

# EXODRAFT TEST REPORT

**SCOPE OF WORK**

RADIO TESTING – XTP SENSOR (7501143)

**REPORT NUMBER**

106266455ATL-005

**ISSUE DATE**

31 October 2025

**REVISED DATE**

04 February 2026

**PAGES**

24



**DOCUMENT CONTROL NUMBER**

Non-Specific Radio Report Shell Rev. January 2025

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**RADIO TEST REPORT****Report Number:** 106266455ATL-005**Project Number:** G106266455**Report Issue Date:** 31 October 2025**Report Revision Date:** 04 February 2026**PMN:** Xzense XTP**Model/HVIN:** 7501143**FVIN:** V4.12**FCC ID:** 2BRZZ-7501143XTP**IC:** 34524-7501143XTP

**Standards:** 47 CFR Part 15 Subpart C, 15.247  
RSS-247, Issue 4  
ANSI C63.10-2020+Cor.1-2023  
RSS-GEN, Issue 5

**Test Location**

Intertek  
1950 Evergreen Blvd., Suite 100  
Duluth, GA 30096 USA  
FCC Designation: US1046  
CAB Designator: US0128

**Client**

Exodraft A/S  
Industrivej 10, 5550 Langeskov, Denmark

Report prepared by



Jeremy Pickens / Senior Staff Engineer

Report reviewed by



Michael Carlson / Staff Engineer

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**Table of Contents**

|           |                                                                              |           |
|-----------|------------------------------------------------------------------------------|-----------|
| <b>1</b>  | <b><i>Introduction and Conclusion .....</i></b>                              | <b>4</b>  |
| <b>2</b>  | <b><i>Test Summary .....</i></b>                                             | <b>4</b>  |
| <b>3</b>  | <b><i>Client Information .....</i></b>                                       | <b>5</b>  |
| <b>4</b>  | <b><i>Description of Equipment Under Test and Variant Models .....</i></b>   | <b>5</b>  |
| <b>5</b>  | <b><i>Bandwidth.....</i></b>                                                 | <b>7</b>  |
| <b>6</b>  | <b><i>Peak Output Power .....</i></b>                                        | <b>9</b>  |
| <b>7</b>  | <b><i>Peak Power Spectral Density .....</i></b>                              | <b>11</b> |
| <b>8</b>  | <b><i>Conducted Spurious Emissions / Band Edge .....</i></b>                 | <b>13</b> |
| <b>9</b>  | <b><i>Radiated Spurious Emissions / Restricted Frequency Bands .....</i></b> | <b>16</b> |
| <b>10</b> | <b><i>AC Conducted Emissions .....</i></b>                                   | <b>21</b> |
| <b>11</b> | <b><i>Measurement Uncertainty .....</i></b>                                  | <b>23</b> |
| <b>12</b> | <b><i>Revision History .....</i></b>                                         | <b>24</b> |

## 1 Introduction and Conclusion

The tests indicated in Section 2 were performed on the product constructed as described in Section 4. The remaining test sections are the verbatim text from the actual data sheets used during the investigation. These test sections include the test name, the specified test Method, a list of the actual Test Equipment Used, documentation Photos, Results and raw Data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product tested **complies** with the requirements of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) tested. Intertek does not make any claims of compliance for samples or variants which were not tested.

## 2 Test Summary

| Section | Test Description                         | Test Specification                |                                 | Result                 |
|---------|------------------------------------------|-----------------------------------|---------------------------------|------------------------|
|         |                                          | FCC                               | ISED                            |                        |
| 5       | Occupied and DTS Bandwidth               | 15.247(a)(2)                      | RSS-247 S5.2(a)<br>RSS-GEN S6.7 | Compliant              |
| 6       | Peak Output Power                        | 15.247(b)(3)                      | RSS-247 S5.4(d)                 | Compliant              |
| 7       | Power Spectral Density                   | 15.247(e)                         | RSS-247 S5.2(b)                 | Compliant              |
| 8       | Conducted Spurious Emissions / Band Edge | 15.247(d)                         | RSS-247 S5.5                    | Compliant              |
| 9       | Emissions in Restricted Frequency Bands  | 15.247(d)<br>15.205(a), 15.209(a) | RSS-GEN S8.9-8.10               | Compliant              |
| 10      | AC Mains Conducted Emissions             | 15.207                            | RSS-GEN S8.8                    | Compliant              |
| NA      | Antenna Requirement                      | 15.203                            | RSS-GEN S6.8                    | Compliant <sup>1</sup> |

1) The antenna is internal and not removable.

### 3 Client Information

This evaluation was performed at the request of:

**Client:** Exodraft A/S  
Industrivej 10, 5550 Langeskov, Denmark

**Contact:** Christian Ahler

**Email:** [kord@exodraft.dk](mailto:kord@exodraft.dk)

### 4 Description of Equipment Under Test and Variant Models

**Manufacturer:** Exodraft A/S  
Industrivej 10, 5550 Langeskov, Denmark

| Equipment Under Test       |              |              |                  |
|----------------------------|--------------|--------------|------------------|
| Description                | Manufacturer | Model Number | Serial Number    |
| Xzense XTP Pressure Sensor | Exodraft a/s | 7501143      | Compliance Sys 2 |

|                            |              |
|----------------------------|--------------|
| <b>Receive Date:</b>       | 21 July 2025 |
| <b>Received Condition:</b> | Good         |
| <b>Type:</b>               | Production   |

#### Description of Equipment Under Test (provided by client)

The EUT was a wireless pressure sensor for use in Exodraft's Xzense wireless control system.

| Radio/Receiver Characteristics              |                                                           |
|---------------------------------------------|-----------------------------------------------------------|
| <b>Frequency Range / Number of Channels</b> | 903MHz, 1 Channel                                         |
| <b>Data Rate / Modulation Type(s)</b>       | GFSK                                                      |
| <b>Channel Separation:</b>                  | NA                                                        |
| <b>Maximum Conducted Output Power:</b>      | 12.11 dBm (16.22mW)                                       |
| <b>Equipment Type</b>                       | Mobile – 20cm Separation Distance                         |
| <b>Antenna Type and Gain</b>                | Board Mounted Antenna (Abracon, P/N: PRO-OB-471): +2.4dBi |

#### Software

| No. | Description of EUT Software |
|-----|-----------------------------|
| 1   | Gecko Bootloader v1.7.A     |

#### 4.1 Justification

All testing performed in this report was for the radio only.

For antenna conducted port measurements, the DUT antenna was disconnected and fitted with an SMA adapter pigtail. The DUT was powered via USB-C which also allowed control using a test laptop through terminal commands.

For radiated emission measurements the DUT was placed on a non-conductive platform (80cm or 1.5meters depending on the frequency range). The EUT was tested at its single operating channel.

Software Setting for Power: 170 (100% Duty Cycle)

The DUT was pre-scanned in 3-axes. The worst-case for spurious emissions was the Y-Axis.

#### 4.2 Modifications Required for Compliance

No modifications were made during compliance testing in order to bring the product into compliance.

