



Engineering Solutions & Electromagnetic Compatibility Services

**Certification Application Report  
FCC Part 15.247 & ISED RSS-247**

|                                                                                                                                                                                                                          |                                        |                                                                                                         |                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------|
| <b>Test Lab:</b><br><br>Rhein Tech Laboratories, Inc. Phone: 703-689 0368<br>360 Herndon Parkway www.rheintech.com<br>Suite 1400<br>Herndon, VA 20160<br>E-Mail: atcbinfo@rheintech.com                                  |                                        | <b>Applicant:</b><br><br>L3Harris Corporation<br>221 Jefferson Ridge Parkway<br>Lynchburg, VA 24501 USA |                            |
| <b>FCC ID / IC</b>                                                                                                                                                                                                       | OWDTR-0171-E / 3636B-0171              | <b>Test Report Date</b>                                                                                 | April 22, 2024             |
| <b>Platform</b>                                                                                                                                                                                                          | N/A                                    | <b>RTL Work Order #</b>                                                                                 | 2023034                    |
| <b>Model / HVIN</b>                                                                                                                                                                                                      | XL-CH2 / XLCU-CH2                      | <b>RTL Quote Number</b>                                                                                 | QRTL23-034B                |
| <b>American National Standard Institute</b>                                                                                                                                                                              |                                        |                                                                                                         |                            |
| ANSI C63.10-2020 American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices                                                                                                          |                                        |                                                                                                         |                            |
| <b>FCC Classification</b>                                                                                                                                                                                                |                                        |                                                                                                         |                            |
| DTS – Part 15 Digital Transmission System (Wi-Fi)                                                                                                                                                                        |                                        |                                                                                                         |                            |
| <b>FCC Rule Part(s)</b>                                                                                                                                                                                                  |                                        |                                                                                                         |                            |
| FCC Rules Part 15.247: Operation within the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz (10-01-21)                                                                                                              |                                        |                                                                                                         |                            |
| <b>ISED Standards</b>                                                                                                                                                                                                    |                                        |                                                                                                         |                            |
| RSS-247 Issue 3: Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices<br>RSS-Gen Issue 5: General Requirements for Compliance of Radio Apparatus |                                        |                                                                                                         |                            |
| <b>Frequency Range (MHz)</b>                                                                                                                                                                                             | <b>Output Power (W) Peak Conducted</b> | <b>Frequency Tolerance</b>                                                                              | <b>Emission Designator</b> |
| 2402 – 2480                                                                                                                                                                                                              | 0.005                                  | N/A                                                                                                     | 759KFXD                    |

I, the undersigned, hereby declare that the equipment tested and referenced in this report conforms to the identified standard(s) as described in this test report. No modifications were made to the equipment during testing in order to achieve compliance with these standards. Furthermore, there was no deviation from, additions to, or exclusions from, the applicable parts of FCC Part 2, FCC Part 15, ANSI C63.10, and ISED RSS-247 and RSS-Gen.

Signature: 

Date: April 22, 2024

Typed/Printed Name: Desmond A. Fraser

Position: President

*These tests are accredited and meet the requirements of ISO/IEC 17025 as verified by ANAB.  
Refer to certificate and scope of accreditation AT-1445. This report replaces R1.0.*

*This report may not be reproduced, except in full, without the written approval of Rhein Tech Laboratories, Inc. and L3Harris Corporation. The test results relate only to the item(s) tested.*

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## 1 General Information

### 1.1 Scope

#### Applicable Standards

- FCC Part 15.247: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz
- ISSED RSS-247: Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices
- ISSED RSS-Gen Issue 5: General Requirements for Compliance of Radio Apparatus

### 1.2 Description of EUT

|                             |                   |
|-----------------------------|-------------------|
| <b>Equipment Under Test</b> | Control Head      |
| <b>Model / HVIN</b>         | XL-CH2 / XLCU-CH2 |
| <b>Power Supply</b>         | 13.8 VDC          |
| <b>Frequency Range</b>      | 2402–2480 MHz     |

### 1.3 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located at 360 Herndon Parkway, Suite 1400, Herndon, Virginia 20171.

CAB ID: US0079

### 1.4 Related Submittal(s)/Grant(s)

This is an original certification application for Harris Corporation Model XL-CH2 Control Head, FCC ID: OWDTR-0171-E, IC: 3636B-0171.

### 1.5 Modifications

No modifications were required for compliance.

## 2 Test Information

### 2.1 Description of Test Modes

The following frequencies were tested in accordance with FCC 15.31(m) because the EUT utilizes an operating band greater than 10 MHz.

**Table 2-1: Channels Tested**

| Channel (#) | Frequency (MHz) |
|-------------|-----------------|
| 0           | 2402            |
| 19          | 2440            |
| 39          | 2480            |

### 2.2 Exercising the EUT

The EUT was tested in all three orthogonal planes to determine worst-case emissions. The EUT was provided with software to continuously transmit during testing. The carrier was also checked to verify that information was being transmitted, all modes were investigated, and the worst-case mode was used for final testing. There were no deviations from the test standard(s) and/or methods. The test results reported relate only to the item tested.

### 2.3 Test Result Summary

**Table 2-2: Test Summary – FCC Part 15, Subpart C (Section 15.247); ISSED RSS-247, RSS-Gen**

| FCC              | ISED                           | Test                                 | Result |
|------------------|--------------------------------|--------------------------------------|--------|
| FCC 15.207       | RSS-Gen 8.8                    | AC Conducted Emissions               | N/A    |
| FCC 15.209       | RSS-247 5.5; RSS-Gen 8.9, 8.10 | Radiated Emissions                   | Pass   |
| FCC 15.247(a)(2) | RSS-247 5.2(a)                 | 6 dB Bandwidth                       | Pass   |
| FCC 15.247(b)(3) | RSS-247 5.4(b); RSS-Gen 6.12   | Maximum Peak Power Output            | Pass   |
| FCC 15.247(d)    | RSS-247 5.5; RSS-Gen 6.13      | Antenna Conducted Spurious Emissions | Pass   |
| FCC 15.247(d)    | RSS-247 5.5                    | Band Edge Measurement                | Pass   |
| FCC 15.247(e)    | RSS-247 5.2(b)                 | Power Spectral Density               | Pass   |
| N/A              | RSS-Gen 6.7                    | 99% Bandwidth                        | Pass   |

### 2.4 Tested System Details

The test sample was received on January 22, 2024. Listed below are the identifiers and descriptions of all equipment, cables, and internal devices used with the EUT for this test, as applicable.

The device was programmed for multiple modes of operation and modulation types.

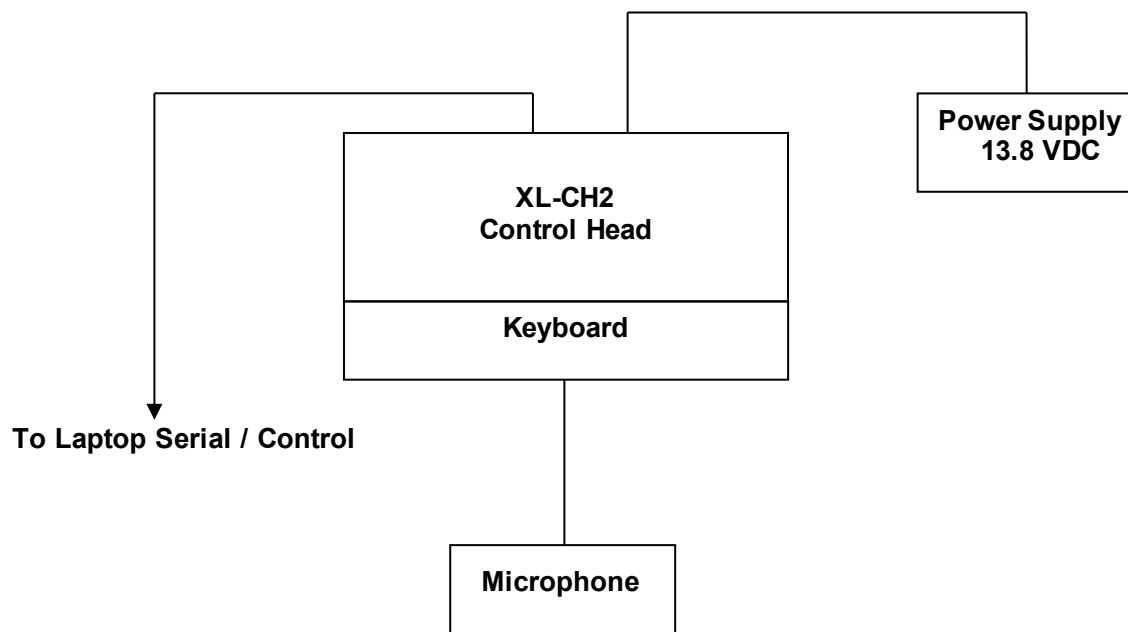
**Table 2-3: Equipment Under Test (EUT)**

| Part         | Manufacturer         | Model / HVIN      | PN/SN | FCC ID       | RTL Bar Code |
|--------------|----------------------|-------------------|-------|--------------|--------------|
| Control Head | L3Harris Corporation | XL-CH2 / XLCU-CH2 | N/A   | OWDTR-0171-E | 24398        |
| Control Head | L3Harris Corporation | XL-CH2 / XLCU-CH2 | N/A   | OWDTR-0171-E | 24397        |

**Table 2-4: Auxiliary Equipment**

| Part           | Manufacturer         | Model          | PN/SN         | FCC ID | RTL Bar Code |
|----------------|----------------------|----------------|---------------|--------|--------------|
| USB Mobile Mic | L3Harris Corporation | USB Mobile Mic | 14050-6010-01 | N/A    | 24401        |

## 2.5 Configuration of Tested System



**Figure 2-1: Configuration of Tested System**

### 3 Peak Output Power – FCC 15.247(b)(3); RSS-247 5.4(b), RSS-Gen 6.12

#### 3.1 Power Output Test Procedure

A conducted power measurement of the EUT was taken with an analyzer. The following settings were used:

- 1) Span: > the bandwidth, centered on a channel
- 2) RBW > bandwidth of the emission being measured (1 MHz used)
- 3) VBW ≥ RBW (3 MHz used)
- 4) Sweep: Auto
- 5) Detector function: Peak
- 6) Trace: Max hold. The trace was allowed to stabilize, and the marker-to-peak function was used to set the marker to the peak of the emission.

