



**FCC PART 15 SUPPLIER'S DECLARATION OF CONFORMITY
TEST REPORT**

**for the
MOBILE COLLECT TRANSMITTER**

WLL REPORT# 19451-01 REV 1

Prepared for:

**MicroRidge Systems, Inc.
56888 Enterprise Drive
Sunriver, Oregon 97707**

Prepared By:

**Washington Laboratories, Ltd.
4840 Winchester Boulevard
Frederick, Maryland 21703**



Certificates and reports shall not be reproduced except in full, without the written permission of Washington Laboratories, Ltd



FCC Part 15 Supplier's Declaration of Conformity

Test Report

for the

MicroRidge Systems, Inc.
MobileCollect Transmitter

WLL Report# 19451-01 Rev 1

November 26, 2025

Prepared by:

A handwritten signature in black ink, appearing to read 'R. Quarcoo', written over a horizontal line.

Richard Quarcoo
EMC Test Engineer

Reviewed by:

A handwritten signature in blue ink, appearing to read 'S. Koster', written over a horizontal line.

Steve Koster
President



Abstract

This report has been prepared on behalf of MicroRidge Systems, Inc. to document the testing of this host to incorporate a certified wireless module, FCC ID: 2ACNQB1 and IC ID: 12298A-B1, compliance with the limits for a Class B digital device required under the latest versions of Part 15 of the Federal Communication Commission (FCC) Rules and Regulations and Telecommunications Policy ICES-003 Issue 7 of Innovation, Science and Economic Development (ISED) Canada. This Supplier's Declaration of Conformity Test Report documents the test configuration and test results for the MobileCollect Transmitter. The information provided within this report is only applicable to the device herein documented as the EUT.

Testing was performed in the Free-space Anechoic Chamber Test-site (FACT) 3m chamber of Washington Laboratories, Ltd, located at 4840 Winchester Boulevard, Frederick, MD 21703.

Site description and site attenuation data have been placed on file with the FCC's Sampling and Measurements Branch at the FCC laboratory in Columbia, MD.

Washington Laboratories, Ltd. has been accepted by the FCC and approved by ANAB under Testing Certificate AT-1448 as an independent FCC test laboratory. The ISED Canada number for Washington Laboratories, Ltd is 3035A.

The MicroRidge Systems, Inc. MobileCollect Transmitter complies with the requirements for a Class B digital device.

Revision History	Description of Change	Date
Rev 0	Initial Release	November 26, 2025
Rev 1	Corrected the EUT name	January 9, 2026



Table of Contents

1	Introduction.....	6
1.1	Compliance Statement	6
1.2	Test Scope.....	6
1.3	Customer Supplied Data or EUT Information	6
1.4	Contract Information.....	6
1.5	Test and Support Personnel	6
1.6	Software Employed by the Test Laboratory	7
1.7	Testing Algorithm.....	7
1.8	Test Location	7
1.9	Test Deviations and Sequence	7
1.9.1	Test Deviations to the Standard or Test Plan.....	7
1.9.2	Test Sequence	7
2	Equipment Under Test	8
2.1	EUT Identification & Description	8
2.2	Test Configuration	9
2.3	Support Equipment	10
2.4	Interface Cables	11
2.5	EUT Modifications	11
2.6	Measurements	12
2.6.1	References.....	12
2.6.2	Measurement Uncertainty.....	12
2.6.3	Test Equipment	14
3	Test Results.....	15
3.1	Radiated Emissions.....	15
3.1.1	Requirements	15
3.1.2	Test Procedure	15
3.1.3	Radiated Data Reduction and Reporting.....	16
3.1.4	Test Data	17
4	Supplier’s Declaration of Conformity	23
5	Marketing and Labeling Instructions	24
5.1	Part 15 Information to the user	24
5.2	Labeling	25
5.3	Marketing Requirements.....	26
6	Canadian Labeling Requirements	27



List of Tables

Table 1: Test Sequence	7
Table 2: Device Summary	8
Table 3: EUT System Configuration List	10
Table 4: Support Equipment (for testing)	10
Table 5: Cable Configuration.....	11
Table 6: Expanded Uncertainty List	13
Table 7: Test Equipment List.....	14
Table 8: Radiated Emission Test Data, 30 MHz – 1000 MHz	17
Table 9: Radiated Emission Test Data, 1 GHz – 12.5GHz.....	18

List of Figures

Figure 1: EUT Test Configuration.....	9
Figure 2: Radiated Emissions Test Configuration – Front	21
Figure 3: Radiated Emissions Test Configuration – Rear	22



1 Introduction

1.1 Compliance Statement

The MicroRidge Systems, Inc. MobileCollect Transmitter complies with the limits for a Class B digital device under FCC Part 15 of the FCC Rules and Regulations and Telecommunications Policy ICES-003 Issue 7 of Innovation, Science and Economic Development (ISED) Canada.

1.2 Test Scope

Tests for radiated and conducted emissions were performed. All measurements were performed in accordance with ANSI C63.4-2014+C63.4a-2017. The measurement equipment conforms to ANSI C63.2 Specifications for Electromagnetic Noise and Field Strength Instrumentation.

