



L.S. Compliance, Inc.

W66 N220 Commerce Court
Cedarburg, WI 53012
262-375-4400 Fax: 262-375-4248

COMPLIANCE TESTING OF:

LC 1200

PREPARED FOR:

Innovative Control Systems
Attn.: Mr. Mark Kieckhafer
2325 Park Lawn Drive
Waukesha, WI 53186

TEST REPORT NUMBER:

304302 TCB Rev. 1

TEST DATE(S):

July 6th, 2004

All results of this report relate only to the items that were tested. This report is not to be reproduced, except in full, without written approval of L. S. Compliance, Inc.

Table of Contents

Section	Description	Page
Index		2
1	L. S. Compliance in Review	3
2	A2LA Certificate of Accreditation	4
3	A2LA Scope of Accreditation	5
4	Test Certificate	6
5	Product and General Information	7
6	Product Description	7
7	Test Requirements	7
8	Summary of Test Report	8
9	Introduction	8
10	Purpose	8
11	Radiated Emissions Test	9 -16
12	Conducted AC Mains Emissions Test	17-21
Appendix		
A	Test Equipment List	22

1. L. S. Compliance In Review

L. S. Compliance, Inc. is located in Cedarburg, Wisconsin – United States.

We may be contacted by:

Mail: L. S. Compliance, Inc.
W66 N220 Commerce Court
Cedarburg, Wisconsin 53012

Phone: 262-375-4400

Fax: 262-375-4248

E-mail: eng@lsr.com

As an EMC Testing Laboratory, our Accreditation and Assessments are recognized through the following:

A2LA – American Association for Laboratory Accreditation

Accreditation based on ISO/IEC 17025 : 2005

with Electrical (EMC) Scope of Accreditation

A2LA Certificate Number: **1255.01**

U. S. Conformity Assessment Body (CAB) Validation

Validated by the European Commission as a U. S. Conformity Assessment Body operating under the U. S. /EU, Mutual Recognition Agreement (MRA) operating under the European Union EMC Directive 89/336/EEC, Article 10.2.

Date of Validation: **January 16, 2001**

Federal Communications Commission (FCC) – USA

Listing of 3 Meter Semi-Anechoic Chamber based on 47CFR 2.948

FCC Registration Number: **90756**

Listing of 3 and 10 meter OATS based on 47CFR 2.948

FCC Registration Number: **90757**

Industry Canada

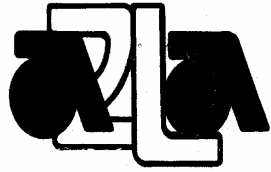
On-file, 3 Meter Semi-Anechoic Chamber based on 47CFR 2.948

File Number: **IC 3088**

On-file 3 and 10 Meter OATS based on RSS-210

File Number: **IC 3088-A**

2. A2LA Certificate of Accreditation



**THE AMERICAN
ASSOCIATION
FOR LABORATORY
ACCREDITATION**

ACCREDITED LABORATORY

A2LA has accredited

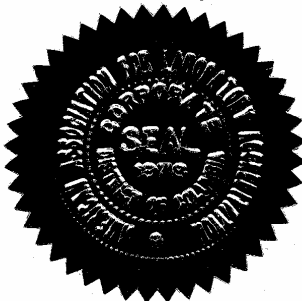
L.S. COMPLIANCE, INC.
Cedarburg, WI

for technical competence in the field of

Electrical Testing

The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC 17025 - 1999 "General Requirements for the Competence of Testing and Calibration Laboratories" and any additional program requirements in the identified field of testing. Testing and calibration laboratories that comply with this International Standard also operate in accordance with ISO 9001 or ISO 9002 (1994).

Presented this 26th day of March 2003.



A handwritten signature in cursive script, reading 'Peter Rhyne'.

President
For the Accreditation Council
Certificate Number 1255.01
Valid to January 31, 2005

For tests or types of tests to which this accreditation applies,
please refer to the laboratory's Electrical Scope of Accreditation.

3. A2LA Scope of Accreditation



American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC 17025-1999

L.S. COMPLIANCE, INC.
W66 N220 Commerce Court
Cedarburg, WI 53012
James Blaha Phone: 262 375 4400

ELECTRICAL (EMC)

Valid to: January 31, 2005

Certificate Number: 1255-01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests:

<u>Test</u>	<u>Test Method(s)</u>
Emissions	
Conducted	
Continuous/Discontinuous	Code of Federal Regulations (CFR) 47, FCC Method Parts 15, 18 using ANSI C63.4; EN: 55011, 55022, 50081-1, 50081-2; CISPR: 11, 12, 14-1, 22; CNS 13438
Radiated	Code of Federal Regulations (CFR) 47, FCC Method Parts 15, 18 using ANSI C63.4; EN: 55011, 55022, 50081-1, 50081-2; CISPR: 11, 12, 14-1, 22; CNS 13438
Current Harmonics	IEC 61000-3-2; EN 61000-3-2
Voltage Fluctuations & Flicker	IEC 61000-3-3; EN 61000-3-3
Immunity	EN: 50082-1, 50082-2 EN 61000-6-2 CISPR: 14-2, 24
Conducted Immunity	
Fast Transients/Burst	IEC 61000-4-4; EN 61000-4-4
Surge	IEC: 61000-4-5; ENV 50142; EN 61000-4-5
RF Fields	IEC: 61000-4-6; ENV 50141; EN 61000-4-6
Voltage Dips/Interruptions	IEC 61000-4-11; EN 61000-4-11

