



Engineering Solutions & Electromagnetic Compatibility Services

**Class 2 Class 3 Permissive Change Report  
FCC Part 15.249 & ISED RSS-210**

<b>Test Lab:</b> Rhein Tech Laboratories, Inc.    Tel: 703-689-0368 360 Herndon Parkway                Fax: 703-689-2056 Suite 1400                                www.rheintech.com Herndon, VA 20170 E-Mail: atcbinfo@rheintech.com		<b>Applicant:</b> Garmin International Inc.    Tel: (913) 440-5471 1200 E. 151 <sup>st</sup> Street Olathe, Kansas 66062	
<b>FCC ID</b>	IPH-A3119-00	<b>Test Report Date</b>	November 13, 2017
<b>IC</b>	1792A-A311900	<b>RTL Work Order #</b>	2017209
<b>Model/HVIN</b>	AA3119-00	<b>RTL Quote #</b>	QRTL17-209B
<b>American National Standard Institute</b>	ANSI C63.10-2013: American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices		
<b>FCC Classification</b>	DXX – Part 15 Low Power Communication Device Transmitter		
<b>FCC Rule Part(s)/ Guidance</b>	15.249: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHz, and 24.0-24.25 GHz (10/01/2016)		
<b>ISED</b>	RSS-210 Issue 9: Licence-Exempt Radio Apparatus: Category I Equipment		
<b>Digital Interface Information</b>	Digital Interface was found to be compliant		
<b>Frequency Range (MHz)</b>	<b>Output Power (W)</b>	<b>Frequency Tolerance</b>	<b>Emission Designator</b>
2402-2480	N/A	N/A	1M39G1D

I, the undersigned, hereby declare that the equipment tested and referenced in this report conforms to the identified standard(s) as described in this test report. No modifications were made to the equipment during testing in order to achieve compliance with these standards. Furthermore, there was no deviation from, additions to, or exclusions from, the applicable parts of FCC Part 2, FCC Part 15, ISED RSS-210, and ANSI C63.10.

Signature: 

Date: November 13, 2017

Typed/Printed Name: Desmond A. Fraser

Position: President

*This report may not be reproduced, except in full, without the written approval of Rhein Tech Laboratories, Inc. and Garmin International Inc. The test results relate only to the item(s) tested.*

*These test(s) are accredited under Rhein Tech Laboratories, Inc. ISO/IEC 17025 accreditation issued by ANAB. Refer to certificate and scope of accreditation AT-1445.*

## Table of Contents

---

1	General Information.....	4
1.1	Scope .....	4
1.2	Description of EUT .....	4
1.3	Test Facility.....	4
1.4	Related Submittal(s)/Grant(s) .....	4
1.5	Modifications .....	4
2	Test Information .....	5
2.1	Description of Test Modes.....	5
2.2	Exercising the EUT.....	5
2.3	Test Result Summary.....	5
2.4	Test System Details .....	6
2.5	Configuration of Tested System.....	6
3	Radiated Emissions – FCC 15.209, 15.249(a); RSS-210 B.10; RSS-Gen.....	7
3.1	Limits of Radiated Emissions Measurement.....	7
3.1.1	Radiated Emissions Measurement Test Procedure.....	7
3.2	Radiated Emissions Test Results .....	8
3.3	Radiated Emissions Harmonics/Spurious Test Data .....	10
4	Conclusion .....	16