The MicroRidge Systems, Inc. MobileCollect Transmitter complies with the limits for a Class B digital device under FCC Part 15 of the FCC Rules and Regulations and Telecommunications Policy ICES003 Issue 7 of Innovation, Science and Economic Development (ISED) Canada.

1.3 Customer Supplied Data or EUT Information

Please note that the customer has provided the information on the EUT contents and configuration of the EUT system during testing. The test laboratory is not responsible for verifying the accuracy of this information.

1.4 Contract Information

Customer:	MicroRidge Systems, Inc.
Purchase Order Number:	NA
Quotation Number:	75465

1.5 Test and Support Personnel

Washington Laboratories, LTD	Richard Quarcoo
Customer Representative	Riley Tronson



1.6 Software Employed by the Test Laboratory

The following test and measurement software were used by the Laboratory:

- (1) Amplifier Research, EMCWare Software Suite v7.0.4
- (2) Keysight 2019, Update Rev. A.25.08
- (3) Keysight 2023, Update Rev. A.33.03

1.7 Testing Algorithm

The MobileCollect Transmitter was tested whilst transmitting.

Worst case emission levels are provided in the test results data.

1.8 Test Location

All measurements herein were performed at Washington Laboratories, Ltd. test center in Frederick, MD. Site description and site attenuation data have been placed on file with the FCC's Sampling and Measurements Branch at the FCC laboratory in Columbia, MD. Washington Laboratories, Ltd. has been accepted by the FCC and approved by ANAB under Testing Certificate AT-1448 as an independent FCC test laboratory (ISED Canada Number 3035A).

1.9 Test Deviations and Sequence

1.9.1 Test Deviations to the Standard or Test Plan

There were no deviations to the requirements established in the specification.

1.9.2 Test Sequence

Table 1: Test Sequence

Test	Specific Description	Date Completed	Modifications Installed (Y/N)
FCC 15.107, Class B	Radiated Emissions	11/25/2025	N



2 Equipment Under Test

2.1 EUT Identification & Description

The results obtained relate only to the item(s) tested.

Table 2: Device Summary

EUT Name, Model(s) Tested:	MobileCollect Transmitter, MC-MM-M3-EVO
FCC Rule Part:	§15
ISED Rule Part:	ICES-003 Issue 7
EUT Primary Power (as tested):	CR2032 Battery, 3V
Equipment Emissions Class:	B
Wireless module	FCC ID: 2ACNQB1, IC ID: 12298A-B1

The MicroRidge Systems, Inc. MobileCollect Transmitter, MC-MM-M3-EVO is a certified low power 2.4 GHz wireless module containing the Ublox NINA-B306 chipset as the radio and processor. This device is intended to create low-power, short-range wireless connectivity to MicroRidge RM2.4 compatible base receivers. The MC-MM-M3-EVO acts as a transmitter. Its primary responsibility is acquiring measurement data from a measurement device through the Gage Cable/Connector, processing the measurement data, and sending the measurement data to the base receiver

2.2 Test Configuration

The Low, the Center and the High channels and a hopping sample of the EUT were provided for testing. These samples nominally represent the production configuration. The EUT was arranged on the test site to produce the worst-case emissions.

Figure 1 shows the test configuration of the EUT.

Figure 1: EUT Test Configuration





Table 3: EUT System Configuration List

Name / Description	Model Number	Part Number	Serial Number	Revision
MobileCollect Transmitter	MC-MM-M3-EVO	MC-MM-M3-EVO	N/A	A

2.3 Support Equipment

Table 4: Support Equipment (for testing)

Item	Model/Part Number	Serial Number
3V Battery	CR2032 Battery	N/A



2.4 Interface Cables

Table 5: Cable Configuration

Port Identification	Connector Type	Cable Length	Shielded (Y/N)	Termination Point
J1	Gage Connector	.5"-36"	Y	Various Gages

2.5 EUT Modifications

No modifications to the EUT were performed to comply with the requirements as tested.



2.6 Measurements

2.6.1 References

ANSI C63.2 (Jan-2016) Specifications for Electromagnetic Noise and Field Strength Instrumentation

ANSI C63.4-2014+C63.4a-2017 American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

2.6.2 Measurement Uncertainty

All results reported herein relate only to the equipment tested. The basis for uncertainty calculation uses ANSI/NCSL Z540-2-1997 (R2002) with a type B evaluation of the standard uncertainty. Elements contributing to the standard uncertainty are combined using the method described in Equation 1 to arrive at the total standard uncertainty. The standard uncertainty is multiplied by the coverage factor to determine the expanded uncertainty which is generally accepted for use in commercial, industrial, and regulatory applications and when health and safety are concerned (see Equation 2). A coverage factor was selected to yield a 95% confidence in the uncertainty estimation.

Equation 1: Standard Uncertainty

$$u_c = \pm \sqrt{\frac{a^2}{div_a^2} + \frac{b^2}{div_b^2} + \frac{c^2}{div_c^2} + \dots}$$

Where:

u_c = standard uncertainty

a, b, c = individual uncertainty elements

Div_a, Div_b, Div_c = the individual uncertainty element divisor based on the probability distribution

Divisor = 1.732 for rectangular distribution

Divisor = 2 for normal distribution

Divisor = 1.414 for trapezoid distribution



Equation 2: Expanded Uncertainty

$$U = ku_c$$

Where

- U = expanded uncertainty
- k = coverage factor
- k ≤ 2 for 95% coverage (ANSI/NCSL Z540-2 Annex G)
- uc = standard uncertainty

The measurement uncertainty complies with the maximum allowed uncertainty from CISPR 16-4-2. Measurement uncertainty is not used to adjust the measurements to determine compliance. The expanded uncertainty values for the various scopes in the WLL accreditation are provided in Table 6 below.

