Certification Test Report

FCC ID: 2APE7-RPU2
IC: 23786-RPU2

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

TÜV SÜD Report Number: RD72140257.100

Manufacturer: Amesbury Truth
Model: RPU2

Test Begin Date: June 25, 2018
Test End Date: August 02, 2018

Report Issue Date: August 15, 2018

FOR THE SCOPE OF ACCREDITATION UNDER LAB Code AT-1921

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

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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 Radio Standards Specification: RSS-247 Certification.

1.2 Product Description

The RPU2 device is a Ethernet to Bluetooth Low Energy Bridge that is designed to bring remote connectivity to smart lock devices. The RPU2 has a 2.4GHz external omni-directional whip antenna that interfaces to the BLE module. The RPU2 receives power from a 5V wall wart power supply. It has an onboard LDO which regulates the 5V supply to 3.3V. The 3.3V rail powers the entire device. The onboard ethernet controller and the MK64 interface with a Ethernet RJ45 connector. A Cat5 cable connected to a router completes the connection to the RPU2. Through this interface the RPU2 can receive remote commands from our server to gauge the lock status of the smart lock device and it can also issue lock/unlock commands to the smart lock device. Because of the power draw of the WiFi IC's, the RPU2 serves as Bluetooth Low Energy Bridge that brings remote connectivity to smart lock devices.

Technical Information:

Detail	Description
Frequency Range	2402 – 2480 MHz
Number of Channels	40
Modulation Format	GFSK
Data Rates	Default
Number of Inputs/Outputs	1T/1R
Operating Voltage	5VDC
Antenna Type / Gain	Omni-directional Whip Antenna / 2 dBi

Manufacturer Information:
Amesbury Truth
5001 West Delbridge St
Sioux Falls, SD 57107

EUT Serial Numbers: RF conducted Emissions: TUV#1, Radiated Emissions: TUV#8

Test Sample Condition: The test samples were provided in good working order with no visible defects.

1.3 Test Methodology and Considerations

The BLE transceiver was configured using a serial USB to UART PCB interface allowing to pass commands to the EUT via a terminal application. The commands cover the BLE RF power level, desired test channel, and the mode of modulation. The maximum power level setting of 5 (index), was used through the entire emissions evaluation.

For RF conducted measurements, the antenna was removed, and the measuring equipment was directly connected to the external antenna connector.

For Radiated emissions, The EUT was evaluated in all 3 orthogonal orientations X, Y, and Z. The results presented in this document represented the worse-case orientation, which was the Y plane.

2 TEST FACILITIES

2.1 Location

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

TÜV SÜD America Inc.
2320 Presidential Drive, Suite 101
Durham, NC 27703
Phone: (919) 381-4235

2.2 Laboratory Accreditations/Recognitions/Certifications

TÜV SÜD America Inc. is accredited to ISO/IEC 17025 by ANSI-ASQ National Accreditation Board under their ANAB program and has been issued certificate number AT-1921 in recognition of this accreditation. Unless otherwise specified, all test methods described within this report are covered under the ISO/IEC 17025 scope of accreditation.

FCC Registered Test Site Number: 637011
ISED Canada Test Site Registration Number: 20446

2.3 Radiated Emissions Test Site Description

2.3.1 Semi-Anechoic Chamber Test Site

The Semi-Anechoic Chamber Test Site consists of a 18' x 28' x 18' shielded enclosure. The chamber is lined with Samwha Electronics Co. LTD Ferrite Absorber, model number SFA300 (HSN-1). The ferrite tile is 10cm x 10 cm and weighs approximately 1.4lbs. These tiles are mounted on steel panels and installed directly on the inner walls of the chamber. On top of the ferrite tiles is DMAS HT-45 (Dutch Microwave Absorber Solutions) hybrid absorber on all walls except the wall behind the antenna mast which has a shorter DMAS HT-25 absorber.

The turntable is 1.50m in diameter and is located 150cm 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 short #6 copper wire. The turntable is all steel, flush mounted table installed in an all steel frame. The table is remotely operated from inside the control room located 25' from the turntable. 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.

Behind the turntable is a 2' x 6' x 1.5' deep shielded pit used for support equipment if necessary. The pit is equipped with 2 - 4" PVC chase from the turntable to the pit that allow 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.

A diagram of the Semi-Anechoic Chamber Test Site is shown in Figure 2.3-1 below:

