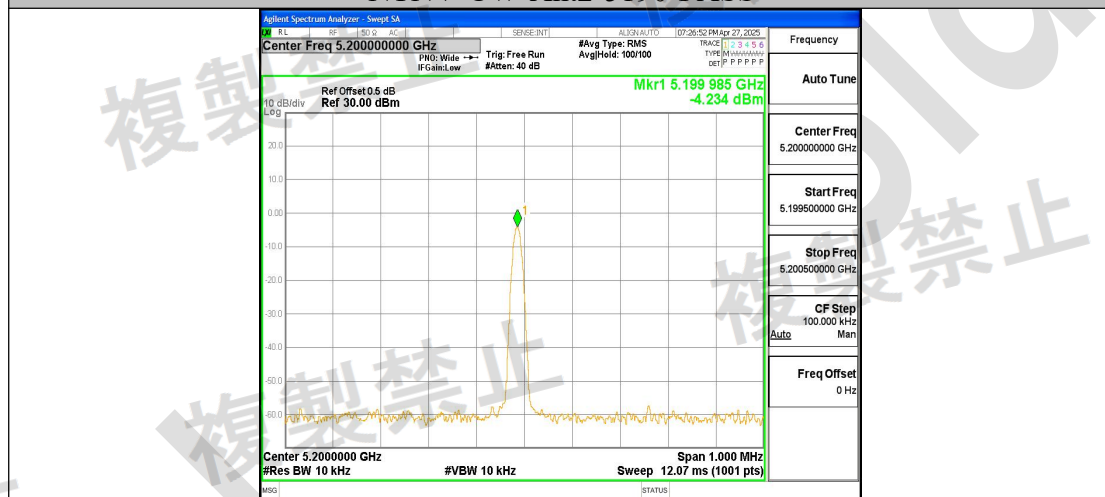
Tel: +86-755-23059481

Email: [marketing@cblueasia.com](mailto:marketing@cblueasia.com) [www.cblueasia.com](http://www.cblueasia.com)