**Table 3-1: Power Output Test Equipment**

| RTL Asset # | Manufacturer    | Model | Part Type         | Serial Number | Calibration Due Date |
|-------------|-----------------|-------|-------------------|---------------|----------------------|
| 901773      | Rohde & Schwarz | FSW   | Spectrum Analyzer | 101021        | 02/02/2025           |

#### 3.2 Power Output Test Results

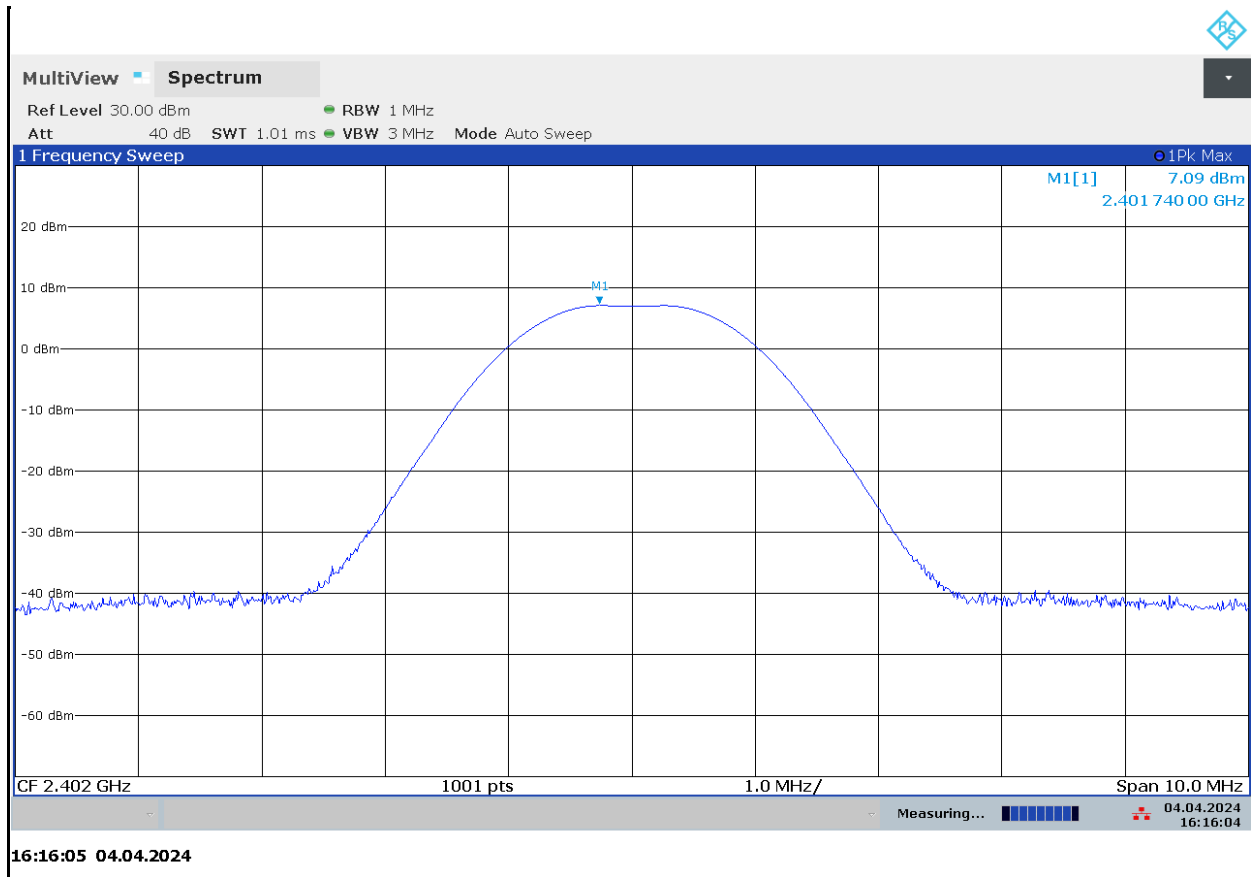
**Table 3-2: Environmental Conditions**

| Date          | Temperature (°C) | Humidity (%) | Pressure (kPa) |
|---------------|------------------|--------------|----------------|
| April 4, 2024 | 22.7             | 26           | 100.6          |

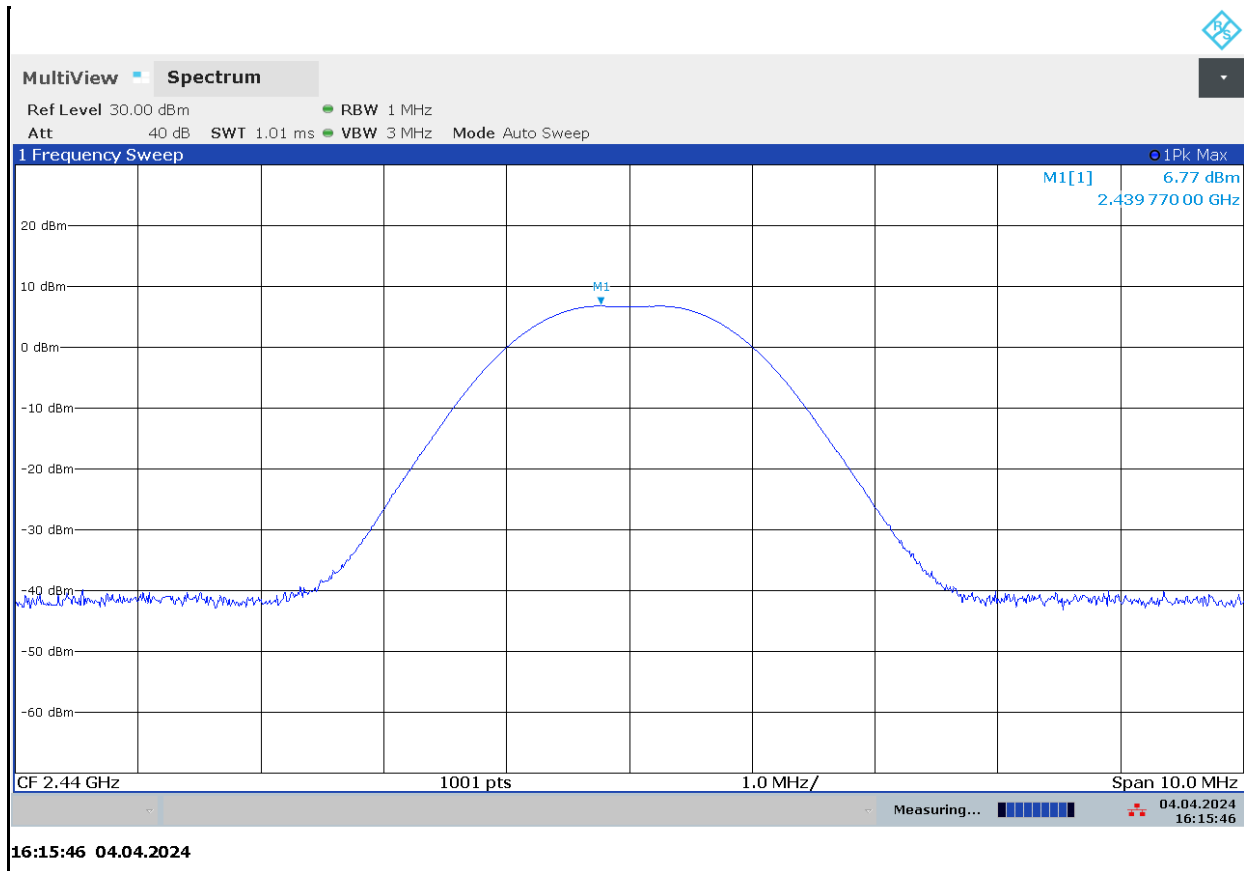
**Table 3-3: Power Output Test Data**

| Channel (#) | Frequency (MHz) | Conducted Peak Power (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-----------------|----------------------------|-------------|-------------|
| 0           | 2402            | 7.1                        | 30.0        | -22.9       |
| 19          | 2440            | 6.8                        | 30.0        | -23.2       |
| 39          | 2480            | 6.4                        | 30.0        | -23.6       |

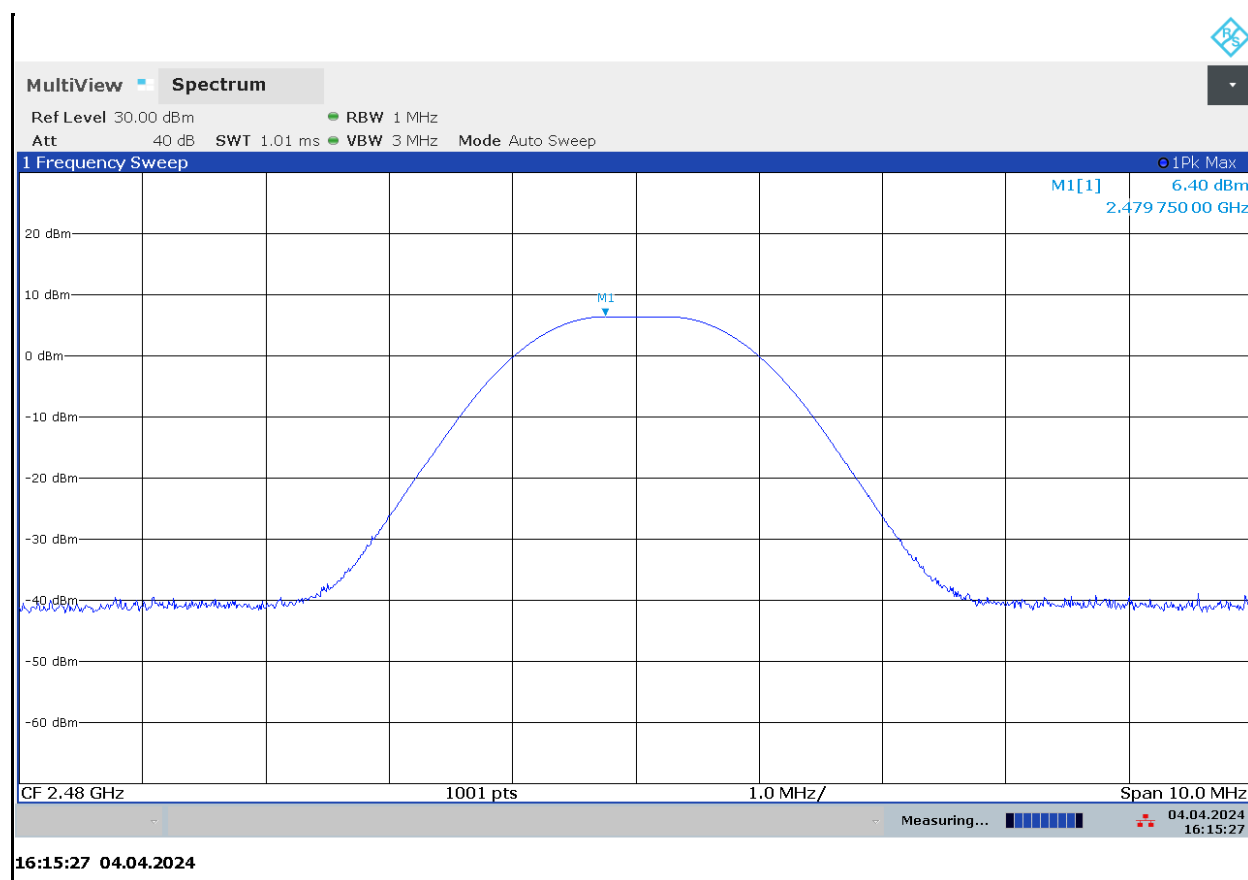
**Plot 3-1: Peak Power – 2402 MHz**



**Plot 3-2: Peak Power – 2440 MHz**



**Plot 3-3: Peak Power – 2480 MHz**



Highest conducted peak power measured: 7.1 dBm  $\approx$  5 mW;  $P(\text{Watts}) = 10^{(\text{dBm} / 10)} / 1000$

Measurement uncertainty:  $\pm 0.5$  dB. This measurement uncertainty is an expanded uncertainty for 95% confidence level received with a coverage factor  $k=2$ .

**Results: Pass**

**Test Personnel:**

|                                     |                                                                                                   |                               |
|-------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------|
| Daniel W. Baltzell<br>Test Engineer | <br>Signature | April 4, 2024<br>Date of Test |
|-------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------|

#### 4 Compliance with the Band Edge – FCC 15.247(d); RSS-247 5.5

##### 4.1 Band Edge Test Procedure

The transmitter output was connected to its appropriate antenna. 1 MHz integrated peak (100 kHz RBW/ 300 kHz VBW) and 1 MHz integrated average (100 MHz RBW/300 kHz VBW) corrected measurements were taken within the restricted band to show compliance.