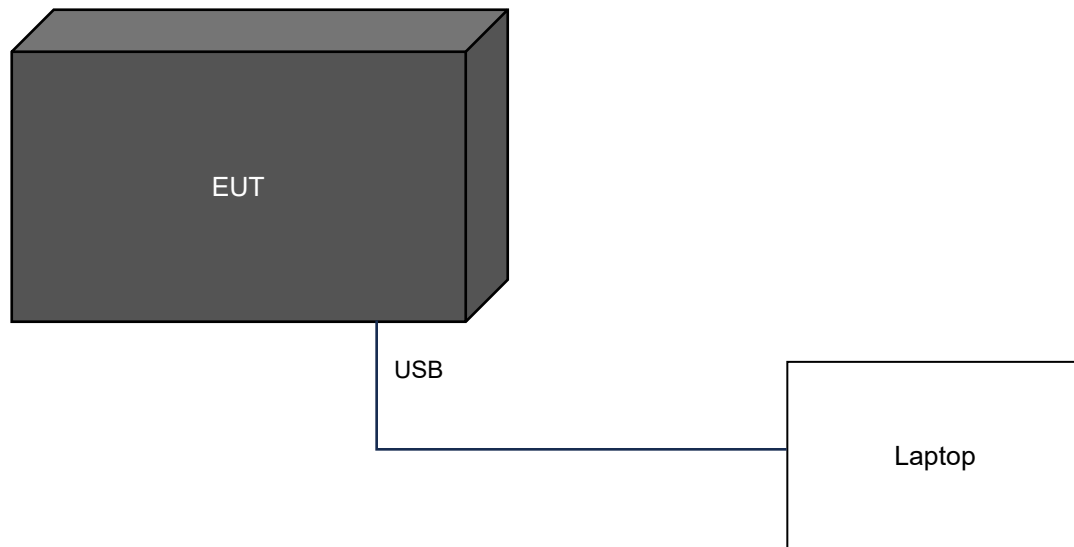
#### 4.3 Additions, Deviations and Exclusions from Standards

No additions, deviations or exclusion have been made from standard.

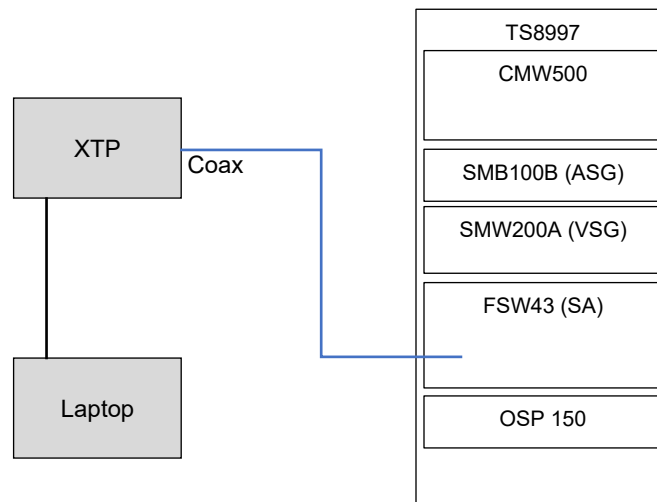
#### 4.4 Method

Configuration as required by ANSI C63.10.

#### 4.5 EUT Block Diagram – Radiated Measurements



#### 4.6 EUT Block Diagram – Conducted Measurements



## 5 Bandwidth

### 5.1 Method

The procedures from ANSI C63.10 clause 11.8 and 558074 D01 DTS Meas Guidance v05r2 were used to determine the 6 dB bandwidth.

The procedures from ANSI C63.10 clause 6.9.3 were used to measure the 99% Occupied Bandwidth.

#### TEST SITE: RF Bench

The RF bench consists of a Rohde & Schwarz TS8997 automated test system coupled with a temperature/humidity environmental chamber. Measurements are automated using the Rohde & Schwarz EMC32 test software. The TS8997 system houses a switch matrix (OSP), along with a spectrum analyzer, vector network analyzer, and analog signal generator.

### 5.2 Test Equipment

| Asset  | Description                          | Manufacturer    | Model   | Serial | Cal Date   | Cal Due    |
|--------|--------------------------------------|-----------------|---------|--------|------------|------------|
| 200001 | Attenuator, 20 dB, <18GHz            | Weinschel Corp  | 2       | BK1848 | VBU        | VBU        |
| 212164 | Temperature/Pressure/Humidity Sensor | Extech          | SD700   | 109402 | 07/08/2025 | 07/08/2026 |
| 213500 | Analog Signal Generator (8kHz-40GHz) | Rohde & Schwarz | SMB100B | 106096 | 05/08/2025 | 05/08/2027 |
| 213502 | Spectrum Analyzer (2Hz-43.5GHz)      | Rohde & Schwarz | FSW43   | 102972 | 08/01/2024 | 08/01/2026 |

#### Software Utilized

| Name        | Manufacturer    | Version             |
|-------------|-----------------|---------------------|
| RSCommander | Rohde & Schwarz | 2.4.2 64-bit (2023) |