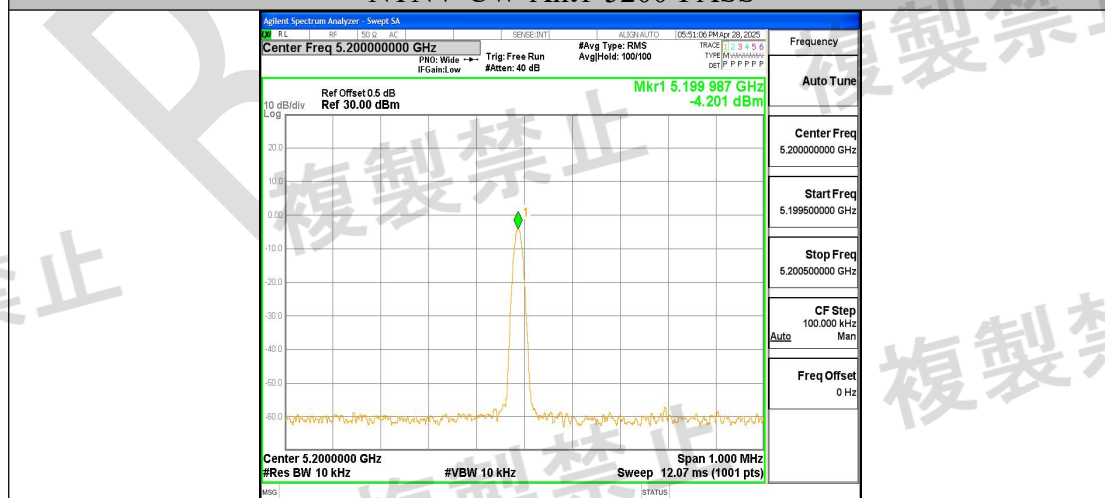
Version:v1.0



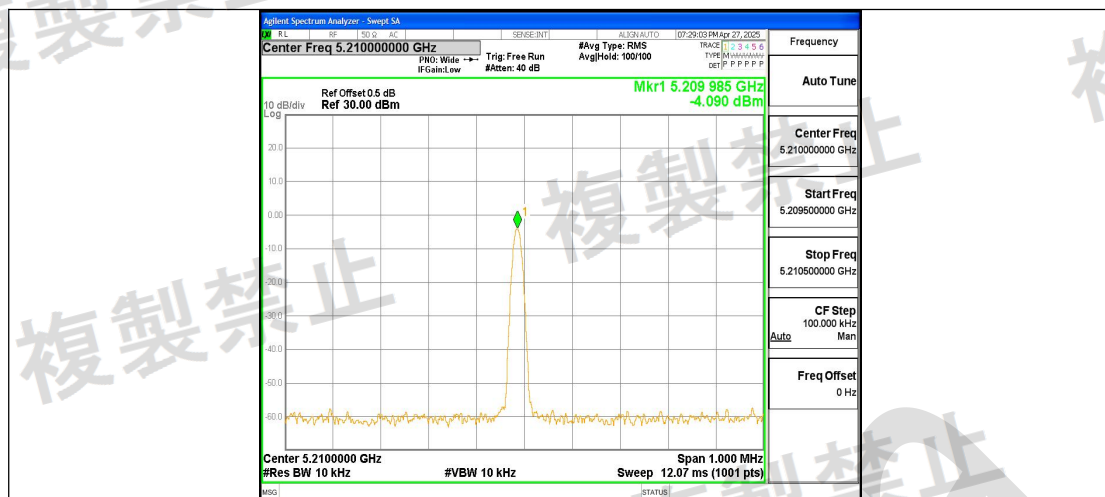
NTNV-CW-Ant2-5190-PASS



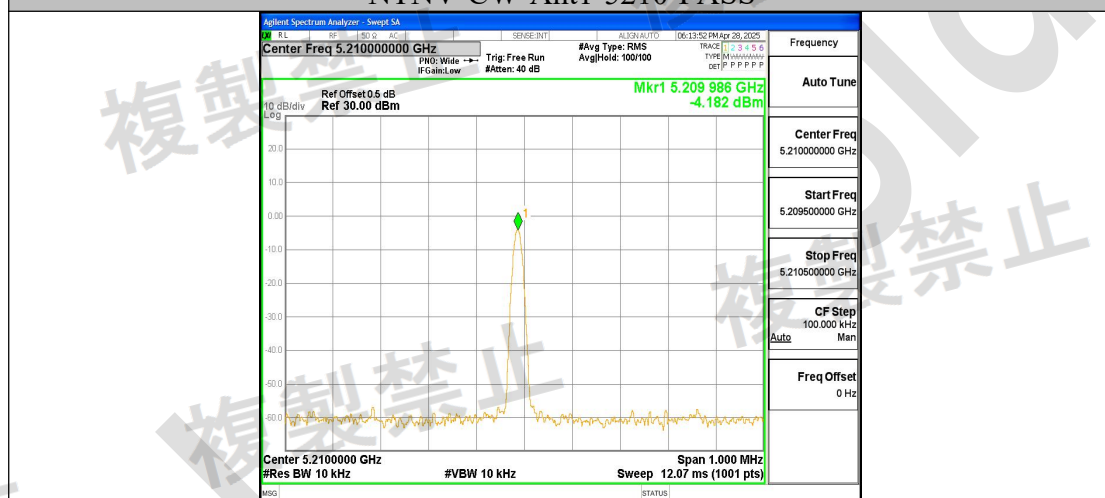
NTNV-CW-Ant1-5200-PASS



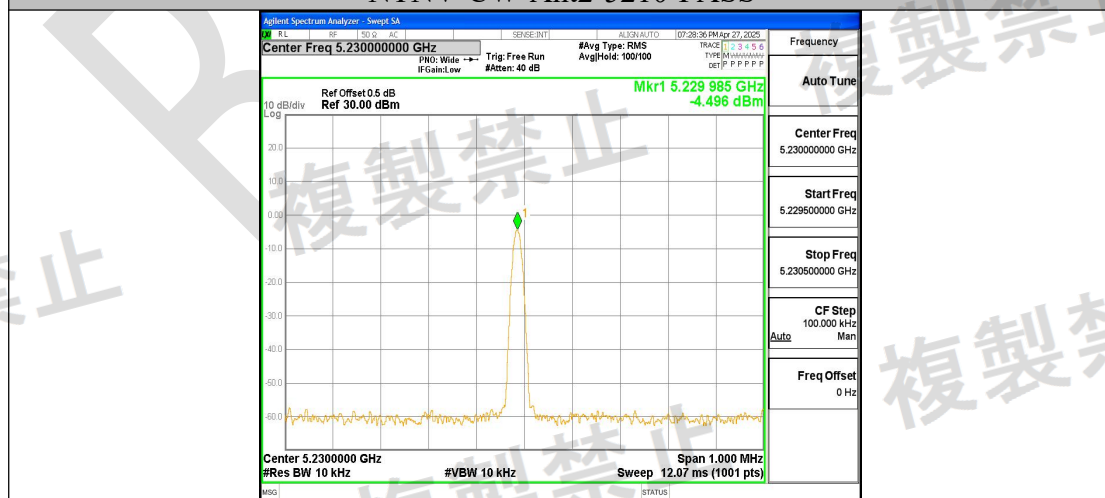
NTNV-CW-Ant2-5200-PASS



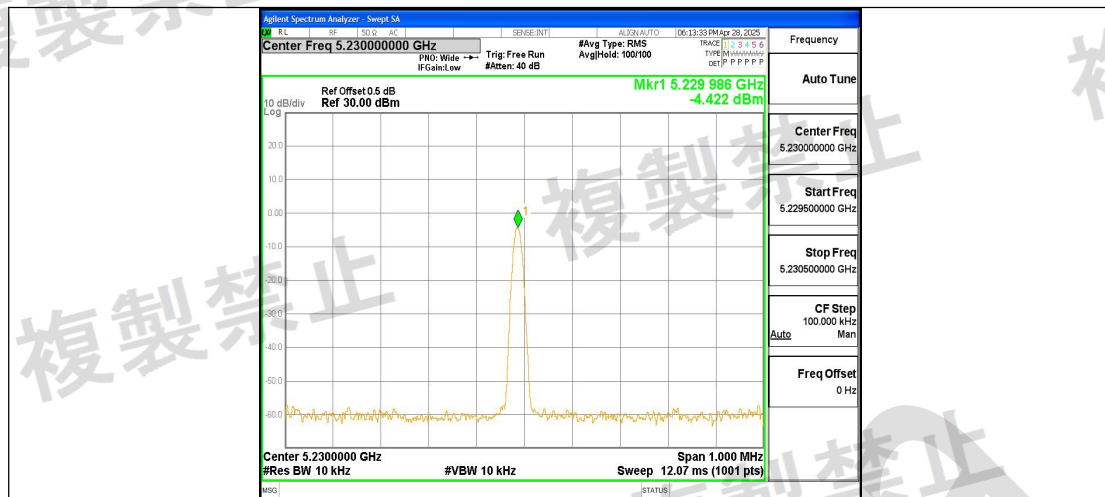
NTNV-CW-Ant1-5210-PASS



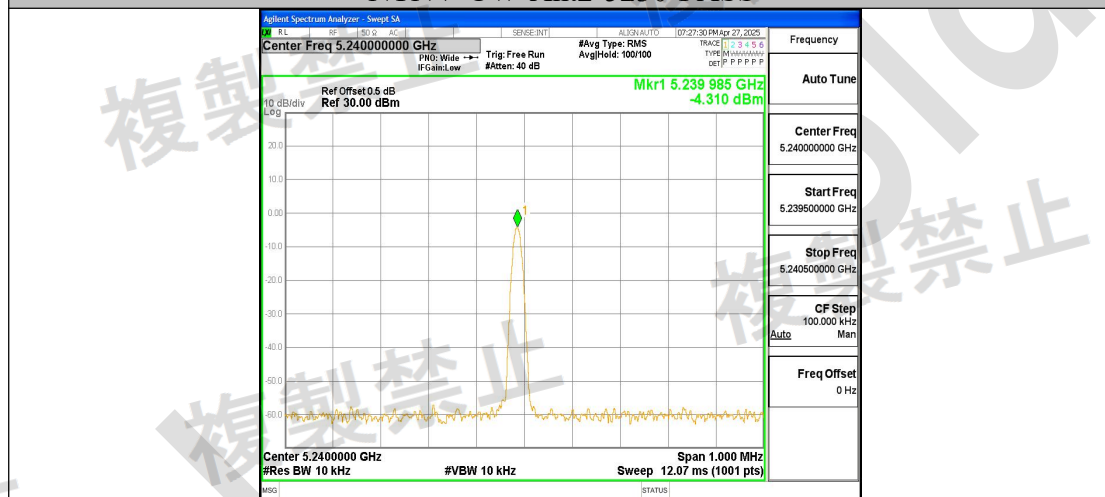
NTNV-CW-Ant2-5210-PASS



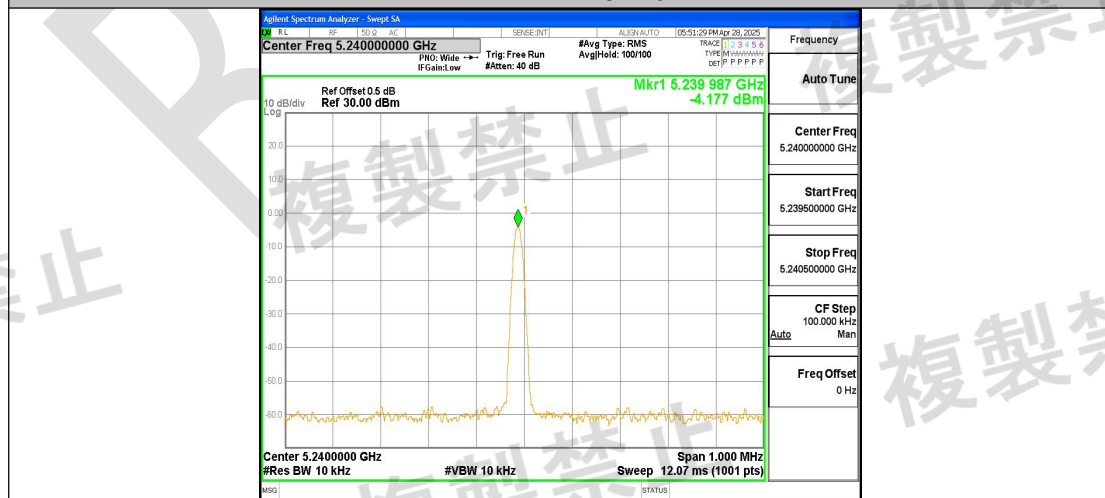
NTNV-CW-Ant1-5230-PASS



NTNV-CW-Ant2-5230-PASS



NTNV-CW-Ant1-5240-PASS



NTNV-CW-Ant2-5240-PASS

## 6.6 Occupied Bandwidth (99%)

Test Requirement: Item 19-3 of Article 2-1

20MHz or less for 20MHz system; 40MHz or less for 40MHz system; 80MHz or less for 80MHz system

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

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 30MHz for 802.11a/n(HT20)/ac(VHT20)/ax(HE20); 50 MHz for 802.11

n(HT40)/ac(VHT40)/ax(HE40); 90 MHz for 802.11ac(VHT80)/ax(HE80)

RBW 300KHz

VBW 300KHz

Sweep Time Auto

detector mode Positive peak

Indication mode Maxhold

OBW 99%

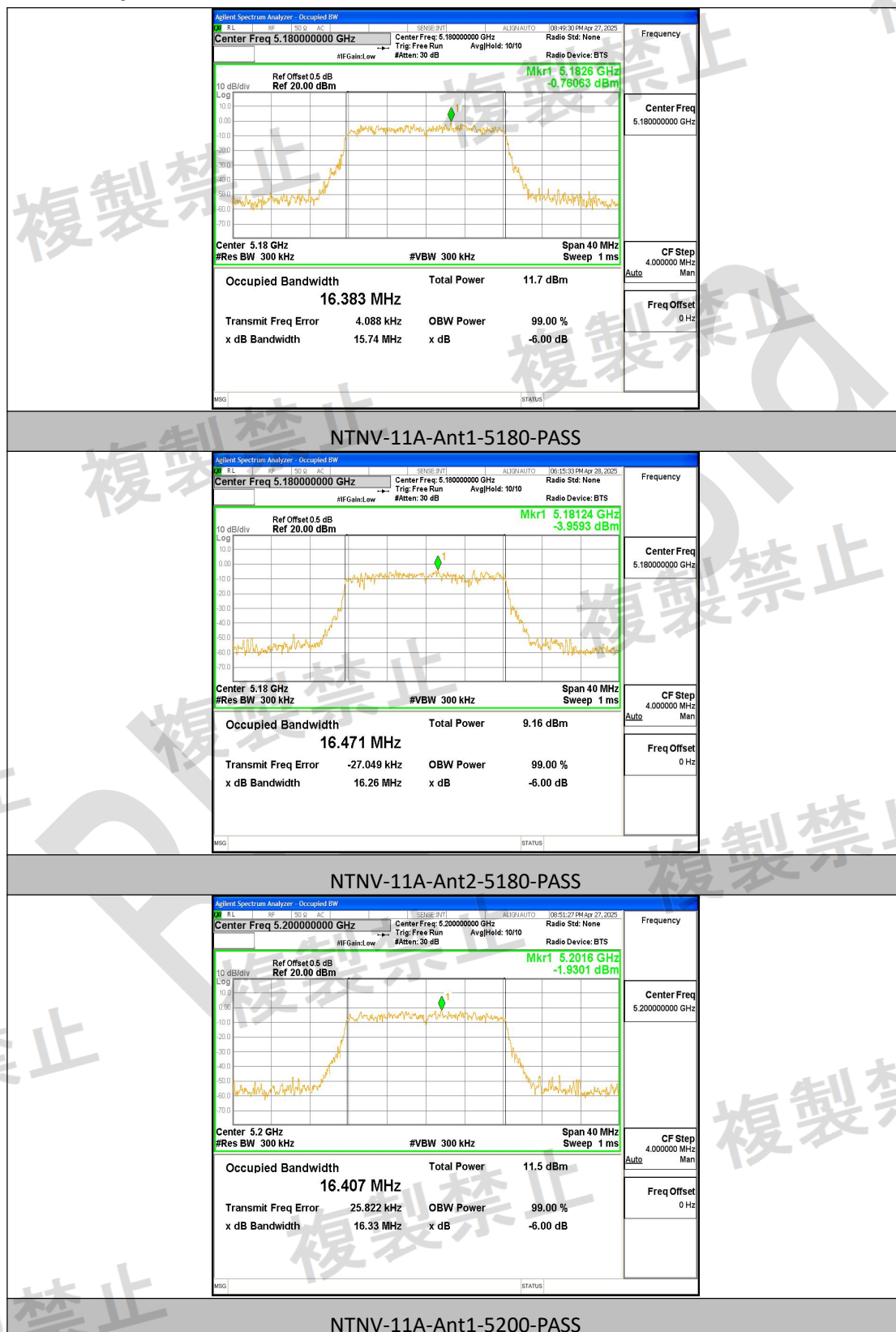
### 6.6.1 Test Result

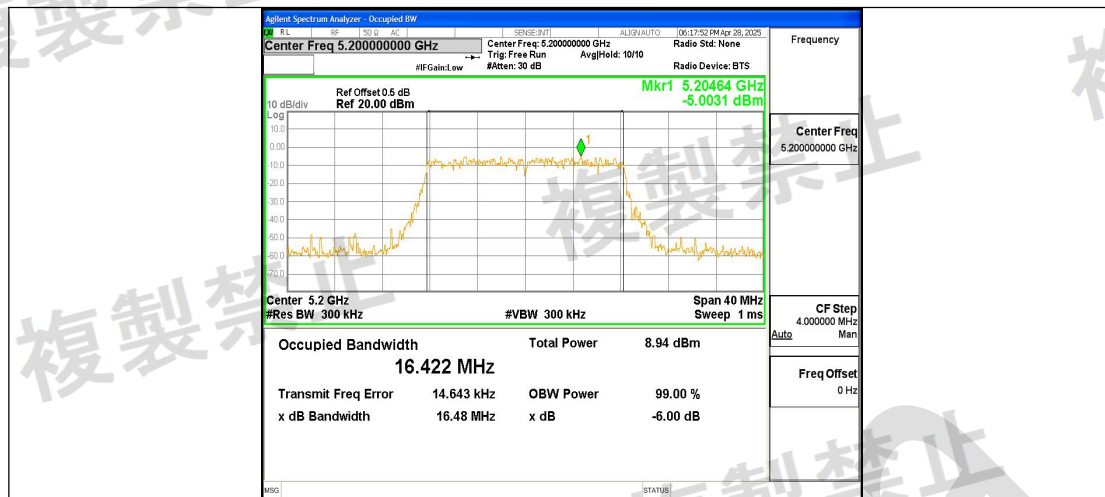
| TestCondition | TestMode       | Antenna | Frequency [MHz] | Result [MHz] | Limit [MHz] | Verdict |
|---------------|----------------|---------|-----------------|--------------|-------------|---------|
| NTNV          | 11A            | Ant1    | 5180            | 16.383       | ≤20         | PASS    |
| NTNV          | 11A            | Ant2    | 5180            | 16.471       | ≤20         | PASS    |
| NTNV          | 11A            | Ant1    | 5200            | 16.407       | ≤20         | PASS    |
| NTNV          | 11A            | Ant2    | 5200            | 16.422       | ≤20         | PASS    |
| NTNV          | 11A            | Ant1    | 5240            | 16.403       | ≤20         | PASS    |
| NTNV          | 11A            | Ant2    | 5240            | 16.430       | ≤20         | PASS    |
| NTNV          | 11N20SI<br>SO  | Ant1    | 5180            | 17.614       | ≤20         | PASS    |
| NTNV          | 11N20SI<br>SO  | Ant2    | 5180            | 17.654       | ≤20         | PASS    |
| NTNV          | 11N20SI<br>SO  | Ant1    | 5200            | 17.673       | ≤20         | PASS    |
| NTNV          | 11N20SI<br>SO  | Ant2    | 5200            | 17.543       | ≤20         | PASS    |
| NTNV          | 11N20SI<br>SO  | Ant1    | 5240            | 17.601       | ≤20         | PASS    |
| NTNV          | 11N20SI<br>SO  | Ant2    | 5240            | 17.598       | ≤20         | PASS    |
| NTNV          | 11N40SI<br>SO  | Ant1    | 5190            | 36.047       | ≤40         | PASS    |
| NTNV          | 11N40SI<br>SO  | Ant2    | 5190            | 35.830       | ≤40         | PASS    |
| NTNV          | 11N40SI<br>SO  | Ant1    | 5230            | 36.160       | ≤40         | PASS    |
| NTNV          | 11N40SI<br>SO  | Ant2    | 5230            | 36.007       | ≤40         | PASS    |
| NTNV          | 11AC20S<br>ISO | Ant1    | 5180            | 17.654       | ≤20         | PASS    |
| NTNV          | 11AC20S<br>ISO | Ant2    | 5180            | 17.690       | ≤20         | PASS    |
| NTNV          | 11AC20S<br>ISO | Ant1    | 5200            | 17.604       | ≤20         | PASS    |

|      |                |      |      |        |     |      |
|------|----------------|------|------|--------|-----|------|
| NTNV | 11AC20S<br>ISO | Ant2 | 5200 | 17.489 | ≤20 | PASS |
| NTNV | 11AC20S<br>ISO | Ant1 | 5240 | 17.552 | ≤20 | PASS |
| NTNV | 11AC20S<br>ISO | Ant2 | 5240 | 17.521 | ≤20 | PASS |
| NTNV | 11AC40S<br>ISO | Ant1 | 5190 | 35.973 | ≤40 | PASS |
| NTNV | 11AC40S<br>ISO | Ant2 | 5190 | 36.009 | ≤40 | PASS |
| NTNV | 11AC40S<br>ISO | Ant1 | 5230 | 35.848 | ≤40 | PASS |
| NTNV | 11AC40S<br>ISO | Ant2 | 5230 | 36.113 | ≤40 | PASS |
| NTNV | 11AC80S<br>ISO | Ant1 | 5210 | 75.955 | ≤80 | PASS |
| NTNV | 11AC80S<br>ISO | Ant2 | 5210 | 75.495 | ≤80 | PASS |
| NTNV | 11AX20S<br>ISO | Ant1 | 5180 | 18.805 | ≤20 | PASS |
| NTNV | 11AX20S<br>ISO | Ant2 | 5180 | 18.823 | ≤20 | PASS |
| NTNV | 11AX20S<br>ISO | Ant1 | 5200 | 18.811 | ≤20 | PASS |
| NTNV | 11AX20S<br>ISO | Ant2 | 5200 | 18.894 | ≤20 | PASS |
| NTNV | 11AX20S<br>ISO | Ant1 | 5240 | 18.816 | ≤20 | PASS |
| NTNV | 11AX20S<br>ISO | Ant2 | 5240 | 18.860 | ≤20 | PASS |
| NTNV | 11AX40S<br>ISO | Ant1 | 5190 | 37.430 | ≤40 | PASS |
| NTNV | 11AX40S<br>ISO | Ant2 | 5190 | 37.753 | ≤40 | PASS |
| NTNV | 11AX40S<br>ISO | Ant1 | 5230 | 37.354 | ≤40 | PASS |

