

# RF TEST REPORT

Test Report No.....: RF260327006-01-008

Product(s) Name.....: Car Dash Cam

Model(s).....: P2, P2A, P2B, P2C, P2D

Trade Mark.....: VANTRUE

Applicant.....: Shenzhen Sanjiang Lechuang Technology Co., Ltd.

Address.....: 25th Floor, Jinluan International Business Building, No. 98 Heping East  
Road, Sanlian Community, Longhua Street, Longhua District,  
Shenzhen, China.

Receipt Date.....: 2026.03.31

Test Date.....: 2026.04.03 ~ 2026.04.27

Issued Date.....: 2026.04.28

Standards.....: MIC Notice No.88 Appendix No.43 Article 2, Paragraph 1, Item 19 Rules  
Section

Testing Laboratory.....: Shenzhen Haiyun Standard Technical Co., Ltd.

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# History of this test report

Original Report Issue Date: 2026.04.28

- No additional attachment
- Additional attachments were issued following record

| Attachment No. | Issue Date | Description |
|----------------|------------|-------------|
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# 1. GENERAL INFORMATION

## 1.1 Product Description for Equipment under Test (EUT)

|                         |                                                                                                                                                    |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Test sample no.         | POC260327006-S001                                                                                                                                  |
| Product name            | Car Dash Cam                                                                                                                                       |
| Model name              | P2, P2A, P2B, P2C, P2D                                                                                                                             |
| Trade Mark              | VANTRUE                                                                                                                                            |
| Power supply            | DC 12-24V from car charger                                                                                                                         |
| Car charger information | Input: DC 12-24V<br>USB Output: DC 5V 2A<br>WIRE Output: DC 5V 3A<br>Manufacturer: Vantrue                                                         |
| Radio Type              | BLE                                                                                                                                                |
| Type of Modulation      | GFSK                                                                                                                                               |
| Frequency Range         | 2402-2480 MHz                                                                                                                                      |
| Rated Power             | 1mW                                                                                                                                                |
| Antenna Type            | FPC Antenna                                                                                                                                        |
| Antenna Gain            | 1.34dBi                                                                                                                                            |
| Applicant               | SHENZHEN SANJIANG LECHUANG TECHNOLOGY CO., LTD                                                                                                     |
| Address                 | 25th Floor, Jinluan International Business Building, No. 98 Heping East Road, Sanlian Community, Longhua Street, Longhua District, Shenzhen, China |
| Manufacturer            | SHENZHEN SANJIANG LECHUANG TECHNOLOGY CO., LTD                                                                                                     |
| Address                 | 25th Floor, Jinluan International Business Building, No. 98 Heping East Road, Sanlian Community, Longhua Street, Longhua District, Shenzhen, China |
| Sample/EUT Status       | Good condition                                                                                                                                     |

## 1.2 System Test Configuration

### 1.2.1 Channel List

EUT was tested with Channel 2402MHz, 2440MHz, 2480MHz.

| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|---------|-----------|---------|-----------|
| 1       | 2402 MHz  | 11      | 2422 MHz  | 21      | 2442 MHz  | 31      | 2462 MHz  |
| 2       | 2404 MHz  | 12      | 2424 MHz  | 22      | 2444 MHz  | 32      | 2464 MHz  |
| 3       | 2406 MHz  | 13      | 2426 MHz  | 23      | 2446 MHz  | 33      | 2466 MHz  |
| 4       | 2408 MHz  | 14      | 2428 MHz  | 24      | 2448 MHz  | 34      | 2468 MHz  |
| 5       | 2410 MHz  | 15      | 2430 MHz  | 25      | 2450 MHz  | 35      | 2470 MHz  |
| 6       | 2412 MHz  | 16      | 2432 MHz  | 26      | 2452 MHz  | 36      | 2472 MHz  |
| 7       | 2414 MHz  | 17      | 2434 MHz  | 27      | 2454 MHz  | 37      | 2474 MHz  |
| 8       | 2416 MHz  | 18      | 2436 MHz  | 28      | 2456 MHz  | 38      | 2476 MHz  |
| 9       | 2418 MHz  | 19      | 2438 MHz  | 29      | 2458 MHz  | 39      | 2478 MHz  |
| 10      | 2420 MHz  | 20      | 2440 MHz  | 30      | 2460 MHz  | 40      | 2480 MHz  |

### 1.2.2 EUT Exercise Software

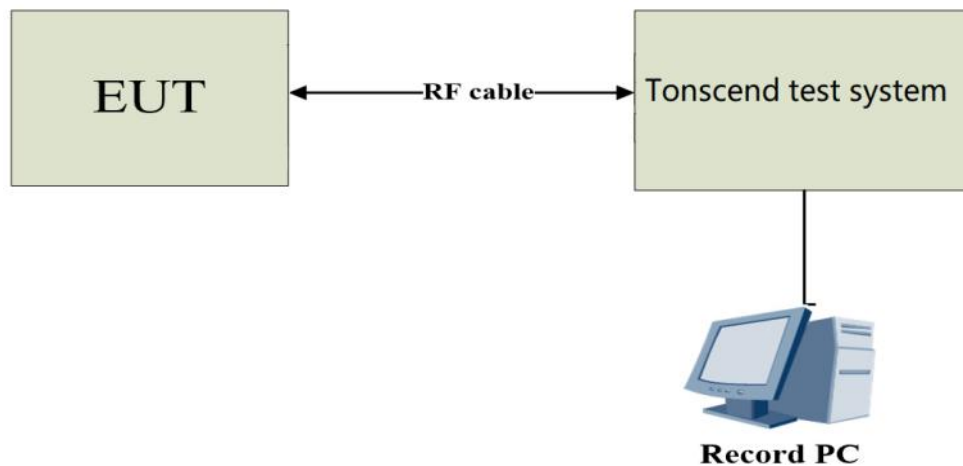
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

| Test Software   | MobaXterm |         |         |
|-----------------|-----------|---------|---------|
| Frequency (MHz) | 2402      | 2440    | 2480    |
| 1Mbps           | Default   | Default | Default |
| 2Mbps           | Default   | Default | Default |

### 1.2.3 Support Equipment

| No. | Equipment | Model  | Manufacturer | Rating | Series No    |
|-----|-----------|--------|--------------|--------|--------------|
| 1   | PC        | M4500T | Thinkpad     | /      | M032004854IT |
|     |           |        |              |        |              |

#### 1.2.4 Block Diagram of Configuration



#### 1.2.5 Test Voltage

The EUT has its own voltage regulator principle to chip NT98530, the output voltage of the chip is 3.3V and the fluctuation of power supply to the RF circuit of EUT is equal to or less than +/- 1%. So exempt extremely high and low supply voltage condition tests, EUT only operated in normal voltage to test all regulations.

When an extreme voltage is supplied to the Car Dash Cam, the power deviation of the Car Dash Cam's output is less than 1%. Therefore, testing is only conducted under normal conditions.

| Condition | Input (V/DC) from car charger | The input voltage of the chip (V/DC) |
|-----------|-------------------------------|--------------------------------------|
| NV        | 12                            | 3.3                                  |
| LV        | 10.8                          | 3.3                                  |
| HV        | 13.2                          | 3.3                                  |

Note: Changing the external input does not affect the power supply voltage of the chip.

#### 1.2.6 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15~35°C
- Humidity: 45~75%
- Atmospheric pressure: 86-106 kPa

#### 1.2.7 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

#### 1.2.8 Special Accessories

Not available for this EUT intended for grant.

### 1.3 Summary of Test Results

| MIC Notice No.88<br>Appendix No.43<br>Article 2, Paragraph 1,<br>Item 19 Rules Section | Description of Test                             | Test result      |
|----------------------------------------------------------------------------------------|-------------------------------------------------|------------------|
| 3                                                                                      | Frequency Error                                 | PASS             |
| 4                                                                                      | Occupied Bandwidth                              | PASS             |
| 5                                                                                      | Spurious emission intensity                     | PASS             |
| 6                                                                                      | Antenna Output Power and Output Power Tolerance | PASS             |
| 7                                                                                      | Limit Of Secondary Spurious Emissions           | PASS             |
| 8                                                                                      | Transmission Antenna Gain                       | Not Applicable   |
| 9                                                                                      | Transmission Radiation Angle Width              | Not Applicable   |
| 10                                                                                     | Carrier Sensing Function(1)                     | Not Applicable*  |
|                                                                                        | Carrier Sensing Function(2)                     | Not Applicable*  |
| 11                                                                                     | Frequency Hopping Dwell Time                    | Not Applicable** |
| 12                                                                                     | Interference Prevention Function                | PASS             |
| Note 1                                                                                 | Construction Protection Confirmation            | PASS             |

Not Applicable

– This test item was not required for the output power less than 12.14dBm (E.I.R.P)

Not Applicable\*

- Carrier Sensing Function (1): Application to transmitting devices which EIRP is less than [2.14dBi antenna power limit] and the shortage of EIRP is compensated by the antenna power. Not applicable to this product.

- Carrier Sensing Function (2): Application to transmitting devices with OFDM modulation and the occupied bandwidth greater than 26MHz.

Not Applicable\*\*

- Testing is only required for FHSS system devices.

## 1.4 List of Test and Measurement Instruments

| Equipment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Manufacturer | Model No              | Serial No. | Last Cal. | Cal Due Date | Calibration body                                    | Classification |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------|------------|-----------|--------------|-----------------------------------------------------|----------------|
| VXG Signal Generator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Keysight     | N5182B                | MY59100855 | 2025/4/18 | 2026/4/17    | Guangzhou Lisai                                     | (c)            |
| VXG Signal Generator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Keysight     | N5182B                | MY59100855 | 2026/4/14 | 2027/4/13    | Metrology & Test co. ,Ltd.                          |                |
| MXA Signal Analyzer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Keysight     | N9010A                | MY51440158 | 2025/9/15 | 2026/9/14    | CCIC (Shenzhen) Metrology & Testing Service Co.,Ltd |                |
| RF Control Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | dsusoft      | JS0806-2              | 21G8060449 | 2026/2/27 | 2027/2/26    |                                                     |                |
| EXG Analog Signal Generator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Keysight     | N5173B                | MY59101282 | 2026/2/27 | 2027/2/26    |                                                     |                |
| power supply unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | dsusoft      | JS0806-4ADC           | N/A        | 2026/2/27 | 2027/2/26    |                                                     |                |
| Temp&Humidity Recorder                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Meideshi     | /                     | /          | 2025/4/18 | 2026/4/17    |                                                     |                |
| Temp&Humidity Recorder                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Meideshi     | /                     | /          | 2026/4/08 | 2027/4/07    |                                                     |                |
| 10dB Attenuator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tonscend     | 10dB                  | NA         | Each Time |              |                                                     |                |
| Test software                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | dsusoft      | JS1120-3 Ver.3.2.22.0 |            |           |              |                                                     |                |
| Remark:<br>(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.<br>(b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No. 51 of 1992) .<br>(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).<br>(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).<br>From JRL Article 24-2, paragraph 4, Item 2 |              |                       |            |           |              |                                                     |                |

## 1.5 Measurement Uncertainty

| Uncertainty                 |                         |
|-----------------------------|-------------------------|
| Parameter                   | Uncertainty             |
| Occupied Channel Bandwidth  | ±102kHz                 |
| Frequency Error             | ±6.5 x 10 <sup>-8</sup> |
| RF power conducted          | ±0.243dB                |
| Power Spectral Density      | ±0.743dB                |
| Conducted Spurious Emission | ±1.328dB                |
| Time                        | ±0.19%                  |

*This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2*

## 2. Frequency Error Measurement

### Limit

| Standard            | Item                   | Limit          |
|---------------------|------------------------|----------------|
| Article 2-1 Item 19 | Tolerance of Frequency | ±50ppm or less |

### 2.2 Test Procedures

- Connect EUT antenna terminal to the Spectrum Analyzer.
- Set Spectrum Analyzer as below:

Frequency : Test Frequency  
SPAN : 200kHz  
RBW : 10kHz  
VBW : 10kHz  
Sweep Time : Auto  
Detector Mode : Peak  
Display Mode : Max Hold

### 2.3 Test Data

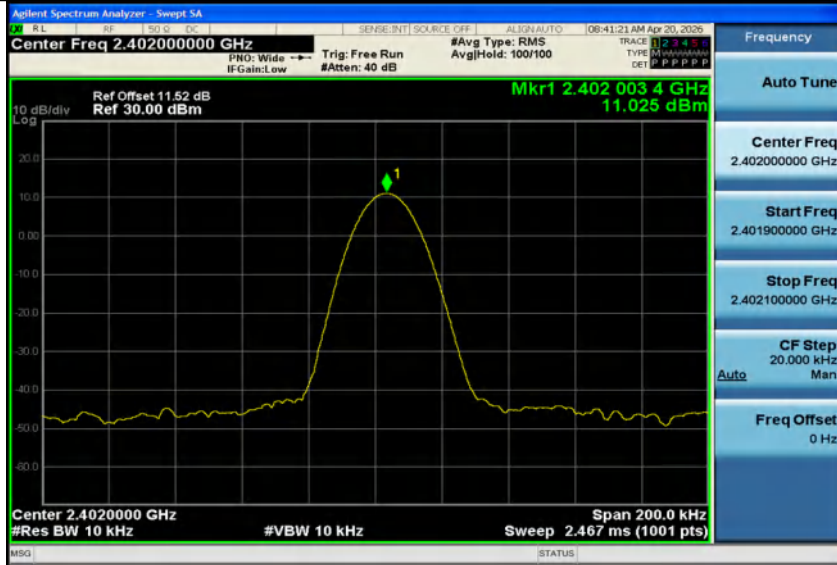
|              |          |             |            |
|--------------|----------|-------------|------------|
| Temperature  | 22.7℃    | Humidity    | 50%        |
| ATM Pressure | 101.2kPa | Time        | 2026.04.20 |
| Test by      | Elio Lin | Test result | PASS       |

Please refer to following tables.

