TEST REPORT

Applicant:	Particle Industries, Inc.
EUT Description:	IoT Development Board (For Photon 2) P2 Wi-Fi Module (For P2)
Model:	Photon 2, P2
Brand:	Particle
Standards:	Article 2 paragraph 1 item (19)
Test Method:	MIC notification. No.88 of 2004, Annex 43
Date of Receipt:	2026/09/19
Date of Test:	2026/09/19 to 2026/10/19
Date of Issue:	2026/10/19

TOWE tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of the model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. Without written approval of TOWE, the test report shall not be reproduced except in full.

Jim Huang
Approved By:

Carey Chen
Reviewed By:

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Revision History

Rev.	Issue Date	Description	Revised by
01	2026/10/19	Original	Carey Chen

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Summary of Test Results

Report Section	Test Requirement	Result
4.1	Frequency Deviation	Pass
4.2	Occupied bandwidth	Pass
4.3	Antenna power and deviation	Pass
4.4	Transmitter Spurious Emissions	Pass
4.5	Transmitting antenna absolute gain	Pass
4.6	Main lobe width of transmitting antenna	Pass
4.7	Spurious radiation or extraneous emission strength for Receiver Part	Pass
4.8	Interference suppression function	Pass
Remark: Pass: The EUT complies with the essential requirements in the standard.		

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1 General Description

1.1 Lab Information

1.1.1 Testing Location

These measurement tests were conducted at the Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. facility located at F 401 and F 101, Building E, Hongwei Industrial Zone,No. 6, Liuxian 3rd Road, Zone 70, Xingdong Community, Xin'an Street, Bao'an District, Shenzhen, People's Republic of China.
Tel.: +86-755-27212361
Contact Email: info@towewireless.com

1.1.2 Test Facility / Accreditations

A2LA (Certificate Number: 7088.01)
This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

FCC Designation No.: CN1353
Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. has been recognized as an accredited testing laboratory.
Test Firm Registration Number: 684095
Designation Number: CN1353.

ISED CAB identifier: CN0152
Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. has been recognized by ISED as an accredited testing laboratory.
CAB identifier: CN0152
Company Number: 31000

1.2 Client Information

1.2.1 Applicant

Applicant:	Particle Industries, Inc.
Address:	325 9th St, San Francisco, CA 94103, USA

1.2.2 Manufacturer

Manufacturer:	Particle Industries, Inc.
Address:	325 9th St, San Francisco, CA 94103, USA

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1.3 Product Information

EUT Description:	IoT Development Board (For Photon 2) P2 Wi-Fi Module (For P2)	
Model:	Photon 2, P2	
Brand:	Particle	
Hardware Version:	v1.0.1 (For Photon 2) v1.0 (For P2)	
Software Version:	v1.0	
SN.:	P051AF538091630	
Technical specification:		
Bluetooth Version:	Bluetooth V5.0	
Support Mode	☒LE 1M PHY:1Mbps	☒LE 2M PHY:2Mbps
	☐LE Coded PHY(S=2):500Kbps	☐LE Coded PHY(S=8):125Kbps
Modulation Type:	GFSK	
Frequency Range:	2400 ~ 2483.5MHz	
Channel Frequency:	2402 ~ 2480MHz	
Antenna Rated Power:	5mW	
Channel Number:	40	
Antenna Type:	☒ External, ☒ PCB	
Antenna Gain:	Antenna Type	Ant (dBi)
	External	3.00
	PCB	2.41

Remark:
1.The above EUT's information was declared by applicant, please refer to the specifications or user's manual for more detailed description.
2.Models Photon2 and P2 have the same RF module, so the test data for main Model Photon2 was presented in the report. For specific model differences, please refer to the "P2 and Photon2 differences statement" provided by the client.

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2 Test Configuration

2.1 Test Channel

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

Remark:
The Lowest frequency, middle frequency, and highest frequency of channel were selected to perform the test, and the selected channel see below:

Test Channel	Test Frequency
The Lowest channel(CH0)	2402MHz
The Middle channel(CH19)	2440MHz
The Highest channel(CH39)	2480MHz

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2.2 Configuration and Mode

Test Mode	Description
TM 1	Keep the EUT in continuous transmitting mode without modulation.
TM 2	Keep the EUT in continuously transmitting mode with modulation.
TM 3	Keep the EUT operation to normal function.
TM 4	Keep the EUT was programmed to be in continuously receiving

2.3 Support Unit used in test

Description	Manufacturer	Model	Serial Number
Monitor	Nordic	nRF Connect	N/A
Multimeter	Proskit	MT-1280	21175671

2.4 Test Environment

Temperature:	Normal: 15℃ ~ 35℃		
Humidity:	Normal: 45 ~ 56 % RH		
Atmospheric Pressure:	1010 mbar		
Power Supply:	Nominal: 3.30Vdc Extreme: 2.97Vdc for low voltage, 3.63Vdc for high voltage		
External power supply	IC power supply	Deviation from normal	Deviation
3.30V	3.30V	---	---
2.97V	3.30V	0.00V	0.00%
3.63V	3.30V	0.00V	0.00%
Note: For extreme voltage test, The RF IC power unit is supplied DC 3.30V. The supply voltage of the RF IC fluctuates within 1%, so only the normal voltage was selected to test all items.			

2.5 Test RF Cable

For all conducted test items: The offset level is set spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.
The spectrum analyzer offset is derived from RF cable loss and attenuator factor.
Offset = RF cable loss + attenuator factor.

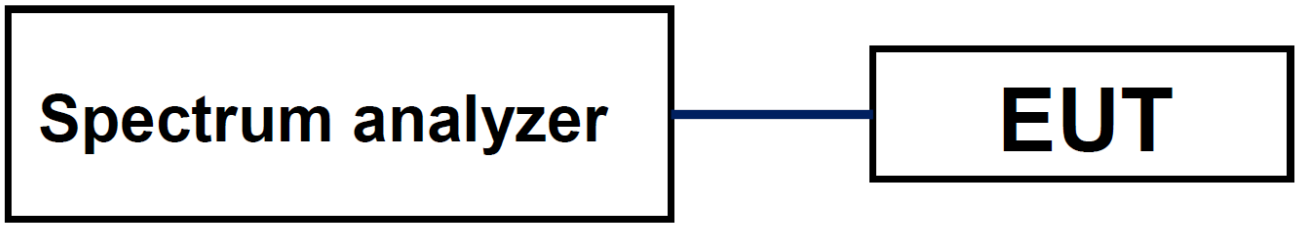
2.6 Modifications

No modifications were made during testing.

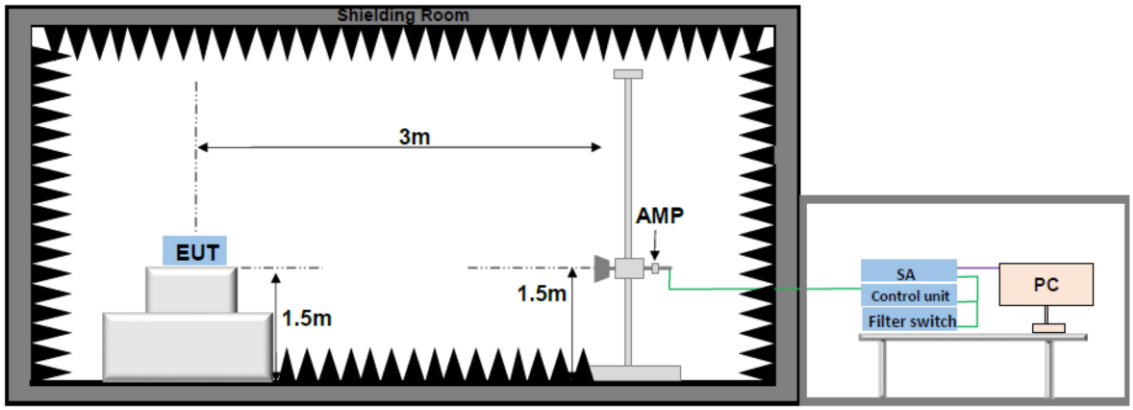
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2.7 Test Setup Diagram

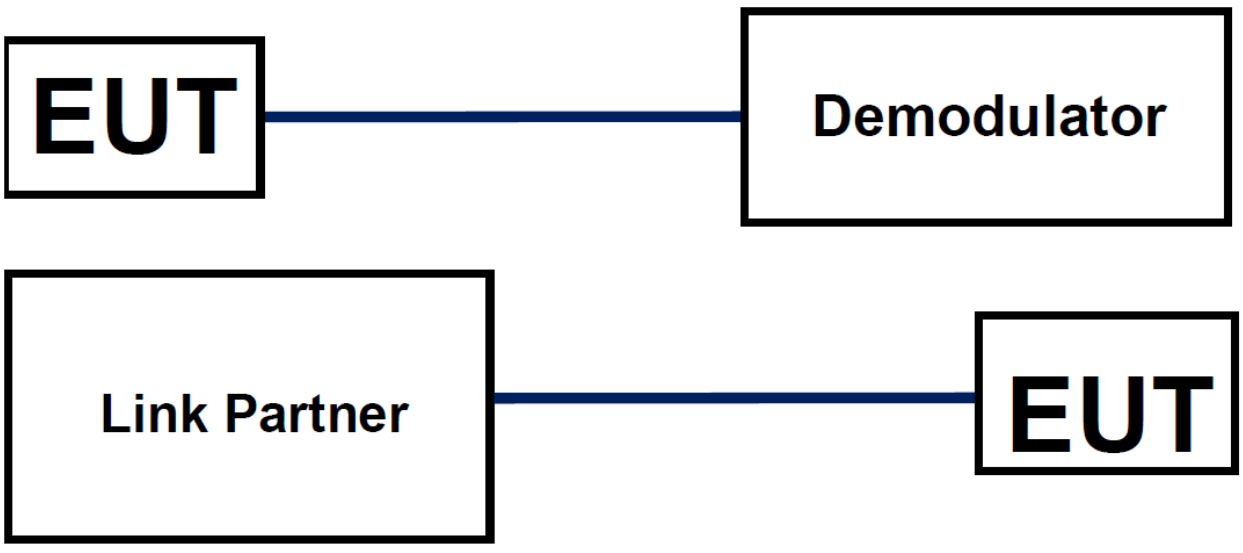
Setup 1



Setup 2



Setup 3



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3 Equipment and Measurement Uncertainty

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, whichever is less, and where applicable is traceable recognized national standards.

3.1 Test Equipment List

Description	Manufacturer	Model	Serial No.	Last Cal	Cal Due	Cal Method	Cal Authority
EXA Signal Analyzer, Multi-touch	Keysight	N9010B	MY63440541	2026/05/29	2027/05/28	3	Lisai
Signal Analyzer	Keysight	N9020A	US46470468	2026/03/05	2027/03/04	3	Lisai
Measurement Software	Tonscend	TS1120-3 V3.5.49	10659	N/A	N/A	N/A	N/A

Remark:
1. 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.
2. Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No.51 of 1992)
3. 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).
4. Calibration conducted by using other equipment that listed above from 1) to 3).