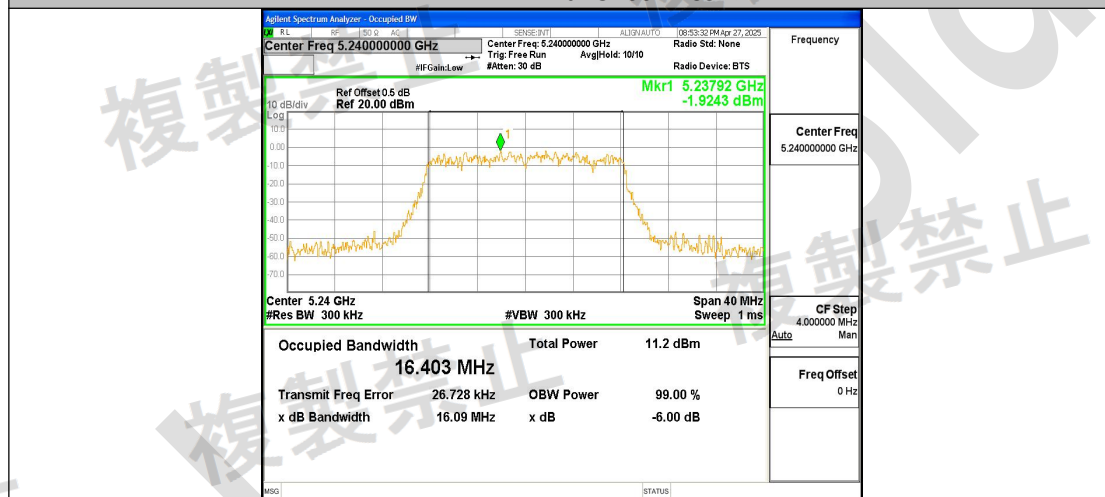
|      |                |      |      |        |     |      |
|------|----------------|------|------|--------|-----|------|
| NTNV | 11AX40S<br>ISO | Ant2 | 5230 | 37.453 | ≤40 | PASS |
| NTNV | 11AX80S<br>ISO | Ant1 | 5210 | 77.387 | ≤80 | PASS |
| NTNV | 11AX80S<br>ISO | Ant2 | 5210 | 77.049 | ≤80 | PASS |