**Table 4-1: Band Edge Test Equipment**

| RTL Asset # | Manufacturer    | Model | Part Type         | Serial Number | Calibration Due Date |
|-------------|-----------------|-------|-------------------|---------------|----------------------|
| 901773      | Rohde & Schwarz | FSW   | Spectrum Analyzer | 101021        | 02/02/2025           |

##### 4.2 Restricted Band Edge Test Results

**Table 4-2: Environmental Conditions**

| Date          | Temperature (°C) | Humidity (%) | Pressure (kPa) |
|---------------|------------------|--------------|----------------|
| April 5, 2024 | 22.2             | 23           | 100.8          |

Conversion of dBm to dBμV/m at 3 m:

$$\text{dB}\mu\text{V}/\text{m} = \text{dBm} + 104.7 - (20 * \text{LOG}(3\text{m})) = \text{dBm} + 95.2$$

### 4.3 Band Edge Plots

Plot 4-1: Lower Band Edge – Average

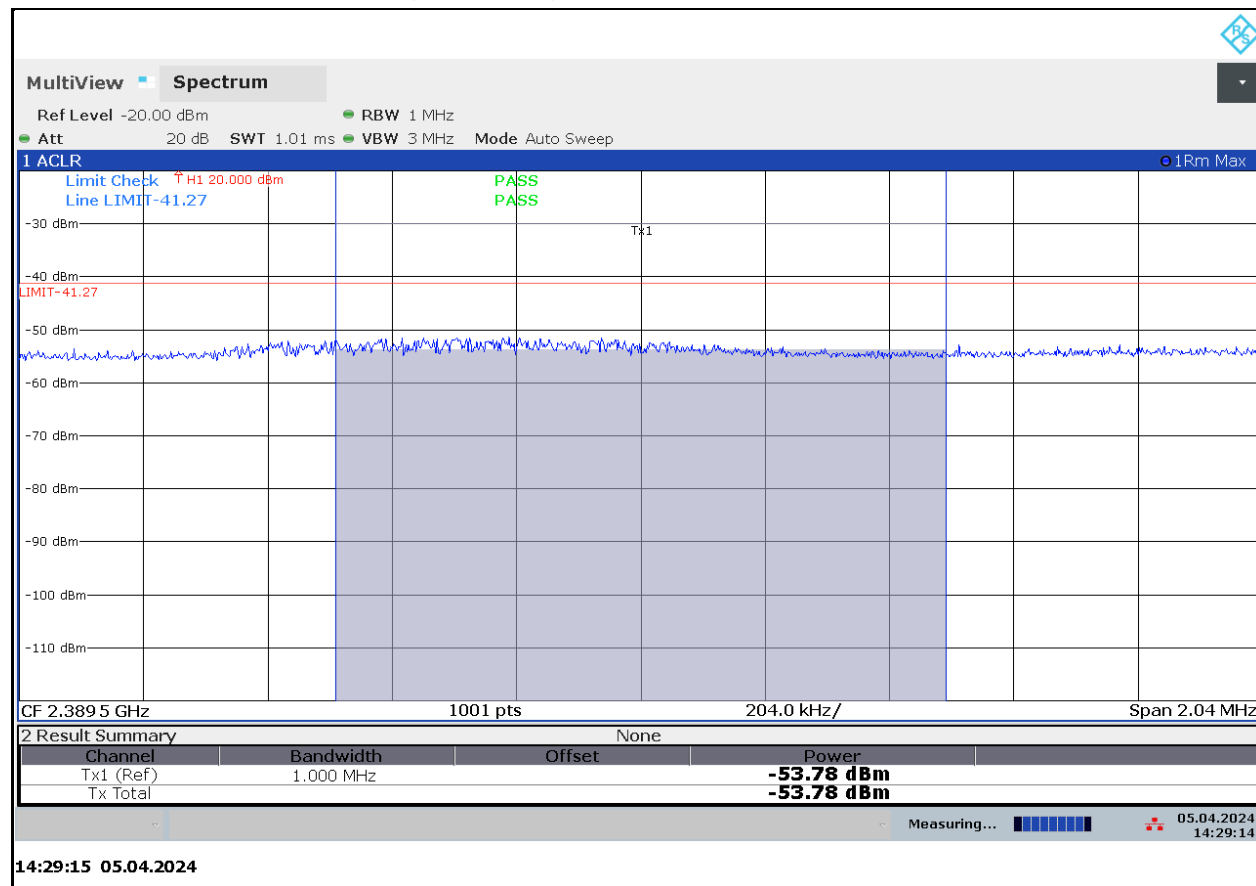
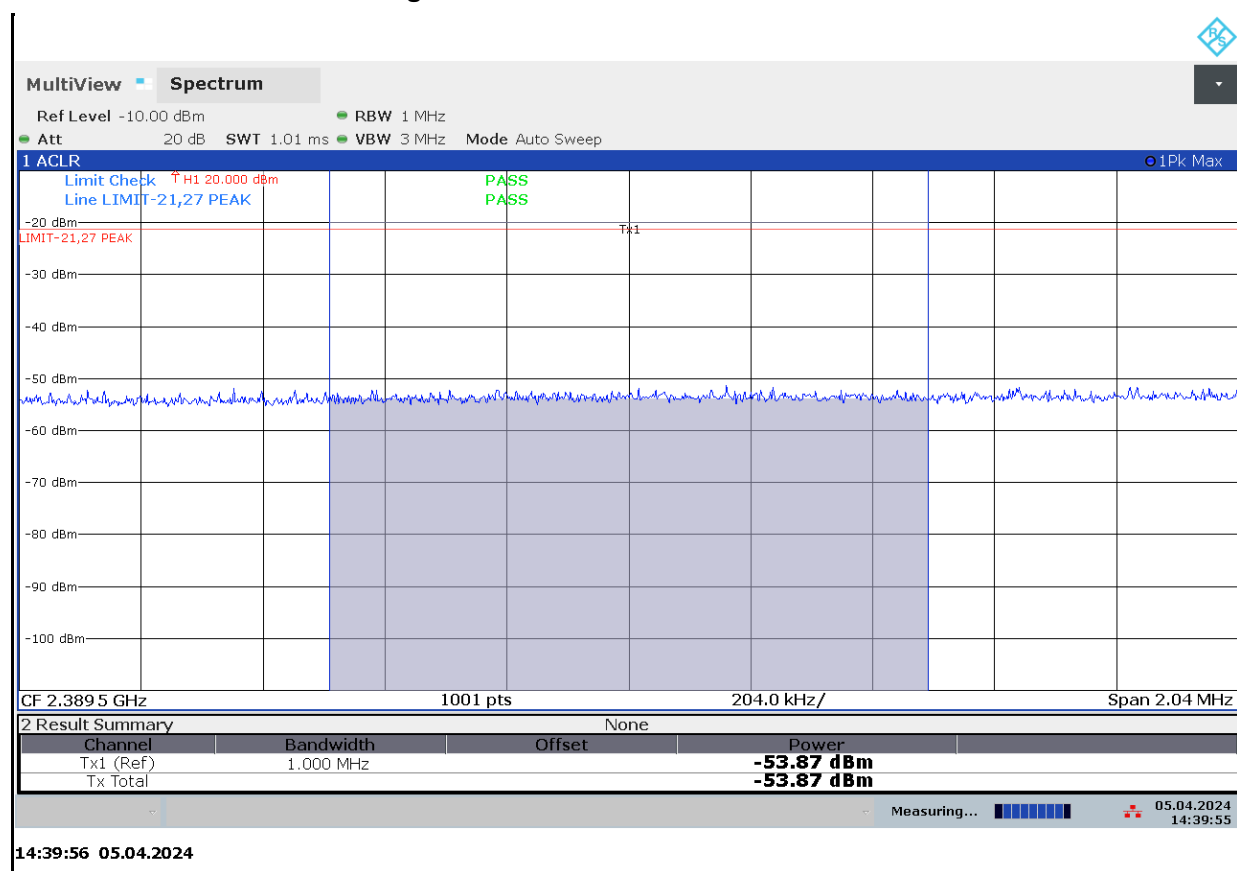


Table 4-3: Lower Band Edge - Average

| Frequency (MHz) | Measured Average Level (dBm) | Field Strength Conversion (dBμV/m) | Average Limit (dBμV/m) | Margin (dB) |
|-----------------|------------------------------|------------------------------------|------------------------|-------------|
| 2389.5          | -53.8                        | 41.4                               | 54.0                   | -12.6       |

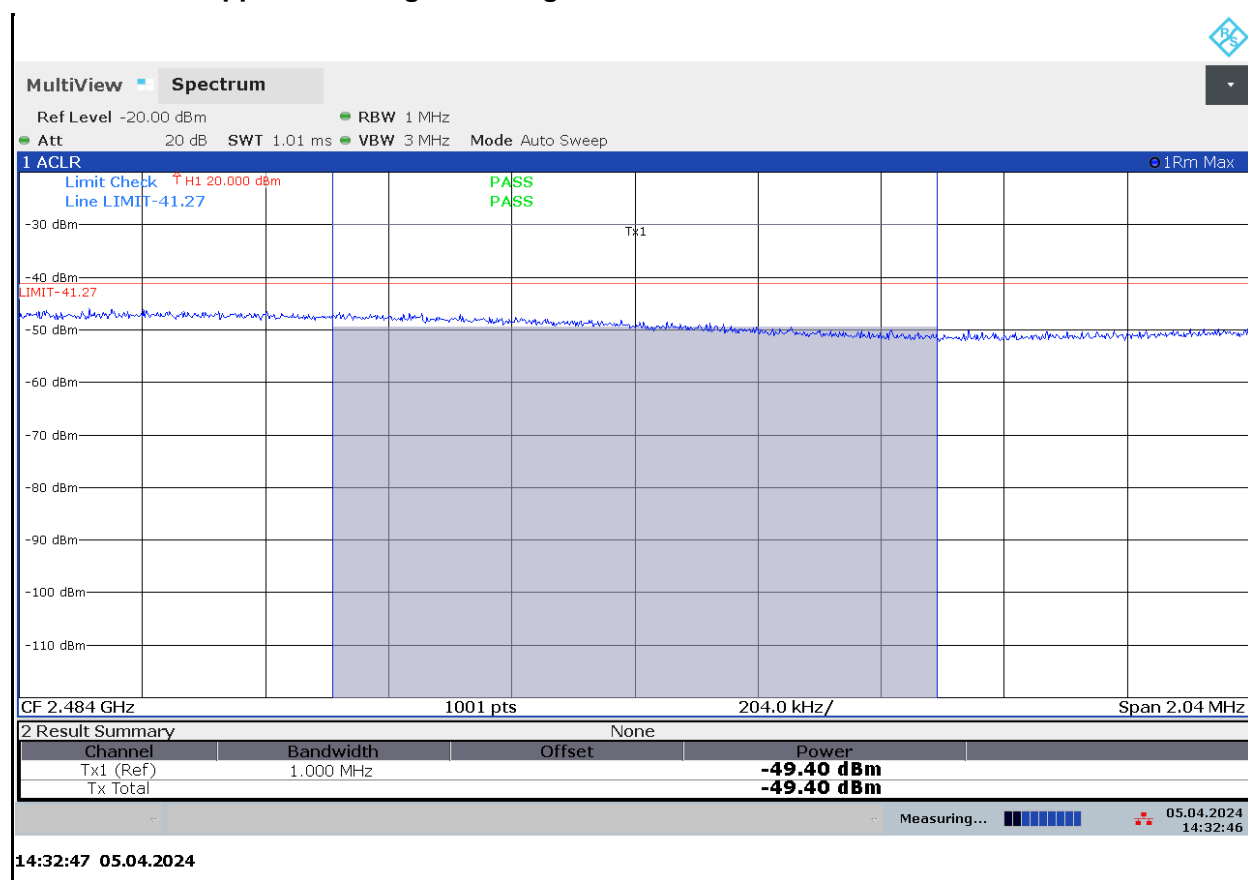
**Plot 4-2: Lower Band Edge – Peak**



**Table 4-4: Lower Band Edge - Peak**

| Frequency (MHz) | Measured Peak Level (dBm) | Field Strength Conversion (dBµV/m) | Peak Limit (dBµV/m) | Margin (dB) |
|-----------------|---------------------------|------------------------------------|---------------------|-------------|
| 2389.5          | -53.9                     | 41.3                               | 74.0                | -32.7       |

