

# **Class 2 Permissive Change**

## **Test Report**

**FOR**

**Model: SC-01300**  
**13.56 MHz RFID Transmitter**  
**FCC ID: UPKSC-01300**

**FOR**

**SCEPTOR INDUSTRIES, INC.**  
**8301 STATE LINE RD., STE 101**  
**KANSAS CITY MO 64114**

**Test Report Number: 070328**



**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**

**FOR  
CFR47, PART 15C - INTENTIONAL RADIATORS  
Paragraph 15.225  
Low Power License Exempt Intentional Radiator**

For

**SCEPTOR INDUSTRIES, INC.**

8301 STATE LINE RD., STE 101  
KANSAS CITY MO 64114  
Mr. Chris Tesluk,

RFID TRANSMITTER  
Model: SC-01300  
Frequency Range 13.56 MHz  
FCC ID#: UPKSC-01300

Test Date: March 28, 2007

Certifying Engineer:

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## FORWARD

The electromagnetic emissions compatibility tests required to demonstrate continued compliance with the FCC CFR47 Dated October 1, 2006, Paragraphs 2.1043, 15, and 15.225 have been investigated on the SC-01300 in compliance with the FCC rules for a Class Two Permissible Change. The results have been reviewed and found to meet all the requirements investigated for this report.

Name of Applicant:  
SCEPTOR INDUSTRIES, INC.  
8301 STATE LINE RD., STE 101  
KANSAS CITY MO 64114

Model: SC-01300

FCC I.D.: UPKSC-01300.

Frequency Range: 13.56 MHz.

## Applicable Standards & Test Procedures

a) In accordance with the Federal Communications Code of Federal Regulations, dated October 1, 2006, Part 2, Subpart J, Paragraph 2.1043, and applicable parts of paragraph 15, and Part 15C Paragraph 15.225, the following information is submitted.

b) Test procedures used are the established Methods of Measurement of Radio-Noise Emissions as described in the ANSI 63.4-2003 Document FCC, documents DA00-1407 and DA00-705 and/or TIA/EIA 603-1.

**2.1033(b) Application for Certification**

- (1) Manufacturer: SCEPTOR INDUSTRIES, INC.  
8301 STATE LINE RD., STE 101  
KANSAS CITY MO 64114
- (2) Identification: Model: SC-01300  
  
FCC I.D.: UPKSC-01300
- (3) Instruction Book:  
  
Refer to original submittal Exhibit for Instruction Manual.
- (4) Description of Circuit Functions:  
  
Refer to original submittal Exhibit of Operational Description.
- (5) Block Diagram with Frequencies:  
  
Refer to original submittal Exhibit of Operational Description.
- (6) Report of Measurements:  
  
Report of measurements follows in this Report.
- (7) Photographs: Construction, Component Placement, etc.:  
  
Refer to original submittal Exhibit for photographs of equipment.
- (8) Peripheral Equipment included interfacing with a computer system.
- (9) Transition Provisions of 15.37 are not being 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.

## Equipment Tested

<u>Equipment</u>	<u>Model</u>	<u>FCC I.D.#</u>
EUT	SC-01300	UPKSC-01300

## Equipment Function and Testing Procedures

The EUT is a 13.56 MHz radio frequency identification (RFID) transmitter used to automate and identify tag information when a tag is placed in close proximity to the reader. The original certification was made with the transmitter exposed from any enclosure case allowing worst-case emissions data to be recorded. Placement of the transmitter inside the enclosures for this report would reduce the emission profile already accepted during certification. The on board antenna structure was disabled and replaced with a loop antenna placed at the sample/tag opening location of the equipment. The transmitter operates from internal DC supply only. The system offers connection to utility power through the manufacturer supplied AC/DC power supply. The AC line conducted emissions were tested using the manufacturer supplied AC power supply.

## Change to Equipment

The change to the equipment, in relation to the original equipment submittal, included an antenna change only. No change in transmitter functionality, design, or use has been made for consideration in this report. Testing was performed to verify the equipment continues to meet all the applicable rules and requirements of the Code of Federal regulation 47. Testing confirmed the changes made do not degrade the characteristics as reported, allowable, or acceptable by the Commission. No change to operating output power or other specifications were affected by the antenna change.

## List of Test Equipment

A Hewlett Packard 8591EM Spectrum Analyzer was used as the measuring device for the emissions testing of frequencies below 1 GHz. A 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.