From JRL Article 24-2, paragraph 4, Item 2

3.2 Measurement Uncertainty

Parameter	U_{lab}
Frequency error	679.98Hz
Output Power	0.76dB
Conducted spurious emissions	2.22dB

Uncertainty figures are valid to a confidence level of 95%

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4 Test Results

4.1 Frequency Deviation

Limit

Frequency Deviation ≤ ± 50 ppm

Measurement methods

Measurement was conducted by the following test method:
the test method of Ordinance Concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment in Annex 1, the Ministry of Internal Affairs and Communication notification in Annex 43 of Article 88, Paragraph 1 or the test method more than equivalent.

Test Procedure

1. Configure EUT at maximum power transmission without modulation.
2. Spectrum analyzer setting:
   RBW = 10kHz
   VBW = 10kHz
   Sweep time = Auto
   Sweep mode = Continuous sweep
   Detect mode = Positive peak
3. The frequency deviation is calculated as follows:
   Frequency Deviation = $(F-F_c)/F_c \times 10^6$ ppm
   F is using the mark cursor to mark the peak frequency value
   F_c is declaring of channel frequency

Test Setup

Refer to section 2.7 Setup 1

Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

Test Result

The detailed test data see: **Appendix.**

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4.2 Occupied bandwidth

Limit

Occupied bandwidth ≤ 26 MHz

Measurement methods

Measurement was conducted by the following test method:
the test method of Ordinance Concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment in Annex 1, the Ministry of Internal Affairs and Communication notification in Annex 43 of Article 88, Paragraph 1 or the test method more than equivalent.

Test Procedure

1. Configure EUT at maximum power transmission with modulation.
2. Spectrum analyzer setting:
   RBW = 3% or less of the allowable value stipulated in the equipment regulations
   VBW = As much as the resolution bandwidth
   Detector=Peak
   Trace = Max hold.
   Use the 99% OBW function of the Spectrum analyzer and recode the 99%OBW.

Test Setup

Refer to section 2.7 Setup 1

Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

Test Result

The detailed test data see: **Appendix.**

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4.3 Antenna power and deviation

Limit

Antenna Power ⩽ 10mW
Deviation: ⩽+20%

Measurement methods

Measurement was conducted by the following test method:
the test method of Ordinance Concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment in Annex 1, the Ministry of Internal Affairs and Communication notification in Annex 43 of Article 88, Paragraph 1 or the test method more than equivalent.

Test Procedure

1. Configure EUT at maximum power transmission with modulation.
2. Spectrum analyzer setting:
   RBW = 3MHz
   VBW = 3MHz
   Sweep time = Auto
   Detector = RMS
   Trace = Max hold.
3. Use the Peak Mark function mark Maximum Power.
4. Calculation formula:
   Declaration Power = P_d(mW) (declared by manufacturer)
   Antenna Power = P(dBm) = PLinear(mW)
   Deviation = (PLinear -Pd) / Pd x 100%
   EIRP = Output Power + Antenna Gain(dBi)

Test Setup

Refer to section 2.7 Setup 1

Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

Test Result

The detailed test data see: **Appendix.**

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4.4 Transmitter Spurious Emissions

Limit

Frequency Range	Limit
30MHz~1000MHz	≤2.5μW/MHz (-26dBm)
1000MHz~2387MHz	≤2.5μW/MHz (-26dBm);
2387MHz~ 2400MHz	≤25μW/MHz (-16dBm)
2483.5 MHz~ 2496.5MHz	≤25μW/MHz (-16dBm)
2496.5MHz~12.75 GHz	≤2.5μW/MHz (-26dBm)

Measurement methods

Measurement was conducted by the following test method:
the test method of Ordinance Concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment in Annex 1, the Ministry of Internal Affairs and Communication notification in Annex 43 of Article 88, Paragraph 1 or the test method more than equivalent.

Test Procedure

Step 1:

1. limit of secondary radio wave emission (hereinafter referred to as "secondary emission" in this table) Set the spectrum analyzer at the time of search as follows.
2. Spectrum analyzer setting:
   RBW = 100kHz, VBW =100kHz (For 30MHz~1000MHz)
   RBW = 1MHz, VBW =1MHz (For Others)
   Sweep time = Auto
   Detector = Peak
   Trace = Max hold
   Use the Peak Mark function mark peak emissions.

Step 2:

Set the spectral analyzer at the time of secondary launch measurement as follows.
Center = Secondary TX frequency of emission
RBW = 100kHz, VBW =100kHz (For 30MHz~1000MHz)
RBW = 1MHz, VBW =1MHz (For Others)
Span = 0Hz
Sweep time = Minimum time for measurement accuracy to be guaranteed
Detector = Sample
Trace = Max hold

Use the Peak Mark function mark peak emissions.

Test Setup

Refer to section 2.7. Setup 1

Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

Test Result

The detailed test data see: **Appendix.**

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4.5 Transmitting antenna absolute gain

Limit

EIRP ⩽ 12.14dBm

Measurement methods

Measurement was conducted by the following test method:
the test method of Ordinance Concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment in Annex 1, the Ministry of Internal Affairs and Communication notification in Annex 43 of Article 88, Paragraph 1 or the test method more than equivalent.

Test Procedure

1. Configure EUT at maximum power transmission with modulation.
2. Set EUT and measuring antenna at the same height and roughly facing each other.
3. Move the measuring antenna height up and down within ± 50cm of EUT height and swing it to find the maximum output of the measuring antenna. The output level at the spectrum analyzer is read sa “E“.
4. Remove the EUT from the turn table and put the replacing antenna facing to measuring antenna at same height. Set the standard signal generator (SSG) at same frequency and transmit on then receive the signal.
5. Swing the replacing antenna give a maximum receiving level.
6. Move the measuring antenna height up and down within ± 50cm of replacing antenna height and swing it to find the maximum receiving level.
7. Set SSG output power at Pt to give the equivalent output level of “E” or calculate Pt with SSG output which gives the nearest of “E” and difference (± 1dB). Record the Pt.
8. Calculate EIRP by the formula below EIRP = Gt – L + Pt.
   Gt: gain of replacing antenna (dBi)
   L: feeder loss between SSG and replacing antenna
   Pt: Output power of the SSG
9. If the antenna for the EUT has circular polarization, sum of V-field and H-field will be result if measuring antenna is linear polarization.

Test Setup

Refer to section 2.7. Setup 2

Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

Test Result

MAX Antenna Power (Conducted)	Antenna Gain	Antenna Power (EIRP)
7.023dBm	3.0dBi	10.023dBm
Remark: The maximum EIRP less than 12.14 dBm, so the test not requirement.		

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4.6 Main lobe width of transmitting antenna

Limit

Whether the receiving power of the secondary lobe except the main lobe (Θ 0) is 3dB lower than the maximum receiving power. If it is, record good.

Measurement methods

Measurement was conducted by the following test method:
the test method of Ordinance Concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment in Annex 1, the Ministry of Internal Affairs and Communication notification in Annex 43 of Article 88, Paragraph 1 or the test method more than equivalent.

Test Procedure

1. Configure EUT at maximum power transmission with modulation.
2. Set EUT and measuring antenna at the same height and roughly facing each other.
3. Spectrum analyzer setting:
   Canter frequency = Test frequency
   RBW=1 MHz, VBW=1 kHz,
   Span = 0, Detector=Peak
4. Adjust the radio equipment rotating horizontally and vertically so as to coincide to the maximum power direction.
5. Changing the height of the test antenna between +50cm against the height of the radio equipment and adjusting its direction too, look out a maximum point of the receiving power. The indication of the spectrum analyzer at this point is referred as “E”.
6. Using the equivalent isotropic radiation power (PE) which was already measured, calculate the allowable main lobe width (Θ0) concerning horizontal and vertical planes. Allowable main lobe width (Θ0) =360/A here, Θ0 : Allowable main lobe width of the transmitting antenna of the radio equipment (half-width) (º) PE : Equivalent isotropic radiation power of the radio equipment (dBm) A : This is calculated as the equivalent isotropic radiation power divided by absolute gain 2.14dBi of transmitting antenna being fed by average antenna power 10mW (10mW/MHz for the orthogonal frequency division multiplexing system, the direct diffusion system, the frequency hopping system, the compound system of direct diffusion and frequency hopping, and the compound system of orthogonal frequency division multiplexing and frequency hopping.
7. Rotating the radio equipment horizontally a round as possible, confirm that the receiving power at the side lobes except main lobe width (Θ0) is lower than 3dB or more of the maximum receiving power “E”.
8. Once put the radio equipment back to the state (3). Inclining the radio equipment vertically as far as possible (more than 90 degree; it may be possible to measure referring “6. Other conditions”), confirm that the receiving power at the side lobes except main lobe width (Θ0) is lower than 3dB or more of the maximum receiving power “E”.

Test Setup

Refer to section 2.7. Setup 2

Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

Test Result

This test item not requirement for EIRP less than 12.14 dBm. Because the EIRP of EUT is less than 12.14 dBm, so not requirement.

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4.7 Spurious radiation or extraneous emission strength for Receiver part

Limit

Frequency Range	Limit
30MHz~1000MHz	≤4 nW (-54dBm)
Above 1GHz	≤20 nW (-47dBm)

Measurement methods

Measurement was conducted by the following test method:
the test method of Ordinance Concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment in Annex 1, the Ministry of Internal Affairs and Communication notification in Annex 43 of Article 88, Paragraph 1 or the test method more than equivalent.

Test Procedure:

Step 1:

1. limit of secondary radio wave emission (hereinafter referred to as "secondary emission" in this table) Set the spectrum analyzer at the time of search as follows.
2. Spectrum analyzer setting:
   RBW = 100kHz, VBW =100kHz (For 30MHz~1000MHz)
   RBW = 1MHz, VBW =1MHz (For Others)
   Sweep time = Auto
   Detector = Peak
   Trace = Max hold
   Use the Peak Mark function mark peak emissions.

Step 2:

Set the spectral analyzer at the time of secondary launch measurement as follows.
Center = Secondary TX frequency of emission
RBW = 100kHz, VBW =100kHz (For 30MHz~1000MHz)
RBW = 1MHz, VBW =1MHz (For Others)
Span = 0Hz
Sweep time = Minimum time for measurement accuracy to be guaranteed
Detector = Sample
Trace = Max hold
Use the Peak Mark function mark peak emissions.

Test Setup

Refer to section 2.7. Setup 1

Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

Test Result

The detailed test data see: **Appendix.**

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4.8 Interference suppression function

Requirement

1. The demodulator shall be able to demodulate the transmitting signal from the radio equipment and to display contents of the identification code.
2. The opposite equipment shall be able to transmit the identification code as same as the transmitting signal from the radio equipment.

Measurement methods

Measurement was conducted by the following test method:
the test method of Ordinance Concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment in Annex 1, the Ministry of Internal Affairs and Communication notification in Annex 43 of Article 88, Paragraph 1 or the test method more than equivalent.