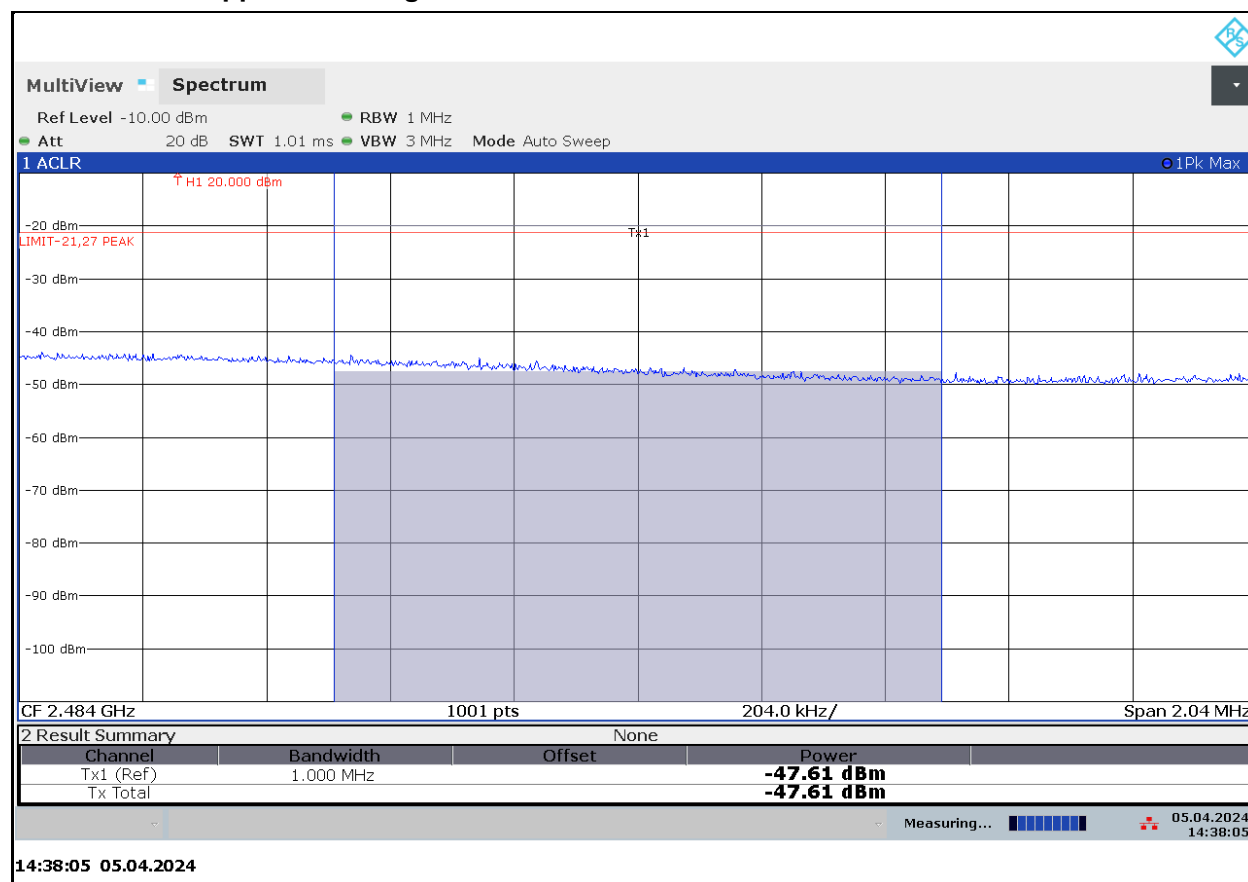
**Plot 4-3: Upper Band Edge – Average**



**Table 4-5: Upper Band Edge - Average**

| Frequency (MHz) | Measured Average Level (dBm) | Field Strength Conversion (dBμV/m) | Average Limit (dBμV/m) | Margin (dB) |
|-----------------|------------------------------|------------------------------------|------------------------|-------------|
| 2484.0          | -49.4                        | 45.8                               | 54.0                   | -8.2        |

**Plot 4-4: Upper Band Edge – Peak**



**Table 4-6: Upper Band Edge - Peak**

| Frequency (MHz) | Measured Peak Level (dBm) | Field Strength Conversion (dBμV/m) | Peak Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------------------|------------------------------------|---------------------|-------------|
| 2484.0          | -47.6                     | 47.6                               | 74.0                | -26.4       |

Measurement uncertainty:  $\pm 0.5$  dB. This measurement uncertainty is an expanded uncertainty for 95% confidence level received with a coverage factor  $k=2$ .

**Results: Pass**

**Test Personnel:**

|                    |                                                                                      |               |
|--------------------|--------------------------------------------------------------------------------------|---------------|
| Daniel W. Baltzell |  | April 5, 2024 |
| Test Engineer      | Signature                                                                            | Date of Test  |

## 5 Antenna Conducted Spurious Emissions – FCC 15.247(d); RSS-247 5.5, RSS-Gen 6.13

### 5.1 Antenna Conducted Spurious Emissions Test Procedures

Antenna spurious emissions per FCC 15.247(d) were measured from the EUT antenna port using a 50-ohm spectrum analyzer with the resolution bandwidth set at 100 kHz, and the video bandwidth set at 300 kHz for less than 1 GHz and 1 MHz resolution bandwidth and 3 MHz resolution bandwidth over 1 GHz. The modulated carrier was identified at the following frequencies: 2402 MHz, 2440 MHz and 2480 MHz.

**Table 5-1: Antenna Conducted Spurious Emissions Test Equipment**

| RTL Asset # | Manufacturer    | Model | Part Type         | Serial Number | Calibration Due Date |
|-------------|-----------------|-------|-------------------|---------------|----------------------|
| 901773      | Rohde & Schwarz | FSW   | Spectrum Analyzer | 101021        | 02/02/2025           |

### 5.2 Antenna Conducted Spurious Emissions Test Results

**Table 5-2: Environmental Conditions**

| Date          | Temperature (°C) | Humidity (%) | Pressure (kPa) |
|---------------|------------------|--------------|----------------|
| April 5, 2024 | 22.2             | 23           | 100.8          |

No harmonics or spurs were found within 20 dB (note that we are reporting power as peak) of the carrier level from the carrier to the 10<sup>th</sup> harmonic of the carrier frequency.

Measurement uncertainty:  $\pm 0.5$  dB. This measurement uncertainty is an expanded uncertainty for 95% confidence level received with a coverage factor  $k=2$ .

### **Results: Pass**

#### **Test Personnel:**

|                    |                                                                                      |               |
|--------------------|--------------------------------------------------------------------------------------|---------------|
| Daniel W. Baltzell |  | April 5, 2024 |
| Test Engineer      | Signature                                                                            | Date of Test  |

## 6 Bandwidths – FCC 15.247(a)(1); RSS-247 5.2(a); RSS-Gen 6.7

### 6.1 Bandwidth Test Procedure

The minimum 6 dB and 99% bandwidths per FCC 15.247(a)(1), RSS-247 5.2(a) and RSS-Gen 6.7 were measured using a 50-ohm spectrum analyzer with the resolution bandwidth set at 100 kHz, and the video bandwidth set at  $\geq 3 \times$  RBW. The device was modulated, (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

The maximum 6 dB bandwidth shall be 500 kHz.

**Table 6-1: Bandwidth Test Equipment**

| RTL Asset # | Manufacturer    | Model | Part Type         | Serial Number | Calibration Due Date |
|-------------|-----------------|-------|-------------------|---------------|----------------------|
| 901773      | Rohde & Schwarz | FSW   | Spectrum Analyzer | 101021        | 02/02/2025           |

### 6.2 Modulated Bandwidth Test Results

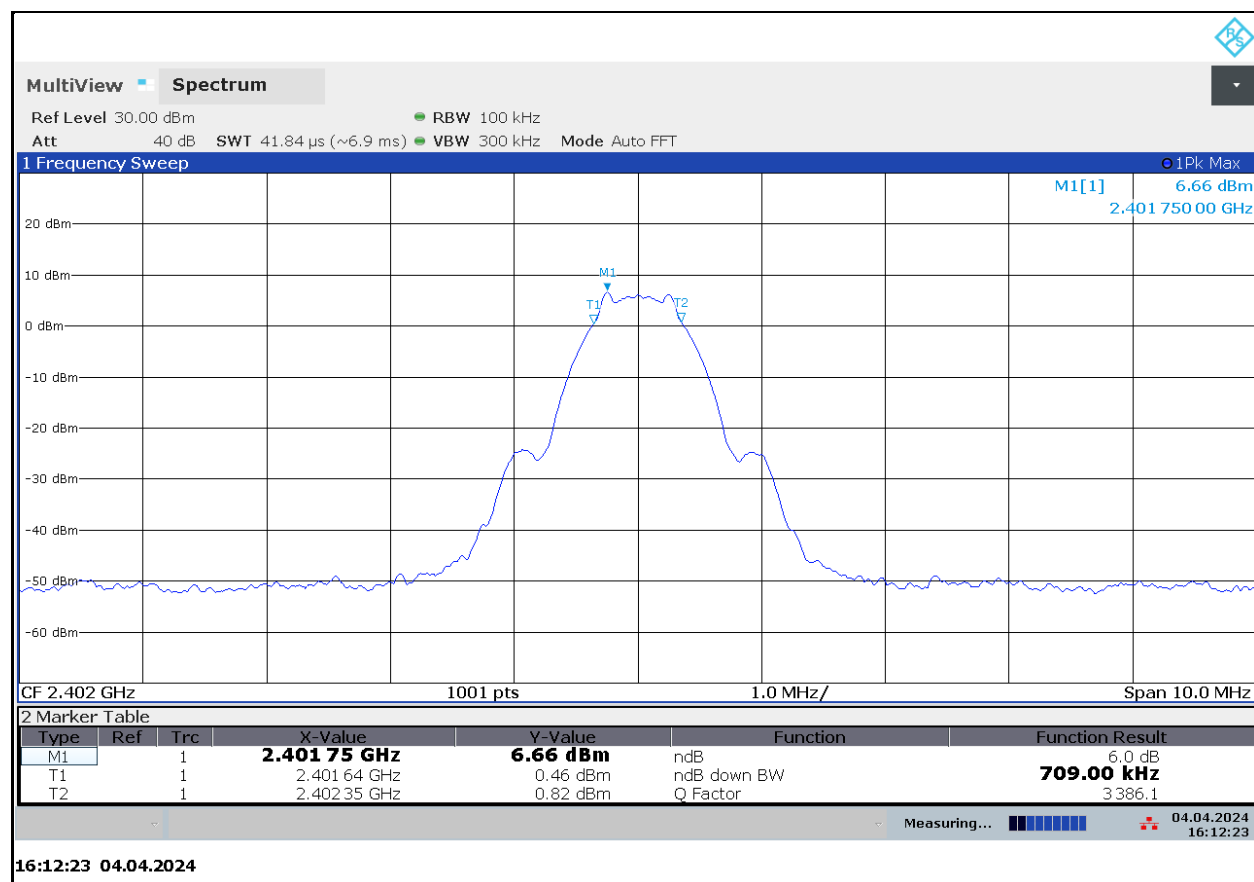
**Table 6-2: Environmental Conditions**

| Date          | Temperature (°C) | Humidity (%) | Pressure (kPa) |
|---------------|------------------|--------------|----------------|
| April 4, 2024 | 22.0             | 33           | 98.5           |