HP 8591 EM ANALYZER SETTINGS		
CONDUCTED EMISSIONS:		
RBW	AVG. BW	DETECTOR FUNCTION
9 kHz	30 kHz	Peak / Quasi Peak
RADIATED EMISSIONS:		
RBW	AVG. BW	DETECTOR FUNCTION
120 kHz	300 kHz	Peak / Quasi Peak
HP 8562A ANALYZER SETTINGS		
RBW	VIDEO BW	DETECTOR FUNCTION
100 kHz	100 kHz	PEAK
1 MHz	1 MHz	Peak / Average

EQUIPMENT	MFG.	MODEL	CAL. DATE	DUE.
LISN	Comp. Design	FCC-LISN-2-MOD.CD	10/06	10/07
LISN	FCC	FCC-LISN-50-16-2-08	6/06	6/07
LISN	Comp. Design	1762	2/07	2/08
Antenna	ARA	BCD-235-B	10/06	10/07
Antenna	EMCO	3147	10/06	10/07
Antenna	EMCO	3143	5/06	5/07
Analyzer	HP	8591EM	5/06	5/07
Analyzer	HP	8562A	2/07	2/08

## 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.

## Test Site Locations

Conducted EMI	The AC power line conducted emissions tests were performed in a shielded 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 Approval	Refer to Appendix for FCC Site Approval Letter, Reference # 90910.

## Equipment and Cable Configurations

### ***Conducted Emission Test Procedure***

The test setup including the EUT was arranged in a typical equipment configuration. The test configuration was placed on a wooden table located in the screen room during AC line conducted emissions testing. The equipment was positioned 80 cm from the LISN. The power lines of the system were isolated from the power source using a standard CISPR compliant LISN with a 50- $\mu$ Hy choke. EMI was coupled to the spectrum analyzer through a 0.1  $\mu$ F capacitor internal to the LISN. The LISN was positioned on the floor beneath the wooden bench supporting the EUT. The power lines were coiled and draped over the back edge of the table.

### ***Radiated Emission Test Procedure***

The EUT was placed on a rotating 1 x 1.5-meter wooden platform, 0.8 meters above the ground plane at distances of 3 meters and 10 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 data was taken using a spectrum analyzer. Refer to photographs in the exhibits for EUT placement.



## SUBPART B – UNINTENTIONAL RADIATORS

### ***Conducted EMI***

The EUT was arranged in all typical equipment configurations. The equipment was placed on a 1 x 1.5-meter wooden bench 80 cm above the conducting ground plane, floor of a screen room. The bench was positioned 40 cm away from the wall of the screen room. The LISN was positioned on the floor of the screen room 80-cm from the rear of the EUT. Testing for the line-conducted emissions was as follows. The ac adapter for the EUT was connected to the LISN for line-conducted emissions testing. A second LISN was positioned on the floor of the screen room 80-cm from the rear of the supporting equipment of the EUT. All power cords except the EUT were then powered from the second LISN. EMI was coupled to the spectrum analyzer through a 0.1  $\mu$ F capacitor, internal to the LISN. Power line conducted emissions testing was carried out individually for each current carrying conductor of the EUT. The excess length of lead between the system and the LISN receptacle was folded back and forth to form a bundle not exceeding 40 cm in length. The screen room, conducting ground plane, analyzer, and LISN were bonded together to the protective earth ground. Preliminary testing was performed to identify the frequencies of each of these emissions, which had the highest amplitudes. The cables were repositioned to obtain maximum amplitude of measured EMI level. Once the worst-case configuration was identified, plots were made of the EMI from 0.15 MHz to 30 MHz then the data was recorded with maximum conducted emissions levels. Refer to Figures one and two showing plots of the equipments worst-case conducted emissions frequency spectrum taken in the screen room.