## 6.6.2 Test Graphs

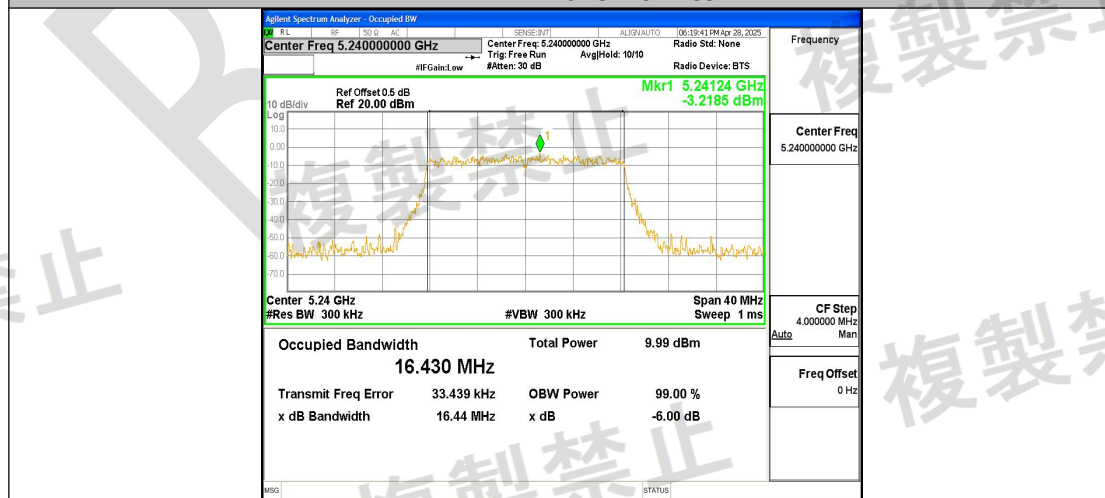




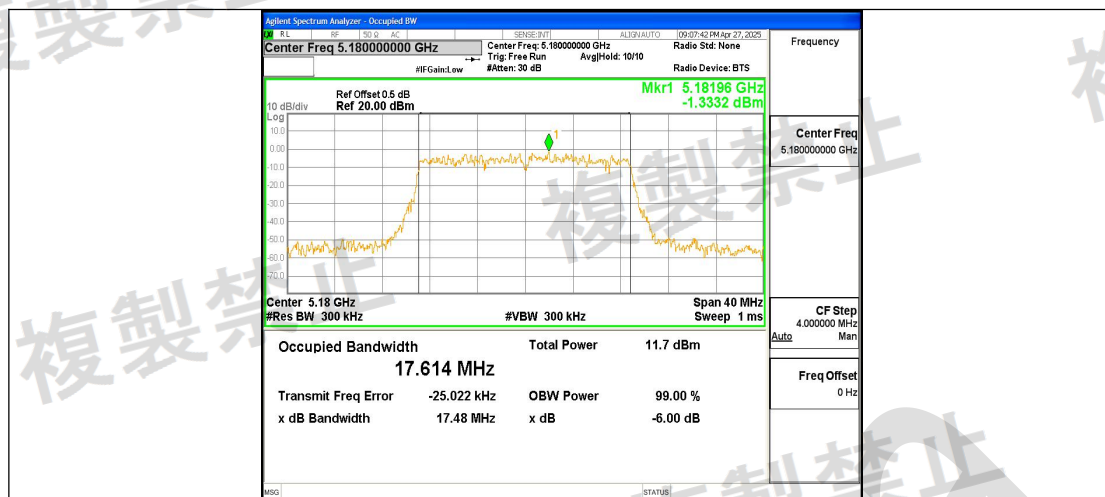
NTNV-11A-Ant2-5200-PASS



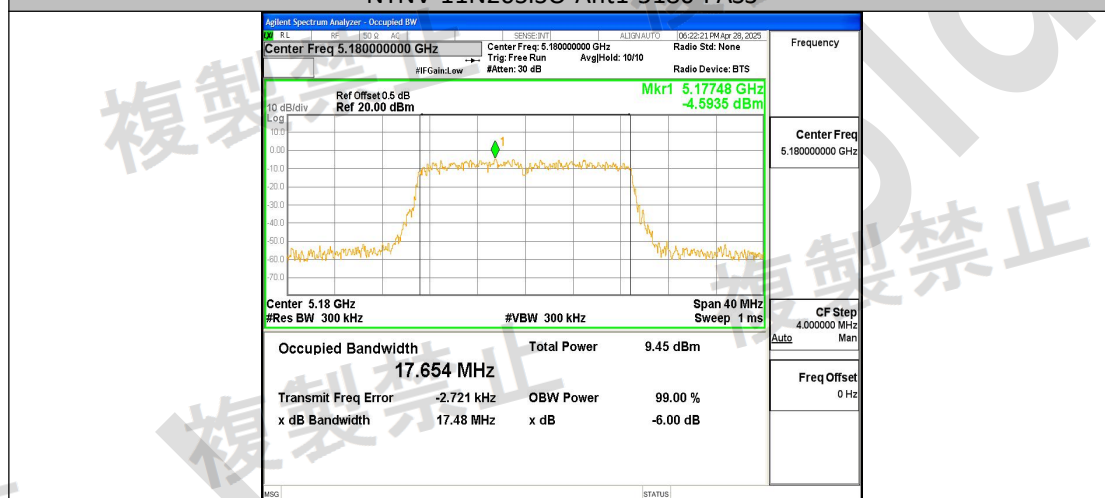
NTNV-11A-Ant1-5240-PASS



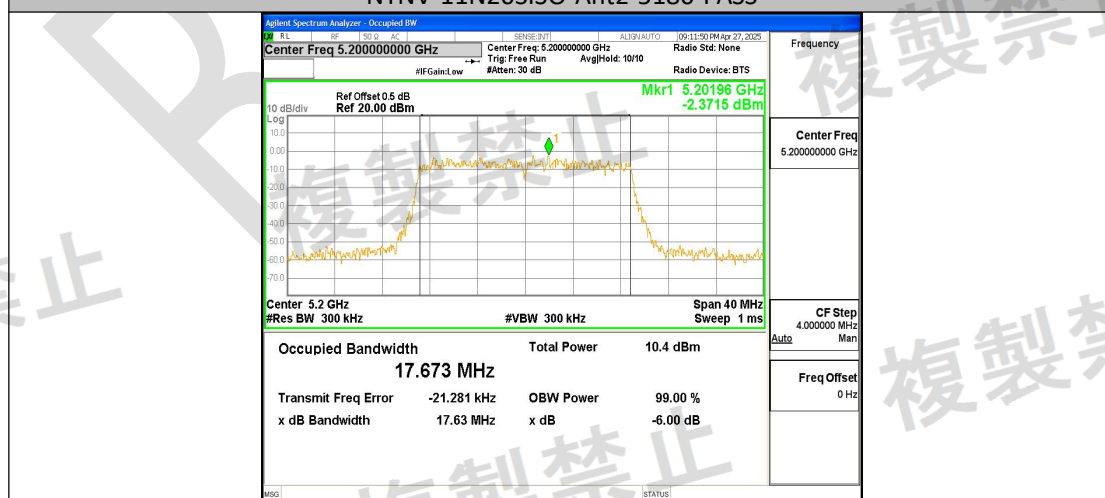
NTNV-11A-Ant2-5240-PASS



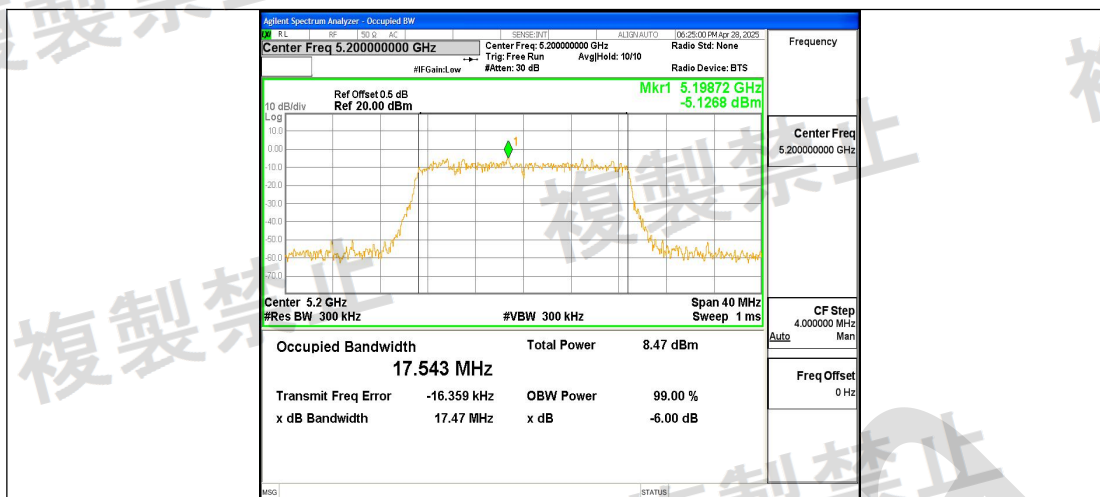
NTVN-11N20SISO-Ant1-5180-PASS



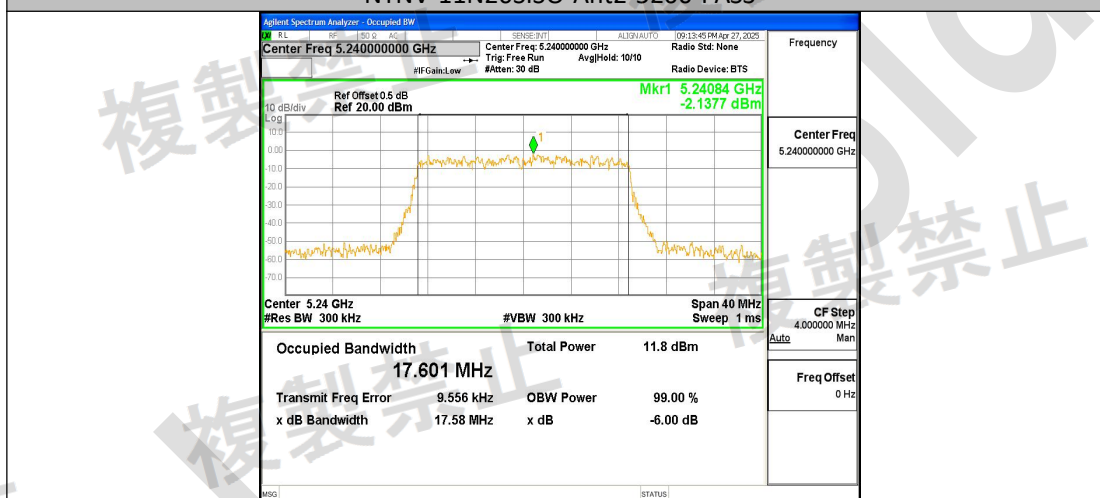
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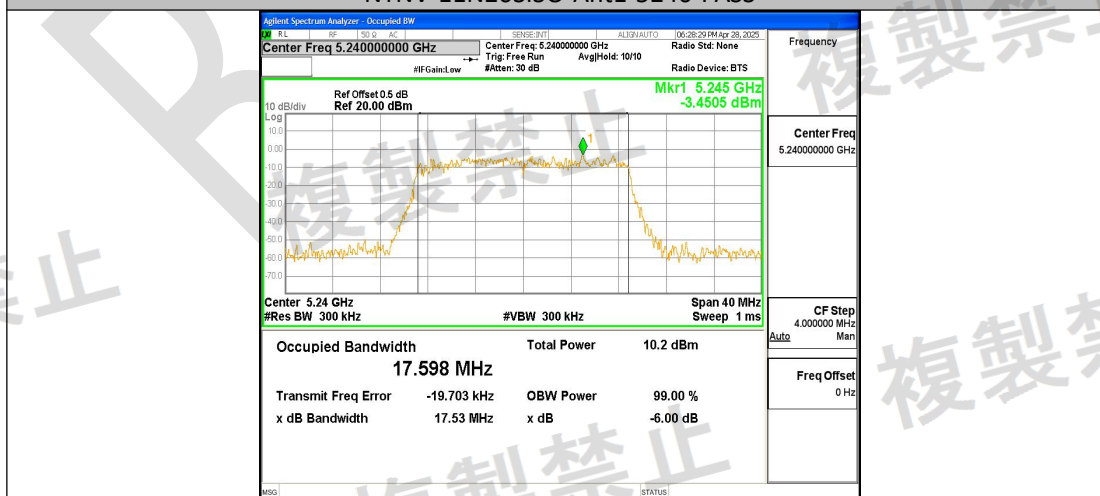
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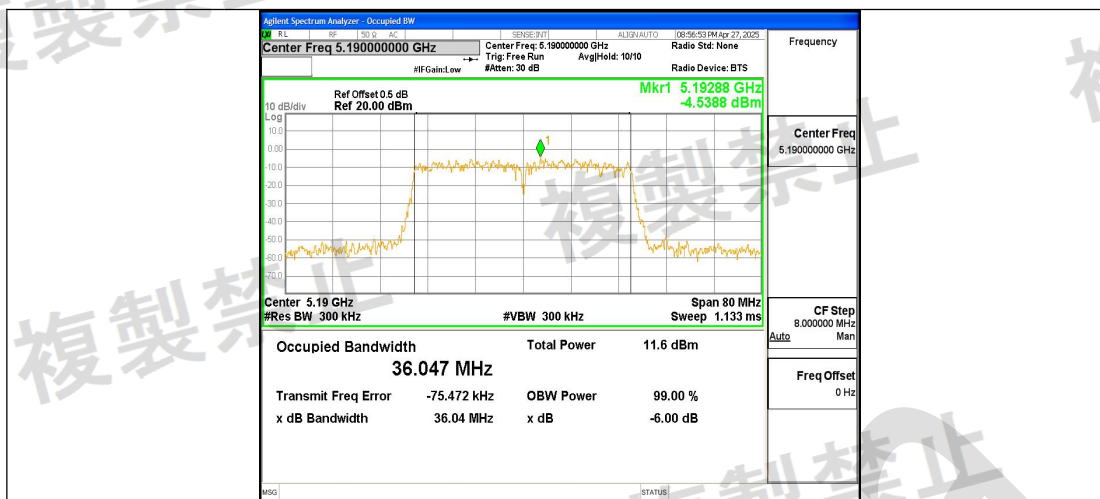
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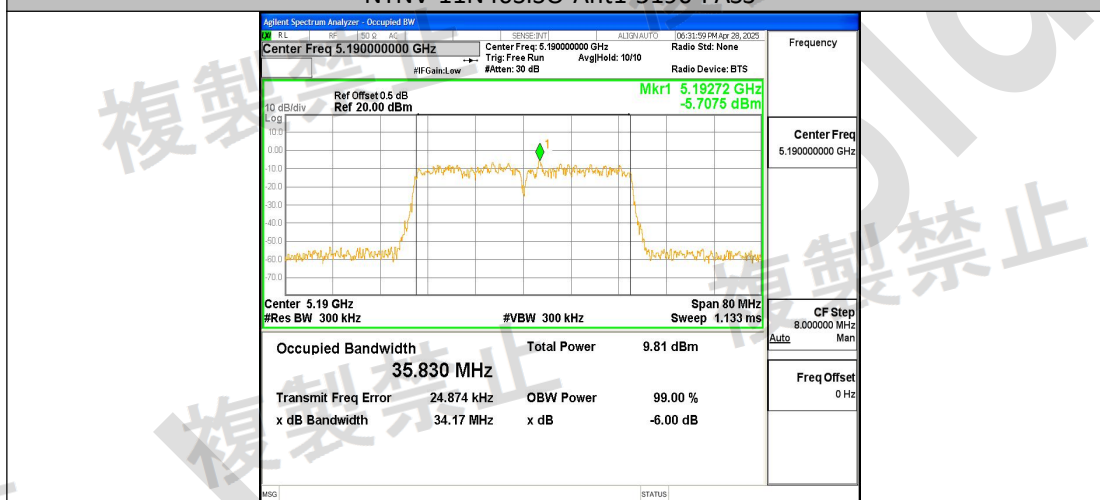
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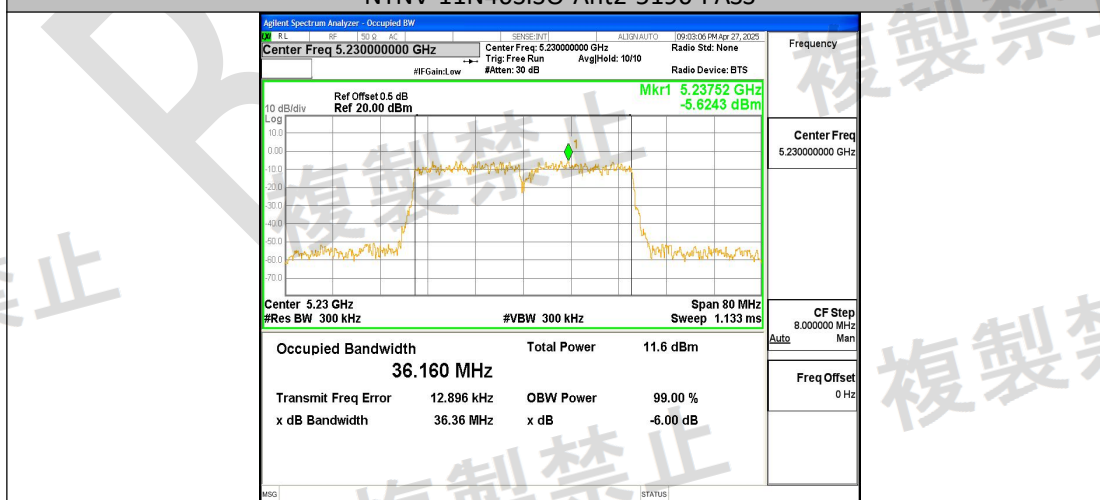
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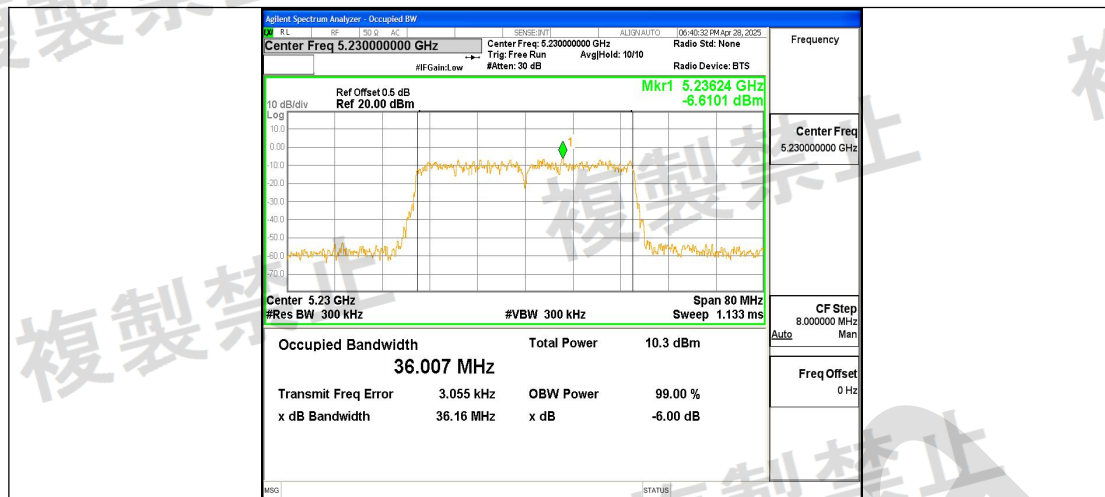
NTVN-11N40SISO-Ant1-5190-PASS