Test Procedure

A. The radio equipment with automatic transmitting function of identification code
   1. Transmit the assigned identification code from the radio equipment.
   2. Confirm the identification code received by the demodulator.

B. The radio equipment with automatic receiving function of identification code
   1. Transmit the assigned identification code from the opposite equipment.
   2. Confirm that the EUT normally communication.
   3. Transmit the identification code distinct from the assigned one from the opposite equipment.
   4. Confirm that the radio equipment is stopped or an indication is displayed as the identification code is different.

Test Setup

Refer to section 2.7 Setup 3

Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

Test Result

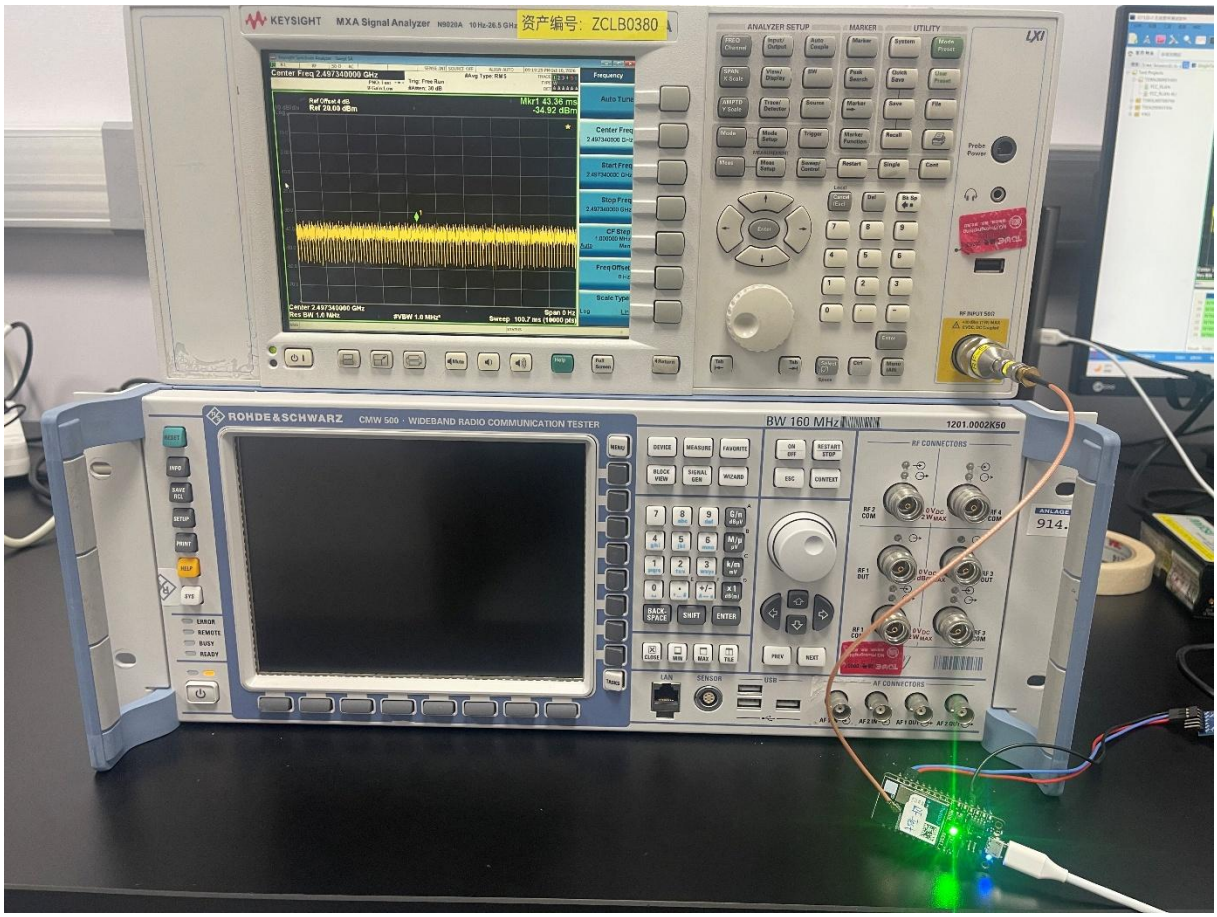
Pass: The EUT can receive identification code from Opposite Equipment and also can transmit identification code to other equipment and can be receiving successfully received by other equipment.

Identification code:



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5 Test Setup Photos



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Appendix

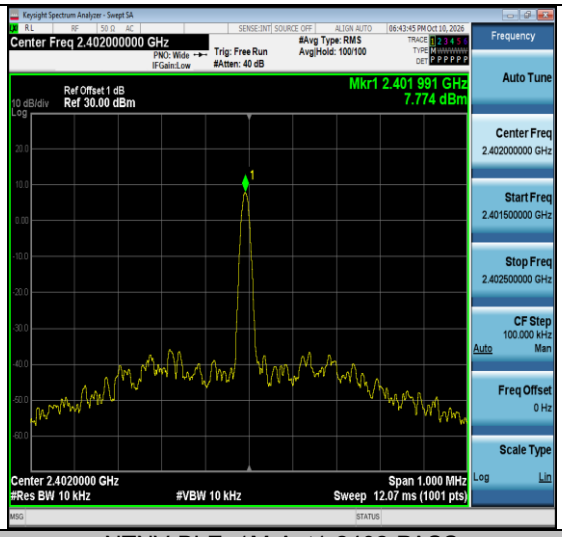
Frequency Error

Test Result

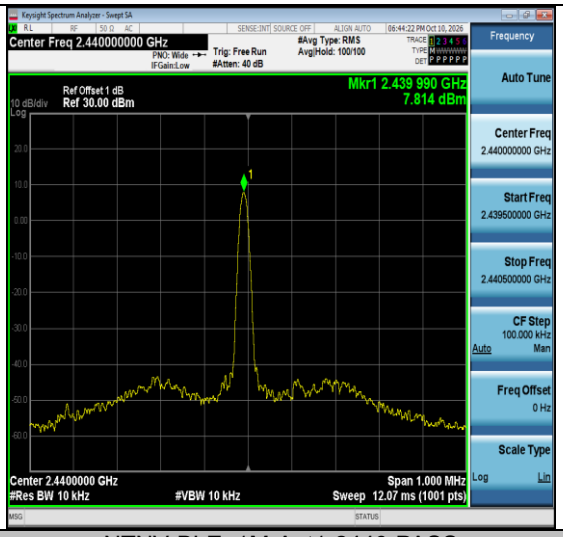
TestCondition	TestMode	Antenna	Freq(MHz)	CenterFreq [MHz]	Result[ppm]	Limit[ppm]	Verdict
NTNV	BLE_1M	Ant1	2402	2401.991	-3.74688	±50	PASS
NTNV	BLE_1M	Ant1	2440	2439.99	-4.09836	±50	PASS
NTNV	BLE_1M	Ant1	2480	2479.99	-4.03226	±50	PASS
NTNV	BLE_2M	Ant1	2402	2401.991	-3.74688	±50	PASS
NTNV	BLE_2M	Ant1	2440	2439.99	-4.09836	±50	PASS
NTNV	BLE_2M	Ant1	2480	2479.989	-4.43548	±50	PASS

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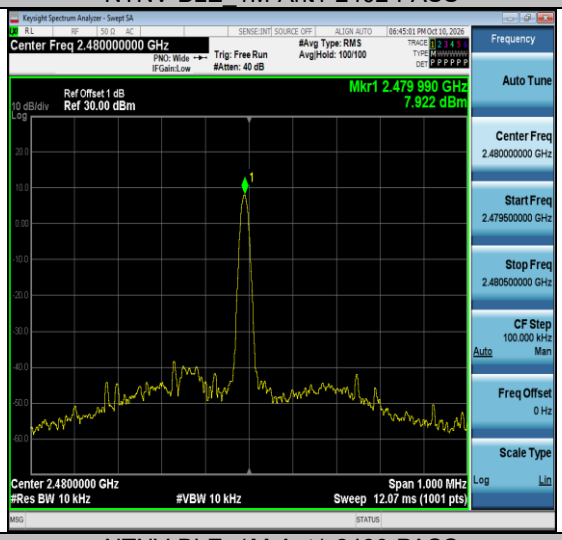
Test Graphs



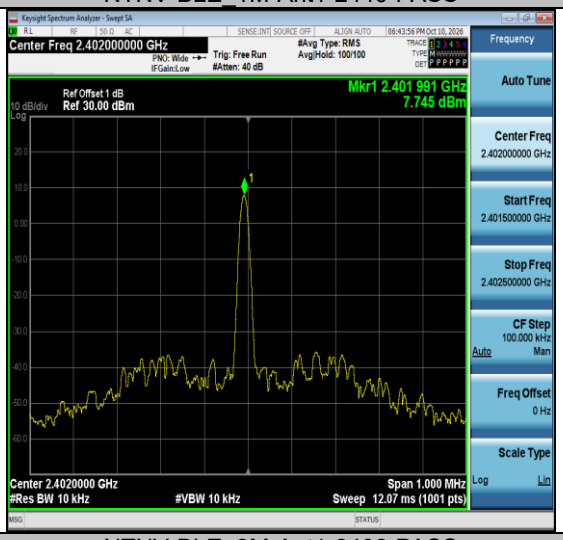
NTNV-BLE_1M-Ant1-2402-PASS



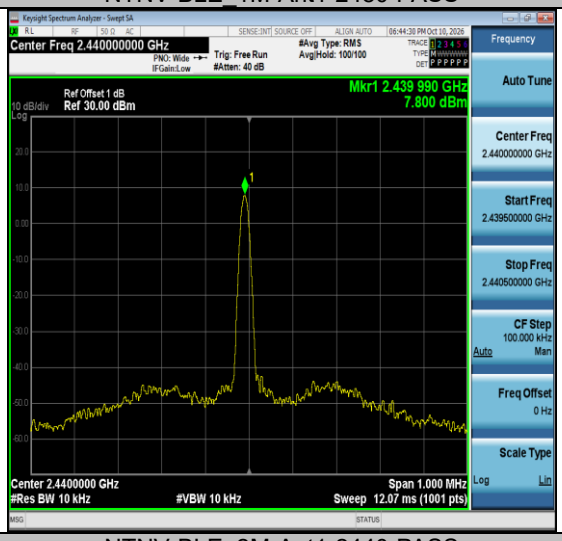
NTNV-BLE_1M-Ant1-2440-PASS



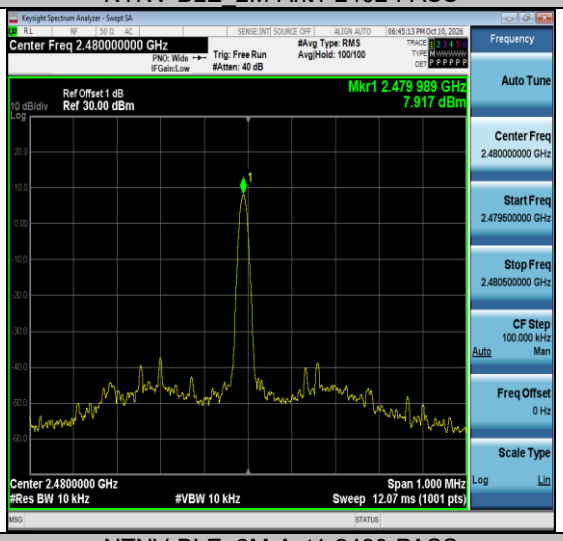
NTNV-BLE_1M-Ant1-2480-PASS



NTNV-BLE_2M-Ant1-2402-PASS



NTNV-BLE_2M-Ant1-2440-PASS



NTNV-BLE_2M-Ant1-2480-PASS

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Antenna Power

Test Result

TestCondition	TestMode	Antenna	Freq(MHz)	Result(dBm)	Result(mW)	Limit(mW)	Verdict
NTNV	BLE_1M	Ant1	2402	6.386	4.351	≤10	PASS
NTNV	BLE_1M	Ant1	2440	6.503	4.470	≤10	PASS
NTNV	BLE_1M	Ant1	2480	7.023	5.038	≤10	PASS
NTNV	BLE_2M	Ant1	2402	5.736	3.746	≤10	PASS
NTNV	BLE_2M	Ant1	2440	5.833	3.831	≤10	PASS
NTNV	BLE_2M	Ant1	2480	6.454	4.420	≤10	PASS

