

# Application Submittal Report Supporting Class 2 Permissive Change Grant of Certification

For

Model: 9603N  
1616.0-1626.5 MHz  
Mobile Earth Station

**FCC ID: IPH9603N**  
**IC: 1792A-9603N**

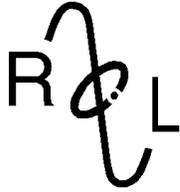
FOR

**Garmin International, Inc.**

1200 East 151st Street  
Olathe, KS 66062

Test Report Number: 161010a  
IC Test Site Registration: 3041A-1

Authorized Signatory: *Scot D. Rogers*  
Scot D. Rogers



## **ROGERS LABS, INC.**

4405 West 259<sup>th</sup> Terrace  
Louisburg, KS 66053  
Phone / Fax (913) 837-3214

# Engineering Test Report For Class 2 Permissive Change Application

FOR  
47CFR, PART 25,  
Industry Canada RSS-170  
Licensed Non-Broadcast Short Burst Data Transceiver module

For

## **Garmin International, Inc.**

1200 East 151st Street  
Olathe, KS 66062

Model: 9603N  
Mobile Earth Station  
Frequency Range 1616.0-1626.5 MHz  
FCC ID#: IPH9603N  
IC: 1792A-9603N

Test Date: October 10, 2016

Certifying Engineer: *Scot D. Rogers*  
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4405 W. 259th Terrace  
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Phone/Fax: (913) 837-3214  
Revision 1

Garmin International, Inc.  
Model: 9603N  
Test #: 161010a  
Test to: 47CFR (Part 25), RSS-170  
File: 9603N Change TstRpt 161010a

FCC ID: IPH9603N  
IC: 1792A-9603N  
SN: M1248Q/M123W5  
Date: January 9, 2017  
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## Revisions

Revision 1 Issued January 9, 2017

## Forward

The following information is submitted for consideration in obtaining Grant of Certification for Class 2 permissive change to authorized equipment. The module model: 9603N, was granted module authorization operating under 47CFR part 25 and Industry Canada RSS-170 operations in the 1616.0-1626.5 MHz frequency band. The original Grants restricted use for mobile use as well as not allowing collocation of other transceivers. This report presents documentation supporting the use of this module in a portable host which also houses a low power FHSS transceiver operating under 47CFR 15.247 and RSS-247 in a hand held configuration.

Name of Applicant: Garmin International, Inc.  
 1200 East 151st Street  
 Olathe, KS 66062

Model: 9603N  
 FCC ID.: IPH9603N      IC: 1792A-9603N  
 Frequency Range: 1616.0-1626.5 MHz  
 Operating Power: 1.479 Watts, Occupied Bandwidth 99% 33.456 kHz  
 IPH9603N, 1792A-9603N module information, 1.479W, 1616-1626 MHz, 41K7Q7D

## Opinion / Interpretation of Results

Test Performed per 47CFR	Minimum Margin (dB)	Results
Radiated Emissions (General Out-of-Band)	-10.3	Complies
Radiated Emissions per (harmonics)	-34.69	Complies

## Equipment Tested

<u>Equipment</u>	<u>Model / PN</u>	<u>Serial Number</u>	<u>FCC Identifier</u>	<u>IC Identifier</u>
EUT	9603N	M1248Q	IPH9603N	1792A-9603N
EUT (#2)	9603N	M123W5	IPH9603N	1792A-9603N

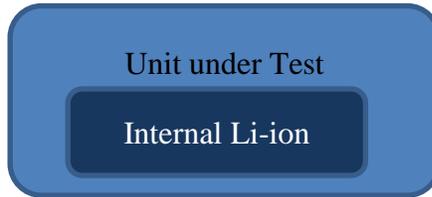
Test results in this report relate only to the items tested

## Equipment Function and Configuration

The EUT is a Satellite short burst data transceiver module with operation capability in the 1616.0-1626.5 MHz frequency band. The assembled product adds 2.4 GHz wireless communications capabilities with compatible wireless equipment as well as incorporating the IPH9603N (IC: 1792A-9603N) wireless module. The design provides the ability to send data using the 1616-1626 MHz data link. The portable host design offers a hand held or body clipped satellite communications capability as well as the use of the low power FHSS 2.4 GHz transceiver. The product operates from internal rechargeable battery only and provides micro USB interface connection port for use with AC adapter or computer equipment. Recharge of internal battery is accomplished with the use of the USB interface cable which may be connected to compliant USB interface port, AC adapter or DC adapter for battery recharge. The design utilizes internal fixed antenna systems and offers no provision for antenna replacement or modification. Two samples were provided for testing, one representative of production design and the other modified for testing purposes replacing integral antenna with RF connection port. Test samples were provided with test software enabling testing personnel ability to enable transmitter function on defined channels and operational modes. The antenna modification offered testing facility ability to connect test equipment to the temporary antenna port for antenna port conducted emission testing. The EUT was arranged as described by the manufacturer for testing purposes. The EUT offers no other interface connections than those in the configuration options shown below as described by the manufacturer. For testing purposes, the EUT received power from freshly charged internal battery and configured to operate in available modes. As requested by the manufacturer and required by regulations, the equipment was tested for emissions compliance using the available configurations with the worst-case data presented. Test results in this report relate only to the products described in this report.