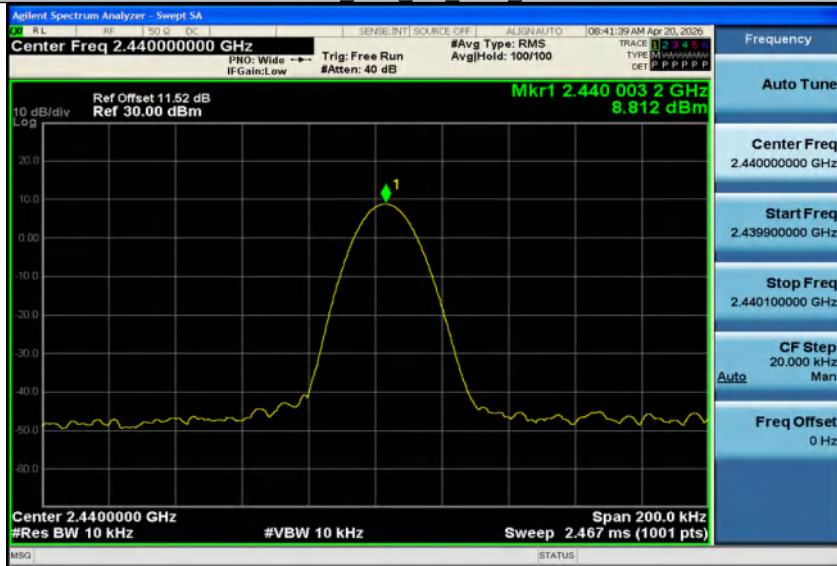
| Test Condition                                          | Test Mode | Freq(MHz) | Measure Frequency (MHz) | Result[ppm] | Limit[ppm] | Verdict |
|---------------------------------------------------------|-----------|-----------|-------------------------|-------------|------------|---------|
| NTNV                                                    | BLE_1M    | 2402      | 2402.0034               | 1.41549     | ±50        | PASS    |
|                                                         |           | 2440      | 2440.0032               | 1.31148     | ±50        | PASS    |
|                                                         |           | 2480      | 2480.0030               | 1.20968     | ±50        | PASS    |
| Note: The EUT was programmed in un-modulation function. |           |           |                         |             |            |         |

Please refer to recording the spectrum plots in the worst conditions

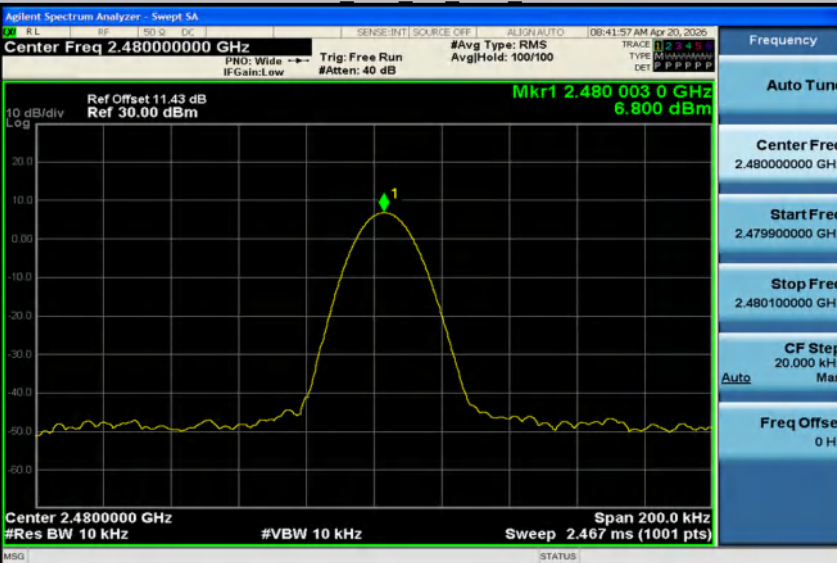
# NTNV BLE 1M Ant1 2402



# NTNV BLE 1M Ant1 2440



# NTNV BLE 1M Ant1 2480



### 3. Occupied Bandwidth (99%)

#### Limit

| Standard            | Type   | Limit                 |
|---------------------|--------|-----------------------|
| Article 2-1 Item 19 | FHSS   | $\leq 83.5\text{MHz}$ |
|                     | DSSS   | $\leq 26\text{MHz}$   |
|                     | OFDM   | $\leq 38\text{MHz}$   |
|                     | others | $\leq 26\text{MHz}$   |

### 3.2 Measurement Procedure

- Connect EUT antenna terminal to the Spectrum Analyzer.
- Set Spectrum Analyzer as below:

Frequency : Test Frequency  
 SPAN : 4MHz  
 RBW : 300kHz  
 VBW : 300kHz  
 Sweep Time : Auto (Minimum time to ensure measurement accuracy.)  
 Detector Mode : Peak  
 Display Mode : Max Hold  
 Data points : 400 points or more  
 Reference level : Enough level for maximum dynamic range  
 OBW : 99%

### 3.3 Test Data

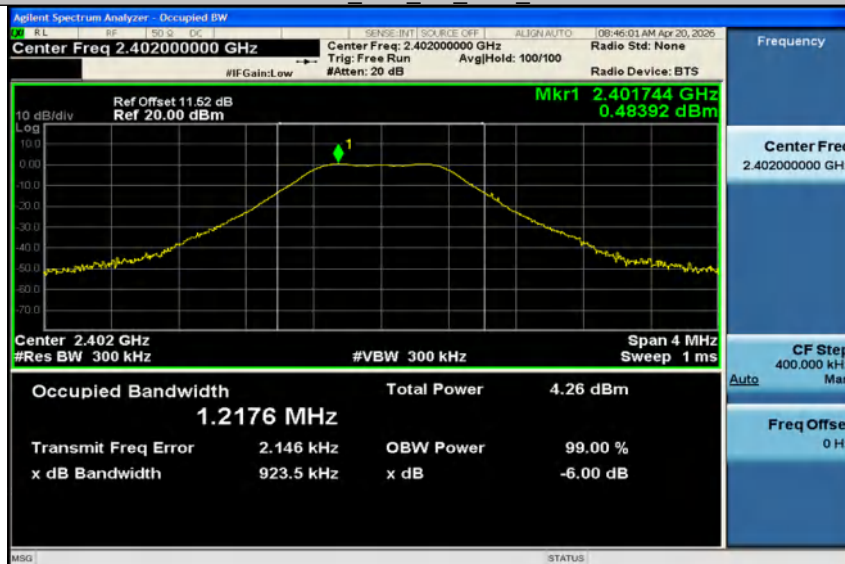
|              |          |             |            |
|--------------|----------|-------------|------------|
| Temperature  | 22.7°C   | Humidity    | 50%        |
| ATM Pressure | 101.2kPa | Time        | 2026.04.20 |
| Test by      | Elio Lin | Test result | PASS       |

Please refer to following tables.

| Test Condition | Test Mode | Antenna | Freq(MHz) | Result [MHz] | Limit [MHz] | Verdict |
|----------------|-----------|---------|-----------|--------------|-------------|---------|
| NTNV           | BLE_1M    | Ant1    | 2402      | 1.218        | $\leq 26$   | PASS    |
|                |           |         | 2440      | 1.216        | $\leq 26$   | PASS    |
|                |           |         | 2480      | 1.215        | $\leq 26$   | PASS    |
|                | BLE_2M    | Ant1    | 2402      | 2.133        | $\leq 26$   | PASS    |
|                |           |         | 2440      | 2.153        | $\leq 26$   | PASS    |
|                |           |         | 2480      | 2.152        | $\leq 26$   | PASS    |

Please refer to recording the spectrum plots in the worst conditions

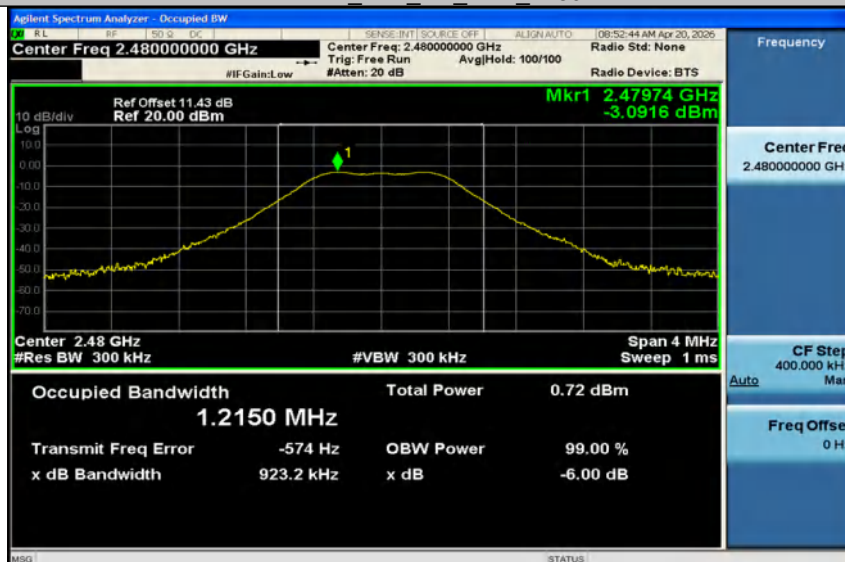
NTNV\_BLE\_1M\_Ant1\_2402



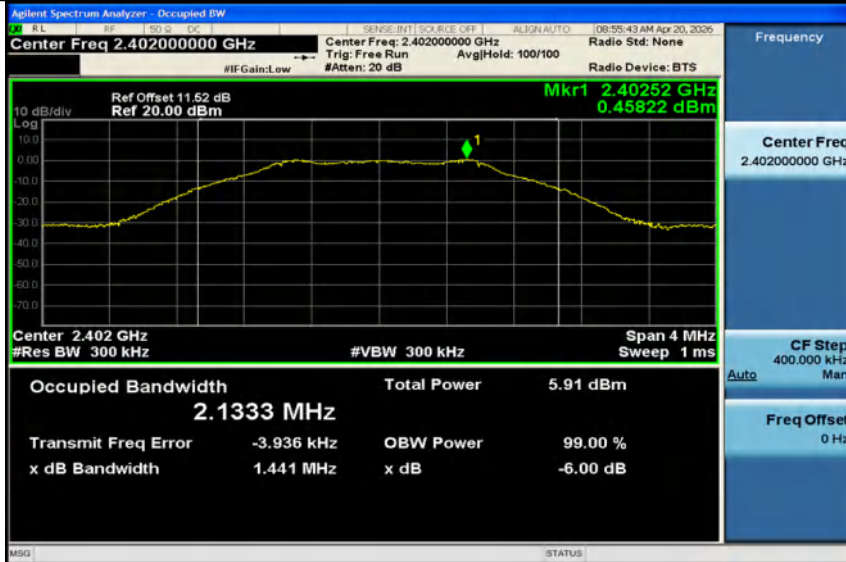
NTNV\_BLE\_1M\_Ant1\_2440



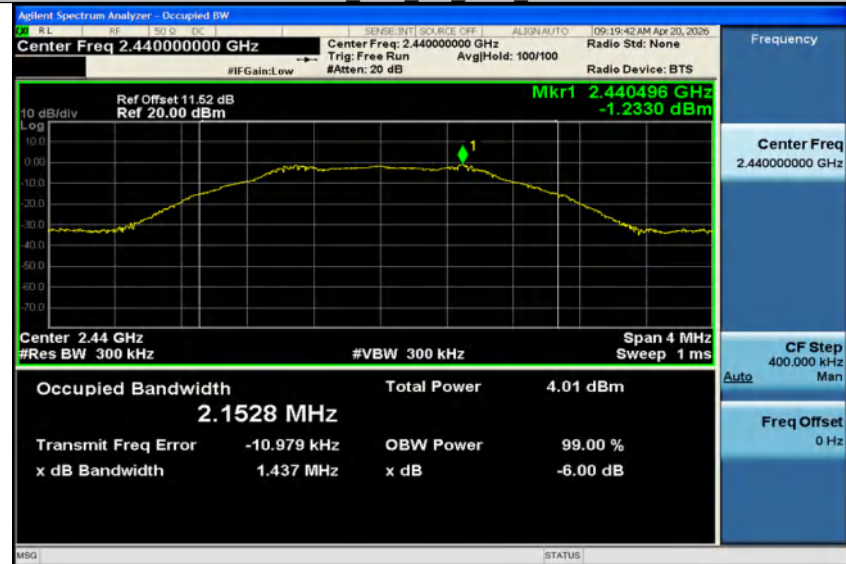
NTNV\_BLE\_1M\_Ant1\_2480



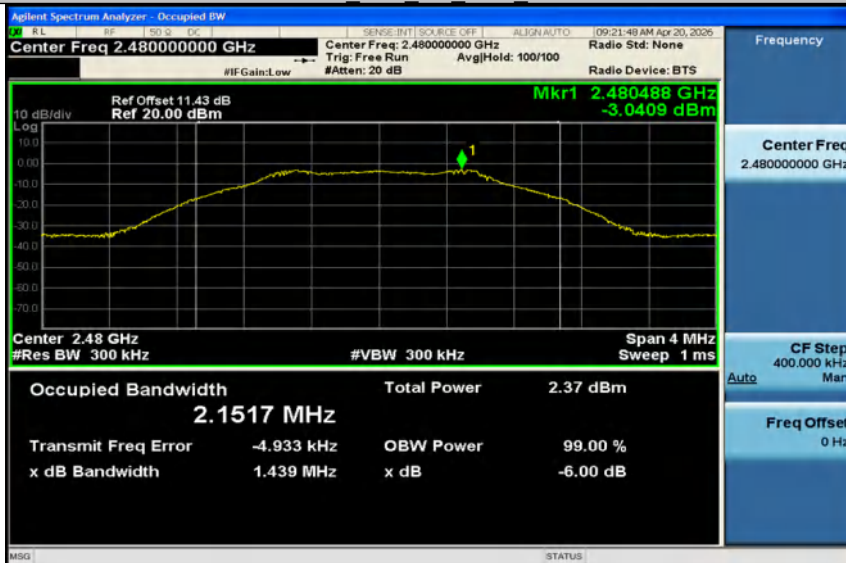
# NTNV BLE 2M Ant1 2402



# NTNV BLE 2M Ant1 2440



# NTNV BLE 2M Ant1 2480



## 4. Spurious Emission Intensity

### Limit

| Standard            | Item                 | Frequency          | Limit                   |
|---------------------|----------------------|--------------------|-------------------------|
| Article 2-1 Item 19 | TX Spurious Emission | 30 - 1000MHz       | 2.5 $\mu$ W/MHz /-26dBm |
|                     |                      | 1000 - 2387MHz     | 2.5 $\mu$ W/MHz /-26dBm |
|                     |                      | 2387 - 2400MHz     | 25 $\mu$ W/MHz /-16dBm  |
|                     |                      | 2483.5 - 2496.5MHz | 25 $\mu$ W/MHz /-16dBm  |
|                     |                      | 2496.5MHz - 13GHz  | 2.5 $\mu$ W/MHz /-26dBm |