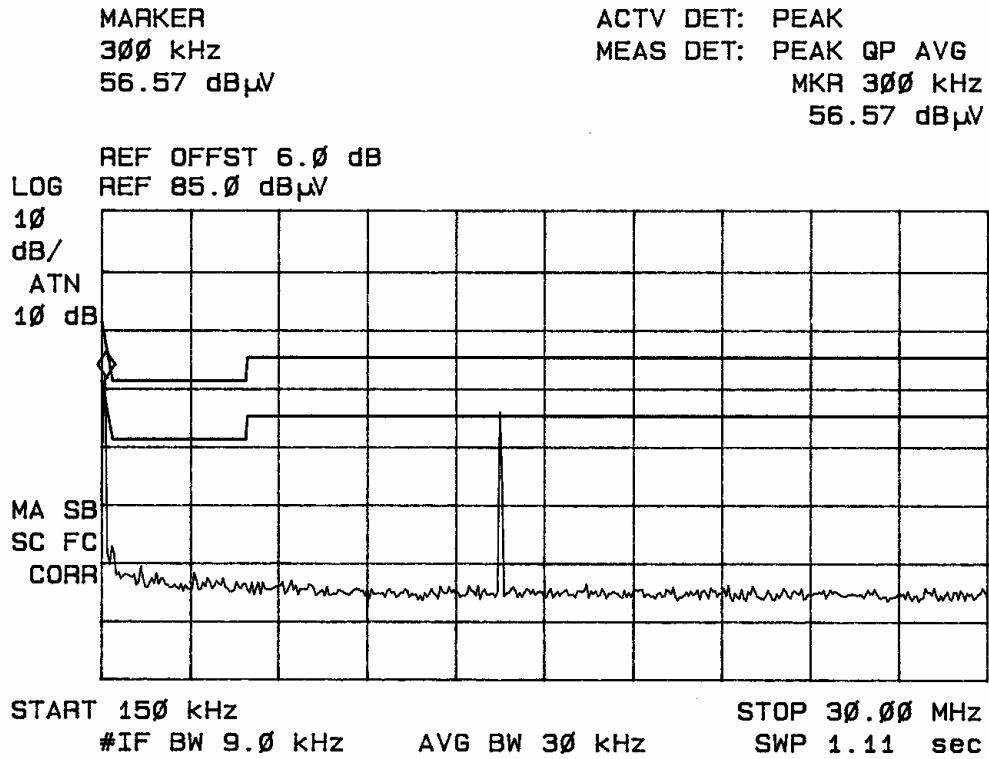


Figure One AC Line Conducted Emissions for Line L1

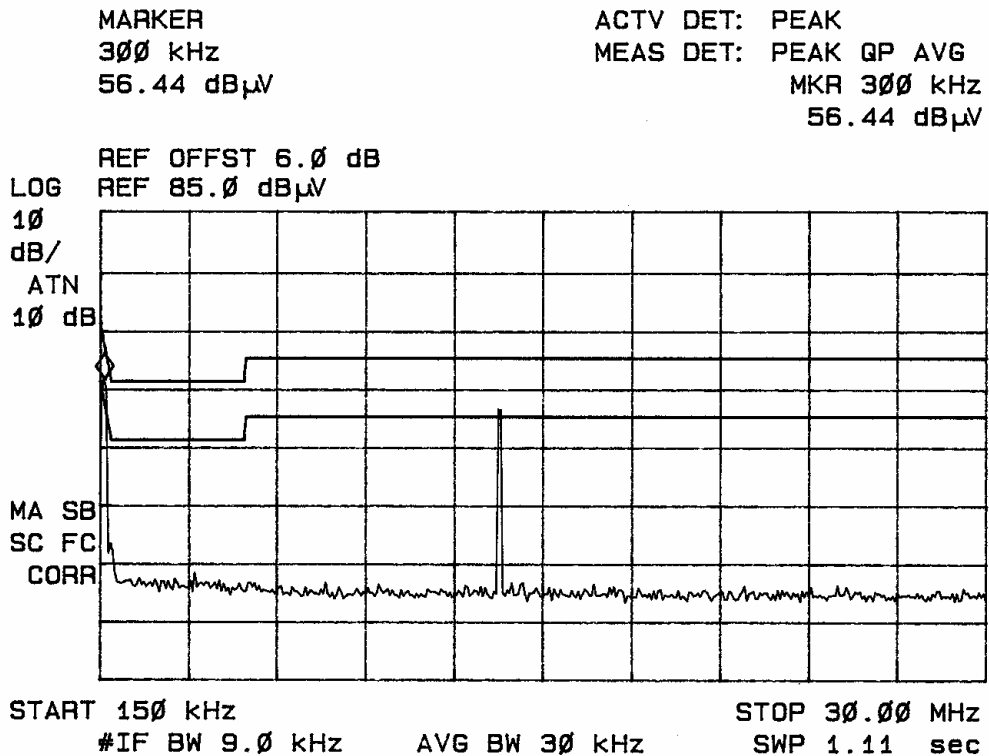


Figure Two AC Line Conducted Emissions for Line L2

***Radiated EMI***

The EUT was arranged in a typical equipment configuration and operated through all of its various modes. Preliminary testing was performed in a screen room with the EUT positioned 1 meter from the FSM. Radiated emissions measurements were performed to identify the frequencies, which produced the highest emissions. Plots were made of the frequency spectrum from 30 MHz to 1,200 MHz for the preliminary testing. Refer to figures three and four for plots of the radiated emissions spectrum taken in a screen room.