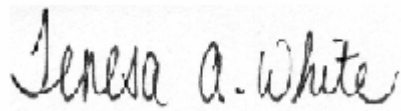
(A2LA Cert. No. 1255-01) 05/13/03

5301 Buckeystown Pike, Suite 350 • Frederick, MD 21704-8373 • Phone: 301-644 3248 • Fax: 301-662 2974

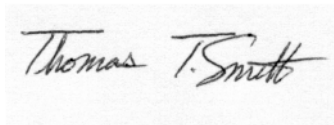


4. **TEST CERTIFICATE**

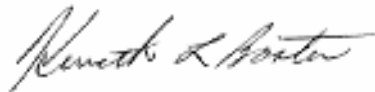
Manufacturer: Innovative Control Systems
Model No.: LC1200
Serial No.: Engineering Unit
Description: Patient Abduction/Egress Prevention System
Operating Voltage: 120 VAC / 60 Hz



Prepared By: _____ August 30, 2004
Teresa A. White, Document Coordinator Date



Tested By: _____ August 30, 2004
Thomas T. Smith, EMC Engineer Date



Approved By: _____ August 30, 2004
Kenneth L. Boston, EMC Lab Manager Date
PE # 31926 Licensed Professional Engineer
Registered in the State of Wisconsin, United States

6. Product and General Information

Manufacturer:	Innovative Control Systems
Model No.:	LC1200
Serial No.:	Engineering Unit
Description:	Patient Abduction/Egress Prevention System
Operating Voltage:	120 VAC / 60 Hz

7. Product Description

The LC System is a patient abduction – egress prevention system that is used in conjunction with a patient worn transponder Tag. The purpose of this system is to provide an alarm when the patient worn tag passes through and beyond the defined egress perimeter.

The LC 1200 contains a transmitter comprising a selectable 129 kHz to 133 kHz oscillator, drive circuit, and a ferrite rod antenna. This transmitter defines a field around a door or other protected area. The size of this field describes the protected zone near a point of egress.

The transponder Tag worn by the monitored patient senses the selected 129 kHz to 133 kHz field. Once the transponder tag senses the field, it then transmits a 418 MHz signal, which is related synchronously with the 129kHz to 133 kHz received signal. The 418 MHz transmitted signal is received by the LC unit and detected by a synchronous Tag detector circuit which trips an alarm relay indicating a Tag was received from within the protected zone.

8. Test Requirements

The EUT was tested for Radiated Emissions to establish compliance with the limits set forth by Title 47 CFR, Parts 15.205, 15.207, and 15.209, for a low power transmitter. The EUT was tested on the highest channel.

9. Summary of Test Report

DECLARATION OF CONFORMITY

The Innovative Control Systems LC 1200 was found to **MEET** the requirements as described within the specification of Title 47 CFR FCC, Parts 15.207, 15.209 and I.C. RSS-210, Section 6 for an intentional radiator.

The enclosed test results pertain to the samples of the test item listed, and only for the tests performed per the data sheets. Any subsequent modification or changes to the test items could invalidate the data contained herein, and could therefore invalidate the findings of this report.

10. Introduction

On July 6th, 2004 a series of Radiated Emission tests were performed on one sample of the Innovative Control Systems LC1200 system, here forth referred to as the "*Equipment Under Test*" or "*EUT*". These tests were performed using the procedures outlined in ANSI C63.4-2001 for unintentional radiators, and in accordance with the limits set forth in FCC Parts 15.205, 15.207 and 15.209 (Industry Canada RSS-210) for a transmitter or digital device. These tests were performed by Thomas T. Smith, EMC Engineer of L.S. Compliance, Inc. and witnessed by Mark Kieckhafer of Innovative Control Systems.

11. Purpose

The above-mentioned tests were performed in order to determine the compliance of the equipment under test (EUT) with limits contained in various provisions of Title 47 CFR, FCC part 15, including: 15.205, 15.207, and 15.209. All Radiated Emission tests were performed to measure the emissions in the frequency bands described in this report, and to determine whether said emissions are below the limits established by the above sections.

These tests were performed in accordance with the procedure described in the American National Standard for methods of measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (ANSI C63.4-2001). Another document used as a reference for the EMI Receiver specification was the Comite International Special Des Perturbations Radioelectriques (CISPR) Number 16-1, 2002.

12. Radiated Emissions Test

Test Setup

The test setup was assembled in accordance with Title 47, CFR FCC Part 15 and ANSI C63.4-2001. The EUT was placed on an 80cm high non-conductive pedestal centered on a flush mounted 2-meter diameter turntable inside the 3 Meter Semi-Anechoic, FCC listed Chamber located at L. S. Compliance, Inc., Cedarburg, Wisconsin. The EUT was operated in continuous transmit mode, using AC power of 120 VAC / 60 Hz. The applicable limits apply at a 3 meter distance, and are found in the Calculation of Radiated Emissions Limits page of this report. The applicable limits, as given, are meant to be measured at 300 and 30 meter separation distances for the fundamental and harmonics. (This standard allows the measurements to be made at 10m with an increase of limits by approximately 40 dB/decade.) The calculations to determine these limits are detailed in the following pages. Please refer to Appendix A for a list of the test equipment. The test sample was operated on the highest channel.

Test Procedure

Both pre-screen and final radiation measurements were performed on the EUT in the 3 Meter FCC listed Semi-Anechoic, Chamber, located at L. S. Compliance, Inc. in Cedarburg, Wisconsin. The frequency range from 0.01 MHz to 1000 MHz was scanned, and levels were manually noted at the various fixed degree settings of azimuth on the turntable and antenna height. The EUT was placed on a non-conductive pedestal in the 3 Meter Semi-Anechoic Chamber, with the antenna mast placed such that the antenna was 3 meters from the test object. An active Loop Antenna was used from 0.01 MHz to 30 MHz, a Biconical Antenna was used to measure emissions from 30 MHz to 300 MHz, a Log Periodic Antenna was used to measure emissions from 300 MHz to 1000 MHz. The maximum radiated emissions were found by raising and lowering the antenna between 1 and 4 meters in height, using both horizontal and vertical antenna polarities.

