Urodynamix Technologies Ltd.

URO-1000 with 13.56MHz RFID Transmitter

Compliance Test Report

per

FCC CFR47 Part 2
FCC CFR47 Part 15/B Class B
FCC CFR 47 Part 15/C 15.225
IC ICES – 003 Class B
IC RSS – 210 Annex 2.6
IC RSS – Gen

FCC ID: VYPP00501

Revision 2.0

April 12, 2008

Approved by		
Checked by	David Johanson, Technical Manager.	12 APR 08 Date

Protocol Data Systems Inc, EMC Lab, Abbotsford BC, Canada
SCC ISO/17025 (CAN-P-4E) Accredited Laboratory No. 612
FCC O.A.T.S. Registration Number 96437
Industry Canada O.A.T.S. Registration Number IC3384

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Section I: Report of Mesurements Testing Information

Testing Details

TESTED BY: Emissions: Parminder Singh, EMC Eng.

TEST CONDITIONS: Temperature and Humidity: 25°C, 68%

TEST VOLTAGE: 120Vac 60Hz

Testing Lab

Protocol Data Systems Inc. Labs
28945 McTavish Rd.
Abbotsford BC, Canada, V4X 2E7

SCC ISO/17025 (CAN-P-4E) Accredited Laboratory No. 612
FCC O.A.T.S. Registration Number 96437
Industry Canada O.A.T.S. Registration Number IC3384

Test Equipment List

EMISSION:

Manufacturer	Model	Equipment Description	Serial No.	Next Cal
HP	85650A	CDN Quasi-Peak Adapter	2043A00240	18/09/09
HP	85662A	Spectrum Analyzer Display	2318A05184	18/09/09
HP	8566B	Spectrum Analyzer RF Section	2241A02102	18/09/09
HP	85685A	RF-Preselector	3107A01222	18/09/09
Thermotron	SM32C	Environmental Temp. Chamber	25-1026	N/A
AH Systems	SAS-200/550-1	Active Monopole Antenna	90002-2489	10/08/08
Solar	8012-50-R-24	LISN	863092	28/09/08
EMCO	CPA-30	Ant Log Periodic 200-1000MHZ	563	05/12/08
EMCO	3110B	Ant Biconical 20-300MHz	9401-1850	05/12/08
Rhientech	Custom	Antenna Mast	N/A	N/A
Protocol EMC	Custom	Turntable	N/A	N/A

Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	±1 x 10-5
Total RF power, conducted	±1,5 dB
RF power density, conducted	±3 dB
Spurious emissions, conducted	±3 dB
All emissions, radiated	±6 dB
Temperature	±1°C
Humidity	±5 %
DC and low frequency voltages	±3 %

Company Under Test

NAME: Urodynamix Technologies Ltd.

ADDRESS: Suite 1351, 409 Granville Street
Vancouver, BC V6C 1T2

CONTACT PERSON: Mr. Greg MacDonald, Firmware Engineer

EMAIL: gmacdonald@urodynamix.com

Equipment Under Test

THE TEST SYSTEM:

EUT 1: URO –1000
Manufacturer: Urodynamix Technologies Ltd.
Part Number: NIRSBM -1000
Serial Number: 0101
Model Number: P00501

Antenna1: Antenna 13.56MHz ½ Wave
Manufacturer: Skyetek Inc.
Part Number: M2-MH

AUX EQUIP 1: Patient Simulator Jig
Manufacturer: Urodynamix Technologies Ltd
Part Number: NIRSBMCA-1000
Serial Number: 002

AUX EQUIP 2: Disposable Sensor Patch with RFID chip
Manufacturer: Urodynamix Technologies Ltd
Part Number: NIRSBMP-1000

AUX EQUIP 3: Laptop Computer
Manufacturer: Dell
Part Number: Inspiron 1501

CABLING:

Ref	Cable	Pins	Connector	Termination	Shielded	Ferrites
1	URO-1000 AC PW	3	3 Prong AC	N/A	No	No
2	UROOC-1000	4	DC Coaxial	N/A	Yes	No
3	USB	4	USB	N/A	Yes	No
4	RS-232	9	DB-9	220 ohm	Yes	No

TEST SETUP: The URO-1000 –NIRS Bladder Monitor was tested for Unintentional, Intentional, radiated and conducted emissions. The RFID provides a Communication Bridge between an URO-1000 and RF tag. The method of wireless communications is a 13.56 MHz wireless RFID and RF ID tag.