The highest 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 and/or 10 meters between the EUT and the receiving antenna. The frequency spectrum from 13 MHz to 2,000 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 Passive Loop from 1 to 30 MHz, Broadband Biconical from 30 to 200 MHz, Biconilog from 30 to 1000 MHz, Log Periodic from 200 MHz to 5 GHz and or, pyramidal horns and mixers from 4 GHz to 25 GHz, notch filters and appropriate amplifiers were utilized.

**Sample Calculation**

$$\begin{aligned}\text{RFS (dB}\mu\text{V/m @ 3m)} &= \text{FSM(dB}\mu\text{V)} + \text{A.F.(dB)} - \text{Gain(dB)} \\ &= 47.9 + 6.9 - 30.0 \\ &= 24.8\end{aligned}$$

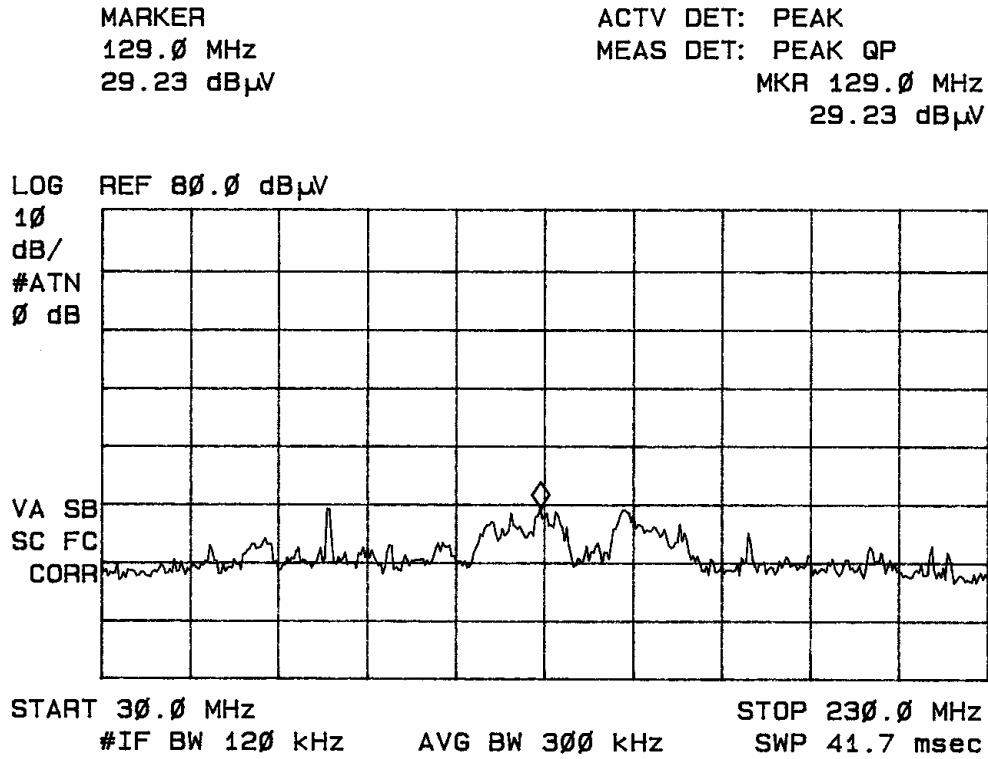


Figure three Radiated Emissions taken at 1 meter in screen room.