The EUT was operated in a continuous transmit mode during the test. For those frequencies that have significant emissions, measurements were repeated on an FCC listed, 10 meter Open Area Test Site (OATS). The EUT was scanned for emissions at those particular frequencies from 0.01 MHz to 1000 MHz to establish compliance in accordance with FCC Parts 15.35 and 15.209 (RSS-210). The Loop Antenna was used as the sensing antenna. The EUT was positioned on an 80 cm high pedestal in the center of a flush-mounted turntable. The EUT was rotated, and the Loop Antenna was oriented to obtain a maximum signal level.

Final emission measurements were performed in the 3 Meter Semi-Anechoic Chamber and the 10 meter OATS. The results of the highest emissions seen, along with azimuth and height, are recorded in the Radiated Emissions Data Chart in this report.

Test Equipment Utilized

A list of the test equipment and antennas utilized for the Radiated Emissions test can be found in Appendix A. This list includes calibration information and equipment descriptions. All equipment is calibrated and used according to the operation manuals supplied by the manufacturers. All calibrations of the antennas used were performed at a N.I.S.T. traceable site. In addition, the Connecting Cables were measured for losses using a calibrated Signal Generator and a HP 8546A EMI Receiver. The resulting correction factors and the cable loss factors from these calibrations were entered into the HP 8546A EMI Receiver database. As a result, the data taken from the HP 8546A EMI Receiver accounts for the antenna correction factor as well as cable loss or other corrections, and can therefore be entered into the database as a corrected meter reading. The HP 8546A EMI Receiver was operated with a resolution bandwidth of 9 kHz (30 kHz video bandwidth) for measurements from 9 kHz to 30 MHz and a resolution bandwidth of 120 kHz (300 kHz video bandwidth) for measurements from 30 MHz to 1 GHz. The Peak, Quasi-Peak and Average Detector functions were utilized.

Test Results

The EUT was found to MEET the Radiated Emissions requirements of Title 47 CFR, FCC Part 15.209 for an unintentional radiator (Canada RSS-210). The frequencies with significant signals were recorded and plotted as shown in the Data Charts and Graphs.

CALCULATION OF RADIATED EMISSIONS LIMITS

The following table depicts the general emission limits for an intentional radiator. These limits are obtained from Title 47 CFR, Part 15.209(a) for radiated emission measurements.

Frequency (MHz)	Measurement Distance (m)	Limit (μV/m)	Limit (dBμV/m)	10 m Limit (dBμV/m)
0.009-0.490	300	2400/F (kHz)	20Log (2400/F kHz)	20Log[2400/F (kHz)] +59.1
0.490-1.705	30	24000/F (kHz)	20Log (24000/F kHz)	20Log[24000/F (kHz)] +19.1
1.705-30.0	30	30	29.5	48.6
30-88	3	100	40.0	
88-216	3	150	43.5	
216-960	3	200	46.0	
960-10,000	3	500	54.0	

Sample conversion from field strength μV/m to dBμV/m:

$$\text{dB}\mu\text{V/m} = 20 \log_{10} (3\text{m limit})$$

From 30-88 MHz for example:

$$\text{dB}\mu\text{V/m} = 20 \log_{10} (100)$$

$$40.0 \text{ dB}\mu\text{V/m} = 20 \log_{10} (100)$$

Sample conversion of limits between 300 meters to 10 meters for frequencies below 30 MHz:

Reference 47 CFR 15.31.f.2

$$10\text{m limit (dB}\mu\text{V/m)} = 300\text{m limit (dB}\mu\text{V/m)} + 40 \log_{10} (300\text{m}/10\text{m})$$

From 0.009-0.490 for example:

$$10\text{m limit (dB}\mu\text{V/m)} = 20 \log [2400/\text{F (kHz)}] (\text{dB}\mu\text{V/m}) + 59.1 (\text{dB})$$

A similar conversion was performed for scaling 30 meters to 10 meters.

Frequency (MHz)	Limit (μV/m)	Limit (dBμV/m)	Scaling Factor	10 m Limit (dBμV/m)
0.131	18.32	25.26	59.08	84.3
0.262	9.16	19.24	59.08	78.3
0.393	6.11	15.72	59.08	74.8
0.524	45.8	33.22	19.08	52.3
0.655	36.6	31.28	19.08	50.4
0.786	30.5	29.70	19.08	48.8
0.917	26.17	28.36	19.08	47.4
1.048	22.9	27.20	19.08	46.3
1.179	20.36	26.17	19.08	45.3
1.310	18.32	25.26	19.08	44.3
1.705 – 30.0	30.0	29.54	19.08	48.6

Note: Limits are conservatively rounded to the nearest tenth of a whole number.

Measurement of Electromagnetic Radiated Emissions
Upon a 10 Meter FCC Listed Site for 9 kHz to 30 MHz

(Pre-scans for 9 kHz to 30 MHz, and final scans for 30 MHz to 1000 MHz
performed in the 3 Meter FCC Listed Chamber)

Frequency Range Inspected: 0.01 MHz - 1000 MHz
Test Requirements: Title 47CFR 15.209

Manufacturer:	Innovative Control Systems					
Date(s) of Test:	July 6, 2004					
Test Engineer:	Tom Smith					
Model #:	LC1200					
Serial #:	Engineering Unit					
Voltage:	Patient Abduction/Egress Prevention System					
Distance:	10 meters (3 meters)					
Configuration:	0.80m					
Channels:	Highest					
Detectors Used:		Peak	√	Quasi-Peak	√	Average

Test Equipment Utilized:

EMI Measurement Instrument: HP 8546A

Biconical Antenna: EMCO 3110

EMI Spectrum Analyzer: E4407B

Log Periodic Antenna: EMCO 43146A

Double Ridged Wave Guide Horn Antenna: EMCO 3115

Loop Antenna: EMCO 6502

The following table depicts the level of significant radiated emissions found:

