

Rogers Labs, a division of The Compatibility Center LLC

7915 Nieman Rd.
Lenexa, KS 66214
Phone / Fax (913) 660-0666

Engineering Test Report For Grant of Certification Application

47 CFR, PART 15C - Intentional Radiators Paragraph 15.249,
Industry Canada RSS-210 Issue 11, and RSS-GEN Issue 5
License Exempt Intentional Radiator
Low Power Transmitter (902-928 MHz)

For

Applied Digital, Inc.
19315 State Highway 413
Branson West, MO 65737

Hardware Version Identification Number (HVIN): AP-900NA
Model: AP-900NA
FCC ID: SOFAP-900NA
IC: 6491A-AP900NA

Test Report Number: 240115
Test Date: January 15, 2024 – August 7, 2024

Authorized Signatory: 
Patrick Powell

This report shall not be reproduced except in full, without the written approval of the laboratory.
This report must not be used by the client to claim product certification, approval, or
endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Table of Contents

TABLE OF CONTENTS.....	1
REVISIONS.....	4
EXECUTIVE SUMMARY	5
OPINION / INTERPRETATION OF RESULTS	5
EQUIPMENT TESTED.....	6
Equipment Function	7
Equipment Configuration.....	7
APPLICATION FOR CERTIFICATION.....	8
APPLICABLE STANDARDS & TEST PROCEDURES	9
TESTING PROCEDURES	9
AC Line Conducted Emission Test Procedure	9
Radiated Emission Test Procedure.....	9
Antenna Port Conducted Emission Test Procedure.....	10
Diagram 1 Test arrangement for Conducted emissions	11
Diagram 2 Test arrangement for radiated emissions of tabletop equipment.....	12
Diagram 3 Test arrangement for radiated emissions tested in Semi-Anechoic Chamber (SAC).....	13
Diagram 4 Test arrangement for Antenna Port Conducted emissions.....	14
TEST SITE LOCATIONS	15
UNITS OF MEASUREMENTS	15
ENVIRONMENTAL CONDITIONS.....	16
STATEMENT OF MODIFICATIONS AND DEVIATIONS	16
INTENTIONAL RADIATORS.....	16
Antenna Requirements	16

Restricted Bands of Operation	16
Table 1 Radiated Emissions in Restricted Frequency Bands (Mode 1).....	17
Summary of Results for Radiated Emissions in Restricted Bands	17
AC Line Conducted EMI Procedure	18
Figure 1 AC Line Conducted emissions of EUT line 1	19
Figure 2 AC Line Conducted emissions of EUT line 2	20
Table 2 AC Line Conducted Emissions Data L1	21
Table 3 AC Line Conducted Emissions Data L2.....	21
Summary of Results for AC Line Conducted Emissions Results	21
General Radiated Emissions Procedure	22
Table 4 General Radiated Emissions Data (Horizontal orientation / Tx On)	22
Table 5 General Radiated Emissions Data (Vertical orientation / Tx On).....	23
Summary of Results for General Radiated Emissions	23
Operation in the Band 902 - 928 MHz	24
Figure 3 Plot of Transmitter Emissions Operation in 902 – 928 MHz band	25
Figure 4 Plot of Transmitter Emissions Low Band Edge 905 MHz	26
Figure 5 Plot of Transmitter Emissions High Band Edge 920 MHz.....	27
Figure 7 Plot of 99% Occupied Bandwidth 915 MHz.....	28
Transmitter Emissions Data	29
Table 6 Transmitter Radiated Emissions Mode.....	29
Summary of Results for Transmitter Radiated Emissions of Intentional Radiator	30
ANNEX	31
Annex A Measurement Uncertainty Calculations	32
Annex B Test Equipment	33
Annex C Laboratory Certificate of Accreditation	37

Revisions

Revision 1 Issued January 3, 2025 – Initial Release

Revision 2 Issued February 6, 2025 – updated for review findings.

Executive Summary

The following information is submitted for consideration in obtaining Grant of Certification for low power intentional radiator per 47 CFR Paragraph 15.249, Industry Canada RSS-210 Issue 11 and RSS-GEN Issue 5, low power digital device transmitter operations in the 902-928 MHz frequency band.

Name of Applicant: Applied Digital, Inc.
19315 State Highway 413
Branson West, MO 64737

M/N: AP-900NA HVIN: AP-900NA
FCC ID: SOFAP-900NA IC: 6491A-AP900NA
Frequency Range: operation in the 902-928 MHz band

Operational communication mode 1

Mode	Peak Power (dB μ V/m@3m)	Average power (dB μ V/m@3m)	99% OBW (kHz)
Mode 1, (Binary FSK)	109.7	92.9	385.3

Opinion / Interpretation of Results

Tests Performed	Margin (dB)	Results
Restricted Bands 47 CFR 15.205, RSS-210 2.2	-0.6	Complies
AC Line Conducted 47 CFR 15.207, RSS-GEN 8.8	-14.5	Complies
Radiated Emissions 47 CFR 15.209, RSS-GEN 8.9	-4.7	Complies
Harmonic Emissions per 47 CFR 15.249, RSS-210 A2.9	-0.4	Complies

Equipment Tested

Model: AP-900NA

Applied Digital, Inc.
 19315 State Highway 413
 Branson West, MO 64737

<u>Equipment</u>	<u>Model / PN</u>	<u>S/N</u>
EUT (Radiated test sample, integral antenna)	AP-900NA	N/A
Companion Unit (radiated, integral antenna)	AP-900NA	N/A
EUT (Antenna Port Connected)	AP-900NA	N/A
T-Max Accessory Board	T-Max 3WG2	N/A
T-Max companion unit board	T-Max 3WG2	N/A
T-Max Cable	T-Max Telco Cbl	N/A
AC/DC Power Adaptor (Triad)	WSU090-1300	N/A

Test results in this report relate only to the items tested. Worst-case configuration data recorded in this report.

Software: v0.15 or newer

Equipment Function

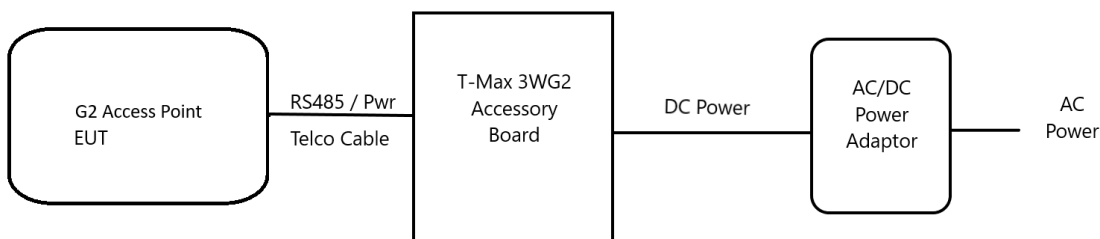
The AP-900NA Access Point is an RS-485 to RF 900MHz intelligent T-Max protocol bridge. This system will accept data via the RS-485 interface, check the integrity of the data, and transmit the data via the RF 900MHz interface. Once data is received on the RF 900MHz interface, the integrity of the data is again verified before transmitting to the RS-485 interface. Data traffic is at an inherently low duty cycle (well below 1%) in customer use case.

Devices attached to the AP-900NA Access Point are required to supply a module address in the data packet transmitted. This address will be decoded by the receiving location in order to determine which module should respond to the received data.

The AP-900NA is a mobile device but not normally moved after installation and rarely physically handled by users.

The installing service personnel may also adjust the frequency of the unit to 1 of 4 preset values, by adding or removing shunt jumpers to the lower left of the circuit board. The default factory frequency of the North American G2 Access Point is 915 MHz.

Equipment Configuration



The above configuration was used for all tests.

Application for Certification

- (1) Manufacturer: Applied Digital, Inc.
19315 State Highway 413
Branson West, MO 64737
- (2) Identification: HVIN: AP-900NA
FCC ID: SOFAP-900NA IC: 6491A-AP900NA
- (3) Instruction Book:
Refer to Exhibit for Instruction Manual.
- (4) Description of Circuit Functions:
Refer to Exhibit of Operational Description.
- (5) Block Diagram with Frequencies:
Refer to Exhibit of Operational Description.
- (6) Report of Measurements:
Report of measurements follows in this Report.
- (7) Photographs: Construction, Component Placement, etc.:
Refer to Exhibit for photographs of equipment.
- (8) List of Peripheral Equipment Necessary for operation. The equipment operates from DC power provided by T-Max 3WG2AC (supplied accessory board), which gets its power from the supplied accessory AC/DC wall adaptor.
- (9) Transition Provisions of 47CFR 15.37 are not requested.
- (10) Not Applicable. The unit is not a scanning receiver.
- (11) Not Applicable. The EUT does not operate in the 59 – 64 GHz frequency band.
- (12) The equipment is not software defined and this section is not applicable.
- (13) Not applicable. This unit does not contain U-NII transmitters or receivers.
- (14) Contain at least one drawing or photograph showing the test set-up for each of the required types of tests applicable to the device for which certification is requested. These drawings or photographs must show enough detail to confirm other information contained in the test report. Any photographs used must be focused originals without glare or dark spots and must clearly show the test configuration used. This information is provided in this report and Test Setup Exhibits provided with the application filing.

Applicable Standards & Test Procedures

In accordance with the e-CFR Code of Federal Regulations Title 47, dated January 15, 2024: Part 2, Subpart J, Paragraphs 2.907, 2.911, 2.913, 2.925, 2.926, 2.1031 through 2.1057, and applicable parts of paragraph 15, Part 15C, Paragraph 15.249, Industry Canada RSS-210 Issue 11, and RSS-GEN Issue 5 operation in the 902-928 MHz Frequency band. Test procedures used are the established Methods of Measurement of Radio-Noise Emissions as described in ANSI C63.10-2013.

Testing Procedures

AC Line Conducted Emission Test Procedure

Testing for the AC line-conducted emissions were performed as required in 47CFR 15C, 15.249, RSS-210 Issue 11, RSS-GEN and specified in ANSI C63.10-2013. The test setup, including the EUT, was arranged in the test configurations as presented during testing. The test configuration was placed on a 1 x 1.5-meter bench, 0.8 meters high located in a screen room. The power lines of the system were isolated from the power source using a standard LISN with a 50- μ Hy choke. EMI was coupled to the spectrum analyzer through a 0.1 μ F capacitor internal to the LISN. The LISN was positioned on the floor beneath the wooden bench supporting the EUT. The power lines and cables were draped over the back edge of the table. Refer to diagram one showing typical test arrangement and photographs in exhibits for EUT placement used during testing.