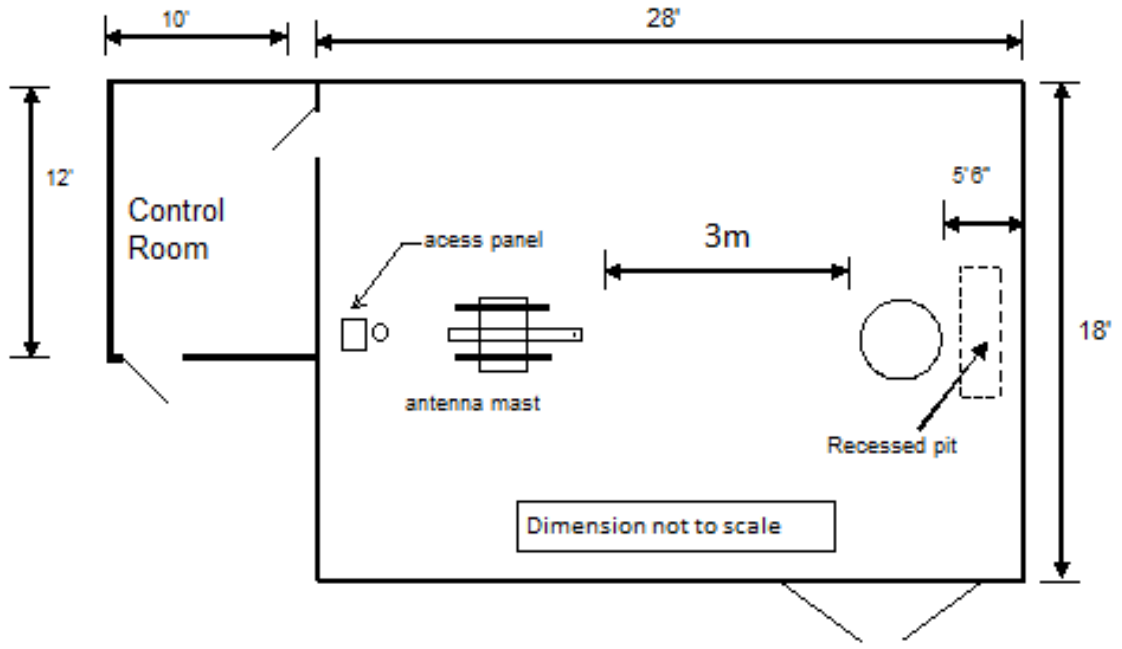

Figure 2.3-1: Semi-Anechoic Chamber Test Site

2.4 Conducted Emissions Test Site Description

The AC mains conducted EMI site is located in the main EMC lab. It consists of an 8' x 10' sheet galvanized steel horizontal ground reference plane (GRP) bonded every 6" to an 8' X 8' aluminum vertical ground plane.

A diagram of the room is shown below in figure 2.4-1:

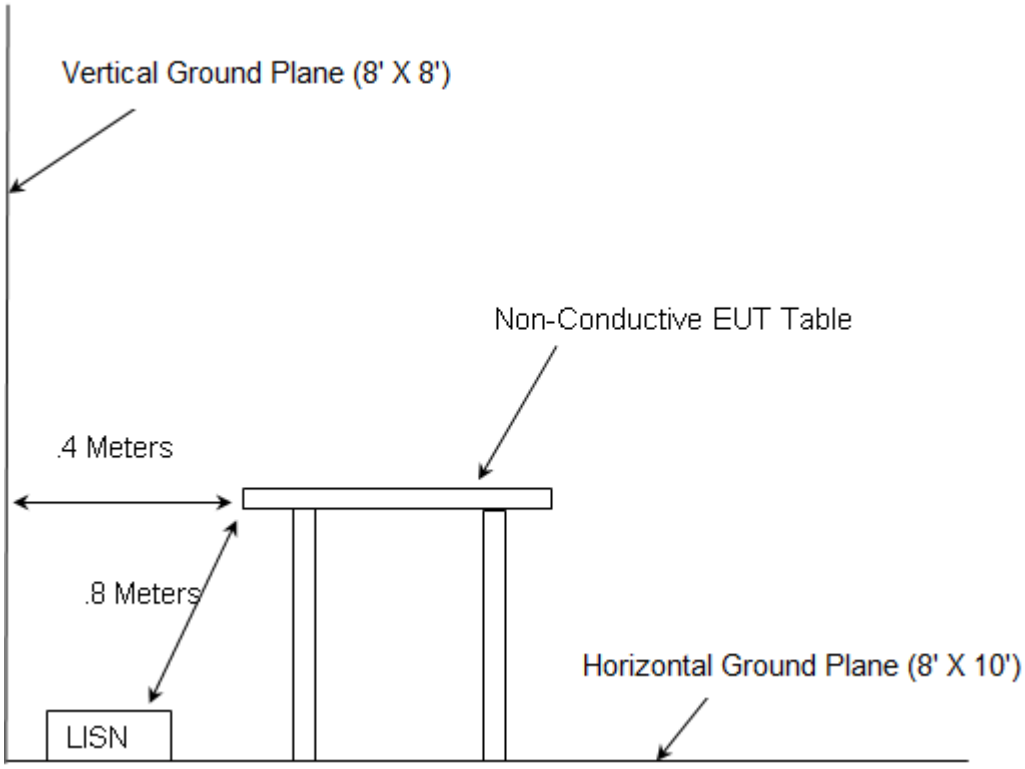

Figure 2.4-1: AC Mains Conducted EMI Site

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, 2017
- US Code of Federal Regulations (CFR): Title 47, Part 15, Subpart C: Radio Frequency Devices, Intentional Radiators, 2017
- FCC KDB 558074 D01 DTS Meas Guidance v04 - Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247, April 5, 2017
- 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 #	Last Calibration Date	Calibration Due Date
DEMC0277	EMCO	93146	Antennas	9904-5199	9/12/2016	9/12/2018
DEMC0626	EMCO	3110B	Antennas	9411-1945	3/21/2017	3/21/2019
DEMC3002	Rohde & Schwarz	ESU40	Receiver	100346	7/24/2017	10/24/2018
DEMC3006	Rohde & Schwarz	TS-PR18	Amplifiers	122006	1/10/2018	1/10/2019
DEMC3007	Rohde & Schwarz	TS-PR26	Amplifiers	100051	1/10/2018	1/10/2019
DEMC3008	Rohde & Schwarz	NRP2	Meter	103131	2/15/2018	2/15/2019
DEMC3009	Rohde & Schwarz	NRP-Z81	Meter	102397	2/15/2018	2/15/2019
DEMC3011	Rohde & Schwarz	ENV216	LISN	3011	1/10/2018	1/10/2019
DEMC3012	Rohde & Schwarz	EMC32-EB	Software	100731	NCR	NCR
DEMC3016	Fei Teng Wireless Technology	HA-07M18G-NF	Antennas	2013120203	2/7/2018	2/7/2020
DEMC3027	Micro-Tronics	BRM50702	Filter	175	1/7/2018	1/7/2019
DEMC3028	Micro-Tronics	HPM50111	Filter	122	1/7/2018	1/7/2019
DEMC3033	Hasco, Inc.	HLL142-S1-S1-36	Cables	1435	1/9/2018	1/9/2019
DEMC3038	Florida RF Labs	NMSE-290AW-60.0-NMSE	Cable Set	1448	1/5/2018	1/5/2019
DEMC3039	Florida RF Labs	NMSE-290AW-396.0-NMSE	Cable Set	1447	1/5/2018	1/5/2019
DEMC3042	Aeroflex Inmet	18N10W-10	Attenuator	1444	1/8/2018	1/8/2019
DEMC3046	Aeroflex Inmet	26AH-10	Attenuator	1443	1/9/2018	1/19/2019
DEMC3051	Mountain View Cable	BMS-RG400-264.0-BMS	Cables	3051	1/8/2018	1/8/2019
DEMC3055	Rohde & Schwarz	3005	Cables	3055	1/8/2018	1/8/2019
DEMC3057	Advanced Technical Materials	42-441-6/BR	Antennas	R110602	NCR	NCR
DEMC3059	Mountain View Cable	A	Cables	3059	1/9/2018	1/9/2019
DEMC3085	Rohde & Schwarz	FSW43	Spectrum Analyzer	103997	3/15/2018	3/15/2019

NCR = No Calibration Required
DMAS MT-25 RF absorber material was used on the floor for all final measurements above 1 GHz.
Asset DEMC3002: Firmware Version: ESU40 is 4.73 SP4
Asset DEMC3012: Software Version: EMC32-B is 9.15
Asset DEMC3085: Instrument Firmware 2.90 SP1

5 SUPPORT EQUIPMENT

Table 5-1: Support Equipment

Item	Equipment Type	Manufacturer	Model Number	Serial Number
1	EUT	Unikey technologies, Inc.Amesbury Truth	RPU2RPU2	TUV#1
2	Power adapter	Wall Industries, Inc.	SAW-0500500	TUV#2
3	UART PCB board	Unikey technologies, Inc.Amesbury Truth	KB-PROG-PC-0001r2	N/A
4	Laptop	Dell	Latitude D630	G03F3F1

6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM

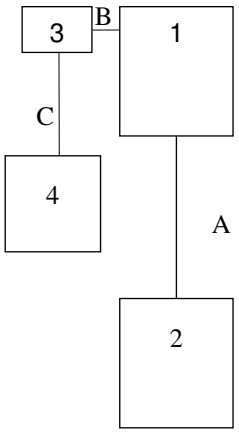

Figure 6-1: Test Setup Block Diagram

Table 6-1: Cable Description

Cable #	Cable Type	Length	Shield	Termination
A	Power	1.5 m	No	1 to 2
B	FPC flat ribbon cable	0.1 m	No	1 to 3

C	Serial to USB Cable	1 m	No	3 to 4

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 antenna uses a non standard reverse SMA connector, thereby satisfying the requirements of FCC 15.203.