## Equipment Configuration

- 1) Unit operating off internal battery



- 2) Unit Transmitting data through 1.6 GHz wireless communications



## Application for Certification

- (1) Manufacturer: Garmin International, Inc.  
1200 East 151st Street  
Olathe, KS 66062
- (2) Identification: Model: 9603N  
FCC ID: IPH9603N IC: 1792A-9603N
- (3) Instruction Book:  
Refer to Original Filing Exhibit for Instruction Manual.
- (4) Description of Circuit Functions:  
Refer to Original Filing Exhibit of Operational Description.
- (5) Block Diagram with Frequencies:  
Refer to Original Filing Exhibit of Operational Description.
- (6) Report of Measurements:  
Report of measurements follows in this Report.
- (7) Photographs: Construction, Component Placement, etc.:  
Refer to Original Filing Exhibit for photographs of equipment.
- (8) List of Peripheral Equipment Necessary for operation. The equipment operates from direct current internal battery power. The battery may be recharged through the provided interface options as documented in this report. The design provides USB interface port for use with compatible equipment as presented in this documentation. The EUT offers no other connection ports than those presented in this filing.
- (9) Transition Provisions of CFR47 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) Applications for certification of U-NII devices in the 5.15-5.35 GHz and the 5.47-5.85 GHz bands must include a high-level operational description of the security procedures that control the radio frequency operating parameters and ensure that unauthorized modifications cannot be made. This requirement is not applicable to his DTS device.
- (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 provide in this report and Test Setup Exhibits provided with the application filing.

## Applicable Standards & Test Procedures

In accordance with the 47CFR, dated October 1, 2016, 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 25.202 and Industry Canada standards RSS-GEN Issue 4, and RSS-170 Issue 3 the following information is submitted.

## Test Site Locations

Conducted EMI      The AC power line conducted emissions testing performed in a shielded screen room located at Rogers Labs, Inc., 4405 West 259<sup>th</sup> Terrace, Louisburg, KS

Radiated EMI      The radiated emissions tests were performed at the 3 meters, Open Area Test Site (OATS) located at Rogers Labs, Inc., 4405 West 259<sup>th</sup> Terrace, Louisburg, KS

Site Registration      Refer to Annex for Site Registration Letters

NVLAP Accreditation      Lab code 200087-0

## Units of Measurements

Conducted EMI      Data is in dB $\mu$ V; dB referenced to one microvolt

Radiated EMI      Data is in dB $\mu$ V/m; dB/m referenced to one microvolt per meter

Sample Calculation:

RFS = Radiated Field Strength, FSM = Field Strength Measured

A.F. = Receive antenna factor, Gain = amplification gains and/or cable losses

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

## Environmental Conditions

Ambient Temperature      24.6° C

Relative Humidity      43%

Atmospheric Pressure      1021.1 mb

## List of Test Equipment

A Rohde and Schwarz ESU40 and/or Hewlett Packard 8591EM was used as the measuring device for the emissions testing of frequencies below 1 GHz. A Rohde and Schwarz ESU40 and/or Hewlett Packard 8562A Spectrum Analyzer was used as the measuring device for testing the emissions at frequencies above 1 GHz. The analyzer settings used are described in the following table. Refer to the appendix for a complete list of test equipment.

AC Line Conducted Emissions (0.150 -30 MHz)		
RBW	AVG. BW	Detector Function
9 kHz	30 kHz	Peak / Quasi Peak
Emissions (30-1000 MHz)		
RBW	AVG. BW	Detector Function
120 kHz	300 kHz	Peak / Quasi Peak
Emissions (Above 1000 MHz)		
RBW	Video BW	Detector Function
100 kHz	100 kHz	Peak
1 MHz	1 MHz	Peak / Average

Equipment	Manufacturer	Model (SN)	Band	Cal Date	Due
<input type="checkbox"/> LISN	FCC	FCC-LISN-50-2-10(1PA) (160611)	.15-30MHz	5/16	5/17
<input checked="" type="checkbox"/> Cable	Time Microwave	750HF290-750 (L10M)	9kHz-40 GHz	10/16	10/17
<input type="checkbox"/> Cable	Belden	RG-58 (L1-CAT3-11509)	9kHz-30 MHz	10/16	10/17
<input type="checkbox"/> Cable	Belden	RG-58 (L2-CAT3-11509)	9kHz-30 MHz	10/16	10/17
<input type="checkbox"/> Antenna	ARA	BCD-235-B (169)	20-350MHz	10/16	10/17
<input type="checkbox"/> Antenna	EMCO	3147 (40582)	200-1000MHz	10/16	10/17
<input checked="" type="checkbox"/> Antenna	ETS-Lindgren	3117 (200389)	1-18 GHz	5/16	5/18
<input type="checkbox"/> Antenna	Com Power	AH-118 (10110)	1-18 GHz	10/15	10/17
<input checked="" type="checkbox"/> Antenna	Com Power	AH-840 (101046)	18-40 GHz	5/16	5/18
<input checked="" type="checkbox"/> Antenna	Com Power	AL-130 (121055)	.001-30 MHz	10/16	10/17
<input checked="" type="checkbox"/> Antenna	Sunol	JB-6 (A100709)	30-1000 MHz	10/16	10/17
<input type="checkbox"/> Antenna	EMCO	3143 (9607-1277)	20-1200 MHz	5/16	5/17
<input type="checkbox"/> Analyzer	HP	8591EM (3628A00871)	9kHz-1.8GHz	5/16	5/17
<input type="checkbox"/> Analyzer	HP	8562A (3051A05950)	9kHz-110GHz	5/16	5/17
<input type="checkbox"/> Analyzer	HP External Mixers	11571, 11970	25GHz-110GHz	5/16	5/17
<input checked="" type="checkbox"/> Analyzer	Rohde & Schwarz	ESU40 (100108)	20Hz-40GHz	5/16	5/17
<input checked="" type="checkbox"/> Amplifier	Com-Power	PA-010 (171003)	100Hz-30MHz	10/16	10/17
<input checked="" type="checkbox"/> Amplifier	Com-Power	CPPA-102 (01254)	1-1000 MHz	10/16	10/17
<input checked="" type="checkbox"/> Amplifier	Com-Power	PAM-118A (551014)	0.5-18 GHz	10/16	10/17

## Statement of Modifications and Deviations

No modifications to the EUT were required for the unit to demonstrate compliance with the CFR47 Parts 2, 15B and 25, RSS-GEN, and RSS-170 emission requirements. There were no deviations to the specifications.