### 4.2 Measurement Procedure

- Connect EUT antenna terminal to the Spectrum Analyzer.
- Set Spectrum Analyzer as below:

Frequency : 30- 1000MHz;  
1000 - 2387MHz;  
2387-2400MHz;  
2483.5-2496.5MHz;  
2496.5MHz-13GHz

RBW : 100kHz for Below 1GHz  
1MHz for Above 1GHz

VBW : 100kHz for Below 1GHz  
1MHz for Above 1GHz

Sweep Time : Auto (Minimum time to ensure measurement accuracy.)

Detector Mode : Peak

Display Mode : Max Hold

Data points : 400 points or more

Reference level : Enough level for maximum dynamic range

### 4.3 Test Data

|              |          |             |            |
|--------------|----------|-------------|------------|
| Temperature  | 22.7°C   | Humidity    | 50%        |
| ATM Pressure | 101.2kPa | Time        | 2026.04.20 |
| Test by      | Elio Lin | Test result | PASS       |

Please refer to following table and plots.

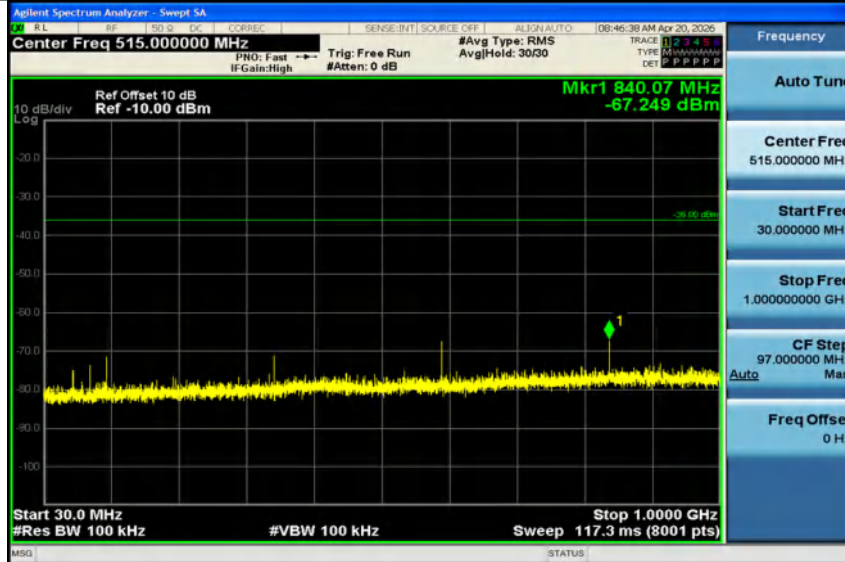
Normal Voltage

| Test Condition | Test Mode | Antenna | Freq (MHz) | Freq.Range [MHz] | Freq. [MHz] | Result [dBm] | Limit [dBm] | Result [ $\mu$ W/MHz] | Limit [ $\mu$ W/MHz] | Verdict |
|----------------|-----------|---------|------------|------------------|-------------|--------------|-------------|-----------------------|----------------------|---------|
| NTNV           | BLE_1M    | Ant1    | 2402       | 30~1000          | 840.07      | -67.25       | $\leq -26$  | 0.00019               | $\leq 2.5$           | PASS    |
|                |           |         |            | 1000~2387        | 2202.36     | -44.74       | $\leq -26$  | 0.03357               | $\leq 2.5$           | PASS    |
|                |           |         |            | 2387~2400        | 2400.00     | -37.28       | $\leq -16$  | 0.18707               | $\leq 25$            | PASS    |
|                |           |         |            | 2483.5~2496.5    | 2495.13     | -58.42       | $\leq -16$  | 0.00144               | $\leq 25$            | PASS    |
|                |           |         |            | 2496.5~13000     | 5141.40     | -46.04       | $\leq -26$  | 0.02489               | $\leq 2.5$           | PASS    |
|                |           |         | 2440       | 30~1000          | 840.07      | -66.68       | $\leq -26$  | 0.00021               | $\leq 2.5$           | PASS    |
|                |           |         |            | 1000~2387        | 2236.68     | -43.41       | $\leq -26$  | 0.04560               | $\leq 2.5$           | PASS    |
|                |           |         |            | 2387~2400        | 2395.61     | -56.76       | $\leq -16$  | 0.00211               | $\leq 25$            | PASS    |
|                |           |         |            | 2483.5~2496.5    | 2488.90     | -58.17       | $\leq -16$  | 0.00152               | $\leq 25$            | PASS    |
|                |           |         |            | 2496.5~13000     | 5785.30     | -46.82       | $\leq -26$  | 0.02080               | $\leq 2.5$           | PASS    |
|                |           |         | 2480       | 30~1000          | 840.07      | -67.17       | $\leq -26$  | 0.00019               | $\leq 2.5$           | PASS    |
|                |           |         |            | 1000~2387        | 2273.44     | -43.11       | $\leq -26$  | 0.04887               | $\leq 2.5$           | PASS    |
|                |           |         |            | 2387~2400        | 2391.15     | -58.89       | $\leq -16$  | 0.00129               | $\leq 25$            | PASS    |
|                |           |         |            | 2483.5~2496.5    | 2483.54     | -53.18       | $\leq -16$  | 0.00481               | $\leq 25$            | PASS    |
|                |           |         |            | 2496.5~13000     | 11885.50    | -51.71       | $\leq -26$  | 0.00675               | $\leq 2.5$           | PASS    |
|                | BLE_2M    | Ant1    | 2402       | 30~1000          | 832.07      | -43.34       | $\leq -26$  | 0.04634               | $\leq 2.5$           | PASS    |
|                |           |         |            | 1000~2387        | 2302.57     | -47.56       | $\leq -26$  | 0.01754               | $\leq 2.5$           | PASS    |
|                |           |         |            | 2387~2400        | 2399.99     | -22.20       | $\leq -16$  | 6.02560               | $\leq 25$            | PASS    |
|                |           |         |            | 2483.5~2496.5    | 2489.20     | -58.55       | $\leq -16$  | 0.00140               | $\leq 25$            | PASS    |
|                |           |         |            | 2496.5~13000     | 5784.30     | -43.54       | $\leq -26$  | 0.04426               | $\leq 2.5$           | PASS    |
|                |           |         | 2440       | 30~1000          | 840.07      | -67.56       | $\leq -26$  | 0.00018               | $\leq 2.5$           | PASS    |
|                |           |         |            | 1000~2387        | 2237.20     | -48.94       | $\leq -26$  | 0.01276               | $\leq 2.5$           | PASS    |
|                |           |         |            | 2387~2400        | 2399.45     | -56.85       | $\leq -16$  | 0.00207               | $\leq 25$            | PASS    |
|                |           |         |            | 2483.5~2496.5    | 2486.72     | -57.35       | $\leq -16$  | 0.00184               | $\leq 25$            | PASS    |
|                |           |         |            | 2496.5~13000     | 5785.30     | -43.20       | $\leq -26$  | 0.04786               | $\leq 2.5$           | PASS    |
|                |           |         | 2480       | 30~1000          | 840.07      | -66.56       | $\leq -26$  | 0.00022               | $\leq 2.5$           | PASS    |
|                |           |         |            | 1000~2387        | 2273.61     | -48.19       | $\leq -26$  | 0.01517               | $\leq 2.5$           | PASS    |
|                |           |         |            | 2387~2400        | 2396.27     | -57.98       | $\leq -16$  | 0.00159               | $\leq 25$            | PASS    |
|                |           |         |            | 2483.5~2496.5    | 2483.54     | -50.30       | $\leq -16$  | 0.00933               | $\leq 25$            | PASS    |
|                |           |         |            | 2496.5~13000     | 5783.20     | -49.62       | $\leq -26$  | 0.01091               | $\leq 2.5$           | PASS    |

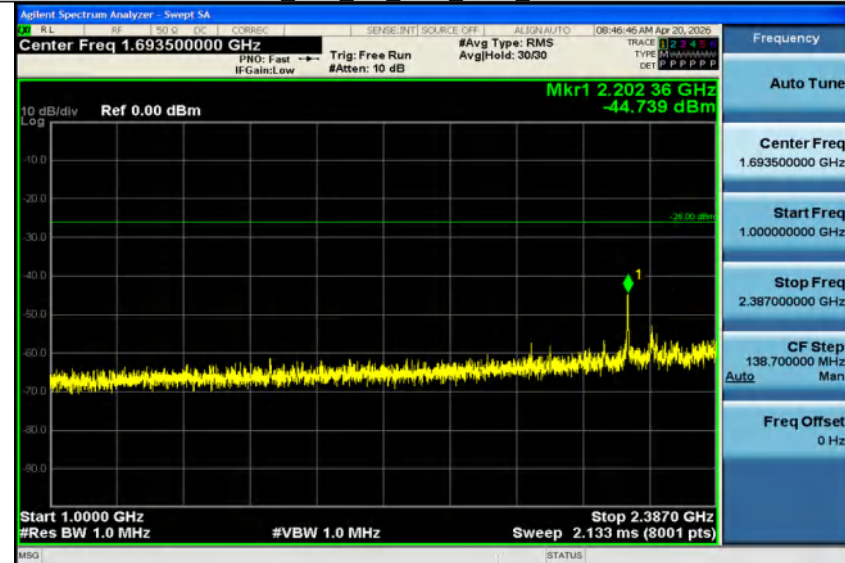
Note: For TX Spurious Emission(30MHz-1000MHz), When we test with RBW:100kHz and VBW:100kHz, since the limit unit is  $\mu$ W/MHz, Therefore, compensate with 10dB at the offset.