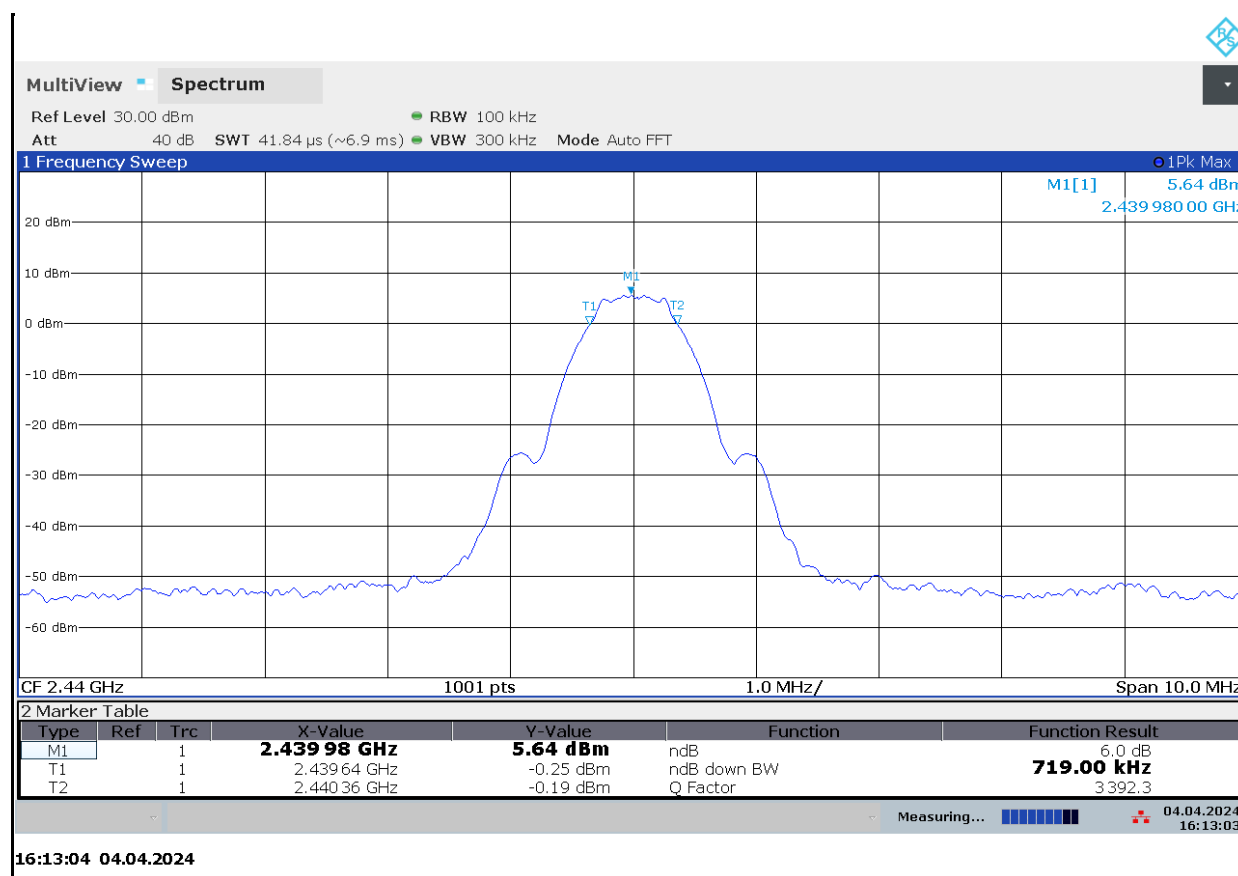
**Table 6-3: Modulated Bandwidth Test Data**

| Frequency (MHz) | 6 dB Bandwidth (kHz) | 99% Bandwidth (MHz) |
|-----------------|----------------------|---------------------|
| 2402            | 709                  | 1.055               |
| 2440            | 719                  | 1.046               |
| 2480            | 759                  | 1.053               |