### **General Radiated EMI Testing Procedure**

The EUT was arranged in the test configuration emulating worst-case equipment configuration and operated through available modes. Preliminary testing was performed in a screen room with the EUT positioned 1 meter from the FSM. Investigations were performed to identify the frequencies, which produced the highest radiated emissions. Radiated emission investigations were performed from 9 kHz to 17,000 MHz with the EUT oriented in the manufacturer defined orientation. Frequencies of interest were recorded for use during testing on the OATS. Each investigated emission was then maximized at the OATS site before final radiated emissions measurements were performed. Final data was taken with the EUT located at the open area test site at a distance of 3 meters between the EUT and the receiving antenna. Peak and average amplitudes of frequencies above 1000 MHz were compared to the required limits with worst-case data presented below. Measured emission levels were maximized by EUT placement on the table, changing cable location, rotating the turntable through 360 degrees, varying the antenna height between 1 and 4 meters above the ground plane and changing antenna polarization between horizontal and vertical. Antennas used were Loop from 0.009 to 30 MHz, Broadband Biconical from 30 MHz to 200 MHz, Log Periodic from 200 MHz to 1 GHz, and/or Biconilog from 30 MHz to 1000 MHz, and above 1 GHz, Double Ridge or Pyramidal Horns, notch filters and appropriate amplifiers and mixers were utilized.

**Table 1 General Radiated Emissions Data (worst-case)**

Frequency in MHz	Horizontal Peak (dB $\mu$ V/m)	Horizontal Quasi-Peak (dB $\mu$ V/m)	Horizontal Average (dB $\mu$ V/m)	Vertical Peak (dB $\mu$ V/m)	Vertical Quasi-Peak (dB $\mu$ V/m)	Vertical Average (dB $\mu$ V/m)	Limit @ 3m (dB $\mu$ V/m)
49.3	34.1	29.7	N/A	34.7	27.5	N/A	40.0
52.0	28.4	22.0	N/A	30.4	21.6	N/A	40.0
120.0	28.0	22.9	N/A	26.8	22.1	N/A	43.5
150.0	25.8	20.3	N/A	22.2	17.5	N/A	43.5
166.3	23.5	16.7	N/A	23.3	17.7	N/A	43.5
181.6	21.4	13.3	N/A	20.5	13.5	N/A	43.5
300.0	19.2	14.3	N/A	19.7	15.6	N/A	46.0
2034.3	38.9	N/A	25.8	38.7	N/A	25.8	54.0
2848.0	40.7	N/A	28.1	42.2	N/A	28.1	54.0

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

Quasi-Peak amplitude emissions are recorded above for frequency range of 30-1000 MHz.

Average amplitude emissions are recorded above for frequency range above 1000 MHz.

**Summary of Results for General Radiated Emissions**

The EUT demonstrated compliance with the radiated emissions. The EUT demonstrated a minimum margin of -10.3 dB below general unintentional radiator equipment radiated emissions requirements. There are no other significantly measurable emissions in the restricted bands other than those recorded in this report. Other emissions were present with amplitudes at least 20 dB below the requirements.

## ***Operation in the Band 1616.0-1626.5 MHz***

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 25.202(f), FCC CFR 47 Part 2.1051 and 2.1053.

For emissions removed less than 250% of the authorized bandwidth from the assigned frequency, measurements were performed conducted as follows:

The EUT was connected to a spectrum analyzer via a cable and attenuator. The EUT was transmitting at maximum power, for lowest, middle and highest channels. The EUT was modulated as stated in the manufactures application form from internal signal. The path loss between the EUT and analyzer was entered in to the spectrum analyzer as an attenuation offset. The reference level for the mask was set to the manufacturers declared maximum output power. The analyzer was configured with a RBW and VBW of 3 kHz and 100 kHz respectfully with the trace set to max hold using an RMS detector.  $10\text{Log}(4/3) = 1.25$  dB was added to the reference level offset to make the result relative to any 4 kHz band as per the requirement in 25.202(f) The mask as specified in clause 25.202(f) was then applied.

For emissions removed more than 250% of the authorized bandwidth from the assigned frequency, measurements were performed both conducted and radiated as follows:

Conducted: A network analyzer was used to measure the path loss and the worst case was entered as a reference level offset in to the spectrum analyzer. From 9 kHz to 3 GHz, the EUT was connected to a spectrum analyzer via an attenuator and cable. Between 3 GHz and 20 GHz a 3 GHz high pass filter was used. The EUT was configured to maximum power on lowest, middle or top highest channels with normal modulation (from EUT internal source). The spectrum analyzer was configured with an RBW and VBW of 1 MHz and 3 MHz respectfully with the trace set to max hold using an RMS detector.

Radiated; A preliminary profile of the Spurious Radiated Emissions was obtained up to a minimum of the 10th harmonic of the highest internally generated frequency by operating the EUT in a screen room. Measurements of emissions from the EUT were obtained with the

Measurement Antenna in both Horizontal and Vertical Polarizations. The profiling produced a list of the worst-case emissions. Using the information from the preliminary profiling of the EUT, the list of emissions was then confirmed on the Open Area Test Site (OATS). Emission levels were maximized by adjusting the receive antenna height, antenna polarization and turntable azimuth. The EUT was set to transmit on maximum power in turn on lowest, middle and highest channels.