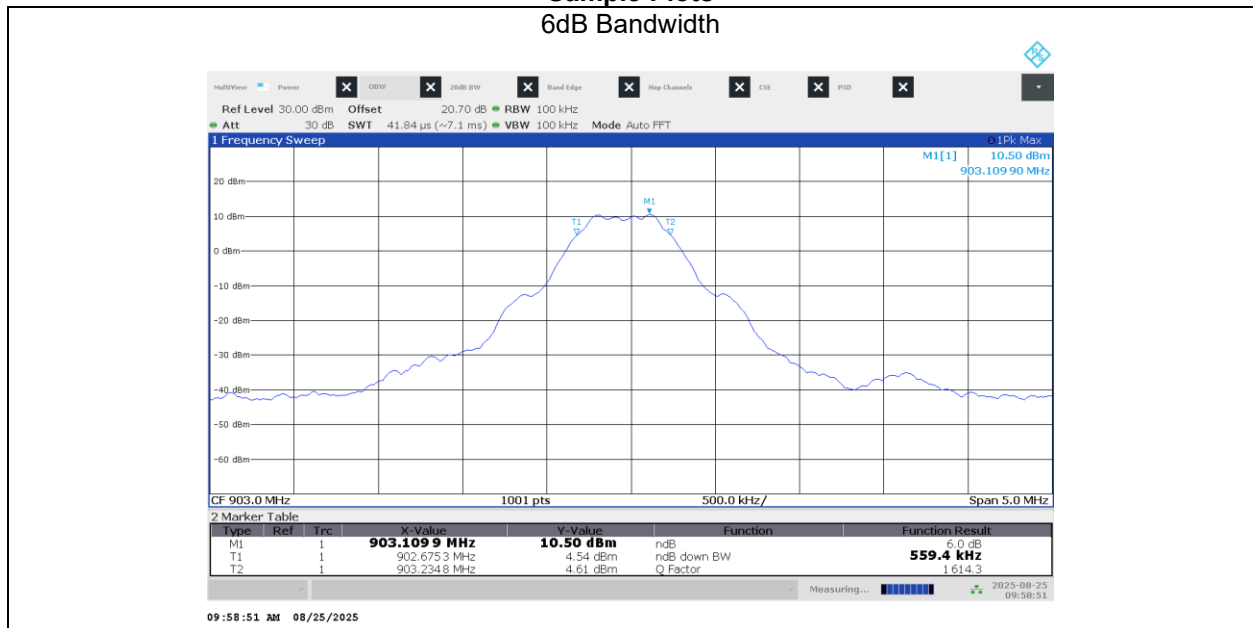
### 5.3 Test Data

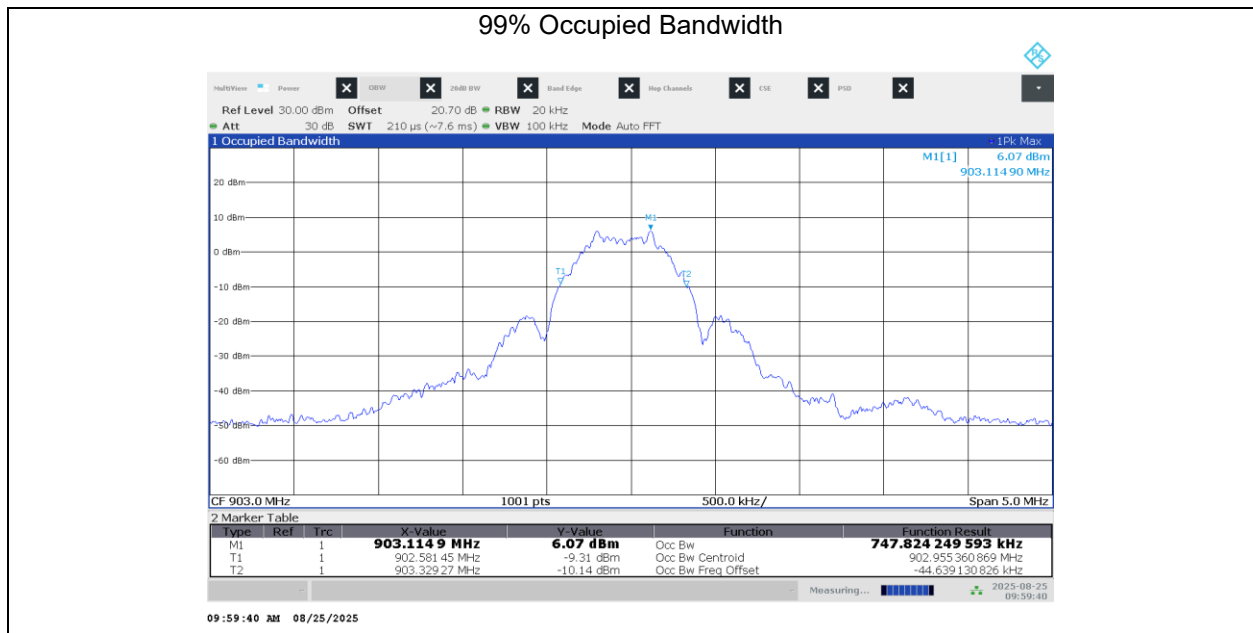
| Frequency (MHz) | 6dB Bandwidth (kHz) | Limit (kHz) | Result    |
|-----------------|---------------------|-------------|-----------|
| 903.0           | 559.4               | >500        | Compliant |

| Frequency (MHz) | 99% OBW (kHz) | Limit (kHz) | Result   |
|-----------------|---------------|-------------|----------|
| 903.0           | 747.8         | NA          | Reported |

#### Sample Plots

##### 6dB Bandwidth





Test Personnel: Jeremy Pickens

Supervising/Reviewing Engineer: \_\_\_\_\_

(Where Applicable) \_\_\_\_\_

Product Standard: ANSI C63.10

Input Voltage: 5Vdc (USB-C)

Test Date: 25 August 2025

Ambient Temperature: 20.9°C

Relative Humidity: 48.1%

Atmospheric Pressure: 98.2kPa

## 6 Peak Output Power

### 6.1 Method

The procedures from KDB 558074 D01 DTS Meas Guidance v05r2 and ANSI C63.10 Clause 11.9.1.1 were used to measure the peak output power.

#### TEST SITE: RF Bench

The RF bench consists of a Rohde & Schwarz TS8997 automated test system coupled with a temperature/humidity environmental chamber. Measurements are automated using the Rohde & Schwarz EMC32 test software. The TS8997 system houses a switch matrix (OSP), along with a spectrum analyzer, vector network analyzer, and analog signal generator.

### 6.2 Test Equipment

| Asset  | Description                          | Manufacturer    | Model   | Serial | Cal Date   | Cal Due    |
|--------|--------------------------------------|-----------------|---------|--------|------------|------------|
| 200001 | Attenuator, 20 dB, <18GHz            | Weinschel Corp  | 2       | BK1848 | VBU        | VBU        |
| 212164 | Temperature/Pressure/Humidity Sensor | Extech          | SD700   | 109402 | 07/08/2025 | 07/08/2026 |
| 213500 | Analog Signal Generator (8kHz-40GHz) | Rohde & Schwarz | SMB100B | 106096 | 05/08/2025 | 05/08/2027 |
| 213502 | Spectrum Analyzer (2Hz-43.5GHz)      | Rohde & Schwarz | FSW43   | 102972 | 08/01/2024 | 08/01/2026 |

#### Software Utilized

| Name         | Manufacturer    | Version             |
|--------------|-----------------|---------------------|
| RSCCommander | Rohde & Schwarz | 2.4.2 64-bit (2023) |

### 6.3 Results

The sample tested was found to Comply.

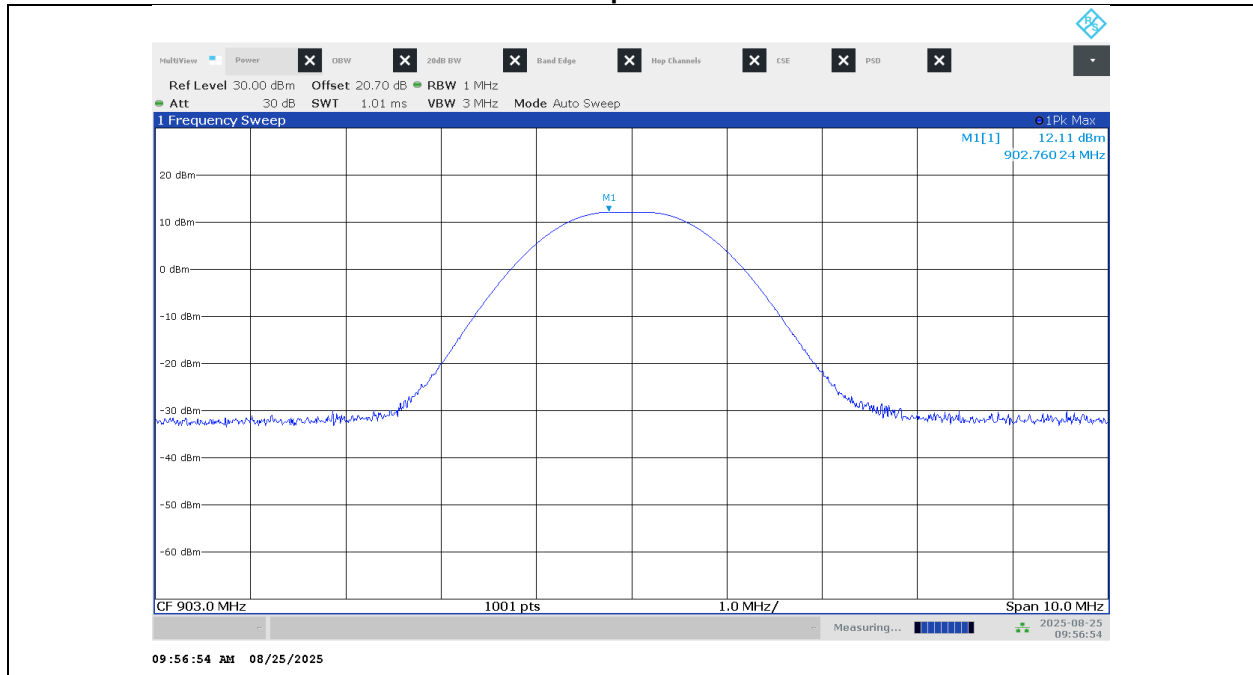
### 6.4 Test Data

| Frequency (MHz) | Peak Power (dBm) | Limit (dBm) | Result |
|-----------------|------------------|-------------|--------|
| 903.0           | 12.11            | 30          | Pass   |

| Frequency (MHz) | Conducted Peak Power | Antenna Gain (dBi) | EIRP (dBm) | IC EIRP Limit (dBm) | Result |
|-----------------|----------------------|--------------------|------------|---------------------|--------|
| 903.0           | 12.11                | 2.4                | 14.51      | 34                  | Pass   |

$$\text{EIRP} = \text{Peak Power} + \text{Antenna Gain}$$

Sample Plot



Test Personnel: Jeremy Pickens  
 Supervising/Reviewing Engineer: \_\_\_\_\_  
 (Where Applicable) \_\_\_\_\_  
 Product Standard: ANSI C63.10  
 Input Voltage: 5Vdc (USB-C)

Test Date: 25 August 2025

Ambient Temperature: 20.9°C

Relative Humidity: 48.1%

Atmospheric Pressure: 98.2kPa

## 7 Peak Power Spectral Density

### 7.1 Method

The procedures from KDB 558074 D01 DTS Meas Guidance v05r2 and ANSI C63.10 Clause 11.10.2 were used to measure the peak PSD.