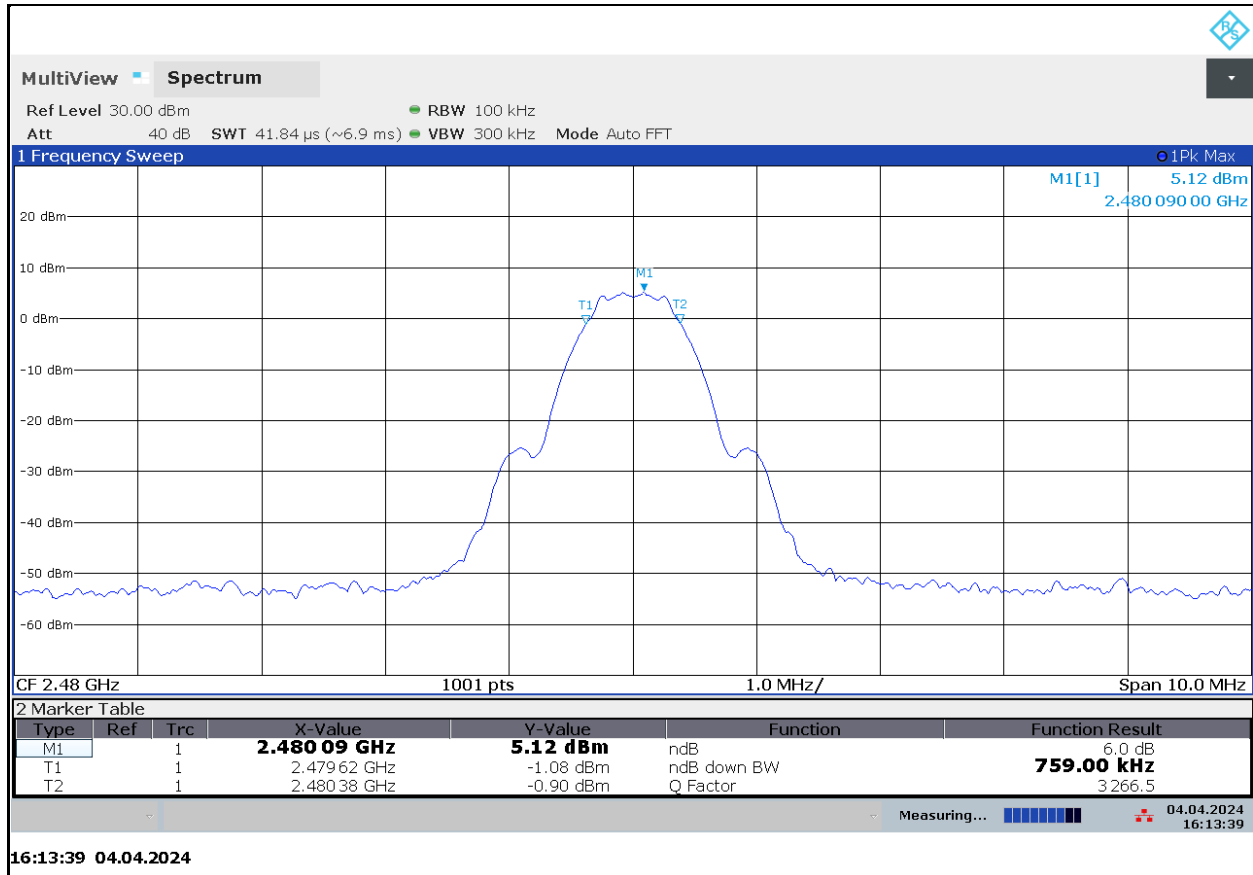
# Plot 6-1: 6 dB Bandwidth – 2402 MHz



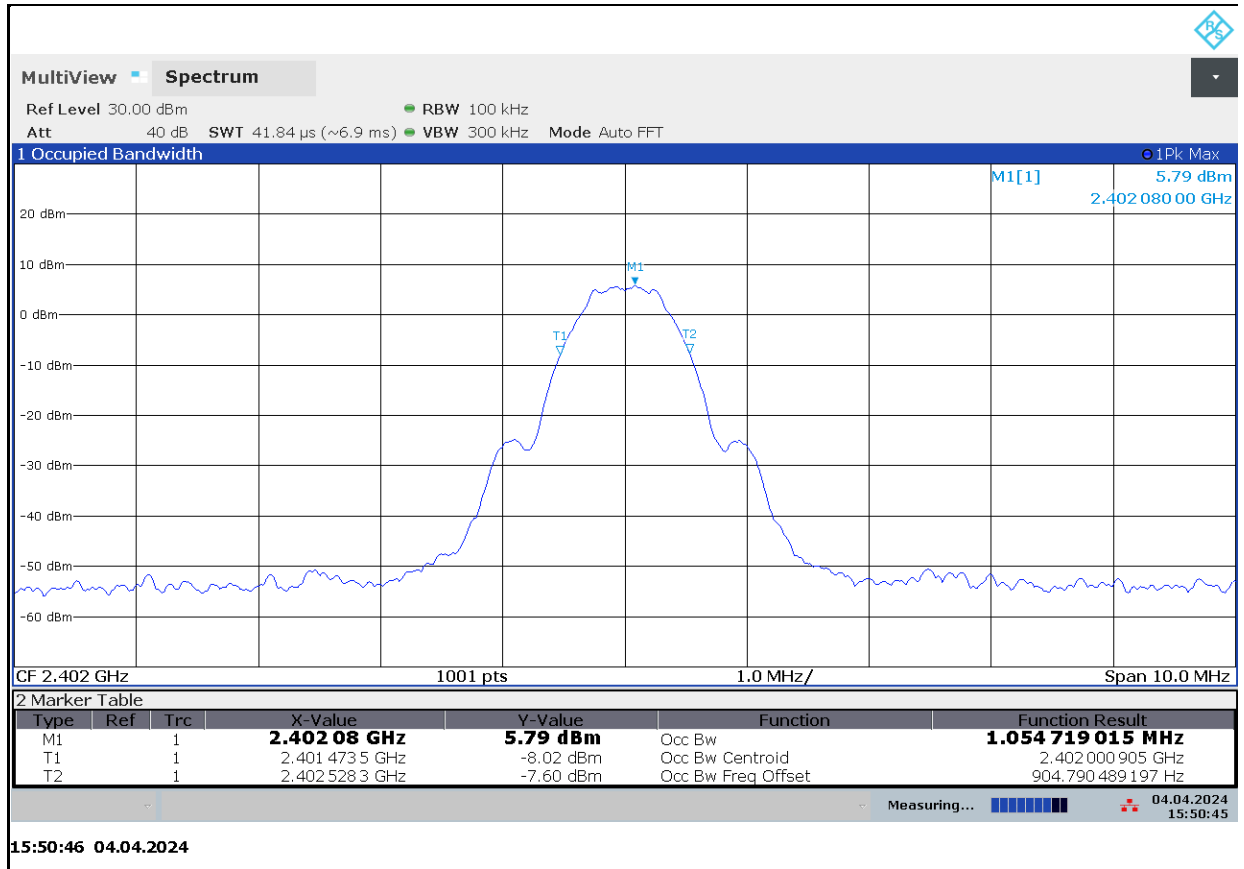
## Plot 6-2: 6 dB Bandwidth – 2440 MHz



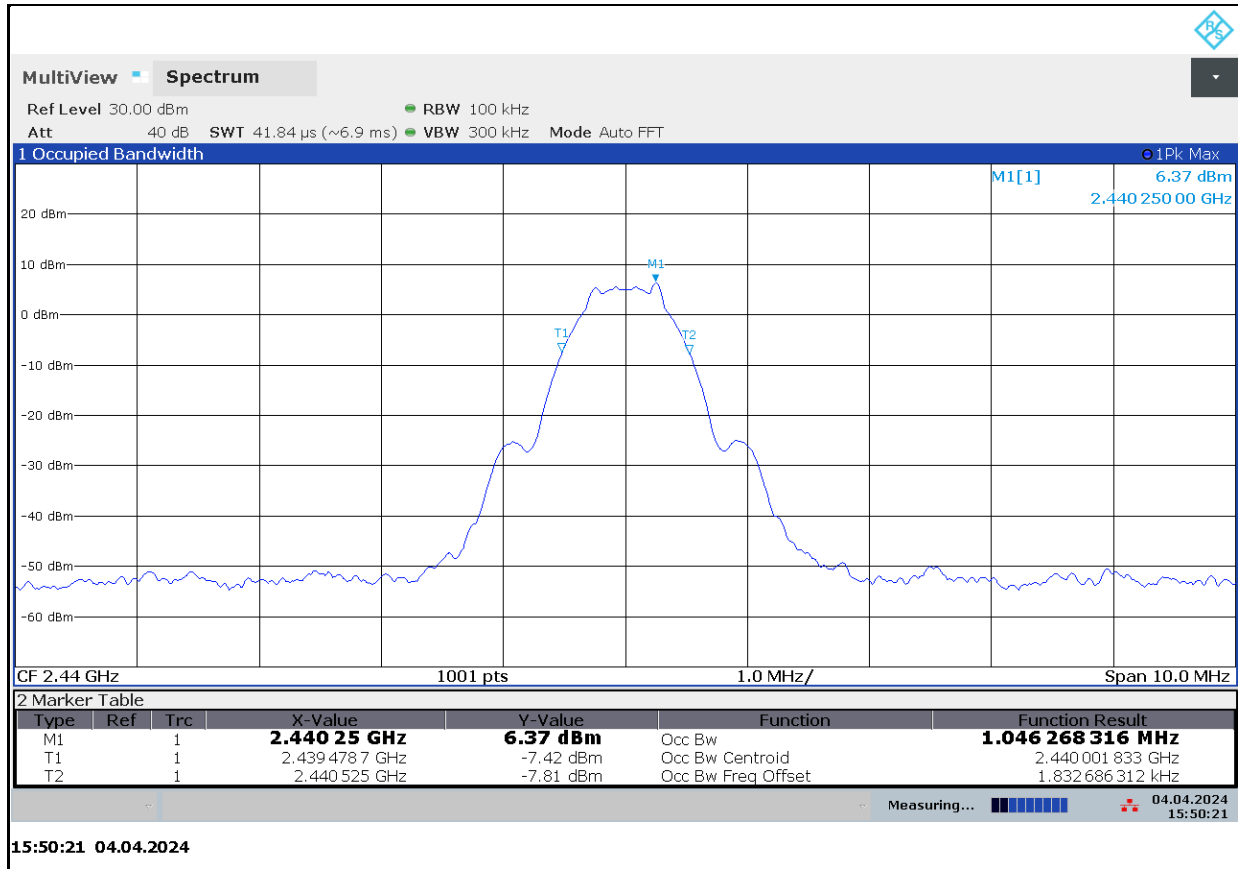
**Plot 6-3: 6 dB Bandwidth – 2480 MHz**



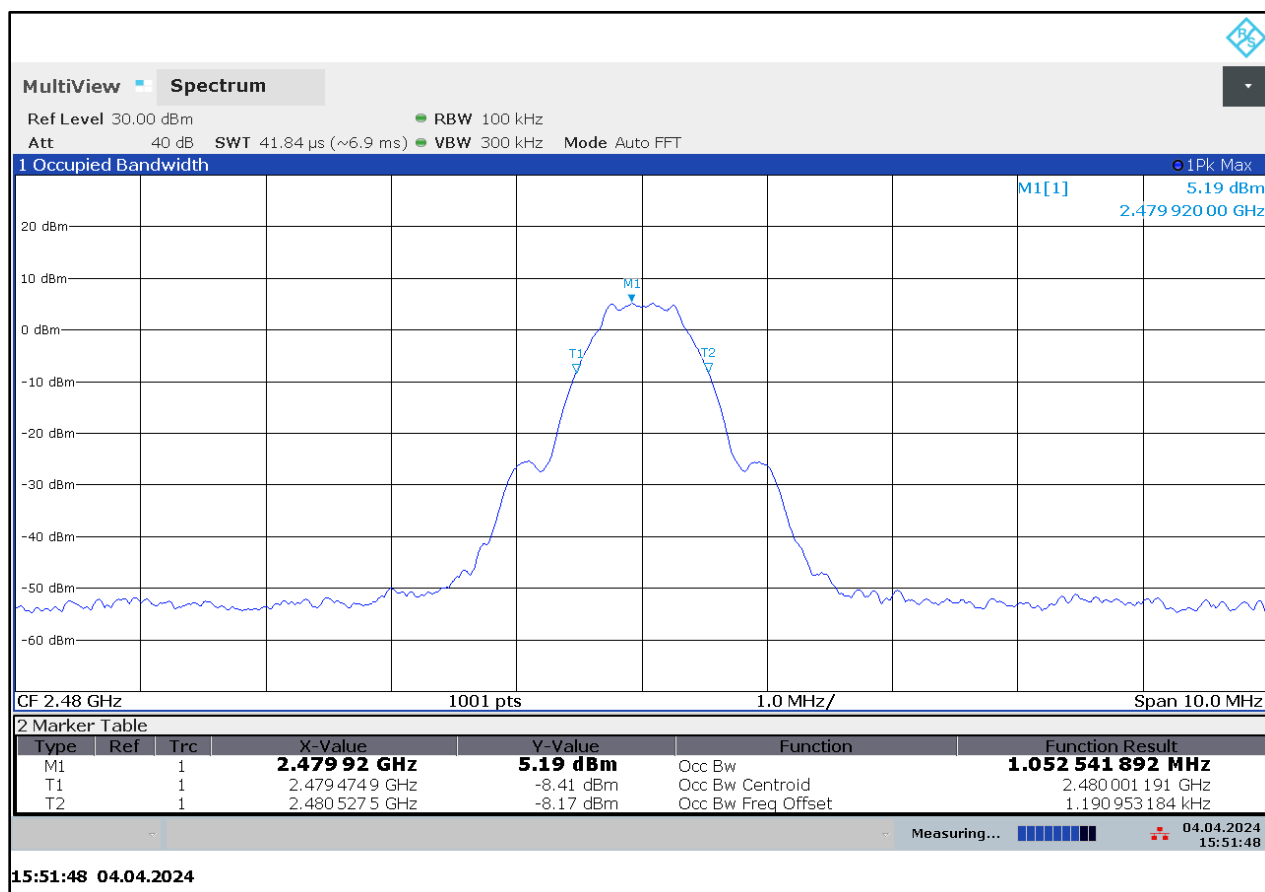
**Plot 6-4: 99% Bandwidth – 2402 MHz**



**Plot 6-5: 99% Bandwidth – 2440 MHz**



**Plot 6-6: 99% Bandwidth – 2480 MHz**



Measurement uncertainty:  $\pm 1 \times 10^{-6}$  Hz. This measurement uncertainty is an expanded uncertainty for 95% confidence level received with a coverage factor k=2.

**Results: Pass**

**Test Personnel:**

|                                                |                                                                                                          |                                          |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------|
| <p>Daniel W. Baltzell</p> <p>Test Engineer</p> | <br><p>Signature</p> | <p>April 4, 2024</p> <p>Date of Test</p> |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------|

## 7 Power Spectral Density – FCC 15.247(e); RSS-247 5.2(b)

### 7.1 Power Spectral Density Test Procedure

The power spectral density per FCC 15.247(e) was measured using a 50-ohm spectrum analyzer with the resolution bandwidth set at 3 kHz, the video bandwidth set at 30 kHz, and the auto sweep time. The spectral lines were resolved for the modulated carriers at 2402 MHz, 2440 MHz, and 2480 MHz. These levels are below the +8 dBm limit.

**Table 7-1: Bandwidth Test Equipment**

| RTL Asset # | Manufacturer    | Model | Part Type         | Serial Number | Calibration Due Date |
|-------------|-----------------|-------|-------------------|---------------|----------------------|
| 901773      | Rohde & Schwarz | FSW   | Spectrum Analyzer | 101021        | 02/02/2025           |

### 7.2 Power Spectral Density Test Results

**Table 7-2: Environmental Conditions**

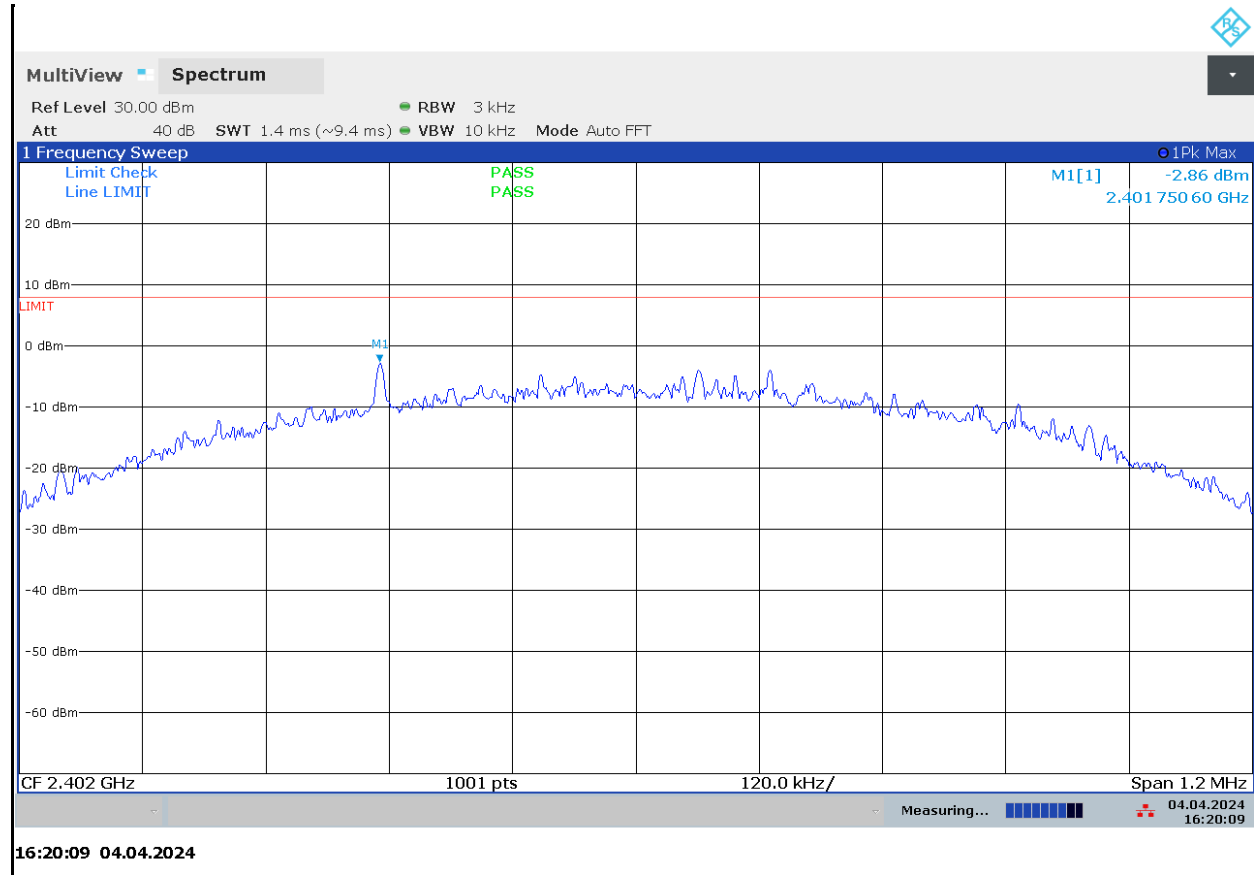
| Date          | Temperature (°C) | Humidity (%) | Pressure (kPa) |
|---------------|------------------|--------------|----------------|
| April 4, 2024 | 22.0             | 33           | 98.5           |