Table 6: Expanded Uncertainty List

Scope	Standard(s)	Expanded Uncertainty
Conducted Emissions	CISPR11, CISPR22, CISPR32, CISPR14, FCC Part 15	±2.63 dB
Radiated Emissions	CISPR11, CISPR22, CISPR32, CISPR14, FCC Part 15	±4.55 dB



2.6.3 Test Equipment

Table 7 shows a list of the test equipment used for data measurements along with the calibration information.

Table 7: Test Equipment List

Test Name: Radiated Emissions		Test Date(s):	11/25/2025
Asset #	Manufacturer/Model	Description	Cal. Due
00993	KEYSIGHT N9020B	MXA SIGNAL ANALYZER	11/6/2025
00066	B&Z (HP) BZ-01002650-401545-282525	HF PRE-AMPLIFIER 1-26.5GHZ MODIFIED	8/25/2026
00626	ARA DRG-118/A	ANTENNA HORN	7/11/2027
00644	SUNOL SCIENCES CORPORATION JB1 925-833-9936	BICONALOG ANTENNA	12/2/2026
01042	THE EMC SHOP PA2500M-B	30DB RF PRE-AMPLIFIER, 2.5GHZ MAX.	9/24/2026



3 Test Results

3.1 Radiated Emissions

3.1.1 Requirements

Compliance Standard: FCC Part 15.109, Class B

FCC Compliance Limits		
Frequency Range	Limit (distance)	
	Class A (10 meter)	Class B (3 meter)
30-88 MHz	90 μ V/m QP	100 μ V/m QP
88-216 MHz	150 μ V/m QP	150 μ V/m QP
216-960 MHz	210 μ V/m QP	200 μ V/m QP
>960MHz	300 μ V/m AVG	500 μ V/m AVG

3.1.2 Test Procedure

The requirements of FCC Part 15 and ICES-003 call for the EUT to be placed on an 80cm high 1 X 1.5 meters non-conductive motorized turntable for radiated testing a 3m and/or 10m open air test site. During this testing, all radiated emissions measurements were performed at a distance of 3 meters.

An initial pre-scan of the EUT was performed to identify any emissions that exceed or come within 6 dB of, the applicable limit. This pre-scan was performed utilizing a spectrum analyzer peak detector function. The highest amplitude (worst-case) emissions noted during the pre-scan were selected for final compliance measurements.

The emissions from the EUT were measured continuously at every azimuth by rotating the turntable. Broadband log periodic and double-ridged horn antennas were mounted on an antenna mast to determine the height of maximum emissions. The height of the antenna was varied between 1 and 4 meters. The output of the antenna was connected to the input of the spectrum analyzer and the emissions in the frequency range of 30 MHz to 12.5 GHz were measured. The EUT peripherals were placed on the table in accordance with ANSI C63.4. Cables were varied in position to produce maximum emissions. Both the horizontal and vertical field components were measured.



The output from the antenna was connected, via a preamplifier, to the input of the spectrum analyzer.

The detector function was set to quasi-peak for measurements below 1 GHz. The measurement bandwidth of the spectrum analyzer system was set to at least 120 kHz, with all post-detector filtering no less than 10 times the measurement bandwidth. For measurements above 1 GHz, the average levels are recorded, using a measurement bandwidth of 1 MHz with a video bandwidth setting of 10 Hz, in the case of video averaging. Otherwise, an EMI AVG detector shall be employed.

Environmental Conditions during Radiated Emissions Testing

Ambient Temperature:	17 °C
Relative Humidity:	46 %

3.1.3 Radiated Data Reduction and Reporting

To convert the raw spectrum analyzer radiated data into a form that can be compared with the FCC limits, it is necessary to account for various calibration factors that are supplied with the antenna(s) and other measurement equipment. These factors include the antenna factor ((AF)(in dB/m)), cable loss factors ((CF)(in dB)), and the pre-amplifier gain [if applicable] ((G)(in dB)). These correction values are algebraically added to the raw Spectrum Analyzer Voltage (in dBμV) to obtain the corrected radiated electric field, which shall be the final corrected logarithm amplitude ((Corr. Meas.)(in dBμV/m)). This logarithm amplitude is then compared to the FCC limit, which has been converted to a unit of log in dBμV/m, as denoted in the final test data.

Example:

- Spectrum Analyzer Voltage: $V_{dB\mu V (SA)}$
- Antenna Correction Factor: $AF_{dB/m}$
- Cable Correction Factor: CF_{dB}
- Pre-Amplifier Gain (if applicable): G_{dB}
- Electric Field: $E_{dB\mu V/m} = V_{dB\mu V (SA)} + AF_{dB/m} + CF_{dB} - G_{dB}$
- To convert from linear units of measure: $dBuV/m = 20\text{LOG}(uV/m)$
- To convert FCC limits, based on DMeasure: $3m \text{ Limit} = 10m \text{ Limit} + 20\text{LOG}(10/3)$



3.1.4 Test Data

The EUT was scanned from 30 MHz to 12.5 GHz.

