

# Application Submittal Report For FCC And Industry Canada Grant Of Certification

FOR

Models: 7863 LCD Keypad and 7873 LCD Keypad 0.125 MHz Transmitter

> FCC ID: CCKPC0131 IC: 5251A-PC0131

> > **FOR**

## Digital Monitoring Products, Inc.

2500 North Partnership Boulevard Springfield, MO 65802-6310

Test Report Number: 110914

Certification Date: September 14, 2011

Authorized Signatory: Soot DRogers

Scot D. Rogers

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

Revision 1

Digital Monitoring Products, Inc Models: 7863 LCD Keypad and 7873 LCD Keypad FCC ID#: CCKPC0131 Test #:110914 SN: ENG1 Test to: FCC Parts 2, 15C, 15.209, RSS-210

File: DMP 7863 7873 TstRpt 110914

IC: 5251A-PC0131 Date: October 6, 2011

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## ROGERS LABS, INC.

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

## **Engineering Test Report For** Grant Of Certification Application Submittal

CFR47, Part 15C - Intentional Radiators Paragraphs 15.209 Industry Canada, RSS-210 Low Power Transmitter

## Digital Monitoring Products, Inc

2500 North Partnership Boulevard Springfield, MO 65802-6310 Phone: (913) 397-8200 Mr. Terry Shelton Director of Product Quality Assurance

# Models: 7863 LCD Keypad and 7873 LCD Keypad

Frequency 0.125 MHz FCC ID#: CCKPC0131 IC: 5251A-PC0131

Test Date: September 14, 2011

Certifying Engineer:

Sot DRogers

Scot D. Rogers Rogers Labs, Inc.

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

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#### **Forward**

The following information is submitted for consideration in obtaining Grant of Certification for a license exempt low power intentional radiator operating under CFR47 Paragraph 15C, 15.209 and Industry Canada Spectrum Management and Telecommunications Radio Standard Specification RSS-210, Issue 8.

Name of Applicant: Digital Monitoring Products, Inc

2500 North Partnership Boulevard Springfield, MO 65802-6310

Models: 7863 LCD Keypad and 7873 LCD Keypad

FCC I.D.: CCKPC0131 IC: 5251A-PC0131, Frequency Range: 0.125 MHz

Operating Power: Average emission of 48.9 dBµV/m (3 meter radiated measurement)

## **Applicable Standards & Procedures**

In accordance with the Federal Communications Code of Federal Regulations, dated October 1, 2010, Part 2, Subpart J, Paragraphs 2.907, 2.911, 2.913, 2.925, 2.926, 2.1031 through 2.1057, and applicable parts of paragraph 15, Part 15C Paragraph 15.209 and Industry Canada Spectrum Management and Telecommunications Radio Standard Specification RSS-210, Issue 8 the following information is submitted. Test procedures used are the established Methods of Measurement of Radio-Noise Emissions as described in the ANSI C63.4-2009, RSS-210, and appropriate FCC documents DA00-1407 and DA00-705 and/or TIA/EIA 603-1.

## **Opinion / Interpretation of Results**

Test Performed	Minimum Margin (dB)	Results
Antenna requirement per CFR 47 15.203	N/A	Complies
Restricted Bands Emissions as per CFR 47 15.205 and RSS-210 2.2	-9.3	Complies
AC Line Conducted Emissions as per CFR 47 15.207 and RSS-210 2.5	N/A	Complies
Radiated Emissions as per CFR 47 15.209 and RSS-210 2.5	-6.2	Complies

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## Application for Certification

(1) Manufacturer: Digital Monitoring Products, Inc

2500 North Partnership Boulevard Springfield, MO 65802-6310

(2) Identification: Models: 7863 LCD Keypad and 7873 LCD Keypad

> FCC I.D.: CCKPC0131 IC: 5251A-PC0131

(3) Instruction Book: Refer to Exhibit for Instruction Manual.

**(4)** Description of Circuit Functions: Refer to Operational Description Exhibit

Block Diagram with Frequencies: Refer to Block Diagram Exhibit (5)

(6) Report of Measurements: Report of measurements follows in this Report.

