Certification Test Report

Module FCC ID: SK9ACT2
Module IC: 864G-ACT2

FCC Rule Part: 15.247
ISED Canada Radio Standards Specification: RSS-247

Report Number: AT72166854-1P0

Manufacturer: Itron, Inc.
Module Model: ACT2

Test Begin Date: July 13, 2021
Test End Date: September 21, 2021

Report Issue Date: October 06, 2021

FOR THE SCOPE OF ACCREDITATION UNDER Certificate Number: 2955.09

This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the Federal Government.

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This report contains 22 pages

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1 GENERAL

1.1 Purpose

The purpose of this report is to demonstrate compliance with Part 15 Subpart C of the FCC's Code of Federal Regulations and Innovation, Science and Economic Development Canada's Radio Standards Specification RSS-247 for the tests documented herein to support a Class II Permissive Change.

The purpose of this Class II Permissive change is to add new antenna types/host combinations to the 900MHz modular approved radio.

1.2 Product Description

The Itron ACT2 is an electricity metering module which includes a 900 MHz transmitter as well as 2.4GHz WLAN. The module operates on AC as well as DC voltage which is supplied by a host device.

This test report documents the compliance of the 902.4 MHz to 927.6 MHz transceiver mode of operation with the new antennas documented below only with worst case modulation and data rate from original filing.

Details of Original filing:

FCC ID: SK9ACT2
IC ID: 864G-ACT2
Report #: AT72139651-2C1

Technical Details (FHSS):

Detail	Description
Frequency Range	902.4 – 927.6 MHz
Number of Channels	64
Channel Spacing	400kHz
Modulation Format	FSK, OFDM, DSSS
Data Rates	FSK: 50kbps, 150kbps OFDM: 200kbps, 600kbps, 1200kbps(1) DSSS: 12.5kbps
Operating Voltage	120-240 Vdc
Antenna Type(s) / Gain(s)	¼ Wave Embedded Slot Antenna / 2.5dBi PCTEST, Inc. ASPG918 Whip Antenna / 3.0dBi - New to C2PC Larson LP800 Low Profile Radome Antenna / 2.14 dBi - New to C2PC Contelco A158192B Stub Antenna / 2.0dBi - New to C2PC

(1) Note: The 1200kbps results were recorded in a separate Hybrid test report

Manufacturer Information:
Itron, Inc.
313 N Hwy 11
West Union, SC 29696

Test Sample Serial Number(s): Radiated Emissions: Single Phase 334 351 427
Radiated Emissions: Poly Phase 334 008 513

Test Sample Condition: The equipment was provided in good condition without any physical damage.

1.3 Test Methodology and Considerations

The class II Permissive change testing was to add additional antennas to the original certification, therefore only radiated emissions were performed.

The antennas included in this filing are connected to the EUT host via an adhesive patch antenna. The intention of the patch antenna is to couple the EUT 900MHz LAN antenna over-the air. The coupled signal is then to be routed, via coax, to the antennas described in this filing. The ACT2 module was integrated into representative hosts for showing compliance with the new antenna configurations.

The test report documents the FHSS radiated spurious emissions for worst case modulation and data rate to ensure compliance with the host attached patch antenna (Whip, Stub and Radome external antennas) for both single and poly phase host meter forms. The radiated spurious were evaluated and the data presented in this report represents the worst case where applicable. The worst-case modulation and data rate evaluated for radiated spurious was FSK and 50 kbps.

Power setting during test – FSK/DSSS: RFIC Attn: 6, DMCC Scale 32D5

2 TEST FACILITIES

2.1 Location

The radiated and conducted emissions test sites are located at the following addresses:

TÜV SÜD America, Inc.
5945 Cabot Pkwy, Suite 100
Alpharetta, GA 30005
Phone: (678) 341-5900

2.2 Laboratory Accreditations/Recognitions/Certifications

TÜV SÜD America, Inc. is accredited to ISO/IEC 17025 by the American Association for Laboratory Accreditation/A2LA accreditation program and has been issued certificate number 2955.09 in recognition of this accreditation.

Unless otherwise specified, all tests methods described within this report are covered under the ISO/IEC 17025 scopes of accreditation.

The Semi-Anechoic Chamber Test Sites and Conducted Emissions Sites have been fully described, submitted to, and accepted by the FCC, ISED Canada and the Japanese Voluntary Control Council for Interference by information technology equipment.

FCC Designation Accreditation Number	US123
FCC Registration Number:	967699
ISED Canada Lab Code:	23932
VCCI Member Number:	1831
• VCCI Registration Number	A-0295

2.3 Radiated Emissions Test Site Description

2.3.1 Semi-Anechoic Chamber Test Site – Chamber A

The Semi-Anechoic Chamber Test Site consists of a 20’ x 30’ x 18’ shielded enclosure. The chamber is lined with Toyo Ferrite Grid Absorber, model number FFG-1000. The ferrite tile grid is 101 x 101 x 19mm thick and weighs approximately 550 grams. These tiles are mounted on steel panels and installed directly on the inner walls of the chamber.

The turntable is 5’ in diameter and is located 5’6” from the back wall of the chamber. The chamber is grounded via 1 - 8’ copper ground rod, installed at the center of the back wall, it is bound to the ground plane using 3/4" stainless steel braided cable.

The turntable is all steel, flush mounted EMCO Model 1060 installed in an all steel frame. The table is remotely operated from inside the control room located 25’ from the range. The turntable is electrically bonded to the surrounding ground plane via steel fingers installed on the edge of the turn table. The steel fingers make constant contact with the ground plane during operation.

Behind the turntable is a 3’ x 6’ x 4’ deep shielded pit used for support equipment if necessary. The pit is equipped with 1 - 4” PVC chase from the turntable to the pit that allows for cabling to the EUT if necessary. The underside of the turntable can be accessed from the pit so cables can be supplied to the EUT from the pit.

The chamber rear wall is covered with a mixture of Siepel pyramidal absorber. The side walls of the chamber are partially covered with Siepel pyramidal absorber.