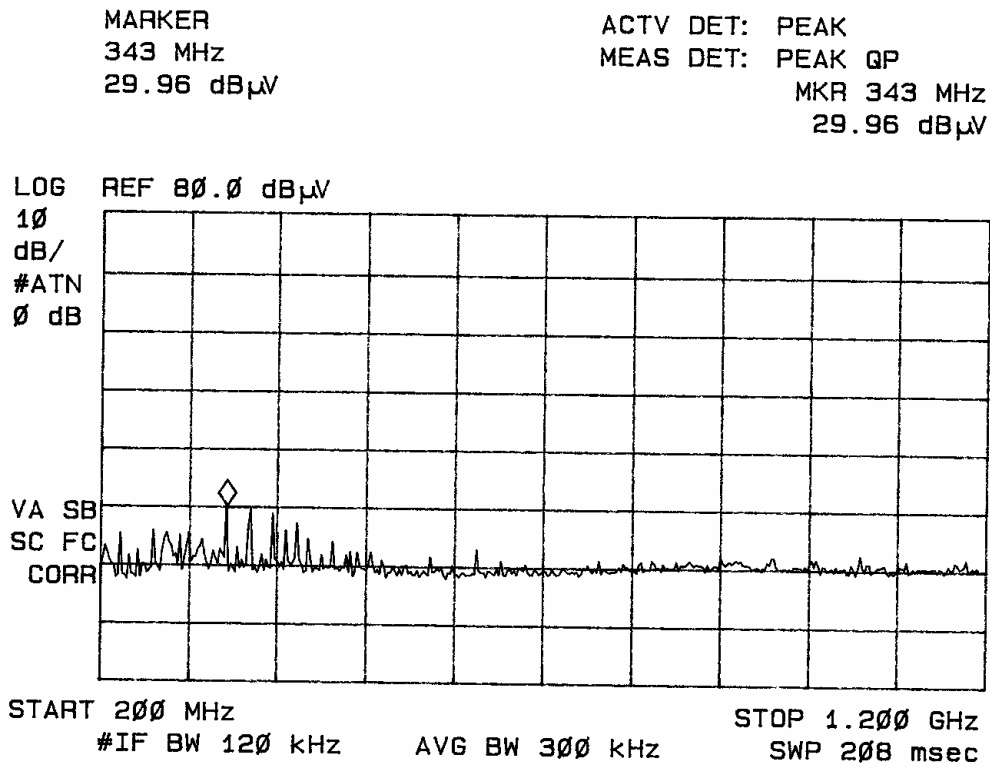


Figure four Radiated Emissions taken at 1 meter in screen room.

### AC Line Conducted Emissions Data CFR47, 15.107

Frequency band (MHz)	L1 Level (dBμV)			L2 Level (dBμV)			CISPR 22 Limit Q.P. / Ave(dBμV)
	Peak	Q.P.	Ave	Peak	Q.P.	Ave	
0.15 - 0.5	56.6	56.4	43.2	55.3	54.6	43.7	66 / 56
0.5 - 5	28.7	21.2	11.6	30.4	26.4	15.1	56 / 46
5 - 10	20.0	15.3	8.9	20.3	16.2	10.3	60 / 50
10 - 15	50.9	49.8	49.7	48.9	48.6	48.5	60 / 50
15 - 20	19.8	14.5	8.3	19.9	14.8	8.5	60 / 50
20 - 25	19.4	14.6	8.3	19.6	14.7	8.4	60 / 50
25 - 30	20.4	14.6	8.3	19.7	14.7	8.3	60 / 50

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

### General Radiated Emissions Data (3-meter measurements)

Frequency in MHz	FSM Horz. (dBμV)	FSM Vert. (dBμV)	A.F. (dB/m)	Amp. Gain (dB)	RFS Horz. @ 3m (dBμV/m)	RFS Vert. @ 3m (dBμV/m)	FCC Class B Limit @ 3m (dBμV/m)
118.3	47.9	54.1	6.9	30	24.8	31.0	43.5
129.2	41.9	48.5	8.0	30	19.9	26.5	43.5
176.2	44.7	47.7	9.1	30	23.8	26.8	43.5
221.2	52.2	51.6	11.2	30	33.4	32.8	46.0
258.1	48.9	48.1	12.7	30	31.6	30.8	46.0
271.2	43.4	46.8	12.7	30	26.1	29.5	46.0
298.4	41.1	45.9	14.3	30	25.4	30.2	46.0
339.0	51.8	48.8	15.1	30	36.9	33.9	46.0
366.1	57.3	56.4	15.3	30	42.6	41.7	46.0
393.2	54.7	55.6	15.9	30	40.6	41.5	46.0
406.8	41.1	45.8	16.5	30	27.6	32.3	46.0
420.4	44.8	49.5	16.9	30	31.7	36.4	46.0

