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**Project #: PRJ0066904**

**Company: Pressure Systems International**

**EUT Model number: PSI ECB1  
EUT Model: ECB1**

**FCC and ISED Canada**

**Wireless Test Report**

Prepared for:

Pressure Systems International  
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San Antonio, TX 78219

By

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January 12, 2026

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Written by

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Lab Manager



## Revision History

| Revision Number | Description                 | Date      |
|-----------------|-----------------------------|-----------|
| Draft01         | Initial release for review  | 12/2/2024 |
| Final01         | Corrected conducted data    | 6/3/2025  |
| Final02         | Added ISED information      | 7/9/2025  |
| Final03         | Updated standard references | 1/12/2026 |
| Final04         | Updated antenna gain        | 3/2/2026  |

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### NOTICE:

(1) This Report must not be used to claim product endorsement, by ANAB, ilac-MRA, NIST, the FCC or any other Agency. This report also does not warrant certification by ANAB or NIST.

(2) This report shall not be reproduced except in full, without the written approval of Nemko USA, Inc.

(3) The significance of this report is dependent on the representative character of the test sample submitted for evaluation and the results apply only in reference to the sample tested. The manufacturer must continuously implement the changes shown herein to attain and maintain the required degree of compliance.

## Compliance Certificate

**FCC MRA Designation Number: US3166**  
**ANAB Accreditation Number: AT-3165.01**

| Applicant                                                                      | Device & Test Identification                                                                                                    |
|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Pressure Systems International<br>4323 Interstate Way<br>San Antonio, TX 78219 | <b>Model(s):</b> PSI ECB1<br><b>FCC ID:</b> 2BNGJECB1<br><b>ISED:</b> 34232-PSIECB1<br><b>Laboratory Project ID:</b> PRJ0066904 |

The device named above was tested utilizing the following standards and found to be in compliance with the required criteria:

### Test Requirements:

| Requirement          | Reference | Test Description                           |
|----------------------|-----------|--------------------------------------------|
| FCC 47 CFR Part 15 C | 15.247    | Operation within the bands 2400-2483.5 MHz |
|                      | 15.203    | Antenna requirement                        |

\*MPE is reported separately from this document.

\*\*Corresponding RSS references are listed in the body of the report.

I, Larry Finn, for Nemko USA, Inc., being familiar with the above requirements and test procedures have reviewed the test setup, measured data, and this report. I believe them to be true and accurate.



Larry Finn  
Lab Manager



This report has been reviewed and accepted by the Applicant.«Company» The undersigned is responsible for ensuring that«Company» this device will continue to comply with the requirements listed above.

\_\_\_\_\_  
Representative of Applicant

**Test Result Summary**

| <b>Test</b>                                 | <b>FCC Part 15<br/>Rule Paragraphs</b> | <b>IC RSS References</b>            | <b>Test<br/>Results</b> |
|---------------------------------------------|----------------------------------------|-------------------------------------|-------------------------|
| Fundamental Power                           | 15.247 (b)(3)                          | RSS-247 5.4 (d)                     | Pass                    |
| Power Spectral Density                      | 15.247 (e)                             | RSS-247 5.2 (b)                     | Pass                    |
| Occupied Bandwidth                          | 15.247 (a)(2), 2.1049                  | RSS-247 5.2 (a)                     | Pass                    |
| Band Edge                                   | 15.247 (d);<br>15.205 (a)              | RSS-247 5.5;                        | Pass                    |
| Transmitter Conducted Spurious<br>Emissions | 15.247 (d);<br>15.209 (a)              | RSS-247 5.5;<br>RSS-GEN 6.13        | Pass                    |
| Transmitter Radiated Spurious<br>Emissions  | 15.247 (d);<br>15.209 (a)              | RSS-247 5.5;<br>RSS-Gen 6.13 & 8.10 | Pass                    |
| Receiver Radiated Spurious<br>Emissions     | 15.109                                 | RSS-Gen 7.3                         | Pass                    |

## 1.0 Introduction

### 1.1 Scope

This report describes the extent to which the equipment under test (EUT) conformed to the intentional radiator requirements of the United States and Canada.

Nemko USA, Inc., follows the guidelines of National Institute of Standards and Technology (NIST) for all uncertainty calculations, estimates, and expressions thereof for electromagnetic compatibility testing.

### 1.2 EUT Description

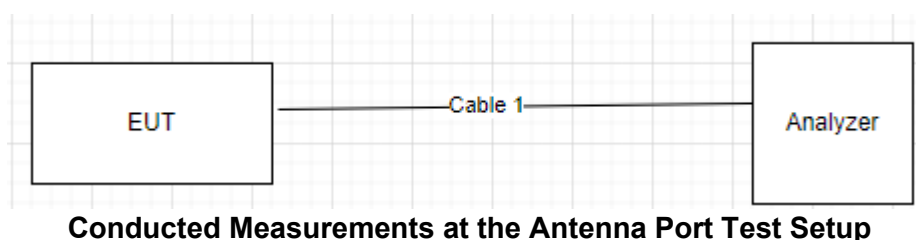
| Equipment Under Test     |                                                                                                                                  |                  |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>EUT Model number:</b> | <b>PSI ECB1</b>                                                                                                                  |                  |
| <b>Model:</b>            | <b>ECB1</b>                                                                                                                      |                  |
| <b>Serial Number:</b>    | <b>08:6B:D7:D9:9F:D0</b>                                                                                                         |                  |
| <b>Description:</b>      | <b>Operating Frequency</b>                                                                                                       | 2.402 – 2.480GHz |
|                          | <b>Modulation Type</b>                                                                                                           | GFSK for BLE     |
|                          | <b>Channel Bandwidth</b>                                                                                                         | 2 MHz            |
| <b>Input Power:</b>      | +20 dBm BLE                                                                                                                      |                  |
| <b>Antenna:</b>          | Part Number: CON-3758<br>Wire type antenna, directly soldered to PCB (not removable or replaceable).<br>Maximum gain: -2.19 dBi. |                  |

### 1.3 EUT Test Configuration

The EUT was configured to transmit ramped packets.

### 1.4 Test Setup

Below are the examples test setup for Conducted and Radiated measurements.



Note: 20dB attenuator factor include with cable loss.

### 1.5 Test Site

Measurements were made at the Nemko USA, Inc. semi-anechoic facility (FCC US3166, IC 3036B-1) in Round Rock, Texas. The site is registered with the FCC under Section 2.948 and Industry Canada per RSS-GEN and is subsequently confirmed by laboratory accreditation (ANAB). The test site is located at 1601 North A.W. Grimes Boulevard, Suite B, Round Rock, Texas, 78665. CAB Identifier: US 0123.

## 1.6 Measurement Corrections

| Parameter                      | From Sums Of                                                        |
|--------------------------------|---------------------------------------------------------------------|
| <b>Radiated Field Strength</b> | Raw Measured Level + Antenna Factor + Cable Losses – Amplifier Gain |
| <b>Conducted Antenna Port</b>  | Raw Measured Level + Attenuator Factor + Cable Losses               |
| <b>Conducted Mains Port</b>    | Raw Measured Level + LISN Factor + Cable/Filter/Limiter Losses      |

Additionally, measurement distance extrapolation factors (such as  $1/d$  above 30 MHz) are applied and documented where used.

## 1.7 Applicable Documents

**Table 1.7.1: Applicable Documents**

| Document                                                        | Title                                                                                                                                                                                    |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 47 CFR                                                          | Part 15 – Radio Frequency Devices<br>Subpart C -Intentional Radiators                                                                                                                    |
| RSS-247 Issue 4                                                 | Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices                                                             |
| RSS-102 Issue 6                                                 | Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)                                                                                           |
| RSS-Gen Issue 5                                                 | General Requirements and Information for the Certification of Radio Apparatus                                                                                                            |
| ANSI C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024 | American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices                                                                                           |
| KDB 558074 D01                                                  | GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES |
| KDB 412172 D01                                                  | GUIDELINES FOR DETERMINING THE EFFECTIVE RADIATED POWER (ERP) AND EQUIVALENT ISOTROPICALLY RADIATED POWER (EIRP) OF AN RF TRANSMITTING SYSTEM                                            |
| KDB 447498 D01                                                  | RF EXPOSURE PROCEDURES AND EQUIPMENT AUTHORIZATION POLICIES FOR MOBILE AND PORTABLE DEVICES                                                                                              |
| OET Bulletin 65<br>Edition 97-01                                | Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields                                                                                    |

## 2.0 Band Edge

### 2.1 Test Procedure

EUT is placed into normal transmit operation on the nearest band edge channel. The spectrum analyzer is approximately centered on the band edge frequency with span sufficient to include the peak of the adjacent fundamental signal. Measurement includes at least two standard bandwidths from the respective band edge. If required, the band-edge marker-delta method is utilized. The radio was connected directly to the spectrum analyzer for measurement.

### 2.2 Test Criteria

| 47 CFR (USA) // IC (Canada)                            |                                       |
|--------------------------------------------------------|---------------------------------------|
| Section Reference                                      | Unwanted Emissions                    |
| 15.247 (d), 15.205 (a) //<br>RSS-247 5.5, RSS-Gen 6.13 | Emissions Adjacent to Authorized Band |

### 2.3 Test Results

Measurements included fundamental and more than 2 standard bandwidths (standard bandwidth 1 MHz) beyond the band edges to provide a clear view of the fundamental and the declining emission levels. Beyond this point, the general emission limits are applied in the radiated emission tests reported elsewhere in the report.