For any emissions found the EUT was then removed from the OATS and replaced with a substitution antenna. Using a signal generator, the level was adjusted to achieve the same value on the measuring instrument as previously recorded with the EUT. The final result was determined by a calculation using the signal generator level, antenna gains and losses, and cable loss. Radiated emissions measurements were performed at a 3m distance unless otherwise stated

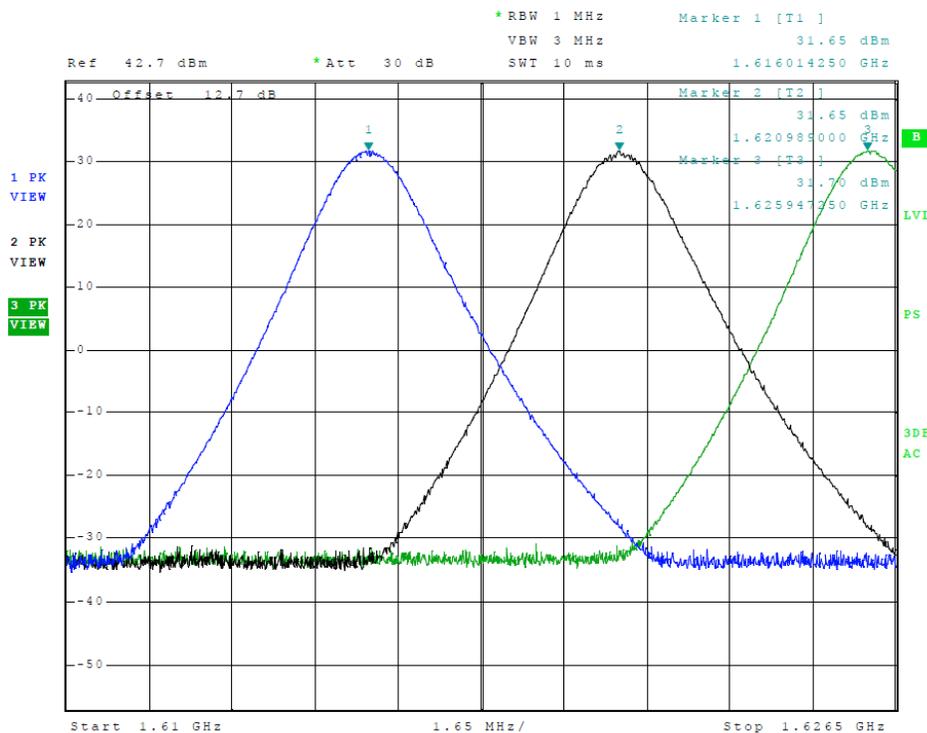
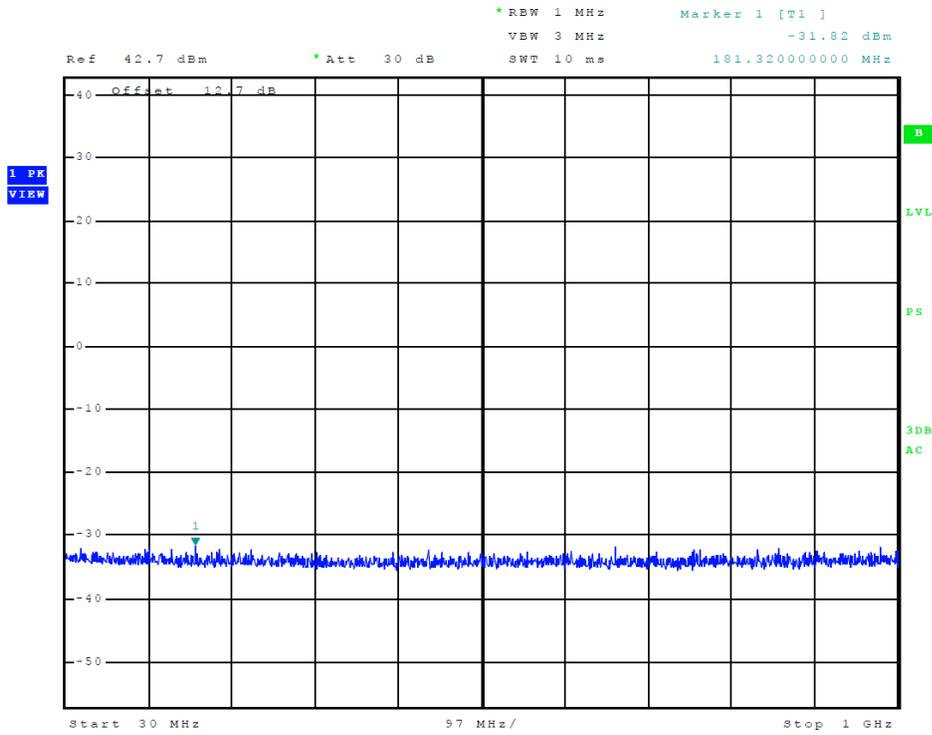
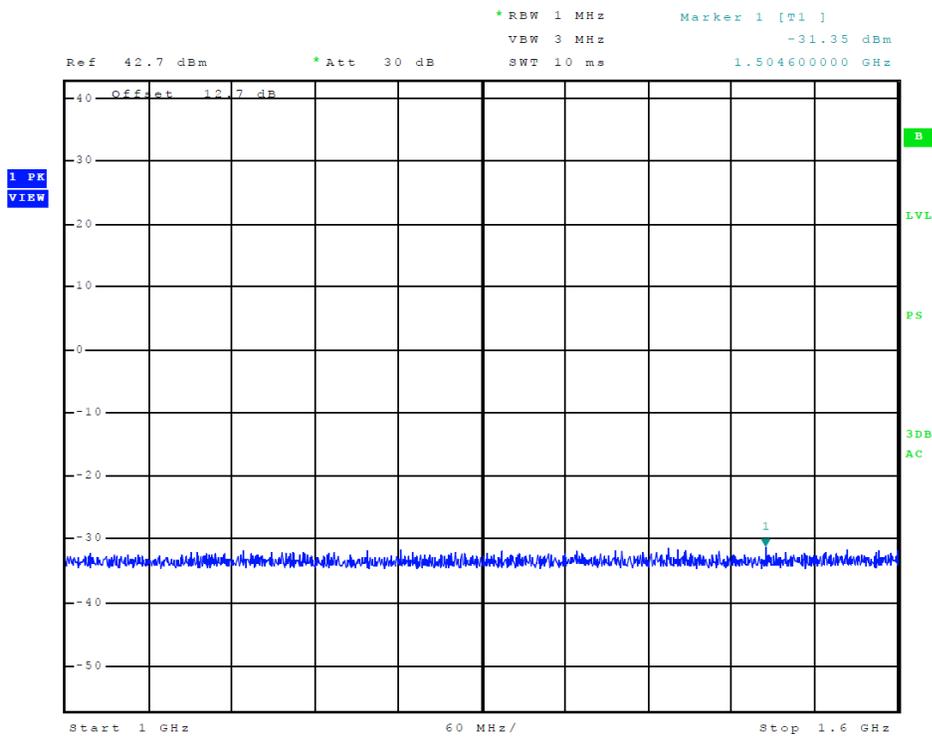