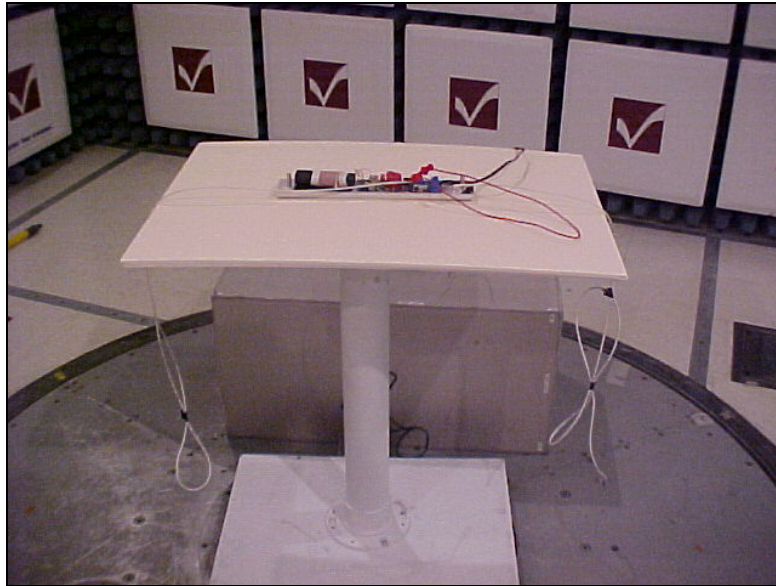
Frequency (kHz)	Measurement Distance (m)	Height (meters)	Azimuth (0° - 360°)	EMI Meter Reading (dBμV/m)			15.209 Limit (dBμV/m) Average	Margin (dB) Average
				Peak	Q-Peak	Average		
133.0	10	1.0	0	74.1	71.1	68.5	84.3	15.8
265.8	10	1.0	254	64.5	50.0	41.4	78.3	36.9
400.0	10	1.0	254	52.0	45.6	38.9	74.8	35.9
532.0	10	1.0	254	47.8	42.9	37.4	*	*

Note: The Peak, Quasi-Peak and Average detectors were all used for all emission measurements.
* Quasi-Peak value used for 532 kHz compliance.

All other emissions seen, other than the noise floor, were greater than 20 dB below the limits,
including the entire frequency range of 30 MHz to 1000 MHz.

Photo(s) Taken During Radiated Emission Testing

Setup for the Radiated Emissions Test



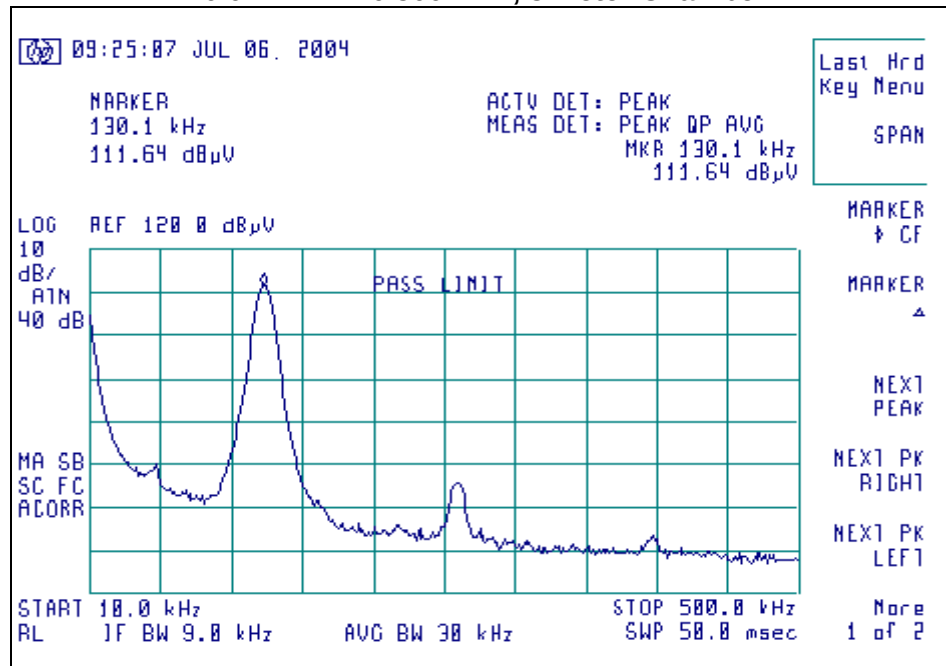
**View of the EUT during Radiated Emission Testing
in the 3 Meter FCC Listed Chamber, 30 MHz – 1000 MHz
& Low Frequency Scans**