This is a conducted measurement with limits derived from the general emission field strength limits. The far field path loss equation is utilized to convert the field strength limits to EIRP limits in dBm as follows:

$$\text{Given EIRP} = E_{\text{dB}\mu\text{V/m}} + 20\text{Log}_{10}(d) - 104.8$$

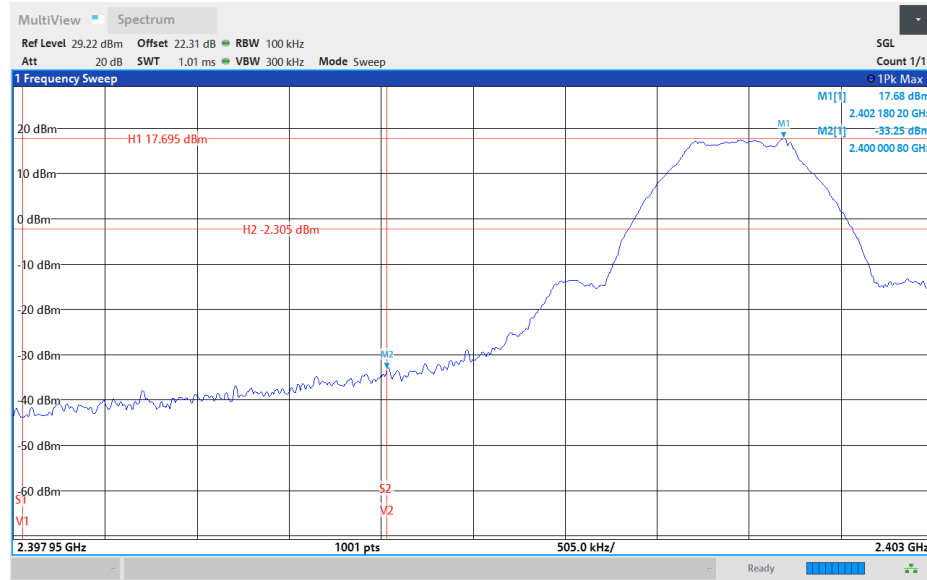
$$\text{EIRP} = 54 \text{ dB}\mu\text{V/m} + 20\text{Log}_{10}(3 \text{ m}) - 104.8 \text{ dB} = -41.23 \text{ dBm}$$

The requirement was satisfied. Test plots and tabular data are presented on the following page.

## Channel 1 (Lower) Band-edge

|                           |  |                     |  |         |  |          |  |         |  |                      |  |             |  |
|---------------------------|--|---------------------|--|---------|--|----------|--|---------|--|----------------------|--|-------------|--|
| Environmental Conditions: |  | Temperature         |  | 22.4 °C |  | Humidity |  | 45% RH  |  | Barometric Pressure  |  | 29.98 in Hg |  |
| Test Port:                |  | Antenna (Conducted) |  |         |  |          |  |         |  |                      |  |             |  |
| Measurement Parameters:   |  | RBW                 |  | 0.1 MHz |  | VBW      |  | 0.3 MHz |  | Measurement Detector |  | Peak        |  |

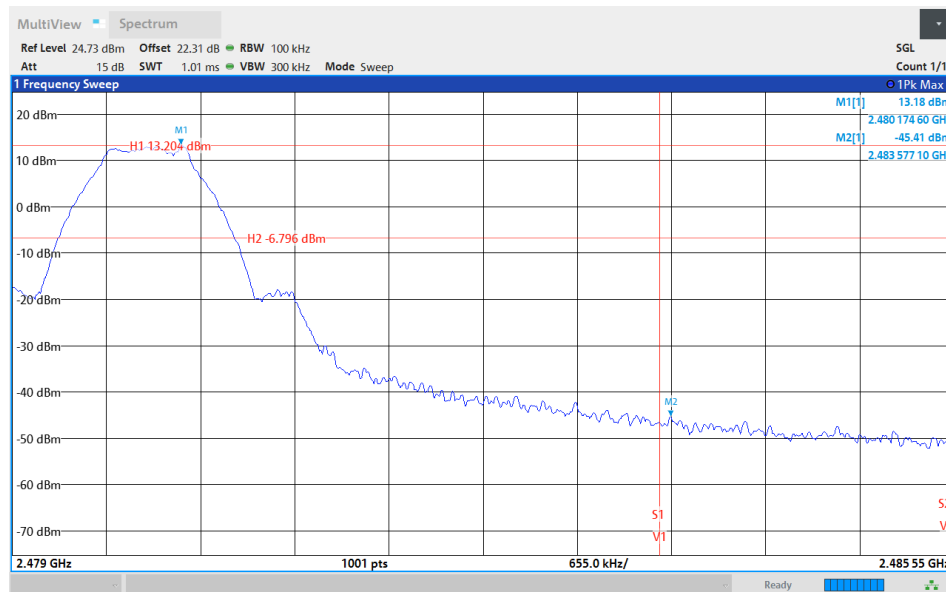
Authorized band edge, TX: 2402 MHz, BW: 2MHz, MOD: GMSK



## Channel 39 (Upper) Band-edge

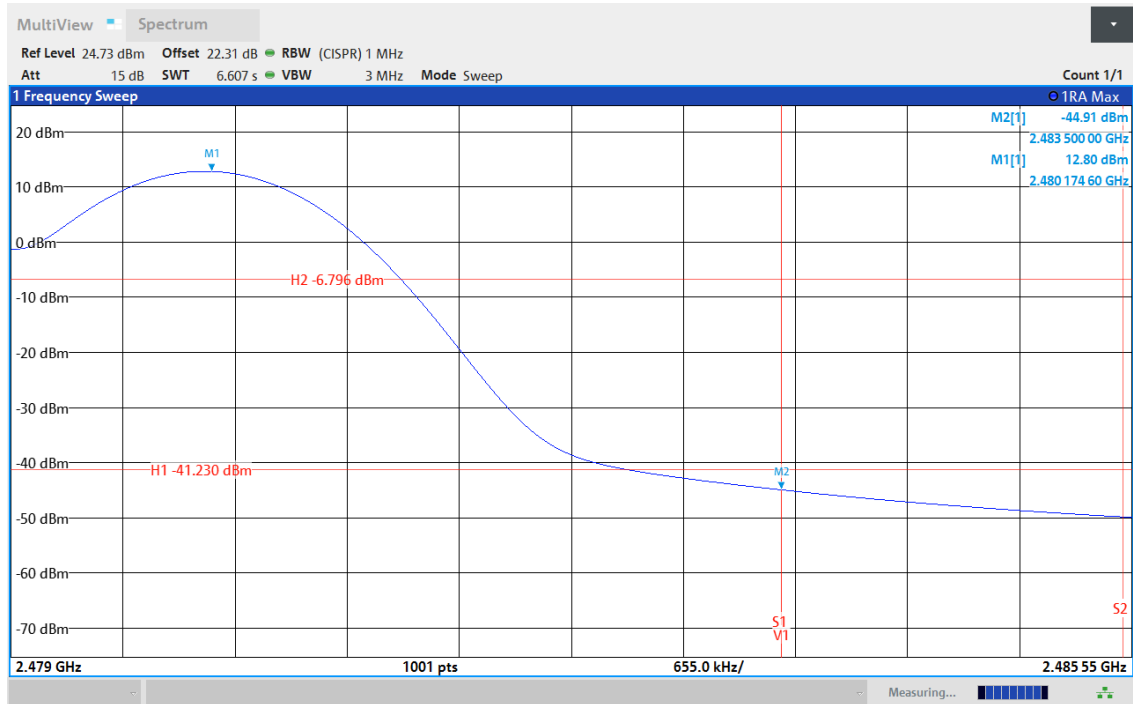
|                                |            |            |            |            |            |            |                             |             |
|--------------------------------|------------|------------|------------|------------|------------|------------|-----------------------------|-------------|
| <b>Measurement Parameters:</b> | <b>RBW</b> | <b>0.1</b> | <b>MHz</b> | <b>VBW</b> | <b>0.3</b> | <b>MHz</b> | <b>Measurement Detector</b> | <b>Peak</b> |
|--------------------------------|------------|------------|------------|------------|------------|------------|-----------------------------|-------------|

Authorized band edge, TX: 2480 MHz, BW: 2MHz, MOD: GMSK



## Channel 39 (Upper) Band-edge

|                         |     |   |     |     |   |     |                      |     |
|-------------------------|-----|---|-----|-----|---|-----|----------------------|-----|
| Measurement Parameters: | RBW | 1 | MHz | VBW | 3 | MHz | Measurement Detector | Avg |
|-------------------------|-----|---|-----|-----|---|-----|----------------------|-----|



### 3.0 Occupied Bandwidth

#### 3.1 Test Procedure

The radio was connected directly to the spectrum analyzer for the measurements. Low, mid, and high channels were measured. ANSI C63.10, section 6.9.2 and 6.9.3, procedure is used for the measurements