For un-intentional emissions tests, the URO-1000 w/RFID was tested in its normal mode of operation, when not in communications with RFID and RF ID tag. The URO-1000 w/RFID was attached to a laptop using the USB.
The URO-1000 was tested at 120Vac 60Hz using the internal power supply, both radiated and conducted emissions were evaluated to ensure compliance. These emissions were evaluated while the unit was in Normal mode and Continuous Transmission modes of operation.

For intentional emissions tests, the URO-1000 w/RFID was tested at the same time as the NIRSBMP-1000 Disposable Sensor Patch with RFID chip. Disposable Sensor Patch performs dual purpose of RFID and as well as holding the bladder monitor to the patient. It is functioning in its full transmitting power mode of operation, when RFID is communication with RF ID tag. The URO-1000 w/RFID was attached to a laptop using the USB connection, URO-1000 w/RFID and tag was programmed to put the EUT into transmitting mode of operations.

Refer to Appendix A for photos about Cables and setup. Refer to Appendix B for the Part15/B and ICES-003 Radiated and Conducted Emission data.

MODIFICATIONS: This unit requires no modifications for it to pass.

CONCLUSION:

Urodynamix Technologies URO-1000 w/RFID and tag complies with the requirements of FCC CFR47 Part 15/B Class B; Part 15.225; IC ICES-003 Class B and IC RSS-210 Appendix A2.6.

The URO-1000 w/RFID's digital circuitry was investigated and complies with FCC CFR47 Part 15.109 requirements. These test results are representive of the provided samples given to us for testing as documented above in the EUT section.

Section II: Report of Measurements to FCC 47CFR Ch. I

General

Tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 15 – Subpart B – Unintentional Radiators Class B and Subpart C - Part 15.225 Intentional Radiators Operating within the band 13.110-14.010 MHz.

Requirements for Intentional Radiators

According to 47CFR Ch. I FCC 15.201 Equipment authorization requirement paragraph
(b) *"Except as otherwise exempted in paragraph (c) of this section and in § 15.23 of this part, all intentional radiators operating under the provisions of this part shall be certificated by the Commission pursuant to the procedures in subpart J of part 2 of this chapter prior to marketing."*

Labeling and Markings

You should refer to the clauses of FCC part 2 Section 2.925 and FCC part 15 Section 15.19 for information to be contained on the label as well as information about the label. Any other statements or Labeling requirements may appear on a separate label at the option of the applicant/grantee.

According to FCC Part 2 Section 2.925(a)." Each equipment covered in an application for equipment authorization shall bear a nameplate or label listing the following:

> (1) FCC Identifier consisting of the two elements in the exact order specified in § 2.926. The FCC Identifier shall be preceded by the term FCC ID in capital letters on a single line, and shall be of a type size large enough to be legible without the aid of magnification. Example: FCC ID XXX123. XXX—Grantee Code and 123—Equipment Product Code "

According to FCC Section 15.19(a)(3), the following statement must be included on the identification label:

> "This equipment complies with FCC Rules, Part 15 Digital Device. Operation is subject to the following two conditions: 1) This device may not cause harmful interference, and 2) This device must accept any interference that may cause any undesired operation"

User Manual Statements

According to FCC Section 15.105 (b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

According to FCC Section 15.21, a caution statement is to be included. It can be similar to:

> "Caution: Changes or modifications to this equipment, not expressly approved by the manufacturer could void the user's authority to operate the equipment. "

According to FCC Section 2.1091, a caution statement about the RADIOFREQUENCY RADIATION EXPOSURE limitation of a separation of at least 20 centimetres is required.

> **§ 2.1091** (b) For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimetres is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. In this context, the term ''fixed location'' means that the device is physically secured at one location and is not able to be easily moved to another location. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20-centimeter separation requirement.

FCC Test Results Summary

Test	Standard	Description	Result
Unintentional Radiated Emissions – Transmit Off	FCC PART 15 Subpart B 15.109 Class B Limits; Subpart C 15.209	The radiated emissions are measured in the 30-1000MHz range	Complies
AC Conducted Mains - Transmit Off	FCC Part 15 Subpart B 15.107	The Conducted Emissions are measured on the phase and Neutral Power lines in the 0.15 - 30.0 MHz range.	Complies
Antenna Requirement	FCC Part 15.203		Complies
Intentional Radiated Emissions - Transmit Mode	FCC Part 15.225(b) to(d)	Radiated Spurious Emissions (Carrier and 2^{ND} to 10^{TH} Harmonic)	Complies
AC Conducted Mains - Transmit Mode	FCC Part S 15 Subpart C 15.207	The Conducted Emissions are measured on the phase and Neutral Power lines in the 0.15 - 30.0 MHz range.	Complies
Intentional Radiated Emissions - Transmit Mode	FCC Part 15.225(e)	Frequency Tolerance of Carrier Signal	Complies