Please refer to recording the spectrum plots in the worst conditions

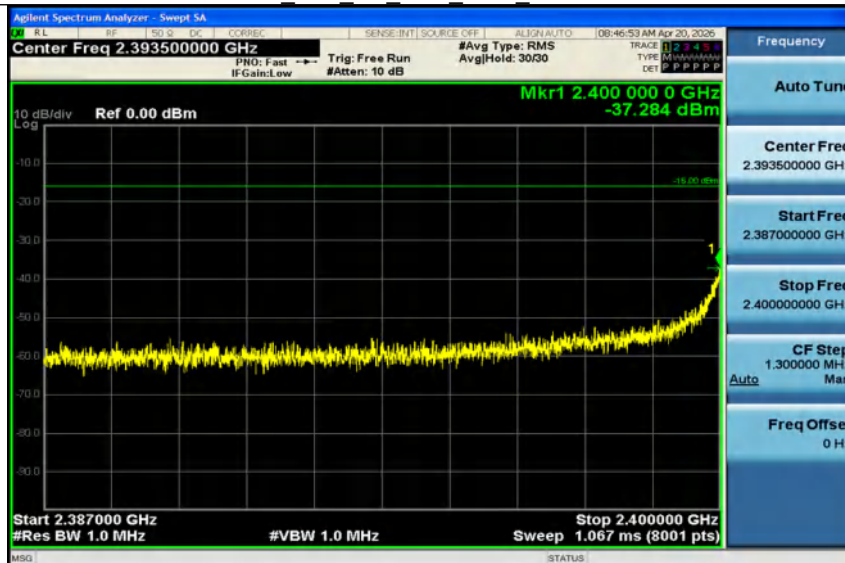
NTNV BLE 1M Ant1 2402 30~1000



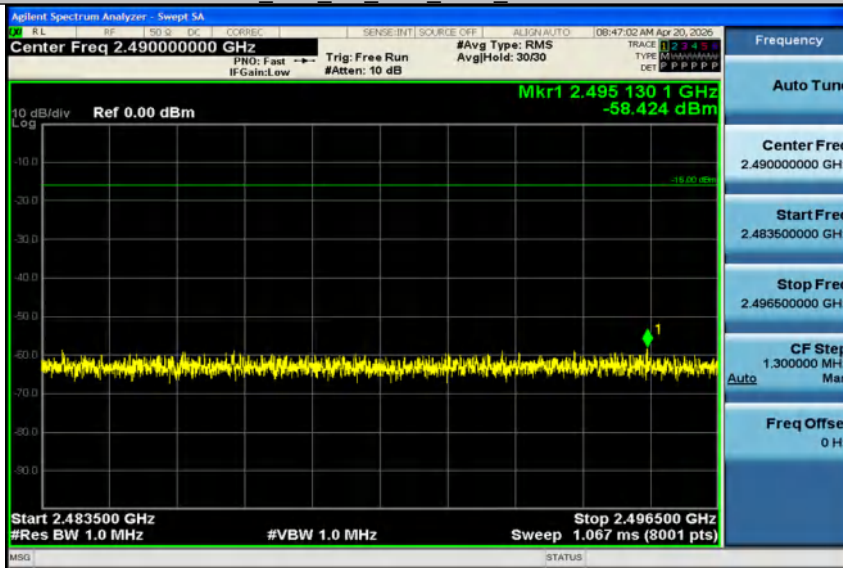
NTNV BLE 1M Ant1 2402 1000~2387



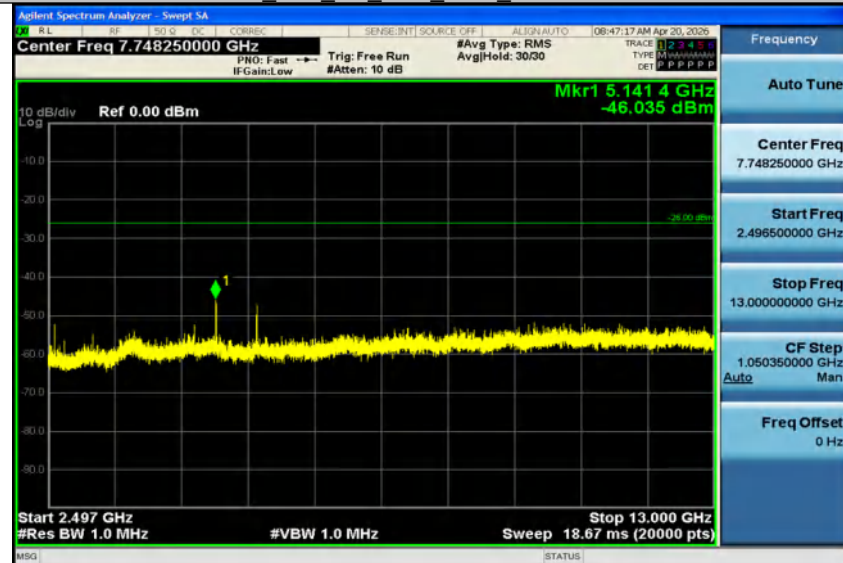
NTNV BLE 1M Ant1 2402 2387~2400



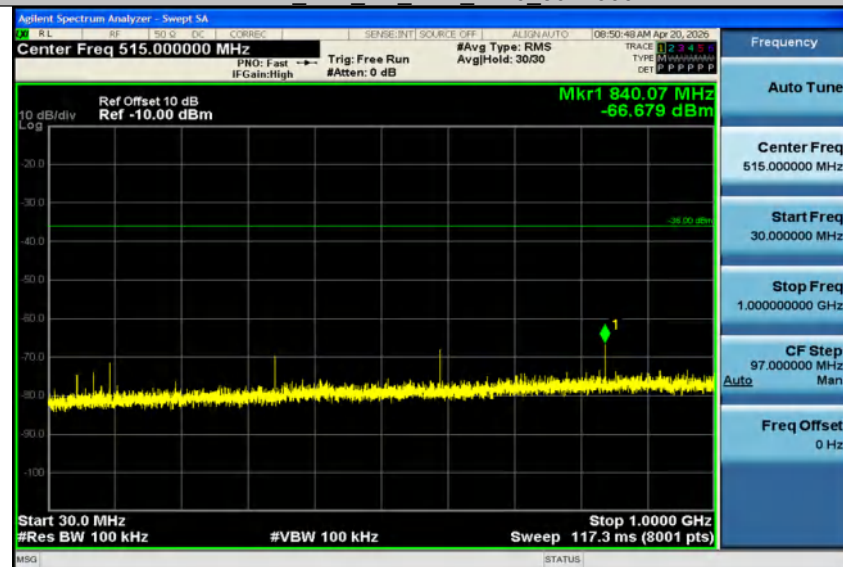
# NTNV\_BLE\_1M\_Ant1\_2402\_2483.5~2496.5



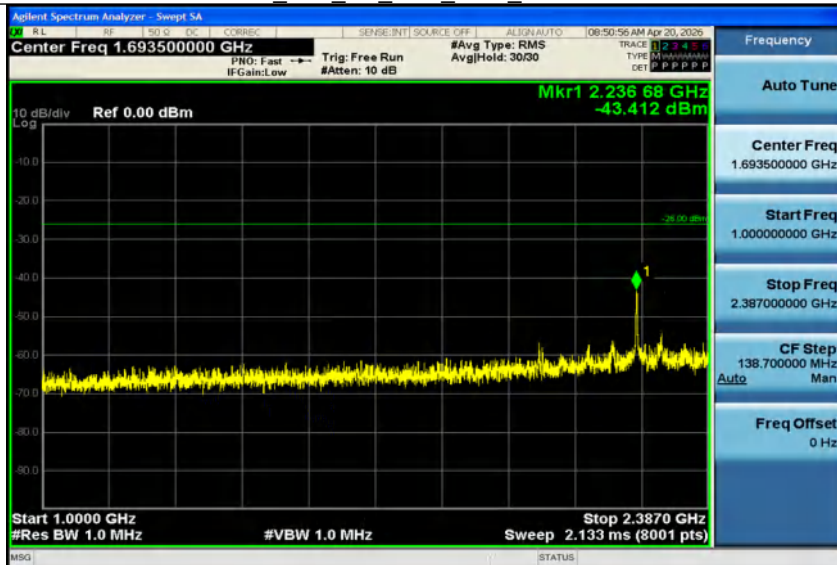
# NTNV\_BLE\_1M\_Ant1\_2402\_2496.5~13000



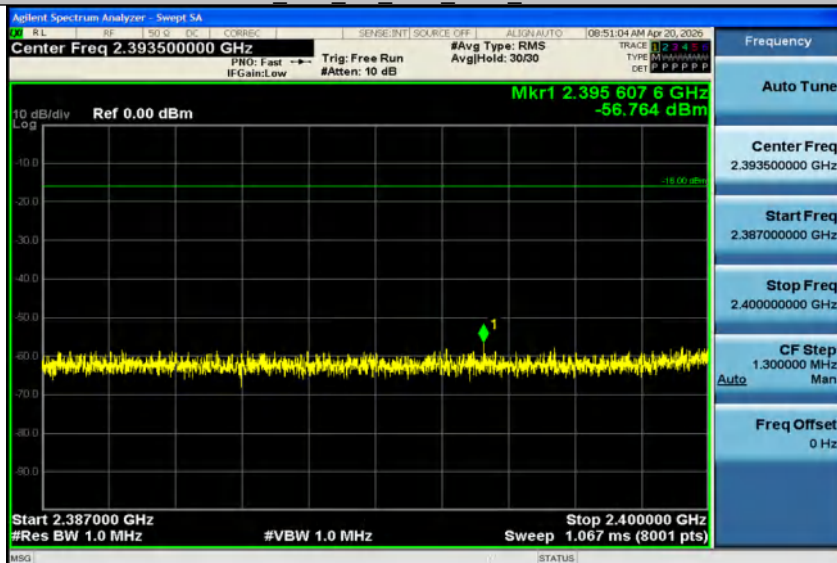
# NTNV\_BLE\_1M\_Ant1\_2440\_30~1000



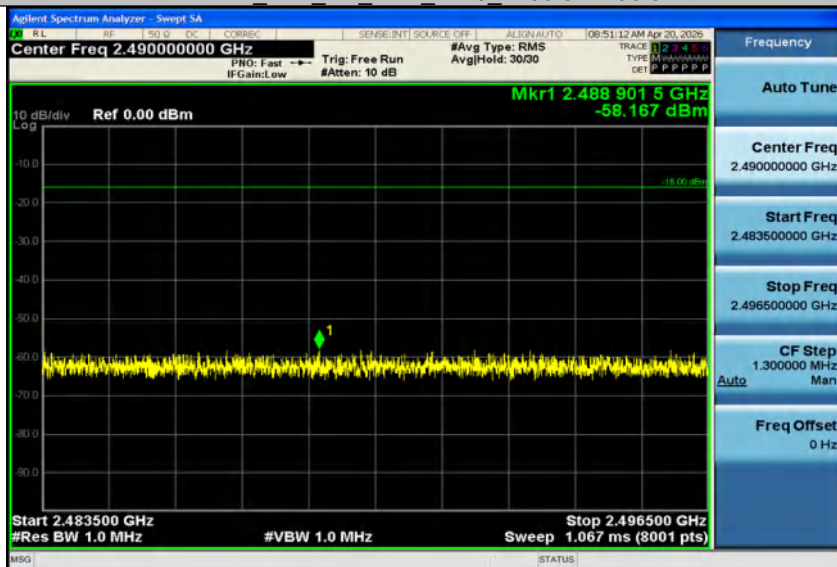
# NTNV BLE 1M Ant1 2440 1000~2387



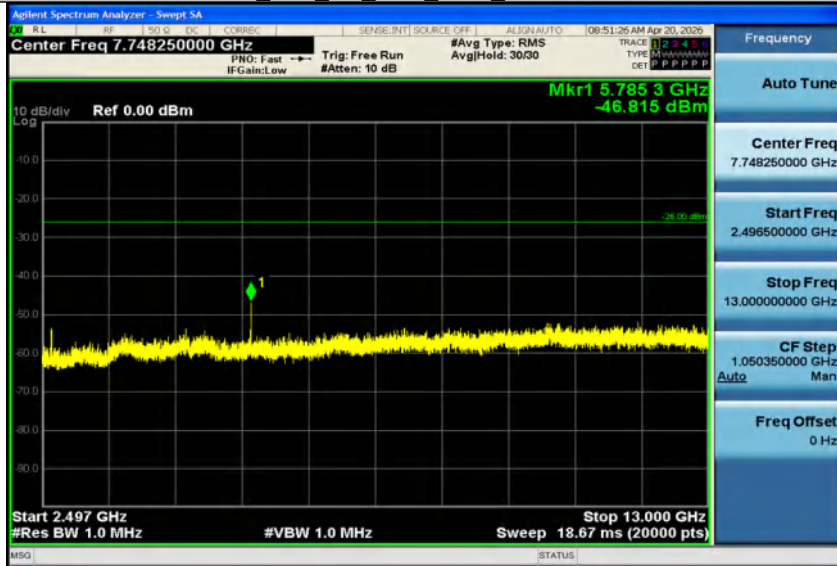
# NTNV BLE 1M Ant1 2440 2387~2400



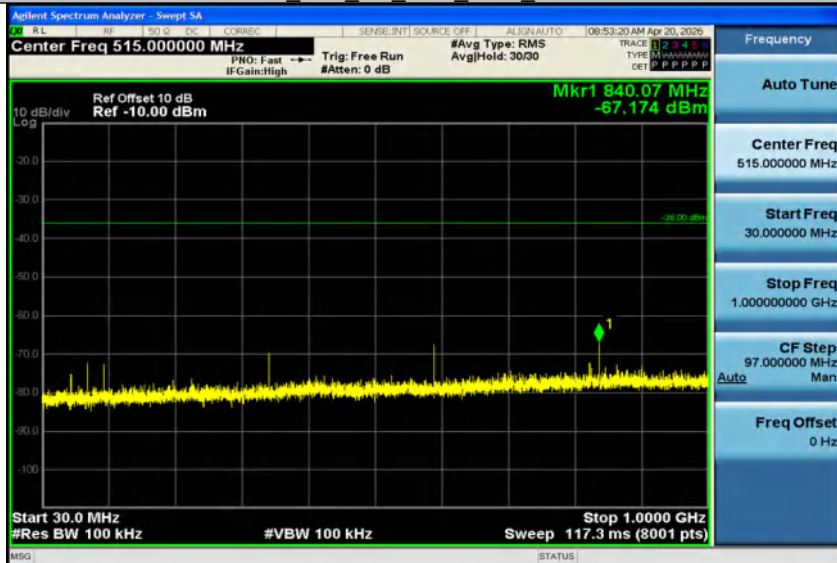
# NTNV BLE 1M Ant1 2440 2483.5~2496.5



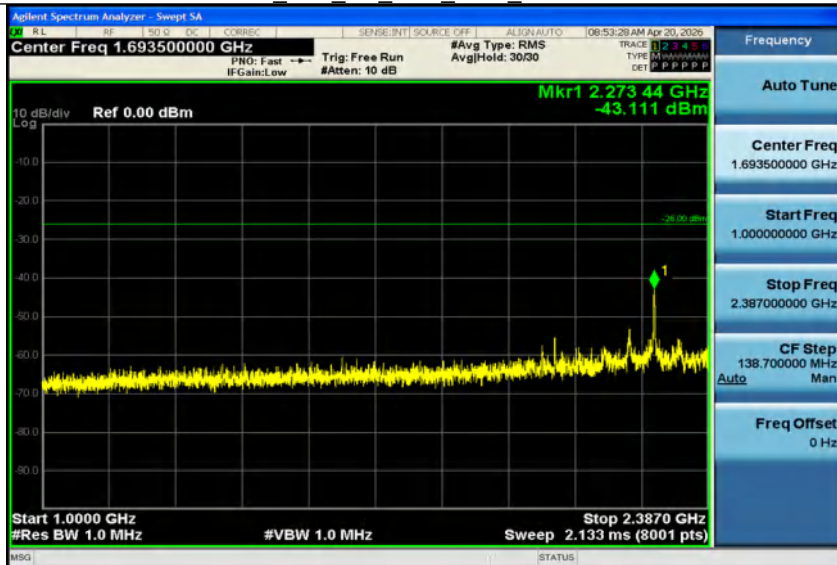
# NTNV\_BLE\_1M\_Ant1\_2440\_2496.5~13000