#### 3.2 Test Criteria

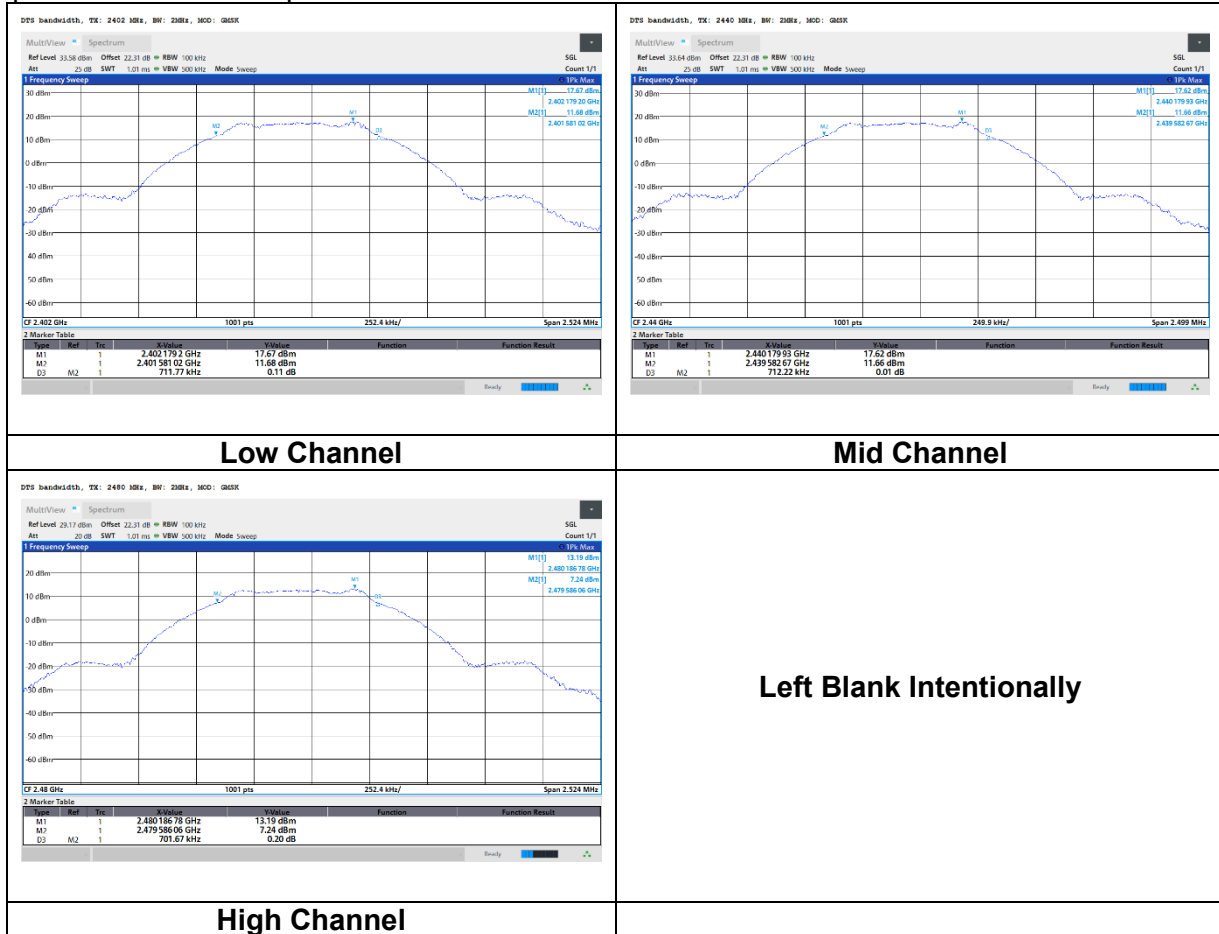
| 47 CFR (USA)                           |                                                              |
|----------------------------------------|--------------------------------------------------------------|
| Section Reference                      | Limit                                                        |
| 15.247(a)(2), 2.1049 // RSS-247 5.2(a) | Minimum 6 dB Bandwidth shall be 500 kHz<br>99% (all methods) |

In cases where the software function fails to find/mark the correct edge of the modulated envelope, a manual measurement (marker-delta over display line) is taken with the same spectrum analyzer settings.

### 3.3 Test Results – 6dB DTS Bandwidth

| Occupied Bandwidth - Conducted Test Data |            |                    |     |         |               |                                                        |                     |          |             |  |  |
|------------------------------------------|------------|--------------------|-----|---------|---------------|--------------------------------------------------------|---------------------|----------|-------------|--|--|
| Project Number:                          | PRJ0066904 |                    |     |         | Test Date(s): |                                                        | 5/29/2025           |          |             |  |  |
| Environmental Conditions:                | Temp.      | 22.4 °C            |     |         | Humidity      | 45 %RH                                                 | Barometric Pressure |          | 29.98 in Hg |  |  |
| Measurement Parameters:                  | RBW        | 100 kHz            | VBW | 500 kHz |               | Span                                                   | 2.5 MHz             | Detector | Peak        |  |  |
|                                          |            |                    |     |         |               |                                                        |                     |          |             |  |  |
| Measurement Bandwidth:                   |            | 6 dB               |     |         |               |                                                        |                     |          |             |  |  |
| Channel                                  | Freq.      | Measured Bandwidth |     |         |               | Reported Minimum Bandwidth                             |                     |          |             |  |  |
|                                          | (MHz)      | (kHz)              |     |         |               | (kHz)                                                  |                     |          |             |  |  |
| 1                                        | 2402       | 712                |     |         |               | The EUT meets the required minimum bandwidth of 500kHz |                     |          |             |  |  |
| 19                                       | 2440       | 712                |     |         |               |                                                        |                     |          |             |  |  |
| 20                                       | 2480       | 702                |     |         |               |                                                        |                     |          |             |  |  |

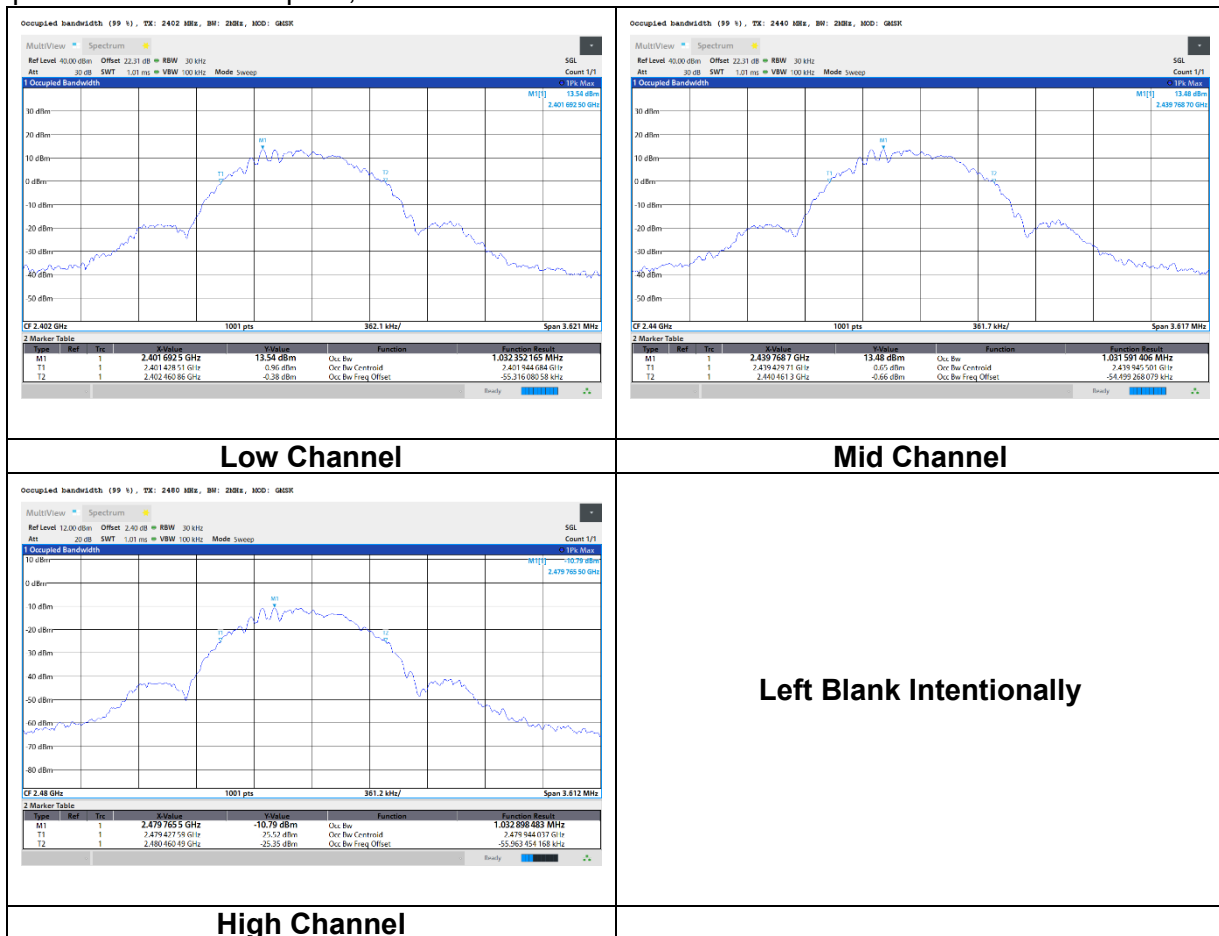
Occupied Bandwidth data plots, Recorded: 6 dB



## 3.4 Test Results – 99% Bandwidth

| Occupied Bandwidth - Conducted Test Data |             |                    |      |     |               |                            |           |                     |     |          |       |
|------------------------------------------|-------------|--------------------|------|-----|---------------|----------------------------|-----------|---------------------|-----|----------|-------|
| Project Number:                          | PRJ0066904  |                    |      |     | Test Date(s): |                            | 5/29/2025 |                     |     |          |       |
| Environmental Conditions:                | Temperature |                    | 22.4 | °C  | Humidity      | 45                         | RH        | Barometric Pressure |     | 29.98    | in Hg |
| Measurement Parameters:                  | RBW         | 30                 | kHz  | VBW | 100           | kHz                        | Span      | 3.6                 | MHz | Detector | Peak  |
|                                          |             |                    |      |     |               |                            |           |                     |     |          |       |
| Measurement Bandwidth:                   |             |                    | 99   | %   |               |                            |           |                     |     |          |       |
| Channel                                  | Frequency   | Measured Bandwidth |      |     |               | Reported Maximum Bandwidth |           |                     |     |          |       |
|                                          | (MHz)       | (MHz)              |      |     |               | (MHz)                      |           |                     |     |          |       |
| 1                                        | 2402        | 1.032              |      |     |               | 1.033                      |           |                     |     |          |       |
| 19                                       | 2440        | 1.032              |      |     |               |                            |           |                     |     |          |       |
| 39                                       | 2480        | 1.033              |      |     |               |                            |           |                     |     |          |       |

Occupied Bandwidth data plots, Recorded: 6 dB



## 4.0 Output Power

### 4.1 Test Procedure

The EUT was connected directly to the spectrum analyzer for the measurements. Low, mid, and high channels were measured. ANSI C63.10, section 11.9.1, procedure is used for the measurements.