Part 1 - Unintentional Radiated Emission – Transmit Off

DATE: January 02, 2008

TEST STANDARD: FCC 47CFR, Part 15, Subpart B 15.109 – Class B
FCC 47CFR, Part 15, Subpart C 15.209 – Class B

TEST VOLTAGE: 120Vac, 60Hz

TEST SETUP: The URO -1000 was tested in its normal mode of operation, when RFID is not in the transmitting mode with RF ID tag. URO-1000 was attached to a Dell laptop using a USB Port.

MINIMUM STANDARD: Class B Limits:

Frequency Band	Field Strength	
MHz	µV/m	dBµV/m at 3m
0.009 – 0.490	2400/F(kHz) uV/m @ 300 meters	
0.490 – 1.705	2400/F(kHz) uV/m @ 30 meters	
1.705 – 30.0	30 uV/m @ 30 meters	30.0
30 - 88	100 at 3m	40.0
88 – 216	150 at 3m	43.5
216 – 960	200 at 3m	46.0
960 - above	500 at 3m	54.0

METHOD OF MEASUREMENT: **ANSI Standard C63.4-2003 10.1.7 Measurement Procedures were followed**. The equipment was set up in a 3-meter open field test site. Measurements were performed in vertical and horizontal plane in the frequency range of 9kHz to 1000 MHz. The EUT was placed on a wooden table at 0.80 m of height and in the center of the table. It was positioned in the worst configuration from the three orthogonal positions. Tests were performed using the manufacturer's specified normal cabling configuration, with all cables over 1 meter in length bundled at 1 meter and retained from the floor. A typical application was tested.

Emissions in both horizontal and vertical polarization's were measured while rotating the EUT on a turntable to maximize the emissions signal strength. When an emission frequency from the EUT was found, the table was rotated till the frequency was maximized, at this point antenna was raised and lowered from 1m to 4m.

DEVICE DESCRIPTIONS: As described in the Equipment Under Test Section, above.

CABLE DESCRIPTIONS: cables as specified in **Section 1 - CABLING**

MEASUREMENT DATA: See Appendix B for corresponding frequencies tables and plots

PERFORMANCE: Complies.

Part 2 - AC Conducted Mains – Transmit Off

DATE: January 2, 2008

TEST STANDARD: FCC 47CFR, Part 15, Subpart B 15.107– Class B

TEST VOLTAGE: 120Vac, 60Hz

TEST SETUP: The EUT was connected to the conducted emissions LISN apparatus. The equipment was operated and tested at 120Vac 60Hz. URO-1000 was tested with internal power supply to ensure compliance. The URO-1000 was tested in its normal mode of operation, when RFID not in communications with a RF ID tag.

MINIMUM STANDARD: Class B Limit:

Frequency (MHz)	**Conducted Limit** (dBμV)	
	Quasi-Peak	Average
0.15 - 0.50	66-56	56-46
0.50 - 5	56	46
5 - 30	60	50

METHOD OF MEASUREMENT: **ANSI Standard C63.4 - 2003 using a 50uH LISN Measurement Procedures were followed**. Measurements were made using a spectrum analyzer with 10kHz RBW, Peak detector. Any emissions that are close to the limit are measured using a test receiver with 10kHz bandwidth, CISPR Quasi-Peak detector as well as an average detector meter.

DEVICE DESCRIPTIONS: As described in the Equipment Under Test Section, above.

CABLE DESCRIPTIONS: cables as specified in **Section 1 - CABLING**

MEASUREMENT DATA: See Appendix B for corresponding frequencies tables and plots

PERFORMANCE: Complies.

Part 3 - Antenna Requirement - 15.203

APPLICABLE REGULATIONS 2.1:

15.203 - An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators, which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

RESULT 2.2: The antenna provided with this EUT is a permanently soldered to the PCB and complies with FCC part 15.203 requirements.

Part 4 - Intentional Radiated Emissions –Transmit Mode

DATE: January 04, 2008

TEST STANDARD: FCC 47CFR, Part 15, Subpart C 15.225 (a) to (d)
FCC 47CFR, Part 15, Subpart C 15.209 – Class B

TEST VOLTAGE: 120Vac, 60Hz

TEST SETUP: The URO -1000 was tested in its transmitting mode of operations, when RFID is in the communicating with RF ID tag. URO -1000 was attached to a Dell laptop using a USB Port.