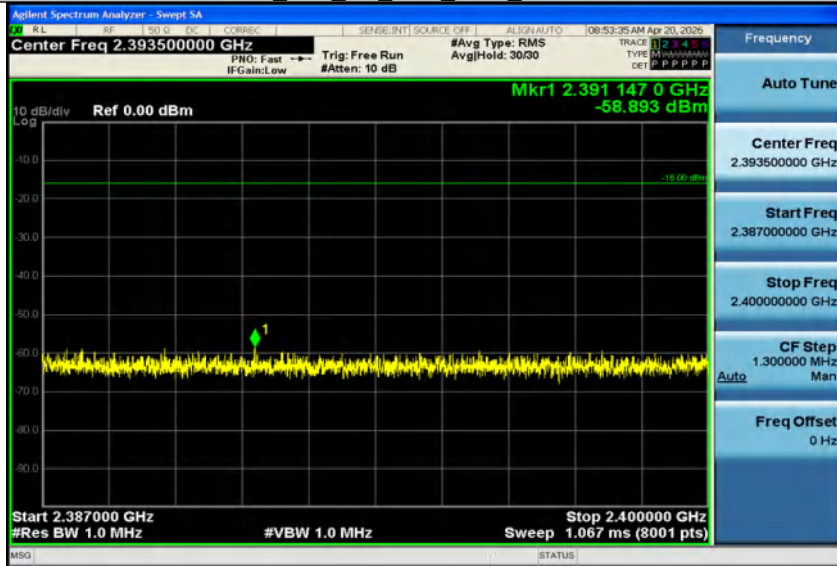
# NTNV\_BLE\_1M\_Ant1\_2480\_30~1000



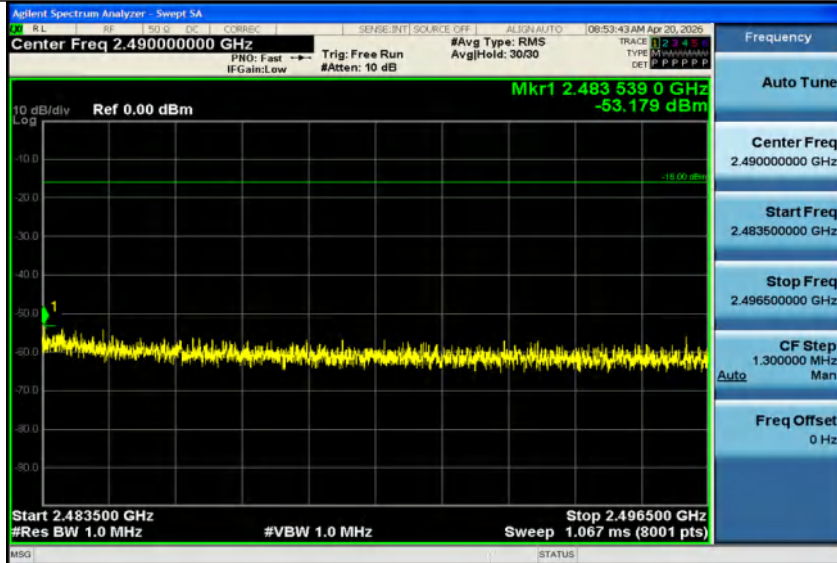
# NTNV\_BLE\_1M\_Ant1\_2480\_1000~2387



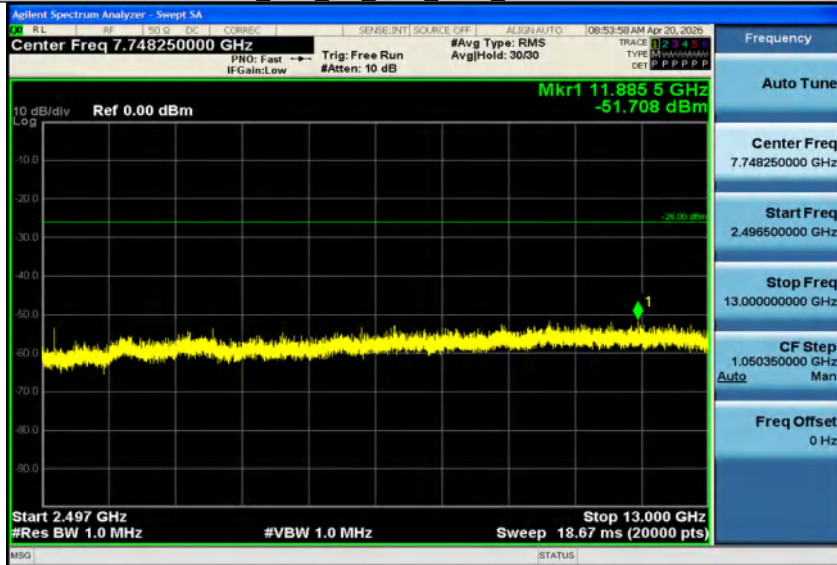
# NTNV\_BLE\_1M\_Ant1\_2480\_2387~2400



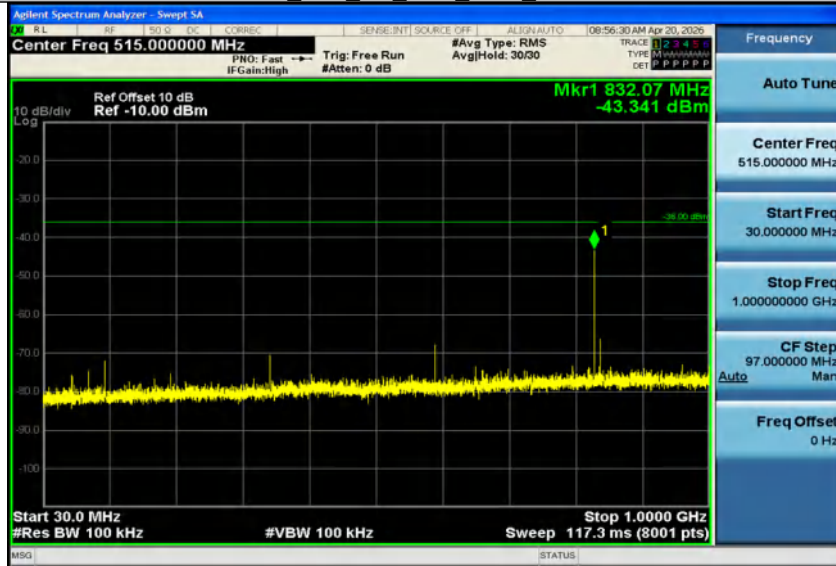
# NTNV\_BLE\_1M\_Ant1\_2480\_2483.5~2496.5



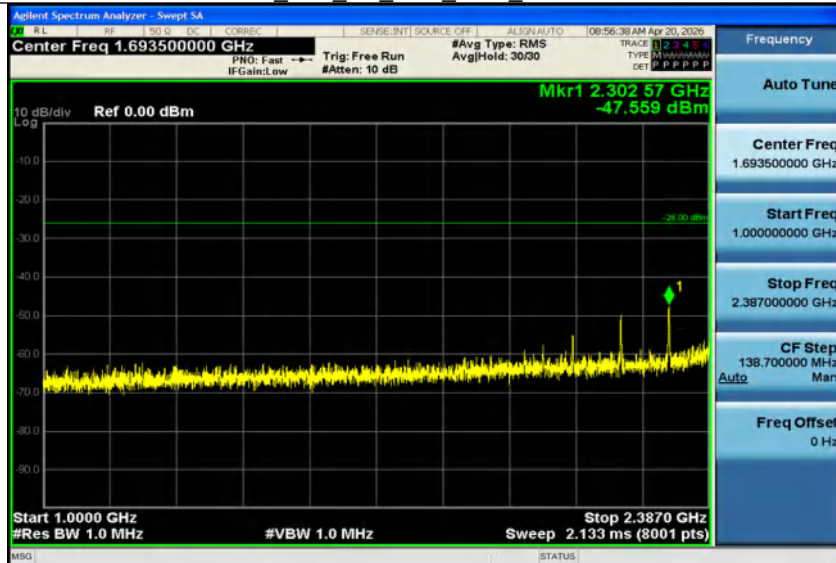
# NTNV\_BLE\_1M\_Ant1\_2480\_2496.5~13000



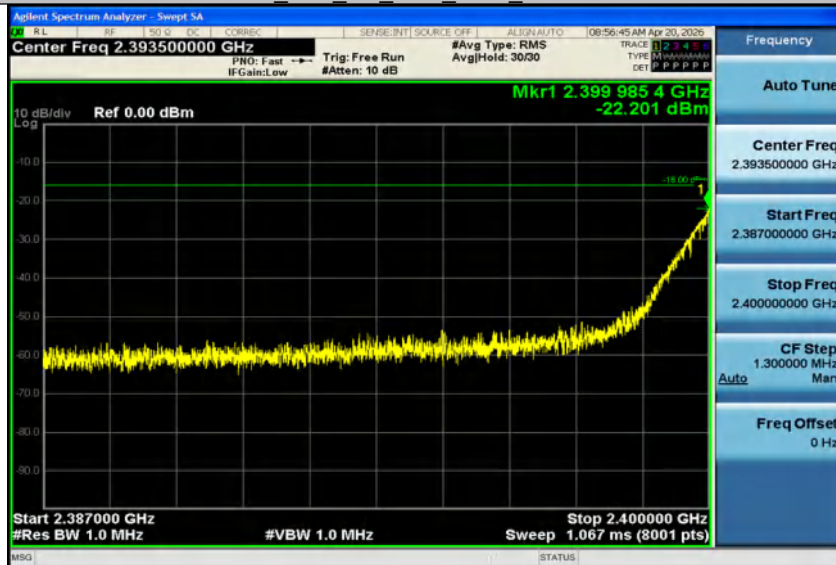
# NTNV\_BLE\_2M\_Ant1\_2402\_30~1000



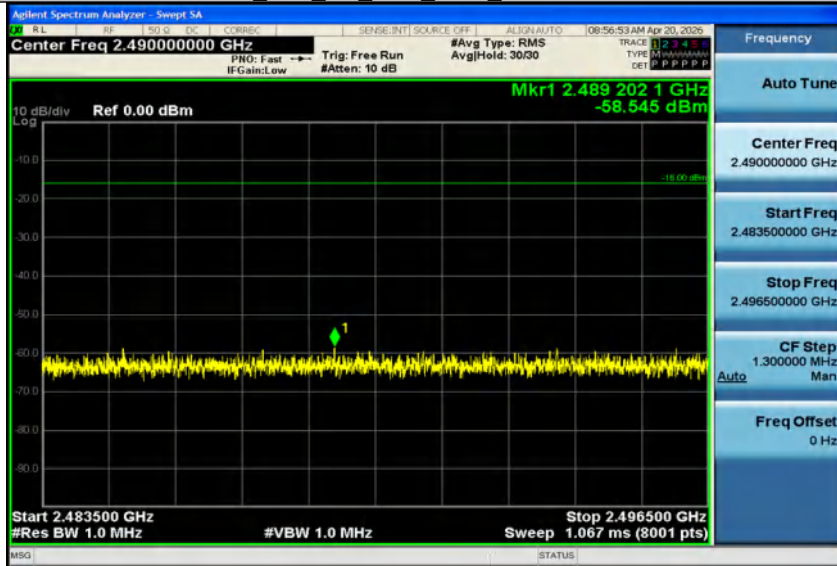
# NTNV\_BLE\_2M\_Ant1\_2402\_1000~2387



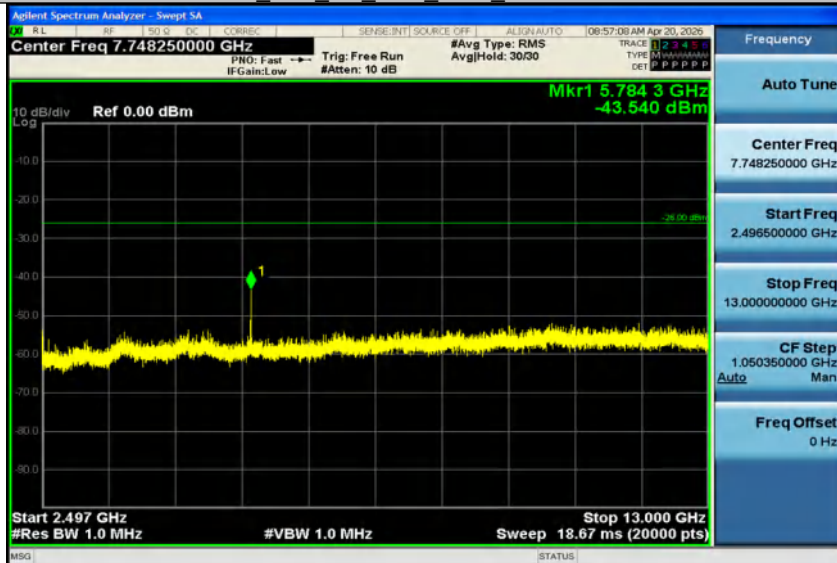
# NTNV\_BLE\_2M\_Ant1\_2402\_2387~2400



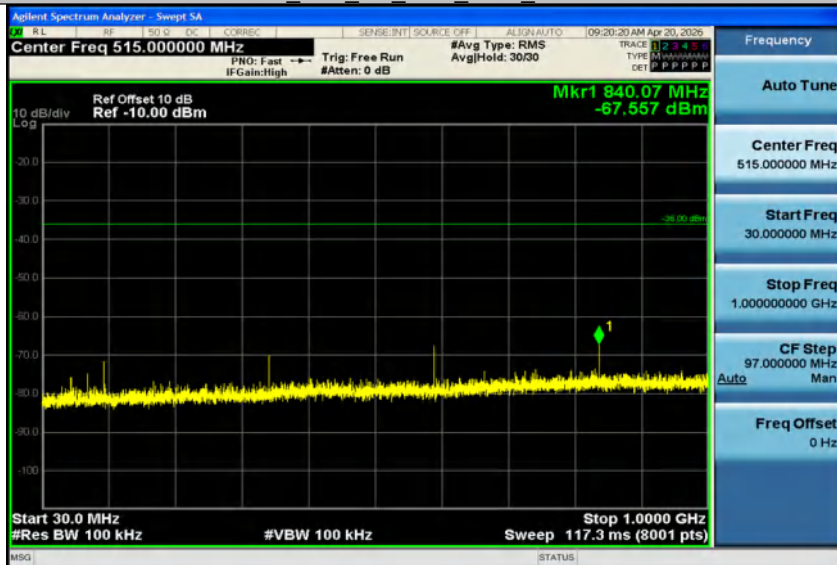
# NTNV\_BLE\_2M\_Ant1\_2402\_2483.5~2496.5