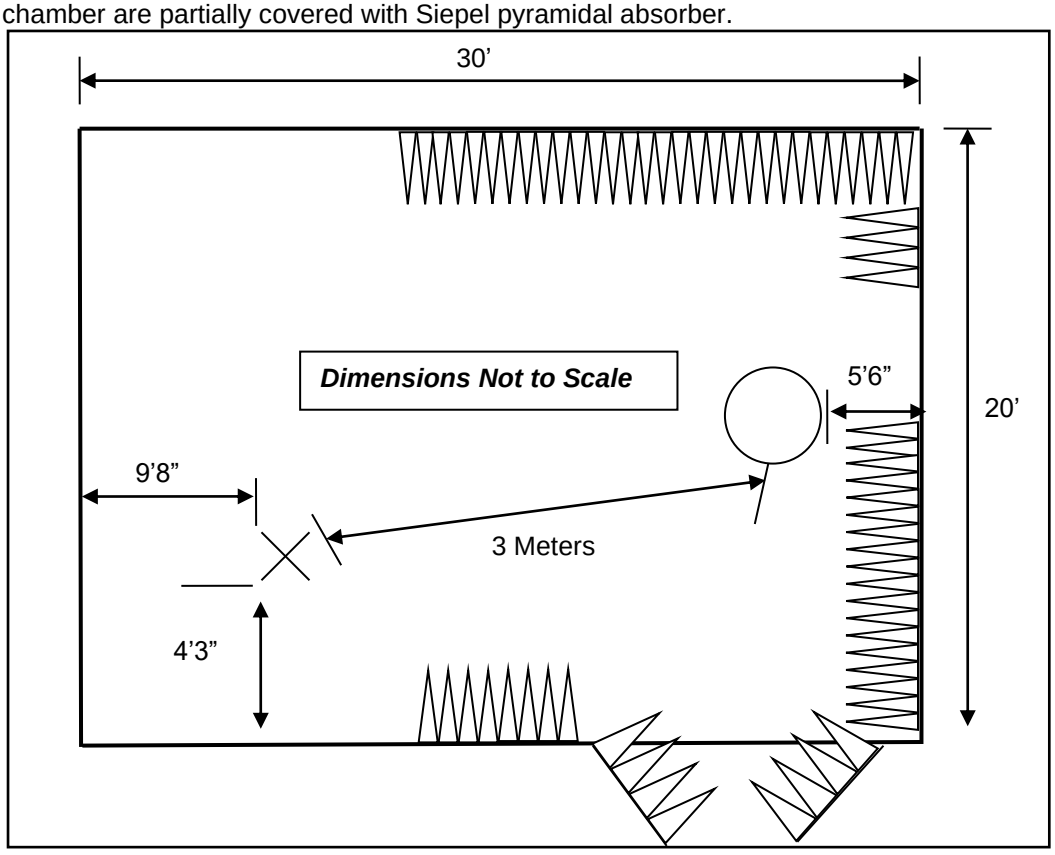

Figure 2.3.1-1: Semi-Anechoic Chamber Test Site – Chamber A

2.3.2 Semi-Anechoic Chamber Test Site – Chamber B

The Semi-Anechoic Chamber Test Site consists of a 20'W x 30'L x 20'H shielded enclosure. The chamber is lined with ETS-Lindgren Ferrite Absorber, model number FT-1500. The ferrite tile 600 mm x 600 mm (2.62 in x 23.62 in) panels and are mounted directly on the inner walls of the chamber shield.

The specular regions of the chamber are lined with additional ETS-Lindgren PS-600 hybrid absorber to extend its frequency range up to 18GHz and beyond.

The turntable is a 2m ETS-Lindgren Model 2170 and installed off the center axis is located 5'6" from the back wall of the chamber. The chamber is grounded via 1 - 8' copper ground rod, installed at the center of the back wall, it is bound to the shield using #8 solid copper wire.

The antenna mast is an EMCO 1060 and is remotely controlled from the control room for both antenna height and polarization.