(7) Photographs: Construction, Component Placement, etc.: Refer to Exhibit for photographs of equipment.

- Peripheral equipment or accessories for the equipment. The EUT offers interconnection (8) with alarm panel for service. The equipment operates from direct current power only and offers no provision for connection to utility power systems. The available configuration options were investigated for this and other reports in compliance with required standards with worst-case data presented.
- (9) Transition Provisions of 15.37 are not being requested.
- (10)Equipment is not a scanning receiver and this section is not applicable.
- The equipment does not operate in the 59 64 GHz frequency band and this section is (11)not applicable.
- (12)The equipment is not software defined and this section is not applicable.

#### Statement of Modifications and Deviations

No modifications to the EUT were required for the equipment to demonstrate compliance with CFR47 Part 15C, or RSS-210 Emission Requirements. There were no deviations or modification to the specifications.

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## **Equipment Tested**

Equipment Model, PN Serial Number

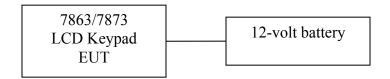
(EUT) 7863 LCD Keypad and 7873 LCD Keypad ENG1

Test results in this report relate only to the items tested.

## **Equipment Function and Testing Procedures**

The EUT is a 0.125 MHz low power radio transmitter used to wirelessly interface with alarm panel installation for control and function. The equipment performs monitoring of RFID tags for use in fire/premises alarm system. The 7863 LCD Keypad and 7873 LCD Keypad is a RFID transceiver offering wireless interface to the central control panel of the alarm system installation. The unit is marketed for use to incorporate a wireless RFID link in an alarm system solution. The design operates from direct current power only and offers no provision for connection to utility power systems. A 12-volt battery was used to power the EUT during testing. 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 and Cable Configurations**



#### AC Line Conducted Emission Test Procedure

The EUT operates solely from direct current replaceable battery power and offers no provision for connection to utility AC power systems. Therefore, no AC line conducted emissions test was required of performed.

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#### Radiated Emission Test Procedure

Testing for the radiated emissions was performed as defined in sections 8.3 and 13.4 of ANSI C63.4-2009. The EUT was arranged in the test configurations as shown above during testing. The test configuration was placed on a rotating 1 x 1.5-meter wooden platform 0.8 meters above the ground plane at a distance of 3 meters from the FSM antenna. EMI energy was maximized by equipment placement, raising and lowering the FSM antenna, changing the antenna polarization, and by rotating the turntable. Each emission was maximized before final data was taken using a spectrum analyzer. Refer to photographs in exhibits for EUT placement used during testing.

#### **Environmental Conditions**

21.6° C Ambient Temperature

**Relative Humidity** 36%

Atmospheric Pressure 1027.0 mb

### **Units of Measurements**

Conducted EMI Data is in dBuV; dB referenced to one microvolt.

Radiated EMI Data is in dBµV/m; dB/m referenced to one microvolt per meter.

#### **Test Site Locations**

The AC power line conducted emissions testing performed in a shielded Conducted EMI

screen room located at Rogers Labs, Inc., 4405 W. 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 W. 259<sup>th</sup> Terrace,

Louisburg, KS.

Site Registration Refer to Annex for FCC Site Registration Letter, # 90910, and Industry

Canada Site Registration Letter, IC3041A-1.

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## **List of Test Equipment**

A Rohde & Schwarz ESU40 and/or Hewlett Packard 8591EM Spectrum Analyzer was used as the measuring device for the emissions testing of frequencies below 1 GHz. A Rohde & 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.