#### TEST SITE: RF Bench

The RF bench consists of a Rohde & Schwarz TS8997 automated test system coupled with a temperature/humidity environmental chamber. Measurements are automated using the Rohde & Schwarz EMC32 test software. The TS8997 system houses a switch matrix (OSP), along with a spectrum analyzer, vector network analyzer, and analog signal generator.

### 7.2 Test Equipment

| Asset  | Description                          | Manufacturer    | Model   | Serial | Cal Date   | Cal Due    |
|--------|--------------------------------------|-----------------|---------|--------|------------|------------|
| 200001 | Attenuator, 20 dB, <18GHz            | Weinschel Corp  | 2       | BK1848 | VBU        | VBU        |
| 212164 | Temperature/Pressure/Humidity Sensor | Extech          | SD700   | 109402 | 07/08/2025 | 07/08/2026 |
| 213500 | Analog Signal Generator (8kHz-40GHz) | Rohde & Schwarz | SMB100B | 106096 | 05/08/2025 | 05/08/2027 |
| 213502 | Spectrum Analyzer (2Hz-43.5GHz)      | Rohde & Schwarz | FSW43   | 102972 | 08/01/2024 | 08/01/2026 |

### Software Utilized

| Name         | Manufacturer    | Version             |
|--------------|-----------------|---------------------|
| RSCCommander | Rohde & Schwarz | 2.4.2 64-bit (2023) |

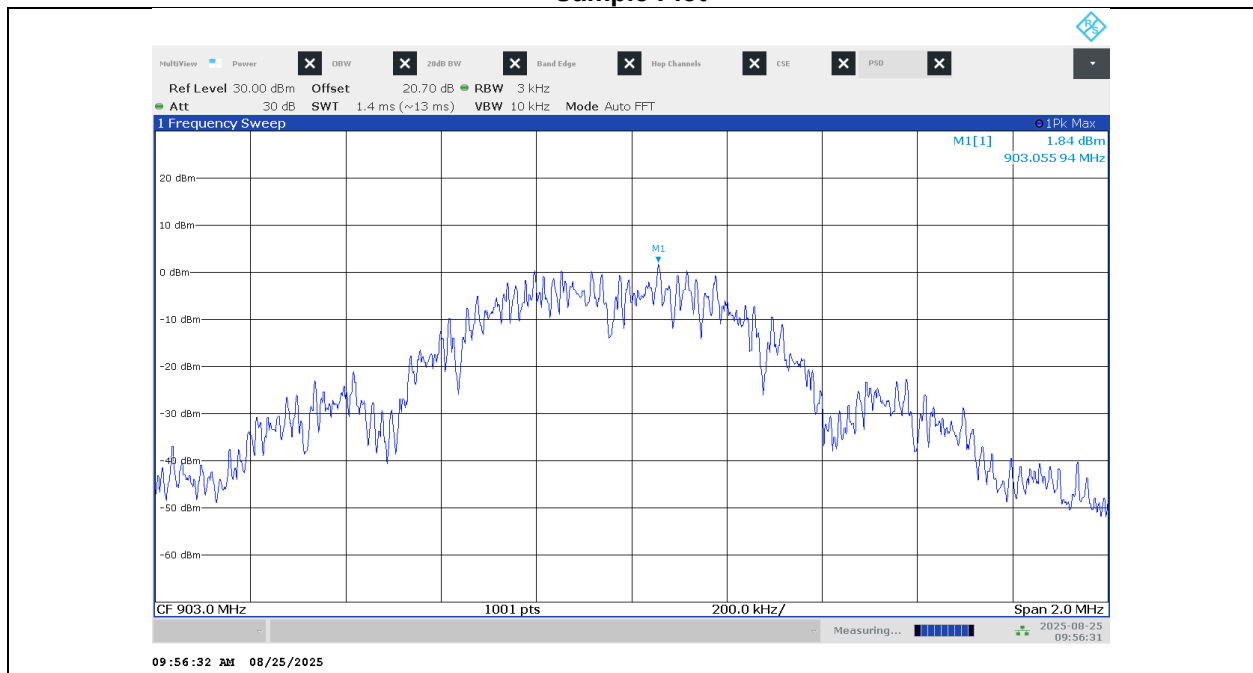
### 7.3 Results

The sample tested was found to Comply.

### 7.4 Test Data

| Frequency (MHz) | Peak PSD (dBm/3kHz) | Limit (dBm/3kHz) | Result |
|-----------------|---------------------|------------------|--------|
| 903.0           | 1.84                | 8                | Pass   |

#### Sample Plot



Test Personnel: Jeremy Pickens   
Supervising/Reviewing  
Engineer:  
(Where Applicable) \_\_\_\_\_  
Product Standard: ANSI C63.10  
Input Voltage: 5Vdc (USB-C)

Test Date: 25 August 2025

Ambient Temperature: 20.9°C

Relative Humidity: 48.1%

Atmospheric Pressure: 98.2kPa

## 8 Conducted Spurious Emissions / Band Edge

### 8.1 Method

The procedures from KDB 558074 D01 DTS Meas Guidance v05r2 and ANSI C63.10 Clause 11.11 were used to measure the conducted spurious emissions and allocated band edges.

The limit is 20 dB below the measured peak power in any 100kHz band.

#### TEST SITE: RF Bench

The RF bench consists of a Rohde & Schwarz TS8997 automated test system coupled with a temperature/humidity environmental chamber. Measurements are automated using the Rohde & Schwarz EMC32 test software. The TS8997 system houses a switch matrix (OSP), along with a spectrum analyzer, vector network analyzer, and analog signal generator.

### 8.2 Test Equipment

| Asset  | Description                          | Manufacturer    | Model   | Serial | Cal Date   | Cal Due    |
|--------|--------------------------------------|-----------------|---------|--------|------------|------------|
| 200001 | Attenuator, 20 dB, <18GHz            | Weinschel Corp  | 2       | BK1848 | VBU        | VBU        |
| 212164 | Temperature/Pressure/Humidity Sensor | Extech          | SD700   | 109402 | 07/08/2025 | 07/08/2026 |
| 213500 | Analog Signal Generator (8kHz-40GHz) | Rohde & Schwarz | SMB100B | 106096 | 05/08/2025 | 05/08/2027 |
| 213502 | Spectrum Analyzer (2Hz-43.5GHz)      | Rohde & Schwarz | FSW43   | 102972 | 08/01/2024 | 08/01/2026 |