---

### Figure Index

---

Figure 2-1: Configuration of System Under Test .....	6
--	---

---

### Table Index

---

Table 2-1: Channels Tested .....	5
Table 2-2: Test Result Summary .....	5
Table 2-3: Equipment Under Test .....	6
Table 3-1: Radiated Emissions Test Equipment.....	8
Table 3-2: Radiated Emissions Test Data (ANT Mode) .....	8
Table 3-3: Radiated Emissions Test Data (BLE Mode) .....	9
Table 3-4: Radiated Emissions Harmonics/Spurious – 2402 MHz – Peak (ANT Mode) .....	10
Table 3-5: Radiated Emissions Harmonics/Spurious – 2402 MHz – Average (ANT Mode) .....	10
Table 3-6: Radiated Emissions Harmonics/Spurious – 2441 MHz – Peak (ANT Mode) .....	11
Table 3-7: Radiated Emissions Harmonics/Spurious – 2441 MHz – Average (ANT Mode) .....	11
Table 3-8: Radiated Emissions Harmonics/Spurious – 2479 MHz – Peak (ANT Mode) .....	12
Table 3-9: Radiated Emissions Harmonics/Spurious – 2479 MHz – Average (ANT Mode) .....	12
Table 3-10: Radiated Emissions Harmonics/Spurious – 2402 MHz – Peak (BLE Mode).....	13
Table 3-11: Radiated Emissions Harmonics/Spurious – 2402 MHz – Average (BLE Mode).....	13
Table 3-12: Radiated Emissions Harmonics/Spurious – 2440 MHz – Peak (BLE Mode).....	14
Table 3-13: Radiated Emissions Harmonics/Spurious – 2440 MHz – Average (BLE Mode).....	14
Table 3-14: Radiated Emissions Harmonics/Spurious – 2480 MHz – Peak (BLE Mode).....	15
Table 3-15: Radiated Emissions Harmonics/Spurious – 2480 MHz – Average (BLE Mode).....	15

---

### Appendix Index

---

Appendix A: Test Photographs .....	17
------------------------------------	----

---

### Photograph Index

---

Photograph 1: Radiated Emissions Testing – Front View (Spurious Emissions, >1 GHz).....	17
Photograph 2: Radiated Emissions Testing – Back View (Spurious Emissions, >1 GHz).....	18

## 1 General Information

### 1.1 Scope

This is an FCC Class 2 permissive change and ISED Class 3 permissive change report.

Applicable Standards:

- FCC Part 15.249: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHz, and 24.0-24.25 GHz
- ISED RSS-210: Licence-Exempt Radio Apparatus: Category I Equipment

### 1.2 Description of EUT

<b>Equipment Under Test</b>	Watch
<b>Model/HVIN</b>	AA3119-00
<b>Power Supply</b>	Internal rechargeable battery
<b>Modulation Type</b>	DTS
<b>Frequency Range</b>	2402-2480 MHz
<b>Antenna Type</b>	Sheet metal inverted F

### 1.3 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located at 360 Herndon Parkway, Suite 1400, Herndon, Virginia 20170. This site has been fully described in a report and approved by the Federal Communications Commission to perform AC line conducted and radiated emissions testing.

### 1.4 Related Submittal(s)/Grant(s)

This is a Class 2/Class 3 permissive change application to add a new antenna for Garmin International Inc. Model/HVIN: AA3119-00, FCC ID: IPH-A3119-00, IC: 1792A-A311900.

### 1.5 Modifications

No modifications were made to the equipment during testing.

## 2 Test Information

### 2.1 Description of Test Modes

In accordance with FCC 15.31(m), and because the EUT utilizes an operating band greater than 10 MHz, the following frequencies were tested:

**Table 2-1: Channels Tested**

<b>ANT Frequencies (MHz)</b>
2402
2441
2479
<b>BLE Frequencies (MHz)</b>
2402
2440
2480

### 2.2 Exercising the EUT

The EUT was programmed for continuous transmission. The EUT was tested in all three orthogonal planes in order to determine worst-case emissions. The carrier was also checked to verify that information was being transmitted.