MINIMUM STANDARD:

Frequency Band	Field Strength	
MHz	µV/m	dBµV/m
0.009 – 0.490	2400/F(kHz) uV/m @ 300 m	
0.490 – 1.705	2400/F(kHz) uV/m @ 30 m	
1.705 – 13.553	30 uV/m @ 30 m	29.5
13.553-13.567	15,848 uV/m @ 30 m	84.0
13.410-13.553 13.567-13.710	334 uV/m @ 30 m	50.5
13.110-13.410 13.710-14.010	106 uV/m @ 30 m	40.5
14.010- 30	30 uV/m @ 3 m	29.5
30-88	100 uV/m @ 3 m	40
88-216	150 uV/m @ 3 m	44
216-960	200 uV/m @ 3 m	46
960- above	500 uV/m @ 3 m	54

METHOD OF MEASUREMENT: **ANSI Standard C63.4-2003 10.1.7 Measurement Procedures were followed.** The EUT was placed on a wooden table at 0.80 m of height and in the center of the table. It was positioned in the worst configuration from the three orthogonal positions. The equipment was set up in a 3-meter open field test site. Measurements were performed in vertical and horizontal antenna planes for 30 – 2000MHz, but due to high ambient noise and low transmitter power, measurements for frequency range 9kHz to 30MHz were performed at 1meter using an active monopole antenna with the counter poise attached to earth ground and the ground plane. The results of the 1 m measurements were then corrected to represent the equivalent field strength at the required distance using the formula(s):

= 20 Log (measurement distance / required distance)

Limit line was converted to dBuV using formula 20 Log (XuV)

$= 10^{(\text{measured dBuV}/20)}$ = uV/m specified normal cabling configuration, with all cables over 1 meter in length bundled at 1 meter and retained from the floor. A typical application was tested. Also Emissions in both horizontal and vertical polarization's were measured while rotating the EUT on a turntable to maximize the emissions signal strength. When an emission frequency from the EUT was found, the table was rotated until the frequency was maximized, at this point antenna was raised and lowered from 1m to 4m and frequency was maximized again

DEVICE DESCRIPTIONS: As described in the Equipment Under Test Section, above.

CABLE DESCRIPTIONS: cables as specified in **Section 1 - CABLING**

MEASUREMENT DATA: See Appendix B for corresponding Spurious Emissions, Peak Power Table and Plots.

PERFORMANCE: Complies.

Part 5 - AC Conducted Mains – Transmit Mode

DATE: January 2, 2008

TEST STANDARD: FCC 47CFR, Part 15, Subpart C 15.207 – Class B

TEST VOLTAGE: 120Vac, 60Hz

TEST SETUP: The EUT was connected to the conducted emissions LISN apparatus. The equipment was operated and tested at 120Vac 60Hz. URO-1000 was tested with internal power supply to ensure compliance. The URO-1000 was tested in its normal mode of operation, when RFID is in communications with a RF ID tag.

MINIMUM STANDARD: Class B Limit:

Frequency (MHz)	**Conducted Limit (dBμV)**	
	Quasi-Peak	Average
0.15 - 0.50	66-56	56-46
0.50 - 5	56	46
5 - 30	60	50

METHOD OF MEASUREMENT: **ANSI Standard C63.4-2003 using 50uH LISN, Measurement Procedures were followed.** Measurements were made using a spectrum analyzer with 10kHz RBW, Peak detector. Any emissions that are close to the limit are measured using a test receiver with 10kHz bandwidth, CISPR Quasi-Peak detector as well as an average detector meter.

DEVICE DESCRIPTIONS: As described in the Equipment Under Test Section, above.

CABLE DESCRIPTIONS: cables as specified in **Section 1 - CABLING**

MEASUREMENT DATA: See Appendix B for corresponding frequencies tables and plots

PERFORMANCE: Complies.