7.2 Power Line Conducted Emissions – FCC: 15.207; ISED Canada: RSS-Gen 8.8

7.2.1 Measurement Procedure

ANSI C63.10-2013 section 6 was the guiding document for this evaluation. Conducted emissions were performed from 150kHz to 30MHz with the spectrum analyzer's resolution bandwidth set to 9kHz and the video bandwidth set to 30kHz. The calculation for the conducted emissions is as follows:

Corrected Reading = Analyzer Reading + LISN Loss + Cable Loss
Margin = Applicable Limit - Corrected Reading

7.2.2 Measurement Results

Performed by: Charles Callis

Table 7.2.2-1: Conducted EMI Results – Line 1

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.264000	---	29.19	51.06	21.87	5000.0	9.000	L1	OFF	9.6
0.264000	37.76	---	61.10	23.34	5000.0	9.000	L1	OFF	9.6
0.624000	---	35.71	46.00	10.29	5000.0	9.000	L1	OFF	9.7
0.624000	43.22	---	56.00	12.78	5000.0	9.000	L1	OFF	9.7
1.080000	---	32.18	46.00	13.82	5000.0	9.000	L1	OFF	9.7
1.080000	40.07	---	56.00	15.93	5000.0	9.000	L1	OFF	9.7
1.552000	---	29.31	46.00	16.69	5000.0	9.000	L1	OFF	9.8
1.552000	39.18	---	56.00	16.82	5000.0	9.000	L1	OFF	9.8
3.396000	---	26.72	46.00	19.28	5000.0	9.000	L1	OFF	9.8
3.396000	37.69	---	56.00	18.31	5000.0	9.000	L1	OFF	9.8
6.022000	---	31.05	50.00	18.95	5000.0	9.000	L1	OFF	9.9
6.022000	43.92	---	60.00	16.08	5000.0	9.000	L1	OFF	9.9
6.330000	---	30.24	50.00	19.76	5000.0	9.000	L1	OFF	9.9
6.330000	45.30	---	60.00	14.70	5000.0	9.000	L1	OFF	9.9
6.426000	---	30.96	50.00	19.04	5000.0	9.000	L1	OFF	9.9
6.426000	45.82	---	60.00	14.18	5000.0	9.000	L1	OFF	9.9
6.514000	45.33	---	60.00	14.67	5000.0	9.000	L1	OFF	9.9
6.514000	---	32.22	50.00	17.78	5000.0	9.000	L1	OFF	9.9
6.558000	45.52	---	60.00	14.48	5000.0	9.000	L1	OFF	9.9
6.558000	---	32.31	50.00	17.69	5000.0	9.000	L1	OFF	9.9

Table 7.2.2-2: Conducted EMI Results – Line 2

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.184000	---	25.38	54.16	28.78	5000.0	9.000	N	OFF	9.6
0.184000	40.65	---	64.19	23.54	5000.0	9.000	N	OFF	9.6
0.288000	---	26.26	50.34	24.08	5000.0	9.000	N	OFF	9.6
0.288000	37.22	---	60.38	23.16	5000.0	9.000	N	OFF	9.6
0.588000	---	34.81	46.00	11.19	5000.0	9.000	N	OFF	9.6
0.588000	40.92	---	56.00	15.08	5000.0	9.000	N	OFF	9.6
1.024000	---	23.86	46.00	22.14	5000.0	9.000	N	OFF	9.7
1.024000	35.11	---	56.00	20.89	5000.0	9.000	N	OFF	9.7
6.166000	---	26.00	50.00	24.00	5000.0	9.000	N	OFF	9.9
6.166000	43.58	---	60.00	16.42	5000.0	9.000	N	OFF	9.9
6.378000	---	25.44	50.00	24.56	5000.0	9.000	N	OFF	9.9
6.378000	44.53	---	60.00	15.47	5000.0	9.000	N	OFF	9.9
6.414000	---	25.56	50.00	24.44	5000.0	9.000	N	OFF	9.9
6.414000	44.53	---	60.00	15.47	5000.0	9.000	N	OFF	9.9
6.434000	44.47	---	60.00	15.53	5000.0	9.000	N	OFF	9.9
6.434000	---	25.34	50.00	24.66	5000.0	9.000	N	OFF	9.9
6.450000	---	25.89	50.00	24.11	5000.0	9.000	N	OFF	9.9
6.450000	44.45	---	60.00	15.55	5000.0	9.000	N	OFF	9.9
6.466000	44.28	---	60.00	15.72	5000.0	9.000	N	OFF	9.9
6.466000	---	25.97	50.00	24.03	5000.0	9.000	N	OFF	9.9

7.3 6dB / 99% Bandwidth – FCC: 15.247(a)(2); ISED Canada: RSS-247 5.2(a)

7.3.1 Measurement Procedure

The 6dB bandwidth was measured in accordance with the FCC KDB 558074 D01 DTS Meas Guidance v04. The Resolution Bandwidth (RBW) of the spectrum analyzer was set to 100 kHz. The Video Bandwidth (VBW) was set to ≥ 3 times the RBW. The trace was set to max hold with a peak detector active. The marker-delta function of the spectrum analyzer was utilized to determine the 6 dB bandwidth of the emission.

The occupied bandwidth measurement function of the spectrum analyzer was used to measure the 99% bandwidth. The span of the analyzer was set to capture all products of the modulation process, including the emission sidebands. The resolution bandwidth was set to 1% to 5% of the occupied bandwidth. The video bandwidth was set to 3 times the resolution bandwidth.