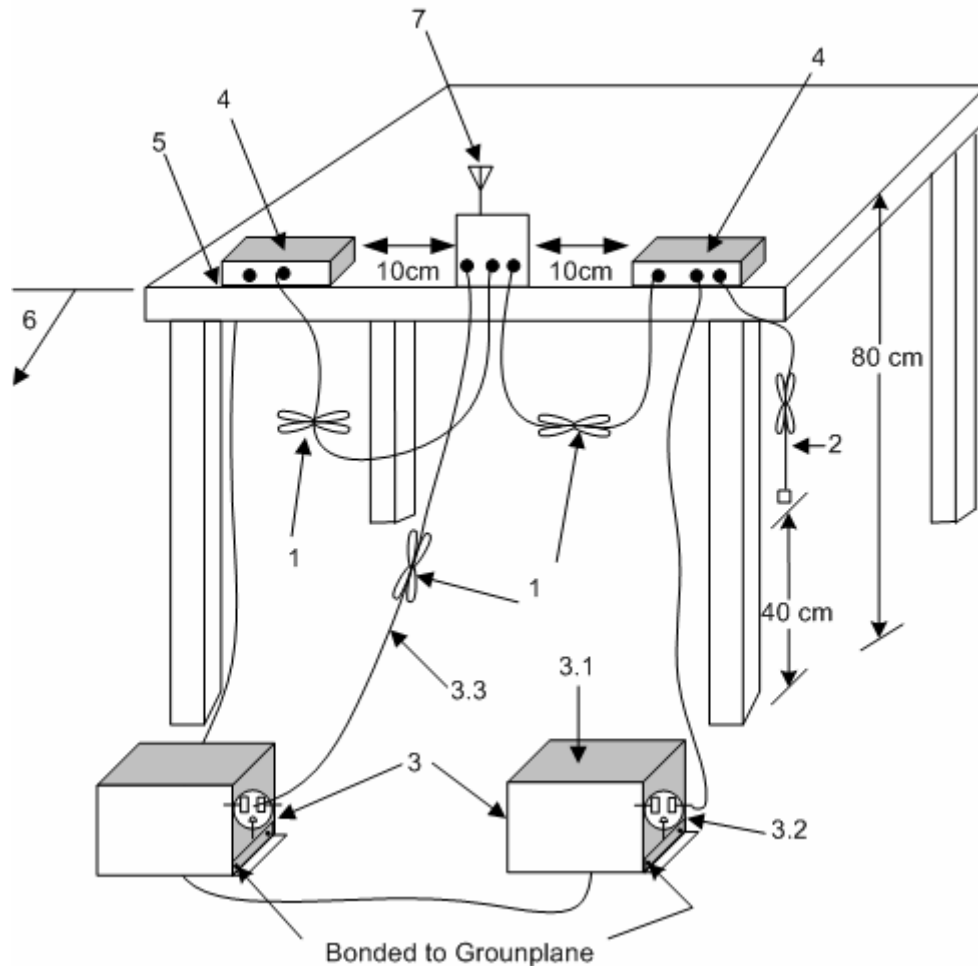
Radiated Emission Test Procedure

Radiated emissions testing was performed as required in 47CFR 15C, 15.249, RSS-210 Issue 11, RSS-GEN and specified in ANSI C63.10-2013. The EUT was placed on a rotating 0.9 x 1.2-meter platform, elevated as required above the ground plane at a distance of 3 meters from the FSM antenna. EMI energy was maximized by equipment placement permitting orientation in three orthogonal axes, raising, and lowering the FSM antenna, changing the antenna polarization, and by rotating the turntable. Each emission was maximized before data was taken and recorded. The frequency spectrum from 9 kHz to 25,000 MHz was searched for emissions during preliminary investigation. Refer to diagrams two and three showing typical test setup. Refer to photographs in the test setup exhibits for specific EUT placement during testing.

Antenna Port Conducted Emission Test Procedure

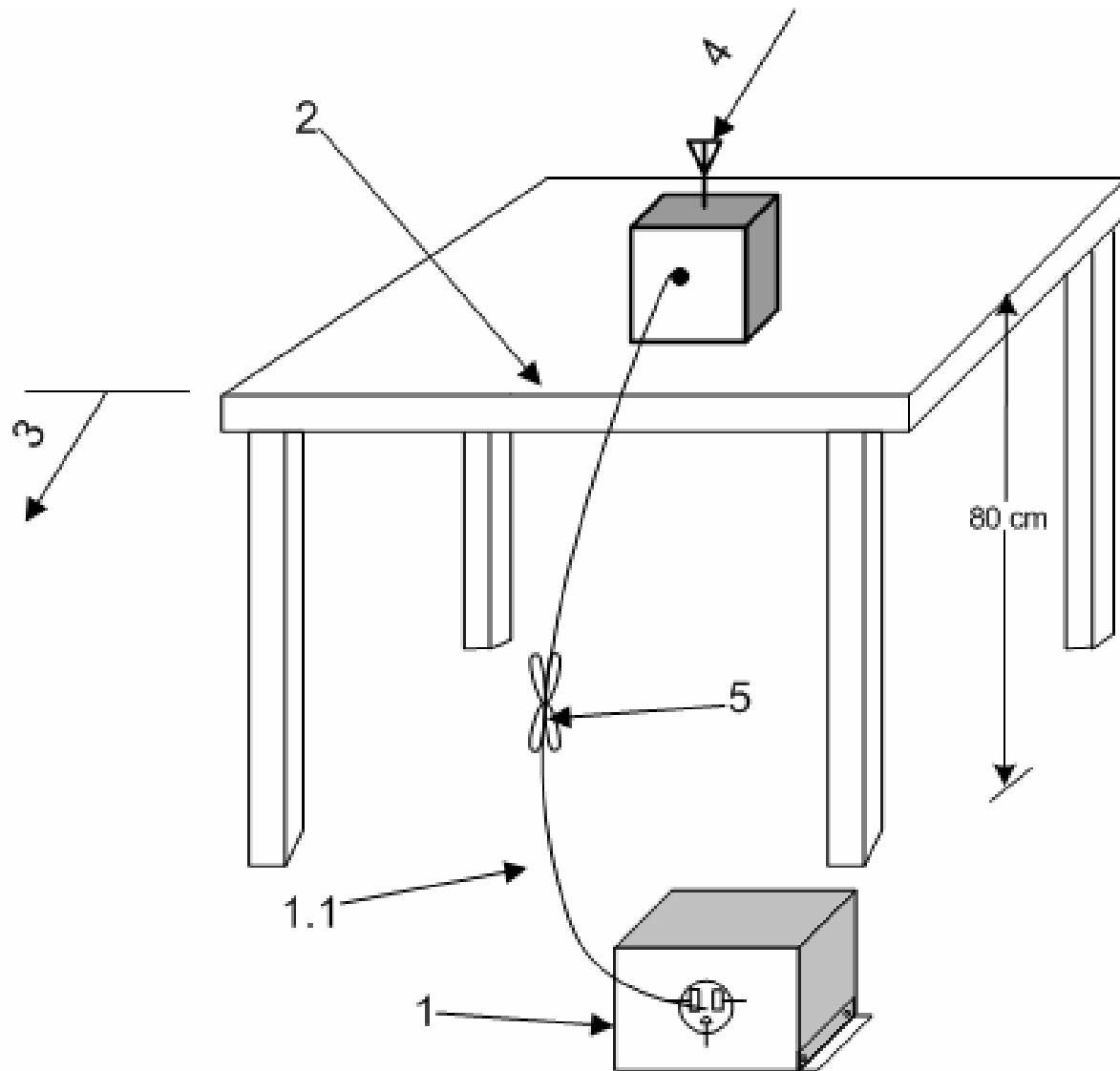
The EUT was assembled as required for operation and placed on a benchtop. This configuration provided the ability to connect test equipment to the provided test antenna port. Antenna Port conducted emissions testing was performed as presented in this document and specified in ANSI C63.10-2013. Testing was completed on a laboratory bench in a shielded room. The active antenna port of the device was connected to appropriate attenuation and the spectrum analyzer. Refer to diagram four showing typical test arrangement and photographs in the test setup exhibits for specific EUT placement during testing.

Diagram 1 Test arrangement for Conducted emissions



1. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long see (see 6.2.3.1).
2. I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m (see 6.2.2).
3. EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN can be placed on top of, or immediately beneath, reference ground plane (see 6.2.2 and 6.2.3).
 - 3.1 All other equipment powered from additional LISN(s).
 - 3.2 Multiple-outlet strip can be used for multiple power cords of non-EUT equipment.
 - 3.3 LISN at least 80 cm from nearest part of EUT chassis.
4. Non-EUT components of EUT system being tested.
5. Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop (see 6.2.3.1).
6. Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane (see 6.2.2 for options).
7. Antenna may be integral or detachable. If detachable, the antenna shall be attached for this test.

Diagram 2 Test arrangement for radiated emissions of tabletop equipment



1—A LISN is optional for radiated measurements between 30 MHz and 1000 MHz but not allowed for measurements below 30 MHz and above 1000 MHz (see 6.3.1). If used, then connect EUT to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. The LISN may be placed on top of, or immediately beneath, the reference ground plane (see 6.2.2 and 6.2.3.2).

1.1—LISN spaced at least 80 cm from the nearest part of the EUT chassis.

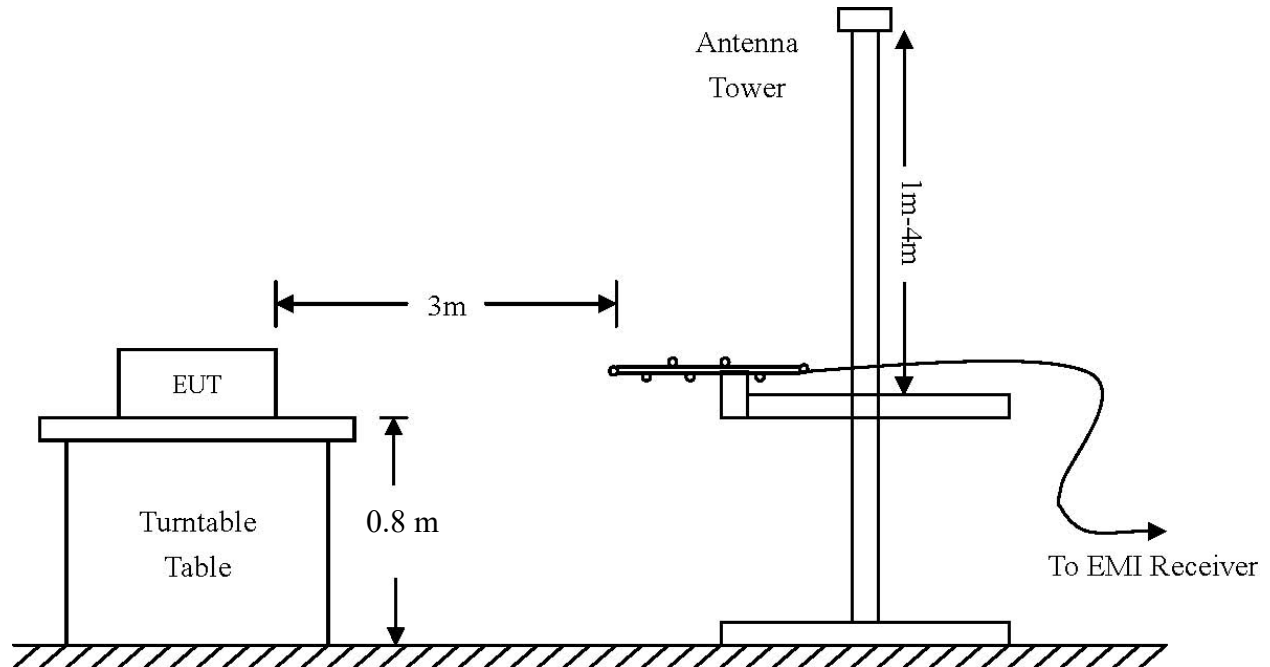
2—Antenna can be integral or detachable, depending on the EUT (see 6.3.1).