**Table 7-3: Power Spectral Density Test Data**

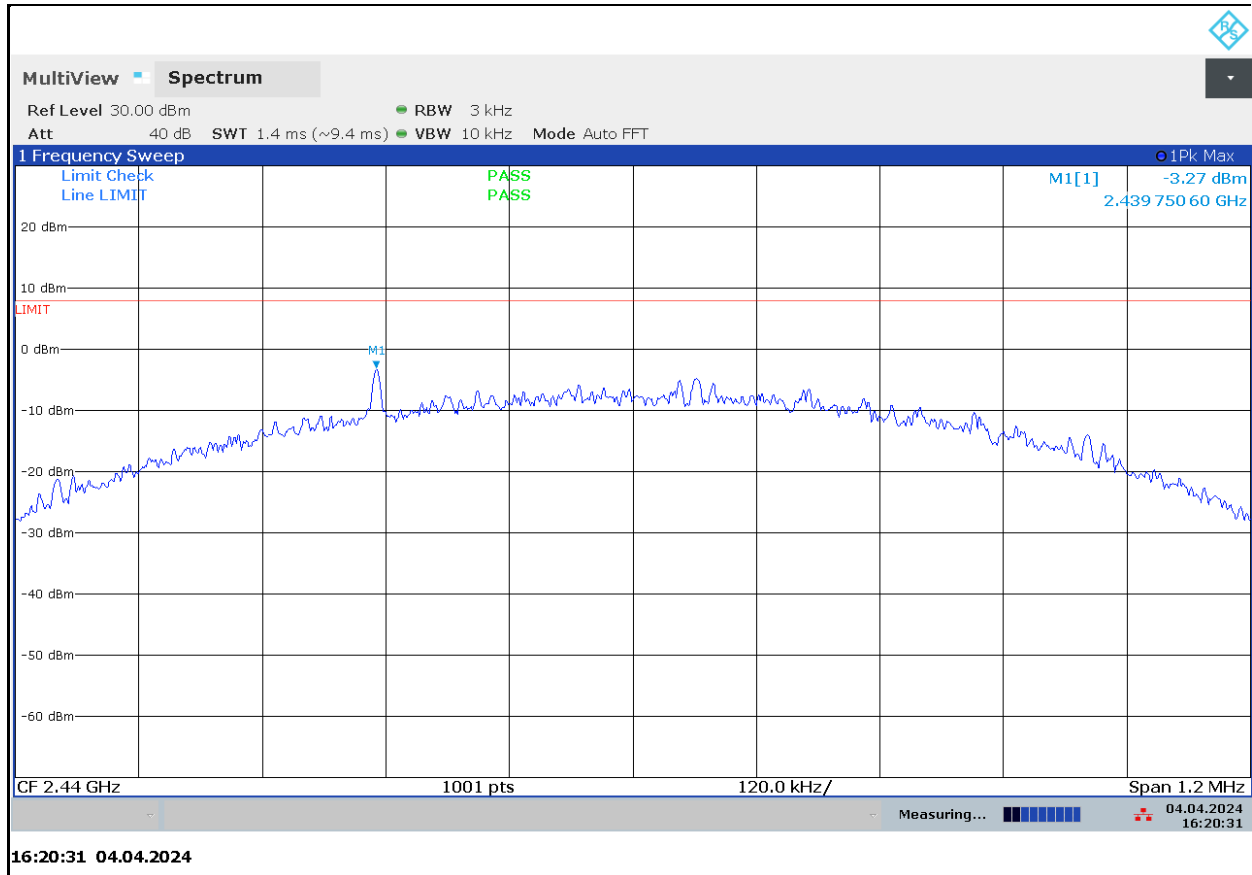
| Frequency (MHz) | PSD (dBm) | Limit (dBm) | Margin (dB) | Result (Pass / Fail) |
|-----------------|-----------|-------------|-------------|----------------------|
| 2402            | -2.9      | 8.0         | 10.9        | Pass                 |
| 2440            | -3.3      | 8.0         | 11.3        | Pass                 |
| 2480            | -3.6      | 8.0         | 11.6        | Pass                 |

### 7.3 Power Spectral Density Plots

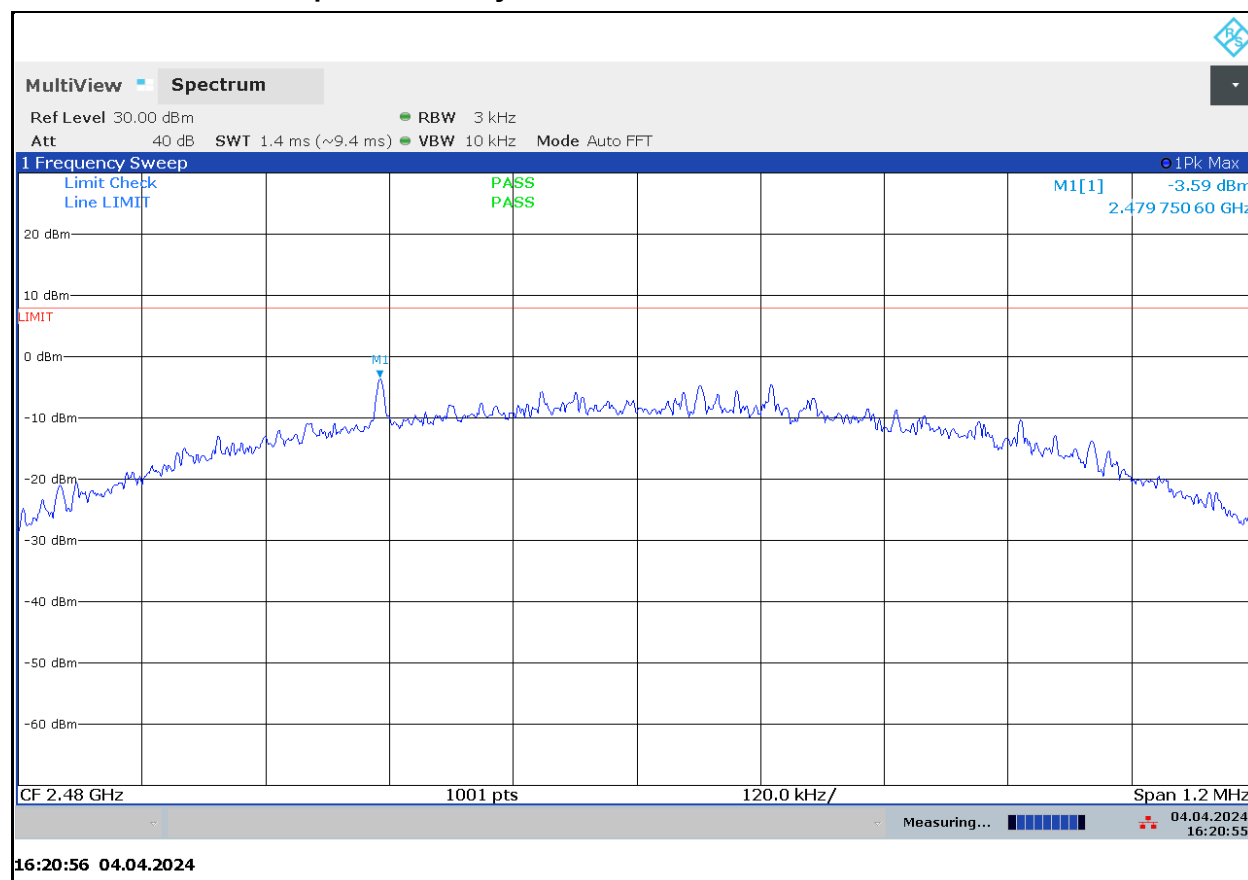
Plot 7-1: Power Spectral Density – 2402 MHz



**Plot 7-2: Power Spectral Density – 2440 MHz**



### Plot 7-3: Power Spectral Density – 2480 MHz



Measurement uncertainty:  $\pm 0.5$  dB. This measurement uncertainty is an expanded uncertainty for 95% confidence level received with a coverage factor  $k=2$ .

### Results: Pass

#### Test Personnel:

|                    |                                                                                      |               |
|--------------------|--------------------------------------------------------------------------------------|---------------|
| Daniel W. Baltzell |  | April 4, 2024 |
| Test Engineer      | Signature                                                                            | Date of Test  |

### 8 AC Conducted Emissions – FCC 15.207; RSS-Gen 8.8

The device is a mobile 13.8 VDC equipment. AC line conducted emissions measurements are not required.

## 9 Radiated Emissions – FCC 15.209; RSS-247 5.5; RSS-Gen 8.9, 8.10

### 9.1 Limits of Radiated Emissions Measurement

| Frequency (MHz) | Field Strength ( $\mu\text{V/m}$ ) | Measurement Distance (m) |
|-----------------|------------------------------------|--------------------------|
| 0.009-0.490     | 2400/f (kHz)                       | 300                      |
| 0.490-1.705     | 2400/f (kHz)                       | 30                       |
| 1.705-30.0      | 30                                 | 30                       |
| 30-88           | 100                                | 3                        |
| 88-216          | 150                                | 3                        |
| 216-960         | 200                                | 3                        |
| Above 960       | 500                                | 3                        |

As shown in 15.35(b), for frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any circumstances of modulation.

### 9.2 Radiated Emissions Measurement Test Procedure

Before final measurements of radiated emissions were made on the open-field three/ten meter range, the EUT was scanned indoors at one and three meter distances. This was done in order to determine its emissions spectrum signature. The physical arrangement of the test system and associated cabling was varied in order to determine the effect on the EUT's emissions in amplitude, direction and frequency. This process was repeated during final radiated emissions measurements on the open-field range, at each frequency, in order to ensure that maximum emission amplitudes were attained.

Final radiated emissions measurements were made on the three/ten-meter, open-field test site. The EUT was placed on a nonconductive turntable 0.8 meters above the ground plane. The spectrum was examined from 9 kHz to the 10<sup>th</sup> harmonic of the highest fundamental transmitter frequency (24.8 GHz).

At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the emission's maximum level. Measurements were taken using both horizontal and vertical antenna polarizations. For frequencies between 30 and 1000 MHz, the spectrum analyzer's 6 dB bandwidth was set to 120 kHz, and the analyzer was operated in the CISPR quasi-peak detection mode. For emissions above 1000 MHz, emissions are measured using the average detector function with a minimum resolution bandwidth of 1 MHz. No video filter less than 10 times the resolution bandwidth was used. The highest emission amplitudes relative to the appropriate limit were measured and recorded in this report.