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

**General Radiated Emissions Data (10-meter measurements)**

Frequency in MHz	FSM Horz. (dB $\mu$ V)	FSM Vert. (dB $\mu$ V)	A.F. (dB/m)	Amp. Gain (dB)	RFS Horz. @ 10m (dB $\mu$ V/m)	RFS Vert. @ 10m (dB $\mu$ V/m)	CISPR Class B Limit @ 10m (dB $\mu$ V/m)
118.3	42.3	46.7	6.2	30	18.5	22.9	30
129.2	31.4	38.1	7.4	30	8.8	15.5	30
176.2	33.0	38.0	8.8	30	11.8	16.8	30
221.2	41.4	41.4	10.2	30	21.6	21.6	30
258.1	40.1	35.7	11.9	30	22.0	17.6	37
271.2	35.2	37.9	12.8	30	18.0	20.7	37
298.4	33.2	34.3	13.7	30	16.9	18.0	37
339.0	37.6	40.4	15.0	30	22.6	25.4	37
366.1	48.6	45.4	15.2	30	33.8	30.6	37
393.2	46.0	45.4	16.1	30	32.1	31.5	37
406.8	38.5	38.1	16.7	30	25.2	24.8	37
420.4	39.8	43.7	16.4	30	26.2	30.1	37

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

***Summary of Results for Conducted Emissions***

The conducted emissions for the EUT meet the requirements for CISPR 22 and FCC Part 15B CLASS B Digital Devices. The SC-01300 system had a 9.6 dB minimum margin below the CISPR quasi peak limit, and a 0.3 dB minimum margin below the CISPR average limit. Other emissions were present with recorded data representing the worst-case amplitudes.

***Summary of Results for Radiated Emissions***

The radiated emissions for the EUT meet the requirements for CISPR 22 and FCC Part 15B CLASS B Digital Devices. The EUT had a 3.4 dB minimum margin below the CFR47 3-meter quasi-peak limit. The EUT had a 3.2 dB minimum margin below the CISPR-22 10-meter quasi-peak limit. Other emissions were present with amplitudes at least 20 dB below the limit.

***Statement of Modifications and Deviations***

No modifications to the EUT were required for the unit to meet the CISPR 22 or FCC Part 15B CLASS B emissions standards. There were no deviations or exceptions to the specifications.

**SUBPART C – INTENTIONAL RADIATORS*****15.203 Antenna Requirements***

The unit is produced with either an integral antenna and provides for the attached loop antenna. The unit offers no provision for user service, replacement, or antenna modification. The requirements of 15.203 are fulfilled and there are no deviations or exceptions to the specification.

***15.205 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 Calculations

$$\begin{aligned}
 \text{RFS (dB}\mu\text{V/m @ 3m)} &= \text{FSM(dB}\mu\text{V)} + \text{A.F.(dB)} - \text{Gain(dB)} \\
 &= 42.1 + 6.8 - 30 \\
 &= 18.9
 \end{aligned}$$

**Radiated Emissions Data in Restricted Bands (15.205)**

Frequency in MHz	FSM Horz. (dB $\mu$ V)	FSM Vert. (dB $\mu$ V)	A.F. (dB/m)	Amp. Gain (dB)	RFS Horz. @ 3m (dB $\mu$ V/m)	RFS Vert. @ 3m (dB $\mu$ V/m)	FCC Class B Limit @ 3m (dB $\mu$ V/m)
108.4	42.1	44.1	6.8	30	18.9	20.9	40.0
118.3	47.9	54.1	6.9	30	24.8	31.0	43.5
129.2	41.9	48.5	8.0	30	19.9	26.5	43.5
135.6	37.8	44.7	8.4	30	16.2	23.1	43.5
258.1	48.9	48.1	12.7	30	31.6	30.8	46.0
271.2	43.4	46.8	12.7	30	26.1	29.5	46.0
406.8	41.1	45.8	16.5	30	27.6	32.3	46.0

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

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

The radiated emissions for the EUT meet the requirements for FCC Part 15C Intentional Radiators. The EUT had a 13.7 dB minimum margin below the limits. Both peak and Quasi-peak amplitudes were checked for compliance with the regulations, quasi-peak amplitudes recorded in table above. No other emissions were found in the restricted frequency bands. Other emissions were present with amplitudes at least 20 dB below the FCC Limits.



**15.225 Operation in the Band 13.56 MHz**

The power output was measured on an open field test site at distances of three and ten meters. The EUT was placed on a wooden turntable 0.8 meters above the ground plane and at appropriate distances from the FSM antenna. The peak and quasi-peak amplitude of the carrier and harmonic frequency were measured using a spectrum analyzer.