3—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long (see 6.3.1).

4—For emission measurements at or below 1 GHz, the table height shall be 80 cm. For emission measurements above 1 GHz, the table height shall be 1.5 m for measurements, except as otherwise specified (see 6.3.1 and 6.6.3.1).

Diagram 3 Test arrangement for radiated emissions tested in Semi-Anechoic Chamber (SAC)

Below 1 GHz



Above 1 GHz

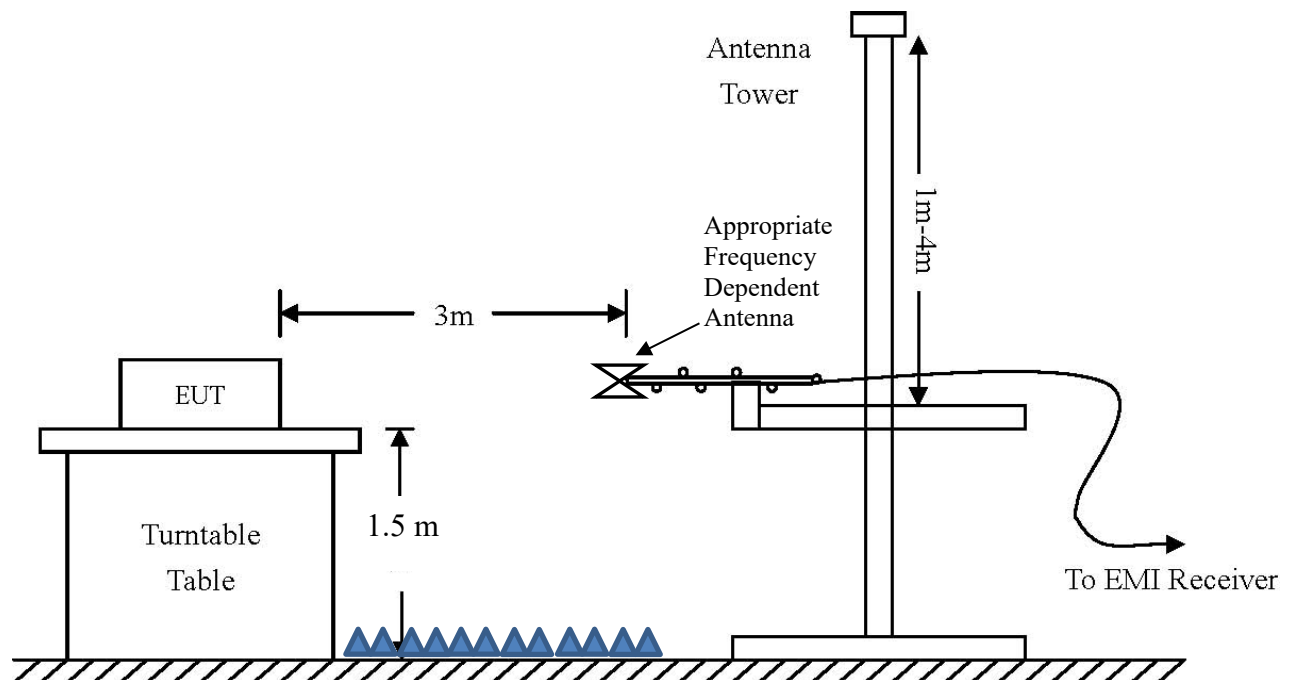
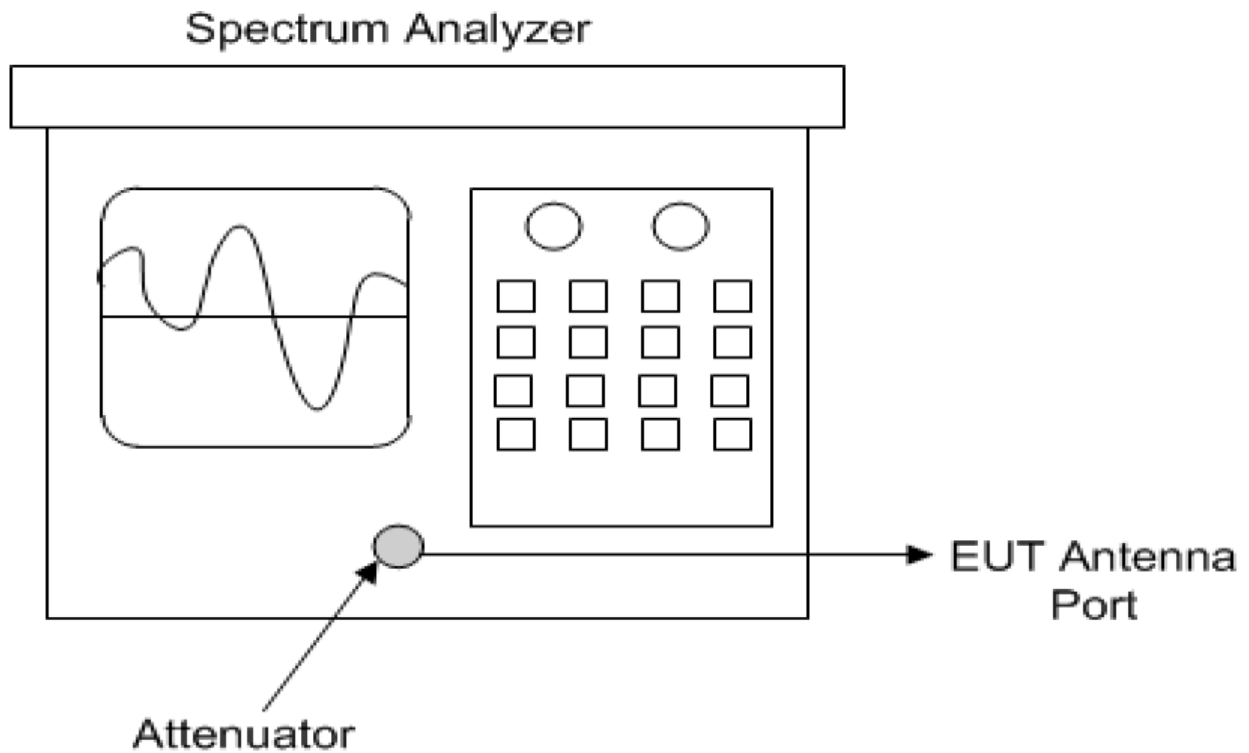


Diagram 4 Test arrangement for Antenna Port Conducted emissions



Test Site Locations

Conducted EMI	AC line conducted emissions testing performed in a shielded screen room located at The Compatibility Center LLC, 7915 Nieman Rd., Lenexa, KS
Antenna port	Antenna port conducted emissions testing was performed in a shielded screen room located at The Compatibility Center LLC, 7915 Nieman Rd., Lenexa, KS
Radiated EMI	The radiated emissions tests were performed at the 3 meters, Semi-Anechoic Chamber (SAC) located at The Compatibility Center LLC, 7915 Nieman Rd., Lenexa, KS
Registered Site information: FCC Site: US5305, ISED: 3041A, CAB Identifier: US0096	
NVLAP Accreditation	Lab code 200087-0

Units of Measurements

Conducted EMI	Data presented in dB μ V; dB referenced to one microvolt
Antenna port Conducted	Data is in dBm; dB referenced to one milliwatt
Radiated EMI	Data presented in dB μ V/m; dB referenced to one microvolt per meter

Note: Radiated limit may be expressed for measurement in dB μ V/m when the measurement is taken at a distance of 3 or 10 meters. Data taken for this report was taken at distance of 3 meters. Sample calculation demonstrates corrected field strength reading for the Semi-Anechoic Chamber using the measurement reading and correcting for receive antenna factor, cable and test system losses, and amplifier gains.

Sample Calculation:

RFS = Radiated Field Strength, FSM = Field Strength Measured

A.F. = Receive antenna factor, Losses = attenuators/cable losses, Gain = amplification gains

$RFS (dB\mu V/m @ 3m) = FSM (dB\mu V) + A.F. (dB/m) + Losses (dB) - Gain (dB)$

Environmental Conditions

Ambient Temperature	19.4° C
Relative Humidity	32%
Atmospheric Pressure	1028.1 mb

Statement of Modifications and Deviations

No modifications to the EUT were required for the equipment to demonstrate compliance with the 47 CFR Part 15C, 15.249, Industry Canada RSS-210 Issue 11, and RSS-GEN Issue 5 emission requirements. There were no deviations to the specifications.

Intentional Radiators

The following information is submitted supporting compliance with the requirements of 47 CFR, Subpart C, paragraph 15.249, Industry Canada RSS-210 Issue 11 and RSS-GEN Issue 5.

Antenna Requirements

The EUT incorporates integral antenna system and offers no provision for connection to alternate antenna system. The antenna connection point complies with the unique antenna connection requirements. There are no deviations or exceptions to the specification.

Restricted Bands of Operation

Spurious emissions falling in the restricted frequency bands of operation were measured at the SAC. The EUT utilizes frequency, determining circuitry, which generates harmonics falling in the restricted bands. Emissions were investigated at the SAC, using appropriate antennas or pyramidal horns, amplification stages, and a spectrum analyzer. Peak and average amplitudes of frequencies above 1000 MHz were compared to the required limits with worst-case data presented below. Test procedures of ANSI C63.10-2013 were used during testing. No other significant emission was observed which fell into the restricted bands of operation. Computed emission values consider the received radiated field strength, receive antenna correction factor, amplifier gain stage, and test system cable losses.

Table 1 Radiated Emissions in Restricted Frequency Bands (Mode 1)

Frequency in MHz	Horizontal Peak (dBμV/m)	Horizontal Average (dBμV/m)	Vertical Peak (dBμV/m)	Vertical Average (dBμV/m)	Limit @ 3m (dBμV/m)	Horizontal Margin (dB)	Vertical Margin (dB)
2715.0	44.7	31.7	55.5	52.0	54.0	-22.3	-2.0
2745.0	59.1	52.2	60.2	51.6	54.0	-1.8	-2.4
2760.0	54.2	41.9	57.3	48.5	54.0	-12.1	-5.5
3620.0	46.0	32.8	59.5	53.4	54.0	-21.2	-0.6
3660.0	58.8	45.0	58.0	45.0	54.0	-9.0	-9.0
3680.0	58.4	44.7	58.1	44.7	54.0	-9.3	-9.3
4525.0	48.8	35.3	56.0	43.8	54.0	-18.7	-10.2
4575.0	59.1	45.9	59.0	48.9	54.0	-8.1	-5.1
4600.0	60.2	47.2	60.1	47.2	54.0	-6.8	-6.8

Other emissions present had amplitudes at least 20 dB below the limit. Peak and Quasi-Peak amplitude emissions are recorded for frequency below 1000 MHz. Peak and Average amplitude emissions are recorded for frequency range above 1000 MHz.