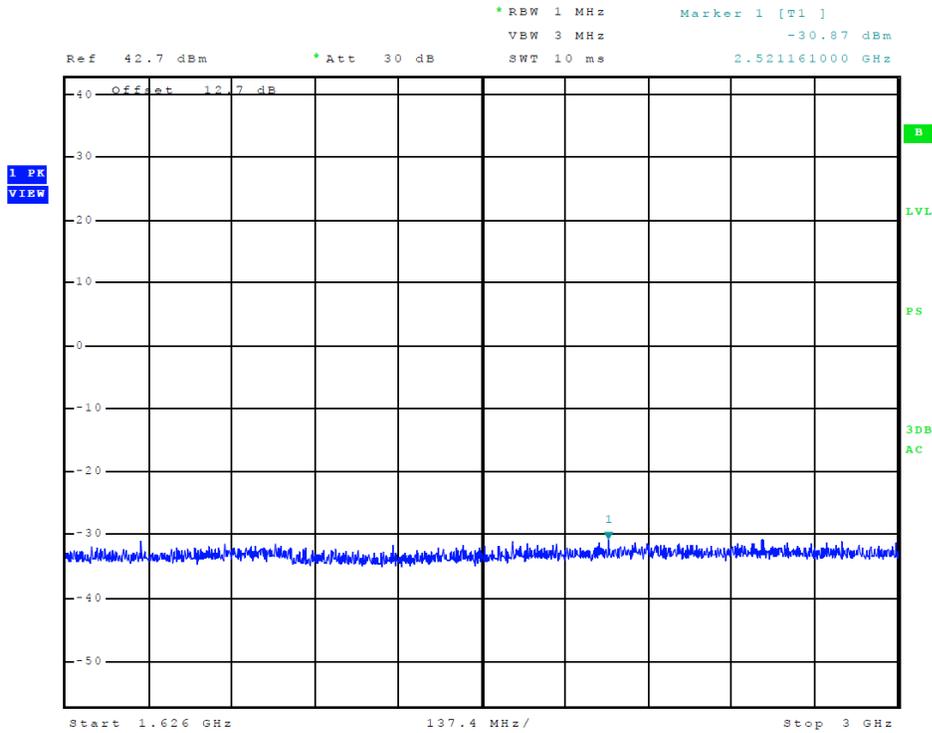
Figure 1 Plot of Operation across Frequency band



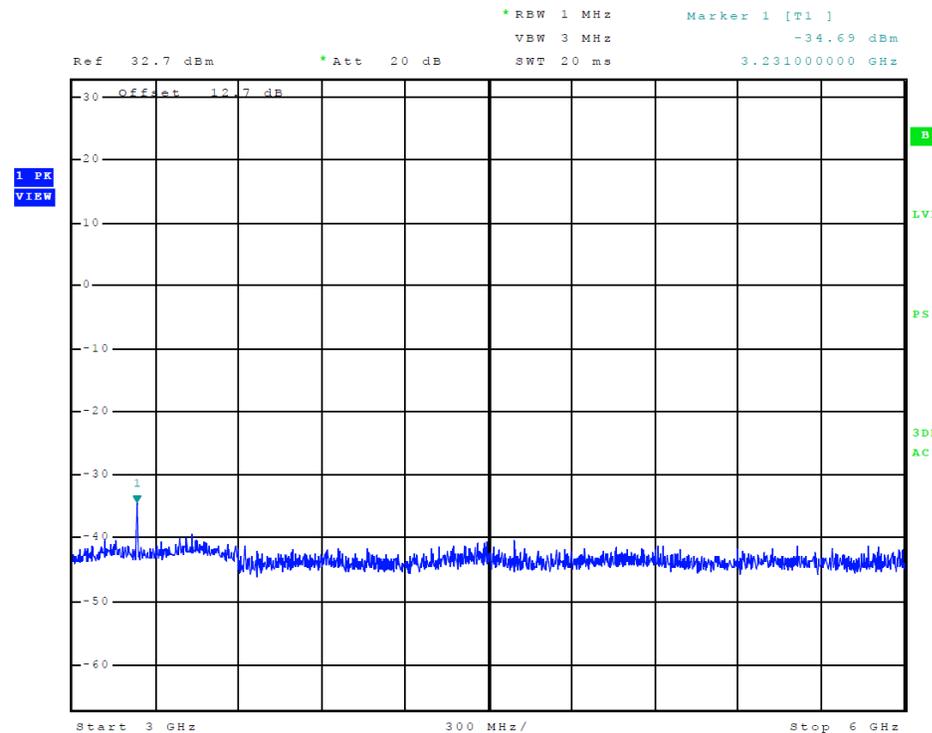
**Figure 2 Plot of emissions across Frequency spectrum**