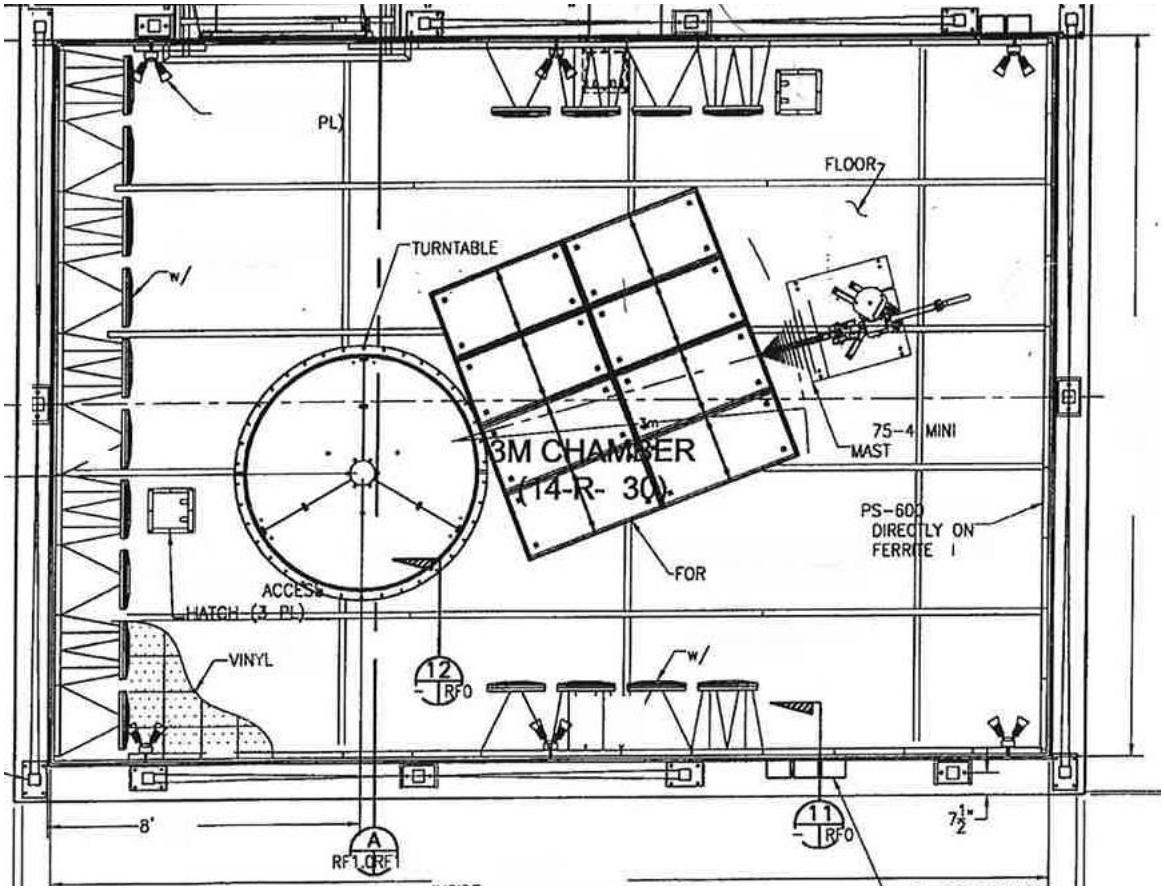

Figure 2.3.2-1: Semi-Anechoic Chamber Test Site – Chamber B

2.4 Conducted Emissions Test Site Description

2.4.1 Conducted Emissions Test Site

The AC mains conducted EMI site is located in the main EMC lab. It consists of a 12' x 10' horizontal coupling plane (HCP) as well as a 12'x8' vertical coupling plane (VCP). The HGP is constructed of 4' x 10' sheets of particle board sandwiched by galvanized steel sheets. These panels are bonded using 11AWG 1/8" x 2" by 10' galvanized sheet steel secured to the panels via by screws. The VCP is constructed of three 4'x8' sheets of 11AWG solid aluminum.

The HCP and VCP are electrically bonded together using 1"x1" angled aluminum secured with screws.

The site is of sufficient size to test tabletop and floor standing equipment in accordance with section 6.1.4 of ANSI C63.10.

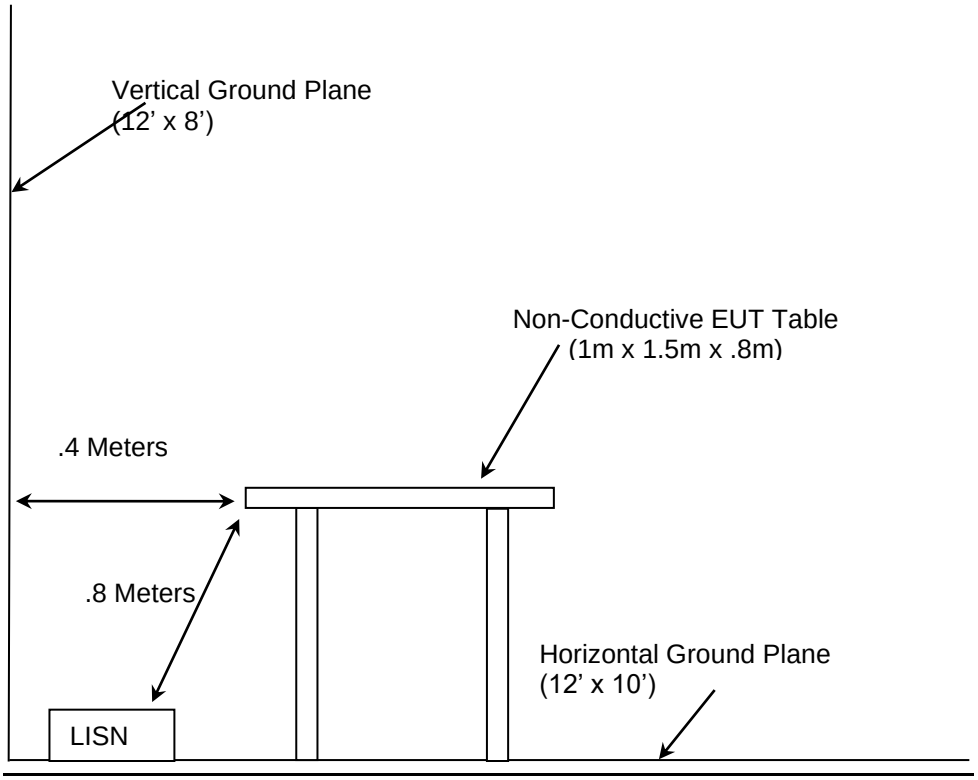

Figure 2.4.1-1: AC Mains Conducted EMI Site

3 APPLICABLE STANDARD REFERENCES

The following standards were used:

- ANSI C63.10-2013: American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.
- US Code of Federal Regulations (CFR): Title 47, Part 2, Subpart J: Equipment Authorization Procedures, 2021
- US Code of Federal Regulations (CFR): Title 47, Part 15, Subpart C: Radio Frequency Devices, Intentional Radiators, 2021
- FCC KDB 558074 D01 15.247 Meas Guidance v05r02 - Guidance for Compliance Measurements on Digital Transmission Systems, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating Under Section 15.247 of the FCC Rules, April 2, 2019
- ISED Canada Radio Standards Specification: RSS-247 – Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices, Issue 2, February 2017.
- ISED Canada Radio Standards Specification: RSS-GEN – General Requirements for Compliance of Radio Apparatus, Issue 5, April 2018.

4 LIST OF TEST EQUIPMENT

The calibration interval of test equipment is annually or the manufacturer's recommendations. Where the calibration interval deviates from the annual cycle based on the instrument manufacturer's recommendations, it shall be stated below.