The Second harmonic of the fundamental transmitter was detected.

There were no emissions detected in the frequency range of 5GHz to 12.5 GHz.

The worst-case emissions are reported.

The EUT complied with the Class B Radiated Emissions requirements.

The radiated emissions test data results are provided in the tables below.

Table 8: Radiated Emission Test Data, 30 MHz – 1000 MHz

Limit (1): FCC 15.209 (Class B) (QP)

Frequency (MHz)	Detector	Meas (dBuV/m)	Limit (dBuV/m)	Delta (dB)	Turn Table (deg)	Antenna (cm)
33.96	QPeak	15.621	(1) 40	-24.379	90	Vert, 100
128.83	QPeak	13.349	(1) 43.5	-30.151	90	Vert, 100
296.727	QPeak	12.732	(1) 46	-33.268	90	Horiz, 100
594.656	QPeak	18.25	(1) 46	-27.75	90	Vert, 100



Table 9: Radiated Emission Test Data, 1 GHz – 12.5GHz

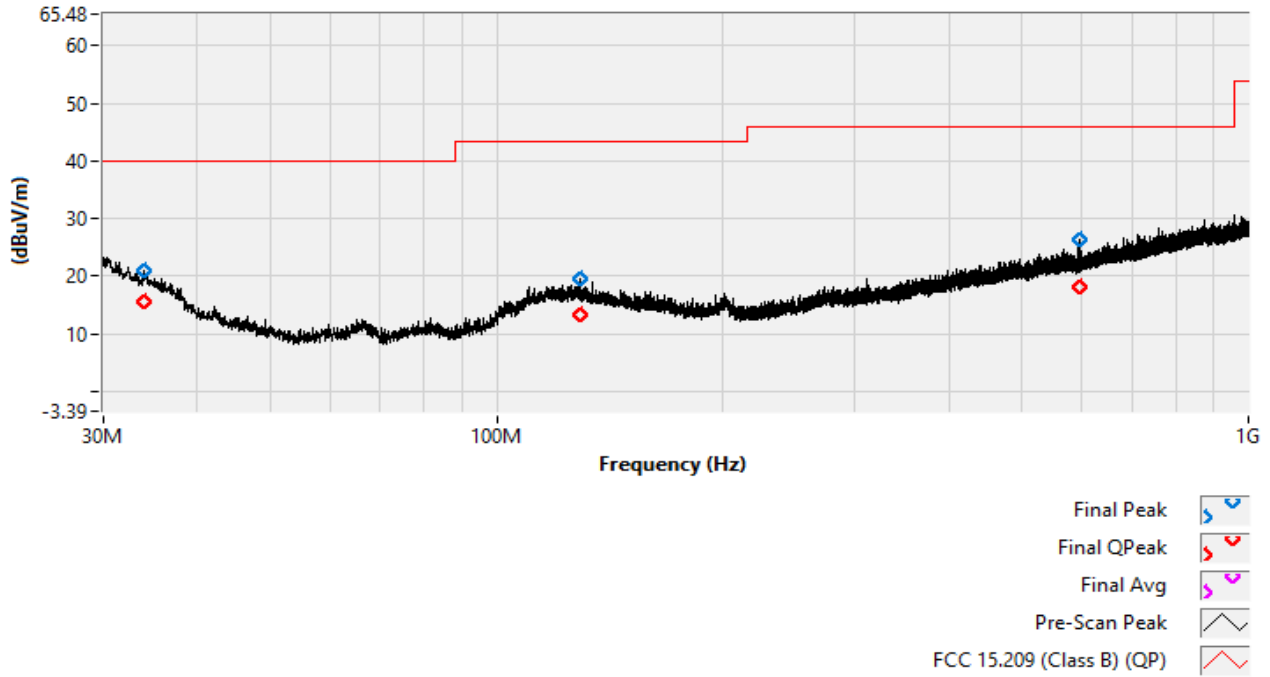
Limit (1): FCC 15.209 (Peak)

Limit (2): FCC 15.209 (AVG)