Test Condition	Test Mode	Antenna	Freq(MHz)	Power (mW)	RatedPower (mW)	Result (%)	Limit (%)	Verdict
NTNV	BLE_1M	Ant1	2402	4.351	5	-12.98	≤+20	PASS
NTNV	BLE_1M	Ant1	2440	4.470	5	-10.6	≤+20	PASS
NTNV	BLE_1M	Ant1	2480	5.038	5	0.77	≤+20	PASS
NTNV	BLE_2M	Ant1	2402	3.746	5	-25.07	≤+20	PASS
NTNV	BLE_2M	Ant1	2440	3.831	5	-23.38	≤+20	PASS
NTNV	BLE_2M	Ant1	2480	4.420	5	-11.6	≤+20	PASS

TestCondition	TestMode	Antenna	Freq(MHz)	Result(dBm)	EIRP(dBm)	Limit(dBm)	Verdict
NTNV	BLE_1M	Ant1	2402	6.386	9.386	≤12.14	PASS
NTNV	BLE_1M	Ant1	2440	6.503	9.503	≤12.14	PASS
NTNV	BLE_1M	Ant1	2480	7.023	10.023	≤12.14	PASS
NTNV	BLE_2M	Ant1	2402	5.736	8.736	≤12.14	PASS
NTNV	BLE_2M	Ant1	2440	5.833	8.833	≤12.14	PASS
NTNV	BLE_2M	Ant1	2480	6.454	9.454	≤12.14	PASS

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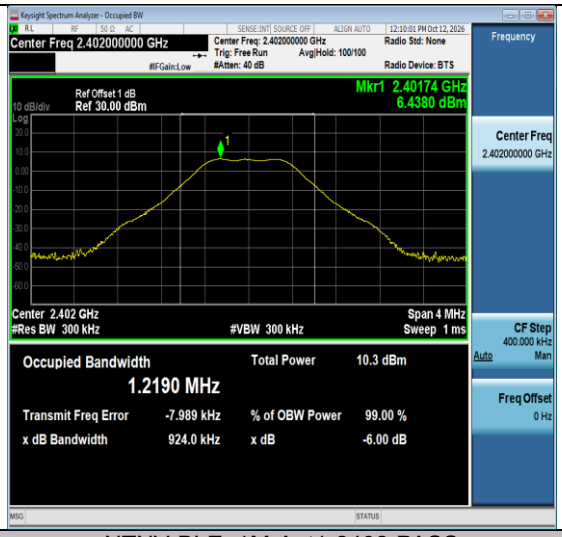
Occupied Bandwidth

Test Result

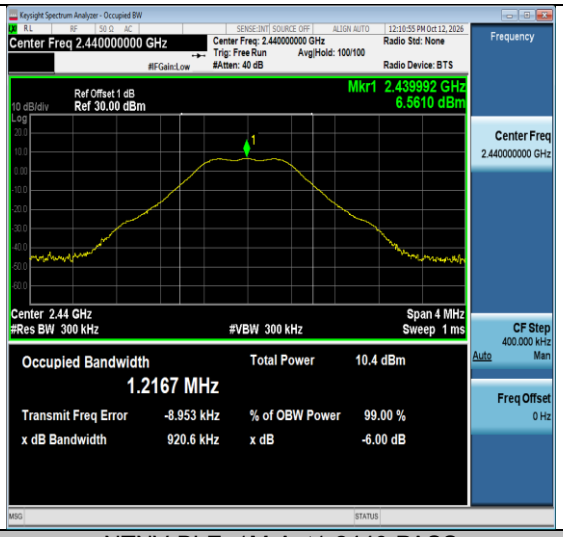
TestCondition	TestMode	Antenna	Freq(MHz)	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	1.219	≤26	PASS
NTNV	BLE_1M	Ant1	2440	1.217	≤26	PASS
NTNV	BLE_1M	Ant1	2480	1.215	≤26	PASS
NTNV	BLE_2M	Ant1	2402	2.155	≤26	PASS
NTNV	BLE_2M	Ant1	2440	2.171	≤26	PASS
NTNV	BLE_2M	Ant1	2480	2.159	≤26	PASS

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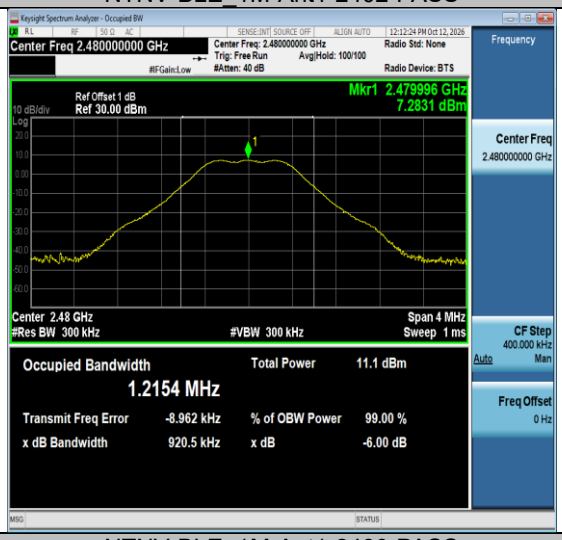
Test Graphs



NTNV-BLE_1M-Ant1-2402-PASS



NTNV-BLE_1M-Ant1-2440-PASS



NTNV-BLE_1M-Ant1-2480-PASS



NTNV-BLE_2M-Ant1-2402-PASS



NTNV-BLE_2M-Ant1-2440-PASS



NTNV-BLE_2M-Ant1-2480-PASS

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Spurious Emission of TX

Test Result

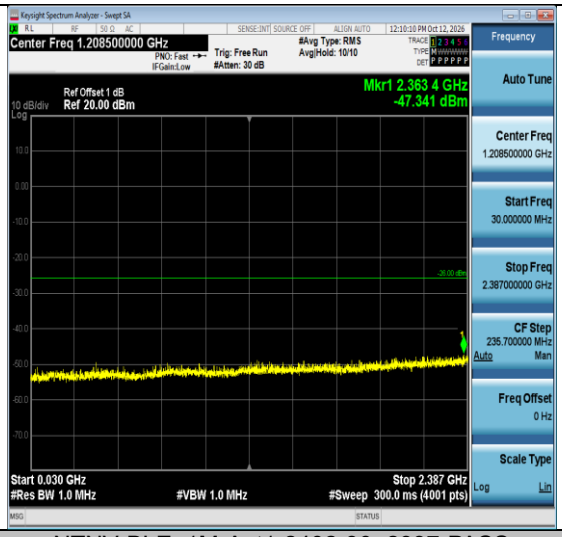
Test Condition	Test Mode	ANT	Freq. (MHz)	Freq.Range[MHz]	Freq. [MHz]	Result [dBm/MHz]	Limit [dBm/MHz]	Result [μW/MHz]	Limit [μW/MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	30~2387	2363.43	-47.34	≤-26	0.03681	≤2.5	PASS
NTNV	BLE_1M	Ant1	2402	2387~2400	2400.00	-28.83	≤-16	2.61216	≤25	PASS
NTNV	BLE_1M	Ant1	2402	2483.5~2496.5	2490.66	-45.99	≤-16	0.05023	≤25	PASS
NTNV	BLE_1M	Ant1	2402	2496.5~13000	6390.67	-44.60	≤-26	0.06918	≤2.5	PASS
NTNV	BLE_1M	Ant1	2440	30~2387	2382.88	-47.18	≤-26	0.03819	≤2.5	PASS
NTNV	BLE_1M	Ant1	2440	2387~2400	2393.86	-47.20	≤-16	0.03802	≤25	PASS
NTNV	BLE_1M	Ant1	2440	2483.5~2496.5	2495.86	-46.44	≤-16	0.04529	≤25	PASS
NTNV	BLE_1M	Ant1	2440	2496.5~13000	5403.34	-45.49	≤-26	0.05636	≤2.5	PASS
NTNV	BLE_1M	Ant1	2480	30~2387	2371.68	-46.84	≤-26	0.04130	≤2.5	PASS
NTNV	BLE_1M	Ant1	2480	2387~2400	2392.21	-46.98	≤-16	0.03999	≤25	PASS
NTNV	BLE_1M	Ant1	2480	2483.5~2496.5	2483.87	-43.32	≤-16	0.09290	≤25	PASS
NTNV	BLE_1M	Ant1	2480	2496.5~13000	6383.85	-45.67	≤-26	0.05408	≤2.5	PASS
NTNV	BLE_2M	Ant1	2402	30~2387	2248.53	-47.54	≤-26	0.03516	≤2.5	PASS
NTNV	BLE_2M	Ant1	2402	2387~2400	2399.99	-15.46	≤-16	56.75446	≤25	See Step2
NTNV	BLE_2M	Ant1	2402	2483.5~2496.5	2488.53	-46.77	≤-16	0.04198	≤25	PASS
NTNV	BLE_2M	Ant1	2402	2496.5~13000	6413.26	-44.89	≤-26	0.06471	≤2.5	PASS
NTNV	BLE_2M	Ant1	2440	30~2387	2290.95	-47.12	≤-26	0.03873	≤2.5	PASS
NTNV	BLE_2M	Ant1	2440	2387~2400	2397.15	-47.21	≤-16	0.03793	≤25	PASS
NTNV	BLE_2M	Ant1	2440	2483.5~2496.5	2494.17	-46.14	≤-16	0.04853	≤25	PASS
NTNV	BLE_2M	Ant1	2440	2496.5~13000	5280.45	-45.19	≤-26	0.06039	≤2.5	PASS
NTNV	BLE_2M	Ant1	2480	30~2387	2367.55	-47.51	≤-26	0.03540	≤2.5	PASS
NTNV	BLE_2M	Ant1	2480	2387~2400	2399.56	-46.93	≤-16	0.04046	≤25	PASS
NTNV	BLE_2M	Ant1	2480	2483.5~2496.5	2483.64	-42.58	≤-16	0.11015	≤25	PASS
NTNV	BLE_2M	Ant1	2480	2496.5~13000	5313.54	-44.52	≤-26	0.07047	≤2.5	PASS