### 4.2 Test Criteria

| 47 CFR (USA)                    |                                                                   |
|---------------------------------|-------------------------------------------------------------------|
| Section Reference               | Power Limit                                                       |
| 15.247(b)(3) // RSS-247 5.4 (d) | 1 W peak (+30dBm)<br>Limit Restated as Field: 125.23 dBμV/m @ 3 m |

### 4.3 Test Results

The requirements were satisfied.

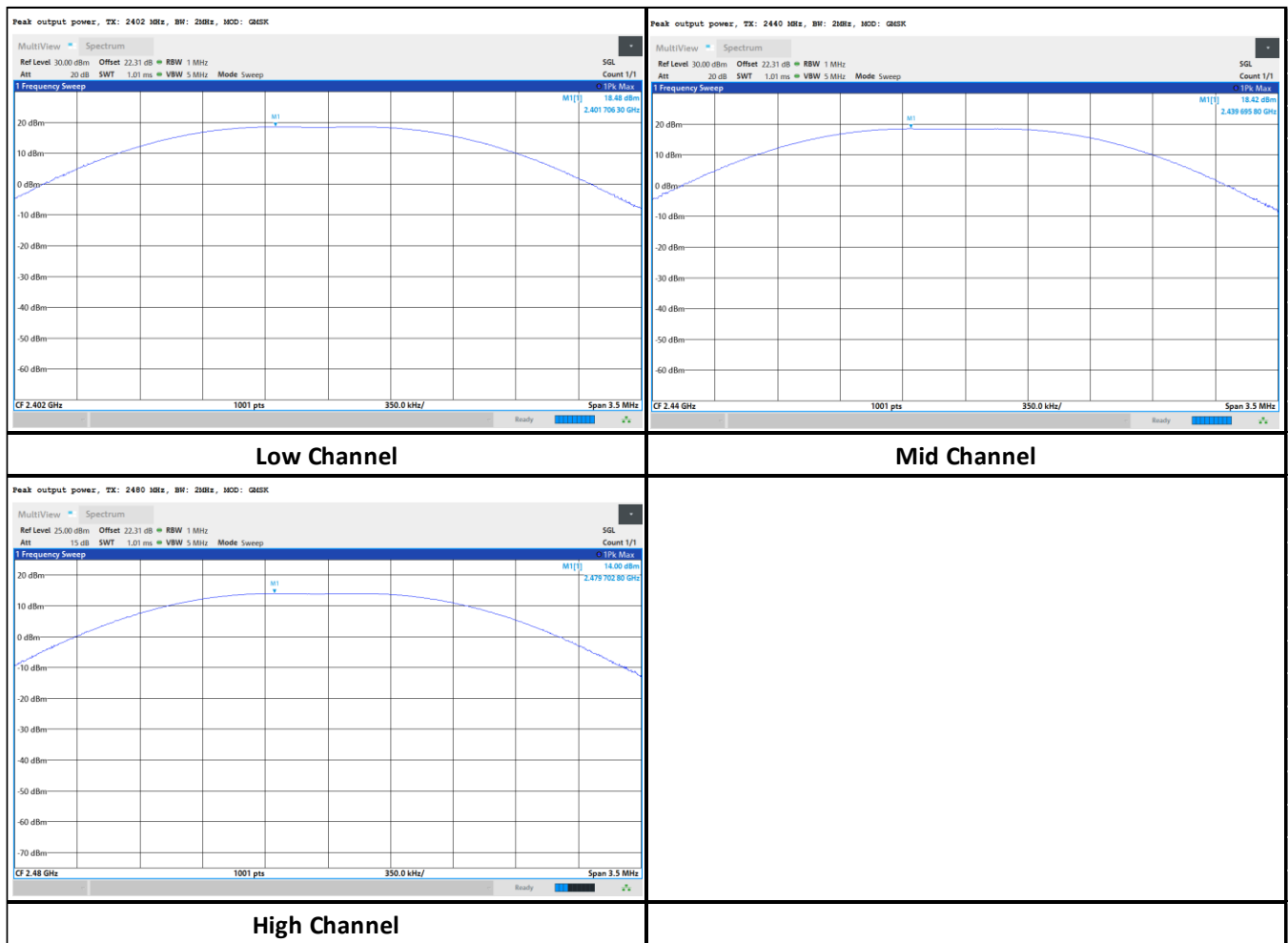
| Peak Output Power - Conducted Test Data |           |                |  |            |     |                 |  |           |     |                     |  |       |             |          |      |
|-----------------------------------------|-----------|----------------|--|------------|-----|-----------------|--|-----------|-----|---------------------|--|-------|-------------|----------|------|
| Project Number:                         |           | PRJ0066904     |  |            |     | Test Date(s):   |  | 5/29/2025 |     |                     |  |       |             |          |      |
| Environmental Conditions:               |           | Temperature    |  | 22.4       | °C  | Humidity        |  | 45        | %RH | Barometric Pressure |  | 29.98 | in Hg       |          |      |
| EUT (6 or 20 dB) Bandwidth:             |           | 0.702          |  | MHz        |     |                 |  |           |     |                     |  |       |             |          |      |
| Measurement Parameters:                 |           | RBW            |  | 1          | MHz | VBW             |  | 5         | MHz | Span                |  | 3.5   | MHz         | Detector | Peak |
| Channel                                 | Frequency | Measured Power |  | Cable Loss |     | Corrected Power |  |           |     | Limit               |  |       | Test Result |          |      |
|                                         | (MHz)     | (dBm)          |  | (dB)       |     | (dBm)           |  |           |     | (dBm)               |  |       |             |          |      |
| 1                                       | 2402      | 18.48          |  | 0          |     | 18.48           |  |           |     | 30                  |  |       | Pass        |          |      |
| 19                                      | 2440      | 18.42          |  | 0          |     | 18.42           |  |           |     | 30                  |  |       | Pass        |          |      |
| 39                                      | 2480      | 14             |  | 0          |     | 14              |  |           |     | 30                  |  |       | Pass        |          |      |

Note: Cable loss and attenuator factor applied to spectrum analyzer for correction.

EIRP Maximum = Maximum conducted output power + Maximum antenna gain

EIRP Maximum = 18.48 dBm – 2.19 dBi = 16.29 dBm = 42.6 mW, which is below the 4 W maximum required by RSS-247 5.4(d). The EUT meets the requirements.

Peak output power results:



## 5.0 Conducted Spurious Emissions

### 5.1 Test Procedure

The radio was connected via cable to the spectrum analyzer for the measurements. Conducted antenna port emissions are measured with the EUT transmitting on Low, Mid, and High channels. ANSI C63.10, section 11.12.2, procedure is used for the measurements.

### 5.2 Test Criteria

| 47 CFR (USA)                                           |                                                                     |
|--------------------------------------------------------|---------------------------------------------------------------------|
| Section Reference                                      | Power Limit                                                         |
| 15.247 (d), 15.209 (a) //<br>RSS-247 5.5, RSS-Gen 6.13 | Antenna Port Conducted Spurious/Harmonic Emissions<br>Transmit Mode |