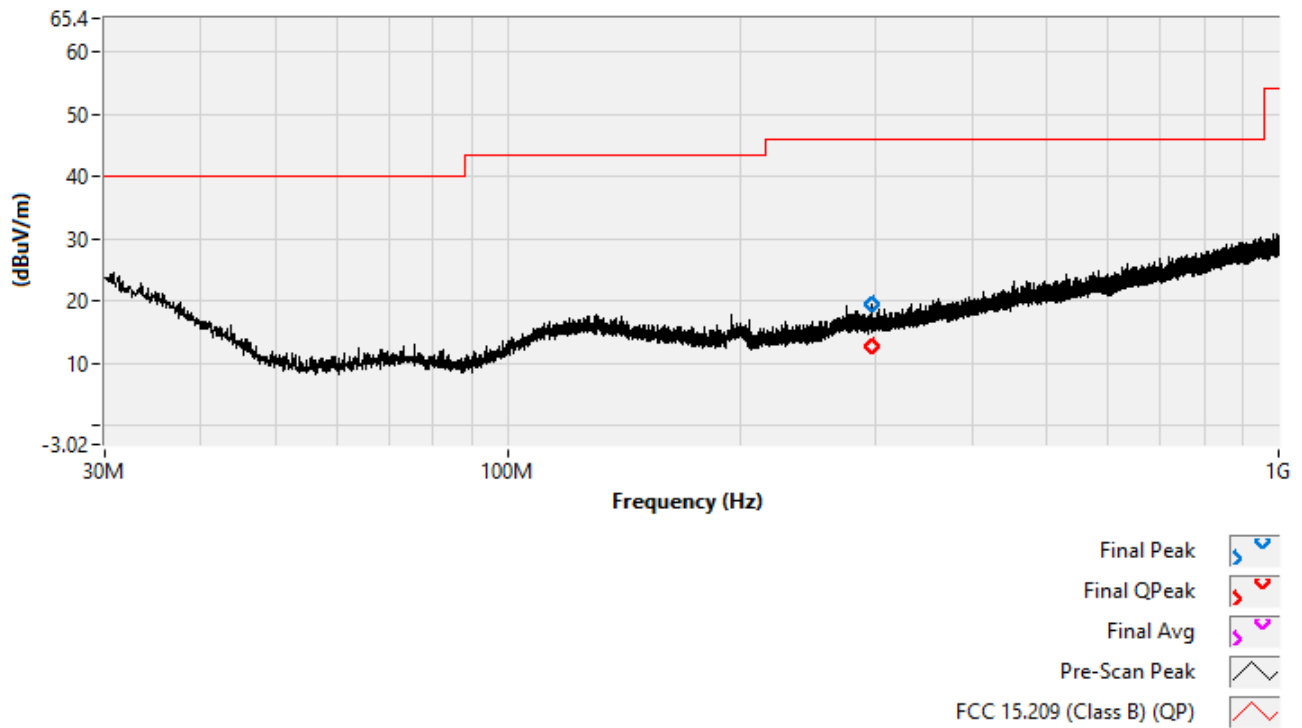
Frequency (Hz)	Detector	Meas (dBuV/m)	Limit (dBuV/m)	Delta (dB)	Turn Table (deg)	Antenna (cm)
2.44G	Peak	88.062			90	Vert, 100
4.88G	Peak	47.796	(1) 74	-26.204	90	Vert, 100
	Avg	35.109	(2) 54	-18.891	90	Vert, 100
4.88G	Peak	49.622	(1) 74	-24.378	180	Horiz, 100
	Avg	35.396	(2) 54	-18.604	180	Horiz, 100
4.881G	Peak	48.826	(1) 74	-25.174	180	Horiz, 100
	Avg	35.057	(2) 54	-18.943	90	Vert, 100
5.181G	Peak	61.606	(1) 74	-12.394	90	Vert, 100
	Avg	36.399	(2) 54	-17.601	90	Vert, 100
5.743G	Peak	53.763	(1) 74	-20.237	90	Vert, 100
	Avg	36.144	(2) 54	-17.856	90	Vert, 100
7.322G	Peak	57.19	(1) 74	-16.81	90	Vert, 100
	Avg	42.492	(2) 54	-11.508	90	Vert, 100
9.981G	Peak	60.307	(1) 74	-13.693	90	Vert, 100
	Avg	46.338	(2) 54	-7.662	90	Vert, 100