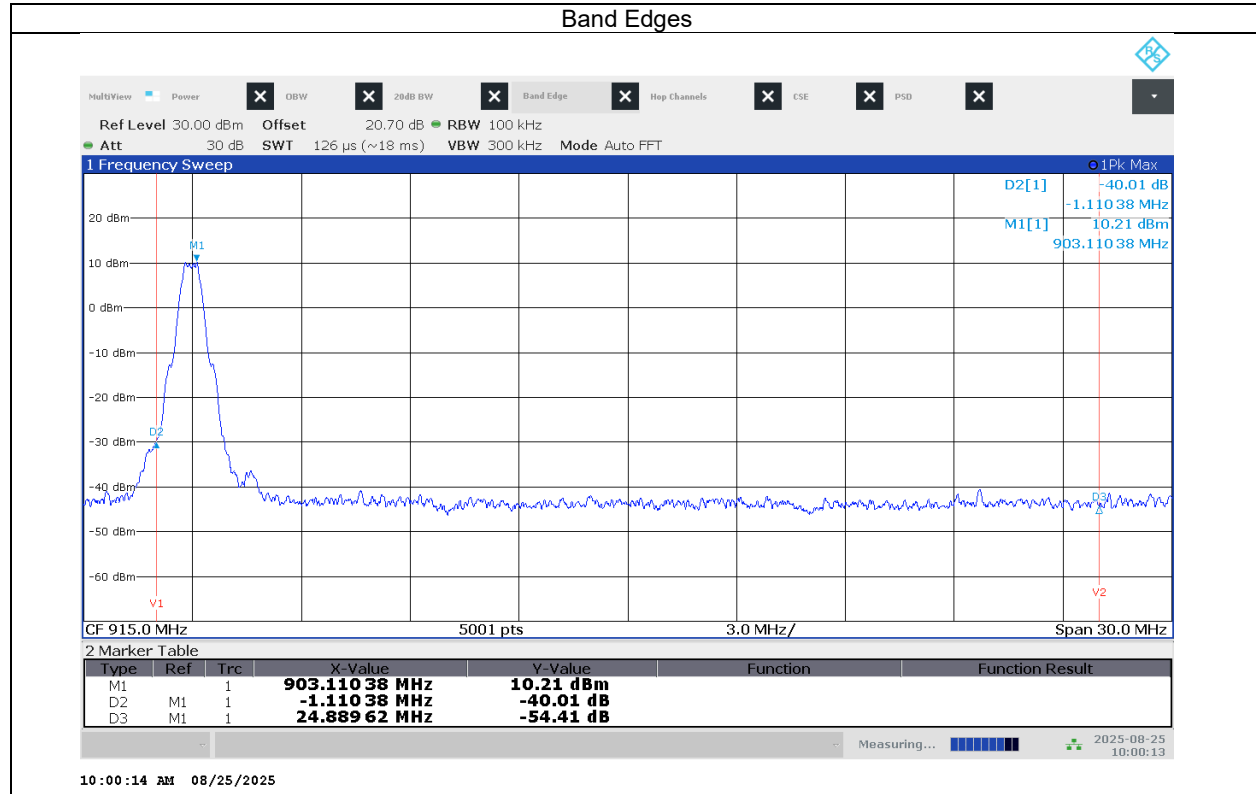
#### Software Utilized

| Name         | Manufacturer    | Version             |
|--------------|-----------------|---------------------|
| RSCCommander | Rohde & Schwarz | 2.4.2 64-bit (2023) |

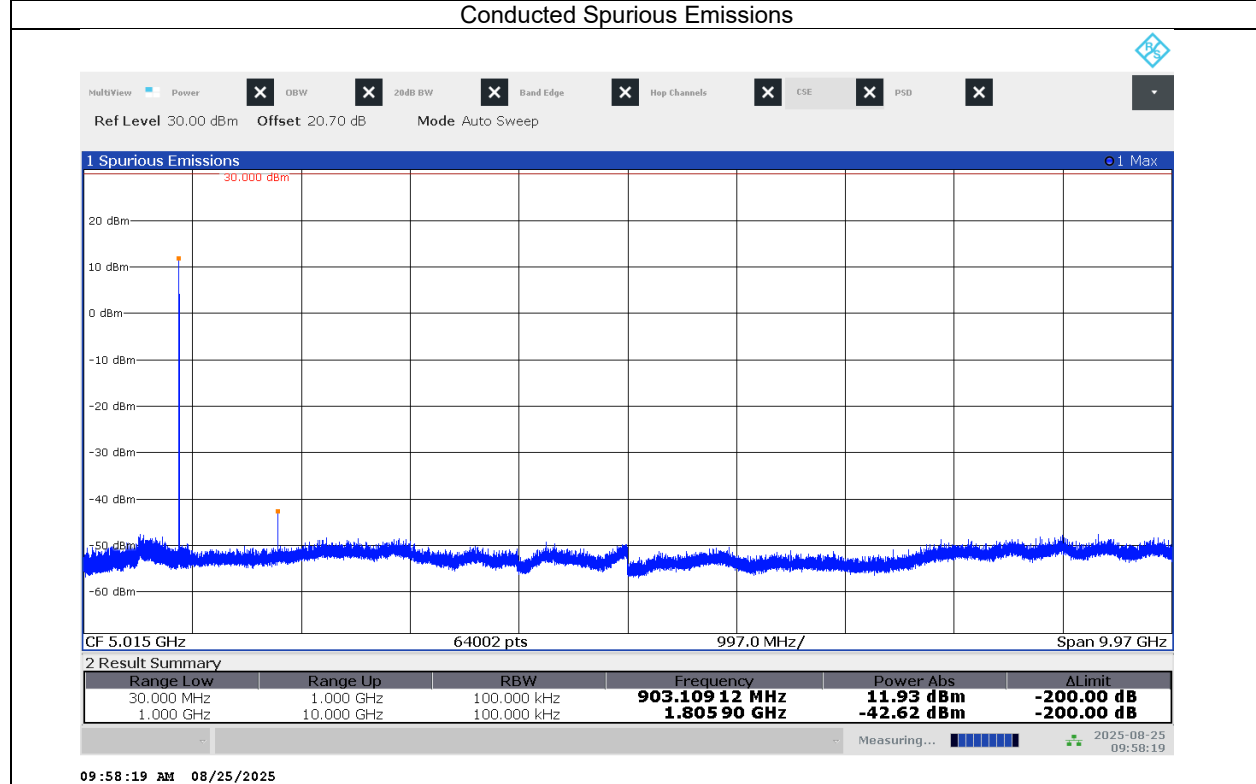
### 8.3 Results

The sample tested was found to Comply.

## 8.4 Plots



| Frequency | Measurement (dBc) | Limit (dBc) | Result    |
|-----------|-------------------|-------------|-----------|
| 902MHz    | -40.01            | -20         | Compliant |



| Frequency (MHz) | Measurement (dBc) | Limit (dBc) | Result    |
|-----------------|-------------------|-------------|-----------|
| 1805.9          | -54.55            | -20         | Compliant |

Test Personnel: Jeremy Pickens   
Supervising/Reviewing  
Engineer:  
(Where Applicable) \_\_\_\_\_  
Product Standard: ANSI C63.10  
Input Voltage: 5Vdc (USB-C)

Test Date: 25 August 2025

Ambient Temperature: 20.9°C

Relative Humidity: 48.1%

Atmospheric Pressure: 98.2kPa

## 9 Radiated Spurious Emissions / Restricted Frequency Bands

### 9.1 Method

Tests were performed in accordance with ANSI C63.10. The EUT was tested at a height of 0.8m for measurements below 1GHz and at 1.5 meters for measurements above 1GHz.

#### TEST SITE: 10 Meter Chamber

**10 Meter Semi-Anechoic Chamber** The test site for radiated emissions is located at 1950 Evergreen Blvd, Suite 100, Duluth, Georgia 30096. It is a 10-meter semi-anechoic chamber manufactured by Panashield. Embedded in the floor is a 3-meter diameter turntable.

#### Sample Calculation

The field strength was calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG$$

Where

- FS = Field Strength in dB $\mu$ V/m
- RA = Receiver Amplitude (including preamplifier) in dB $\mu$ V
- CF = Cable Attenuation Factor in dB
- AF = Antenna Factor in dB
- AG = Amplifier Gain in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows.