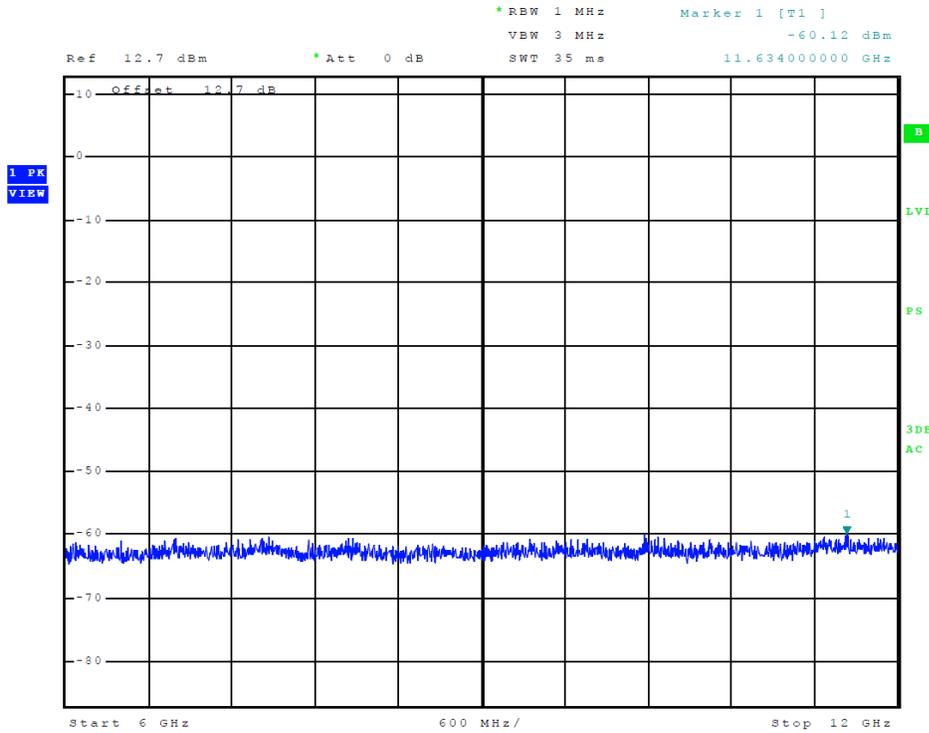
**Figure 3 Plot of emissions across Frequency spectrum**



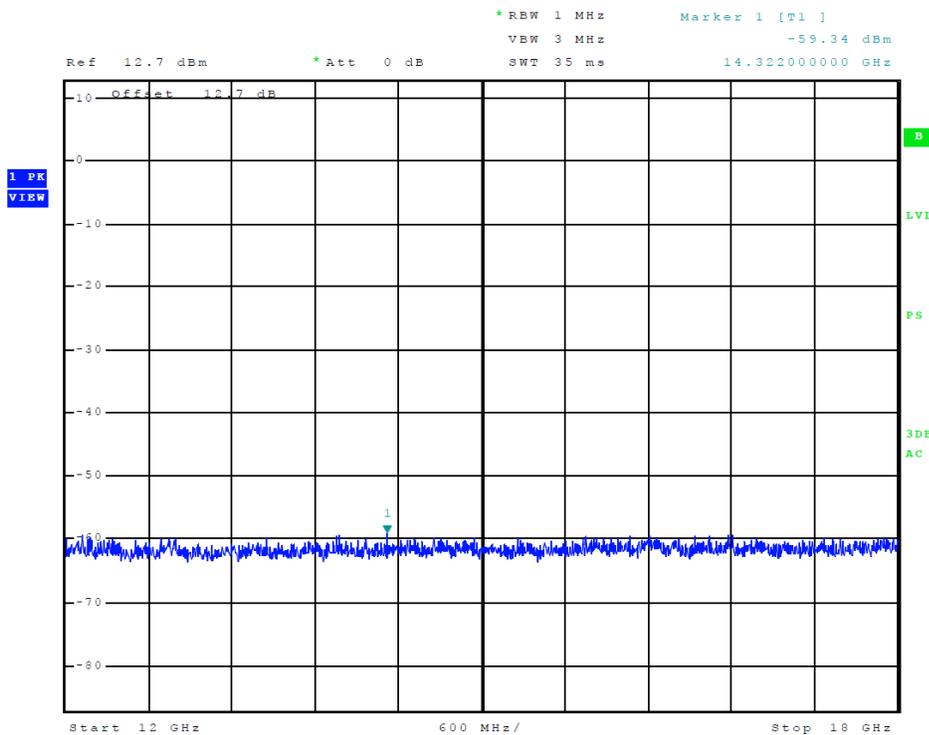
**Figure 4 Plot of emissions across Frequency spectrum**



**Figure 5 Plot of emissions across Frequency spectrum**



**Figure 6 Plot of emissions across Frequency spectrum**



**Figure 7 Plot of emissions across Frequency spectrum**

**Transmitter Emissions Data**

**Table 2 Transmitter Antenna Conducted Emissions Data**

Frequency (MHz)	Harmonic Frequency (MHz)	Output Power (dBm)
1616.0		31.65
	3232.0	-34.69
1621.0		31.65
	3242.0	-38.45
1626.0		31.70
	3254.0	-38.67

The antenna conducted output power and 20-dB bandwidth were measured while operating in available modes for the lowest, middle and highest available channels. The data reported below represents the worst-case operational conditions.