Table 4-1: Test Equipment

Asset ID	Manufacturer	Model	Equipment Type	Serial Number	Last Calibration Date	Calibration Due Date
628	EMCO	6502	Active Loop Antenna 10kHz-30MHz	9407-2877	6/8/2021	6/8/2023
3161	Teseq	CBL 6112D	Bilog Antenna 30MHz-1GHz	51323	3/19/2021	3/19/2022
857	ETS Lindgren	3117	Horn Antenna 1-18GHz	153608	11/12/2019	11/12/2021
334	Rohde & Schwarz	3160-09	Horn Antenna 18-26.5GHz	49404	4/25/2020	4/25/2022
321	Hewlett Packard	HPC 8447D	Low Frequency Pre-Amp	1937A02809	8/10/2020	8/10/2021
321	Hewlett Packard	HPC 8447D	Low Frequency Pre-Amp	1937A02809	8/10/2021	8/10/2022
22	Hewlett Packard	8449B	High Frequency Pre-Amp	3008A00526	10/19/2020	10/19/2021
331	Microwave Circuits	H1G513G1	Microwave Bandpass Filter	31417	6/9/2021	6/9/2022
213	TEC	PA 102	Amplifier	44927	7/30/2020	7/30/2021
213	TEC	PA 102	Amplifier	44927	7/30/2021	7/30/2022
337	Hewlett Packard	H1G513G1	Microwave Bandpass filter	282706	6/9/2021	6/9/2022
654	Micro-Tronics	BRC50722	Band Reject Filter	-10	6/9/2021	6/9/2022
335	Suhner	SF-102A	Cable (40GHz)	882/2A	6/24/2021	6/24/2022
345	Suhner	102A	Cable (42GHz)	1077/2A	6/24/2020	6/24/2022
882	Rohde & Schwarz	ESW44	Test Receiver	101961	6/24/2021	6/24/2022

NOTE: All test equipment was used only during active calibration cycles as reported above.

5 SUPPORT EQUIPMENT

Table 5-1: Support Equipment

Item	Equipment Type	Manufacturer	Model Number	Serial Number
1	Electricity Meter Housing (Host) with Module-Single Phase	Itron	FM2S	334 351 427
1	Electricity Meter Housing (Host) with Module-Poly phase	Itron	FM16S	334 008 513

Table 5-2: Cable Description

Item	Cable Type	Length	Shield	Termination
A	RF Coaxial Cable	45 cm 565 cm 570 cm	Yes	Patch – Whip Antenna Patch – Radome Antenna Patch – Stub Antenna
B	USB Programming Cable	200 cm	Yes	EUT - Unterminated
C	AC Power Cable	200 cm	No	AC Main

6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM

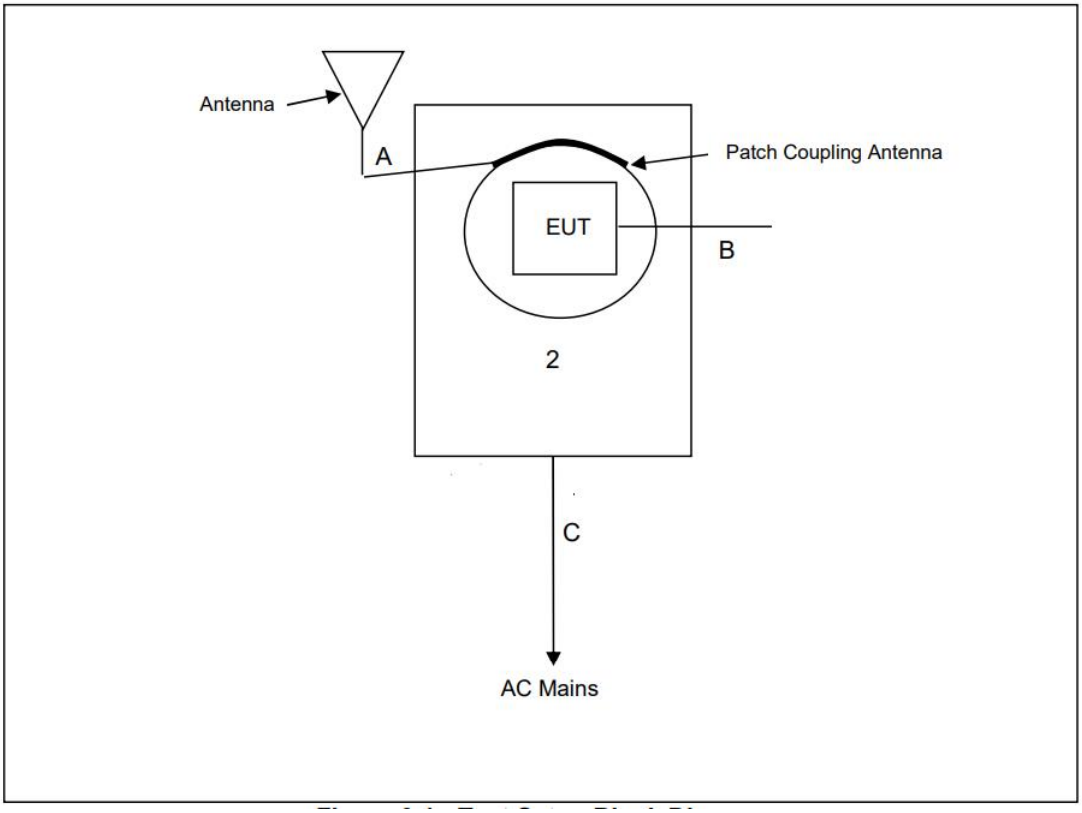

Figure 6-1: Test Setup Block Diagram

7 SUMMARY OF TESTS

Along with the tabular data shown below, plots were taken of all signals deemed important enough to document.

7.1 Antenna Requirement – FCC 15.203

The EUT utilizes external antennas connected to the EUT via an adhesive coupling patch antenna. The gain of the PCTEST, Inc ASPG918 Whip Antenna is 3.0 dBi, Larson LP800 Low Profile Radome Antenna antenna is 2.14dBi and Contelco A158192B Stub Antenna is 2.0 dBi.

7.2 Emission Levels

7.2.1 Emissions into Restricted Frequency Bands – FCC: 15.205, 15.209; ISED Canada: RSS-Gen 8.9 / 8.10

7.2.1.1 Measurement Procedure

The unwanted radiated emissions into restricted bands were measured over the frequency range of 9kHz to 10GHz, 10 times the highest fundamental frequency.