### 2.3 Test Result Summary

**Table 2-2: Test Result Summary**

<b>FCC Reference</b>	<b>ISED Reference</b>	<b>Test</b>	<b>Pass/Fail or N/A</b>
15.209	RSS-Gen Issue 4 8.9/8.10	Radiated Emissions	Pass
15.249(a)	RSS-210 Issue 9 B.10	Field Strength of Fundamental and Harmonics	Pass

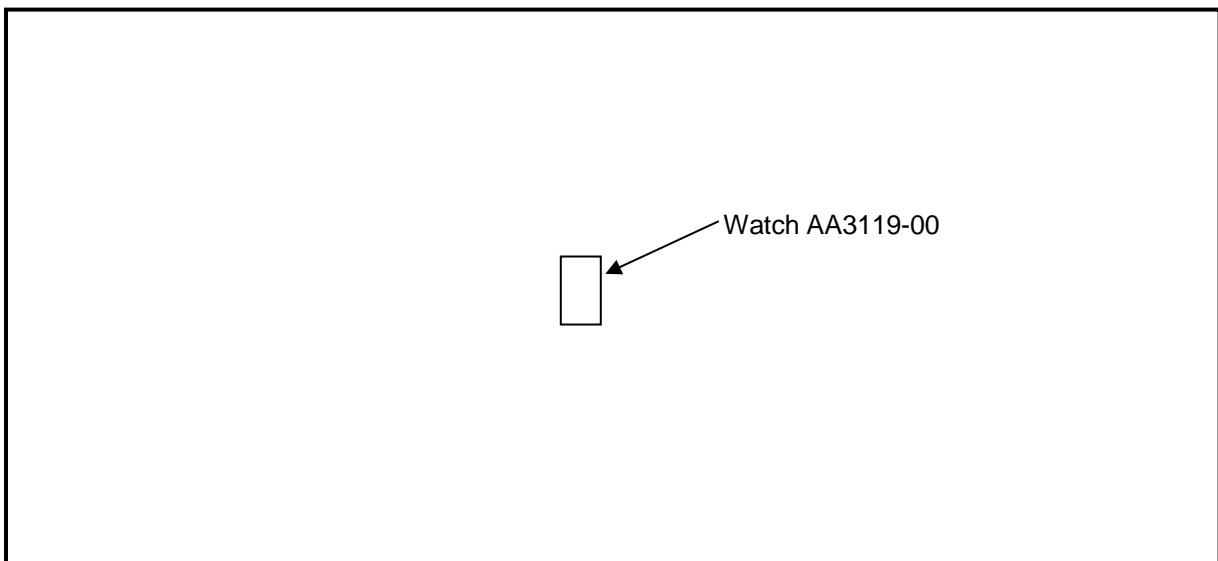
## 2.4 Test System Details

The test samples were received on November 1, 2017. The FCC identifiers for all applicable equipment, plus descriptions of all cables used in the tested system, are identified in the following table.

**Table 2-3: Equipment Under Test**

Part	Manufacturer	Model/HVIN	Serial Number	FCC ID	Cable Description	RTL Bar Code
Transceiver (conducted port)	Garmin International Inc.	AA3119-00	3953653078u	IPH-A3119-00	N/A	22526
Transceiver (radiated emissions)	Garmin International Inc.	AA3119-00	3953653087u	IPH-A3119-00	N/A	22527

## 2.5 Configuration of Tested System



**Figure 2-1: Configuration of System Under Test**

### 3 Radiated Emissions – FCC 15.209, 15.249(a); RSS-210 B.10; RSS-Gen

#### 3.1 Limits of Radiated Emissions Measurement

Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009-0.490	2400/f (kHz)	300
0.490-1.705	2400/f (kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

As shown in 15.35(b), for frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any circumstances of modulation.

##### 3.1.1 Radiated Emissions Measurement Test Procedure

Before final measurements of radiated emissions were made on the open-field three/ten meter range, the EUT was scanned indoors at one and three meter distances. This was done in order to determine its emissions spectrum signature. The physical arrangement of the test system and associated cabling was varied in order to determine the effect on the EUT's emissions in amplitude, direction and frequency. This process was repeated during final radiated emissions measurements on the open-field range, at each frequency, in order to ensure that maximum emission amplitudes were attained.