Assume a receiver reading of 52.0 dB $\mu$ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dB $\mu$ V/m. This value in dB $\mu$ V/m was converted to its corresponding level in  $\mu$ V/m.

$$\begin{aligned}FS &= 32 \text{ dB}\mu\text{V/m} \\RA &= 52.0 \text{ dB}\mu\text{V} \\CF &= 1.6 \text{ dB} \\AF &= 7.4 \text{ dB/m} \\AG &= 29.0 \text{ dB}\end{aligned}$$

To convert from dB $\mu$ V to  $\mu$ V or mV the following was used

$$UF = 10^{(NF / 20)} \text{ where } UF = \text{Net Reading in } \mu\text{V} \\NF = \text{Net Reading in dB}\mu\text{V}$$

#### Example

$$\begin{aligned}FS &= RA + AF + CF - AG = 52.0 + 7.4 + 1.6 - 29.0 = 32.0 \text{ dB}\mu\text{V/m} \\UF &= 10^{(32 \text{ dB}\mu\text{V/m} / 20)} = 39.8 \mu\text{V/m}\end{aligned}$$

## 9.2 Test Equipment

| Asset      | Description                              | Manufacturer       | Model              | Serial      | Cal Date   | Cal Due    |
|------------|------------------------------------------|--------------------|--------------------|-------------|------------|------------|
| 200074     | Preamplifier, 10 MHz to 2000 MHz         | Mini-Circuits      | ZKL-2              | D011105     | 01/24/2025 | 01/24/2026 |
| 200162     | EMI Receiver (20Hz-40GHz)                | Rohde & Schwarz    | ESU 40             | 100314      | 9/26/2024  | 09/26/2025 |
| 211262     | Controller - Turntable and Mast          | Sunol              | SC99V              | SC99V-1     | VBU        | VBU        |
| 211264     | Mast - Antenna                           | Sunol              | TWR95              | NNN2        | VBU        | VBU        |
| 211386     | Antenna, BiLog, 20-2000MHz               | Chase              | CBL6112B           | 2622        | 06/30/2025 | 06/30/2026 |
| 212166     | Temperature/Pressure/Humidity Sensor     | Extech             | SD700              | 110392      | 04/02/2025 | 04/02/2026 |
| 213058A    | Antenna, Horn, <18 GHz                   | A.H. Systems       | SAS-200/571        | 246         | 04/03/2025 | 04/03/2026 |
| 213103     | High Pass Filter - Rated 1GHz            | Micro-Tronics      | HPM50108           | 140         | 06/18/2025 | 06/18/2026 |
| 213365     | PreAmplifier 100Hz-30MHz                 | Com-Power          | PAL-010            | 181492      | 06/18/2025 | 06/18/2026 |
| 213451     | Omni -directional Comb Generator         | Com-Power          | CGO-520            | 281266      | VBU        | VBU        |
| 213453     | Preamplifier 500MHz-18GHz                | Com-Power          | PAM-118A           | 18040030    | 10/16/2024 | 10/16/2025 |
| MM1        | RF Coax Cable 9KHz-18GHz                 | Maury Microwave    | UC-N-MM36          | 161471      | 10/21/2024 | 10/21/2025 |
| MM5        | RF Coax Cable 10KHz-18GHz                | Maury Microwave    | UC-N-MM-118        | 163203      | 04/01/2025 | 04/01/2026 |
| MM12       | RF Coax Cable 9KHz-18GHz                 | Fairview Microwave | SCE18110505-600CM  | MM12        | 08/23/2024 | 08/23/2025 |
| MP10       | RF Coax Cable 9KHz-18GHz                 | Fairview Microwave | FMCA1282-394       | MP10        | 06/18/2025 | 06/18/2026 |
| MP12       | RF Coax Cable 9KHz-18GHz                 | Fairview Microwave | SCE180060505-700CM | MP12        | 01/23/2025 | 01/23/2026 |
| MP-HF-3    | RF Coax Cable 1-40GHz                    | Megaphase          | GC12-K1K1-233-H    | 20809305001 | 10/21/2024 | 10/21/2025 |
| NYM-EMC-36 | Antenna, Loop, Passive (10 kHz - 30 MHz) | EMCO               | 6512               | 9810-1228   | 07/14/2025 | 07/14/2026 |