Emissions radiated outside of the specified bands shall comply with the general radiated emission limits in 15.209. The amplitude of each emission was maximized by varying the FSM antenna height, polarization, and by rotating the turntable. A Loop antenna was used for measuring emissions below 30 MHz. A Biconilog Antenna was used for measuring emissions from 30 to 1000 MHz, Log Periodic Antenna for 200 to 5000 MHz, and/or Pyramidal Horn Antennas from 4 GHz to 25 GHz. Emissions were measured in dBμV/m at stated distances. The power output was measured at the open area test site at a three-meter distance and again at ten meter distance. Data was taken per Paragraph 2.1043 and 15.225.

**Sample Calculation**

$$\begin{aligned}\text{RFS (dB}\mu\text{V/m @ 3m)} &= \text{FSM(dB}\mu\text{V)} + \text{A.F.(dB)} - \text{Gain(dB)} \\ &= 69.3 + 39.9 - 30 \\ &= 79.2\end{aligned}$$

**Radiated Transmitter and Harmonic Emissions Data (3-meter measurement)**

Emission Frequency (MHz)	FSM Horz. (dBμV)	FSM Vert. (dBμV)	Ant. Factor (dB)	Amp Gain (dB)	RFS Horz. @ 3m (dBμV/m)	RFS Vert. @ 3m (dBμV/m)	Limit @ 3m (dBμV/m)
13.56	69.3	69.3	39.9	30	79.2	79.2	103.7
27.1	39.9	45.6	17.3	30	27.2	32.9	40.0
40.7	41.8	48.1	10.3	30	22.1	28.4	40.0
54.2	46.5	43.2	5.2	30	21.7	18.4	40.0
67.8	43.4	51.7	5.7	30	19.1	27.4	40.0
81.4	45.3	45.7	7.4	30	22.7	23.1	40.0
94.9	38.2	36.9	7.4	30	15.6	14.3	40.0
108.4	42.1	44.1	6.8	30	18.9	20.9	40.0
122.0	47.9	48.9	6.9	30	24.8	25.8	40.0
135.6	37.8	44.7	8.4	30	16.2	23.1	40.0

No other harmonic emissions with amplitudes less than 20 dB below the limits were present.

**Radiated Transmitter and Harmonic Emissions Data (10-meter measurement)**

Emission Frequency (MHz)	FSM Horz. (dBμV)	FSM Vert. (dBμV)	Ant. Factor (dB)	Amp Gain (dB)	RFS Horz. @ 10m (dBμV/m)	RFS Vert. @ 10m (dBμV/m)	CISPR Limit @ 10m (dBμV/m)
13.56	59.5	59.5	39.9	30	69.4	69.4	93.2
27.1	33.5	39.8	16.0	30	19.5	25.8	30.0
40.7	35.3	38.9	9.3	30	14.6	18.2	30.0
54.2	36.1	36.6	4.8	30	10.9	11.4	30.0
67.8	35.1	37.2	5.8	30	10.9	13.0	30.0
81.4	38.9	39.7	7.4	30	16.3	17.1	30.0
94.9	33.4	33.9	6.2	30	9.6	10.1	30.0
108.4	32.9	34.9	6.1	30	9.0	11.0	30.0
122.0	40.8	41.7	6.2	30	17.0	17.9	30.0
135.6	31.1	35.9	8.0	30	9.1	13.9	30.0

No other harmonic emissions with amplitudes less than 20 dB below the limits were present.

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

The EUT had the highest emission of 79.2 dBμV/m at 3 meters at the fundamental frequency of operation. The EUT had a worst-case of 7.1 dB margin below the CFR47 limit for the harmonic emissions. The radiated emissions for the EUT meet the requirements for FCC CFR47 Part 15.225 Intentional Radiators. There are no 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 FCC Limits. The specifications of 15.225 were met; there are no deviations or exceptions to the requirements.

**Statement of Modifications and Deviations**

No modifications to the EUT were required for the unit to meet the FCC Part 15C or RSS-210 emissions standards. There were no deviations to the specifications.

## APPENDIX

Model: SC-01300

1. Test Equipment List
2. Rogers Qualifications
3. FCC Site Approval Letter
4. Industry Canada Site Approval Letter

### Test Equipment List

The test equipment used is maintained in calibration and good operating condition. Use of this calibrated equipment ensures measurements are traceable to national standards.