The EUT was rotated through 360° and the receive antenna height was varied from 1 meter to 4 meters so that the maximum radiated emissions level would be detected. For frequencies below 150 kHz, quasi-peak measurements were made using a resolution bandwidth RBW of 300 Hz and a video bandwidth VBW of 1 kHz and frequencies below 30MHz, quasi-peak measurements were made using a resolution bandwidth RBW of 10 kHz and a video bandwidth VBW of 30 kHz. For frequencies below 1000 MHz, quasi-peak measurements were made using a resolution bandwidth RBW of 100 kHz and a video bandwidth VBW of 300 kHz. For frequencies above 1000 MHz, peak and average measurements were made with RBW and VBW of 1 MHz and 3 MHz respectively.

Each emission found to be in a restricted band as defined by section 15.205, including any emission at the operational band-edge, was compared to the radiated emission limits as defined in section 15.209.

7.2.1.2 Measurement Results

Performed by: Paul Villarreal and Bhagyashree Chaudhary

Table 7.2.1.2-1: Radiated Spurious Emissions Tabulated Data – Single Phase Host – Whip Antenna

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel										
2707.2	44.50	33.00	H	5.99	50.49	38.99	74.0	54.0	23.5	15.0
2707.2	41.53	32.50	V	5.99	47.52	38.49	74.0	54.0	26.5	15.5
Mid Channel										
1100.19	46.30	31.80	H	-3.09	43.21	28.71	74.0	54.0	30.8	25.3
1100.19	44.70	30.30	V	-3.09	41.61	27.21	74.0	54.0	32.4	26.8
2745	51.20	34.60	H	5.91	57.11	40.51	74.0	54.0	16.9	13.5
2745	49.90	34.20	V	5.91	55.81	40.11	74.0	54.0	18.2	13.9
3660	44.90	35.50	H	7.53	52.43	43.03	74.0	54.0	21.6	11.0
3660	43.00	33.80	V	7.53	50.53	41.33	74.0	54.0	23.5	12.7
7320	43.10	30.50	H	12.96	56.06	43.46	74.0	54.0	17.9	10.5
7320	43.60	32.20	V	12.96	56.56	45.16	74.0	54.0	17.4	8.8
High Channel										
2782.8	55.30	39.90	H	5.52	60.82	45.42	74.0	54.0	13.2	8.6
2782.8	57.90	43.20	V	5.52	63.42	48.72	74.0	54.0	10.6	5.3

Table 7.2.1.2-2: Radiated Spurious Emissions Tabulated Data – Single Phase Host – Stub Antenna

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel										
2707.2	45.1.	32.50	H	5.99	51.09	38.49	74.0	54.0	22.9	15.5
2707.2	42.56	31.00	V	5.99	48.55	36.99	74.0	54.0	25.4	17.0
Mid Channel										
2745	49.10	33.50	H	5.91	55.01	39.41	74.0	54.0	19.0	14.6
2745	47.60	31.80	V	5.91	53.51	37.71	74.0	54.0	20.5	16.3
3660	43.00	28.00	H	7.53	50.53	35.53	74.0	54.0	23.5	18.5
3660	44.50	28.10	V	7.53	52.03	35.63	74.0	54.0	22.0	18.4
7320	42.80	31.20	H	12.96	55.76	44.16	74.0	54.0	18.2	9.8
7320	43.20	31.00	V	12.96	56.16	43.96	74.0	54.0	17.8	10.0
High Channel										
2782.8	55.70	41.00	H	5.52	61.22	46.52	74.0	54.0	12.8	7.5
2782.8	56.60	42.10	V	5.52	62.12	47.62	74.0	54.0	11.9	6.4

Table 7.2.1.2-3: Radiated Spurious Emissions Tabulated Data – Single Phase Host – Radome Antenna

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel										
2707.2	43.20	31.00	H	5.99	49.19	36.99	74.0	54.0	24.8	17.0
2707.2	41.00	30.20	V	5.99	46.99	36.19	74.0	54.0	27.0	17.8
Mid Channel										
2745	52.40	37.50	H	5.91	57.85	42.95	74.0	54.0	16.2	11.1
2745	49.30	34.10	V	5.91	54.75	39.55	74.0	54.0	19.3	14.5
High Channel										
2782.8	54.20	38.70	H	5.52	59.72	44.22	74.0	54.0	14.3	9.8
2782.8	54.10	38.50	V	5.52	59.62	44.02	74.0	54.0	14.4	10.0

Table 7.2.1.2-4: Radiated Spurious Emissions Tabulated Data – Poly Phase Host – Whip Antenna

Frequency (MHz)	Level (dBµV)		Antenna Polarity	Correction Factors	Corrected Level (dBµV/m)		Limit (dBµV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel										
2707.2	45.00	37.10	H	5.37	50.37	42.47	74.0	54.0	23.6	11.5
2707.2	43.60	33.30	V	5.37	48.97	38.67	74.0	54.0	25.0	15.3
Mid Channel										
2745	43.60	31.90	H	5.91	49.51	37.81	74.0	54.0	24.5	16.2
2745	47.20	40.60	V	5.91	53.11	46.51	74.0	54.0	20.9	7.5
3660	42.70	30.10	H	7.53	50.23	37.63	74.0	54.0	23.8	16.4
3660	42.10	28.50	V	7.53	49.63	36.03	74.0	54.0	24.4	18.0
7320	43.20	32.60	H	12.96	56.16	45.56	74.0	54.0	17.8	8.4
7320	44.10	34.80	V	12.96	57.06	47.76	74.0	54.0	16.9	6.2
High Channel										
2782.8	43.50	32.80	H	6.00	49.50	38.80	74.0	54.0	24.5	15.2
2782.2	45.00	36.60	V	6.00	51.00	42.60	74.0	54.0	23.0	11.4
3710.4	47.90	42.10	H	7.62	55.52	49.72	74.0	54.0	18.5	4.3
3710.4	46.40	39.40	V	7.62	54.02	47.02	74.0	54.0	20.0	7.0
4638	41.50	28.60	H	9.38	50.88	37.98	74.0	54.0	23.1	16.0
4638	43.20	32.30	V	9.38	52.58	41.68	74.0	54.0	21.4	12.3
7420.8	42.50	29.70	H	13.01	55.51	42.71	74.0	54.0	18.5	11.3
7420.8	42.30	28.70	V	13.01	55.31	41.71	74.0	54.0	18.7	12.3