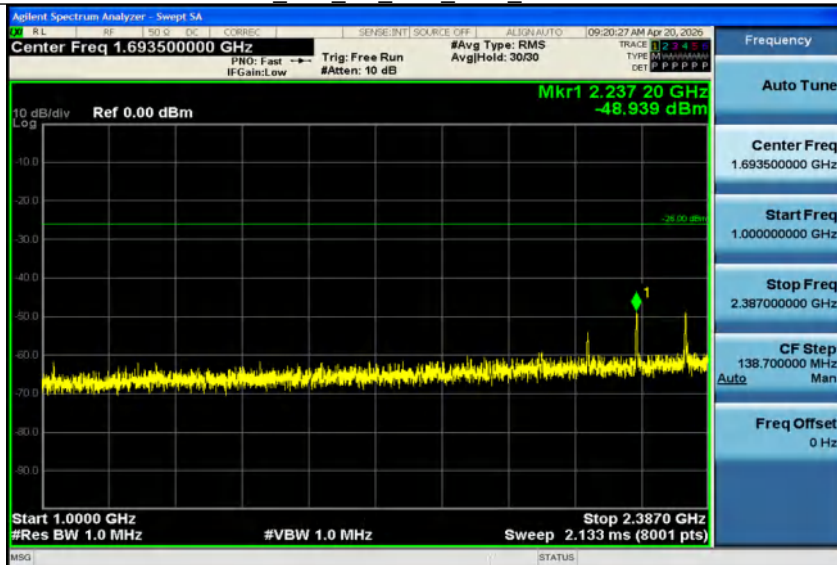
# NTNV\_BLE\_2M\_Ant1\_2402\_2496.5~13000



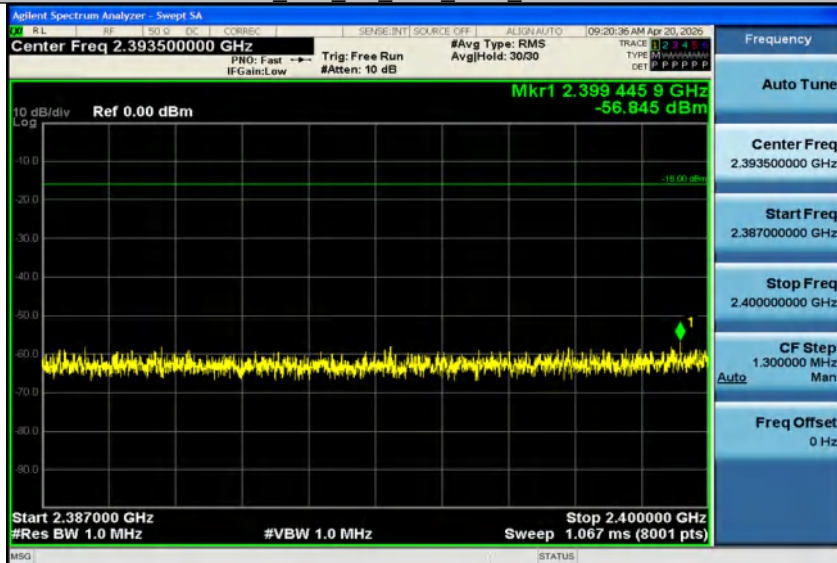
# NTNV\_BLE\_2M\_Ant1\_2440\_30~1000



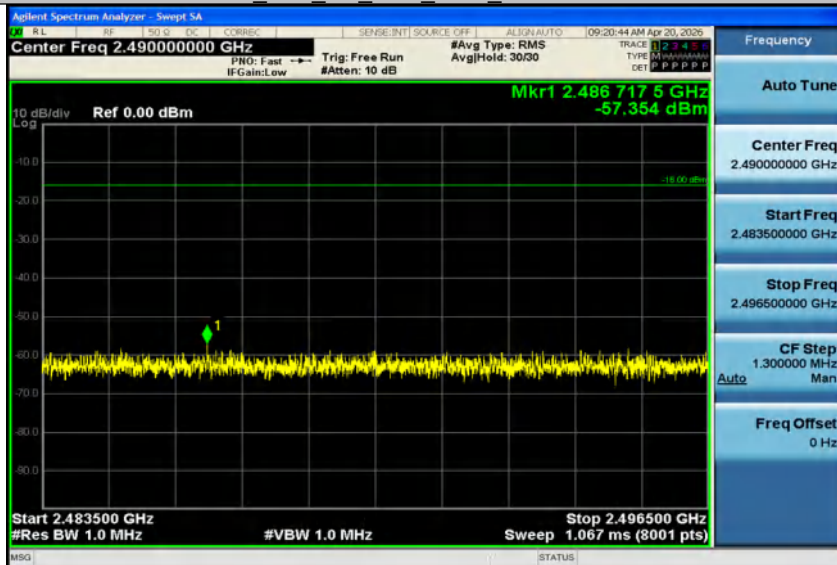
# NTNV BLE 2M Ant1 2440 1000~2387



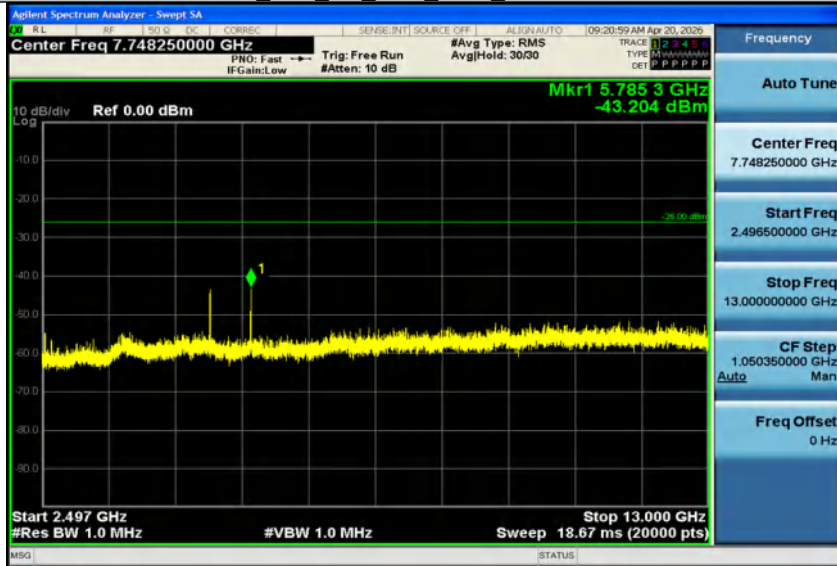
# NTNV BLE 2M Ant1 2440 2387~2400



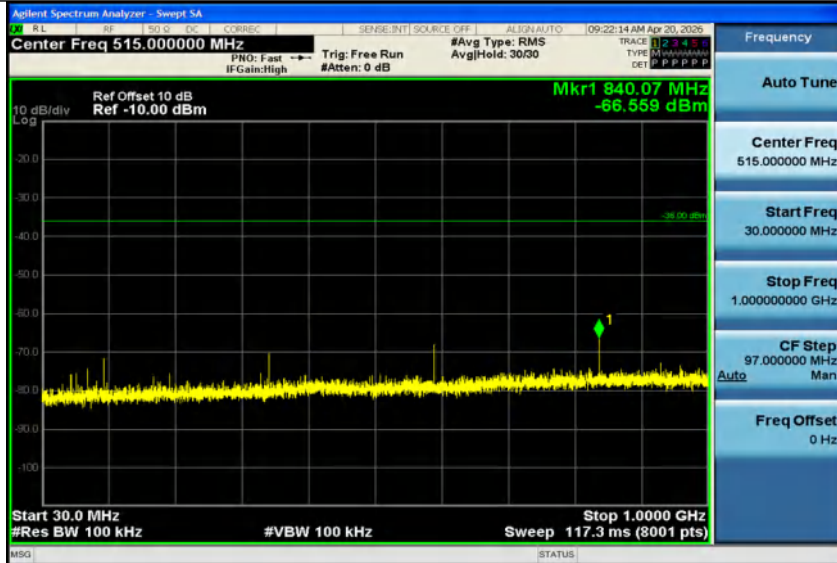
# NTNV BLE 2M Ant1 2440 2483.5~2496.5



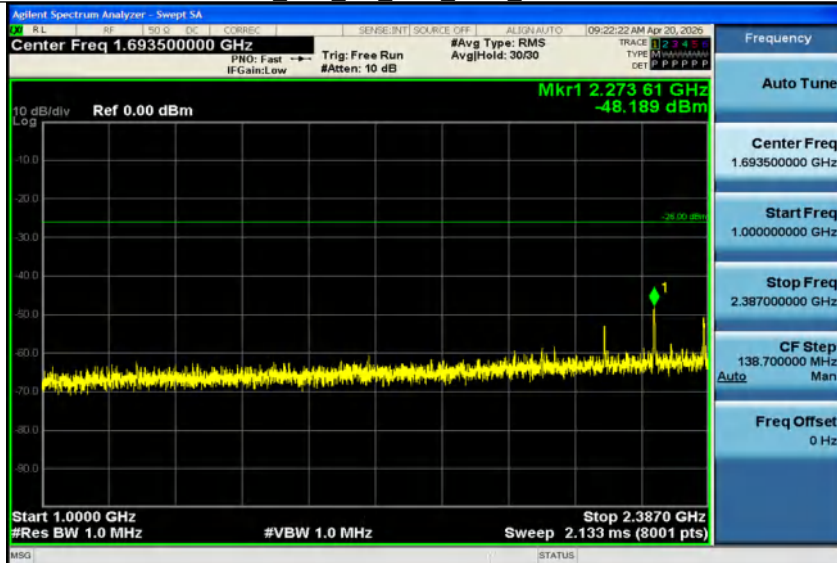
# NTNV\_BLE\_2M\_Ant1\_2440\_2496.5~13000