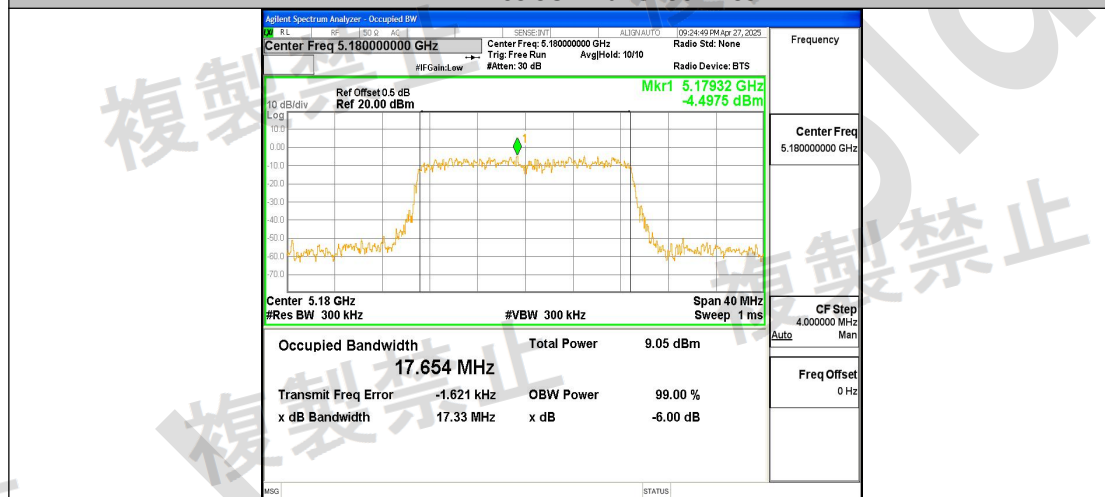
NTVN-11N40SISO-Ant2-5190-PASS



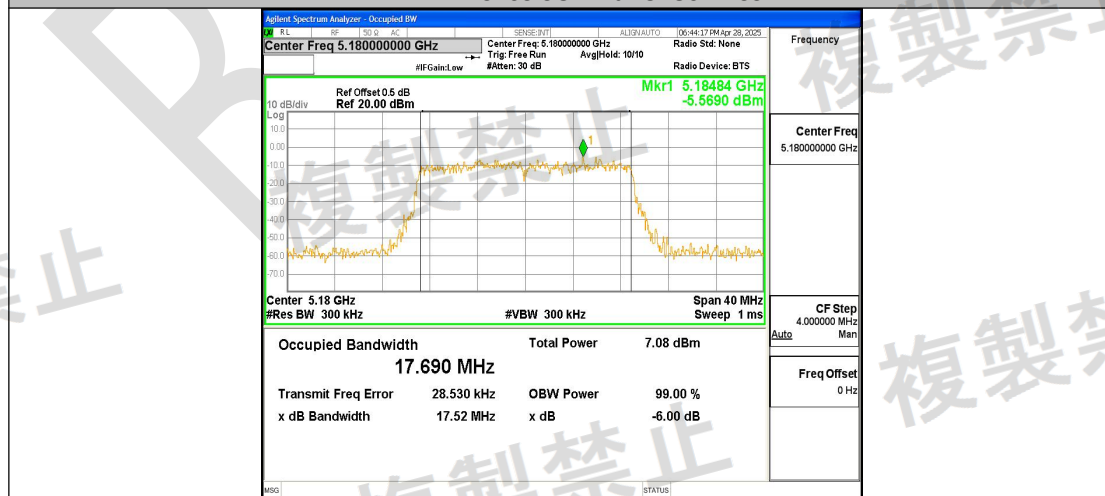
NTVN-11N40SISO-Ant1-5230-PASS



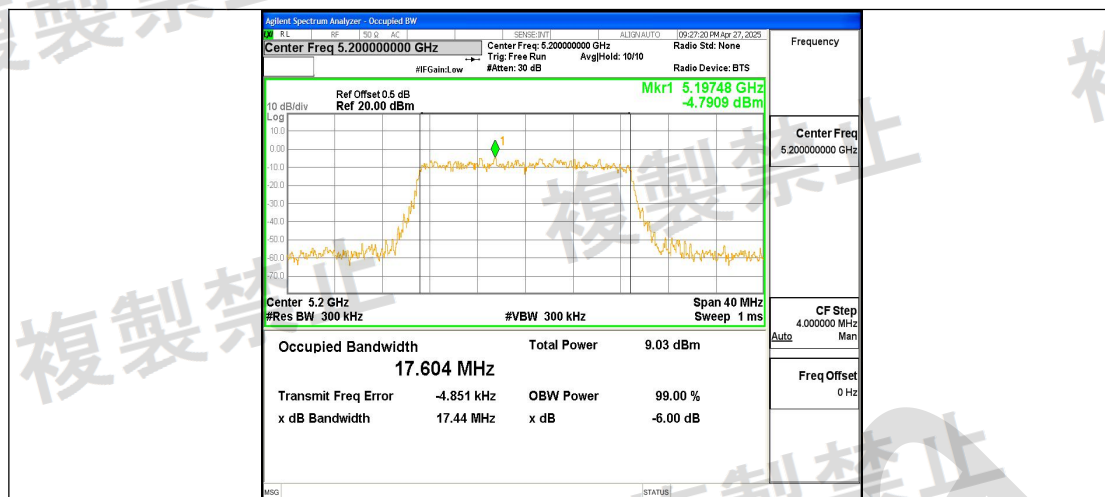
NTNV-11N40SISO-Ant2-5230-PASS



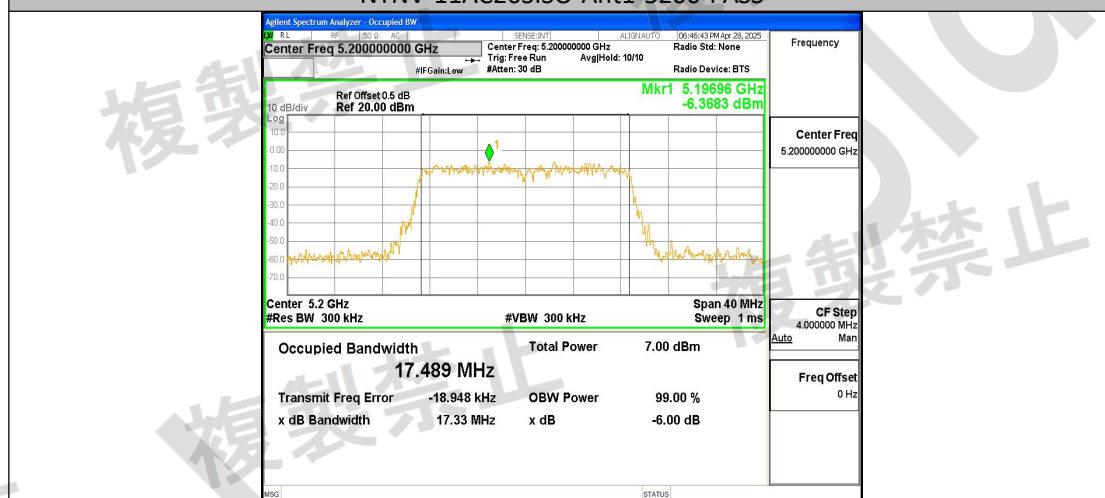
NTNV-11AC20SISO-Ant1-5180-PASS



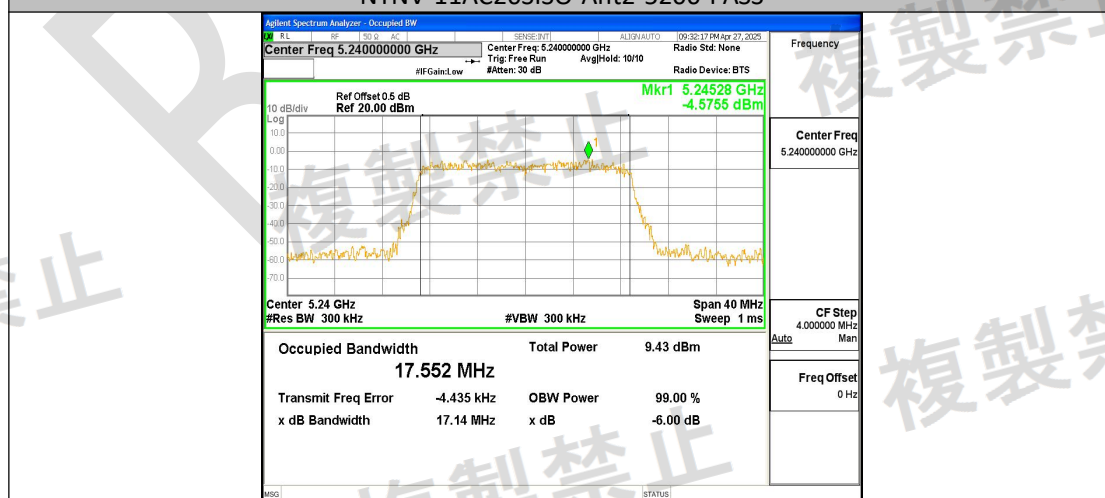
NTNV-11AC20SISO-Ant2-5180-PASS



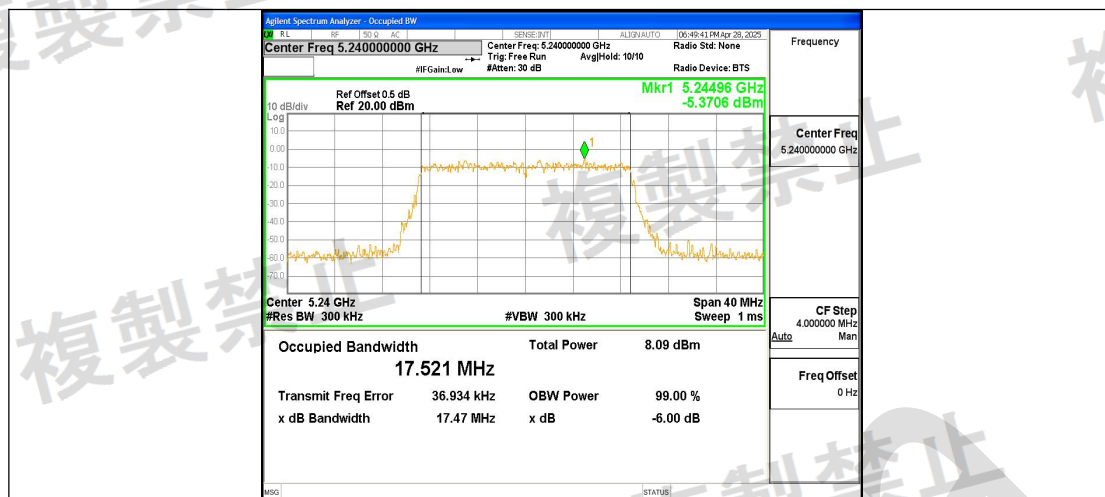
NTNV-11AC20SISO-Ant1-5200-PASS



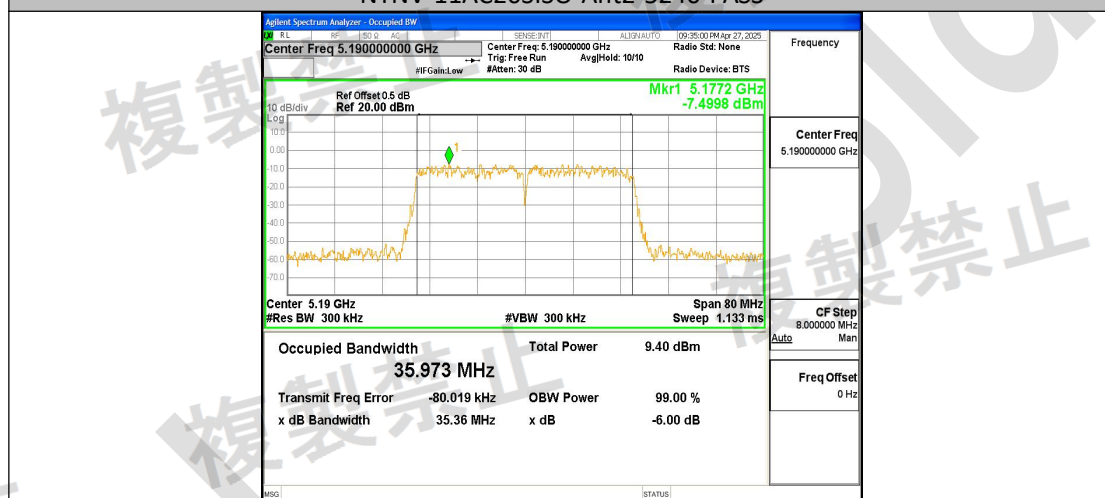
NTNV-11AC20SISO-Ant2-5200-PASS



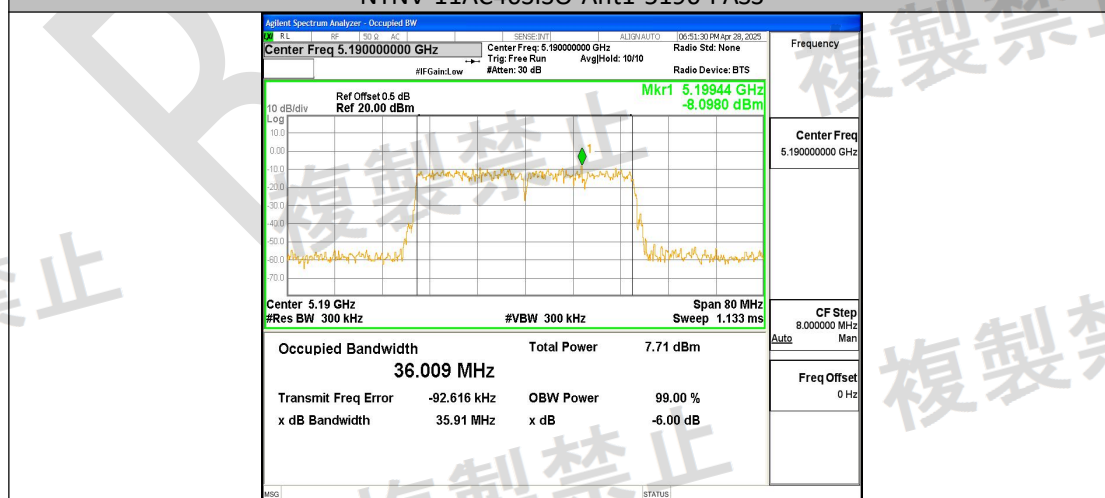
NTNV-11AC20SISO-Ant1-5240-PASS



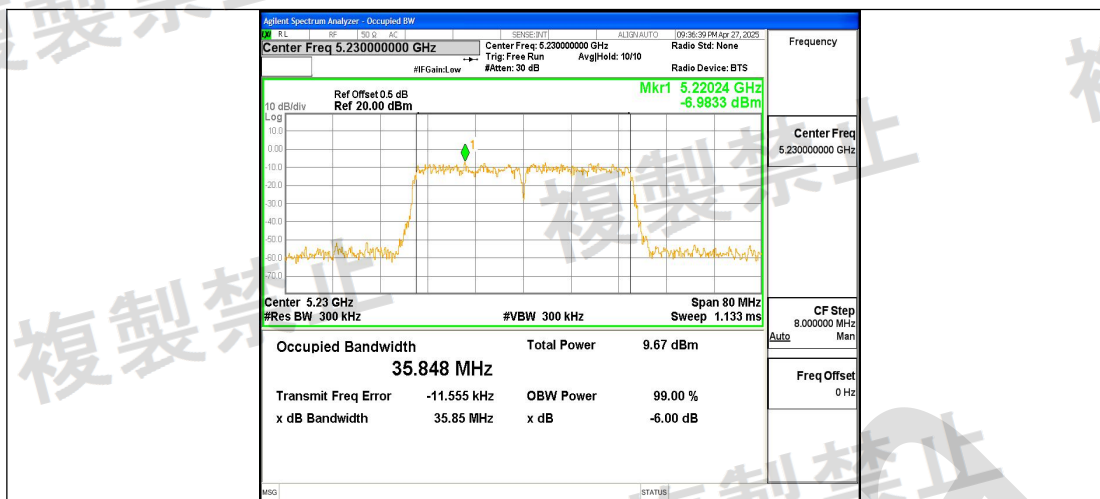
NTNV-11AC20SISO-Ant2-5240-PASS



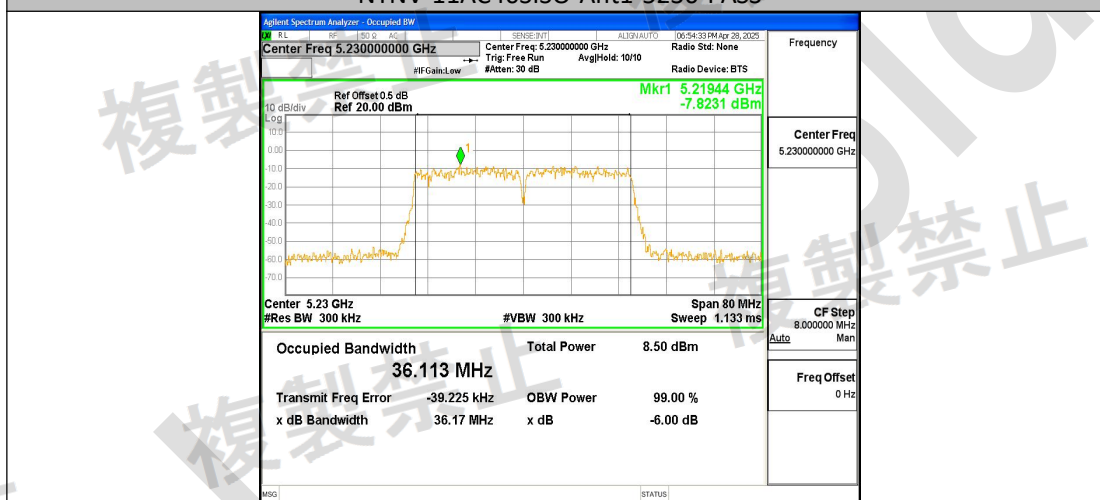
NTNV-11AC40SISO-Ant1-5190-PASS



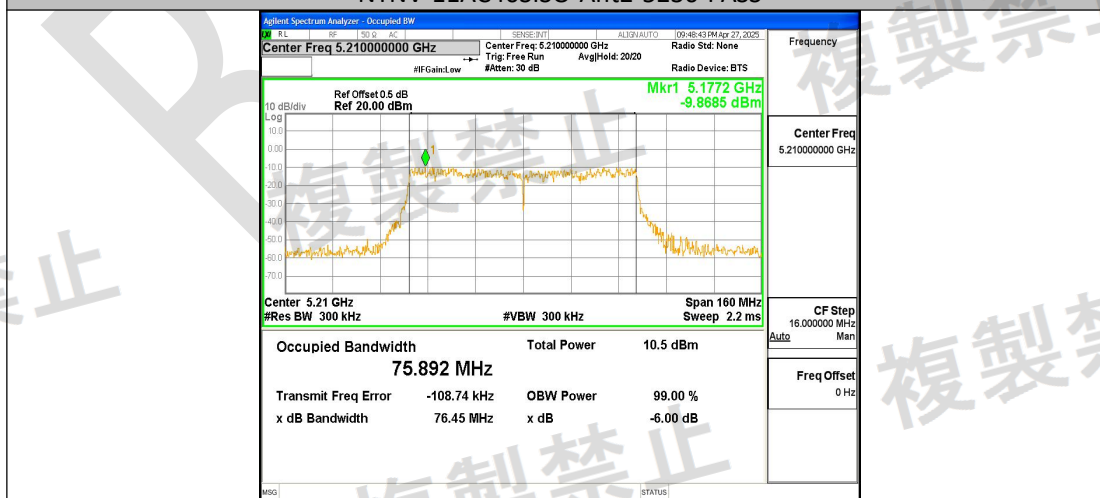
NTNV-11AC40SISO-Ant2-5190-PASS



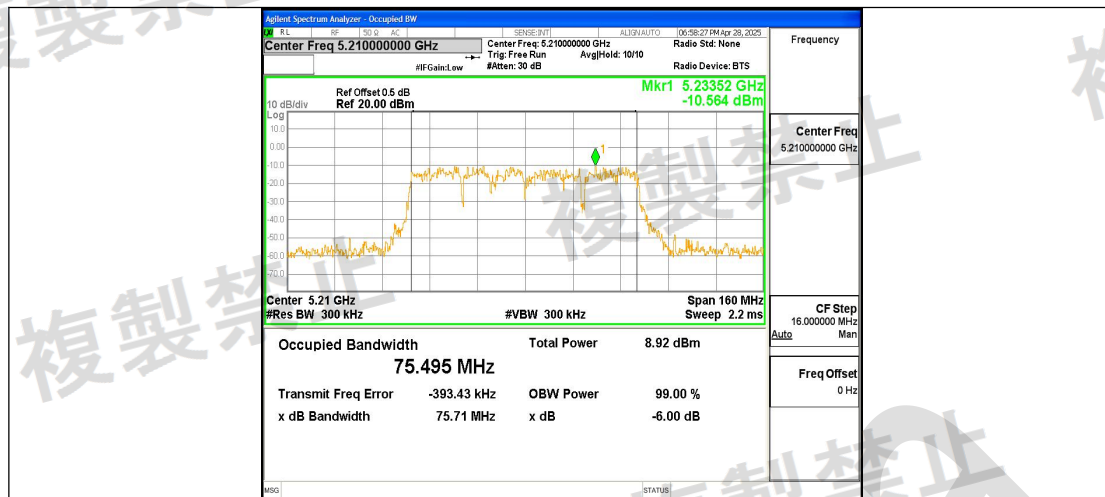
NTNV-11AC40SISO-Ant1-5230-PASS



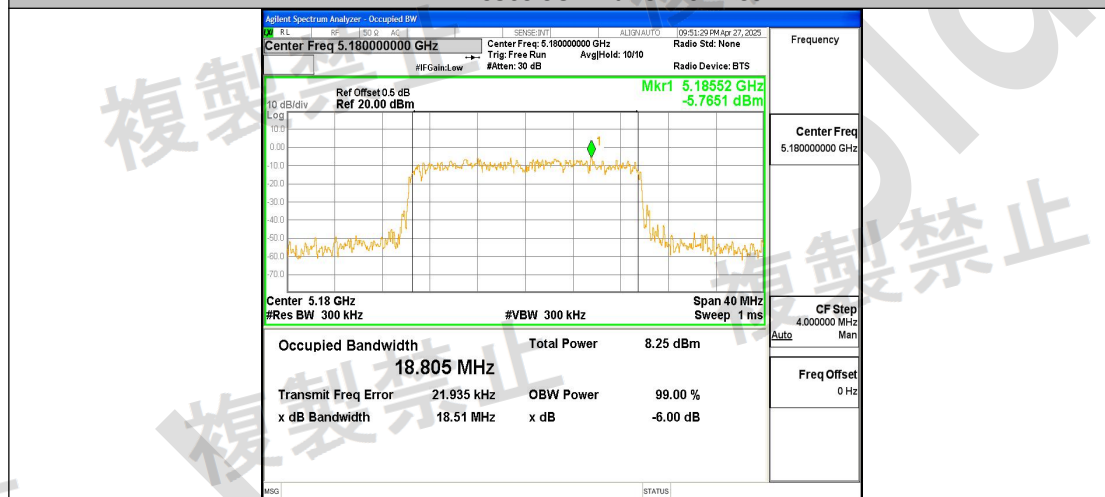
NTNV-11AC40SISO-Ant2-5230-PASS



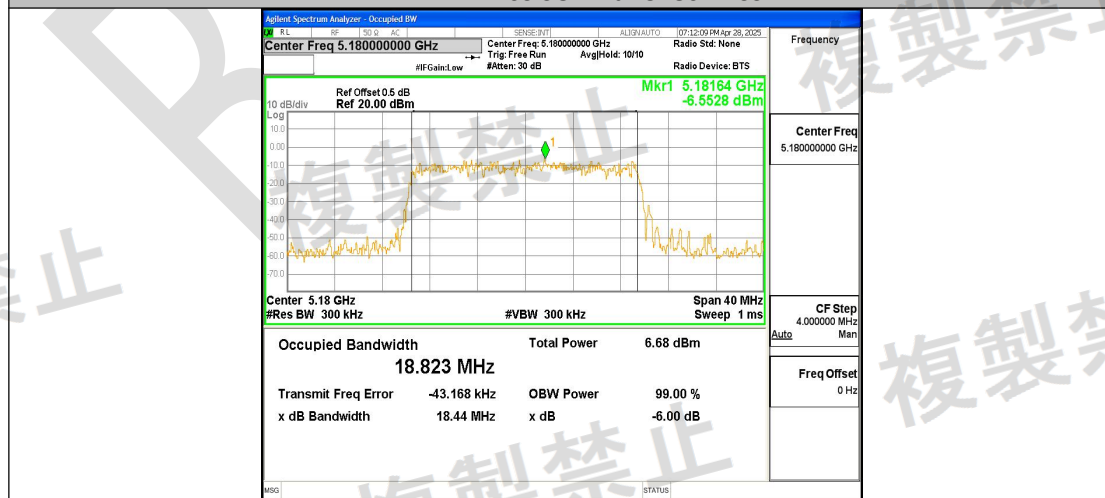
NTNV-11AC80SISO-Ant1-5210-PASS



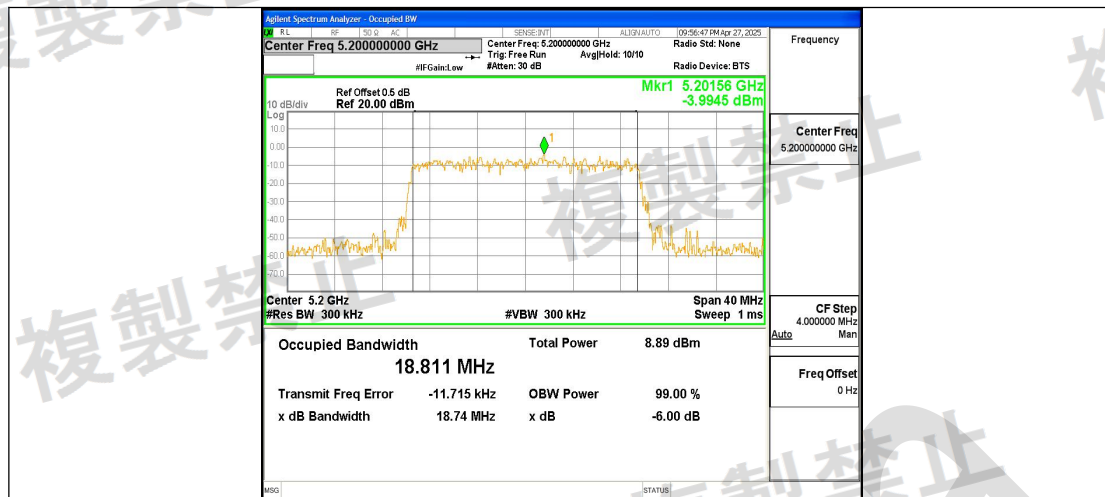
NTNV-11AC80SISO-Ant2-5210-PASS



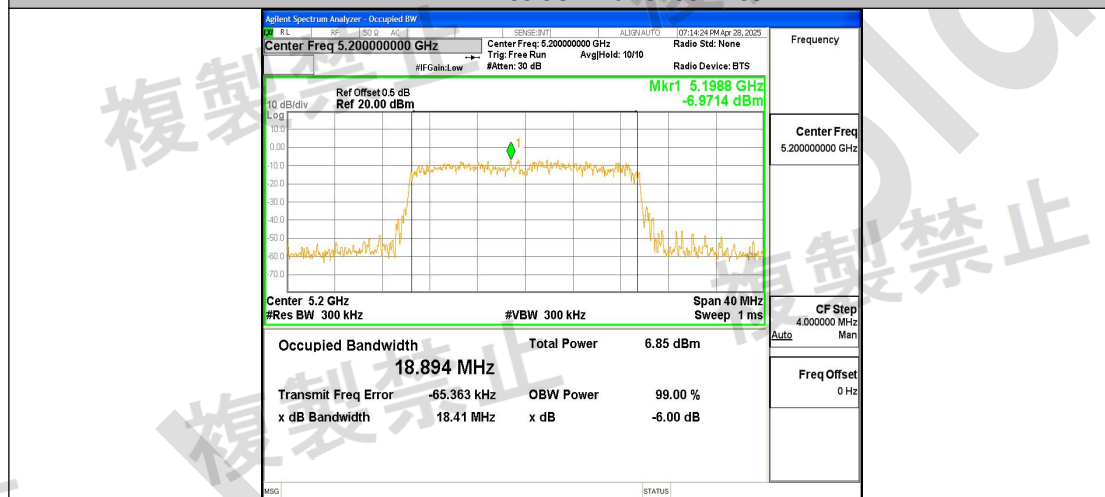
NTNV-11AX20SISO-Ant1-5180-PASS



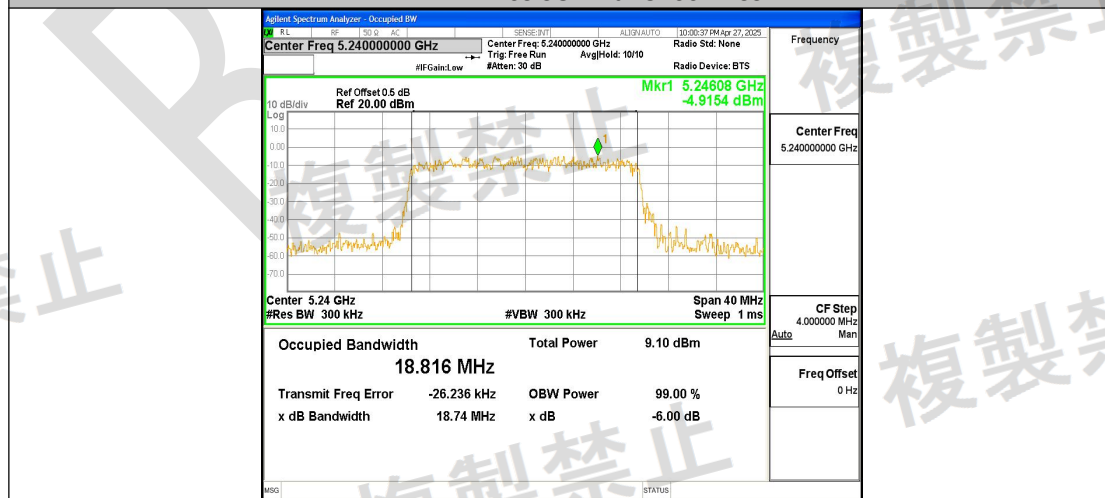
NTNV-11AX20SISO-Ant2-5180-PASS



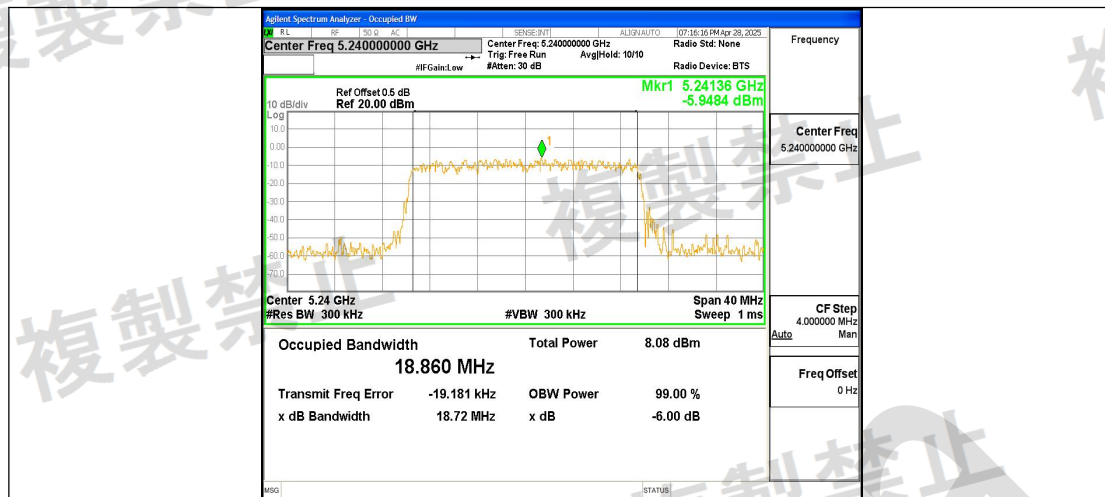
NTNV-11AX20SISO-Ant1-5200-PASS



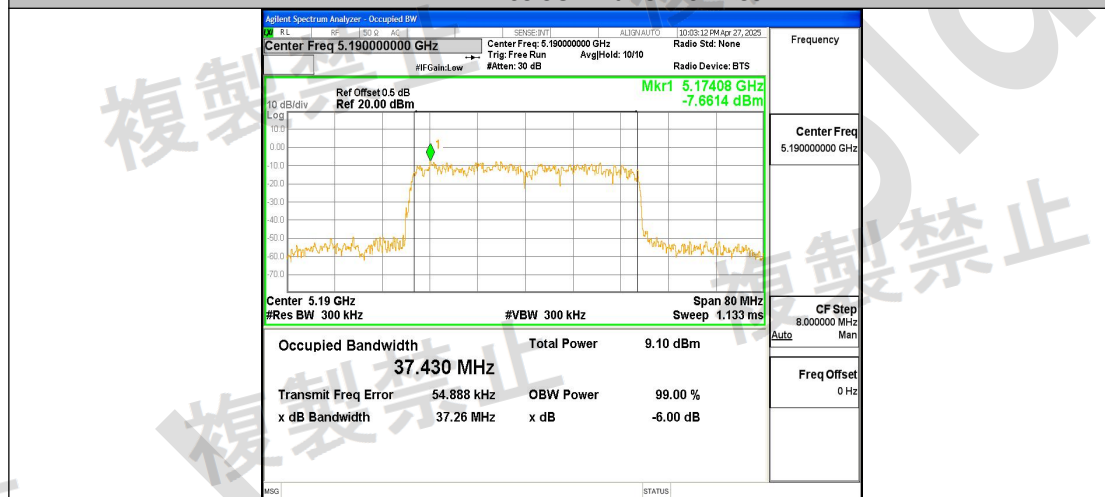
NTNV-11AX20SISO-Ant2-5200-PASS



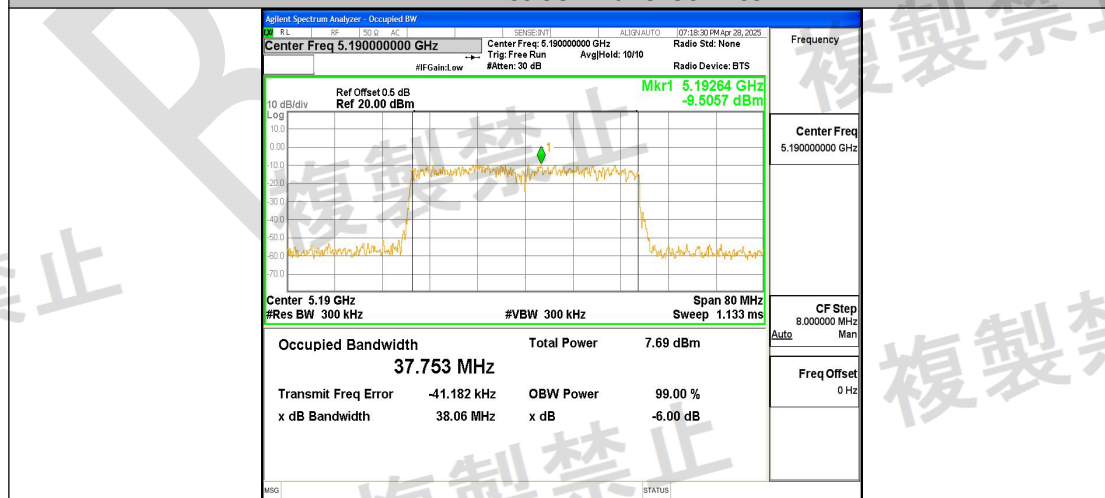
NTNV-11AX20SISO-Ant1-5240-PASS



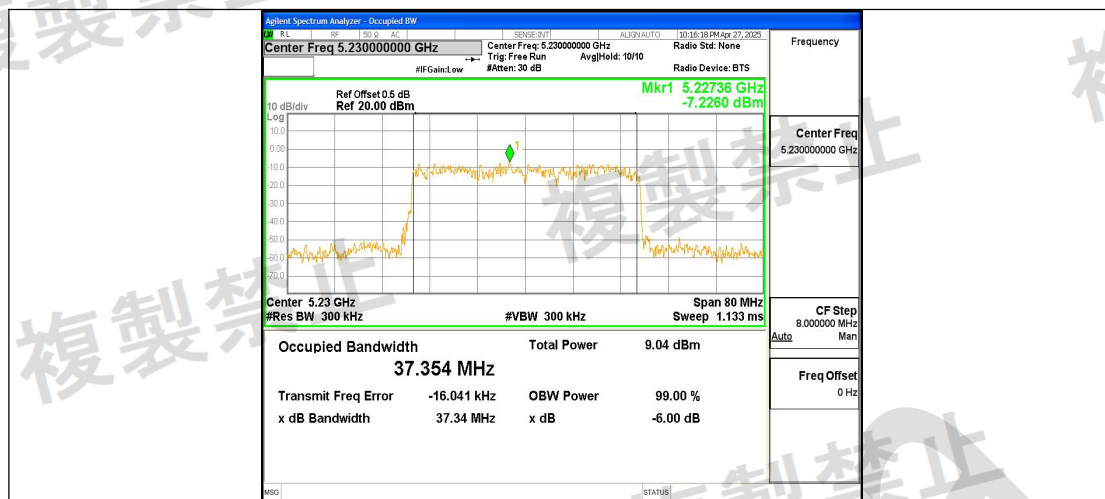
NTNV-11AX20SISO-Ant2-5240-PASS



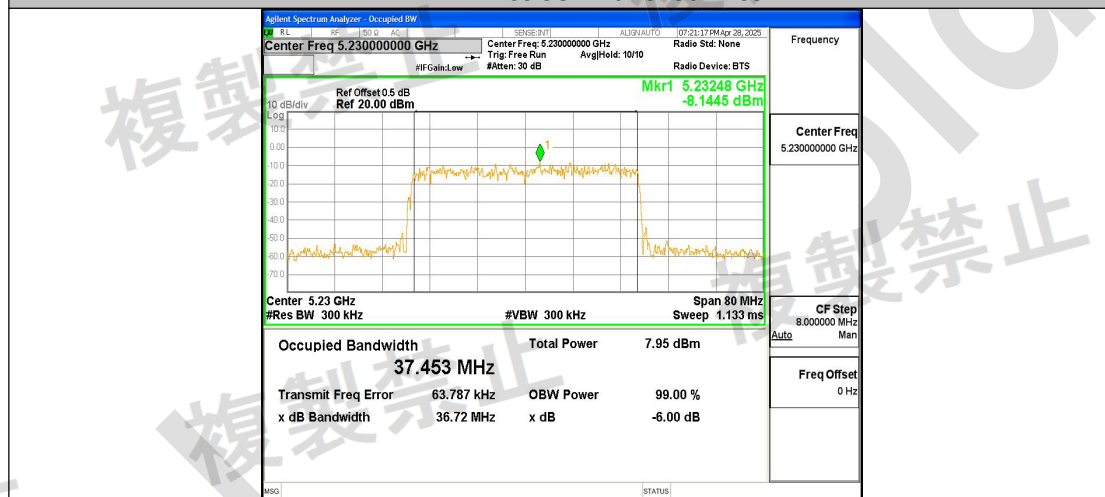
NTNV-11AX40SISO-Ant1-5190-PASS



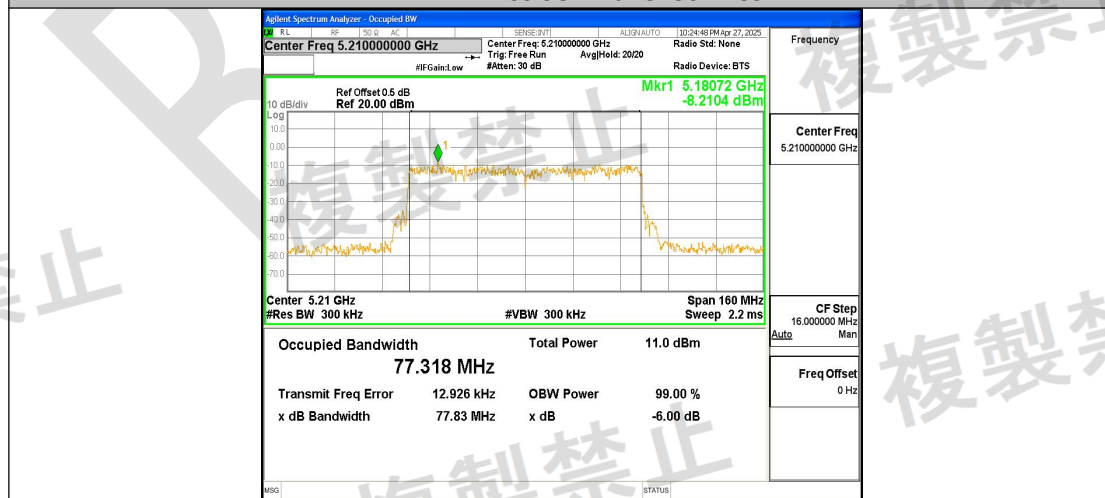
NTNV-11AX40SISO-Ant2-5190-PASS



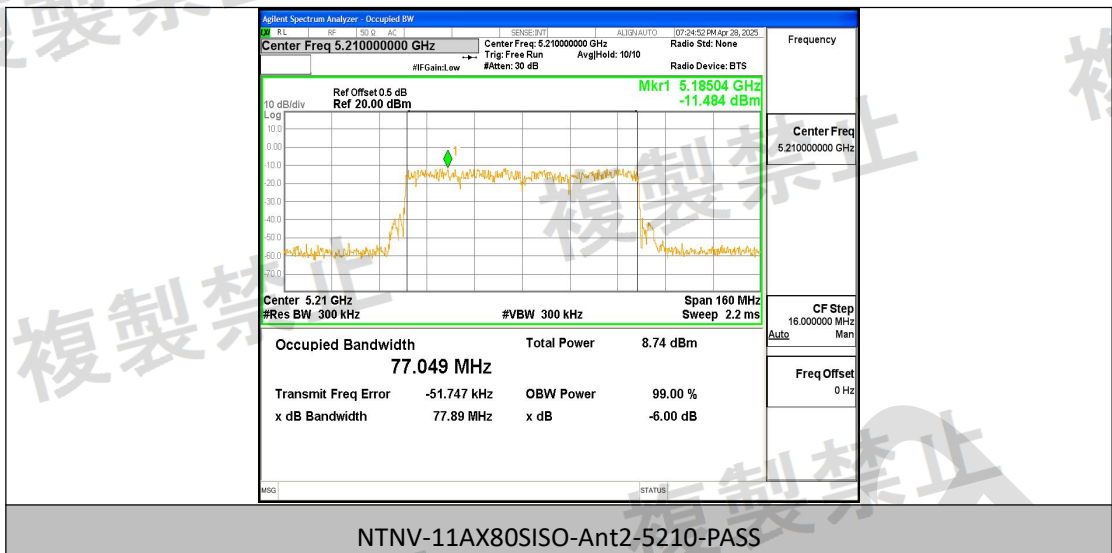
NTNV-11AX40SISO-Ant1-5230-PASS



NTNV-11AX40SISO-Ant2-5230-PASS



NTNV-11AX80SISO-Ant1-5210-PASS



## 6.7 Antenna Power

Test Requirement: Item 19-3 of Article 2-1

10mW/MHz or less for 20MHz system; 5mW/MHz or less for 40MHz system

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

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 30MHz for 802.11a/n(HT20)/ac(VHT20)/ax(HE20); 50 MHz for 802.11n(HT40)/ac(VHT40)/ax(HE40); 90 MHz for 802.11ac(VHT80)/ax(HE80)

RBW 1 MHz

VBW 3 MHz

Sweep Time Auto

detector mode Positive peak

Indication mode Max hold

### 6.7.1 Test Result

| AntennaPower  |            |         |                    |                     |                    |                   | Verdict |
|---------------|------------|---------|--------------------|---------------------|--------------------|-------------------|---------|
| TestCondition | TestMode   | Antenna | Frequen<br>cy(MHz) | Result<br>(dBm/MHz) | Result<br>(mW/MHz) | Limit<br>(mW/MHz) |         |
| NTNV          | 11A        | Ant1    | 5180               | 4.289               | 2.685              | <=10              | PASS    |
|               |            |         | 5200               | 4.845               | 3.051              | <=10              | PASS    |
|               |            |         | 5240               | 5.255               | 3.354              | <=10              | PASS    |
|               | 11N20SISO  | Ant1    | 5180               | 4.807               | 3.025              | <=10              | PASS    |
|               |            |         | 5200               | 4.598               | 2.883              | <=10              | PASS    |