Pre-scan and Final Data (Vertical) 30 MHz – 1 GHz

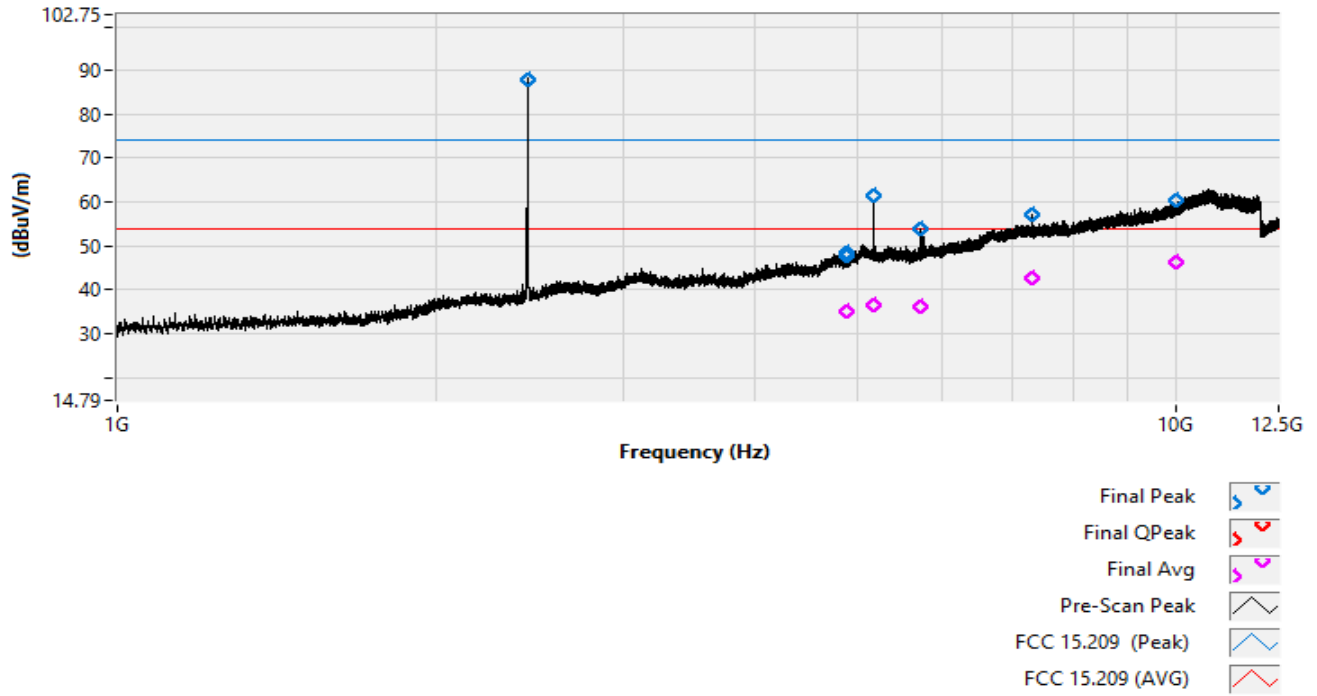


Pre-scan and Final Data (Horizontal) 30 MHz – 1 GHz





Pre-scan and Final Data (Vertical) 1 GHz – 12.5 GHz