Analyzer Settings					
A	AC Line Conducted Emissions	:			
RBW	AVG. BW	Detector Function			
9 kHz	30 kHz	Peak/Quasi Peak			
Ra	adiated Emissions 26-1000 MI	Hz			
RBW	AVG. BW	Detector Function			
100 kHz	100 kHz	Peak			
120 kHz	300 kHz	Peak/Quasi Peak			
Radiated Emissions Above 1000 MHz					
RBW Video BW Detector Function					
1 MHz	1 MHz	Peak / Average			

<u>Equipment</u>	<u>Manufacturer</u>	Model	Calibration Date	<u>Due</u>
LISN	Comp. Design	FCC-LISN-2-MOD.CD	10/10	10/11
Antenna	ARA	BCD-235-B	10/10	10/11
Antenna	Sunol	JB6	10/10	10/11
Antenna	EMCO	3147	10/10	10/11
Antenna	EMCO	3143	5/11	5/12
Analyzer	HP	8591EM	5/11	5/12
Analyzer	HP	8562A	5/11	5/12
Analyzer	Rohde & Schwarz	ESU40	5/11	5/12

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NVLAP Lab Code 200087-0

**Intentional Radiators Emissions** 

As per CFR47 Part 15, Subpart C, paragraphs 15.203, 15.205, 15.209 and RSS-210 the following

information is submitted.

Antenna Requirements

The unit is produced with a permanently attached transmitter antenna and has no provision for user

service, replacement, or antenna modification. The requirements for unique antenna are fulfilled

and there are no deviations or exceptions to the specification.

Restricted Bands of Operation

Spurious emissions falling in the restricted frequency bands of operation were measured at a

distance of three meters at the OATS. The EUT utilizes frequency, determining circuitry, which

generates harmonics falling in the restricted bands. Emissions were checked at the OATS, using

appropriate antennas or pyramidal horns, amplification stages, and a spectrum analyzer. No other

significant emission was observed which fell into the restricted bands of operation.

Sample Calculation:

RFS  $(dB\mu V/m @ 3m) = FSM (dB\mu V) + Antenna Factor (dB/m) - Amplifier Gain (dB)$ 

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#### Radiated Emissions Data in Restricted Bands

Frequency in MHz	Horizontal Peak (dBµV/m)	Horizontal Quasi-Peak (dBμV/m)	Horizontal Average (dBμV/m)	Vertical Peak (dBµV/m)	Vertical Quasi-Peak (dBμV/m)	Vertical Average (dBμV/m)	Limit @ 3m (dBµV/m)
0.500	40.7	30.6	N/A	N/A	N/A	N/A	53.6
112.2	37.6	32.4	N/A	37.2	31.2	N/A	43.5
119.2	40.5	34.2	N/A	36.8	29.9	N/A	43.5
261.0	34.3	26.3	N/A	26.0	18.7	N/A	46.0
1079.4	47.1	N/A	32.8	48.9	N/A	33.6	54.0

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

Peak and Quasi-Peak amplitude emissions are recorded above for frequency range of 0.5-1000 MHz. Peak and Average amplitude emissions are recorded above for frequency range of 110-490 kHz and above 1000 MHz.

### Summary of Results for Radiated Emissions in Restricted Bands

The EUT demonstrated compliance with requirements of CFR47 15C, and Industry Canada RSS-210 requirements. The EUT demonstrated a minimum margin of -9.3 dB below requirements. Peak and Quasi-peak amplitudes of frequencies below 1000 MHz were measured and average and peak amplitudes of frequencies above 1000 MHz were measured for demonstration of compliance with the regulations. No other significant emissions where found in the restricted frequency bands. Other emissions were present with amplitudes at least 20 dB below the FCC Limits.

#### AC Line Conducted EMI Procedure

The EUT operates solely from direct current replaceable battery power and offers no provision for connection to utility AC power systems. Therefore, no AC line conducted emissions test was required of performed.