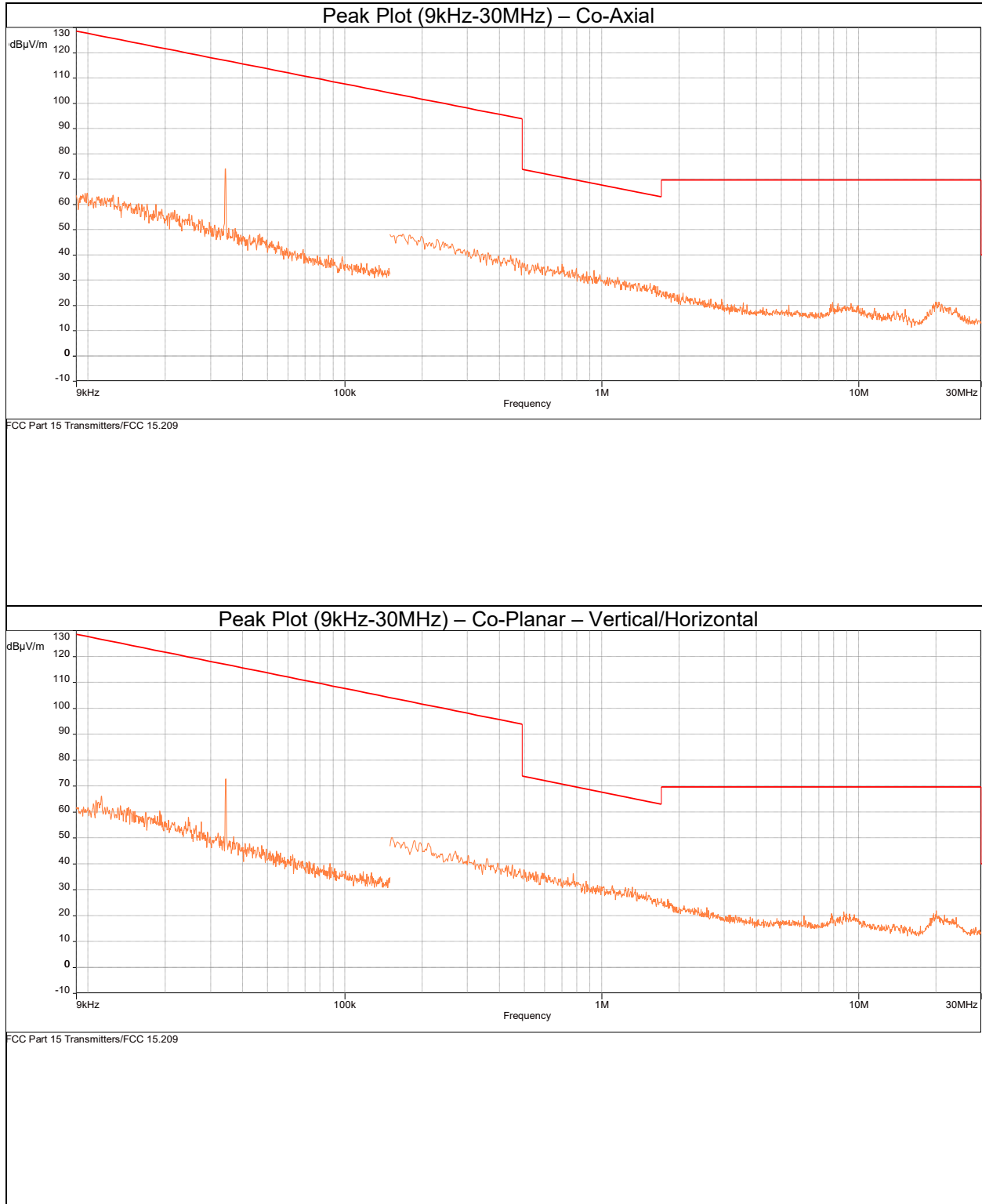
## Software Utilized

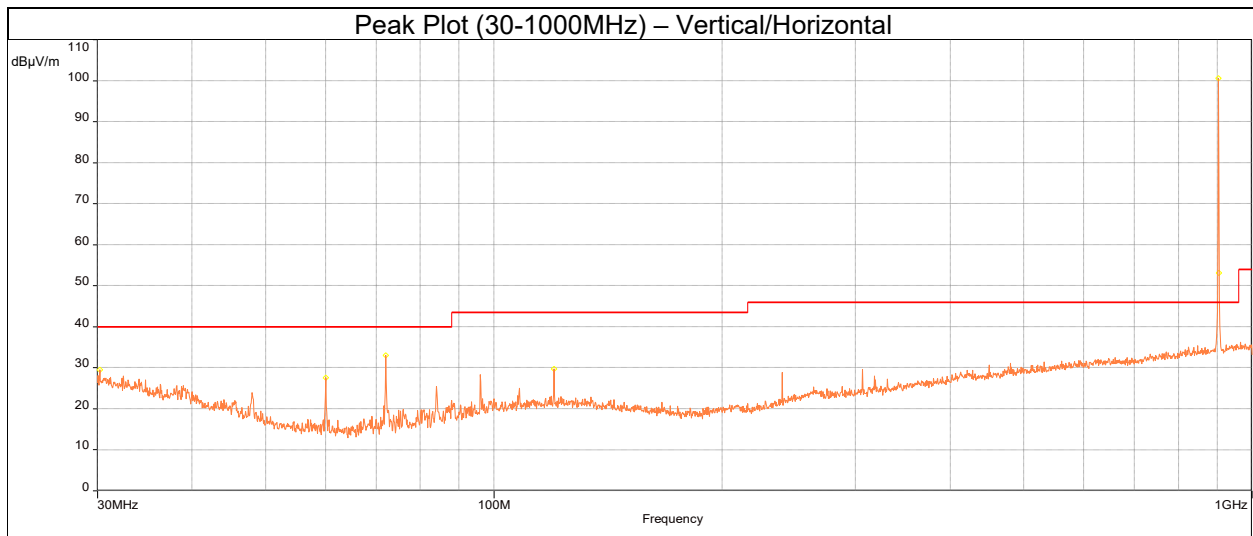
| Name    | Manufacturer | Version   |
|---------|--------------|-----------|
| BAT EMC | NEXIO        | 3.19.1.18 |

## 9.3 Results

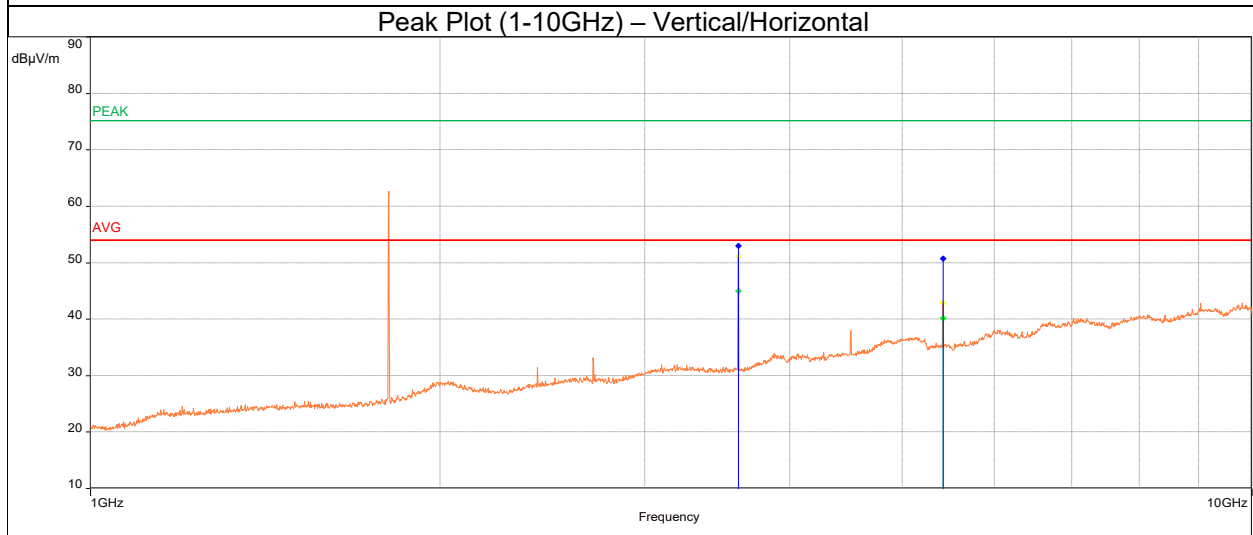
The sample tested was found to Comply.

## 9.4 Plots/Data – Spurious Emissions





**Note: No emissions other than the fundamental were associated with the 900MHz radio**



**Note: The emission at 1806MHz did not fall within a restricted band of operation and was therefore not required to meet the 15.209 limit.**

| Tabular Data                                                                      |                     |                     |                  |             |            |            |           |                 |
|-----------------------------------------------------------------------------------|---------------------|---------------------|------------------|-------------|------------|------------|-----------|-----------------|
| Peak                                                                              |                     |                     |                  |             |            |            |           |                 |
| Frequency (MHz)                                                                   | Peak Level (dBµV/m) | Peak Limit (dBµV/m) | Peak Margin (dB) | Azimuth (°) | Height (m) | Polarity   | RBW (MHz) | Correction (dB) |
| 3612.464                                                                          | 53.04               | 74                  | -20.96           | 8           | 1.52       | Vertical   | 1         | -6.53           |
| 5418.696                                                                          | 50.71               | 74                  | -23.29           | 98          | 2.14       | Horizontal | 1         | -1.67           |
| Average                                                                           |                     |                     |                  |             |            |            |           |                 |
| Frequency (MHz)                                                                   | AVG Level (dBµV/m)  | AVG Limit (dBµV/m)  | AVG Margin (dB)  | Azimuth (°) | Height (m) | Polarity   | RBW (MHz) | Correction (dB) |
| 3612.464                                                                          | 44.96               | 54                  | -9.04            | 8           | 1.52       | Vertical   | 1         | -6.53           |
| 5418.696                                                                          | 40.15               | 54                  | -13.85           | 98          | 2.14       | Horizontal | 1         | -1.67           |
| Note: The emission at 1806MHz did not fall within a restricted band of operation. |                     |                     |                  |             |            |            |           |                 |

Test Personnel: Jeremy Pickens 

Supervising/Reviewing Engineer: \_\_\_\_\_

(Where Applicable) \_\_\_\_\_

Product Standard: ANSI C63.10

Input Voltage: 5Vdc (USB-C)

Pretest Verification w/ Ambient Signals or BB Source: BB

Test Date: 25-26 August 2025

Limit Applied: 15.209

Ambient Temperature: 20.3 – 21.5°C

Relative Humidity: 42.8 – 44.9%

Atmospheric Pressure: 98.1 – 98.3kPa

Deviations, Additions, or Exclusions: None

## 10 AC Conducted Emissions

### 10.1 Method

Tests were performed in accordance with ANSI C63.10.

#### TEST SITE: 10 Meter Chamber

**10 Meter Semi-Anechoic Chamber** The test site for radiated emissions is located at 1950 Evergreen Blvd, Suite 100, Duluth, Georgia 30096. It is a 10 meter semi-anechoic chamber manufactured by Panashield. Embedded in the floor is a 3-meter diameter turntable.

#### Sample Calculations

The following calculations were used to determine the net line-conducted measurements:

$$NF = RF + LF + CF + AF$$

Where NF = Net Reading in dB $\mu$ V

RF = Reading from receiver in dB $\mu$ V

LF = LISN or ISN Correction Factor in dB

CF = Cable Correction Factor in dB

AF = Attenuator Loss Factor in dB

To convert from dB $\mu$ V to  $\mu$ V or mV the following was used:

$$UF = 10^{(NF / 20)} \text{ where } UF = \text{Net Reading in } \mu\text{V}$$

NF = Net Reading in dB $\mu$ V

#### Example:

$$NF = RF + LF + CF + AF = 28.5 + 0.2 + 0.4 + 20.0 = 49.1 \text{ dB}\mu\text{V}$$

$$UF = 10^{(49.1 \text{ dB}\mu\text{V} / 20)} = 285.1 \mu\text{V/m}$$

### 10.2 Test Equipment

| Asset  | Description                   | Manufacturer       | Model        | Serial  | Cal Date   | Cal Due    |
|--------|-------------------------------|--------------------|--------------|---------|------------|------------|
| 200162 | EMI Receiver (20Hz-40GHz)     | Rohde & Schwarz    | ESU 40       | 100314  | 09/26/2024 | 09/26/2025 |
| 212166 | Temp/Pressure/Humidity Sensor | Extech             | SD700        | 110392  | 04/02/2025 | 04/02/2026 |
| 213498 | 2-Line LISN                   | Rohde & Schwarz    | ENV216       | 101577  | 09/27/2024 | 09/27/2025 |
| MM8    | RF Coax Cable 9kHz-18GHz      | Fairview Microwave | UC-N-MM-267  | 1635289 | 06/18/2025 | 06/18/2026 |
| MP10   | RF Coax Cable 9kHz-18GHz      | Fairview Microwave | FMCA1282-394 | MP10    | 06/18/2025 | 06/18/2026 |