Table 7.2.1.2-5: Radiated Spurious Emissions Tabulated Data – Poly Phase Host – Stub Antenna

Frequency (MHz)	Level (dBµV)		Antenna Polarity	Correction Factors	Corrected Level (dBµV/m)		Limit (dBµV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel										
2707.2	45.10	36.70	H	5.37	50.47	42.07	74.0	54.0	23.5	11.9
2707.2	43.60	32.00	V	5.37	48.97	37.37	74.0	54.0	25.0	16.6
Mid Channel										
2745	44.80	33.40	H	5.91	50.71	39.31	74.0	54.0	23.3	14.7
2745	46.00	38.30	V	5.91	51.91	44.21	74.0	54.0	22.1	9.8
7320	44.00	32.90	H	12.96	56.96	45.86	74.0	54.0	17.0	8.1
7320	44.30	34.90	V	12.96	57.26	47.86	74.0	54.0	16.7	6.1
High Channel										
3710.4	46.80	39.30	H	7.62	54.42	46.92	74.0	54.0	19.6	7.1
3710.4	45.20	37.30	V	7.62	52.82	44.92	74.0	54.0	21.2	9.1

Table 7.2.1.2-6: Radiated Spurious Emissions Tabulated Data – Poly Phase Host – Radome Antenna

Frequency (MHz)	Level (dBµV)		Antenna Polarity	Correction Factors	Corrected Level (dBµV/m)		Limit (dBµV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel										
2707.2	48.00	43.00	H	5.37	53.37	48.37	74.0	54.0	20.6	5.6
2707.2	45.60	38.00	V	5.37	50.97	43.37	74.0	54.0	23.0	10.6
Mid Channel										
2745	44.00	33.70	H	5.91	49.91	39.61	74.0	54.0	24.1	14.4
2745	43.70	31.20	V	5.91	49.61	37.11	74.0	54.0	24.4	16.9
3660	43.20	30.60	H	7.53	50.73	38.13	74.0	54.0	23.3	15.9
3660	42.90	28.80	V	7.53	50.43	36.33	74.0	54.0	23.6	17.7
7320	43.60	33.00	H	12.96	56.56	45.96	74.0	54.0	17.4	8.0
7320	44.60	35.10	V	12.96	57.56	48.06	74.0	54.0	16.4	5.9
High Channel										
3710.4	45.60	38.00	H	7.62	53.22	45.62	74.0	54.0	20.8	8.4
3710.4	45.70	37.80	V	7.62	53.32	45.42	74.0	54.0	20.7	8.6

7.2.1.3 Sample Calculation:

$R_C = R_U + CF_T$

Where:

CF_T	=	Total Correction Factor (AF+CA+AG)-DC (Average Measurements Only)
R_U	=	Uncorrected Reading
R_C	=	Corrected Level
AF	=	Antenna Factor
CA	=	Cable Attenuation
AG	=	Amplifier Gain
DC	=	Duty Cycle Correction Factor

Example Calculation: Peak – Single phase – Whip Antenna

Corrected Level: 57.90 + 5.52 = 63.42dBµV/m
Margin: 74dBµV/m – 63.42dBµV/m = 10.6dB

Example Calculation: Average – Single phase – Whip Antenna

Corrected Level: 43.20 + 5.52 - 0 = 48.72dBµV
Margin: 54dBµV – 48.72dBµV = 5.3dB

8 ESTIMATION OF MEASUREMENT UNCERTAINTY

The expanded laboratory measurement uncertainty figures (U_{Lab}) provided below correspond to an expansion factor (coverage factor) k = 1.96 which provide confidence levels of 95%.

Table 8-1: Estimation of Measurement Uncertainty

Parameter	U_{lab}
Radiated Emissions ≤ 1 GHz	± 5.814 dB
Radiated Emissions > 1 GHz	± 4.318 dB
Temperature	± 0.860 °C
Radio Frequency	± 2.832 x 10^{-8}
AC Power Line Conducted Emissions	± 3.360 dB

9 CONCLUSION

In the opinion of TUV SUD the module ACT2 as integrated into a representative host, manufactured by Itron, Inc. meets the requirements of FCC Part 15 subpart C and ISED Canada's Radio Standards Specification RSS-247 for the tests documented herein.

Appendix A: Plots

(Representative plots provided for whip antenna only)