Summary of Results for Radiated Emissions in Restricted Bands

The EUT demonstrated compliance with the radiated emissions requirements of 47CFR Paragraph 15, Subpart Part 15C, 15.249, RSS-210 Issue 11, and RSS-GEN Issue 5 emission requirements. The EUT worst-case operations demonstrated a minimum radiated emission margin of -0.6 dB below the requirements in restricted frequency bands. Peak, Quasi-peak, and average amplitudes were checked for compliance with the regulations. Worst-case emissions are reported with other emissions found in the restricted frequency bands at least 20 dB below the requirements.

AC Line Conducted EMI Procedure

The EUT was arranged in typical equipment configurations operating from AC power adapter. Testing was performed with the EUT placed on a 1 x 1.5-meter wooden bench 80 cm above the conducting ground plane, floor of a screen room. The bench was positioned 40 cm away from the wall of the screen room. The LISN was positioned on the floor of the screen room 80-cm from the rear of the EUT. Testing for the AC line-conducted emissions were the procedures of ANSI C63.10-2013 paragraph 6. The AC power adapter or CPU providing power to the EUT was connected to the LISN for AC line-conducted emissions testing. A second LISN was positioned on the floor of the screen room 80-cm from the rear of the supporting equipment of the EUT. All power cords except those providing power to the EUT were then powered from the second LISN. EMI was coupled to the spectrum analyzer through a 0.1 μ F capacitor, internal to the LISN. Power line conducted emissions testing was carried out individually for each current carrying conductor of the EUT. The excess length of lead between the system and the LISN receptacle was folded back and forth to form a bundle not exceeding 40 cm in length. The screen room, conducting ground plane, analyzer, and LISN were bonded together to the protective earth ground. Preliminary testing was performed to identify the frequencies of each of the emissions, which demonstrated the highest amplitudes. The cables were repositioned to obtain maximum amplitude of measured EMI level. Once the worst-case configuration was identified, plots were made of the EMI from 0.15 MHz to 30 MHz then data was recorded with maximum conducted emissions levels.

Refer to figures one and two for plots of AC Power Adapter Line conducted emissions.

Figure 1 AC Line Conducted emissions of EUT line 1

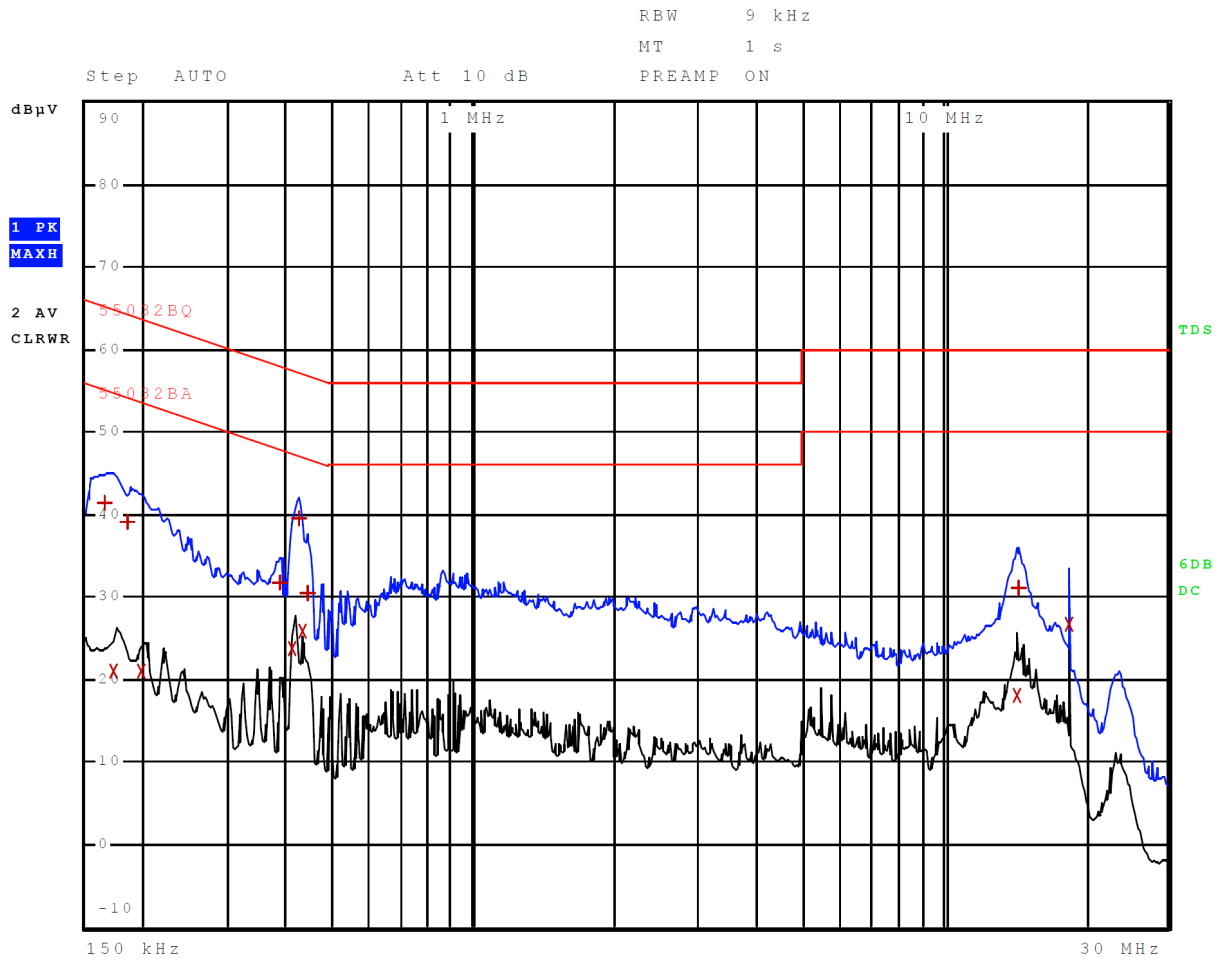
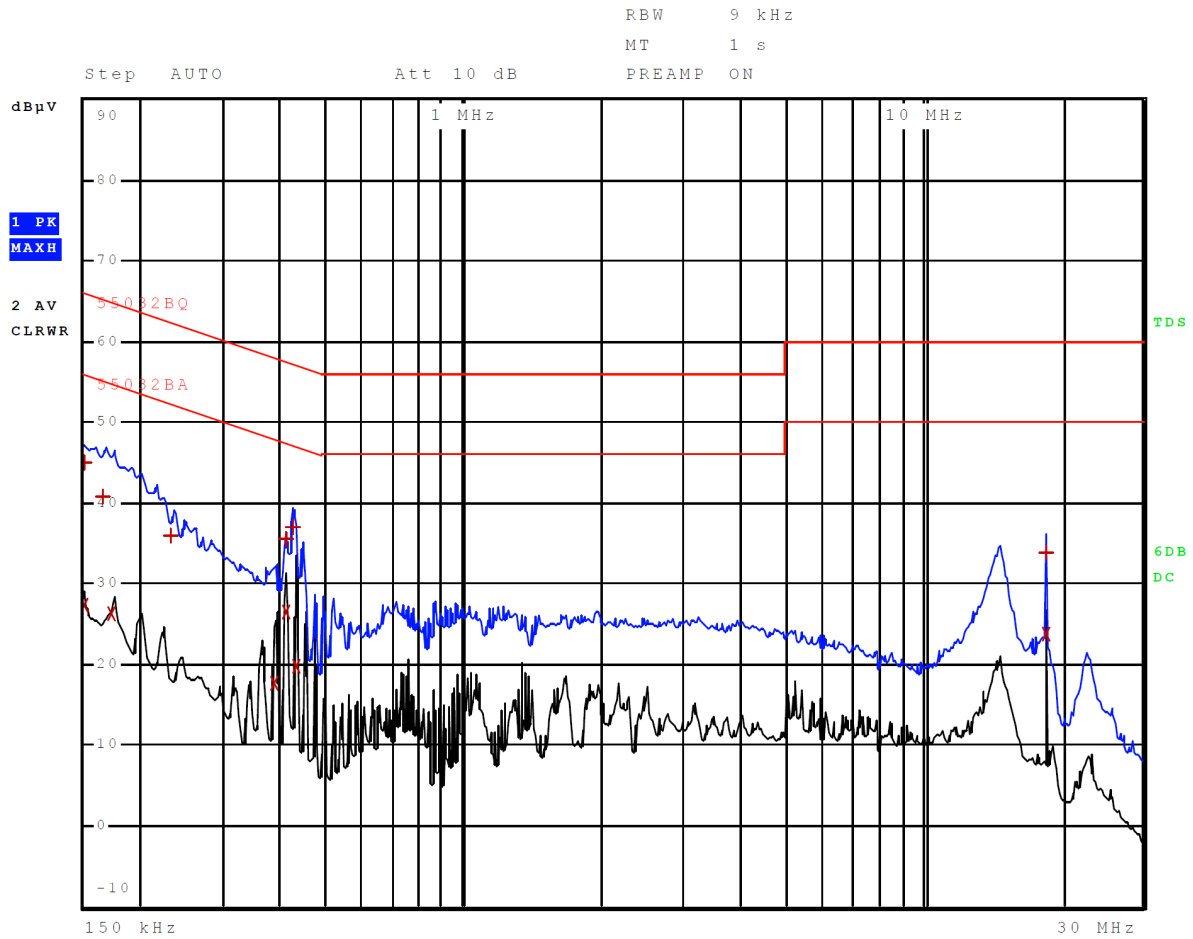


Figure 2 AC Line Conducted emissions of EUT line 2



Refer to tables 3 and 4 for AC Power Adapter Line conducted emissions data.

Table 2 AC Line Conducted Emissions Data L1

Trace	Frequency	Level (dBμV)	Detector	Delta Limit/dB
2	154.000000000 kHz	30.88	Average	-24.91
1	154.000000000 kHz	44.20	Quasi Peak	-21.59
2	174.000000000 kHz	29.23	Average	-25.54
1	174.000000000 kHz	42.21	Quasi Peak	-22.56
2	190.000000000 kHz	27.01	Average	-27.03
1	306.000000000 kHz	31.98	Quasi Peak	-28.10
2	442.000000000 kHz	26.89	Average	-20.14
1	450.000000000 kHz	32.76	Quasi Peak	-24.11
2	462.000000000 kHz	26.26	Average	-20.40
1	14.815900000 MHz	31.03	Quasi Peak	-28.97
2	18.431900000 MHz	27.55	Average	-22.45
1	18.431900000 MHz	33.70	Quasi Peak	-26.30

Other emissions present had amplitudes at least 20 dB below the limit.