Test Result_Step2

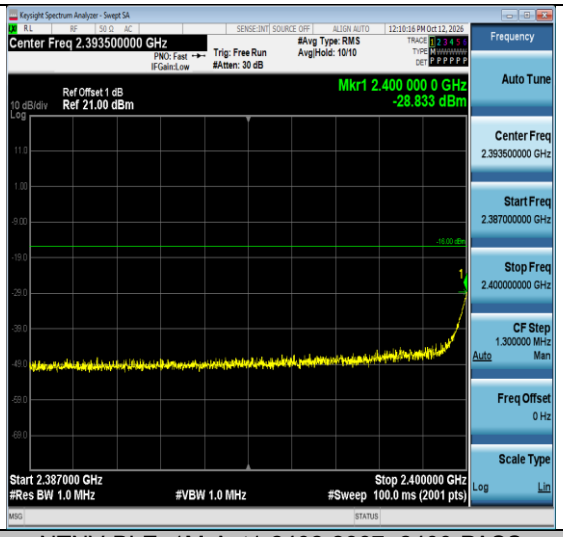
TestCondition	TestMode	Antenna	Freq(MHz)	Freq. [MHz]	Result [dBm/MHz]	Limit [dBm/MHz]	Result [μW/MHz]	Limit [μW/MHz]	Verdict
NTNV	BLE_2M	Ant1	2402	2399.99	-17.00	≤-16	19.95262	≤25	PASS

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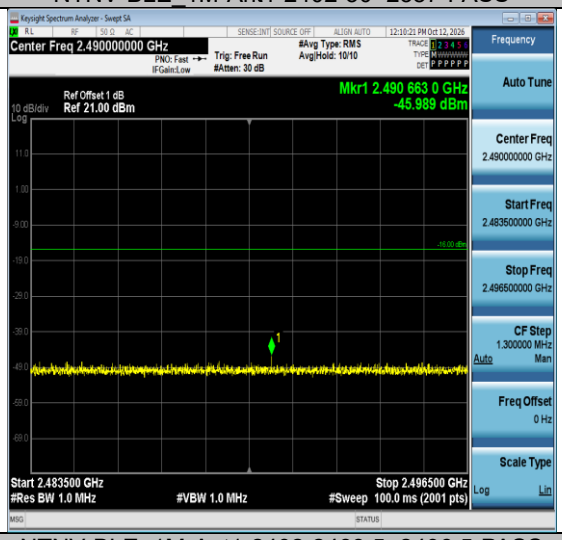
Test Graphs



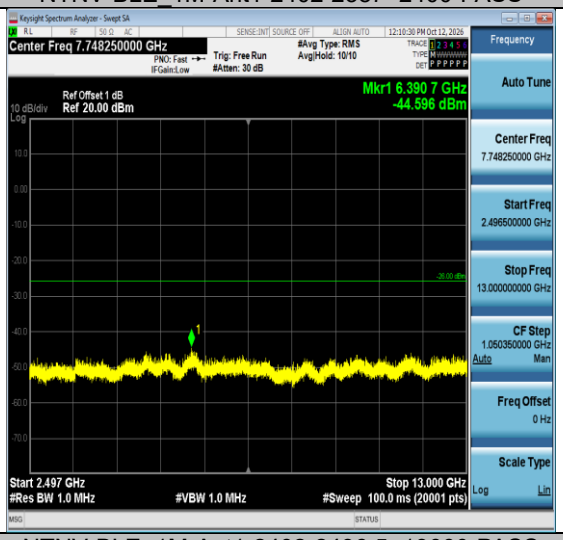
NTNV-BLE_1M-Ant1-2402-30~2387-PASS



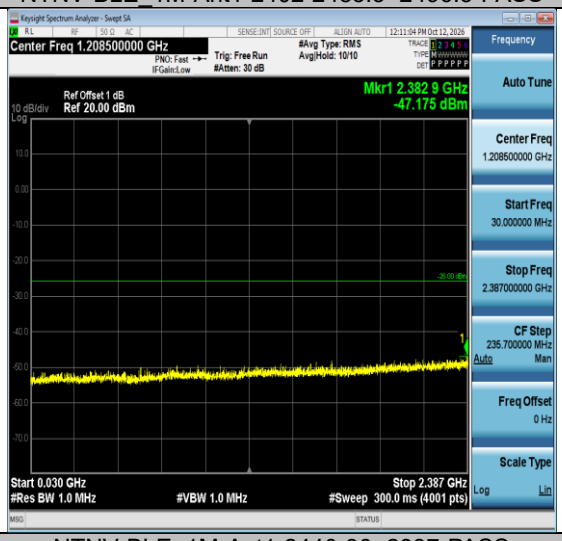
NTNV-BLE_1M-Ant1-2402-2387~2400-PASS



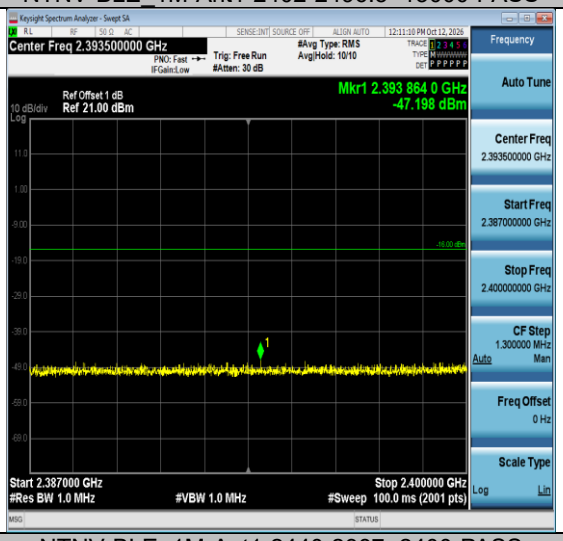
NTNV-BLE_1M-Ant1-2402-2483.5~2496.5-PASS



NTNV-BLE_1M-Ant1-2402-2496.5~13000-PASS

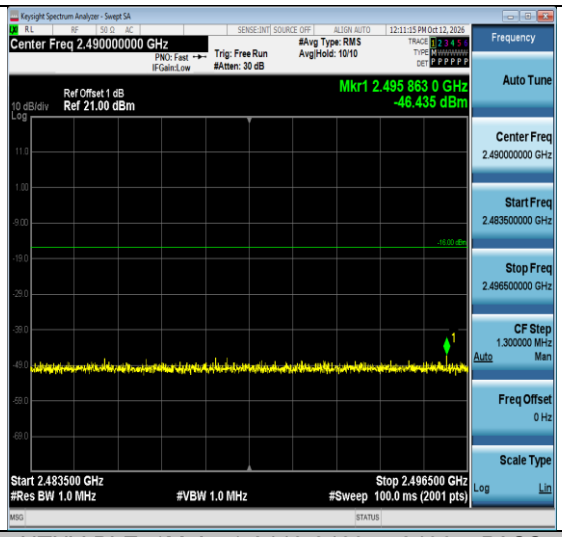


NTNV-BLE_1M-Ant1-2440-30~2387-PASS

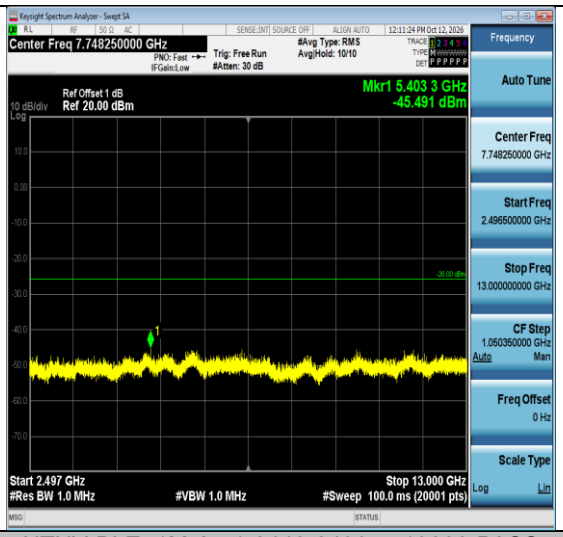


NTNV-BLE_1M-Ant1-2440-2387~2400-PASS

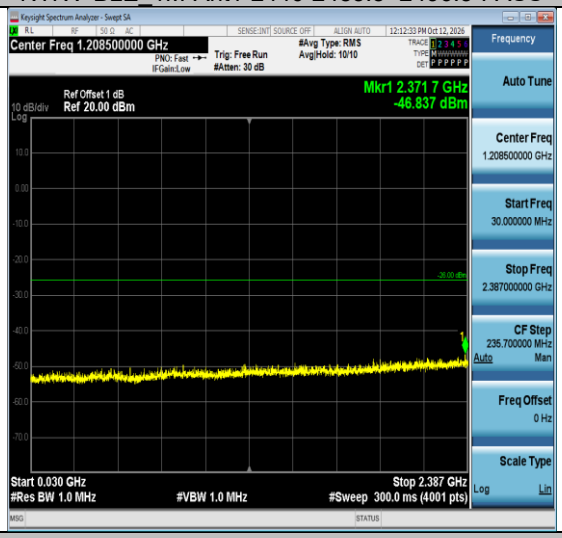
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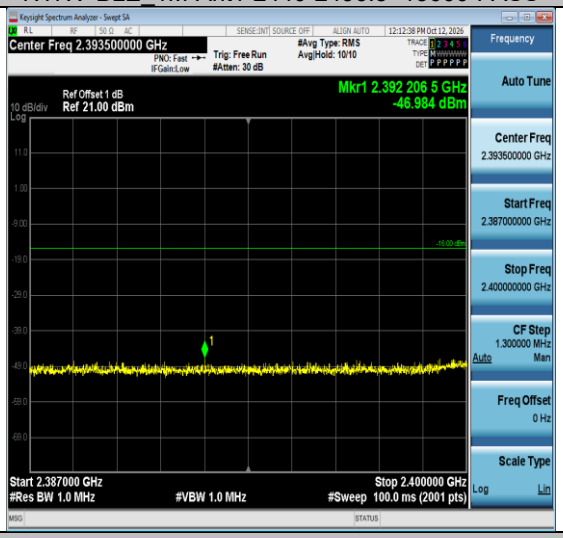
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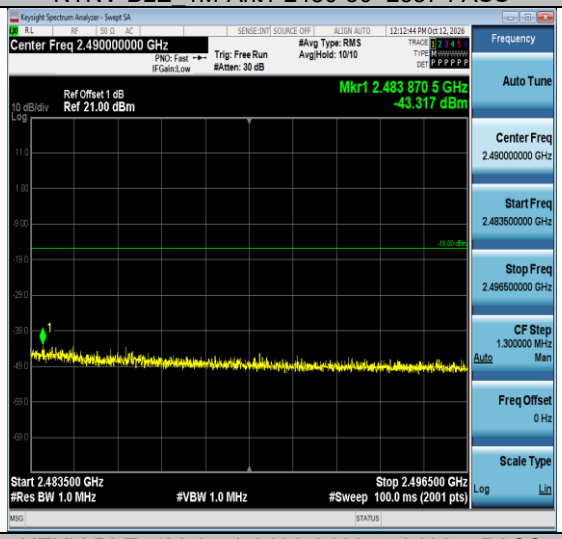
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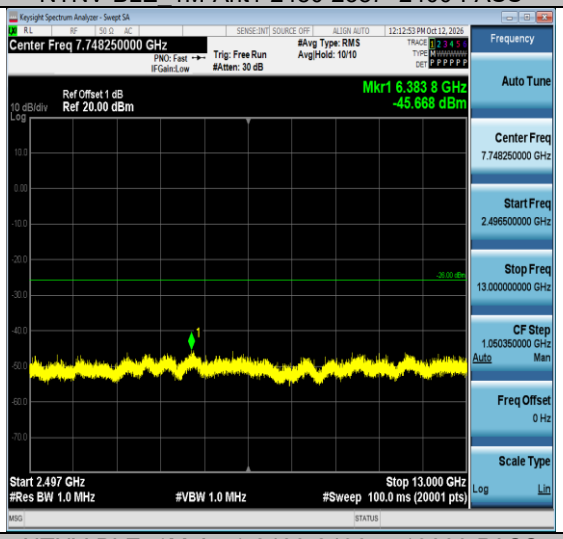
NTNV-BLE_1M-Ant1-2480-30~2387-PASS