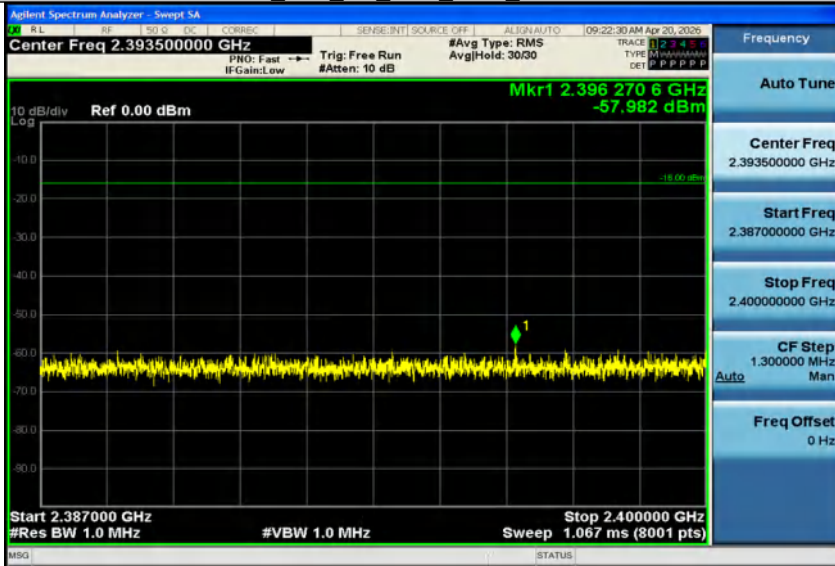
# NTNV\_BLE\_2M\_Ant1\_2480\_30~1000



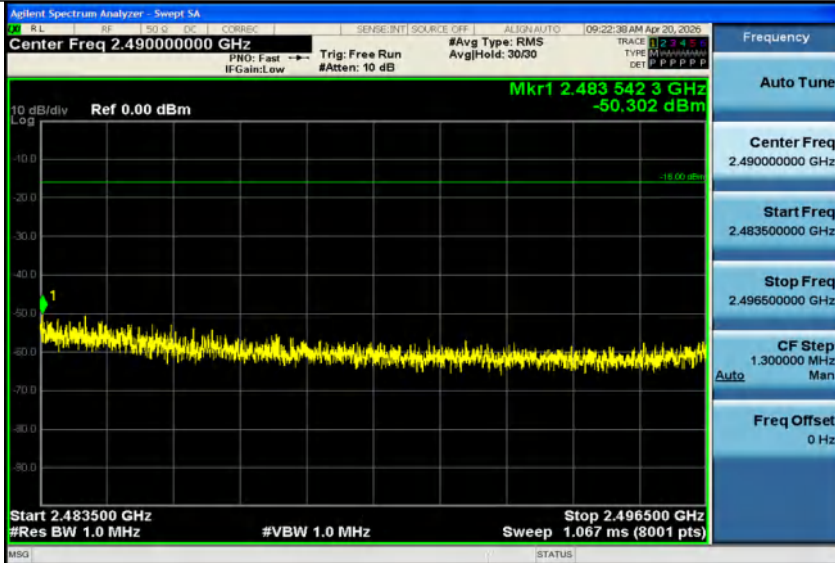
# NTNV\_BLE\_2M\_Ant1\_2480\_1000~2387



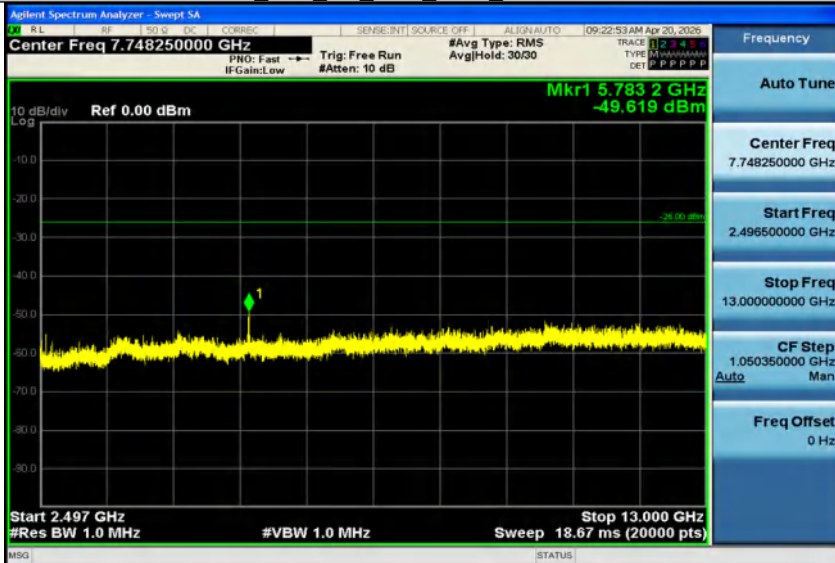
# NTNV\_BLE\_2M\_Ant1\_2480\_2387~2400



# NTNV\_BLE\_2M\_Ant1\_2480\_2483.5~2496.5



# NTNV\_BLE\_2M\_Ant1\_2480\_2496.5~13000



## 5. Limit of Secondary Spurious Emissions

### Limit

| Standard            | Item              | Frequency  | Limit       |
|---------------------|-------------------|------------|-------------|
| Article 2-1 Item 19 | Spurious Emission | Below 1GHz | 4nW/-54dBm  |
|                     |                   | Above 1GHz | 20nW/-47dBm |

### 5.2 Measurement Procedure

- Connect EUT antenna terminal to the Spectrum Analyzer.

- Set Spectrum Analyzer as below:

Frequency : Below 1GHz(30MHz-1GHz)  
 Above 1GHz(1-13GHz)  
 RBW : 100kHz for Below 1GHz  
 1MHz for Above 1GHz  
 VBW : 100kHz for Below 1GHz  
 1MHz for Above 1GHz  
 Sweep Time : Auto  
 Detector Mode : Peak  
 Display Mode : Max Hold

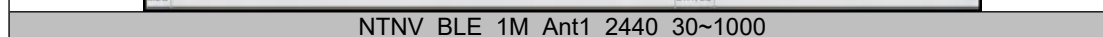
### 5.3 Test Data

|              |          |             |            |
|--------------|----------|-------------|------------|
| Temperature  | 22.7°C   | Humidity    | 50%        |
| ATM Pressure | 101.2kPa | Time        | 2026.04.20 |
| Test by      | Elio Lin | Test result | PASS       |

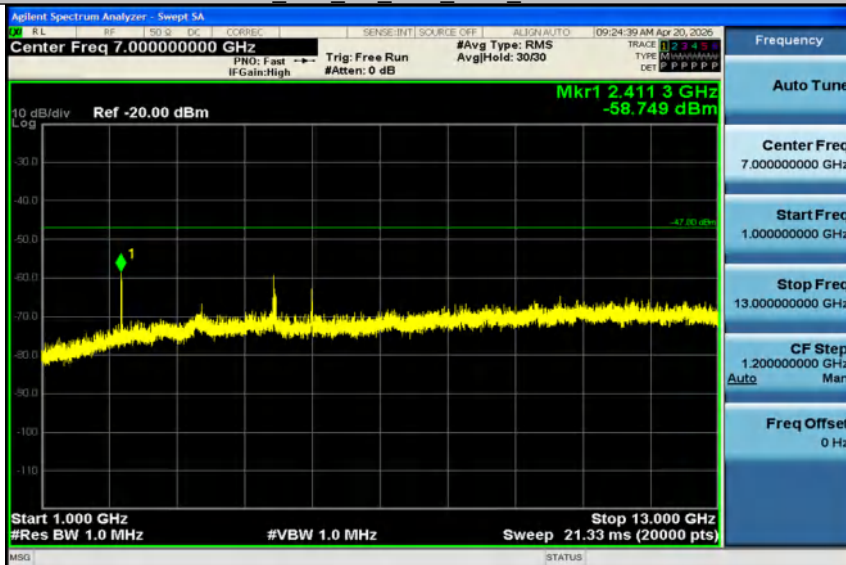
Please refer to following table and plots.

| Test Condition | Test Mode | Antenna | Freq(MHz) | Freq.Range [MHz] | Freq. [MHz] | Result [dBm] | Limit [dBm] | Result [nW/MHz] | Limit [nW/MHz] | Verdict |
|----------------|-----------|---------|-----------|------------------|-------------|--------------|-------------|-----------------|----------------|---------|
| NTNV           | BLE_1M    | Ant1    | 2402      | 30~1000          | 894.88      | -73.32       | ≤-54        | 0.04656         | ≤4             | PASS    |
|                |           |         |           | 1000~13000       | 5142.00     | -60.46       | ≤-47        | 0.89950         | ≤20            | PASS    |
|                |           |         | 2440      | 30~1000          | 902.15      | -72.96       | ≤-54        | 0.05058         | ≤4             | PASS    |
|                |           |         |           | 1000~13000       | 2411.30     | -58.75       | ≤-47        | 1.33352         | ≤20            | PASS    |
|                |           |         | 2480      | 30~1000          | 758.71      | -73.65       | ≤-54        | 0.04315         | ≤4             | PASS    |
|                |           |         |           | 1000~13000       | 2410.10     | -59.05       | ≤-47        | 1.24451         | ≤20            | PASS    |
|                | BLE_2M    | Ant1    | 2402      | 30~1000          | 928.83      | -74.09       | ≤-54        | 0.03899         | ≤4             | PASS    |
|                |           |         |           | 1000~13000       | 2410.70     | -59.49       | ≤-47        | 1.12460         | ≤20            | PASS    |
|                |           |         | 2440      | 30~1000          | 912.09      | -73.6        | ≤-54        | 0.04365         | ≤4             | PASS    |
|                |           |         |           | 1000~13000       | 5793.00     | -58.7        | ≤-47        | 1.34896         | ≤20            | PASS    |
|                |           |         | 2480      | 30~1000          | 968.48      | -73.47       | ≤-54        | 0.04498         | ≤4             | PASS    |
|                |           |         |           | 1000~13000       | 5788.20     | -58.44       | ≤-47        | 1.43219         | ≤20            | PASS    |