|               |            |         | 5240               | 4.975               | 3.144              | <=10              | PASS    |
|               | 11N40SISO  | Ant1    | 5190               | 0.689               | 1.172              | <=5               | PASS    |
|               |            |         | 5230               | 0.593               | 1.146              | <=5               | PASS    |
|               | 11AC20SISO | Ant1    | 5180               | 1.334               | 1.360              | <=10              | PASS    |
|               |            |         | 5200               | 1.412               | 1.384              | <=10              | PASS    |
|               |            |         | 5240               | 1.967               | 1.573              | <=10              | PASS    |
|               | 11AC40SISO | Ant1    | 5190               | -1.073              | 0.781              | <=5               | PASS    |
|               |            |         | 5230               | -0.758              | 0.840              | <=5               | PASS    |
|               | 11AC80SISO | Ant1    | 5210               | -3.952              | 0.403              | <=2.5             | PASS    |
|               | 11AX20SISO | Ant1    | 5180               | 0.782               | 1.197              | <=10              | PASS    |
|               |            |         | 5200               | 1.108               | 1.291              | <=10              | PASS    |
|               |            |         | 5240               | 1.280               | 1.343              | <=10              | PASS    |
|               | 11AX40SISO | Ant1    | 5190               | 0.334               | 1.080              | <=5               | PASS    |
|               |            |         | 5230               | 0.074               | 1.017              | <=5               | PASS    |
|               | 11AX80SISO | Ant1    | 5210               | -3.198              | 0.479              | <=2.5             | PASS    |
|               | 11A        | Ant2    | 5180               | 3.071               | 2.028              | <=10              | PASS    |
|               |            |         | 5200               | 2.953               | 1.974              | <=10              | PASS    |
|               |            |         | 5240               | 3.539               | 2.259              | <=10              | PASS    |
|               | 11N20SISO  | Ant2    | 5180               | 1.333               | 1.359              | <=10              | PASS    |
|               |            |         | 5200               | 1.662               | 1.466              | <=10              | PASS    |
|               |            |         | 5240               | 2.041               | 1.600              | <=10              | PASS    |
|               | 11N40SISO  | Ant2    | 5190               | -0.975              | 0.799              | <=5               | PASS    |
|               |            |         | 5230               | -0.945              | 0.804              | <=5               | PASS    |
|               | 11AC20SISO | Ant2    | 5180               | 0.181               | 1.043              | <=10              | PASS    |
|               |            |         | 5200               | 0.146               | 1.034              | <=10              | PASS    |