NTNV-BLE_1M-Ant1-2480-2387~2400-PASS

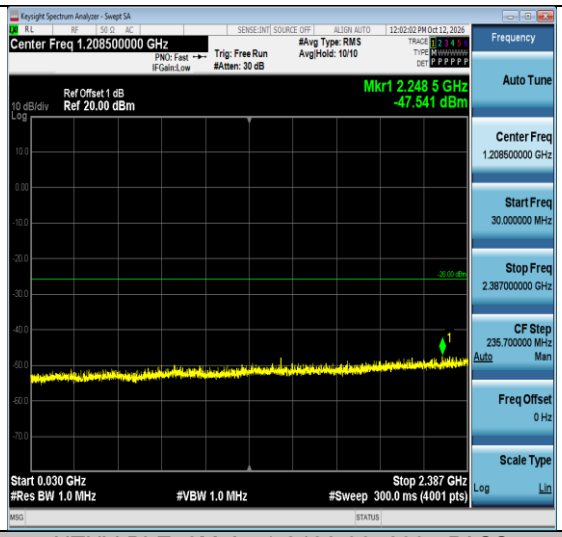


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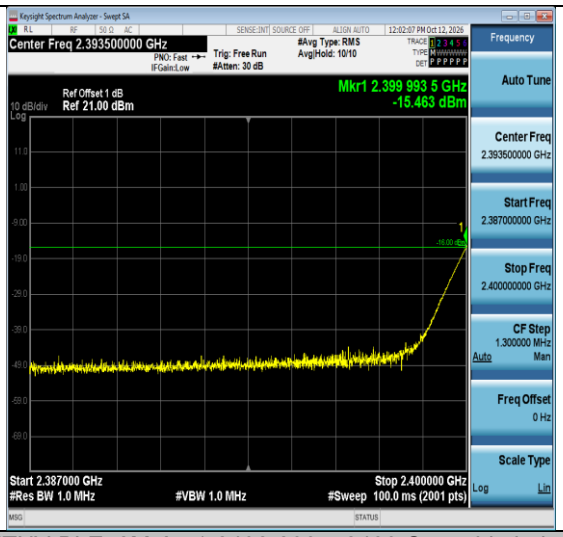


NTNV-BLE_1M-Ant1-2480-2496.5~13000-PASS

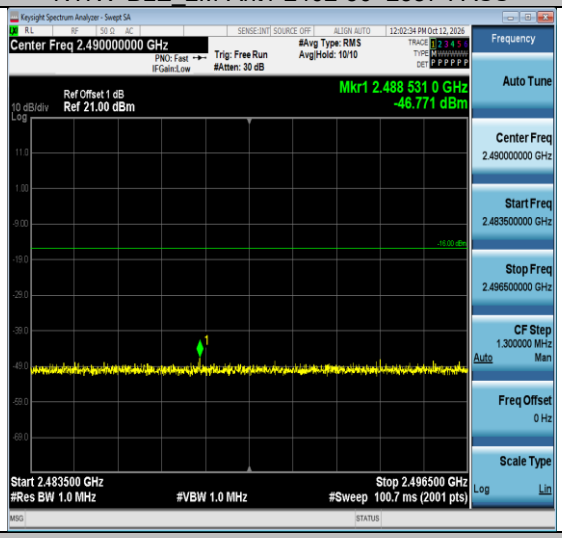
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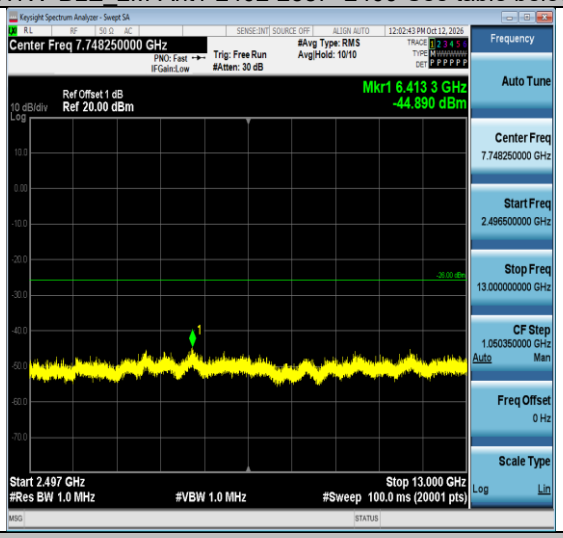
NTNV-BLE_2M-Ant1-2402-30~2387-PASS



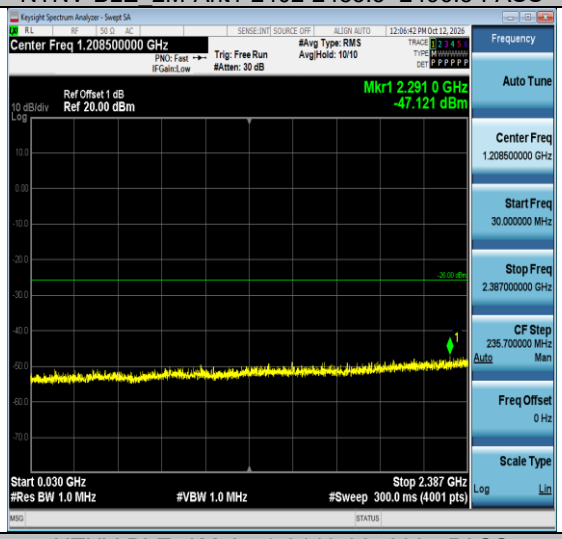
NTNV-BLE_2M-Ant1-2402-2387~2400-See table below



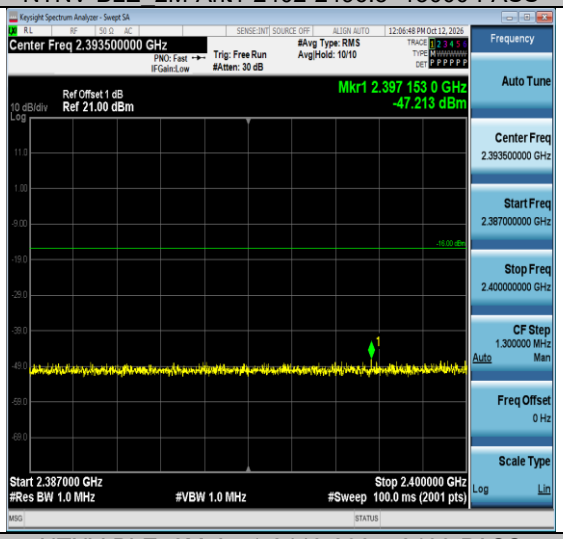
NTNV-BLE_2M-Ant1-2402-2483.5~2496.5-PASS