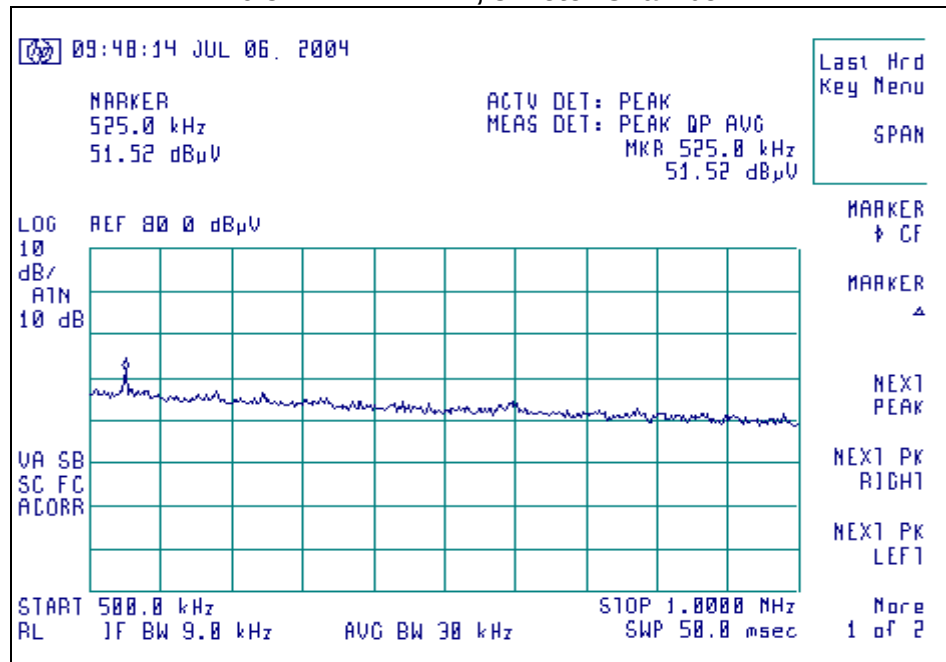
**View of the EUT during Radiated Emission Testing
on the 10 Meter OATS, measurement of Low Frequency Signals**

Graphs made during Radiated Emission Testing

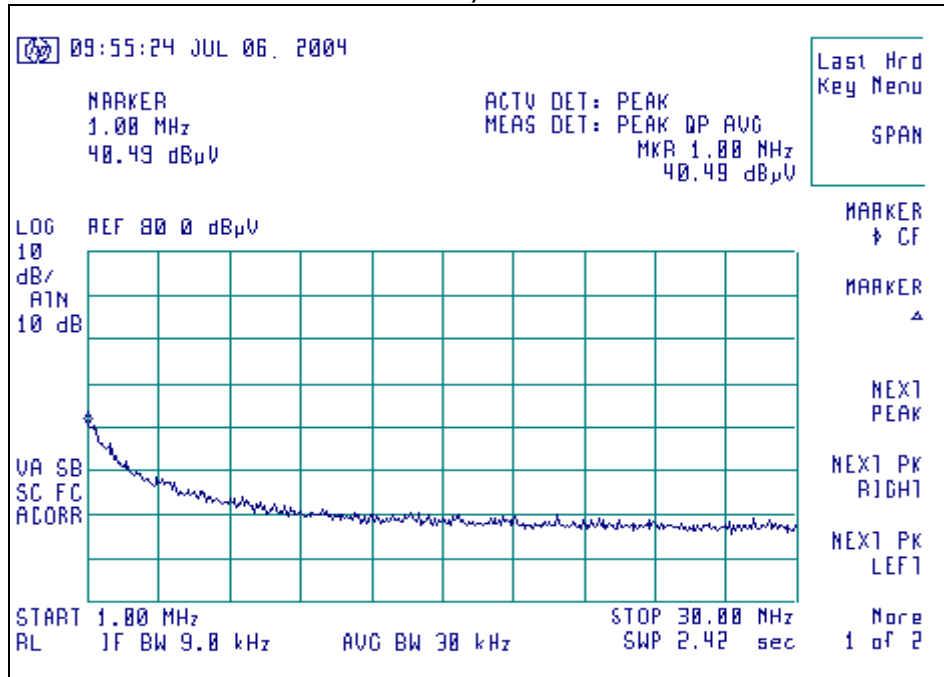
Signature Scan of Radiated Emissions 0.01 MHz - 0.500 MHz, 3 Meter Chamber



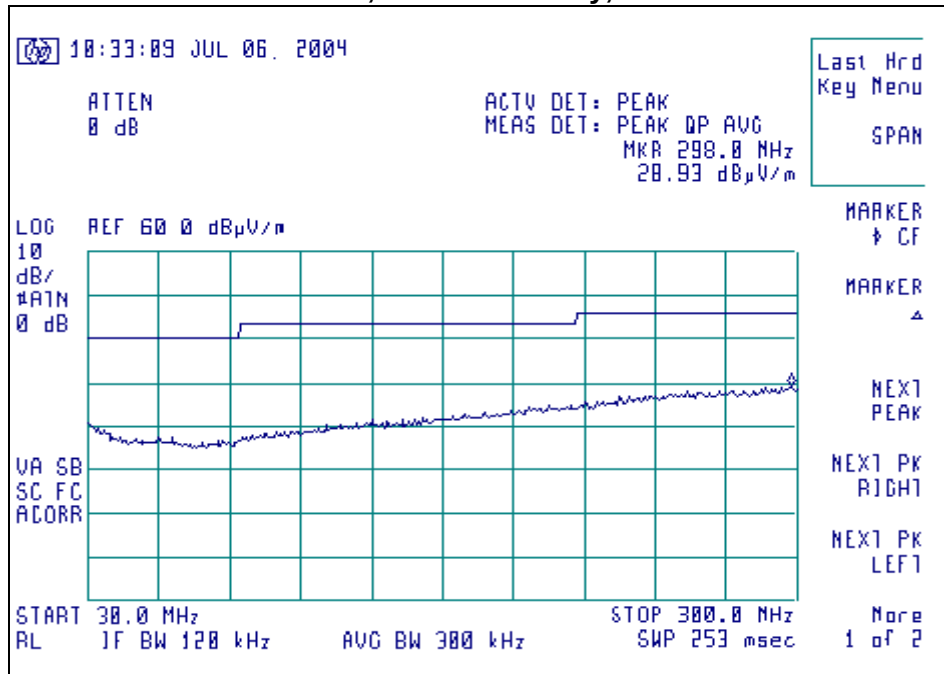
Signature Scan of Radiated Emissions 0.5 MHz - 1 MHz, 3 Meter Chamber