|  |            |      |      |        |       |       |      |
|--|------------|------|------|--------|-------|-------|------|
|  | 11AC40SISO | Ant2 | 5240 | 0.655  | 1.163 | <=10  | PASS |
|  |            |      | 5190 | -2.115 | 0.614 | <=5   | PASS |
|  |            |      | 5230 | -1.523 | 0.704 | <=5   | PASS |
|  | 11AC80SISO | Ant2 | 5210 | -4.273 | 0.374 | <=2.5 | PASS |
|  |            |      | 5180 | -0.656 | 0.860 | <=10  | PASS |
|  |            |      | 5200 | -0.482 | 0.895 | <=10  | PASS |
|  | 11AX20SISO | Ant2 | 5240 | 0.055  | 1.013 | <=10  | PASS |
|  |            |      | 5190 | -1.183 | 0.762 | <=5   | PASS |
|  |            |      | 5230 | -0.641 | 0.863 | <=5   | PASS |
|  | 11AX80SISO | Ant2 | 5210 | -4.524 | 0.353 | <=2.5 | PASS |

| AntennaPower  |            |                |                |                    |                   |         |
|---------------|------------|----------------|----------------|--------------------|-------------------|---------|
| TestCondition | TestMode   | Antenna        | Frequency(MHz) | Result<br>(mW/MHz) | Limit<br>(mW/MHz) | Verdict |
| NTNV          | 11N20MIMO  | Ant1+<br>Ant 2 | 5180           | 4.384              | <=10              | PASS    |
|               |            |                | 5200           | 4.349              | <=10              | PASS    |
|               |            |                | 5240           | 4.744              | <=10              | PASS    |
|               | 11N40MIMO  | Ant1+<br>Ant 2 | 5190           | 1.971              | <=5               | PASS    |
|               |            |                | 5230           | 1.95               | <=5               | PASS    |
|               | 11AC20MIMO | Ant1+<br>Ant 2 | 5180           | 2.403              | <=10              | PASS    |
|               |            |                | 5200           | 2.418              | <=10              | PASS    |
|               |            |                | 5240           | 2.736              | <=10              | PASS    |
|               | 11AC40MIMO | Ant1+<br>Ant 2 | 5190           | 1.395              | <=5               | PASS    |
|               |            |                | 5230           | 1.544              | <=5               | PASS    |
|               | 11AC80MIMO | Ant1+<br>Ant 2 | 5210           | 0.777              | <=2.5             | PASS    |
|               | 11AX20MIMO | Ant1+<br>Ant 2 | 5180           | 2.057              | <=10              | PASS    |
|               |            |                | 5200           | 2.186              | <=10              | PASS    |
|               |            |                | 5240           | 2.356              | <=10              | PASS    |
|               | 11AX40MIMO | Ant1+<br>Ant 2 | 5190           | 1.842              | <=5               | PASS    |
|               |            |                | 5230           | 1.88               | <=5               | PASS    |
|               | 11AX80MIMO | Ant1+<br>Ant 2 | 5210           | 0.832              | <=2.5             | PASS    |

| Tolerance      |            |                |                |                |                     |           |          |         |
|----------------|------------|----------------|----------------|----------------|---------------------|-----------|----------|---------|