Table 3 AC Line Conducted Emissions Data L2

Trace	Frequency	Level (dBμV)	Detector	Delta Limit/dB
1	154.000000000 kHz	43.39	Quasi Peak	-22.40
2	154.000000000 kHz	30.74	Average	-25.05
1	174.000000000 kHz	41.40	Quasi Peak	-23.37
2	174.000000000 kHz	29.53	Average	-25.24
2	190.000000000 kHz	27.49	Average	-26.55
1	214.000000000 kHz	35.80	Quasi Peak	-27.25
1	230.000000000 kHz	35.22	Quasi Peak	-27.23
1	310.000000000 kHz	29.99	Quasi Peak	-29.98
2	358.000000000 kHz	23.94	Average	-24.84
2	442.000000000 kHz	32.52	Average	-14.50
1	458.000000000 kHz	36.51	Quasi Peak	-20.22
2	462.000000000 kHz	31.91	Average	-14.74

Other emissions present had amplitudes at least 20 dB below the limit.

Summary of Results for AC Line Conducted Emissions Results

The EUT demonstrated compliance with the AC Line Conducted Emissions requirements of 47CFR Part 15C, 15.249 and other applicable emissions requirements. The EUT demonstrated a minimum margin of -14.5 dB below the requirement. Other emissions were present with amplitudes at least 20 dB below the limit and worst-case amplitudes recorded.

General Radiated Emissions Procedure

The EUT was arranged in a typical equipment configuration and operated through all available mode during testing. Preliminary testing was performed in a screen room with the EUT positioned 1 meter from the FSM. Radiated emissions measurements were performed to identify the frequencies, which produced the highest emissions. Each radiated emission was then maximized at the SAC location before final radiated measurements were performed. Final data was taken with the EUT located on the SAC at 3 meters distance between the EUT and the receiving antenna. The frequency spectrum from 9 kHz to 25,000 MHz was searched for general radiated emissions. Measured emission levels were maximized by EUT placement on the table, rotating the turntable through 360 degrees, varying the antenna height between 1 and 4 meters above the ground plane and changing antenna position between horizontal and vertical polarization. Antennas used were Loop from 9 kHz to 30 MHz, Broadband Biconical from 30 to 200 MHz, Biconilog from 30 to 1000 MHz, Log Periodic from 200 MHz to 1 GHz and or double Ridge or pyramidal horns and mixers above 1 GHz, notch filters and appropriate amplifiers and external mixers were utilized.

Table 4 General Radiated Emissions Data (Horizontal orientation / Tx On)

Frequency (MHz)	Horizontal Quasi-Peak (dB μ V/m)	Class A Limit @ 3m (dB μ V/m)	Horizontal Margin (dBm)
699.1	42.0	57	-15.0
753.1	51.6	57	-5.4
807.1	44.3	57	-12.7
861.1	45.5	57	-11.6
878.3	38.5	57	-18.5
952.0	41.5	57	-15.5

Other emissions present had amplitudes at least 20 dB below the limit. Peak and Quasi-Peak amplitude emissions are recorded for frequency range below 1000 MHz. Peak and Average amplitude emissions are recorded for frequency range above 1000 MHz.

Table 5 General Radiated Emissions Data (Vertical orientation / Tx On)

Frequency (MHz)	Vertical Quasi-Peak (dB μ V/m)	Class A Limit @ 3m (dB μ V/m)	Vertical Margin (dBm)
753.1	52.3	57	-4.7
807.1	43.9	57	-13.1
861.1	44.4	57	-12.6
878.2	43.0	57	-14.0
952.0	44.9	57	-12.1
969.1	45.3	57	-11.8

Other emissions present had amplitudes at least 20 dB below the limit. Peak and Quasi-Peak amplitude emissions are recorded for frequency range below 1000 MHz. Peak and Average amplitude emissions are recorded for frequency range above 1000 MHz.

Summary of Results for General Radiated Emissions

The EUT demonstrated compliance with the radiated emissions requirements of 47CFR Paragraph 15.209, RSS-210 Issue 11 and RSS-GEN Issue 5 emission requirements. The EUT demonstrated a minimum margin of -4.7 dB below the requirements. Other emissions were present with amplitudes at least 20 dB below the Limits.

Operation in the Band 902 - 928 MHz

Test procedures of ANSI C63.10-2013 paragraph 6, and KDB 558074 v05r02 were used during transmitter testing. Test sample #2 was provided for testing antenna port conducted emissions. This sample was modified by replacing the internal antenna with a 50-ohm antenna port connector and attenuator for testing purposes. The transmitter peak and average power was measured at the antenna port using a wideband RF power meter as described in ANSI C63.10-2013 and KDB 558074. Average power measured did not include any time intervals during which the transmitter was off or transmitting at a reduced power level. The Power Spectral Density (PSD) was measured as required in ANSI C63.10-2013 and KDB 558074. DTS Emission bandwidth was measured as required in ANSI C63.10-2013 and KDB 558074. The amplitude of each harmonic and general radiated emission was measured on the SAC at distance of 3 meters from the FSM antenna (radiated emission testing was performed on sample #1 representative of production equipment with integral antenna). The EUT was positioned on supporting turntable elevated as required above the ground plane, at a distance of 3 meters from the FSM antenna. Radiated emission investigations were performed from 9 kHz to 25,000 MHz. Each radiated emission was maximized by varying the FSM antenna height and polarization, and by rotating the turntable. The worst-case amplitude of each emission was then recorded from the analyzer display. The peak and quasi-peak amplitude of frequencies below 1000 MHz were measured using a spectrum analyzer. The peak and average amplitude of frequencies above 1000 MHz were measured using a spectrum analyzer. A Loop antenna was used for measuring emissions from 0.009 to 30 MHz, Biconilog Antenna for 30 to 1000 MHz, Double-Ridge, and/or Pyramidal Horn Antennas from 1 GHz to 25 GHz. Radiated Emissions were measured in dB μ V/m @ 3 meters. Antenna Port Conducted Emission plots were taken of transmitter performance (using sample #2) for reference in this and other documentation displaying compliance with the specifications.