Pre-scan and Final Data (Horizontal) 1 GHz – 12.5 GHz

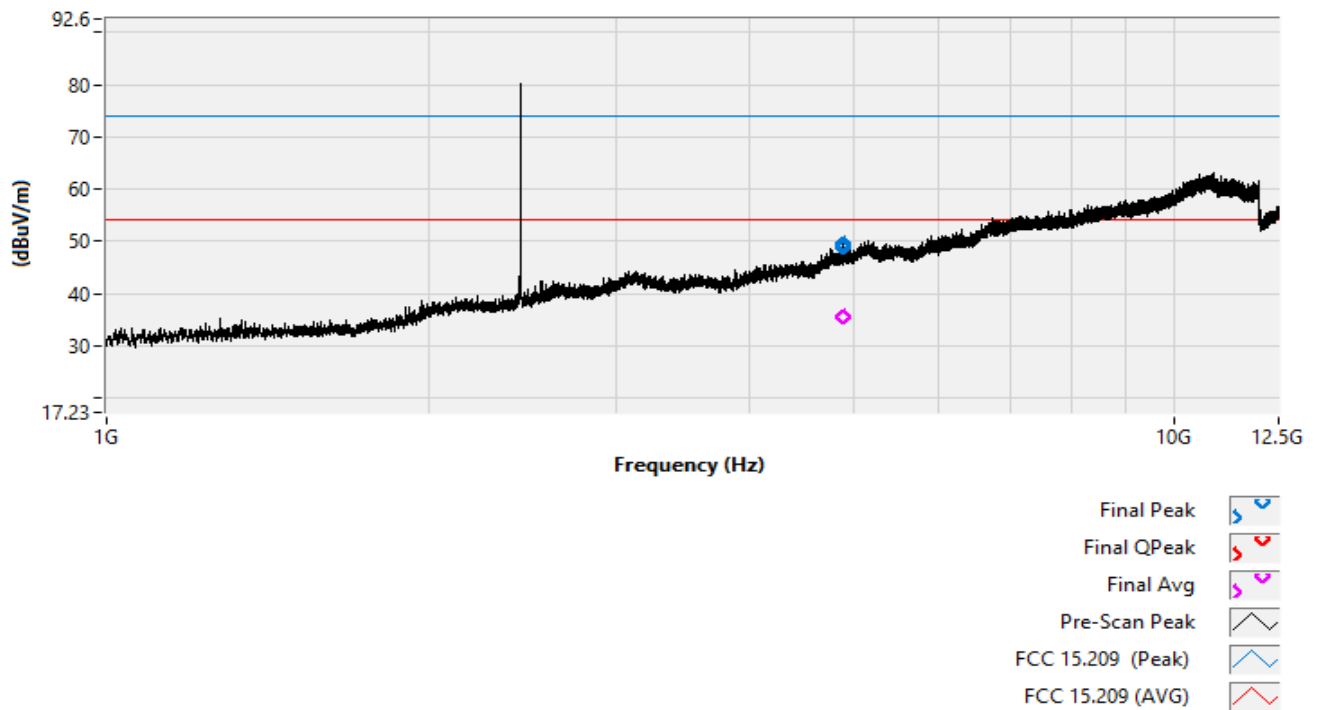


Figure 2: Radiated Emissions Test Configuration – Front

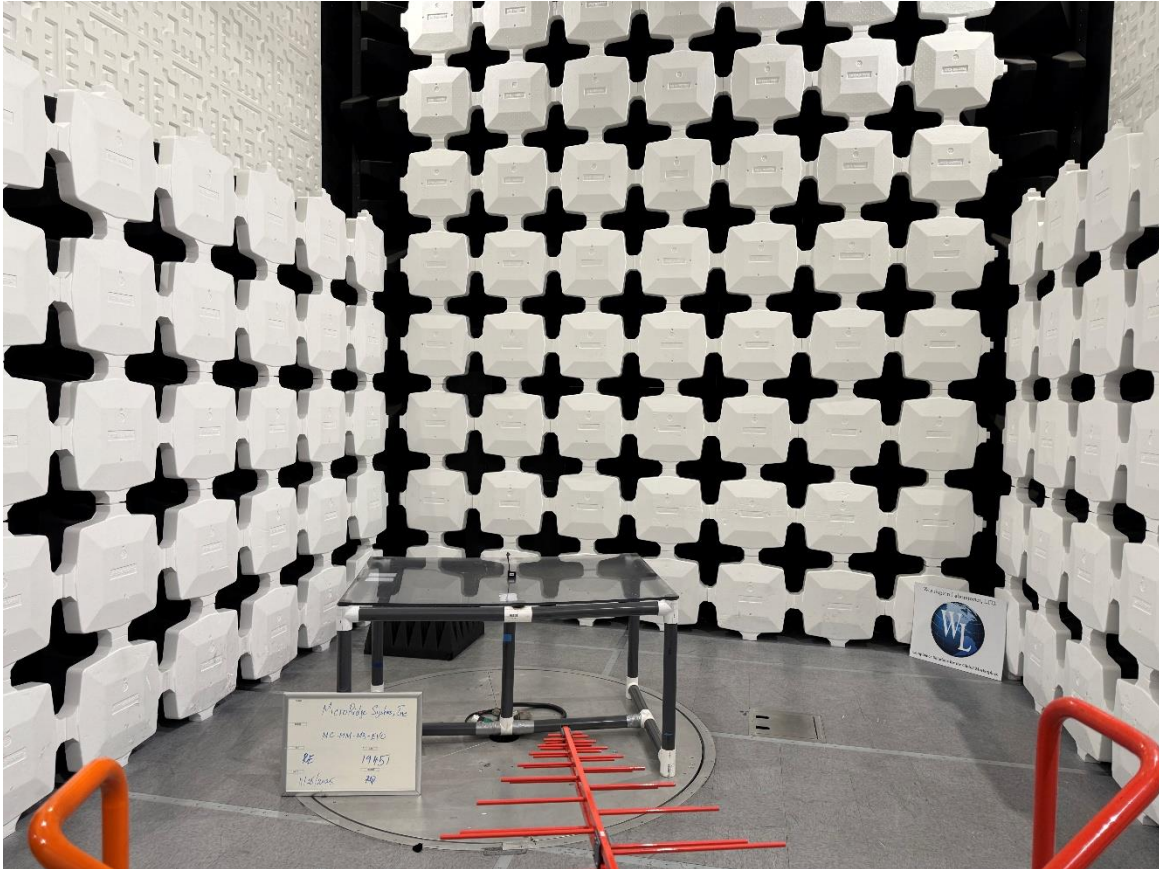
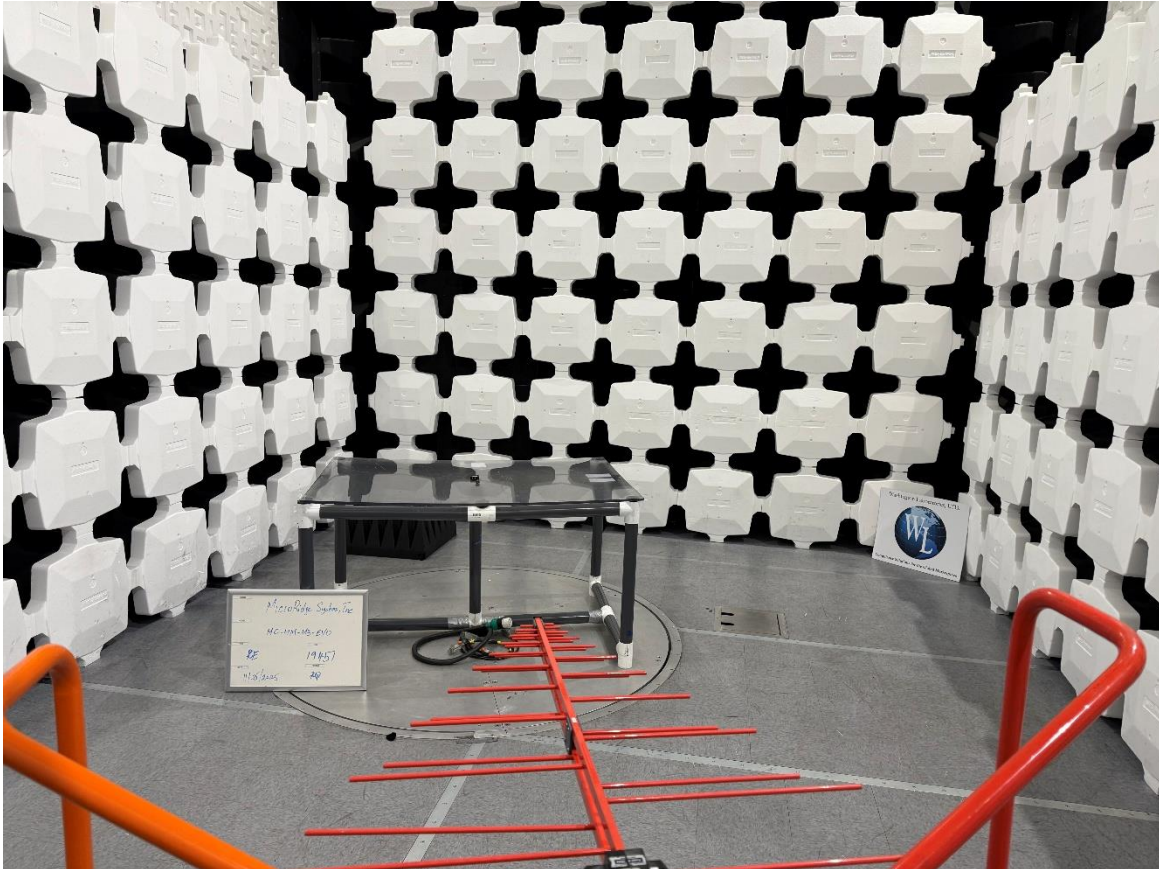