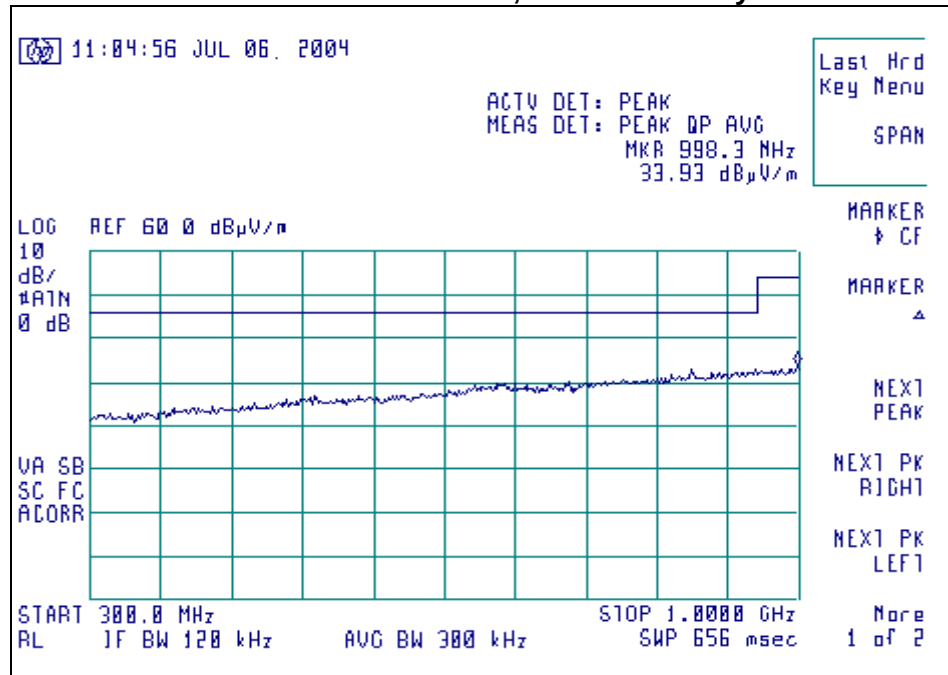
Signature Scan of Radiated Emissions 1 MHz - 30 MHz, 3 Meter Chamber



Signature Scan of Radiated Emissions 30 MHz - 300 MHz, Vertical Polarity, 3 Meter Chamber



Signature Scan of Radiated Emissions 300 MHz - 1000 MHz, Vertical Polarity



13. Conducted Emissions at AC Mains

Test Setup

The Conducted Emissions tests were performed within the Shielded Room, located at L.S. Compliance, Inc. in Cedarburg, Wisconsin. The EUT was placed on a non-conductive wooden table, with a height of 80 cm above the reference ground plane. The EUT's power supply was plugged into a 50 Ω (ohm), 50/250 μ H Line Impedance Stabilization Network (LISN). The test area and setup are in accordance with ANSI C63.4-2001 and with CISPR 22 (EN 55022). The AC power source to the LISN was connected to inside the Shielded Room via an appropriate broadband EMI Filter. Final readings were then taken and recorded.

Test Procedure

After the EUT was setup in the Shielded Room and connected to the LISN, the RF Sampling Port of the LISN was connected to a 10 dB Attenuator-Limiter, and then to the HP 8546A EMI Receiver. The EMCO LISN used has the ability to terminate the unused port with a 50 Ω (ohm) load when switched to either L1 (line) or L2 (neutral). The appropriate frequency range and bandwidths were entered into the EMI Receiver, and measurements were made. The bandwidth used for these measurements is 9 kHz, as specified in CISPR 16-1 (2001), Section 1, Table 1, for Quasi-Peak and Average Detectors in the frequency range of 150 kHz to 30 MHz. Final readings were then taken and recorded. The limits for Conducted Emissions can be found in Title 47 CFR 15.207, and are presented later in this report.

Test Equipment Utilized

A list of the test equipment and accessories utilized for the Conducted Emissions test is found in Appendix A. This list includes calibration information and equipment descriptions. All equipment is calibrated and used according to the operation manuals supplied by the manufacturers. Calibrations of the LISN and Limiter are traceable to an N.I.S.T. site. All cables are calibrated and checked periodically for conformance. The emissions are measured on the HP 8546A EMI Receiver, which has automatic correction for all factors stored in memory and allows direct readings to be taken.

Test Results

The EUT was found to MEET the Conducted AC Mains Emissions requirements of FCC Part 15.207 for an intentional radiator. See the Data Charts and Graphs for more details of the test results.

CALCULATION OF CONDUCTED EMISSIONS LIMITS

The following table depicts the general emission limits for an intentional radiator. These limits are obtained from Title 47 CFR, Part 15.207, for conducted emissions measurements.

Frequency (MHz)	Quasi-Peak Limit (dBμV)	Average Limit (dBμV)
0.15 – 0.5	66 to 56 *	56 to 46 *
0.5 – 5.0	56	46
5.0 - 30	60	50

* Decreases with logarithm of the frequency.

Sample conversion in the 0.15 MHz to 0.5 MHz range:

$$Limit|_F = \left[-19.12 \left(\frac{dB}{Hz} \right) \times \left(\log \frac{freq(MHz)}{0.15} \right) \right] + 66$$

For 200 kHz for example (F=0.20 MHz):