Figure 3 Plot of Transmitter Emissions Operation in 902 – 928 MHz band

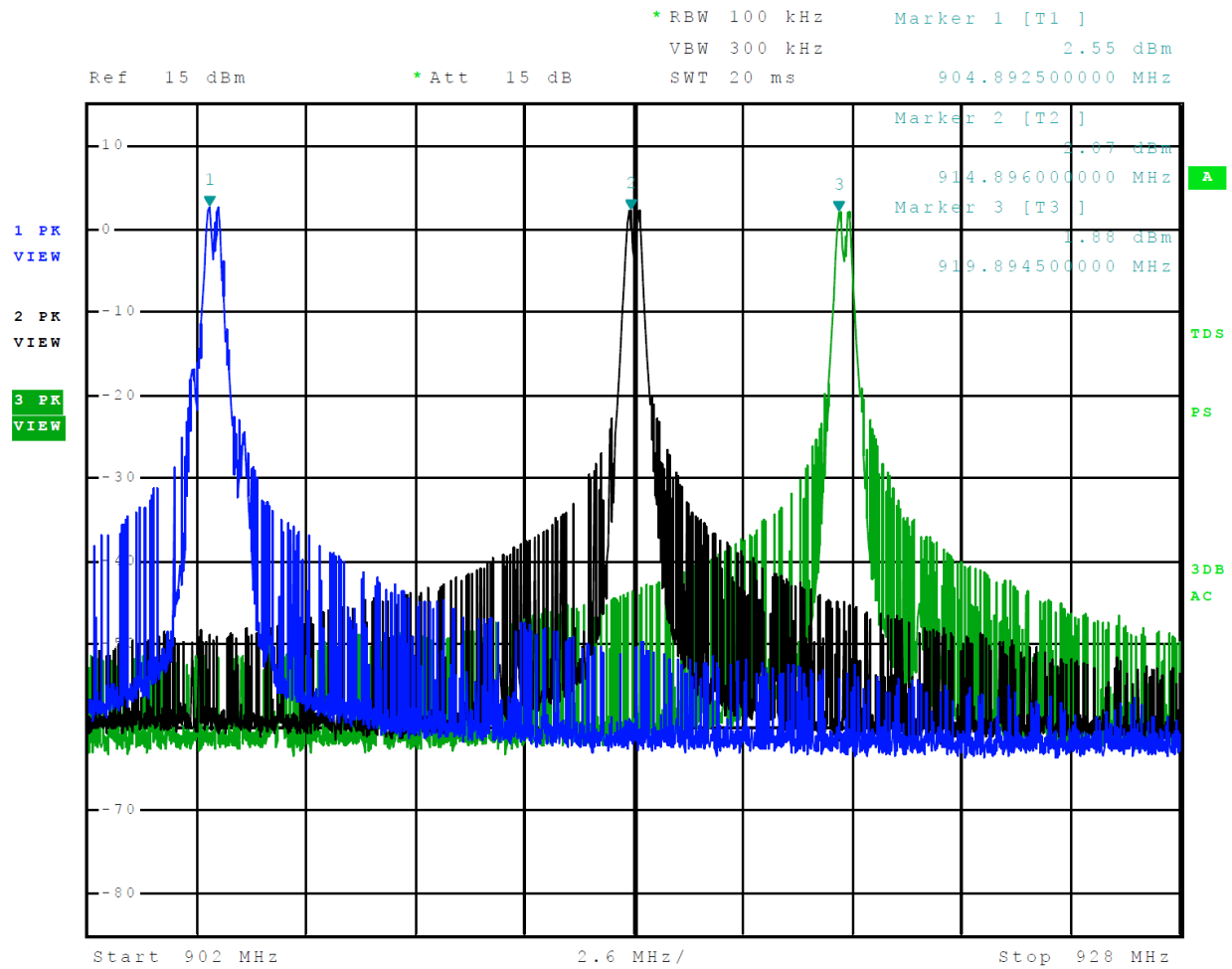


Figure 4 Plot of Transmitter Emissions Low Band Edge 905 MHz

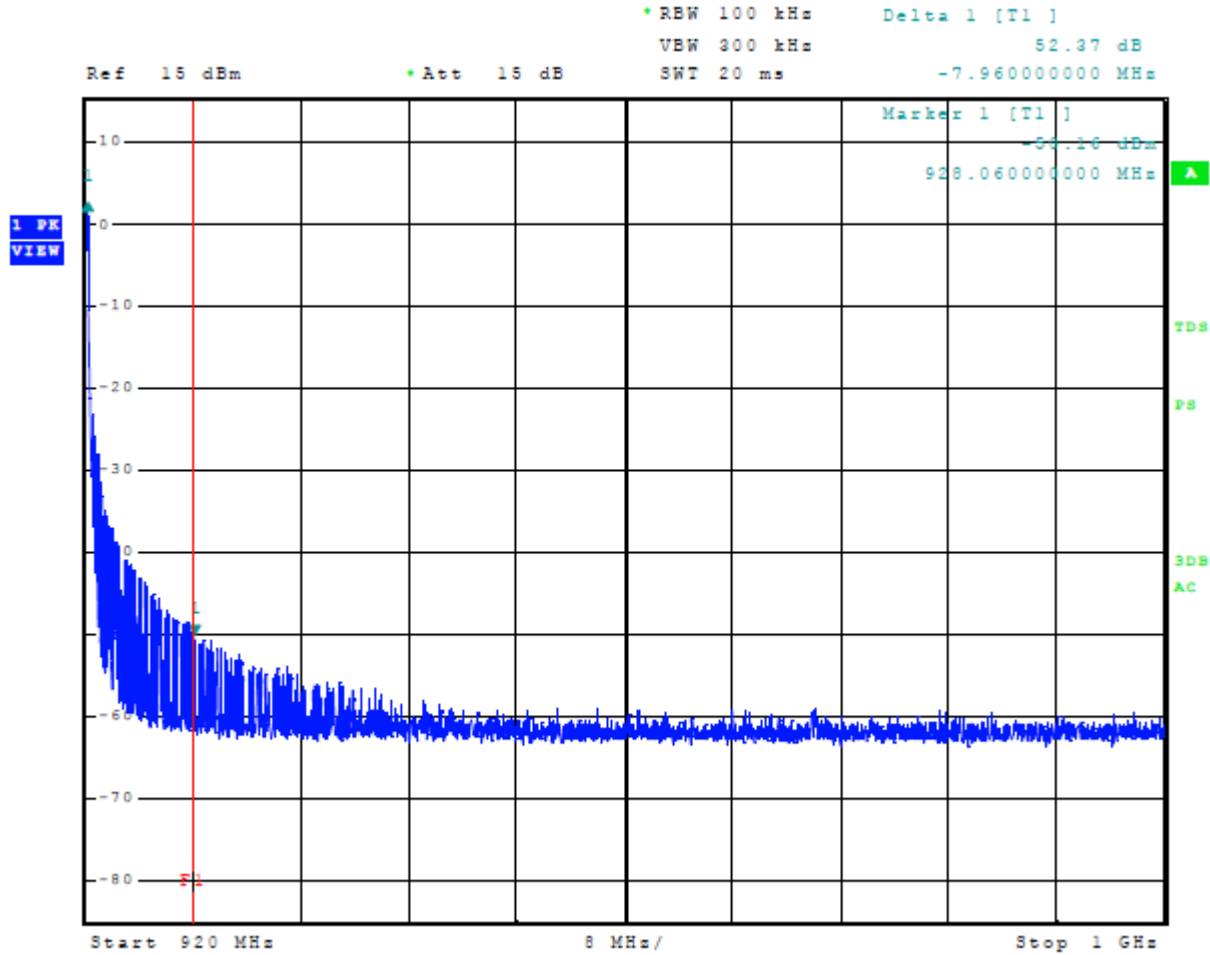


Figure 5 Plot of Transmitter Emissions High Band Edge 920 MHz

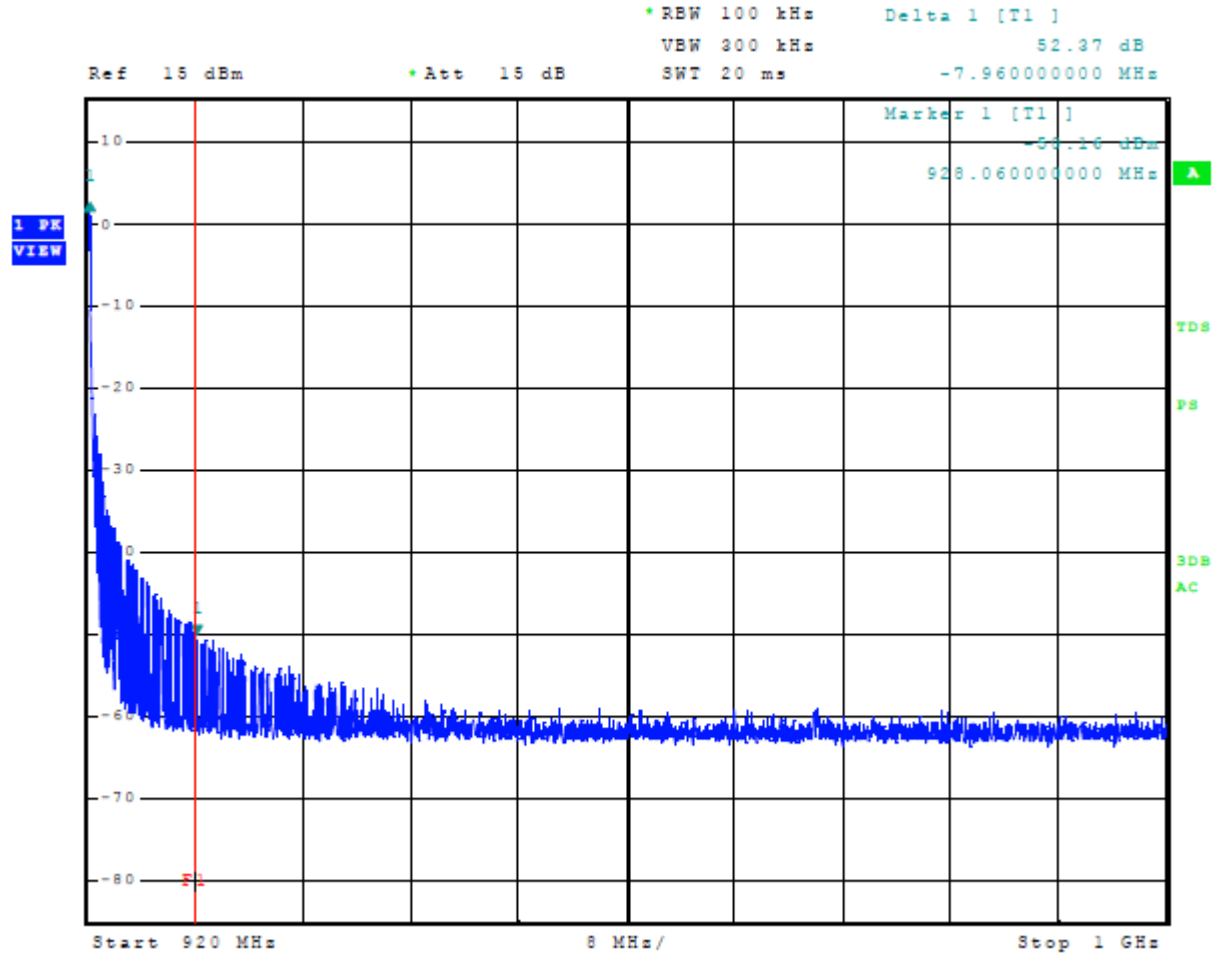
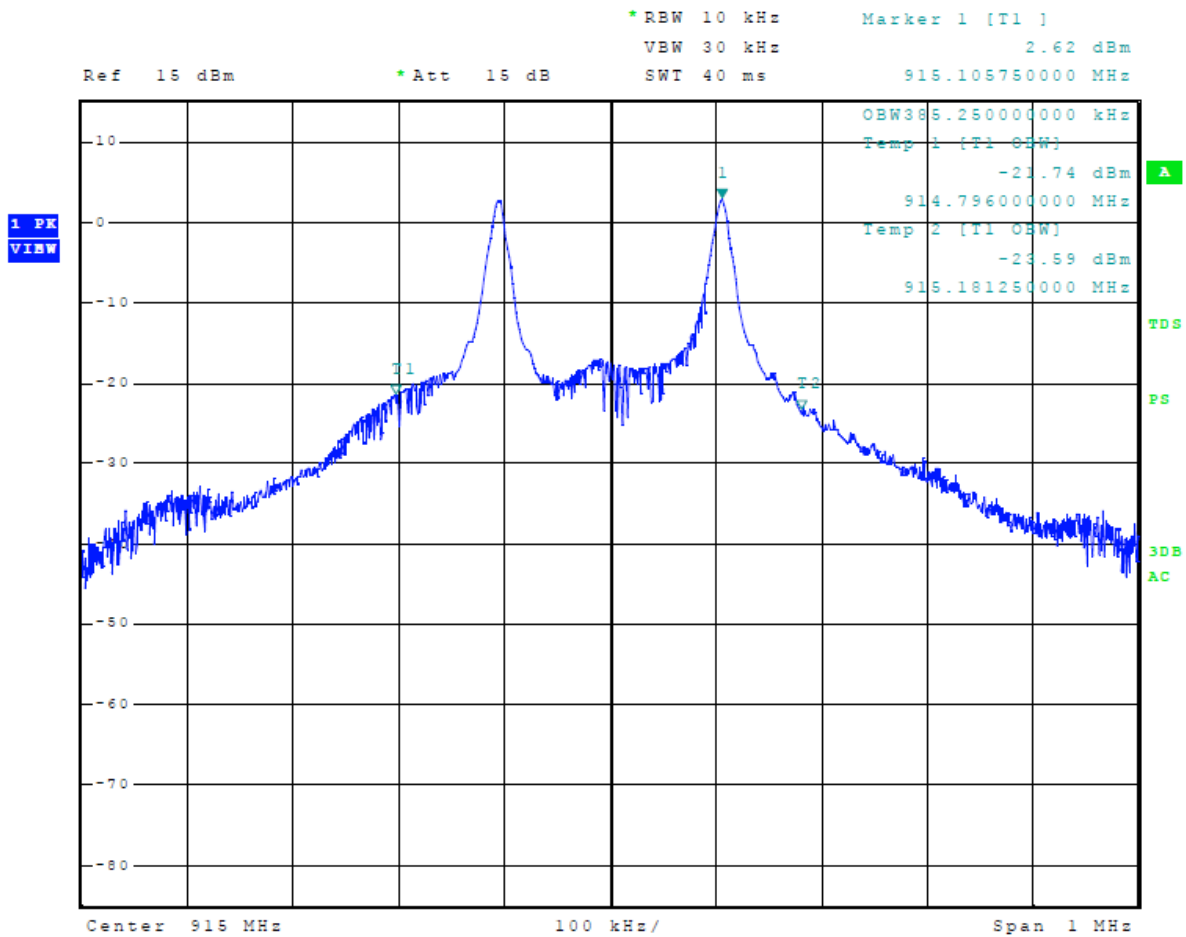