**Summary of Results for Emissions of Intentional Radiator**

The EUT demonstrated antenna port conducted peak output power of 31.70 dBm, 1479.1 milliwatts (1.479 Watts). The EUT demonstrated a minimum out of band radiated emission margin of at least 20 dB below requirements. The EUT demonstrated a minimum antenna port conducted harmonics emission margin of -21.7 dB below the emissions requirements. The EUT tested was observed in compliance with the radiated emissions requirements of 47CFR Part 25 and Industry Canada RSS-170. There were no other significantly measurable emissions observed other than those recorded in this report. Other emissions were present with amplitudes at least 20 dB below the requirements. There were no deviations or exceptions to the requirements.

## Annex

- Annex A Measurement Uncertainty Calculations
- Annex B Rogers Labs Test Equipment List
- Annex C Rogers Qualifications
- Annex D FCC Site Registration Letter
- Annex E Industry Canada Site Registration Letter

### **Annex A Measurement Uncertainty Calculations**

Measurement uncertainty calculations were made for the laboratory. Result of measurement uncertainty calculations are recorded below for AC line conducted and radiated emission measurements.

Measurement Uncertainty	U <sub>(E)</sub>	U <sub>(lab)</sub>
3 Meter Horizontal 30-200 MHz Measurements	2.08	4.16
3 Meter Vertical 30-200 MHz Measurements	2.16	4.33
3 Meter Vertical Measurements 200-1000 MHz	2.99	5.97
10 Meter Horizontal Measurements 30-200 MHz	2.07	4.15
10 Meter Vertical Measurements 30-200 MHz	2.06	4.13
10 Meter Horizontal Measurements 200-1000 MHz	2.32	4.64
10 Meter Vertical Measurements 200-1000 MHz	2.33	4.66
3 Meter Measurements 1-6 GHz	2.57	5.14
3 Meter Measurements 6-18 GHz	2.58	5.16
AC Line Conducted	1.72	3.43

## Annex B Rogers Labs Test Equipment List

List of Test Equipment	Calibration	Date	Due
Spectrum Analyzer: Rohde & Schwarz ESU40		5/16	5/17
Spectrum Analyzer: HP 8562A, HP Adapters: 11518, 11519, and 11520		5/16	5/17
Mixers: 11517A, 11970A, 11970K, 11970U, 11970V, 11970W			
Spectrum Analyzer: HP 8591EM		5/16	5/17
Antenna: EMCO Biconilog Model: 3143		5/16	5/17
Antenna: Sunol Biconilog Model: JB6		10/16	10/17
Antenna: EMCO Log Periodic Model: 3147		10/16	10/17
Antenna: Com Power Model: AH-118		10/16	10/17
Antenna: Com Power Model: AH-840		5/16	5/18
Antenna: Antenna Research Biconical Model: BCD 235		10/16	10/17
Antenna: Com Power Model: AL-130		10/16	10/17
Antenna: EMCO 6509		10/16	10/17
LISN: Compliance Design Model: FCC-LISN-2.Mod.cd, 50 µHy/50 ohm/0.1 µf		10/16	10/17
R.F. Preamp CPPA-102		10/16	10/17
Attenuator: HP Model: HP11509A		10/16	10/17
Attenuator: Mini Circuits Model: CAT-3		10/16	10/17
Attenuator: Mini Circuits Model: CAT-3		10/16	10/17
Cable: Belden RG-58 (L1)		10/16	10/17
Cable: Belden RG-58 (L2)		10/16	10/17
Cable: Belden 8268 (L3)		10/16	10/17
Cable: Time Microwave: 4M-750HF290-750		10/16	10/17
Cable: Time Microwave: 10M-750HF290-750		10/16	10/17
Frequency Counter: Leader LDC825		2/16	2/17
Oscilloscope Scope: Tektronix 2230		2/16	2/17
Wattmeter: Bird 43 with Load Bird 8085		2/16	2/17
Power Supplies: Sorensen SRL 20-25, SRL 40-25, DCR 150, DCR 140		2/16	2/17
R.F. Generators: HP 606A, HP 8614A, HP 8640B		2/16	2/17
R.F. Power Amp 65W Model: 470-A-1010		2/16	2/17
R.F. Power Amp 50W M185- 10-501		2/16	2/17
R.F. Power Amp A.R. Model: 10W 1010M7		2/16	2/17
R.F. Power Amp EIN Model: A301		2/16	2/17
LISN: Compliance Eng. Model 240/20		2/16	2/17
LISN: Fischer Custom Communications Model: FCC-LISN-50-16-2-08		2/16	2/17
Antenna: EMCO Dipole Set 3121C		2/16	2/17
Antenna: C.D. B-101		2/16	2/17
Antenna: Solar 9229-1 & 9230-1		2/16	2/17
Audio Oscillator: H.P. 201CD		2/16	2/17
ESD Test Set 2010i		2/16	2/17
Fast Transient Burst Generator Model: EFT/B-101		2/16	2/17
Field Intensity Meter: EFM-018		2/16	2/17
KEYTEK Ecat Surge Generator		2/16	2/17
Shielded Room 5 M x 3 M x 3.0 M			

## **Annex C Rogers Qualifications**

**Scot D. Rogers, Engineer**

### **Rogers Labs, Inc.**

Mr. Rogers has approximately 17 years' experience in the field of electronics. Engineering experience includes six years in the automated controls industry and remaining years working with the design, development and testing of radio communications and electronic equipment.