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#### Radiated EMI

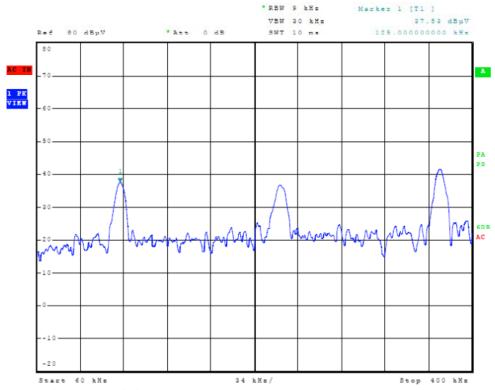
The EUT was arranged in the test configuration emulating worst-case equipment configurations and operated through all various modes. Preliminary testing was performed in a screen room with the EUT positioned 1 meter from the FSM. Radiated emission investigations were performed from 9 kHz to 6,000 MHz manipulating interface cable to produce highest emissions per regulations. Radiated emissions measurements were performed to identify the frequencies, which produced the highest emissions. Plots were made of the worst-case radiated emission frequency spectrum from 0.060 MHz to 6,000 MHz for the preliminary testing. Refer to figures one through seven showing plots of the worst-case radiated emissions spectrum taken in the screen room. Each radiated emission was then re-maximized at the OATS location before final radiated emissions measurements were performed. Final data was taken with the EUT located at the OATS at a distance of 3 meters between the EUT and the receiving antenna. The frequency spectrum from 60 kHz to 6,000 MHz was searched for radiated emissions. Measured emission levels were maximized by EUT placement on the table, rotating the turntable through 360 degrees, varying the antenna height between 1 and 4 meters above the ground plane and changing antenna position between horizontal and vertical polarization. Antennas used were loop, dipole spike, Biconical, Broadband Biconilog, Log Periodic, and Double Ridge or Pyramidal Horns, notch filters and appropriate amplifiers were utilized.

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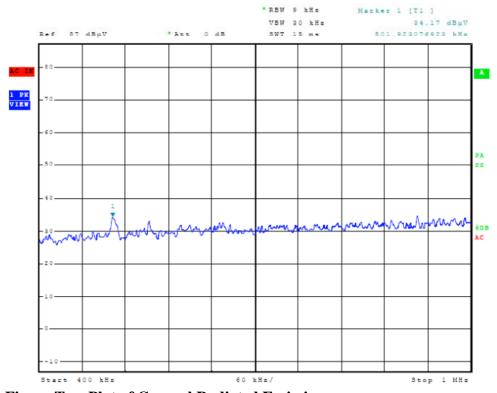
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**Figure One Plot of General Radiated Emissions** 



**Figure Two Plot of General Radiated Emissions** 

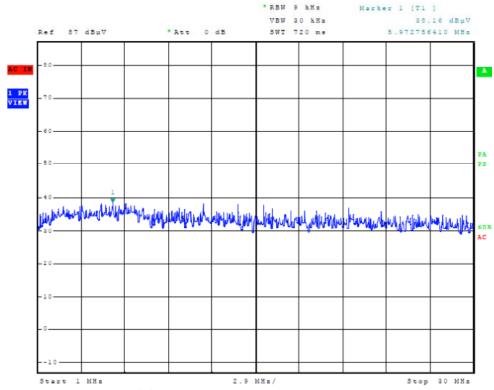
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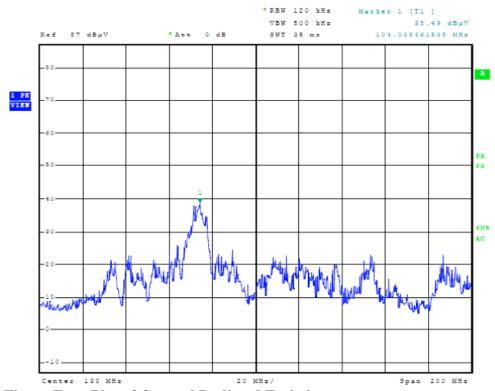
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**Figure Three Plot of General Radiated Emissions** 