NTNV-BLE_2M-Ant1-2402-2496.5~13000-PASS

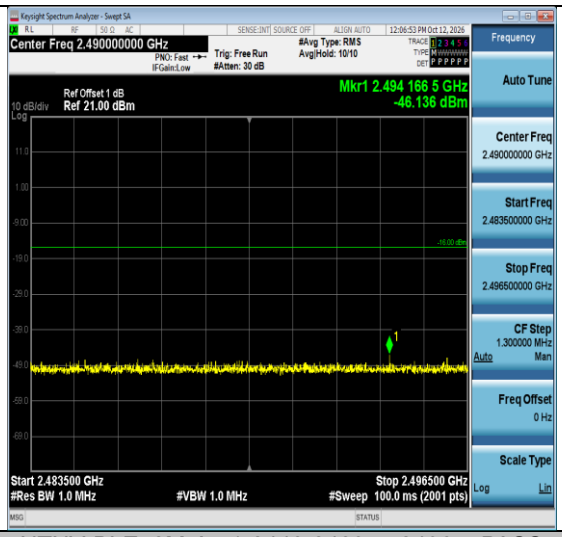


NTNV-BLE_2M-Ant1-2440-30~2387-PASS

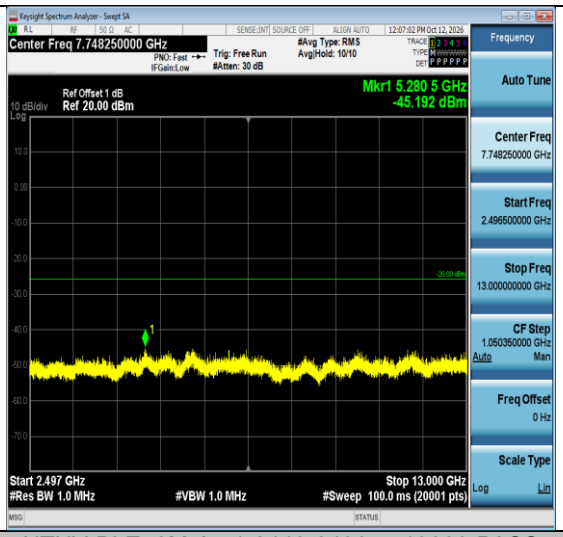


NTNV-BLE_2M-Ant1-2440-2387~2400-PASS

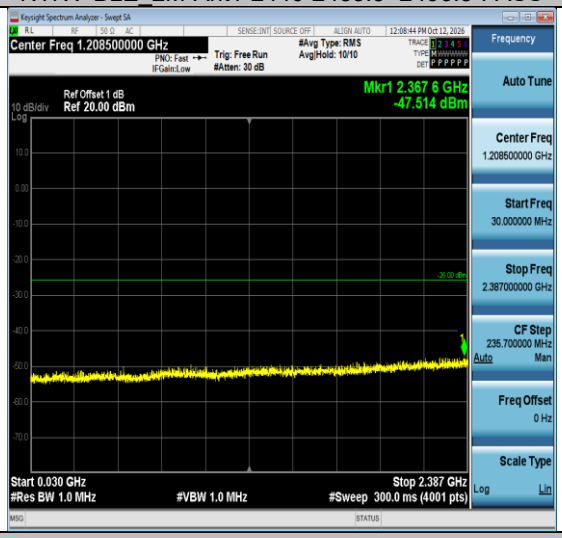
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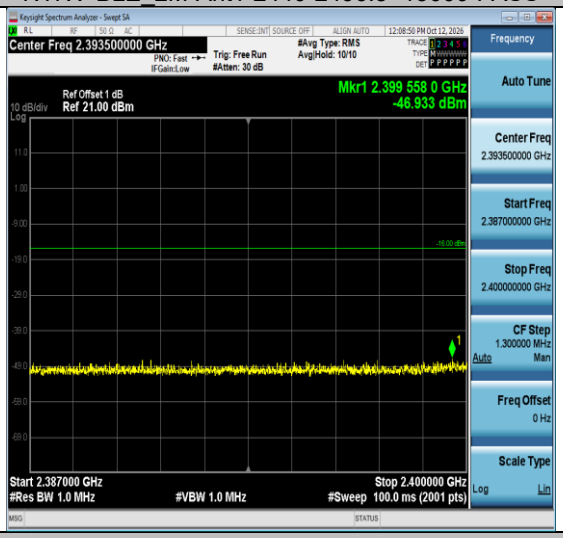
NTNV-BLE_2M-Ant1-2440-2483.5~2496.5-PASS



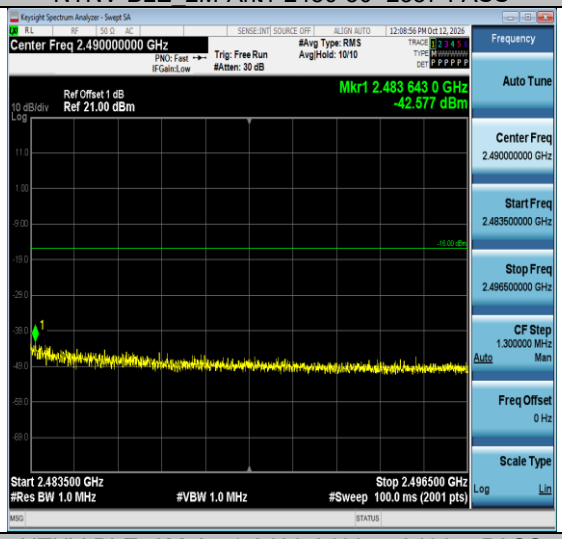
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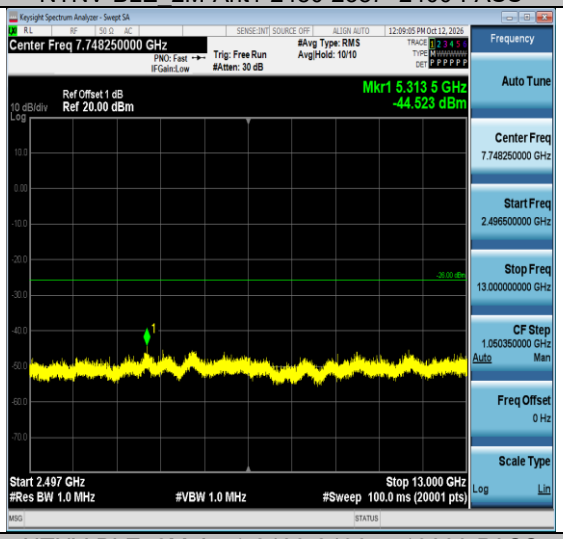
NTNV-BLE_2M-Ant1-2480-30~2387-PASS



NTNV-BLE_2M-Ant1-2480-2387~2400-PASS



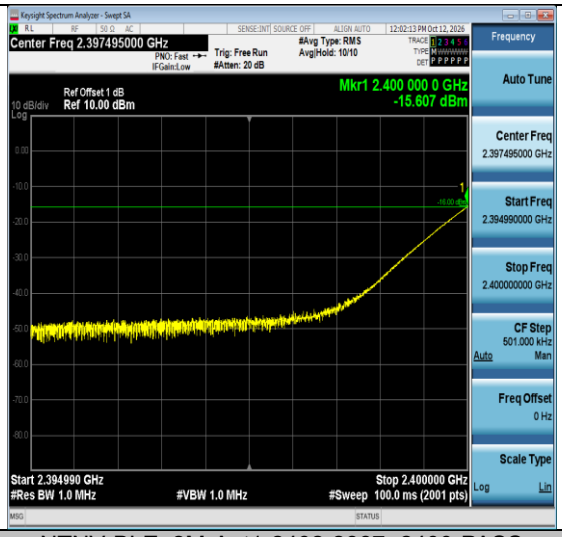
NTNV-BLE_2M-Ant1-2480-2483.5~2496.5-PASS



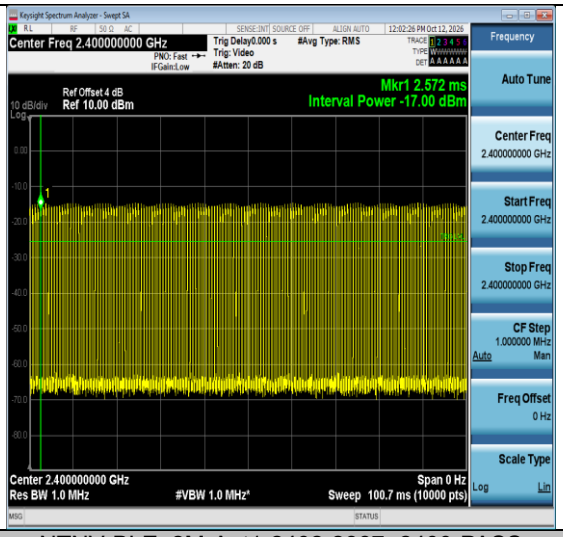
NTNV-BLE_2M-Ant1-2480-2496.5~13000-PASS

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Test Graphs_Step2



NTNV-BLE_2M-Ant1-2402-2387~2400-PASS



NTNV-BLE_2M-Ant1-2402-2387~2400-PASS

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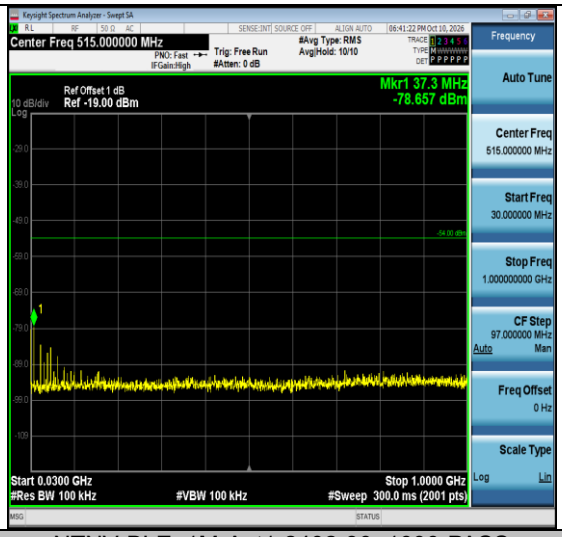
Spurious Emission of RX

Test Result

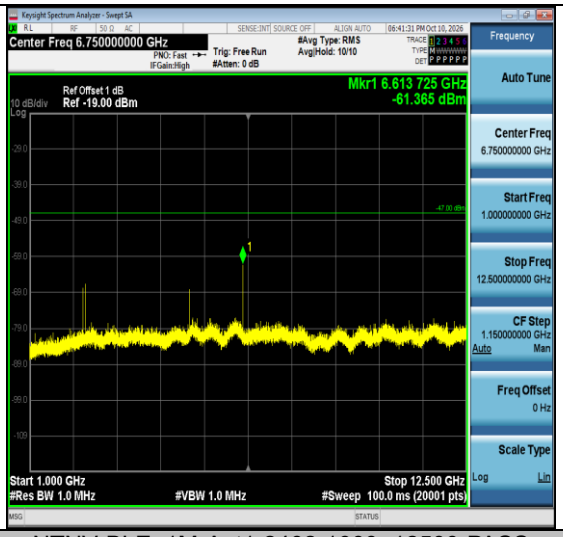
TestCondition	TestMode	Antenna	Freq(MHz)	Freq.Range [MHz]	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	37.28	-78.66	≤-54	0.01361	≤4	PASS
NTNV	BLE_1M	Ant1	2402	1000~12500	6613.73	-61.37	≤-47	0.72946	≤20	PASS
NTNV	BLE_1M	Ant1	2440	30~1000	37.28	-78.63	≤-54	0.01371	≤4	PASS
NTNV	BLE_1M	Ant1	2440	1000~12500	6613.15	-61.40	≤-47	0.72444	≤20	PASS
NTNV	BLE_1M	Ant1	2480	30~1000	30.00	-78.90	≤-54	0.01288	≤4	PASS
NTNV	BLE_1M	Ant1	2480	1000~12500	2446.13	-58.55	≤-47	1.39637	≤20	PASS
NTNV	BLE_2M	Ant1	2402	30~1000	37.28	-78.89	≤-54	0.01291	≤4	PASS
NTNV	BLE_2M	Ant1	2402	1000~12500	6613.15	-61.44	≤-47	0.71779	≤20	PASS
NTNV	BLE_2M	Ant1	2440	30~1000	37.28	-78.56	≤-54	0.01393	≤4	PASS
NTNV	BLE_2M	Ant1	2440	1000~12500	6613.73	-61.37	≤-47	0.72946	≤20	PASS
NTNV	BLE_2M	Ant1	2480	30~1000	37.28	-78.71	≤-54	0.01346	≤4	PASS
NTNV	BLE_2M	Ant1	2480	1000~12500	2419.10	-61.20	≤-47	0.75858	≤20	PASS