Final radiated emissions measurements were made on the three/ten-meter, open-field test site. The EUT was placed on a nonconductive turntable 0.8 meters above the ground plane. The spectrum was examined from 9 kHz to the 10<sup>th</sup> harmonic of the highest fundamental transmitter frequency (9.16 GHz).

At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the emission's maximum level. Measurements were taken using both horizontal and vertical antenna polarizations. For frequencies between 30 and 1000 MHz, the spectrum analyzer's 6 dB bandwidth was set to 120 kHz, and the analyzer was operated in the CISPR quasi-peak detection mode. For emissions above 1000 MHz, emissions are measured using the average detector function with a minimum resolution bandwidth of 1 MHz. No video filter less than 10 times the resolution bandwidth was used. The highest emission amplitudes relative to the appropriate limit were measured and recorded in this report.

**Table 3-1: Radiated Emissions Test Equipment**

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
900791	Chase	CBL6112	Antenna (30 MHz – 2 GHz)	2099	6/11/18
900932	Rhein Tech Laboratories, Inc.	8449B OPT H02	Amplifier (1 – 26.5 GHz)	3008A00505	8/18/18
900772	EMCO	3161-02	Horn Antenna (2 - 4 GHz)	9804-1044	4/9/18
900321	EMCO	3161-03	Horn Antenna (4.0 - 8.2 GHz)	9508-1020	4/9/18
900323	EMCO	3160-07	Horn Antenna (8.2 - 12.4 GHz)	9605-1054	4/9/18
900356	EMCO	3160-08	Horn Antenna (12.4 - 18 GHz)	9607-1044	4/9/18
901218	EMCO	3160-09	Horn Antenna (18 - 26.5 GHz)	960281-003	4/14/18
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	3/22/18
901592	Insulated Wire Inc.	KPS-1503-3600-KPR	SMK RF Cables 20'	NA	8/18/18

**3.2 Radiated Emissions Test Results**

**Table 3-2: Radiated Emissions Test Data (ANT Mode)**

Emission Frequency (MHz)	Peak Detector Level (dBuV/m) (1 MHz RBW/3 MHz VBW)	Site Correction Factor (dB/m)	Peak Corrected (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)
2402.0	61.1	25.4	86.5	114.0	-27.5
2441.0	62.5	25.5	88.0	114.0	-26.0
2479.0	65.8	25.7	91.5	114.0	-22.5
Emission Frequency (MHz)	Average Detector Level (dBuV/m) (1 MHz RBW/3 MHz VBW)	Site Correction Factor (dB/m)	Average Corrected (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)
2402.0	60.8	25.4	86.2	94.0	-7.8
2441.0	62.0	25.5	87.5	94.0	-6.5
2479.0	65.6	25.7	91.3	94.0	-2.7

\* testing performed at 3m



**Table 3-3: Radiated Emissions Test Data (BLE Mode)**

<b>Emission Frequency (MHz)</b>	<b>Peak Detector Level (dBuV/m) (1 MHz RBW/3 MHz VBW)</b>	<b>Site Correction Factor (dB/m)</b>	<b>Peak Corrected (dBuV/m)</b>	<b>Peak Limit (dBuV/m)</b>	<b>Margin (dB)</b>
2402.0	59.7	25.4	85.1	114.0	-28.9
2440.0	59.5	25.5	85.0	114.0	-29.0
2480.0	61.7	25.7	87.4	114.0	-26.6
<b>Emission Frequency (MHz)</b>	<b>Average Detector Level (dBuV/m) (1 MHz RBW/3 MHz VBW)</b>	<b>Site Correction Factor (dB/m)</b>	<b>Average Corrected (dBuV/m)</b>	<b>Average Limit (dBuV/m)</b>	<b>Margin (dB)</b>
2402.0	58.3	25.4	83.7	94.0	-10.3
2440.0	58.9	25.5	84.4	94.0	-9.6
2480.0	60.9	25.7	86.6	94.0	-7.4