**Figure Four Plot of General Radiated Emissions** 

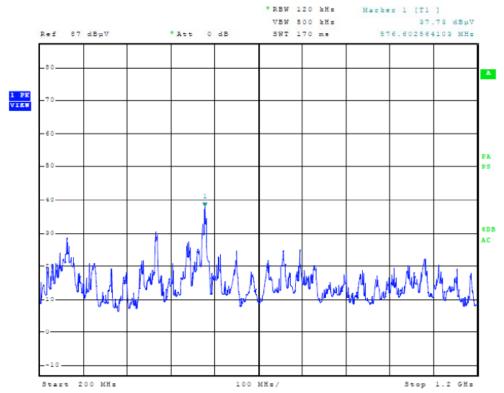
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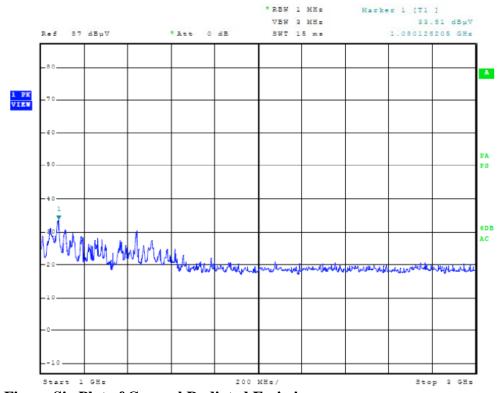
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**Figure Five Plot of General Radiated Emissions** 



**Figure Six Plot of General Radiated Emissions** 

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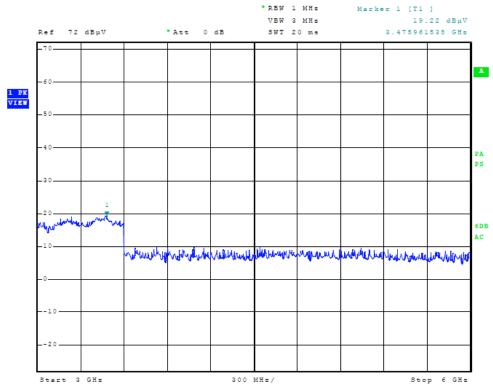


Figure Seven Plot of General Radiated Emissions

#### Radiated Emissions of Intentional Radiator in the Band 0.125 MHz

Radiated emissions measurements were performed at several intermediate distances less than the 300 meter limit specification. The radiated emissions for the EUT were measured at distances of 1, 3, and 10 meters. Data points so obtained were plotted on semi-logarithmic graph, and a bestfit linear extrapolation was extended to the 300 meter mark of the graph. The extrapolated emissions level was then compared to the limit for each frequency. Data for the intentional radiator was taken for frequencies of 0.125 MHz to 30 MHz as follows.

#### For each test position location:

- 1. The EUT was placed on a wooden table top 80 cm above the ground plane. The EUT was set to transmit in a normal mode of operation and field strength data was taken.
- 2. The EUT was rotated, the receive antenna was raised, and lowered in order to maximize the received emission.
- 3. The reading for each frequency of emission was recorded and plotted on semilogarithmic graph for the extrapolated data. Refer to figure eight displaying extrapolated data information.

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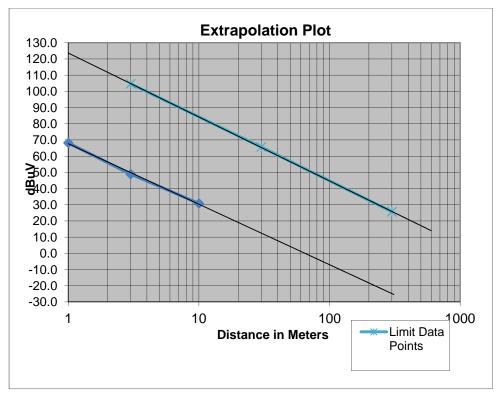


Figure Eight Plot of Extrapolated data Radiated Emissions Data of 125 kHz Intentional Radiator

Frequency in kHz	Measurement Distance (meters)	Peak (dBµV/m)	Average (dBµV/m)	Extrapolated Limit (dBµV/m)
125.0	1	78.6	68.2	124.6
125.0	3	59.3	48.9	104.6
125.0	10	38.6	30.8	84.6

Other emissions present had amplitudes at least 20 dB below the limit. Peak and Average amplitude emissions are recorded above for frequency range 110-490 kHz.