Figure 3: Radiated Emissions Test Configuration – Rear





4 Supplier's Declaration of Conformity

According to the Federal Communications Commission the conformity of a device to the requirements shall be certified by a Supplier's "Declaration of Conformity", issued by the party responsible for ensuring compliance. This declaration shall be included as a separate document or in the user's manual supplied with the product.

The compliance information statement shall be supplied with the product at the time of marketing or importation, containing the following information:

Identification of the product, e.g., name and model number. The identification, by name, address and telephone number, of the responsible party. The responsible party for a Declaration of Conformity must be located within the United States.

A statement that the product complies with Part 15 of the regulations. The following is an example of this statement:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



5 Marketing and Labeling Instructions

5.1 Part 15 Information to the user

For devices approved under Part 15, the user's manual, or instruction manual for an intentional or unintentional radiator shall caution the user about changes or modifications to the device (Section 15.21). For Class A and Class B digital devices, information to the user is required to include the following statements (Section 15.105):

For a Class A digital device or peripheral, the instructions furnished to the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

For a Class B digital device or peripheral, the instructions furnished to the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

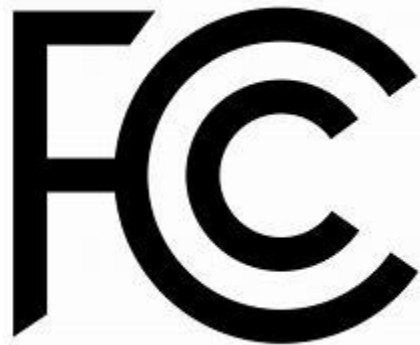
When the device is so small or for such use that it is not practicable to place the statement specified above, such as for a CPU board or a plug-in circuit board peripheral device, the text associated with the logo may be placed in a prominent location in the instruction manual or pamphlet supplied to the user. However, the unique identification (trade name and model number) and the logo must be displayed on the device.



5.2 Labeling

The label shall not be a stick-on, paper label. The label on these products shall be permanently affixed to the product and shall be readily visible to the purchaser at the time of purchase. "Permanently affixed" means that the label is etched, engraved, stamped, silk-screened, indelibly printed, or otherwise permanently marked on a permanently attached part of the equipment or on a nameplate of metal, plastic, or other material fastened to the equipment by welding, riveting, or a permanent adhesive. The label must be designed to last the expected lifetime of the equipment in the environment in which the equipment may be operated and must not be readily detachable.

Devices authorized under the SDoC procedure have the option to use the FCC logo to indicate compliance with the FCC rules,¹² and the logo may be included in the instruction materials or as part of an e-label.



The FCC logo shall only be used on a product that has been tested, evaluated, and found to be compliant in accordance with the SDoC procedures. The use of the FCC logo on the device does not mitigate the requirement to provide a means to uniquely identify the product or to provide the required compliance information statement. The FCC logo cannot be used on products that are exempt from an authorization by rule (e.g., Section 15.103 exempt devices, or Section 15.3 incidental radiators) unless the SDoC procedure has been fully applied for the product.



5.3 Marketing Requirements

The party responsible for ensuring compliance will be required to submit, upon request, documentation verifying compliance, including test reports, to the Commissions within 14 days of such a request. This 14-day period begins upon receipt of the request to the responsible party. The manufacturer is required to retain a record of all documentation for a period of two years after manufacturing is discontinued.

If changes to the original equipment are made, then these changes should be reviewed to ensure that they do not affect compliance with the technical standards. If the changes are determined to change the EMC characteristics of the device, then the device should be retested.

Please note that Washington Laboratories, Ltd. (WLL) operates as a contract-testing laboratory and provides test results to support the FCC declaration of conformity. However, under the current regulations, it is up to the party responsible for compliance to declare conformity to the standards.



6 Canadian Labeling Requirements

If your device is marketed in Canada, this report also shows compliance with the ISED Canada Interference-Causing Equipment Standard 003. A copy of this report must be retained by the manufacturer or importer for a period of at least five years.

You must also have the following notice with your device (in English and French):

ISED Canada ICES-003 Compliance Label:

CAN ICES-3 (*)/NMB-3(*)

* Insert either “A” or “B” but not both to identify the applicable Class of ITE.

This notice should be in the form of a label that is affixed to the unit. If you have insufficient space or some other restriction that does not allow a label to be affixed to the unit, the notice may be in the form of a statement in the user's manual.