*\* testing performed at 3m*

### 3.3 Radiated Emissions Harmonics/Spurious Test Data

**Table 3-4: Radiated Emissions Harmonics/Spurious – 2402 MHz – Peak (ANT Mode)**

Emission Frequency (MHz)	Peak Detector (dBuV/m) (1 MHz RBW/VBW)	Site Correction Factor (dB/m)	Peak Corrected (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)
4804.0	23.7	33.5	57.2	74.0	-16.8
7206.0	20.1	35.7	55.8	74.0	-18.2
9608.0	13.4	42.4	55.8	74.0	-18.2
12010.0	12.6	44.0	56.6	74.0	-17.4
14412.0	12.4	47.9	60.3	74.0	-13.7
16814.0	11.9	48.7	60.6	74.0	-13.4
19216.0	1.0	52.9	53.9	74.0	-20.1
21618.0	0.0	53.8	53.8	74.0	-20.2
24020.0	-1.6	54.8	53.2	74.0	-20.8

**Table 3-5: Radiated Emissions Harmonics/Spurious – 2402 MHz – Average (ANT Mode)**

Emission Frequency (MHz)	Average Detector (dBuV/m) (1 MHz RBW/ 10 Hz VBW)	Site Correction Factor (dB/m)	Average Corrected (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
4804.0	14.1	33.5	47.6	54.0	-6.4
7206.0	17.9	35.7	53.6	54.0	-0.4
9608.0	3.4	42.4	45.8	54.0	-8.2
12010.0	2.9	44.0	46.9	54.0	-7.1
14412.0	1.7	47.9	49.6	54.0	-4.4
16814.0	2.5	48.7	51.2	54.0	-2.8
19216.0	-8.7	52.9	44.2	54.0	-9.8
21618.0	-9.8	53.8	44.0	54.0	-10.0
24020.0	-11.7	54.8	43.1	54.0	-10.9

\* testing performed at 3m

**Table 3-6: Radiated Emissions Harmonics/Spurious – 2441 MHz – Peak (ANT Mode)**

Emission Frequency (MHz)	Peak Detector (dBuV/m) (1 MHz RBW/VBW)	Site Correction Factor (dB/m)	Peak Corrected (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)
4882.0	24.6	33.6	58.2	74.0	-15.8
7323.0	25.3	35.7	61.0	74.0	-13.0
9764.0	13.0	42.4	55.4	74.0	-18.6
12205.0	11.9	44.0	55.9	74.0	-18.1
14646.0	12.1	48.1	60.2	74.0	-13.8
17087.0	12.2	49.0	61.2	74.0	-12.8
19528.0	-0.2	53.0	52.8	74.0	-21.2
21969.0	-1.2	54.1	52.9	74.0	-21.1
24410.0	-2.4	55.0	52.6	74.0	-21.4

**Table 3-7: Radiated Emissions Harmonics/Spurious – 2441 MHz – Average (ANT Mode)**

Emission Frequency (MHz)	Average Detector (dBuV/m) (1 MHz RBW/ 10 Hz VBW)	Site Correction Factor (dB/m)	Average Corrected (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
4882.0	16.3	33.6	49.9	54.0	-4.1
7323.0	18.1	35.7	53.8	54.0	-0.2
9764.0	3.1	42.4	45.5	54.0	-8.5
12205.0	2.0	44.0	46.0	54.0	-8.0
14646.0	2.2	48.1	50.3	54.0	-3.7
17087.0	2.7	49.0	51.7	54.0	-2.3
19528.0	-9.9	53.0	43.1	54.0	-10.9
21969.0	-11.1	54.1	43.0	54.0	-11.0
24410.0	-12.8	55.0	42.2	54.0	-11.8