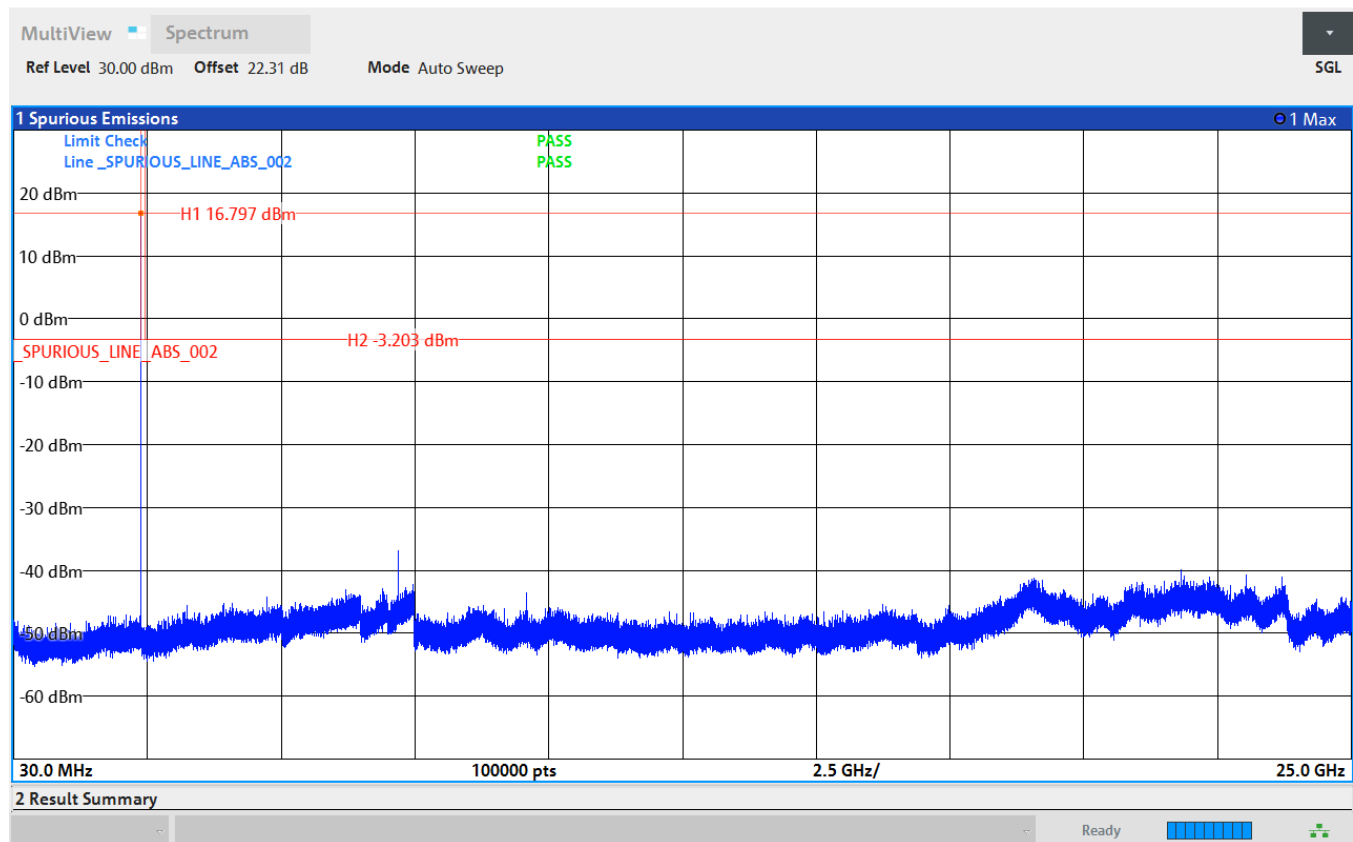
### 5.3 Test Results

| Conducted Spurious Emissions |              |                    |      |     |               |     |           |                      |             |
|------------------------------|--------------|--------------------|------|-----|---------------|-----|-----------|----------------------|-------------|
| Project Number:              |              | PRJ0066904         |      |     | Test Date(s): |     | 5/29/2025 |                      |             |
| Environmental Conditions:    |              | Temperature        | 22.4 | °C  | Humidity      | 45  | %RH       | Barometric Pressure  | 29.98 in Hg |
| EUT Test Channel:            |              | Low, Mid, and High |      |     | Test Result:  |     |           | Pass                 |             |
| Measurement Parameters:      | Below 1 GHz: | RBW                | 0.1  | MHz | VBW           | 0.3 | MHz       | Measurement Detector | Peak        |
|                              | Above 1GHz:  | RBW                | 0.1  | MHz | VBW           | 0.3 | MHz       | Measurement Detector | Peak        |

Limit is -20dBc; the requirements were satisfied. Spectral data below.

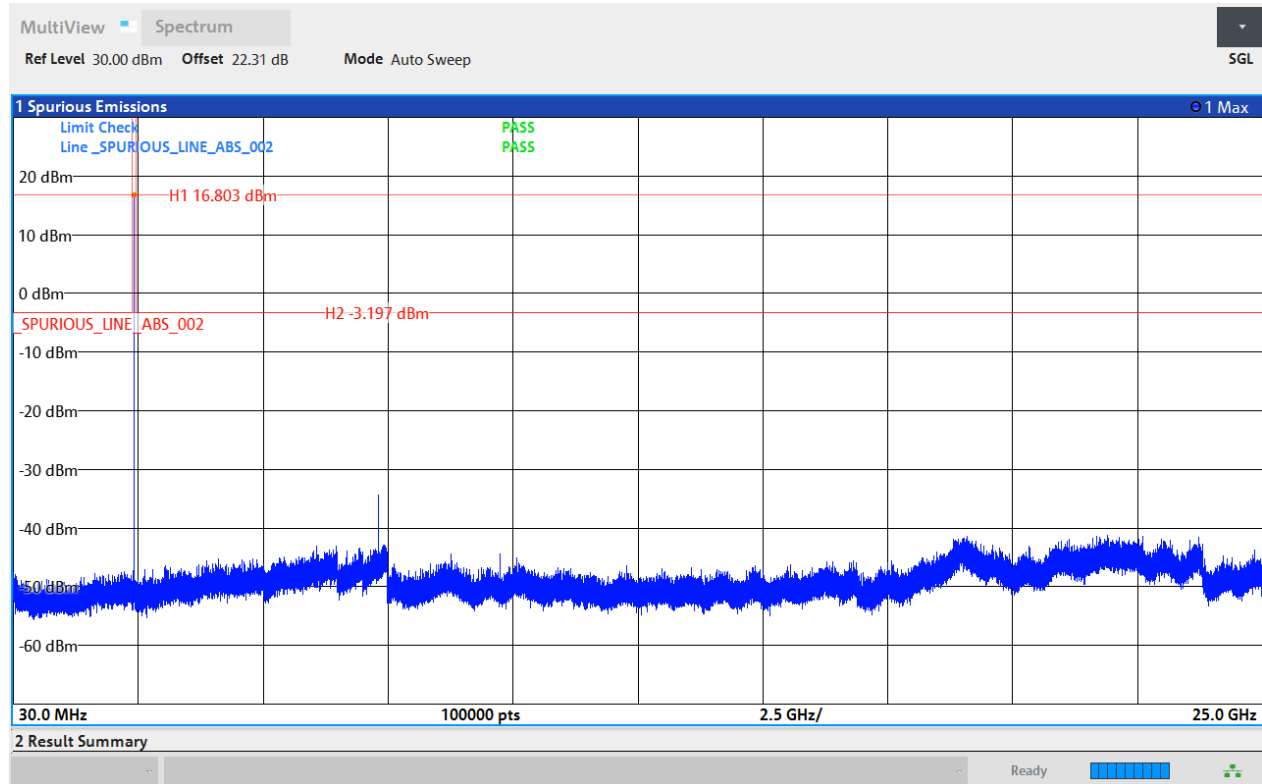
Bottom Channel (1):

Spurious emissions, TX: 2402 MHz, BW: 2MHz, MOD: GMSK



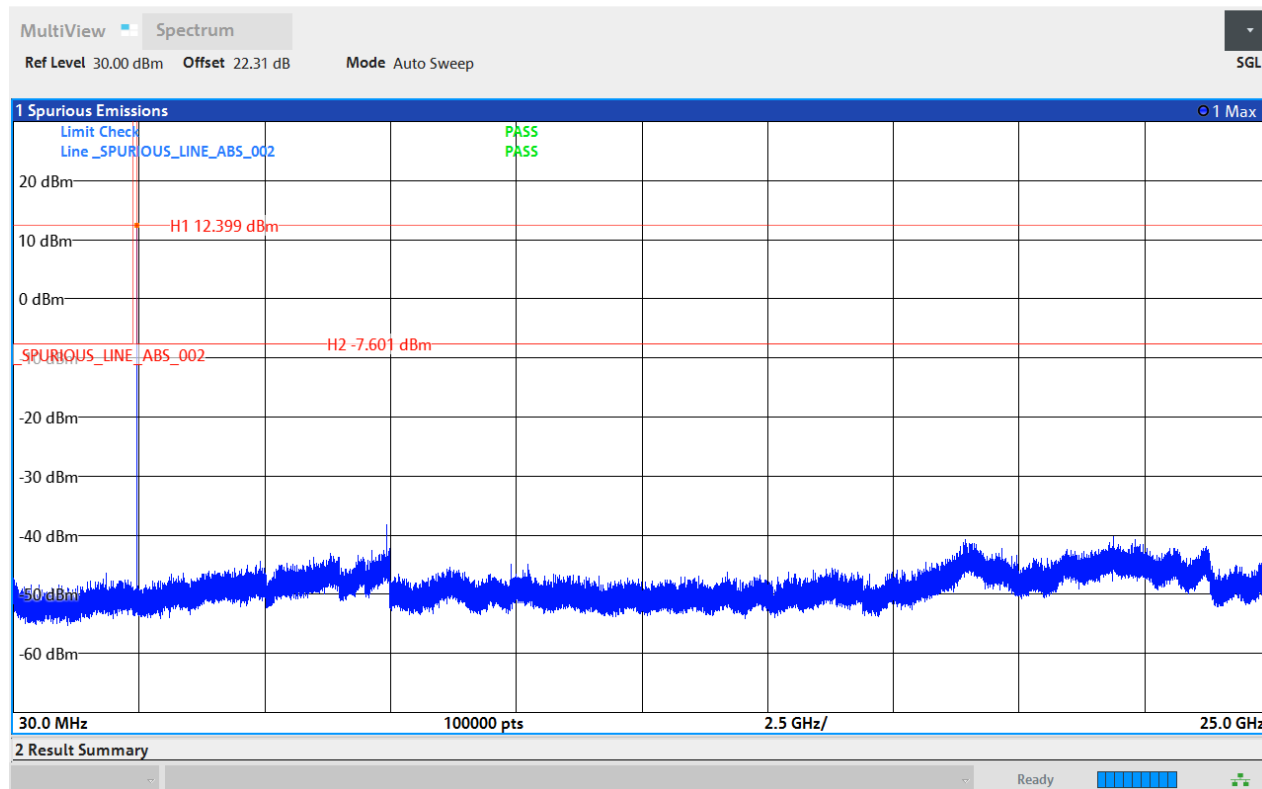
## Middle Channel (19):

Spurious emissions, TX: 2440 MHz, BW: 2MHz, MOD: GMSK



## Top Channel (39):

Spurious emissions, TX: 2480 MHz, BW: 2MHz, MOD: GMSK



## 6.0 Power Spectral Density

### 6.1 Test Procedure

The radio was connected directly to the spectrum analyzer for measurement. Low, mid, and high channel was measured.