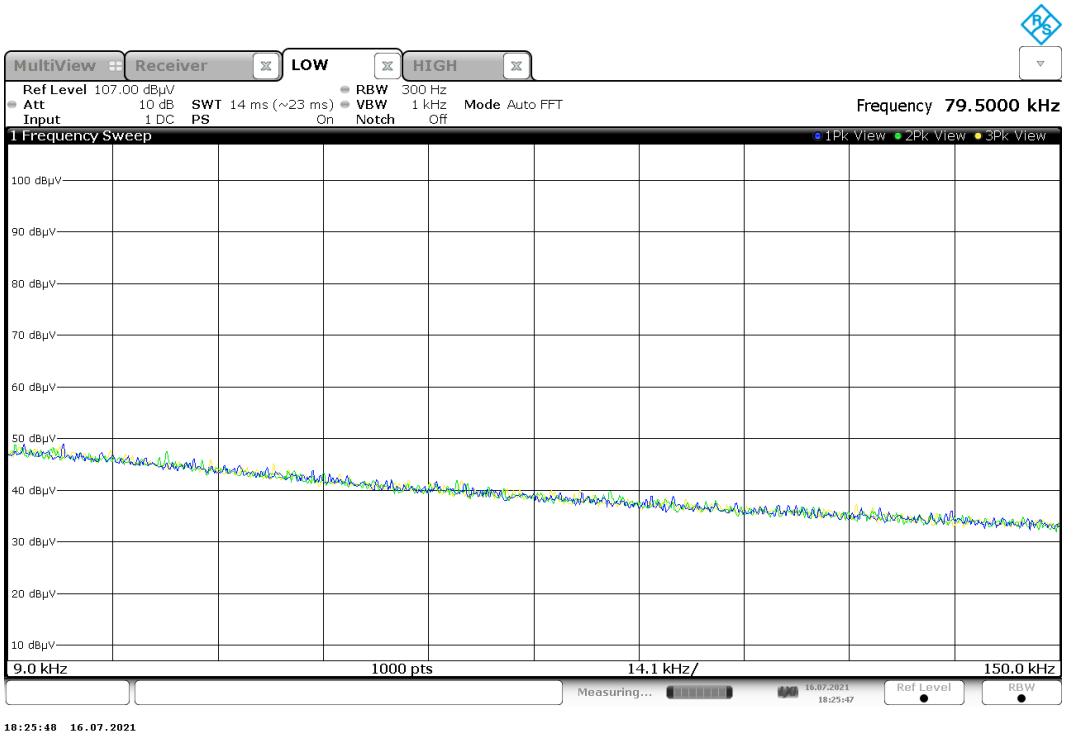

Figure A-1:Reference plot for Radiated Spurious Emissions – 9 kHz – 150 kHz – Whip Antenna

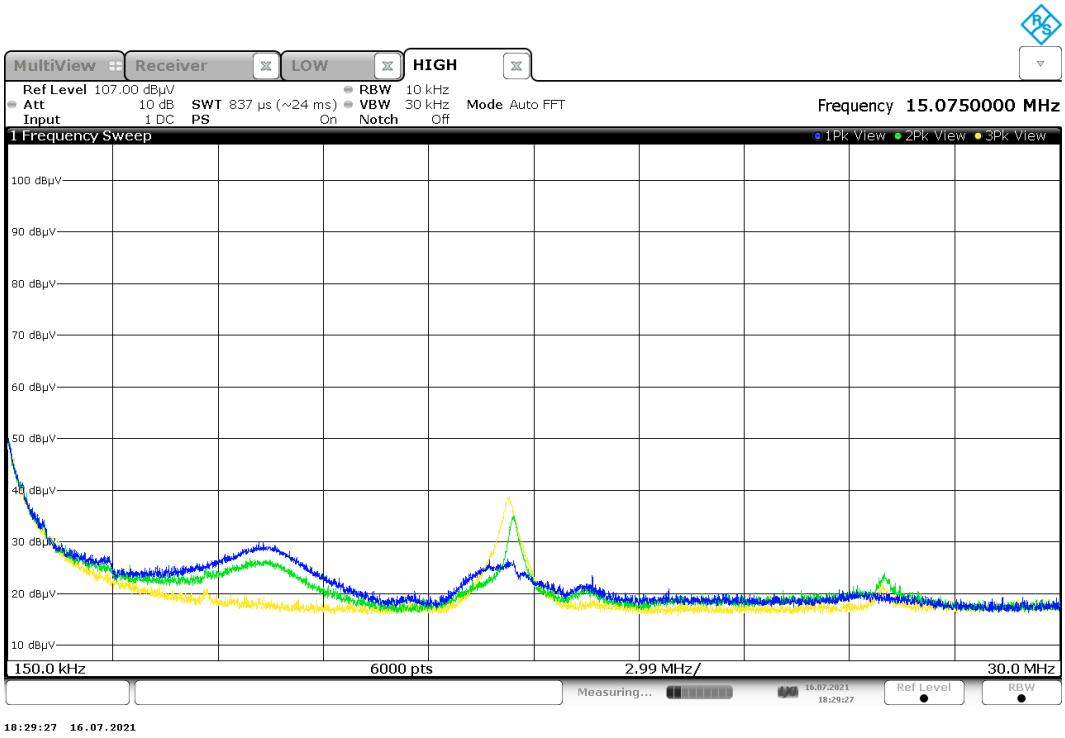

Figure A-2: Reference plot for Radiated Spurious Emissions – 150 kHz – 30 MHz – Whip Antenna

Note: Emissions above the noise floor are ambient not associated with the EUT.

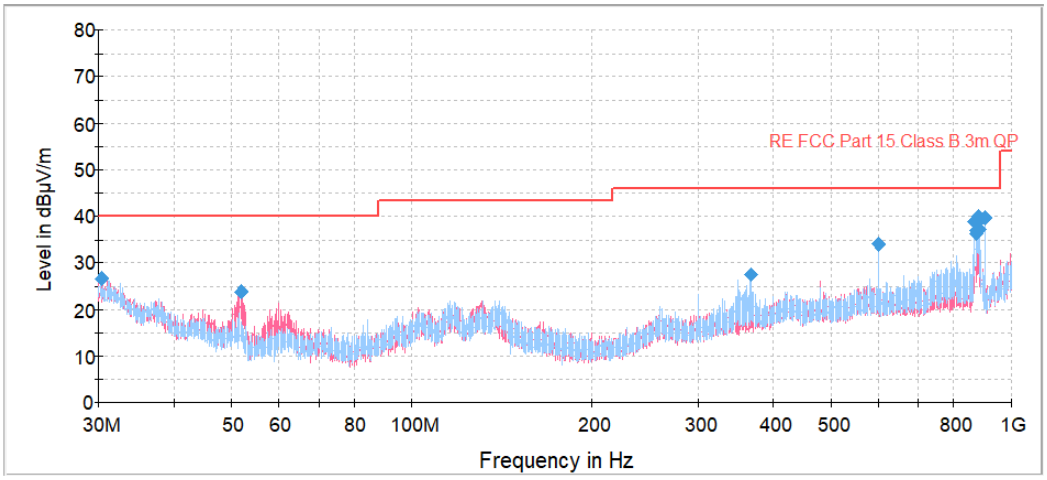

Figure A-3: Reference plot for Radiated Spurious Emissions – 30 MHz – 1 GHz – Whip Antenna

Note: Emissions above the noise floor do not falls within restricted bands.