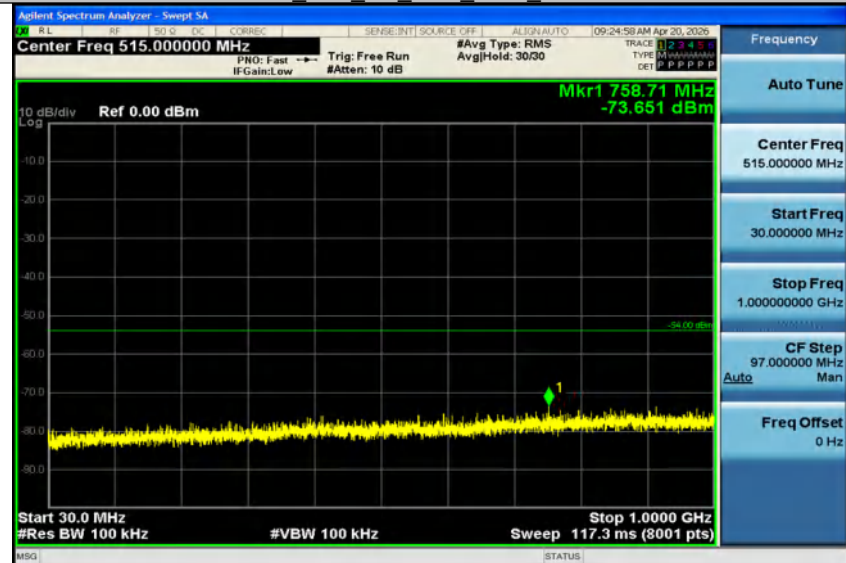
NTNV\_BLE\_1M\_Ant1\_2402\_30~1000



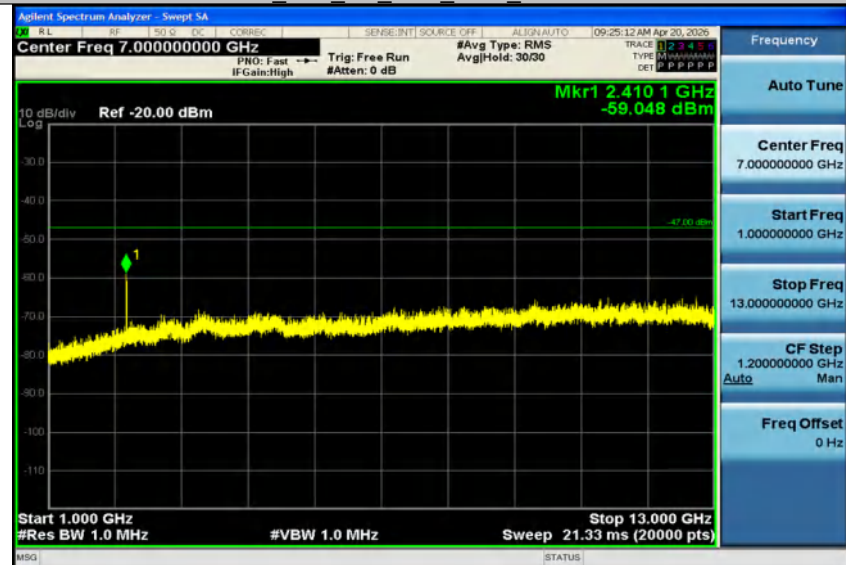
# NTNV\_BLE\_1M\_Ant1\_2440\_1000~13000



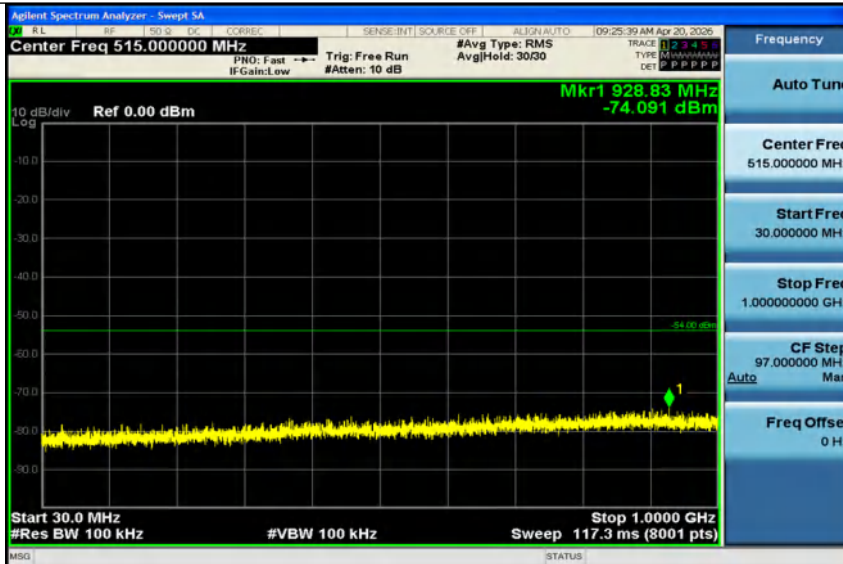
# NTNV\_BLE\_1M\_Ant1\_2480\_30~1000



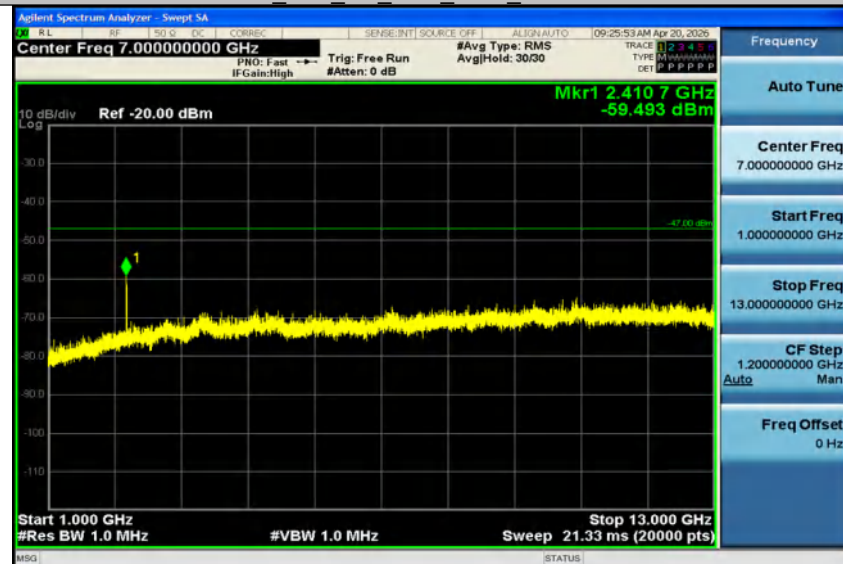
# NTNV\_BLE\_1M\_Ant1\_2480\_1000~13000



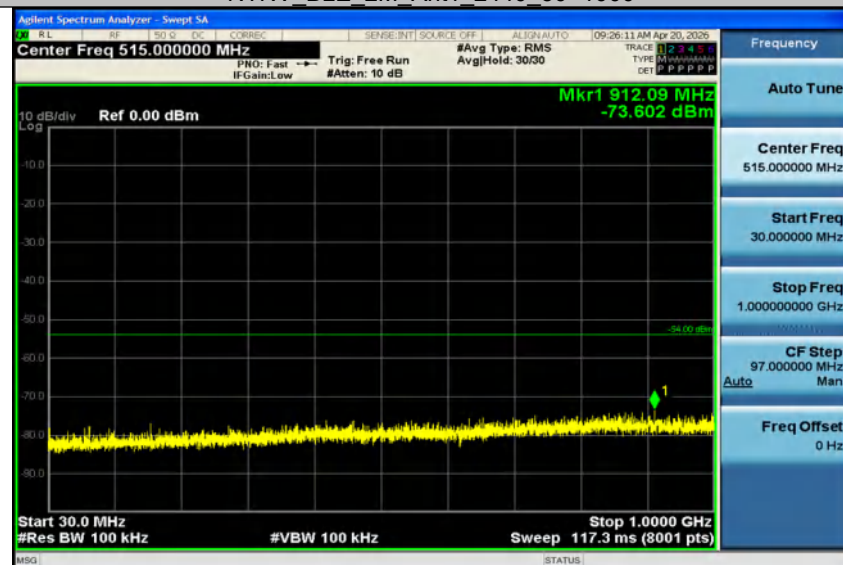
# NTNV\_BLE\_2M\_Ant1\_2402\_30~1000



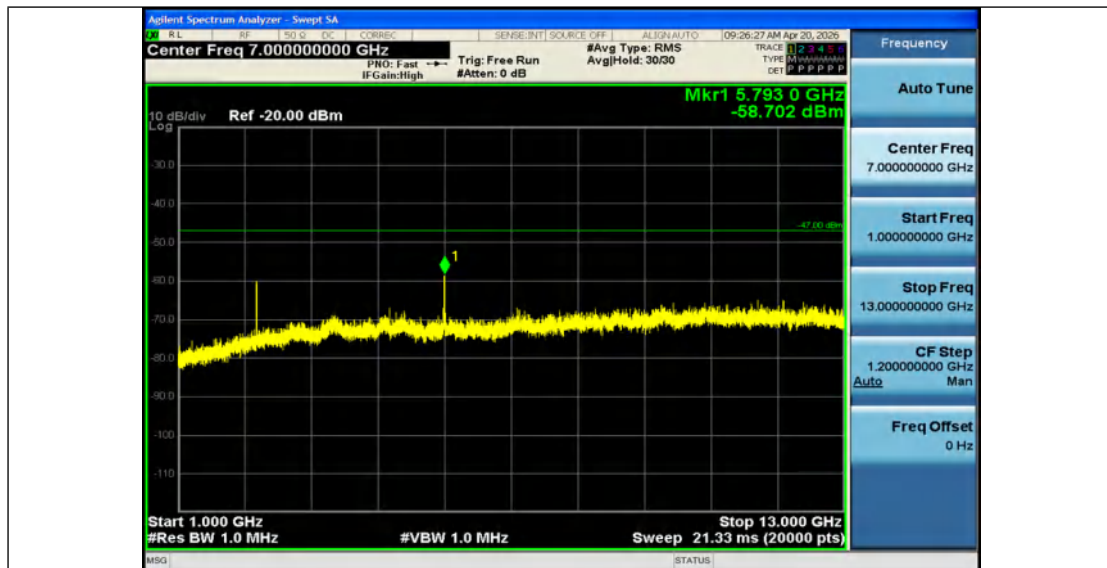
NTNV\_BLE\_2M\_Ant1\_2402\_1000~13000



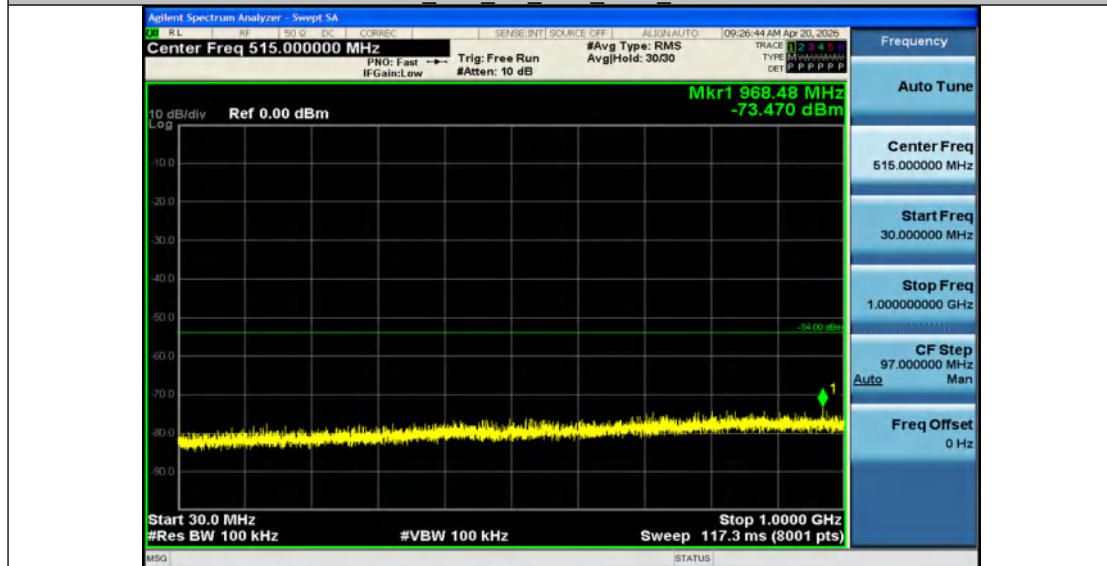
NTNV\_BLE\_2M\_Ant1\_2440\_30~1000



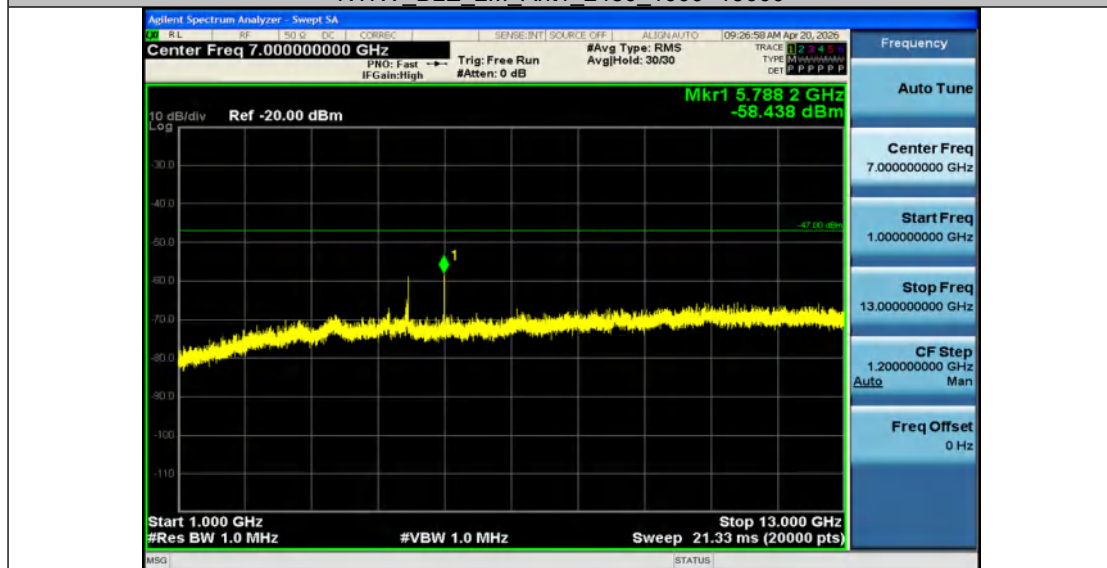
NTNV\_BLE\_2M\_Ant1\_2440\_1000~13000



NTNV BLE 2M\_Ant1 2480 30~1000



NTNV BLE 2M\_Ant1 2480 1000~13000



## 6. Antenna Power Measurement

### Limit

| Standard            | Limit                                              |
|---------------------|----------------------------------------------------|
| Article 2-1 Item 19 | $\leq 3$ mW/MHz(FHSS from 2402-2480 MHz)           |
|                     | $\leq 10$ mW/MHz (OFDM, DSSS from 2400-2483.5 MHz) |
|                     | $\leq 10$ mW (other from 2400-2483.5 MHz)          |
|                     | The Output Power Tolerance must be within 20%.     |

### 6.2 Measurement Procedure

Step 1: Measure the total power by Power Meter in a state of hopping mode or non-hopping mode (with Average Sensor)

Step 2: If it's the burst wave, please measure the burst ratio. Then calculate the real total power by burst ratio.

Step 3: Calculate the mean power.

$$\text{Output Power Density (mW)} = \text{Total Output Power (mW)} / \text{Duty cycle}$$

### 6.3 Test Data

|              |          |             |            |
|--------------|----------|-------------|------------|
| Temperature  | 22.7℃    | Humidity    | 50%        |
| ATM Pressure | 101.2kPa | Time        | 2026.04.20 |
| Test by      | Elio Lin | Test result | PASS       |

Please refer to following table.

**Declared power=1mW**

**Normal Voltage**

**BLE\_1M**

| ITEM                               | 2402  | 2440   | 2480   | Limit |
|------------------------------------|-------|--------|--------|-------|
| Antenna Output Power (dBm)         | -0.56 | -2.56  | -4.11  | 10    |
| Antenna Output Power (mW)          | 0.879 | 0.5546 | 0.3882 | 10    |
| Antenna Output Power Tolerance (%) | -12.1 | -44.54 | -61.18 | 20    |
| EIRP (dBm)                         | 0.78  | -1.22  | -2.77  | 12.14 |

**BLE\_2M**

| ITEM                               | 2402   | 2440   | 2480   | Limit |
|------------------------------------|--------|--------|--------|-------|
| Antenna Output Power (dBm)         | -1.10  | -3.06  | -4.73  | 10    |
| Antenna Output Power (mW)          | 0.7762 | 0.4943 | 0.3365 | 10    |
| Antenna Output Power Tolerance (%) | -22.38 | -50.57 | -66.35 | 20    |
| EIRP (dBm)                         | 0.24   | -1.72  | -3.39  | 12.14 |

Note:

1. Declared Power by manufacturer.
2. Antenna output power tolerance = (Antenna output power - declared power)/declared power\*100%
3. EIRP (dBm) =  $10\log(\text{Antenna Output Power (mW)}) + \text{Antenna Gain}$

## 7. INTERFERENCE PREVENTION FUNCTION

### 7.1 Standard Applicable

According to Item 19 of Article 2 Paragraph 1. The device shall have the function of automatic transmission or reception of identification code.

### 7.2 Test Procedure

In the case that the EUT has the function of automatically transmitting the identification code:

1. Transmit the predetermined identification codes from EUT
2. Check the transmitted identification codes with the demodulator.

In the case of receiving the identification codes:

1. Transmit the predetermined identification codes from the counterpart.
2. Check if communication is normal
3. Transmit the signal other than predetermined ID codes from the counterpart.
4. Check if the EUT stops the transmission, or if it displays that identification codes are different from the predetermined ones.

### 7.3 Summary of Test Results/Plots

| Test Item                                    | Test Result                                                                                |
|----------------------------------------------|--------------------------------------------------------------------------------------------|
| Transmitting Function of Identification Code | The device have the function of automatic transmission or reception of identification code |
| Receiving Function of Identification Code    | The device have the function of automatic transmission or reception of identification code |

Note: The MAC address is: B8:B1:EA:C7:92:A1

## Statement

1. The report is invalid without the official seal or special seal of Shenzhen Haiyun Standard Technical Co., Ltd. (hereinafter referred to as the unit).
2. The report is invalid without the signature of the approver.
3. The report is invalid if altered arbitrarily.
4. The report shall not be partially copied without the written approval of the unit.
5. The reported test results are only valid for the tested samples.
6. If there is any objection to the test report, it shall be submitted to the test unit within 15 days from the date of receiving the report, and the overdue shall not be accepted.

## Shenzhen Haiyun Standard Technical Co., Ltd.

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