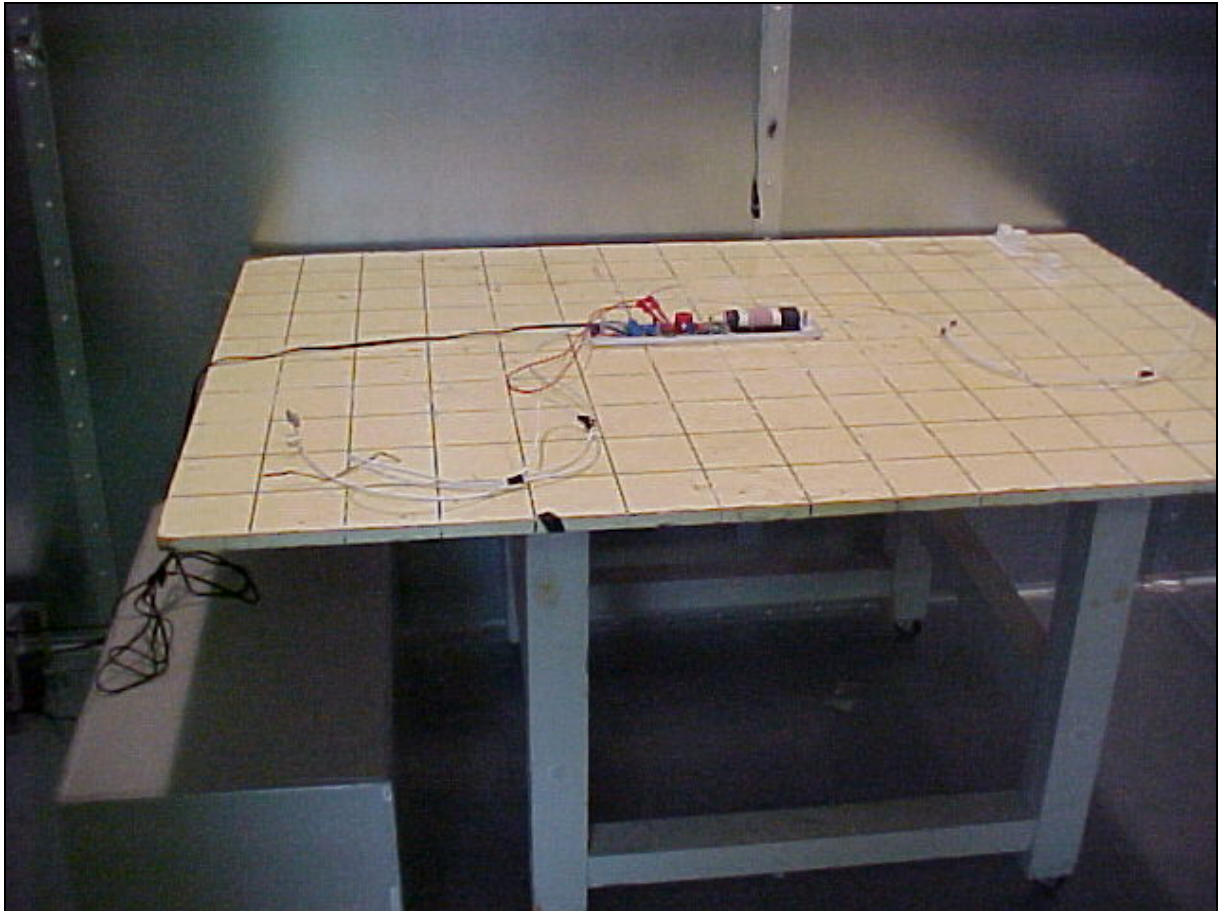
$$Limit|_{F=200kHz} = \left[-19.12 \left(\frac{dB}{Hz} \right) \times \left(\log \frac{0.20}{0.15} \right) \right] + 66$$

$$Limit|_{F=200kHz} = 63.61(dB\mu V)$$

Note: Limits are rounded to the nearest whole number.

Photo(s) Taken During Conducted AC Mains Emission Testing

Setup for the Conducted Emissions Test



**View of the EUT during Conducted Emission Testing
in the Shielded Room**

Conducted AC Mains Emissions Data Chart

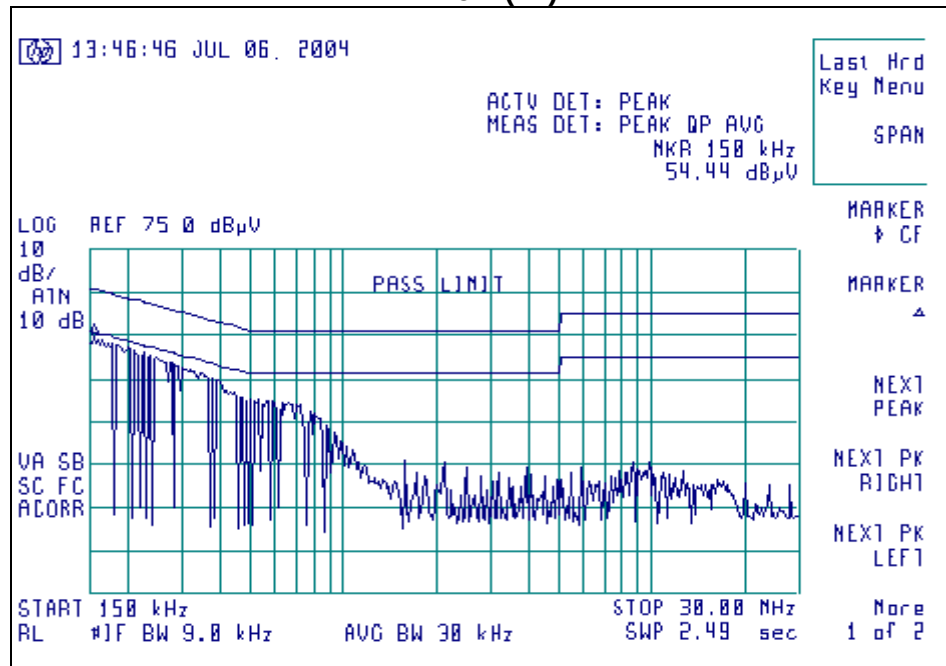
Manufacturer:	Innovative Control Systems
Date(s) of Test:	July 6, 2004
Test Engineer:	Tom Smith
Model #:	LC1200
Serial #:	Engineering Unit
Voltage:	120 VAC / 60 Hz