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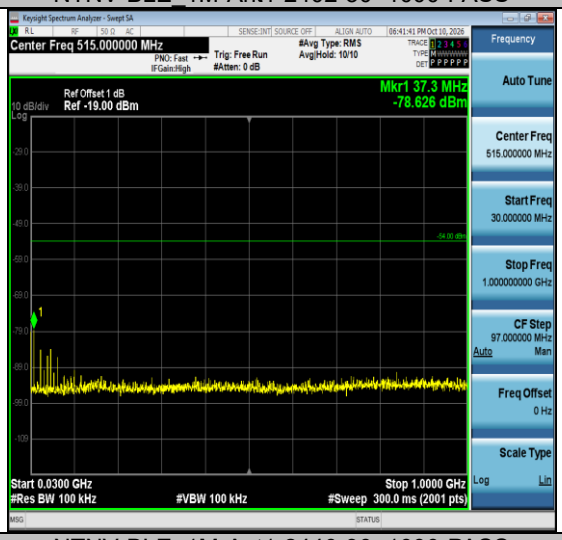
Test Graphs



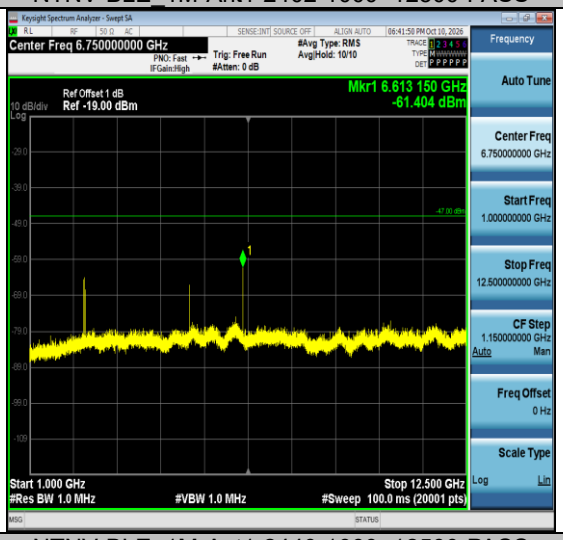
NTNV-BLE_1M-Ant1-2402-30~1000-PASS



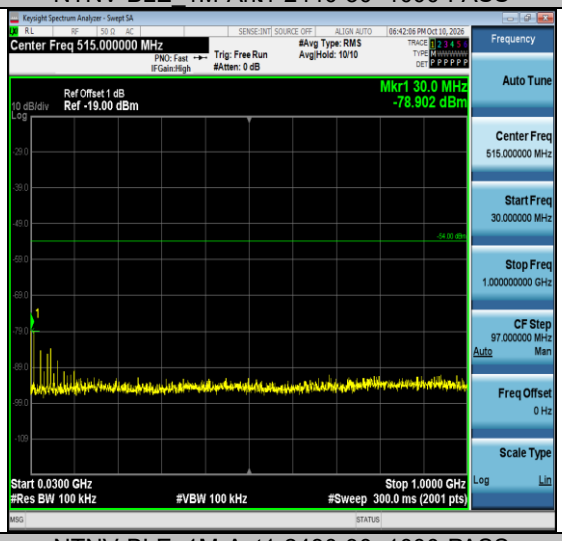
NTNV-BLE_1M-Ant1-2402-1000~12500-PASS



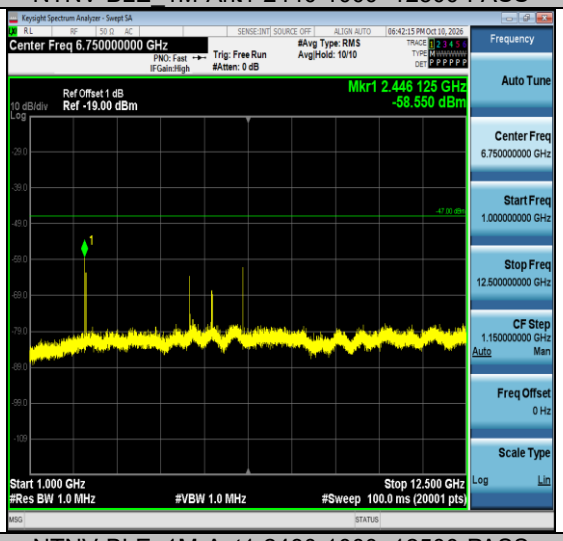
NTNV-BLE_1M-Ant1-2440-30~1000-PASS



NTNV-BLE_1M-Ant1-2440-1000~12500-PASS

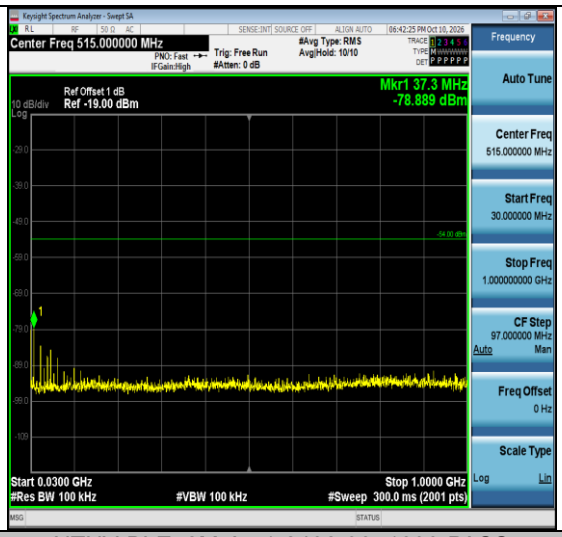


NTNV-BLE_1M-Ant1-2480-30~1000-PASS

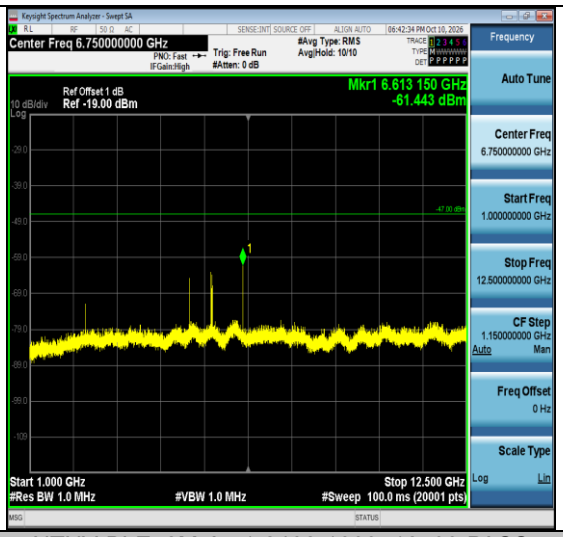


NTNV-BLE_1M-Ant1-2480-1000~12500-PASS

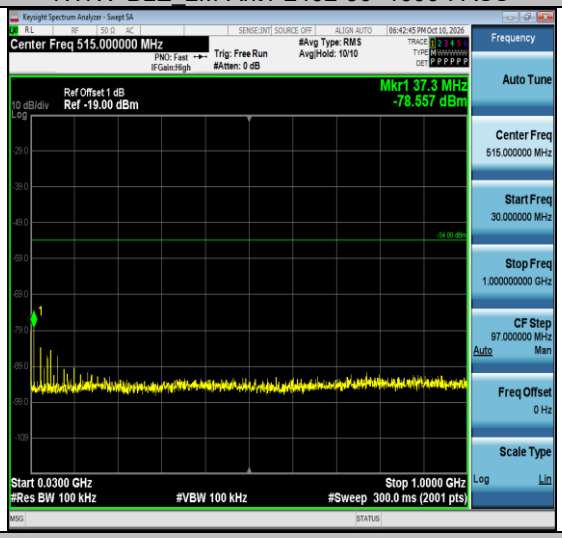
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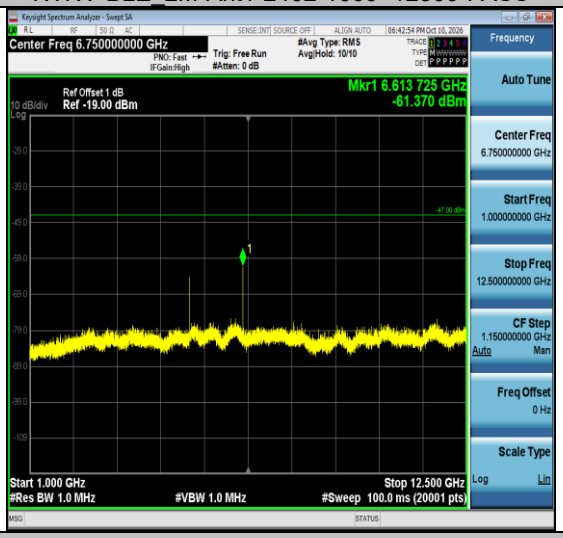
NTNV-BLE_2M-Ant1-2402-30~1000-PASS



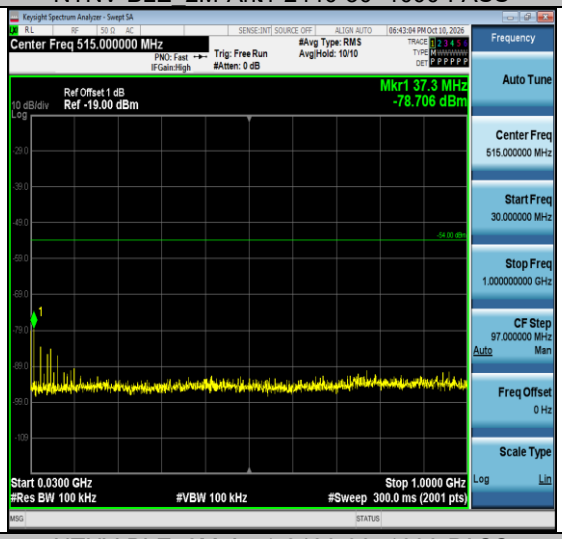
NTNV-BLE_2M-Ant1-2402-1000~12500-PASS



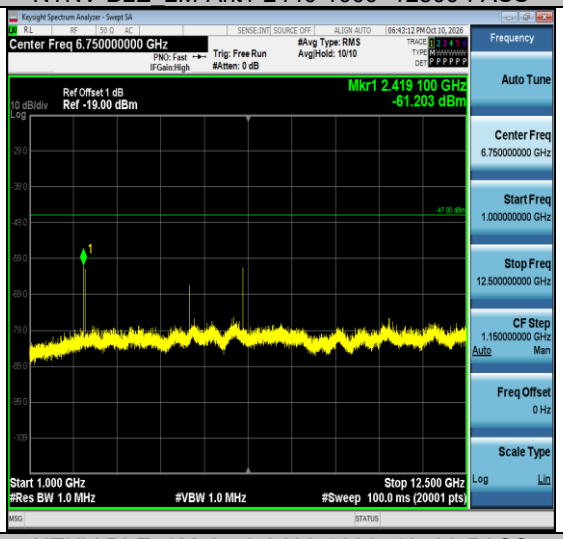
NTNV-BLE_2M-Ant1-2440-30~1000-PASS



NTNV-BLE_2M-Ant1-2440-1000~12500-PASS



NTNV-BLE_2M-Ant1-2480-30~1000-PASS



NTNV-BLE_2M-Ant1-2480-1000~12500-PASS

~The End~

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