Figure 7 Plot of 99% Occupied Bandwidth 915 MHz



Transmitter Emissions Data

Table 6 Transmitter Radiated Emissions Mode

Frequency in MHz	Horizontal Peak (dBμV/m)	Horizontal Average (dBμV/m)	Vertical Peak (dBμV/m)	Vertical Average (dBμV/m)	Limit @ 3m (dBμV/m)	Horizontal Margin (dB)	Vertical Margin (dB)
905.0	100.5	83.4	106.6	89.5	94.0	-10.6	-4.5
1810.0	47.8	43.7	44.2	30.9	54.0	-10.3	-23.1
2715.0	44.7	31.7	55.5	52.0	54.0	-22.3	-2.0
3620.0	46.0	32.8	59.5	53.4	54.0	-21.2	-0.6
4525.0	48.8	35.3	56.0	43.8	54.0	-18.7	-10.2
5430.0	49.2	35.5	60.1	47.2	54.0	-18.5	-6.8
6335.0	50.6	37.6	63.2	49.5	54.0	-16.4	-4.5
7240.0	51.4	38.8	63.5	53.5	94.0	-15.2	-0.5
8145.0	53.2	40.1	64.5	53.0	54.0	-13.9	-1.0
9050.0	55.3	42.0	62.5	53.5	54.0	-12.0	-0.5
915.0	101.8	85.0	109.7	92.9	94.0	-9.0	-1.1
1830.0	52.5	47.4	55.3	51.6	54.0	-6.6	-2.4
2745.0	59.1	52.2	60.2	51.6	54.0	-1.8	-2.4
3660.0	58.8	45.0	58.0	45.0	54.0	-9.0	-9.0
4575.0	59.1	45.9	59.0	48.9	54.0	-8.1	-5.1
5490.0	62.3	49.0	62.8	53.6	54.0	-5.0	-0.4
6405.0	66.6	53.6	66.7	53.6	54.0	-0.4	-0.4
7320.0	66.8	52.9	66.6	53.6	54.0	-1.1	-0.4
8235.0	67.2	53.0	66.7	53.2	54.0	-1.0	-0.8
9150.0	68.0	52.5	67.9	52.9	54.0	-1.5	-1.1
920.0	100.3	83.5	108.1	91.4	94.0	-10.5	-2.6
1840.0	52.5	47.2	58.5	53.1	54.0	-6.8	-0.9
2760.0	54.2	41.9	57.3	48.5	54.0	-12.1	-5.5
3680.0	58.4	44.7	58.1	44.7	54.0	-9.3	-9.3
4600.0	60.2	47.2	60.1	47.2	54.0	-6.8	-6.8
5520.0	63.0	50.2	63.9	50.2	54.0	-3.8	-3.8
6440.0	66.2	53.3	66.1	53.1	54.0	-0.7	-0.9
7360.0	67.7	53.2	67.2	53.3	54.0	-0.8	-0.7
8280.0	68.0	53.4	69.1	53.5	54.0	-0.6	-0.5
9200.0	68.2	53.0	19.4	53.0	54.0	-1.0	-1.0

Other emissions present had amplitudes at least 20 dB below the limit. Peak and Quasi-Peak amplitude emissions are recorded for frequency range below 1000 MHz. Peak and Average amplitude emissions are recorded for frequency range above 1000 MHz.

Summary of Results for Transmitter Radiated Emissions of Intentional Radiator

The EUT demonstrated compliance with the radiated emissions requirements of 47CFR Part 15.249, Industry Canada RSS-210 Issue 11, and RSS-GEN Issue 5 Intentional Radiator regulations. The EUT worst-case test sample configuration demonstrated minimum average margin of -1.1 dB below the average emission limit for the fundamental. The EUT worst-case configuration demonstrated minimum radiated harmonic emission margin of -0.4 dB below the limit. No other radiated emissions were found less than 20 dB below limits than those recorded in this report. Other emissions were present with amplitudes at least 20 dB below the limits.

Annex

- Annex A Measurement Uncertainty Calculations
- Annex B Test Equipment
- Annex C Rogers Labs Certificate of Accreditation

Annex A Measurement Uncertainty Calculations

The measurement uncertainty was calculated for all measurements listed in this test report according To CISPR 16–4. Result of measurement uncertainty calculations are recorded below. Component and process variability of production devices similar to those tested may result in additional deviations. The manufacturer has the sole responsibility of continued compliance.

Measurement	Expanded Measurement Uncertainty $U_{(lab)}$
3 Meter Horizontal 0.009-1000 MHz Measurements	4.16
3 Meter Vertical 0.009-1000 MHz Measurements	4.33
3 Meter Measurements 1-18 GHz	5.46
3 Meter Measurements 18-40 GHz	5.16
10 Meter Horizontal Measurements 0.009-1000 MHz	4.15
10 Meter Vertical Measurements 0.009-1000 MHz	4.32
AC Line Conducted	1.75
Antenna Port Conducted power	1.17
Frequency Stability	1.00E-11
Temperature	1.6°C
Humidity	3%

Annex B Test Equipment

Equipment	Manufacturer	Model (SN)	Band	Cal Date(m/d/y)	Due
☒ LISN	FCC	FCC-LISN-50-25-10(1PA) (160611)	.15-30MHz	4/6/2021	4/6/2022
☐ LISN: Fischer Custom Communications Model:		FCC-LISN-50-16-2-08		4/6/2021	4/6/2022
☒ Cable	Huber & Suhner Inc.	Sucoflex102ea(L10M)(303073)	9kHz-40 GHz	10/14/2021	10/14/2022
☒ Cable	Huber & Suhner Inc.	Sucoflex102ea(1.5M)(303069)	9kHz-40 GHz	10/14/2021	10/14/2022
☐ Cable	Huber & Suhner Inc.	Sucoflex102ea(1.5M)(303070)	9kHz-40 GHz	10/14/2021	10/14/2022
☐ Cable	Belden	RG-58 (L1-CAT3-11509)	9kHz-30 MHz	10/14/2021	10/14/2022
☐ Cable	Belden	RG-58 (L2-CAT3-11509)	9kHz-30 MHz	10/14/2021	10/14/2022
☒ Antenna	Com Power	AL-130 (121055)	.001-30 MHz	10/14/2021	10/14/2022
☐ Antenna:	EMCO	6509	.001-30 MHz	10/14/2020	10/14/2022
☐ Antenna	ARA	BCD-235-B (169)	20-350MHz	10/14/2021	10/14/2022
☐ Antenna:	Schwarzbeck Model	VHBB 9124 (1468)		10/14/2020	10/14/2022
☒ Antenna	Sunol	JB-6 (A100709)	30-1000 MHz	10/14/2021	10/14/2022
☐ Antenna	ETS-Lindgren	3147 (40582)	200-1000MHz	10/14/2020	10/14/2022
☐ Antenna:	Schwarzbeck Model:	VULP 9118 A (VULP 9118 A-534)		10/14/2020	10/14/2022
☒ Antenna	ETS-Lindgren	3117 (200389)	1-18 GHz	4/21/2020	4/21/2022
☐ Antenna	Com Power	AH-118 (10110)	1-18 GHz	10/14/2020	10/14/2022
☒ Antenna	Com Power	AH-840 (101046)	18-40 GHz	4/6/2021	4/6/2023
☒ Analyzer	Rohde & Schwarz	ESU40 (100108)	20Hz-40GHz	5/20/2021	5/20/2022
☒ Analyzer	Rohde & Schwarz	ESW44 (101534)	20Hz-44GHz	1/18/2022	1/18/2023
☐ Analyzer	Rohde & Schwarz	FS-Z60, 90, 140, and 220	40GHz-220GHz	12/22/2017	12/22/2027
☐ Amplifier	Com-Power	PA-010 (171003)	100Hz-30MHz	10/14/2021	10/14/2022
☐ Amplifier	Com-Power	CPPA-102 (01254)	1-1000 MHz	10/14/2021	10/14/2022
☒ Amplifier	Com-Power	PAM-118A (551014)	0.5-18 GHz	10/14/2021	10/14/2022
☐ Amplifier	Com-Power	PAM-840A (461328)	18-40 GHz	10/14/2021	10/14/2022
☒ Power Meter	Agilent	N1911A with N1921A	0.05-40 GHz	4/6/2021	4/6/2022
☒ Generator	Rohde & Schwarz	SMB100A6 (100150)	20Hz-6 GHz	4/6/2021	4/6/2022
☒ Generator	Rohde & Schwarz	SMBV100A6 (260771)	20Hz-6 GHz	4/6/2021	4/6/2022
☐ RF Filter	Micro-Tronics	BRC50722 (009).9G notch	30-18000 MHz	4/6/2021	4/6/2023
☐ RF Filter	Micro-Tronics	HPM50114 (017)1.5G HPF	30-18000 MHz	4/6/2021	4/6/2023
☐ RF Filter	Micro-Tronics	HPM50117 (063) 3G HPF	30-18000 MHz	4/6/2021	4/6/2023
☐ RF Filter	Micro-Tronics	HPM50105 (059) 6G HPF	30-18000 MHz	4/6/2021	4/6/2023
☐ RF Filter	Micro-Tronics	BRM50702 (172) 2G notch	30-18000 MHz	4/6/2021	4/6/2023
☐ RF Filter	Micro-Tronics	BRC50703 (G102) 5G notch	30-18000 MHz	4/6/2021	4/6/2023
☐ RF Filter	Micro-Tronics	BRC50705 (024) 5G notch	30-18000 MHz	4/6/2021	4/6/2023
☐ Attenuator	Fairview	SA6NFFNF100W-40 (1625)	30-18000 MHz	4/6/2021	4/6/2022
☐ Attenuator	Mini-Circuits	VAT-3W2+ (1436)	30-6000 MHz	4/6/2021	4/6/2022
☐ Attenuator	Mini-Circuits	VAT-3W2+ (1445)	30-6000 MHz	4/6/2021	4/6/2022
☐ Attenuator	Mini-Circuits	VAT-3W2+ (1735)	30-6000 MHz	4/6/2021	4/6/2022
☐ Attenuator	Mini-Circuits	VAT-6W2+ (1438)	30-6000 MHz	4/6/2021	4/6/2022
☐ Attenuator	Mini-Circuits	VAT-6W2+ (1736)	30-6000 MHz	4/6/2021	4/6/2022
☒ Weather station	Davis	6312 (A81120N075)		11/4/2021	11/4/2022

The Compatibility Center LLC Applied Digital, Inc. SN's: N/A
7915 Nieman Rd. PMN: AP-900NA IC ID: 6491A-AP900NA FCC ID: SOFAP-900NA
Lenexa, KS 66214 Test: 240115 Date: February 6, 2025
Phone/Fax: (913) 660-0666 Test to: 47CFR 15C, RSS-Gen RSS-210
Revision 2 File: Applied Digital G2AP-900x TstRpt DXX 240115 r2 Page 33 of 37

List of Test Equipment	Calibration	Date (m/d/y)	Due
☐ Antenna: Schwarzbeck Model VHBB 9124 (01468)		10/14/2020	10/14/2022
☐ Antenna: Schwarzbeck Model: VULP 9118 A (VULP 9118 A-856)		10/14/2020	10/14/2022
☐ Frequency Counter: Leader LDC-825 (8060153)		4/6/2021	4/6/2023
☐ ISN: Com-Power Model ISN T-8		4/6/2021	4/6/2022
☐ LISN Compliance Design FCC-LISN-2.Mod.cd,(126) .15-30MHz		10/14/2021	10/14/2022
☐ LISN: Com-Power Model LI-220A		10/14/2020	10/14/2022
☒ LISN: Com-Power Model LI-550C		10/14/2020	10/14/2022
☒ Cable Huber & Suhner Inc. Sucoflex102ea(1.5M)(303072) 9kHz-40 GHz		10/14/2021	10/14/2022
☐ Cable Huber & Suhner Inc. Sucoflex102ea(L1M)(281183) 9kHz-40 GHz		10/14/2021	10/14/2022
☒ Cable Huber & Suhner Inc. Sucoflex102ea(L4M)(281184) 9kHz-40 GHz		10/14/2021	10/14/2022
☐ Cable Huber & Suhner Inc. Sucoflex102ea(L10M)(317546)9kHz-40 GHz		10/14/2021	10/14/2022
☒ Cable Time Microwave 4M-750HF290-750 (4M) 9kHz-24 GHz		10/14/2021	10/14/2022
☐ RF Filter Micro-Tronics BRC17663 (001) 9.3-9.5 notch 30-1800 MHz		4/6/2021	4/6/2023
☐ RF Filter Micro-Tronics BRC19565 (001) 9.2-9.6 notch 30-1800 MHz		10/14/2021	10/14/2023
☐ Analyzer HP 8562A (3051A05950) 9kHz-125GHz		4/6/2021	4/6/2022
☐ Wave Form Generator Keysight 33512B (MY57400128)		4/21/2020	4/6/2022
☐ Antenna: Solar 9229-1 & 9230-1		2/22/2022	2/22/2023
☐ CDN: Com-Power Model CDN325E		10/14/2021	10/14/2022
☐ Injection Clamp Luthi Model EM101		10/14/2021	10/14/2022
☐ Oscilloscope Scope: Tektronix MDO 4104		2/22/2022	2/22/2023
☐ EMC Transient Generator HVT TR 3000		2/22/2022	2/22/2023
☐ AC Power Source (Ametech, California Instruments)		2/22/2022	2/22/2023
☐ Field Intensity Meter: EFM-018		2/22/2022	2/22/2023
☐ ESD Simulator: MZ-15		2/22/2022	2/22/2023
☐ R.F. Power Amp ACS 230-50W		not required	
☐ R.F. Power Amp EIN Model: A301		not required	
☐ R.F. Power Amp A.R. Model: 10W 1010M7		not required	
☐ R.F. Power Amp A.R. Model: 50U1000		not required	
☐ Tenney Temperature Chamber		not required	
☒ Shielded Room		not required	