\* testing performed at 3m

**Table 3-8: Radiated Emissions Harmonics/Spurious – 2479 MHz – Peak (ANT Mode)**

Emission Frequency (MHz)	Peak Detector (dBuV/m) (1 MHz RBW/VBW)	Site Correction Factor (dB/m)	Peak Corrected (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)
4958.0	26.0	33.8	59.8	74.0	-14.2
7437.0	24.9	35.8	60.7	74.0	-13.3
9916.0	13.0	42.4	55.4	74.0	-18.6
12395.0	12.7	44.0	56.7	74.0	-17.3
14874.0	12.2	48.2	60.4	74.0	-13.6
17353.0	13.1	49.2	62.3	74.0	-11.7
19832.0	-0.7	53.2	52.5	74.0	-21.5
22311.0	-1.6	54.2	52.7	74.0	-21.3
24790.0	-0.9	55.3	54.4	74.0	-19.6

**Table 3-9: Radiated Emissions Harmonics/Spurious – 2479 MHz – Average (ANT Mode)**

Emission Frequency (MHz)	Average Detector (dBuV/m) (1 MHz RBW/ 10 Hz VBW)	Site Correction Factor (dB/m)	Average Corrected (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
4958.0	17.1	33.8	50.9	54.0	-3.1
7437.0	16.4	35.8	52.2	54.0	-1.8
9916.0	3.1	42.4	45.5	54.0	-8.5
12395.0	2.0	44.0	46.0	54.0	-8.0
14874.0	2.6	48.2	50.8	54.0	-3.2
17353.0	3.0	49.2	52.2	54.0	-1.8
19832.0	-10.6	53.2	42.6	54.0	-11.4
22311.0	-11.4	54.2	42.9	54.0	-11.1
24790.0	-10.8	55.3	44.5	54.0	-9.5

\* testing performed at 3m

**Table 3-10: Radiated Emissions Harmonics/Spurious – 2402 MHz – Peak (BLE Mode)**

Emission Frequency (MHz)	Peak Detector (dBuV/m) (1 MHz RBW/VBW)	Site Correction Factor (dB/m)	Peak Corrected (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)
4804.0	23.9	33.5	57.4	74.0	-16.6
7206.0	24.0	35.7	59.7	74.0	-14.3
9608.0	12.8	42.4	55.2	74.0	-18.8
12010.0	12.6	44.0	56.6	74.0	-17.4
14412.0	11.2	47.9	59.1	74.0	-14.9
16814.0	12.1	48.7	60.8	74.0	-13.2
19216.0	1.3	52.9	54.2	74.0	-19.8
21618.0	1.3	53.8	55.1	74.0	-18.9
24020.0	-1.9	54.8	52.9	74.0	-21.1

**Table 3-11: Radiated Emissions Harmonics/Spurious – 2402 MHz – Average (BLE Mode)**

Emission Frequency (MHz)	Average Detector (dBuV/m) (1 MHz RBW/ 10 Hz VBW)	Site Correction Factor (dB/m)	Average Corrected (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
4804.0	15.0	33.5	48.5	54.0	-5.5
7206.0	15.3	35.7	51.0	54.0	-3.0
9608.0	3.5	42.4	45.9	54.0	-8.1
12010.0	2.6	44.0	46.6	54.0	-7.4
14412.0	2.3	47.9	50.2	54.0	-3.8
16814.0	2.1	48.7	50.8	54.0	-3.2
19216.0	-8.8	52.9	44.1	54.0	-9.9
21618.0	-10.0	53.8	43.8	54.0	-10.2
24020.0	-11.7	54.8	43.1	54.0	-10.9

\* testing performed at 3m

**Table 3-12: Radiated Emissions Harmonics/Spurious – 2440 MHz – Peak (BLE Mode)**

Emission Frequency (MHz)	Peak Detector (dBuV/m) (1 MHz RBW/VBW)	Site Correction Factor (dB/m)	Peak Corrected (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)
4880.0	24.4	33.6	58.0	74.0	-16.0
7320.0	23.7	35.7	59.4	74.0	-14.6
9760.0	13.9	42.4	56.3	74.0	-17.7
12200.0	12.2	44.0	56.2	74.0	-17.8
14640.0	13.0	48.1	61.1	74.0	-12.9
17080.0	12.6	49.0	61.6	74.0	-12.4
19520.0	0.1	53.0	53.1	74.0	-20.9
21960.0	-0.8	54.1	53.3	74.0	-20.7
24400.0	-4.0	55.0	51.0	74.0	-23.0