7.3.2 Measurement Results

Performed by: Jean Tezil

Table 7.3.2-1: 6dB / 99% Bandwidth

Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
2402	0.750	1.055
2440	0.788	1.056
2480	0.803	1.068

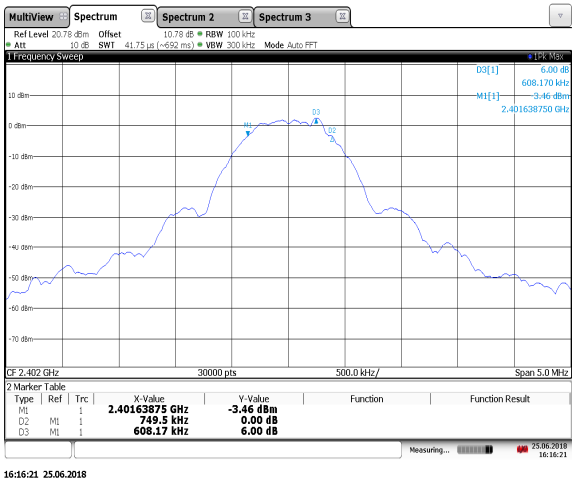

Figure 7.3.2-1: 6dB Bandwidth Low Channel

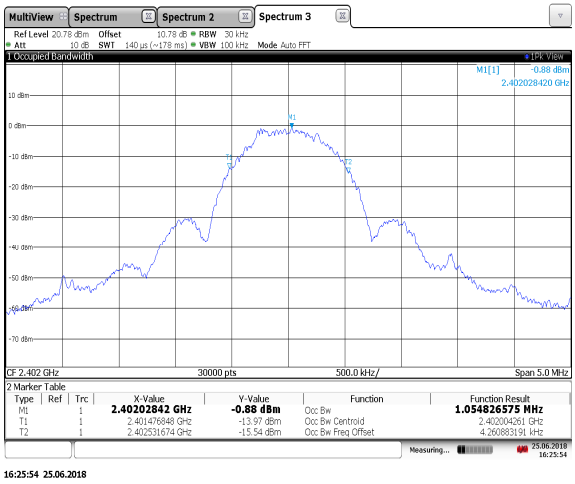

Figure 7.3.2-2: 99% Bandwidth Low Channel

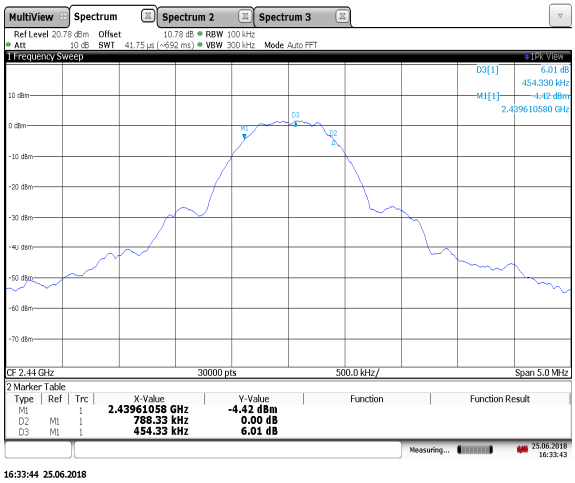

Figure 7.3.2-3: 6dB Bandwidth Mid Channel

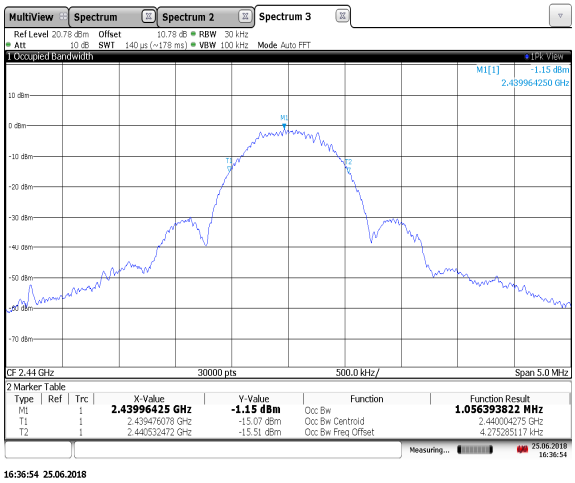

Figure 7.3.2-4: 99% Bandwidth Mid Channel

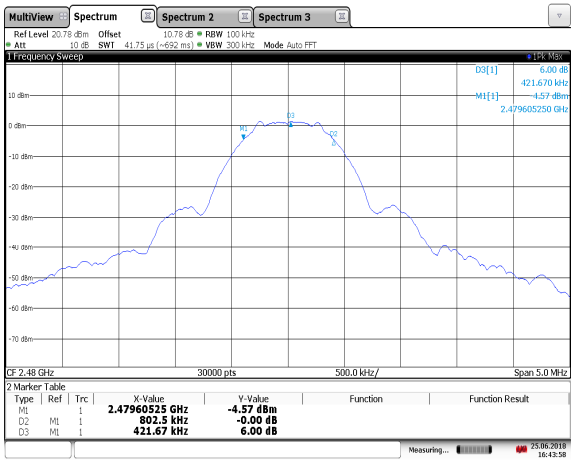

Figure 7.3.2-5: 6dB Bandwidth High Channel

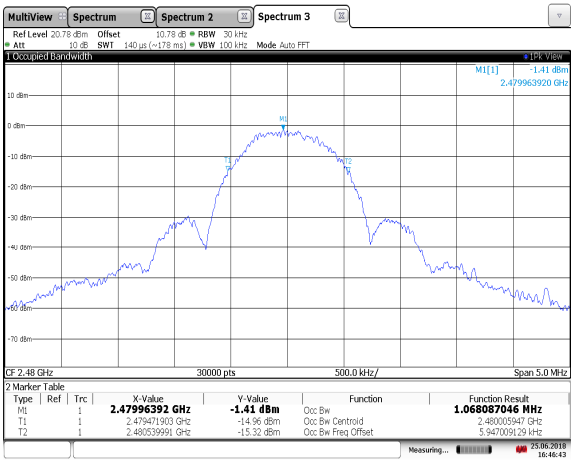

Figure 7.3.2-6: 99% Bandwidth High Channel

7.4 Fundamental Emission Output Power – FCC: 15.247(b)(3); ISED Canada: RSS-247 5.4(d)

7.4.1 Measurement Procedure

The maximum peak conducted output power was measured in accordance with FCC KDB 558074 D01 DTS Measurement Guidance v04 utilizing the PKPM1 Peak power meter method. The RF output of the equipment under test was directly connected to the input of the peak power meter applying suitable attenuation.

7.4.2 Measurement Results

Performed by: Jean Tezil

Table 7.4.2-1: Maximum Peak Conducted Output Power

Frequency (MHz)	Output Power (dBm)
2402	4.06
2440	3.85
2480	3.68

7.5 Emission Levels – FCC: 15.247(d), 15.205, 15.209; ISED Canada RSS-247 5.5, RSS-Gen 8.9/8.10

7.5.1 Emissions into Non-restricted Frequency Bands

7.5.1.1 Measurement Procedure

The unwanted emissions into non-restricted bands were measured conducted in accordance with FCC KDB 558074 D01 DTS Measurement Guidance v04. The RF output of the equipment under test was directly connected to the input of the spectrum analyzer applying suitable attenuation. The Resolution Bandwidth (RBW) of the spectrum analyzer was set to 100 kHz. The Video Bandwidth (VBW) was set to ≥ 300 kHz. Span was set to 1.5 times the DTS bandwidth. The trace was set to max hold with a peak detector active. The resulting spectrum analyzer peak level was used to determine the reference level with respect to the 20 dBc limit. The spectrum span was then adjusted for the measurement of spurious emissions from 30 MHz to 25GHz, 10 times the highest fundamental frequency. Additionally, a prescan was performed from 9 kHz or the lowest frequency generated to 30 MHz.

Band-edge compliance was determined using the conducted marker-delta method in which the radio frequency power that is produced by the EUT is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power.