**Table 9-1: Radiated Emissions Test Equipment**

| RTL Asset Number | Manufacturer            | Model                 | Part Type                               | Serial Number | Calibration Due Date |
|------------------|-------------------------|-----------------------|-----------------------------------------|---------------|----------------------|
| 900772           | EMCO                    | 3161-02               | Horn Antenna (2.0–4.0 GHz)              | 9804-1044     | 08/05/2024           |
| 900321           | EMCO                    | 3161-03               | Horn Antennas (4.0–8.2 GHz)             | 9508-1020     | 08/05/2024           |
| 900323           | EMCO                    | 3160-7                | Horn Antennas (8.2–12.4 GHz)            | 9605-1054     | 08/05/2024           |
| 900356           | EMCO                    | 3160-08               | Horn Antenna (12.4–18.0 GHz)            | 9607-1044     | 08/05/2024           |
| 901218           | EMCO                    | 3160-09               | Horn Antenna (18.0–26.5 GHz)            | 960281-003    | 08/05/2024           |
| 901669           | ETS-Lindgren            | 3142E                 | Biconilog Antenna (30 MHz–6000 MHz)     | 00166065      | 07/11/2025           |
| 900932           | Hewlett Packard         | 8449B OPT H02         | Preamplifier (1-26.5 GHz)               | 3008A00505    | 01/30/2025           |
| 901729           | Insulated Wire Inc.     | KPS-1503-3150-KPR     | SMK RF Cables 20'                       | NA            | 12/29/2024           |
| 901477           | Micro-Coax              | UFA210A-0-0360-300300 | RF cable 0.04-18 GHz                    | 212349-002    | 09/01/2024           |
| 900905           | Rhein Tech Laboratories | PR-1040               | OATS 1 Preamplifier 40dB (30 MHz–2 GHz) | 1006          | 01/30/2025           |
| 901672           | Rohde & Schwarz         | FSEM30                | Spectrum Analyzer                       | FSEM30        | 03/29/2025           |
| 901773           | Rohde & Schwarz         | FSW                   | Spectrum Analyzer                       | 101021        | 02/02/2025           |

### 9.3 Radiated Emissions Test Results

**Table 9-2: Radiated Emissions Environmental Conditions**

| Date              | Temperature (°C) | Humidity (%) | Pressure (kPa) |
|-------------------|------------------|--------------|----------------|
| February 13, 2024 | 15               | 38           | 101.3          |
| April 7, 2024     | 16.7             | 37           | 1019           |

**Table 9-3: Radiated Emissions Harmonics/Spurious – 2402 MHz, Peak Detector**

| Frequency (MHz) | Peak Analyzer (dBµV/m) | Site Correction Factor (dB/m) | Peak Corrected (dBµV/m) | Peak Limit (dBµV/m) | Peak Margin (dB) |
|-----------------|------------------------|-------------------------------|-------------------------|---------------------|------------------|
| 4804.0          | 59.7                   | -3.4                          | 56.3                    | 74.0                | -17.7            |
| 12010.0         | 44.1                   | 2.1                           | 46.2                    | 74.0                | -27.8            |
| 19216.0         | 39.0                   | 10.4                          | 49.4                    | 74.0                | -24.6            |

**Table 9-4: Radiated Emissions Harmonics/Spurious – 2402 MHz, Average Detector**

| Frequency (MHz) | Average Analyzer (dBµV/m) | Site Correction Factor (dB/m) | Average Corrected (dBµV/m) | Average Limit (dBµV/m) | Average Margin (dB) |
|-----------------|---------------------------|-------------------------------|----------------------------|------------------------|---------------------|
| 4804.0          | 56.8                      | -3.4                          | 53.4                       | 54.0                   | -0.6                |
| 12010.0         | 33.9                      | 2.1                           | 36.0                       | 54.0                   | -18.0               |
| 19216.0         | 31.1                      | 10.4                          | 41.5                       | 54.0                   | -12.5               |

**Table 9-5: Radiated Emissions Harmonics/Spurious – 2440 MHz, Peak Detector**

| Frequency (MHz) | Peak Analyzer (dBµV/m) | Site Correction Factor (dB/m) | Peak Corrected (dBµV/m) | Peak Limit (dBµV/m) | Peak Margin (dB) |
|-----------------|------------------------|-------------------------------|-------------------------|---------------------|------------------|
| 4880.0          | 59.4                   | -3.2                          | 56.2                    | 74.0                | -17.8            |
| 7320.0          | 42.1                   | 0.5                           | 42.6                    | 74.0                | -31.4            |
| 12200.0         | 42.2                   | 2.4                           | 44.6                    | 74.0                | -29.4            |
| 19520.0         | 40.2                   | 9.9                           | 50.1                    | 74.0                | -23.9            |

**Table 9-6: Radiated Emissions Harmonics/Spurious – 2440 MHz, Average Detector**

| Frequency (MHz) | Average Analyzer (dBµV/m) | Site Correction Factor (dB/m) | Average Corrected (dBµV/m) | Average Limit (dBµV/m) | Average Margin (dB) |
|-----------------|---------------------------|-------------------------------|----------------------------|------------------------|---------------------|
| 4880.0          | 56.7                      | -3.2                          | 53.5                       | 54.0                   | -0.5                |
| 7320.0          | 33.8                      | 0.5                           | 34.3                       | 54.0                   | -19.7               |
| 12200.0         | 32.6                      | 2.4                           | 35.0                       | 54.0                   | -19.0               |
| 19520.0         | 31.8                      | 9.9                           | 41.7                       | 54.0                   | -12.3               |

**Table 9-7: Radiated Emissions Harmonics/Spurious – 2480 MHz, Peak Detector**

| Frequency (MHz) | Peak Analyzer (dBµV/m) | Site Correction Factor (dB/m) | Peak Corrected (dBµV/m) | Peak Limit (dBµV/m) | Peak Margin (dB) |
|-----------------|------------------------|-------------------------------|-------------------------|---------------------|------------------|
| 4960.0          | 56.3                   | -2.2                          | 54.1                    | 74.0                | -19.9            |
| 7440.0          | 42.4                   | 0.3                           | 42.7                    | 74.0                | -31.3            |
| 12400.0         | 41.8                   | 6.0                           | 47.8                    | 74.0                | -26.2            |
| 19840.0         | 39.8                   | 10.1                          | 49.9                    | 74.0                | -24.1            |
| 22320.0         | 39.7                   | 10.1                          | 49.8                    | 74.0                | -24.2            |

**Table 9-8: Radiated Emissions Harmonics/Spurious – 2480 MHz, Average Detector**

| Frequency (MHz) | Average Analyzer (dBμV/m) | Site Correction Factor (dB/m) | Average Corrected (dBμV/m) | Average Limit (dBμV/m) | Average Margin (dB) |
|-----------------|---------------------------|-------------------------------|----------------------------|------------------------|---------------------|
| 4960.0          | 53.6                      | -2.2                          | 51.4                       | 54.0                   | -2.6                |
| 7440.0          | 33.2                      | 0.3                           | 33.5                       | 54.0                   | -20.5               |
| 12400.0         | 32.0                      | 6.0                           | 38.0                       | 54.0                   | -16.0               |
| 19840.0         | 32.4                      | 10.1                          | 42.5                       | 54.0                   | -11.5               |
| 22320.0         | 31.2                      | 10.1                          | 41.3                       | 54.0                   | -12.7               |

**Table 9-9: Unintentional Emissions Test Data**

| Temperature: 43.0°F Humidity: 48% Barometric Pressure: 30.16"Hg |               |                        |                       |                    |                         |                               |                         |                |             |           |
|-----------------------------------------------------------------|---------------|------------------------|-----------------------|--------------------|-------------------------|-------------------------------|-------------------------|----------------|-------------|-----------|
| Emission Frequency (MHz)                                        | Test Detector | Antenna Polarity (H/V) | Turntable Azimuth (°) | Antenna Height (m) | Analyzer Reading (dBμV) | Site Correction Factor (dB/m) | Emission Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Pass/Fail |
| 30.400                                                          | QP            | V                      | 260                   | 1.0                | 47.1                    | -19.4                         | 27.7                    | 40.0           | -12.3       | Pass      |
| 32.886                                                          | QP            | H                      | 40                    | 1.0                | 46.2                    | -15.2                         | 31.0                    | 40.0           | -9.0        | Pass      |
| 35.411                                                          | QP            | V                      | 220                   | 1.0                | 43.3                    | -16.6                         | 26.7                    | 40.0           | -13.3       | Pass      |
| 37.996                                                          | QP            | V                      | 80                    | 1.0                | 48.8                    | -18.0                         | 30.8                    | 40.0           | -9.2        | Pass      |
| 50.024                                                          | QP            | V                      | 190                   | 1.0                | 52.8                    | -22.8                         | 30.0                    | 40.0           | -10.0       | Pass      |
| 81.062                                                          | QP            | H                      | 120                   | 1.5                | 45.6                    | -28.5                         | 17.1                    | 40.0           | -22.9       | Pass      |
| 144.483                                                         | QP            | V                      | 230                   | 1.0                | 51.9                    | -26.3                         | 25.6                    | 43.5           | -17.9       | Pass      |
| 147.000                                                         | QP            | V                      | 140                   | 1.0                | 50.3                    | -26.0                         | 24.3                    | 43.5           | -19.2       | Pass      |
| 149.543                                                         | QP            | V                      | 30                    | 1.0                | 46.5                    | -25.5                         | 21.0                    | 43.5           | -22.5       | Pass      |
| 240.053                                                         | QP            | H                      | 70                    | 1.4                | 57.1                    | -20.1                         | 37.0                    | 46.0           | -9.0        | Pass      |
| 250.013                                                         | QP            | V                      | 80                    | 1.0                | 55.8                    | -19.5                         | 36.3                    | 46.0           | -9.7        | Pass      |
| 400.000                                                         | QP            | H                      | 125                   | 1.5                | 50.1                    | -17.4                         | 32.7                    | 46.0           | -13.3       | Pass      |
| 681.200                                                         | QP            | H                      | 320                   | 1.4                | 34.5                    | -11.4                         | 23.1                    | 46.0           | -22.9       | Pass      |
| 994.000                                                         | QP            | V                      | 325                   | 1.0                | 33.5                    | -8.0                          | 25.5                    | 54.0           | -28.5       | Pass      |
| 1042.084                                                        | AV            | H                      | 90                    | 1.5                | 42.7                    | -7.3                          | 35.4                    | 54.0           | -18.6       | Pass      |
| 1050.013                                                        | AV            | H                      | 330                   | 1.1                | 35.2                    | -7.0                          | 28.2                    | 54.0           | -25.8       | Pass      |
| 1114.228                                                        | AV            | H                      | 339                   | 1.0                | 32.8                    | -7.2                          | 25.6                    | 54.0           | -28.4       | Pass      |

Measurement uncertainty: ±4.7 dB. This measurement uncertainty is an expanded uncertainty for 95% confidence level received with a coverage factor k=2.

**Results: Pass**

Rhein Tech Laboratories, Inc.  
360 Herndon Parkway  
Suite 1400  
Herndon, VA 20170  
<http://www.rheintech.com>

Client: L3Harris Corporation  
Model / HVIN: XL-CH2 / XLCU-CH2  
Standards: FCC 15.247 & ISED RSS-247  
ID's: OWDTR-0171-E/3636B-0171  
Report #: 2023034DTSBLE

**Test Personnel:**

|                    |                                                                                    |                                      |
|--------------------|------------------------------------------------------------------------------------|--------------------------------------|
| Daniel W. Baltzell |  | February 13, 2024 &<br>April 7, 2024 |
| Test Engineer      | Signature                                                                          | Dates of Test                        |

**10 Conclusion**

The data in this measurement report shows that the EUT as tested, L3Harris Corporation XL-CH2 Control Head, FCC ID: OWDTR-0171-E, IC: 3636B-0171, complies with the applicable requirements of FCC Parts 2 and 15 and ISED RSS-247 and RSS-Gen.