### 6.2 Test Criteria

| 47 CFR (USA) // IC (Canada)  |                                         |
|------------------------------|-----------------------------------------|
| Section Reference            | Power Spectral Density, Conducted Limit |
| 15.247(e) // RSS-247, 5.2(b) | 8 dBm / 3 kHz                           |

### 6.3 Test Results, Power Spectral Density

| Power Spectral Density - Conducted Test Data |           |                |  |            |    |                 |  |           |     |                     |  |             |       |          |  |      |  |
|----------------------------------------------|-----------|----------------|--|------------|----|-----------------|--|-----------|-----|---------------------|--|-------------|-------|----------|--|------|--|
| Project Number:                              |           | PRJ0066904     |  |            |    | Test Date(s):   |  | 5/29/2025 |     |                     |  |             |       |          |  |      |  |
| Environmental Conditions:                    |           | Temperature    |  | 22.4       | °C | Humidity        |  | 45        | %RH | Barometric Pressure |  | 29.98       | in Hg |          |  |      |  |
| EUT Channel Bandwidth:                       |           | 2.00           |  | MHz        |    |                 |  |           |     |                     |  |             |       |          |  |      |  |
| Measurement Parameters:                      |           | RBW            |  | 3 kHz      |    | VBW             |  | 10 kHz    |     | Span                |  | 1.57 MHz    |       | Detector |  | Peak |  |
|                                              | Frequency | Measured Power |  | Cable Loss |    | Corrected Power |  |           |     | Limit               |  | Test Result |       |          |  |      |  |
| Channel                                      | (MHz)     | (dBm)          |  | (dB)       |    | (dBm)           |  |           |     | (dBm)               |  |             |       |          |  |      |  |
| 1                                            | 2402      | 1.46           |  | 0          |    | 1.46            |  |           |     | 8                   |  | Pass        |       |          |  |      |  |
| 10                                           | 2440      | 1.45           |  | 0          |    | 1.45            |  |           |     | 8                   |  | Pass        |       |          |  |      |  |
| 20                                           | 2480      | -2.94          |  | 0          |    | -2.94           |  |           |     | 8                   |  | Pass        |       |          |  |      |  |

Peak power spectral density, TX: 2402 MHz, BW: 20Hz, MCO: QMSX

MultiView Spectrum

Ref Level 30.00 dBm Offset 22.31 dB RBW 3 kHz

Att -20 dB SWT 11.9 ms VBW 10 kHz Mode Sweep

1 Frequency Sweep

20 dBm

10 dBm

0 dBm

-10 dBm

-20 dBm

-30 dBm

-40 dBm

-50 dBm

-60 dBm

CF 2.402 GHz

1001 pts

106.8 kHz/

Span 1.068 MHz

Ready

SGL

Count 1/1

1% Max

M1[1] 1.46 dBm

2.401 956 30 GHz

Peak power spectral density, TX: 2440 MHz, BW: 20Hz, MCO: QMSX

MultiView Spectrum

Ref Level 30.00 dBm Offset 22.31 dB RBW 3 kHz

Att -20 dB SWT 11.9 ms VBW 10 kHz Mode Sweep

1 Frequency Sweep

20 dBm

10 dBm

0 dBm

-10 dBm

-20 dBm

-30 dBm

-40 dBm

-50 dBm

-60 dBm

CF 2.44 GHz

1001 pts

106.8 kHz/

Span 1.068 MHz

Ready

SGL

Count 1/1

1% Max

M1[1] 1.45 dBm

2.439 956 30 GHz

| Low Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Mid Channel |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <div><div>Peak power spectral density, TX: 2480 MHz, BW: 20Hz, MCO: QMSX</div><div><div>MultiView Spectrum</div><div>Ref Level 25.00 dBm Offset 22.31 dB RBW 3 kHz</div><div>Att -15 dB SWT 11.7 ms VBW 10 kHz Mode Sweep</div><div>1 Frequency Sweep</div><div>20 dBm</div><div>10 dBm</div><div>0 dBm</div><div>-10 dBm</div><div>-20 dBm</div><div>-30 dBm</div><div>-40 dBm</div><div>-50 dBm</div><div>-60 dBm</div><div>-70 dBm</div><div>CF 2.48 GHz</div><div>1001 pts</div><div>105.3 kHz/</div><div>Span 1.053 MHz</div><div>Ready</div><div>SGL</div><div>Count 1/1</div><div>1% Max</div><div>M1[1] -2.94 dBm</div><div>2.479 955 80 GHz</div></div></div> <div><div>High Channel</div></div> |             |

Note: Cable loss and attenuator factor applied to spectrum analyzer for correction.

## 7.0 Transmitter Radiated Spurious Emissions

### 7.1 Test Procedure

Radiated emissions are measured with the EUT in normal operation transmitting on normal hopping channels. ANSI C63.10, section 6.3, 6.5 and 6.6, procedure is used for the measurements.

#### Test Distance, Table Height, and Detection Method

| 30 MHz to 1 GHz | 1 GHz to 18 GHz | 18 GHz to 26.5 GHz |
|-----------------|-----------------|--------------------|
| 10 m, 80 cm     | 3 m, 1.5 m      | 1 m, 1.5 m         |
| Quasi-peak      | Peak & Average  | Peak & Average     |

### 7.2 Test Criteria

| 47 CFR (USA) // IC (Canada)                                  |                                                                         |
|--------------------------------------------------------------|-------------------------------------------------------------------------|
| Section Reference                                            | Parameter                                                               |
| 15.247(d), 15.209 (a) //<br>RSS-247 5.5, RSS-Gen 6.13 & 8.10 | Field Strength of Radiated Spurious/Harmonic Emissions<br>Transmit Mode |

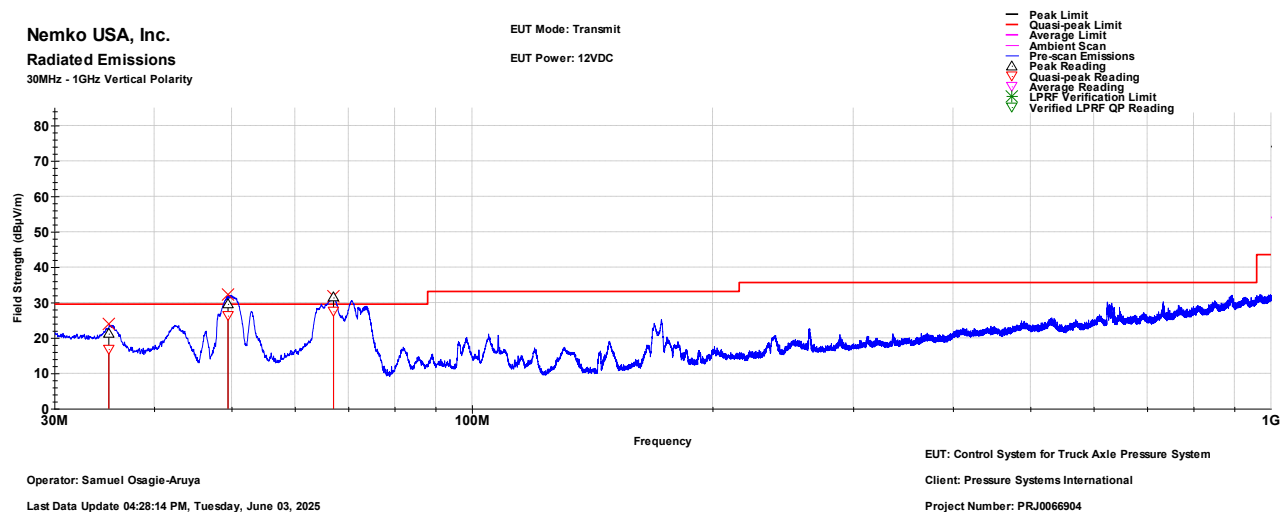
### 7.3 Test Results

EUT was tested in normal operation and transmitting continuously modulated, operating over channels 1 - 39. Device tested in normal operational orientation.

The EUT satisfied the requirement. Test plots and tabular data are presented on the following pages.