| Test Condition | Test Mode  | Antenna        | Frequency(MHz) | Power (mW/MHz) | RatedPower (mW/MHz) | Result(%) | Limit(%) | Verdict |
| NTNV           | 11A        | Ant1           | 5180           | 2.685          | 3.50                | -23.3     | +20      | PASS    |
|                |            |                | 5200           | 3.051          | 3.50                | -12.9     | +20      | PASS    |
|                |            |                | 5240           | 3.354          | 3.50                | -4.17     | +20      | PASS    |
|                | 11A        | Ant2           | 5180           | 2.028          | 3.50                | -42.06    | +20      | PASS    |
|                |            |                | 5200           | 1.974          | 3.50                | -43.6     | +20      | PASS    |
|                |            |                | 5240           | 2.259          | 3.50                | -35.46    | +20      | PASS    |
|                | 11N20MIMO  | Ant1+<br>Ant 2 | 5180           | 4.384          | 5.00                | -12.32    | +20      | PASS    |
|                |            |                | 5200           | 4.349          | 5.00                | -13.02    | +20      | PASS    |
|                |            |                | 5240           | 4.744          | 5.00                | -5.12     | +20      | PASS    |
|                | 11N40MIMO  | Ant1+<br>Ant 2 | 5190           | 1.971          | 2.00                | -1.45     | +20      | PASS    |
|                |            |                | 5230           | 1.95           | 2.00                | -2.5      | +20      | PASS    |
|                | 11AC20MIMO | Ant1+<br>Ant 2 | 5180           | 2.403          | 3.00                | -19.9     | +20      | PASS    |
|                |            |                | 5200           | 2.418          | 3.00                | -19.4     | +20      | PASS    |
|                |            |                | 5240           | 2.736          | 3.00                | -8.8      | +20      | PASS    |
|                | 11AC40MIMO | Ant1+<br>Ant 2 | 5190           | 1.395          | 2.00                | -30.25    | +20      | PASS    |
|                |            |                | 5230           | 1.544          | 2.00                | -22.8     | +20      | PASS    |
|                | 11AC80MIMO | Ant1+<br>Ant 2 | 5210           | 0.777          | 1.00                | -22.3     | +20      | PASS    |
|                | 11AX20MIMO | Ant1+<br>Ant 2 | 5180           | 2.057          | 2.50                | -17.72    | +20      | PASS    |
|                |            |                | 5200           | 2.186          | 2.50                | -12.56    | +20      | PASS    |
|                |            |                | 5240           | 2.356          | 2.50                | -5.76     | +20      | PASS    |
|                | 11AX40MIMO | Ant1+<br>Ant 2 | 5190           | 1.842          | 2.00                | -7.9      | +20      | PASS    |
|                |            |                | 5230           | 1.88           | 2.00                | -6.0      | +20      | PASS    |
|                | 11AX80MIMO | Ant1+<br>Ant 2 | 5210           | 0.832          | 1.00                | -16.8     | +20      | PASS    |