<u>Equipment</u>	<u>Manufacturer</u>	<u>Model (SN)</u>	<u>Band</u>	<u>Cal Date(m/d/y)</u>	<u>Due</u>
☒ LISN	FCC	FCC-LISN-50-25-10(1PA) (160611)	.15-30MHz	3/25/2024	3/25/2025
☐ LISN: Fischer Custom Communications Model:		FCC-LISN-50-16-2-08		3/25/2024	3/25/2025
☒ Cable	Huber & Suhner Inc.	Sucoflex102ea(L10M)(303073)	9kHz-40 GHz	9/16/2024	9/16/2025
☒ Cable	Huber & Suhner Inc.	Sucoflex102ea(1.5M)(303069)	9kHz-40 GHz	9/16/2024	9/16/2025
☒ Cable	Huber & Suhner Inc.	Sucoflex102ea(1.5M)(303070)	9kHz-40 GHz	9/16/2024	9/16/2025
☒ Cable	Belden	RG-58 (L1-CAT3-11509)	9kHz-30 MHz	9/16/2024	9/16/2025
☐ Cable	Belden	RG-58 (L2-CAT3-11509)	9kHz-30 MHz	9/16/2024	9/16/2025
☒ Antenna	Com Power	AL-130 (121055)	.001-30 MHz	9/16/2024	9/16/2025
☐ Antenna:	EMCO	6509	.001-30 MHz	9/16/2024	9/16/2026
☒ Antenna	ARA	BCD-235-B (169)	20-350MHz	9/16/2024	9/16/2025
☒ Antenna	Sunol	JB-6 (A100709)	30-1000 MHz	9/16/2024	9/16/2025
☐ Antenna	ETS-Lindgren	3147 (40582)	200-1000MHz	9/16/2024	9/16/2026
☒ Antenna	ETS-Lindgren	3117 (200389)	1-18 GHz	3/25/2024	3/25/2026
☒ Antenna	Com Power	AH-118 (10110)	1-18 GHz	9/16/2024	9/16/2026
☒ Antenna	Com Power	AH-1840 (101046)	18-40 GHz	3/27/2023	3/27/2025
☒ Analyzer	Rohde & Schwarz	ESU40 (100108)	20Hz-40GHz	7/8/2024	7/8/2025
☒ Analyzer	Rohde & Schwarz	ESW44 (101534)	20Hz-44GHz	1/26/2024	1/26/2025
☐ Analyzer	Rohde & Schwarz	FS-Z60, 90, 140, and 220	40GHz-220GHz	12/22/2017	12/22/2027
☐ Amplifier	Com-Power	PA-010 (171003)	100Hz-30MHz	9/16/2024	9/16/2025
☐ Amplifier	Com-Power	CPPA-102 (01254)	1-1000 MHz	9/16/2024	9/16/2025
☒ Amplifier	Com-Power	PAM-118A (551014)	0.5-18 GHz	9/16/2024	9/16/2025
☒ Amplifier	Com-Power	PAM-840A (461328)	18-40 GHz	9/16/2024	9/16/2025
☒ Pwr Sensor	Rohde & Schwarz	NRP33T	0.05-33 GHz	9/26/2023	9/26/2025
☒ Power meter	Agilent	N1911A with N1921A	0.05-40 GHz	3/25/2024	3/25/2025
☒ Generator	Rohde & Schwarz	SMB100A6 (100150)	20Hz-6 GHz	3/25/2024	3/25/2025
☒ Generator	Rohde & Schwarz	SMBV100A6 (260771)	20Hz-6 GHz	3/25/2024	3/25/2025
☐ RF Filter	Micro-Tronics	BRC50722 (009).9G notch	30-18000 MHz	3/25/2024	3/25/2025
☐ RF Filter	Micro-Tronics	HPM50114 (017)1.5G HPF	30-18000 MHz	3/25/2024	3/25/2025
☐ RF Filter	Micro-Tronics	HPM50117 (063) 3G HPF	30-18000 MHz	3/25/2024	3/25/2025
☐ RF Filter	Micro-Tronics	HPM50105 (059) 6G HPF	30-18000 MHz	3/25/2024	3/25/2025
☒ RF Filter	Micro-Tronics	BRM50702 (172) 2G notch	30-18000 MHz	3/25/2024	3/25/2025
☒ RF Filter	Micro-Tronics	BRC50703 (G102) 5G notch	30-18000 MHz	3/25/2024	3/25/2025
☒ RF Filter	Micro-Tronics	BRC50705 (024) 5G notch	30-18000 MHz	3/25/2024	3/25/2025
☐ Attenuator	Fairview	SA6NFN100W-40 (1625)	30-18000 MHz	3/25/2024	3/25/2025
☒ Attenuator	Mini-Circuits	VAT-3W2+ (1436)	30-6000 MHz	3/25/2024	3/25/2025
☒ Attenuator	Mini-Circuits	VAT-3W2+ (1445)	30-6000 MHz	3/25/2024	3/25/2025
☒ Attenuator	Mini-Circuits	VAT-3W2+ (1735)	30-6000 MHz	3/25/2024	3/25/2025
☒ Attenuator	Mini-Circuits	VAT-6W2+ (1438)	30-6000 MHz	3/25/2024	3/25/2025
☐ Attenuator	Mini-Circuits	VAT-6W2+ (1736)	30-6000 MHz	3/25/2024	3/25/2025

<u>Equipment</u>	<u>Manufacturer</u>	<u>Model (SN)</u>	<u>Band</u>	<u>Cal Date(m/d/y)</u>	<u>Due</u>
The Compatibility Center LLC	Applied Digital, Inc.	SN's: N/A			
7915 Nieman Rd.	PMN: AP-900NA	IC ID: 6491A-AP900NA	FCC ID: SOFAP-900NA		
Lenexa, KS 66214	Test: 240115	Date: February 6, 2025			
Phone/Fax: (913) 660-0666	Test to: 47CFR 15C, RSS-Gen RSS-210				
Revision 2	File: Applied Digital G2AP-900x TstRpt DXX 240115 r2	Page 35 of 37			

☐	Frequency Counter: Leader	LDC-825 (8060153)	3/28/2023	3/28/2025
☐	ISN Com-Power	Model ISN T-8 (600111)	3/25/2024	3/25/2025
☐	LISN Compliance Design	FCC-LISN-2.Mod.cd,(126) .15-30MHz	9/16/2024	9/16/2025
☐	LISN: Com-Power	Model LI-220A	9/16/2024	9/16/2026
☒	LISN: Com-Power	Model LI-550C	9/16/2024	9/16/2025
☒	Cable	Huber & Suhner Inc. Sucoflex102ea(1.5M)(303072) 9kHz-40 GHz	9/16/2024	9/16/2025
☒	Cable	Huber & Suhner Inc. Sucoflex102ea(L1M)(281183) 9kHz-40 GHz	9/16/2024	9/16/2025
☒	Cable	Huber & Suhner Inc. Sucoflex102ea(L4M)(281184) 9kHz-40 GHz	9/16/2024	9/16/2025
☒	Cable	Huber & Suhner Inc. Sucoflex102ea(L10M)(317546)9kHz-40 GHz	9/16/2024	9/16/2025
☒	Cable	Time Microwave 4M-750HF290-750 (L4M) 9kHz-24 GHz	9/16/2024	9/16/2025
☒	Cable	Mini-Circuits KBL-2M-LOW+ (23090329) 9kHz-40 GHz	3/25/2024	3/25/2025
☐	RF Filter	Micro-Tronics BRC17663 (001) 9.3-9.5 notch 30-1800 MHz	3/28/2023	3/28/2025
☐	RF Filter	Micro-Tronics BRC19565 (001) 9.2-9.6 notch 30-1800 MHz	3/28/2023	3/28/2025
☒	Analyzer	HP 8562A (3051A05950) 9kHz-125GHz	3/25/2024	3/25/2025
☐	Wave Form Generator	Keysight 33500B (MY57400128)	3/25/2024	3/25/2025
☐	Antenna: Solar	9229-1 & 9230-1	2/10/2024	2/10/2025
☐	CDN: Com-Power	Model CDN325E	10/11/2022	10/11/2024
☐	Oscilloscope Scope: Tektronix	MDO 4104	2/10/2024	2/10/2025
☐	EMC Transient Generator HVT	TR 3000	2/10/2024	2/10/2025
☐	AC Power Source (Ametech, California Instruments)		2/10/2024	2/10/2025
☒	Field Intensity Meter: EFM-018		2/10/2024	2/10/2025
☒	ESD Simulator: MZ-15		2/10/2024	2/10/2025
☒	Weather station Davis	6152 (A70927D44N)	7/11/2024	7/11/2025
☐	Injection Clamp Luthi Model EM101		not required	
☐	R.F. Power Amp ACS 230-50W		not required	
☐	R.F. Power Amp EIN Model: A301		not required	
☐	R.F. Power Amp A.R. Model: 10W 1010M7		not required	
☐	R.F. Power Amp A.R. Model: 50U1000		not required	
☒	Temperature Chamber		not required	
☒	Shielded Room		not required	

Annex C Laboratory Certificate of Accreditation

United States Department of Commerce
National Institute of Standards and Technology

NVLAP[®] ILAC-MRA

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 200087-0

Rogers Labs, a division of The Compatibility Center LLC
Lenexa, KS

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Electromagnetic Compatibility & Telecommunications

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*

2023-03-16 through 2024-03-31
Effective Dates

 For the National Voluntary Laboratory Accreditation Program

United States Department of Commerce
National Institute of Standards and Technology

NVLAP[®] ILAC-MRA

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 200087-0

Rogers Labs, a division of The Compatibility Center LLC
Lenexa, KS

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Electromagnetic Compatibility & Telecommunications

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*

2024-03-18 through 2025-03-31
Effective Dates

 For the National Voluntary Laboratory Accreditation Program