7.5.1.2 Measurement Results

Performed by: Jean Tezil

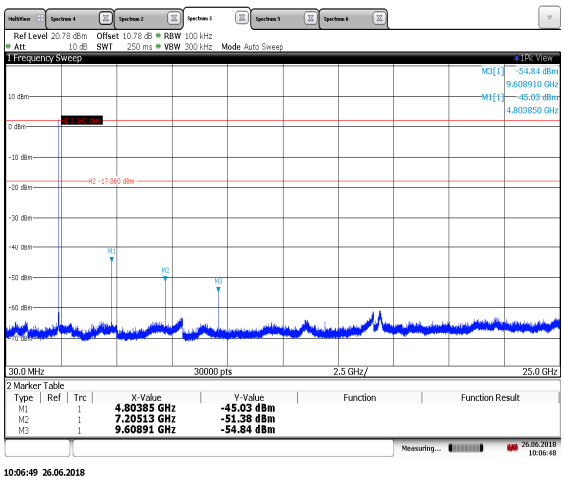

Figure 7.5.1.2-1: 30 MHz – 25 GHz – LCH

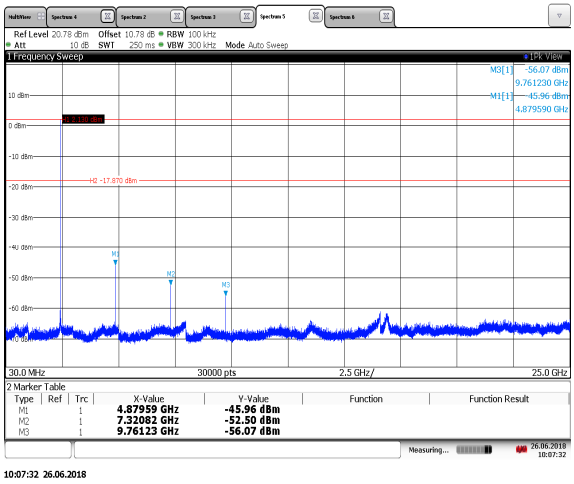

Figure 7.5.1.2-2: 30 MHz – 25 GHz – MCH

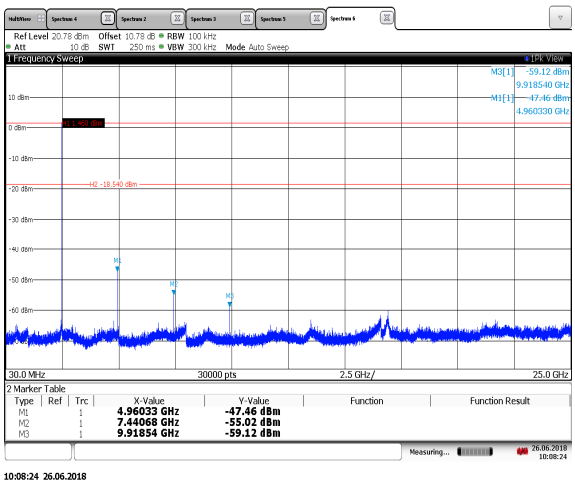

Figure 7.5.1.2-3: 30 MHz – 25 GHz – HCH

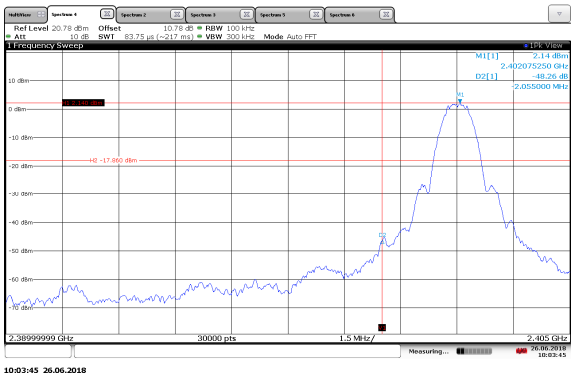

Figure 7.5.1.2-4: Lower Band-edge - LCH

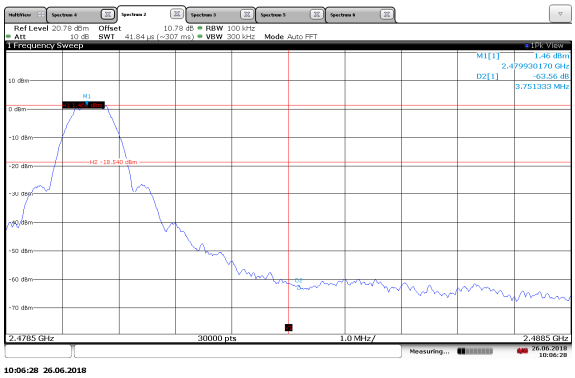

Figure 7.5.1.2-5: Upper Band-edge - HCH

7.6 Emissions into Restricted Frequency Bands

7.6.1.1 Measurement Procedure

The unwanted emissions into restricted bands were measured radiated over the frequency range of 30MHz to 25GHz, 10 times the highest fundamental frequency.

The EUT was rotated through 360° and the receive antenna height was varied from 1m to 4m so that the maximum radiated emissions level would be detected. For frequencies below 1000MHz, quasi-peak measurements were made using a RBW of 120 kHz and a VBW of 300 kHz. For frequencies above 1000MHz, 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.

7.6.1.2 Duty Cycle Correction

The Duty Cycle Correction was not required.

7.6.1.3 Measurement Results

Performed by: Charles Callis/Jean Tezil

Table 7.5.2.3-1: Radiated Spurious Emissions Tabulated Data

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										
2368.7	48.80	34.90	H	-3.92	44.88	30.98	74.0	54.0	29.1	23.0
2376.6	49.00	34.60	V	-3.91	45.09	30.69	74.0	54.0	28.9	23.3
4804	50.20	45.70	H	2.48	52.68	48.18	74.0	54.0	21.3	5.8
4804	45.80	39.40	V	2.48	48.28	41.88	74.0	54.0	25.7	12.1
Middle Channel										
4880	50.30	45.70	H	2.43	52.73	48.13	74.0	54.0	21.3	5.9
4880	46.90	41.30	V	2.43	49.33	43.73	74.0	54.0	24.7	10.3
7320	41.20	30.10	H	7.20	48.40	37.30	74.0	54.0	25.6	16.7
7320	39.80	28.00	V	7.20	47.00	35.20	74.0	54.0	27.0	18.8
19520	39.96	27.45	V	8.57	48.53	36.02	74.0	54.0	25.5	18.0
High Channel										
2483.5	59.20	41.40	H	-3.66	55.54	37.74	74.0	54.0	18.5	16.3
2483.5	49.80	36.60	V	-3.66	46.14	32.94	74.0	54.0	27.9	21.1
4960	51.70	47.40	H	2.39	54.09	49.79	74.0	54.0	19.9	4.2
4960	46.20	40.20	V	2.39	48.59	42.59	74.0	54.0	25.4	11.4
7440	42.50	32.60	H	7.49	49.99	40.09	74.0	54.0	24.0	13.9
7440	40.30	28.90	V	7.49	47.79	36.39	74.0	54.0	26.2	17.6
19840	41.56	28.16	V	8.93	50.49	37.09	74.0	54.0	23.5	16.9
22320	39.70	27.14	H	11.35	51.05	38.49	74.0	54.0	23.0	15.5
22320	38.93	26.47	V	11.35	50.28	37.82	74.0	54.0	23.7	16.2