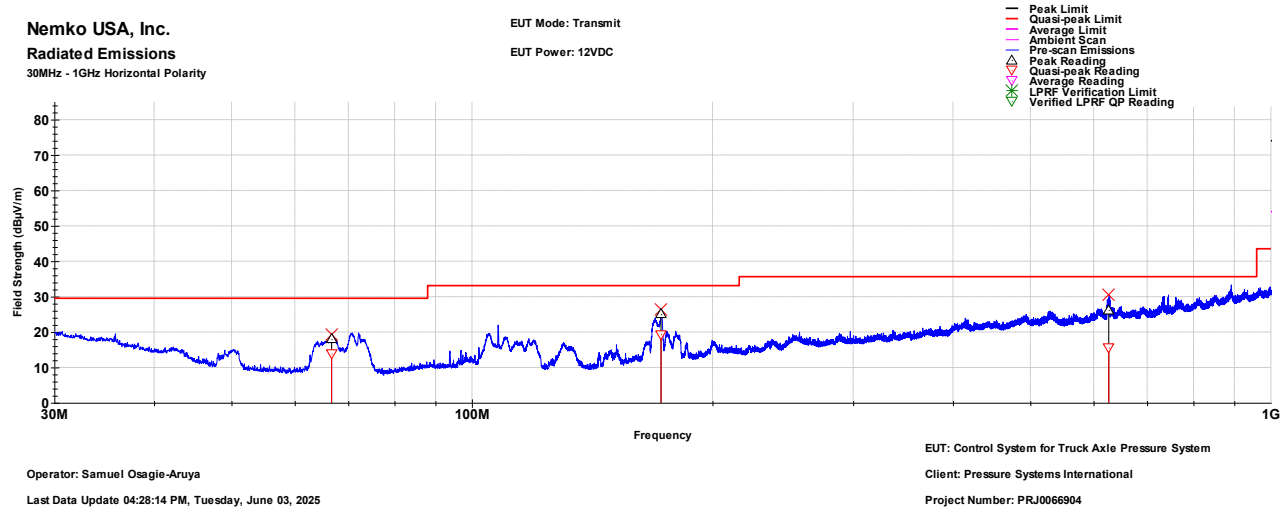
## Test Results – Tx, Channels 1 - 39

## 30MHz - 1GHz Vertical Polarity Measured Emissions Data



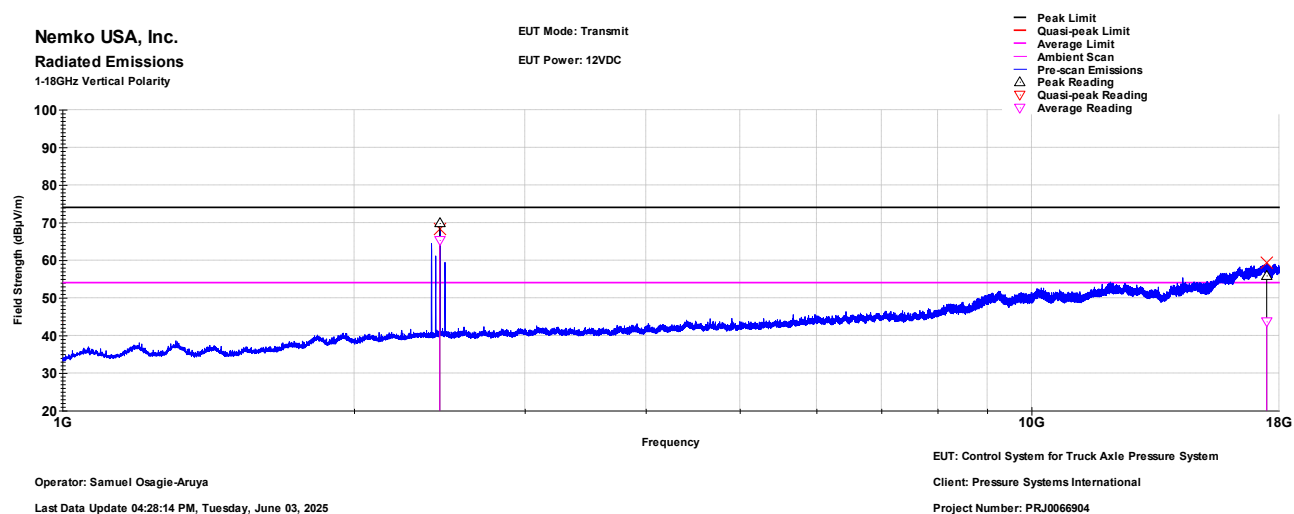
| Frequency (MHz) | EUT Direction (Degrees) | Antenna Height (cm) | Quasi-peak Reading (dBµV) | Quasi-peak Limit (dBµV) | Quasi-peak Margin (dB) | Quasi-peak Results | Peak Reading (dBµV) |
|-----------------|-------------------------|---------------------|---------------------------|-------------------------|------------------------|--------------------|---------------------|
| 35.100          | 11.000                  | 100.000             | 16.781                    | 29.500                  | -12.719                | PASS               | 21.160              |
| 49.500          | 10.000                  | 100.000             | 26.227                    | 29.500                  | -3.273                 | PASS               | 29.556              |
| 67.080          | 303.000                 | 305.000             | 27.469                    | 29.500                  | -2.031                 | PASS               | 31.378              |

## 30MHz - 1GHz Horizontal Polarity Measured Emissions Data



| Frequency (MHz) | EUT Direction (Degrees) | Antenna Height (cm) | Quasi-peak Reading (dBµV) | Quasi-peak Limit (dBµV) | Quasi-peak Margin (dB) | Quasi-peak Results | Peak Reading (dBµV) |
|-----------------|-------------------------|---------------------|---------------------------|-------------------------|------------------------|--------------------|---------------------|
| 66.720          | 95.000                  | 400.000             | 13.866                    | 29.500                  | -15.634                | PASS               | 17.926              |
| 172.440         | 247.000                 | 400.000             | 19.341                    | 33.100                  | -13.759                | PASS               | 25.019              |
| 626.723         | 248.000                 | 156.000             | 15.549                    | 35.600                  | -20.051                | PASS               | 26.182              |

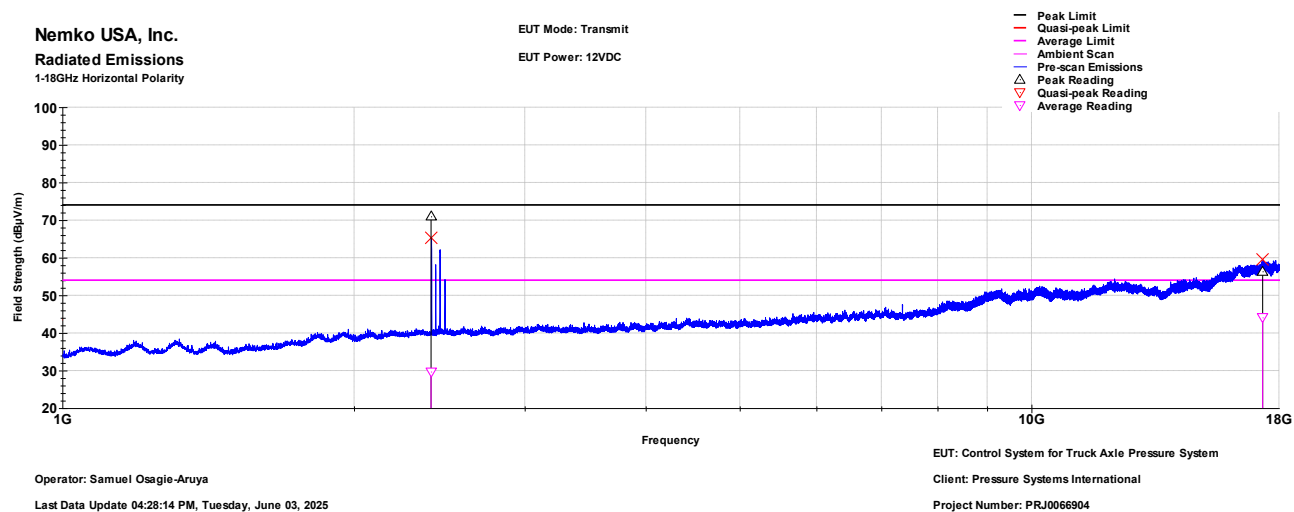
## 1GHz - 18GHz Vertical Polarity Measured Emissions Data:



| Frequency (MHz) | EUT Direction (Degrees) | Antenna Height (cm) | Peak Reading (dBμV) | Peak Limit (dBμV) | Peak Margin (dB) | Peak Results | Average Reading (dBμV) | Average Limit (dBμV) | Average Margin (dB) | Average Results |
|-----------------|-------------------------|---------------------|---------------------|-------------------|------------------|--------------|------------------------|----------------------|---------------------|-----------------|
| 2451.50         | 130                     | 274                 | 69.828              | 74.000            | -4.172           | PASS         | 65.317                 | 54.000               | 11.317              | --              |
| 17485.25        | 259                     | 400                 | 55.888              | 74.000            | -18.112          | PASS         | 43.675                 | 54.000               | -10.325             | PASS            |

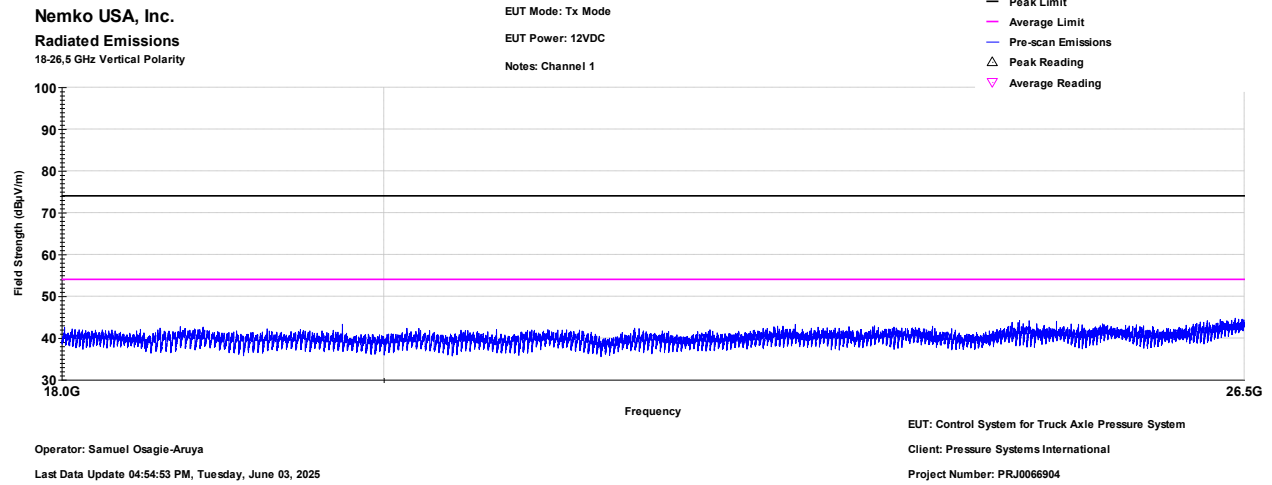
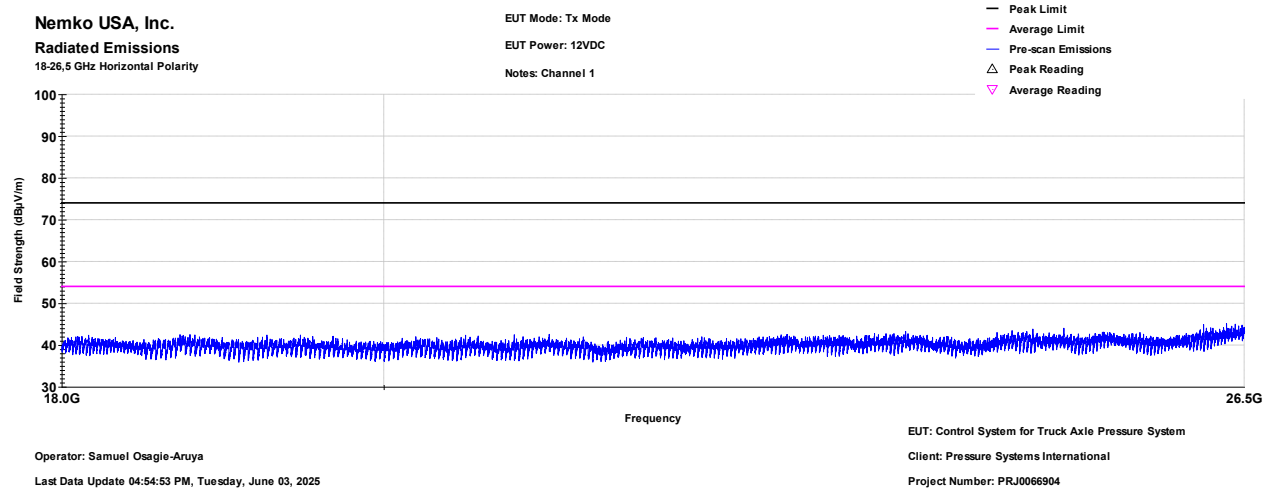
Note: Signal exceeding limit is fundamental transmitter signal.