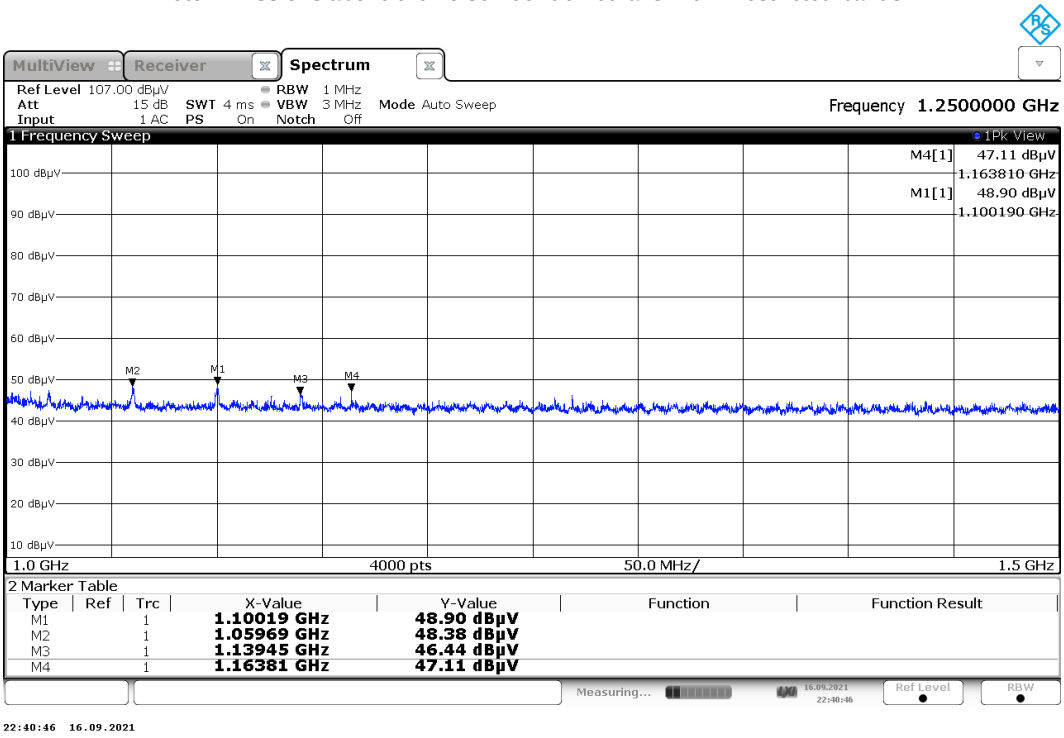

Figure A-4: Reference plot for Radiated Spurious Emissions – 1 GHz – 1.5 GHz – Whip Antenna

Note: Emissions above the noise floor are not associated with the radio.

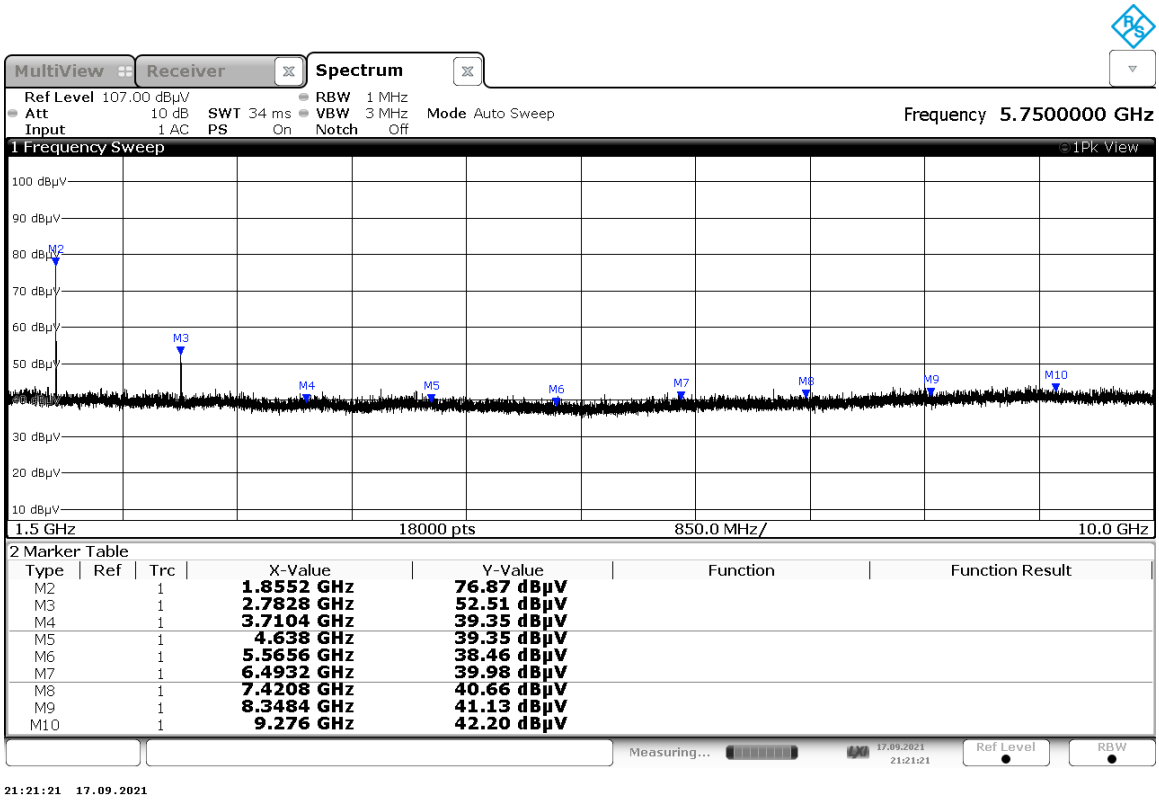

Figure A-5: Reference plot for Radiated Spurious Emissions – 1.5 GHz – 10 GHz – Whip Antenna

END REPORT