7.6.1.4 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

Corrected Level: 48.8dBuV/m - 3.92dB = 44.88dBuV/m
Margin: 74dBuV/m – 44.88dBuV/m = 29.12 dB

Example Calculation: Average

Corrected Level: 34.9dBuV/m - 3.92dB = 30.98dBuV/m
Margin: 54dBuV/m – 30.98dBuV/m = 23.02dB

7.7 Power Spectral Density – FCC: 15.247(e); ISED Canada: RSS-247 5.2(b)

7.7.1 Measurement Procedure

The power spectral density was measured in accordance with the FCC KDB 558074 D01 DTS Meas Guidance v04 utilizing the PKPSD (peak PSD) method. The RF output of the equipment under test was directly connected to the input of the spectrum analyzer applying suitable attenuation. The Resolution Bandwidth (RBW) of the spectrum analyzer was set to 3 kHz. The Video Bandwidth (VBW) was set to 10 kHz. Span was set to 1.5 times the DTS bandwidth. The trace was set to max hold with a peak detector active.

7.7.2 Measurement Results

Performed by: Jean Tezil

Table 7.6.2-1: Peak Power Spectral Density

Frequency (MHz)	PSD Level (dBm)
2402	-6.29
2440	-6.40
2480	-6.54

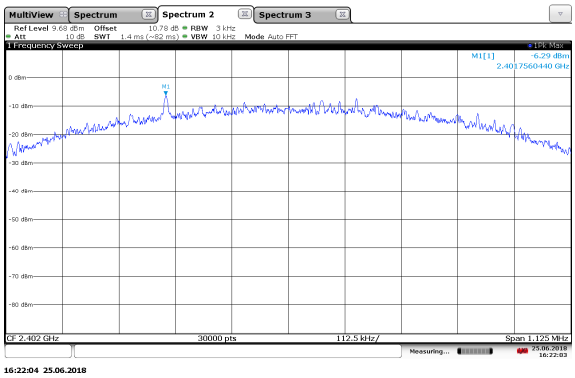

Figure 7.6.2-1: PSD Plot –LCH

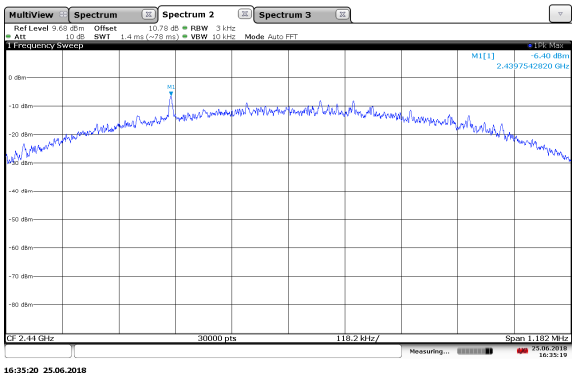

Figure 7.6.2-2: PSD Plot – MCH

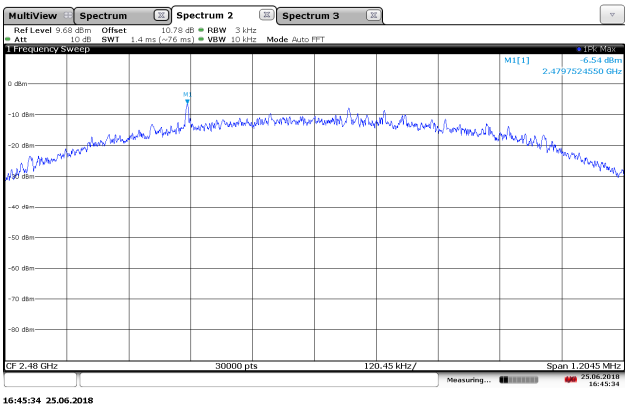

Figure 7.6.2-3: PSD Plot – HCH

8 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%.

Parameter	U_{lab}
Occupied Channel Bandwidth	**± 0.004%**
RF Conducted Output Power	**± 0.689 dB**
Power Spectral Density	**±0.5 dB**
Antenna Port Conducted Emissions	**± 2.717 dB**
Radiated Emissions	**± 5.877 dB**
Temperature	**± 0.860 °C**
Radio Frequency	**±2.832 x 10-8**
AC Power Line Conducted Emissions	**±2.85**

9 CONCLUSION

In the opinion of TÜV SÜD America Inc. the RPU2, manufactured by Amesbury Truth meets the requirements of FCC Part 15 subpart C and ISED Canada Radio Standards Specification: RSS-247 for the tests documented herein.

END REPORT