Test Equipment Used:	Hewlett Packard (HP) 8546A
Specifications:	CISPR 22 (EN 55022)
Detector(s) Used:	Peak, Quasi-Peak and AVG
Configuration:	0.8m height

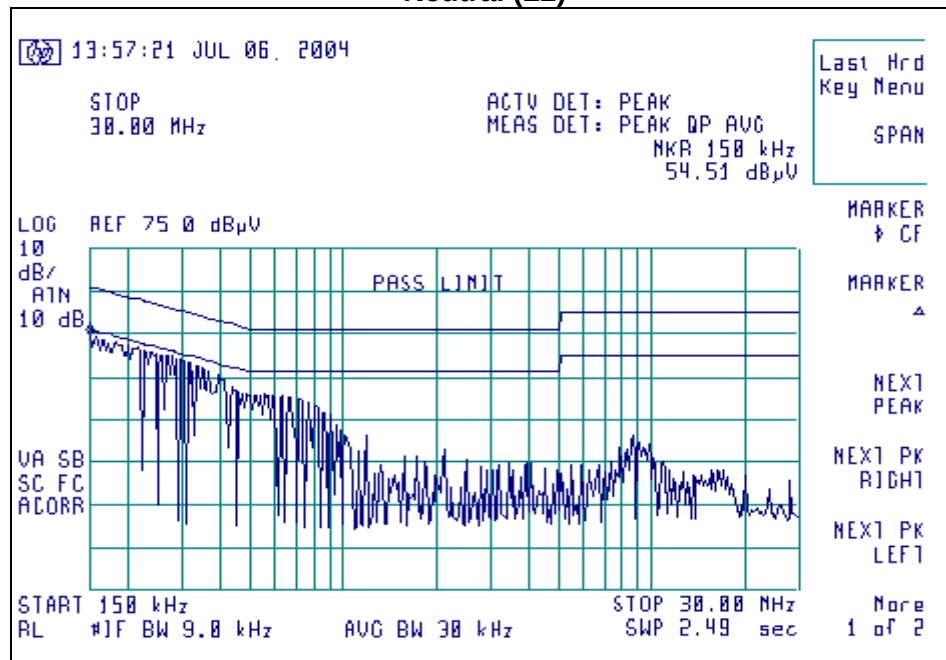
Frequency (MHz)	Line	<u>QUASI-PEAK</u>			<u>AVERAGE</u>		
		Q-Peak Reading (dB μ V/m)	Q-Peak Limit (dB μ V/m)	Quasi- Peak Margin (dB)	Average Reading (dB μ V/m)	Average Limit (dB μ V/m)	Average Margin (dB)
0.1681	L1	47.8	64.9	17.1	21.7	54.9	33.2
0.1907	L1	46.7	64.0	17.3	16.4	54.0	38.0
0.2899	L1	42.4	60.2	17.8	16.5	50.2	33.7
0.3919	L1	38.3	57.8	19.5	10.0	47.8	37.8
0.1692	L2	47.5	64.9	17.4	22.1	54.9	32.8
0.1992	L2	46.1	63.6	17.5	15.7	53.6	37.9
0.2993	L2	42.1	60.2	18.1	12.2	50.2	38.0
0.3996	L2	38.3	57.8	19.5	20.7	47.8	27.1

Graphs made during Conducted AC Mains Emission Testing

Signature Scan of Conducted AC Mains Emissions Line 1 (L1)



Signature Scan of Conducted AC Mains Emissions Neutral (L2)



APPENDIX A

Test Equipment List

Asset #	Manufacturer	Model #	Serial #	Description	Date	Due
AA960006	EMCO	6502	9205-2753	Active Loop Antenna	9/02/03	9/02/04
AA960008	EMCO	3816/2NM	9701-1057	Line Impedance Stabilization Network	9/03/03	9/03/04
AA960031	HP	119474A	3107A01708	Transient Limiter	8/12/03	8/12/04
AA960077	EMCO	93110B	9702-2918	Biconical Antenna	9/02/03	9/02/04
AA960078	EMCO	93146	9701-4855	Log-Periodic Antenna	9/02/03	9/02/04
AA960081	EMCO	3115	6907	Double Ridge Horn Antenna	11/14/03	11/14/04
CC00221C	Agilent	E4407B	US39160256	Spectrum Analyzer	11/04/03	11/04/04
EE960004	EMCO	2090	9607-1164	Device Controller	N/A	N/A
EE960013	HP	8546A	3617A00320	Receiver RF Section	9/04/03	9/04/04
EE960014	HP	85460A	3448A00296	Receiver Pre-Selector	9/04/03	9/04/04
N/A	LSC	Cable	0011	3 Meter ½" Armored Cable	6/19/04	6/19/05
N/A	LSC	Cable	0038	1 Meter RG 214 Cable	6/19/04	6/19/05
N/A	LSC	Cable	0050	10 Meter RG 214 Cable	6/19/04	6/19/05
N/A	Pasternack	Attenuator	N/A	10 dB Attenuator	6/19/04	6/19/05

Note 1 - Equipment calibrated within a traceable system.

Table of Expanded Uncertainty Values, (K=2) for Specified Measurements

Measurement Type	Particular Configuration	Uncertainty Values
Radiated Emissions	3 – Meter chamber, Biconical Antenna	4.24 dB
Radiated Emissions	3-Meter Chamber, Log Periodic Antenna	4.8 dB
Radiated Emissions	10-Meter OATS, Biconical Antenna	4.18 dB
Radiated Emissions	10-Meter OATS, Log Periodic Antenna	3.92 dB
Conducted Emissions	Shielded Room/EMCO LISN	1.60 dB
Radiated Immunity	3 Volts/Meter in 3-Meter Chamber	1.128 Volts/Meter
Conducted Immunity	3 Volts level	1.0 V