Transmitter Harmonic Radiated Emissions Data

Tansinitter Harmonie Nadiated Emissions Data					
Frequency in (kHz) Peak (dBµV/m @ 3		Average / Q.P. (dBµV/m @ 3m)	Extrapolated Limit @ 3m (dBµV/m)		
0.250	46.0	34.6	99.6		
0.375	40.1	31.3	96.1		
0.500	40.7	30.6	73.6		
0.625	41.3	29.9	71.7		
0.750	42.0	29.1	70.1		
0.875	41.4	28.0	68.8		
1,000	33.9	25.0	67.6		

Other emissions present had amplitudes at least 20 dB below the limit. Peak and Quasi-Peak amplitude emissions are recorded above for frequency range of 0.5-1000 MHz. Peak and Average amplitude emissions are recorded for frequency range 9-90 kHz, 110-490 kHz, and above 1000 MHz. Otherwise, Peak and Quasi-Peak amplitudes are recorded.

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#### General Radiated Emissions Data from EUT

Frequency in MHz	Horizontal Peak (dBµV/m)	Horizontal Quasi-Peak (dBµV/m)	Horizontal Average (dBµV/m)	Vertical Peak (dBµV/m)	Vertical Quasi-Peak (dBμV/m)	Vertical Average (dBµV/m)	Limit @ 3m (dBµV/m)
99.2	36.3	24.6	N/A	36.9	31.1	N/A	43.5
101.4	35.1	27.6	N/A	39.6	33.2	N/A	43.5
101.8	31.4	25.5	N/A	35.8	27.4	N/A	43.5
103.0	35.8	28.7	N/A	41.0	33.6	N/A	43.5
106.9	33.2	25.3	N/A	41.6	37.3	N/A	43.5
112.2	37.6	32.4	N/A	37.2	31.2	N/A	43.5
119.2	40.5	34.2	N/A	36.8	29.9	N/A	43.5
183.0	31.3	27.6	N/A	34.3	22.3	N/A	43.5
261.0	34.3	26.3	N/A	26.0	18.7	N/A	46.0
464.2	35.0	30.7	N/A	34.7	30.4	N/A	46.0
571.5	42.0	39.4	N/A	40.5	37.8	N/A	46.0
576.7	42.2	38.7	N/A	36.7	32.2	N/A	46.0
579.7	40.6	37.4	N/A	40.4	37.4	N/A	46.0
1079.4	47.1	N/A	32.8	48.9	N/A	33.6	54.0

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

Peak and Quasi-Peak amplitude emissions are recorded above for frequency range of 0.5-1000 MHz. Peak and Average amplitude emissions are recorded above for frequency range 60-500 kHz and above 1000 MHz.

## Summary of Results for Radiated Emissions

The EUT demonstrated compliance with requirements of CFR47, and Industry Canada requirements. The EUT demonstrated a minimum margin of -6.2 dB below requirements. Other emissions were present with amplitudes at least 20 dB below the limit.

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#### Annex

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

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## Annex A Measurement Uncertainty Calculations

#### Radiated Emissions Measurement Uncertainty Calculation

Measurement of vertically polarized radiated field strength over the frequency range 30 MHz to 1 GHz on an open area test site at 3m and 10m includes following uncertainty:

	Probability	Uncertainty
Contribution	Distribution	(dB)
Antenna factor calibration	normal(k = 2)	±0.58
Cable loss calibration	normal(k = 2)	±0.2
Receiver specification	rectangular	±1.0
Antenna directivity	rectangular	$\pm 0.1$
Antenna factor variation with height	rectangular	±2.0
Antenna factor frequency interpolation	rectangular	±0.1
Measurement distance variation	rectangular	±0.2
Site Imperfections	rectangular	±1.5
Combined standard uncertainty $u_{c}(y)$ is		

$$U_{c}(y) = \pm \sqrt{\left[\frac{1.0}{2}\right]^{2} + \left[\frac{0.2}{2}\right]^{2} + \left[1.0^{2} + 0.1^{2} + 2.0^{2} + 0.1^{2} + 0.2^{2} + 1.5^{2}\right]}$$