List of Test Equipment	Calibration Date
Oscilloscope Scope: Tektronix 2230	2/07
Wattmeter: Bird 43 with Load Bird 8085	2/07
Power Supplies: Sorensen SRL 20-25, SRL 40-25, DCR 150, DCR 140	2/07
H/V Power Supply: Fluke Model: 408B (SN: 573)	2/07
R.F. Generator: HP 606A	2/07
R.F. Generator: HP 8614A	2/07
R.F. Generator: HP 8640B	2/07
Spectrum Analyzer: HP 8562A,	2/07
Mixers: 11517A, 11970A, 11970K, 11970U, 11970V, 11970W	
HP Adapters: 11518, 11519, 11520	
Spectrum Analyzer: HP 8591EM	5/06
Frequency Counter: Leader LDC825	2/07
Antenna: EMCO Biconilog Model: 3143	5/06
Antenna: EMCO Log Periodic Model: 3147	10/06
Antenna: Antenna Research Biconical Model: BCD 235	10/06
Antenna: EMCO Dipole Set 3121C	2/07
Antenna: C.D. B-101	2/07
Antenna: Solar 9229-1 & 9230-1	2/07
Antenna: EMCO 6509	2/07
Audio Oscillator: H.P. 201CD	2/07
R.F. Power Amp 65W Model: 470-A-1010	2/07
R.F. Power Amp 50W M185- 10-501	2/07
R.F. PreAmp CPPA-102	2/07
LISN 50 $\mu$ Hy/50 ohm/0.1 $\mu$ f	10/06
LISN Compliance Eng. 240/20	2/07
LISN Fischer Custom Communications FCC-LISN-50-16-2-08	2/07
Peavey Power Amp Model: IPS 801	2/07
Power Amp A.R. Model: 10W 1010M7	2/07
Power Amp EIN Model: A301	2/07
ELGAR Model: 1751	2/07
ELGAR Model: TG 704A-3D	2/07
ESD Test Set 2010i	2/07
Fast Transient Burst Generator Model: EFT/B-101	2/07
Current Probe: Singer CP-105	2/07
Current Probe: Solar 9108-1N	2/07
Field Intensity Meter: EFM-018	2/07
KEYTEK Ecat Surge Generator	2/07
Shielded Room 5 M x 3 M x 3.0 M	
2/19/2007	

**QUALIFICATIONS**

Of

***SCOT D. ROGERS, ENGINEER*****ROGERS LABS, INC.**

Mr. Rogers has approximately 17 years experience in the field of electronics. Six years working in the automated controls industry and 6 years working with the design, development and testing of radio communications and electronic equipment.

**POSITIONS HELD**

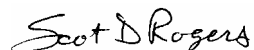
Systems Engineer:           A/C Controls Mfg. Co., Inc.  
6 Years

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  
March 28, 2007

**FEDERAL COMMUNICATIONS COMMISSION**

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

May 16, 2006

Registration Number: 90910

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

Attention: Scot Rogers

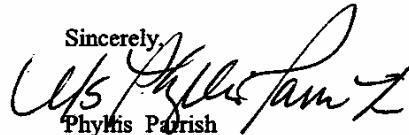
Re: Measurement facility located at Louisburg  
3 & 10 meter site  
Date of Renewal: May 16, 2006

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  
Information Technician



May 23<sup>rd</sup>, 2006

OUR FILE: 46405-3041

Submission No: 115252

Rogers Labs Inc.  
4405 West 259<sup>th</sup> Terrace  
Louisburg, KY  
USA 66053

Dear Sir/Madame:

The Bureau has received your application for the Alternate Test Site or OATS and the filing is satisfactory to Industry Canada.

Please reference to the file number (3041-1) in the body of all test reports containing measurements performed on the site.

In the future, to obtain or renew a unique registration number, you may demonstrate that the site has been accredited to ANSI C63.4-2003 or later.

If the site is not accredited to ANSI C63.4-2003 or later, the test facility shall submit test data demonstrating conformance with the ANSI standard. The Department 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.

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 number above for all correspondence.

Yours sincerely,

A handwritten signature in black ink, appearing to read "R. Corey".

Robert Corey  
Manager Certification  
Certification and Engineering Bureau  
3701 Carling Ave., Building 94  
Ottawa, Ontario K2H 8S2

**Canada**