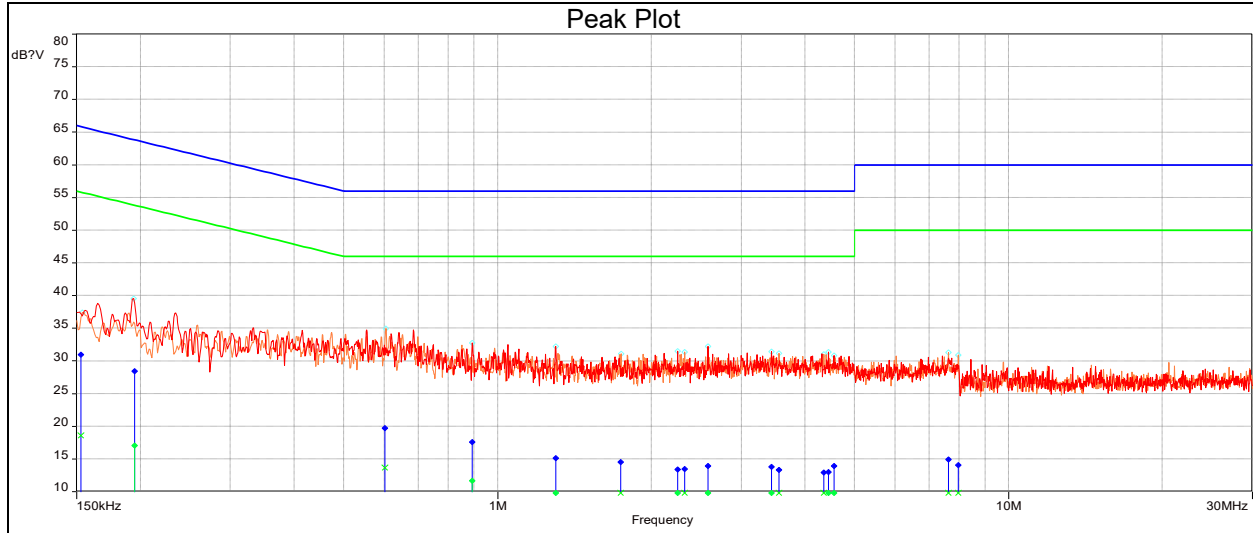
#### Software Utilized

| Name    | Manufacturer | Version   |
|---------|--------------|-----------|
| EMC BAT | Nexio        | 3.19.1.18 |

### 10.3 Results

The sample tested was found to Comply.

## 10.4 Plots/Data



**Tabular Data**

| Frequency (MHz) | AVG Level (dBμV) | QP Level (dBμV) | Limit AVG (dBμV) | Limit QP (dBμV) | AVG Margin (dB) | QP Margin (QP) | Line    | Correction (dB) |
|-----------------|------------------|-----------------|------------------|-----------------|-----------------|----------------|---------|-----------------|
| 0.195           | 17.07            | 28.43           | 53.9             | 63.9            | -36.8           | -35.4          | Phase 1 | 9.9             |
| 0.892           | 11.69            | 17.57           | 46.0             | 56.0            | -34.3           | -38.4          | Phase 1 | 9.7             |
| 1.298           | 9.78             | 15.16           | 46.0             | 56.0            | -36.2           | -40.8          | Phase 1 | 9.7             |
| 2.250           | 7.91             | 13.41           | 46.0             | 56.0            | -38.1           | -42.6          | Phase 1 | 9.7             |
| 2.578           | 8.37             | 13.95           | 46.0             | 56.0            | -37.6           | -42.1          | Phase 1 | 9.7             |
| 3.432           | 8.2              | 13.77           | 46.0             | 56.0            | -37.8           | -42.2          | Phase 1 | 9.7             |
| 4.440           | 7.39             | 12.99           | 46.0             | 56.0            | -38.6           | -43.0          | Phase 1 | 9.7             |
| 4.558           | 8.22             | 13.95           | 46.0             | 56.0            | -37.8           | -42.1          | Phase 1 | 9.7             |
| 0.153           | 18.57            | 31              | 55.8             | 65.8            | -37.2           | -34.8          | Phase 2 | 9.6             |
| 0.602           | 13.65            | 19.74           | 46.0             | 56.0            | -32.4           | -36.3          | Phase 2 | 9.7             |
| 1.740           | 8.91             | 14.56           | 46.0             | 56.0            | -37.1           | -41.4          | Phase 2 | 9.7             |
| 2.323           | 7.79             | 13.45           | 46.0             | 56.0            | -38.2           | -42.6          | Phase 2 | 9.7             |
| 3.550           | 7.74             | 13.34           | 46.0             | 56.0            | -38.3           | -42.7          | Phase 2 | 9.7             |
| 4.344           | 7.61             | 12.96           | 46.0             | 56.0            | -38.4           | -43.0          | Phase 2 | 9.7             |
| 7.631           | 9.44             | 14.91           | 50.0             | 60.0            | -40.6           | -45.1          | Phase 2 | 9.7             |
| 7.976           | 8.47             | 14.07           | 50.0             | 60.0            | -41.5           | -45.9          | Phase 2 | 9.7             |

Test Personnel: Jeremy Pickens

Supervising/Reviewing Engineer: \_\_\_\_\_

(Where Applicable) \_\_\_\_\_

Product Standard: ANSI C63.10

Input Voltage: 120Vac, 60Hz to USB Adapter

Pretest Verification w/ Ambient Signals or BB Source: BB

Test Date: 05 August 2025

Limit Applied: 15.207 / RSS-Gen S8.8

Ambient Temperature: 22.8°C

Relative Humidity: 44.5%

Atmospheric Pressure: 98.7kPa

Deviations, Additions, or Exclusions: None

**11 Measurement Uncertainty**

| <b>Parameter</b>                 | <b>Expanded Uncertainty for Normal k factor<br/>equal to 2</b> |
|----------------------------------|----------------------------------------------------------------|
| Radio Frequency                  | 0.07                                                           |
| Total RF Power (Conducted)       | 0.65                                                           |
| Power Density (Conducted)        | 0.65                                                           |
| RF Spurious (Conducted)          | 1.8 dB                                                         |
| Radiated Emissions (9kHz-30MHz)  | 4.7 dB                                                         |
| Radiated Emissions (30MHz-1GHz)  | 4.1 dB                                                         |
| Radiated Emissions (1GHz-18GHz)  | 4.5dB                                                          |
| Radiated Emissions (18GHz-40GHz) | 4.7 dB                                                         |
| AC Line Conducted Emissions      | 2.8 dB                                                         |
| Temperature                      | 0.7°                                                           |
| Humidity                         | 3.9%                                                           |

**12 Revision History**

| Revision Level | Date             | Prepared By | Reviewed By | Notes                                                                                                                                                                                                                                         |
|----------------|------------------|-------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0              | 31 October 2025  | JOP         | MC          | Original Issue                                                                                                                                                                                                                                |
| 1              | 04 February 2026 | JOP         | MC          | <ul style="list-style-type: none"><li>• Added clarifications to radiated plots regarding the peak limit and antenna orientations.</li><li>• Updated ANSI C63.10 reference on title page</li><li>• Added PMN and FVIN to title page.</li></ul> |
|                |                  |             |             |                                                                                                                                                                                                                                               |
|                |                  |             |             |                                                                                                                                                                                                                                               |
|                |                  |             |             |                                                                                                                                                                                                                                               |
|                |                  |             |             |                                                                                                                                                                                                                                               |