$$U_c(y) = \pm 1.6 \text{ dB}$$

It is probable that  $u_c(y) / s(q_k) > 3$ , where  $s(q_k)$  is estimated standard deviation from a sample of n readings unless the repeatability of the EUT is particularly poor, and a coverage factor of k = 2will ensure that the level of confidence will be approximately 95%, therefore:

$$s(q_k) = \sqrt{\frac{1}{(n-1)} \sum_{k-1}^{n} (q_k - \bar{q})^2}$$

$$U = 2 U_c(y) = 2 x \pm 1.6 dB = \pm 3.2 dB$$

#### Notes:

- 1.1 Uncertainties for the antenna and cable were estimated, based on a normal probability distribution with k = 2.
- 1.2 The receiver uncertainty was obtained from the manufacturer's specification for which a rectangular distribution
- 1.3 The antenna factor uncertainty does not take account of antenna directivity.
- 1.4 The antenna factor varies with height and since the height was not always the same in use as when the antenna was calibrated an additional uncertainty is added.
- 1.5 The uncertainty in the measurement distance is relatively small but has some effect on the received signal strength. The increase in measurement distance as the antenna height is increased is an inevitable consequence of the test method and is therefore not considered a contribution to uncertainty.
- 1.6 Site imperfections are difficult to quantify but may include the following contributions:
  - -Unwanted reflections from adjacent objects.
  - -Ground plane imperfections: reflection coefficient, flatness, and edge effects.
  - -Losses or reflections from "transparent" cabins for the EUT or site coverings.
  - -Earth currents in antenna cable (mainly effect Biconical antennas).

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

Digital Monitoring Products, Inc Models: 7863 LCD Keypad and 7873 LCD Keypad FCC ID#: CCKPC0131 Test #:110914

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The specified limits for the difference between measured site attenuation and the theoretical value (± 4 dB) were not included in total since the measurement of site attenuation includes uncertainty contributions already allowed for in this budget, such as antenna factor.

#### Conducted Measurements Uncertainty Calculation

Measurement of conducted emissions over the frequency range 9 kHz to 30 MHz includes following uncertainty:

Probability	Uncertainty
Distribution	(dB)
rectangular	±1.5
rectangular	±1.5
normal (k=2)	±0.5
	Distribution rectangular rectangular

Combined standard uncertainty  $u_c(y)$  is

$$U_c(y) = \pm \sqrt{\left[\frac{0.5}{2}\right]^2 + \frac{1.5^2 + 1.5^2}{3}}$$

$$U_c(y) = \pm 1.2 \text{ dB}$$

As with radiated field strength uncertainty, it is probable that  $u_c(y) / s(q_k) > 3$  and a coverage factor of k = 2 will suffice, therefore:

$$U = 2 U_c(y) = 2 x \pm 1.2 dB = \pm 2.4 dB$$

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Revision 1

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# Annex B Rogers Labs Test Equipment List List of Test Equipment