## 1GHz - 18GHz Horizontal Polarity Measured Emissions Data



| Frequency (MHz) | EUT Direction (Degrees) | Antenna Height (cm) | Peak Reading (dBμV) | Peak Limit (dBμV) | Peak Margin (dB) | Peak Results | Average Reading (dBμV) | Average Limit (dBμV) | Average Margin (dB) | Average Results |
|-----------------|-------------------------|---------------------|---------------------|-------------------|------------------|--------------|------------------------|----------------------|---------------------|-----------------|
| 2401.75         | 359                     | 188                 | 70.944              | 74.000            | -3.056           | PASS         | 29.689                 | 54.000               | -24.311             | --              |
| 17321.58        | 11                      | 400                 | 56.351              | 74.000            | -17.649          | PASS         | 44.109                 | 54.000               | -9.891              | PASS            |

Note: Signal exceeding limit is fundamental transmitter signal.

**18GHz – 26.5GHz Vertical Polarity Measured Emissions Data****18GHz - 26.5GHz Horizontal Polarity Measured Emissions Data**

## 8.0 Measurement Bandwidths

| Radiated Emissions Spectrum Analyzer Bandwidth and Measurement Time - Peak Scan |                           |                      |                       |                            |
|---------------------------------------------------------------------------------|---------------------------|----------------------|-----------------------|----------------------------|
| Frequency Band Start (MHz)                                                      | Frequency Band Stop (MHz) | 6 dB Bandwidth (kHz) | Number of Ranges Used | Measurement Time per Range |
| 0.009                                                                           | 0.15                      | 0.3                  | 2                     | Multiple Sweeps            |
| 0.15                                                                            | 30                        | 9                    | 6                     | Multiple Sweeps            |
| 30                                                                              | 1000                      | 120                  | 2                     | Multiple 800 mS Sweeps     |
| 1000                                                                            | 6000                      | 1000                 | 2                     | Multiple Sweeps            |
| 6000                                                                            | 18000                     | 1000                 | 2                     | Multiple Sweeps            |
| 18000                                                                           | 26500                     | 1000                 | 2                     | Multiple Sweeps            |

**\*Notes:**

1. The settings above are specifically calculated for the E4440A series of spectrum analyzers, which have 8,000 data points per range.
2. The measurement receiver resolution bandwidth setting was 300 Hz for quasi-peak measurements from 9-150 kHz.
3. The measurement receiver resolution bandwidth setting was 9 kHz for quasi-peak measurements from 0.15-30 MHz.
4. The measurement receiver resolution bandwidth setting was 120 kHz for quasi-peak measurements from 30-1000 MHz.
5. The measurement receiver resolution bandwidth setting was 1 MHz for average measurements from 1-18 GHz.

## 9.0 Test Equipment

### 9.1 Output Power, OBW, Conducted Spurious Emissions, Band Edge, PSD

| Asset # | Manufacturer    | Model       | Equipment Nomenclature                    | Serial Number | Calibration Due Date |
|---------|-----------------|-------------|-------------------------------------------|---------------|----------------------|
| 2551    | Rohde & Schwarz | FSV3044     | Analyzer, Signal, 44 GHz                  | 101602        | 8/9/2025             |
| C397    | evissaP         | eP7101R-132 | Cable, RF, SMA-SMA, 11', 2.92mm, DC-40GHz | None          | 3/1/2026             |
| 2584    | Digi-Sense      | 68000-49    | Barometer, Digital                        | 240348891     | 4/26/2026            |
| --      | --              | --          | 20dB SMA Attenuator                       | --            | N/A                  |
| 2188    | HP              | 83732B      | Synthesized Signal Generator              | US73102317    | 6/4/2025             |

### 9.2 Radiated Emissions

| Manufacturer    | Model                    | Equipment Nomenclature                                     | Serial Number  | Calibration Due Date |
|-----------------|--------------------------|------------------------------------------------------------|----------------|----------------------|
| Eravant         | 34083-1                  | 18-26GHz Antenna + Amplifier                               | SAZ-2410-42-S1 | 5/15/2026            |
| Agilent         | 11713A                   | Switch Driver                                              | MY44321972     | NCR                  |
| ETS-Lindgren    | 3142C                    | Antenna, Biconilog, 26 MHz-3GHz                            | 49383          | 4/17/2025            |
| HP              | 8447D                    | Preamp, .1-1300MHz                                         | 1937A02800     | 10/28/2025           |
| Miteq           | AFS44-00101800-2S-10P-44 | Amplifier, 40dB, 100MHz-18GHz                              | None           | 1/26/2025            |
| ETS-Lindgren    | 3117                     | Antenna, Double Ridged Guide Horn, 1 - 18 GHz              | 99232          | 10/12/2025           |
| evissaP         | eP7123R-432              | Cable, RF, N-N, 36', DC-18GHz                              | None           | 2/15/2026            |
| evissaP         | eP7123R-384              | Cable, RF, N-N, 32', DC-18GHz                              | None           | 2/14/2026            |
| evissaP         | eP7031R-22FT             | Cable, RF, N-N, 22', DC-18GHz                              | None           | 3/1/2026             |
| evissaP         | eP7031R-30FT             | Cable, RF, N-N, 30', DC-18GHz                              | None           | 3/1/2026             |
| evissaP         | eP7101R-12               | Cable, RF, SMA-SMA, 12", 2.92mm, DC-40GHz                  | None           | 3/1/2026             |
| TDK             | 254                      | Enclosure, Shielded, RFI/EMI, NSA, 3m & 10m, 30MHz - 1 GHz | 23177          | 2/3/2026             |
| evissaP         | eP7033R-6FT              | Cable, RF, SMA-N, 6', DC-18GHz                             | None           | 3/1/2026             |
| evissaP         | eP7101R-12               | Cable, RF, SMA-SMA, 12", 2.92mm, DC-40GHz                  | None           | 3/1/2026             |
| evissaP         | eP7033R-6FT              | Cable, RF, SMA-N, 6', DC-18GHz                             | None           | 3/1/2026             |
| evissaP         | eP7033R-6FT              | Cable, RF, SMA-N, 6', DC-18GHz                             | None           | 3/1/2026             |
| Rohde & Schwarz | ESW44                    | Receiver, Test, EMI, 1 Hz to 44 GHz                        | 103368         | 2/5/2025             |

#### Manufacturer of Software Details

ETS-LINDGREN TILE 7 V: 7.1.2.17 (Conducted Emissions)

ETS-LINDGREN TILE 7 V: 7.9.1.1(Radiated Emissions)

Notes: None

## Appendix: Policy, Rationale, and Evaluation of EMC Measurement Uncertainty

All uncertainty calculations, estimates and expressions thereof shall be in accordance with ANAB policy. Since Nemko USA, Inc. operates in accordance with ANAB Document Number AR 2250: 2021/06/16, all instrumentation having an effect on the accuracy or validity of tests shall be periodically calibrated or verified traceable to national standards by a competent calibration laboratory. The certificates of calibration or verification on this instrumentation shall include estimates of uncertainty as required by ANAB Document Number AR 2250.

### 1. Rationale and Summary of Expanded Uncertainty.

Each piece of instrumentation at Nemko USA that is used in making measurements for determining conformance to a standard (or limit), shall be assessed to evaluate its contribution to the overall uncertainty of the measurement in which it is used. The assessment of each item will be based on either a type A evaluation or a type B evaluation. Most of the evaluations will be type B, since they will be based on the manufacturer's statements or specifications of the calibration tolerances, or uncertainty will be stated along with a brief rationale for the type of evaluation and the resulting stated uncertainties.

The individual uncertainties included in the combined standard uncertainty for a specific test result will depend on the configuration in which the item of instrumentation is used. The combination will always be based on the law of propagation of uncertainty. Any systematic effects will be accommodated by including their uncertainties, in the calculation of the combined standard uncertainty; except that if the direction and amount of the systematic effect cannot be determined and separated from its uncertainty, the whole effect will be treated as uncertainty and combined along with the other elements of the test setup.

Type A evaluations of standard uncertainty will usually be based on calculating the standard deviation of the mean of a series of independent observations but may be based on a least-squares curve fit or the analysis of variance for unusual situations. Type B evaluations of standard uncertainty will usually be based on manufacturer's specifications, data provided in calibration reports, and experience. The type of probability distribution used (normal, rectangular, a priori, or u-shaped) will be stated for each Type B evaluation.

In the evaluation of the uncertainty of each type of measurement, the uncertainty caused by the operator will be estimated. One notable operator contribution to measurement uncertainty is the manipulation of cables to maximize the measured values of radiated emissions. The operator contribution to measurement uncertainty is evaluated by having several operators independently repeat the same test. This results in a Type A evaluation of operator-contributed measurement uncertainty.

A summary of the expanded uncertainties of Nemko USA's measurements is shown as Table 1. These are the worst-case uncertainties considering all operative influence factors.

**Table 1: Summary of Measurement Uncertainties**

| Type of Measurement         | Frequency Range   | Meas. Dist. | Expanded Uncertainty U, dB (k=2) |
|-----------------------------|-------------------|-------------|----------------------------------|
| Mains Conducted Emissions   | 150 kHz to 30 MHz | N/A         | 2.82                             |
| Telecom Conducted Emissions | 150 kHz to 30 MHz | N/A         | 3.48                             |
| Radiated Emissions          | 30 to 1,000 MHz   | 10 m        | 4.82                             |
|                             | 1 to 18 GHz       | 3 m         | 5.09                             |
|                             | 18 to 26 GHz      | 3 m         | 4.42                             |
|                             | 26 to 40 GHz      | 0.1 m       | 5.97                             |

## End of Report