#### Positions Held

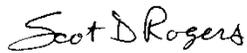
Systems Engineer: A/C Controls Mfg. Co., Inc. 6 Years

Electrical Engineer: Rogers Consulting Labs, Inc. 5 Years

Electrical Engineer: Rogers Labs, Inc. Current

#### Educational Background

- 1) Bachelor of Science Degree in Electrical Engineering from Kansas State University.
- 2) Bachelor of Science Degree in Business Administration Kansas State University.
- 3) Several Specialized Training courses and seminars pertaining to Microprocessors and Software programming.



Scot D. Rogers



NVLAP Lab Code 200087-0

**Annex D FCC Site Registration Letter**

**FEDERAL COMMUNICATIONS COMMISSION**

**Laboratory Division  
7435 Oakland Mills Road  
Columbia, MD 21046**

April 16, 2015

Registration Number: 90910

Rogers Labs, Inc.  
4405 West 259th Terrace  
Louisburg, KS 66053

Attention: Scot Rogers,

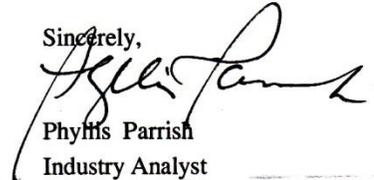
Re: Measurement facility located at Louisburg  
3 & 10 meter site  
Date of Renewal: April 16, 2015

Dear Sir or Madam:

Your request for renewal of the registration of the subject measurement facility has been received. The information submitted has been placed in your file and the registration has been renewed. The name of your organization will remain on the list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that the file must be updated for any changes made to the facility and the registration must be renewed at least every three years.

Measurement facilities that have indicated that they are available to the public to perform measurement services on a fee basis may be found on the FCC website [www.fcc.gov](http://www.fcc.gov) under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

Sincerely,



Phyllis Parrish  
Industry Analyst

Rogers Labs, Inc.  
4405 W. 259th Terrace  
Louisburg, KS 66053  
Phone/Fax: (913) 837-3214  
Revision 1

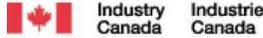
Garmin International, Inc.  
Model: 9603N  
Test #: 161010a  
Test to: 47CFR (Part 25), RSS-170  
File: 9603N Change TstRpt 161010a

FCC ID: IPH9603N  
IC: 1792A-9603N  
SN: M1248Q/M123W5  
Date: January 9, 2017  
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NVLAP Lab Code 200087-0

## Annex E Industry Canada Site Registration Letter



June 08, 2015

OUR FILE: 46405-3041  
Authorization No: 010277847-001

Rogers Labs Inc.  
4405 West 259th Terrace  
Louisburg, KS  
USA  
66053

**Attention:** Mr. Scot D. Rogers

Dear Sir:

The Bureau has received your application for the renewal of 3m OATS. Be advised that the information received was satisfactory to Industry Canada. The following number(s) is now associated to the site(s) for which registration / renewal was sought ( **Site# 3041A-1** ). Please reference the appropriate site number in the body of test reports containing measurements performed on the site. In addition, please keep for your records the following information;

- The company address code associated to the site(s) located at the above address is: **3041A**

Furthermore, to obtain or renew a unique site number, the applicant shall demonstrate that the site has been accredited to ANSI C63.4-2009 or later. A scope of accreditation indicating the accreditation by a recognized accreditation body to ANSI C63.4-2009 or later shall be accepted. Please indicate in a letter the previous assigned site number if applicable and the type of site (example: 3 metre OATS or 3 metre chamber). If the test facility is not accredited to ANSI C63.4-2009 or later, the test facility shall submit test data demonstrating full compliance with the ANSI standard. The Bureau will evaluate the filing to determine if recognition shall be granted.

The frequency for re-validation of the test site and the information that is required to be filed or retained by the testing party shall comply with the requirements established by the accrediting organization. However, in all cases, test site re-validation shall occur on an interval not to exceed **three years**. There is no fee or form associated with an OATS filing. OATS submissions are encouraged to be submitted electronically to the Bureau using the following URL; [http://strategis.ic.gc.ca/epic/internet/inceb-bhst.nsf/en/h\\_tt00052e.html](http://strategis.ic.gc.ca/epic/internet/inceb-bhst.nsf/en/h_tt00052e.html).

If you have any questions, you may contact the Bureau by e-mail at [certification.bureau@ic.gc.ca](mailto:certification.bureau@ic.gc.ca) Please reference our file and submission number above for all correspondence.

Yours sincerely,

Bill Payn  
For: Wireless Laboratory Manager  
Certification and Engineering Bureau  
3701 Carling Ave., Building 94  
P.O. Box 11490, Station AH@  
Ottawa, Ontario K2H 8S2  
Email: [certification.bureau@ic.gc.ca](mailto:certification.bureau@ic.gc.ca)

Rogers Labs, Inc.  
4405 W. 259th Terrace  
Louisburg, KS 66053  
Phone/Fax: (913) 837-3214  
Revision 1

Garmin International, Inc.  
Model: 9603N  
Test #: 161010a  
Test to: 47CFR (Part 25), RSS-170  
File: 9603N Change TstRpt 161010a

FCC ID: IPH9603N  
IC: 1792A-9603N  
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