Alliex B Rogers Labs Te	est Equipment List	C 111 - (* - D	,
List of Test Equipment		Calibration D	ate
Spectrum Analyzer: Rohde &	Schwarz ESU40		5/11
	2A, HP Adapters: 11518, 11519, and 11520		5/11
1 2	70A, 11970K, 11970U, 11970V, 11970W		-,
Spectrum Analyzer: HP 8591			5/11
Antenna: EMCO Biconilog I			5/11
Antenna: Sunol Biconilog M			10/10
Antenna: EMCO Log Period			10/10
Antenna: Antenna Research			10/10
	Iodel: FCC-LISN-2.Mod.cd, 50 μHy/50 ohm	/0.1 uf	10/10
R.F. Preamp CPPA-102	10α01. 1 00 11151 ( 2.1710α.0α, 30 μ113/30 011111	70.1 μ1	10/10
Attenuator: HP Model: HP11	509A		10/10
Attenuator: Mini Circuits Mo			10/10
Attenuator: Mini Circuits Mo			10/10
Cable: Belden RG-58 (L1)	dei. e/11 5		10/10
Cable: Belden RG-58 (L2)			10/10
Cable: Belden 8268 (L3)			10/10
Cable: Time Microwave: 4M	-750HF290-750		10/10
Cable: Time Microwave: 4M			10/10
Frequency Counter: Leader I			2/11
Oscilloscope Scope: Tektron			2/11
Wattmeter: Bird 43 with Loa			2/11
	RL 20-25, SRL 40-25, DCR 150, DCR 140		2/11
R.F. Generators: HP 606A, H			2/11
R.F. Power Amp 65W Mode	· · · · · · · · · · · · · · · · · · ·		2/11
R.F. Power Amp 50W M185			2/11
R.F. Power Amp A.R. Model			2/11
R.F. Power Amp EIN Model			2/11
LISN: Compliance Eng. Mod			2/11
1 0	nunications Model: FCC-LISN-50-16-2-08		2/11
Antenna: EMCO Dipole Set			2/11
Antenna: C.D. B-101	51210		2/11
Antenna: Solar 9229-1 & 92	30_1		2/11
Antenna: EMCO 6509	30-1		2/11
Audio Oscillator: H.P. 201CI	n		2/11
Peavey Power Amp Model: I			2/11
ELGAR Model: 1751	13 001		2/11
ELGAR Model: TG 704A-3I	<u> </u>		2/11
ESD Test Set 2010i			2/11
Fast Transient Burst Generate	or Model: EET/P 101		2/11
Field Intensity Meter: EFM-0			2/11
KEYTEK Ecat Surge Genera			2/11
Shielded Room 5 M x 3 M x			<i>2</i> / 1 1
Rogers Labs, Inc. 4405 West 259 <sup>th</sup> Terrace	Digital Monitoring Products, Inc	ECC ID#. CCVI	OC0121
Louisburg, KS 66053	Models: 7863 LCD Keypad and 7873 LCD Keypad Test #:110914 SN: ENG1	FCC ID#: CCKF IC: 5251A-PC01	
Phone/Fax: (913) 837-3214	Test to: FCC Parts 2, 15C, 15.209, RSS-210	Date: October 6,	
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NVLAP Lab Code 200087-0

Annex C Rogers Qualifications

Scot D. Rogers, Engineer

Rogers Labs, Inc.

Mr. Rogers has approximately 17 years experience in the field of electronics. Work experience

includes six years working 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.

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## Annex D FCC Test Site Registration Letter

### FEDERAL COMMUNICATIONS COMMISSION

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

May 18, 2010

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: May 18, 2010

#### 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 under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

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

Revision 1

Digital Monitoring Products, Inc

Models: 7863 LCD Keypad and 7873 LCD Keypad FCC ID#: CCKPC0131 Test #:110914 SN: ENG1

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### Annex E Industry Canada Test Site Registration Letter



Industrie Canada

May 26, 2010

OUR FILE: 46405-3041 Submission No: 140719

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

Attention: Mr. Scot D. Rogers

Dear Sir/Madame:

The Bureau has received your application for the renewal of a 3/10m 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 (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;

- Your primary code is: 3041
- The company number 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 C63.4-2003 or later. A scope of accreditation indicating the accreditation by a recognized accreditation body to ANSI C63.4-2003 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 C63.4-2003 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 two 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.

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

Yours sincerely,

Dalwinder Gill

For: Wireless Laboratory Manager Certification and Engineering Bureau 3701 Carling Ave., Building 94 P.O. Box 11490, Station "H" Ottawa, Ontario K2H 8S2 Email: dalwinder.gill@ic.gc.ca Tel. No. (613) 998-8363

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

Fax. No. (613) 990-4752

Revision 1

Digital Monitoring Products, Inc

File: DMP 7863 7873 TstRpt 110914

Models: 7863 LCD Keypad and 7873 LCD Keypad FCC ID#: CCKPC0131 Test #:110914 SN: ENG1 Test to: FCC Parts 2, 15C, 15.209, RSS-210

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