**Table 3-13: Radiated Emissions Harmonics/Spurious – 2440 MHz – Average (BLE Mode)**

Emission Frequency (MHz)	Average Detector (dBuV/m) (1 MHz RBW/ 10 Hz VBW)	Site Correction Factor (dB/m)	Average Corrected (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
4880.0	16.8	33.6	50.4	54.0	-3.6
7320.0	14.5	35.7	50.2	54.0	-3.8
9760.0	3.0	42.4	45.4	54.0	-8.6
12200.0	2.3	44.0	46.3	54.0	-7.7
14640.0	2.3	48.1	50.4	54.0	-3.6
17080.0	3.0	49.0	52.0	54.0	-2.0
19520.0	-10.0	53.0	43.0	54.0	-11.0
21960.0	-10.7	54.1	43.4	54.0	-10.6
24400.0	-13.0	55.0	42.0	54.0	-12.0

\* testing performed at 3m

**Table 3-14: Radiated Emissions Harmonics/Spurious – 2480 MHz – Peak (BLE Mode)**

Emission Frequency (MHz)	Peak Detector (dBuV/m) (1 MHz RBW/VBW)	Site Correction Factor (dB/m)	Peak Corrected (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)
4960.0	25.3	33.8	59.1	74.0	-14.9
7440.0	24.1	35.8	59.9	74.0	-14.1
9920.0	12.8	42.4	55.2	74.0	-18.8
12400.0	11.8	44.0	55.8	74.0	-18.2
14880.0	12.9	48.2	61.1	74.0	-12.9
17360.0	12.8	49.2	62.0	74.0	-12.0
19840.0	-1.4	53.2	51.8	74.0	-22.2
22320.0	-1.9	54.2	52.4	74.0	-21.6
24800.0	-2.0	55.3	53.3	74.0	-20.7

**Table 3-15: Radiated Emissions Harmonics/Spurious – 2480 MHz – Average (BLE Mode)**

Emission Frequency (MHz)	Average Detector (dBuV/m) (1 MHz RBW/ 10 Hz VBW)	Site Correction Factor (dB/m)	Average Corrected (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
4960.0	17.9	33.8	51.7	54.0	-2.3
7440.0	14.0	35.8	49.8	54.0	-4.2
9920.0	3.1	42.4	45.5	54.0	-8.5
12400.0	2.4	44.0	46.4	54.0	-7.6
14880.0	2.2	48.2	50.4	54.0	-3.6
17360.0	3.1	49.2	52.3	54.0	-1.7
19840.0	-10.9	53.2	42.3	54.0	-11.7
22320.0	-11.8	54.2	42.5	54.0	-11.5
24800.0	-11.9	55.3	43.4	54.0	-10.6

\* testing performed at 3m

Measurement uncertainty: Measurement uncertainties shown for these tests are expanded uncertainties expressed at 95% confidence level using a coverage factor k = 2. +/-4.5 dB

**Test Personnel:**

Dan Baltzell Test Engineer	 Signature	November 8, 2017 Date of Test
-------------------------------	--	----------------------------------

Rhein Tech Laboratories, Inc.  
360 Herndon Parkway  
Suite 1400  
Herndon, VA 20170  
<http://www.rheintech.com>

Client: Garmin Int'l Inc.  
Model/HVIN: AA3119-00  
Standards: FCC 15.249/ISED RSS-210  
IDs: IPH-A3119-00/1792A-A311900  
Report #: 2017209DXX

#### **4 Conclusion**

The data in this measurement report shows that the EUT as tested, Garmin International Inc. Model/HVIN: AA3119-00, FCC ID: IPH-A3119-00, IC: 1792A-A311900, complies with the applicable requirements of Parts 2 and 15 of the FCC Rules and Regulations and ISED RSS-210 and RSS-Gen.