Part 6 - Frequency Tolerance of Carrier Signal (Temperature)

DATE:	January 26, 2008
TEST STANDARD:	FCC 47CFR, Part 2.225 (e)
TEST VOLTAGE:	120Vac, 60Hz
STANDARD:	§25.225(e) *Frequency tolerance, URO-1000 w/RFID.* The frequency tolerance of the carrier signal shall be maintained within ± 0.01% of the operating frequency over a temperature variation of –20 degrees to +50 degrees C at nominal supply voltage.
TEST SETUP:	**ANSI Standard C63.4-2003 Measurement Procedures were followed.** As required by §2.1055 of CFR 47, stability measurements were made using loop antenna stationed with EUT in the temperature chamber and was connected to a spectrum analyzer by 1m cable, the resolution bandwidth was set at 10kHz and video bandwidth at 1MHz. For the Temperature Stability part of the test, the measurements were taken over the temperature range of –20 to +50 degrees Celsius, in 10 degrees increments for each of the frequencies under test. The measurements were taken after the frequency and unit had stabilized for each frequency and temperature over a period of 10 minutes from Power ON.
DEVICE DESCRIPTIONS:	As described in the Equipment Under Test Section, above.
CABLE DESCRIPTIONS:	cables as specified in **Section 1 - CABLING**
MEASUREMENT DATA:	See Appendix B for corresponding frequencies tables and plots
PERFORMANCE:	Complies.

Part 7 - Frequency Tolerance of Carrier Signal (Supply Voltage)

DATE:	January 26, 2008
TEST STANDARD:	FCC 47CFR, Part 2.225 (e)
TEST VOLTAGE:	120Vac, 60Hz
STANDARD:	§25.225(e) *Frequency tolerance, URO-1000 w/RFID.* The frequency tolerance of the carrier signal shall be maintained within ± 0.01% of the operating frequency over a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.
TEST SETUP:	As required by §2.1055 of CFR 47, stability measurements were made using loop antenna stationed with EUT in the heat chamber and was connected to a spectrum analyzer by 1m cables, the resolution bandwidth was set 10kHz and video bandwidth to 1MHz. For the Frequency Tolerance of Carrier Signal vs. Supply Voltage test, the measurements were taken over the supply voltage range of 85% to 115% of the rated supply voltage at a temperature of 20 degrees Celsius. The measurements were taken after the frequency and unit had stabilized for each voltage and at 20 degrees Celsius of temperature over a period of 10 minutes from Power ON.
DEVICE DESCRIPTIONS:	As described in the Equipment Under Test Section, above.
CABLE DESCRIPTIONS:	cables as specified in **Section 1 - Cabling**
MEASUREMENT DATA:	See Appendix B for corresponding frequencies tables and plots
PERFORMANCE:	Complies.

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Section III: Report of Measurements to IC Spectrum Management and Telecommunications Policy and Radio Standards Specification

General

Tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with IC ICES-003 – Interference-Causing Equipment Standard for Digital Apparatus, RSS-Gen Radio Standards General Requirements and RSS-210 Low-power Licence-exempt Radio communication Devices Annex 2.6 Radio communication Systems Operating in the 13.110 – 14.010 MHz Band.

The specific sections used for RSS-210 compliance is contained in the sections relating to Radio communication Systems. Testing was performed in accordance with procedures as outlined in RSS-Gen and RSS-210.

Requirements for Intentional Radiators

According to IC RSS-Gen 2.1.1 this product is classified as a Category I Transmitter and comprises radio devices where a TAC, issued by the Certification and Engineering Bureau of Industry Canada or, a certificate issued by a recognized Certification Body (CB), is required pursuant to sections 4(2) of the *Radio communication Act* and 21(1) of the *Radio communication Regulations*. A test report shall be required and the device shall be properly labelled. Additionally, this equipment is also covered by RSS-Gen 2.3 Licence-exempt Low-power Radio communication Devices (LPDs). Licence-exempt low-power radio communication devices are devices, which have intentional and unwanted emissions of very low signal levels such that they can co-exist with licensed radio services. LPDs are required to operate on a **"no-interference no-protection"** basis (i.e. they may not cause radio interference and cannot claim protection from interference).

Labeling and Markings

You should refer to the clauses of IC ICES-003, RSS-Gen and RSS-100 for information to be contained on the label as well as information about the label.

According to IC ICES-003 6.2 and the Annex the following statements, in both languages, must be included on the identification label:

> This Class B digital apparatus complies with Canadian ICES-003.
> Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
>
> According to IC RSS-Gen Each Equipment subject to certification under the applicable RSSs, shall be permanently labelled on each item, or as an inseparable combination. The label must contain the following information for full compliance:
>
> (a) the certification number, prefixed by the term "IC:";
> (b) the manufacturer's name, trade name or brand name; and
> (c) a model name or number.
>
> According to IC RSS-100 Section 4. Labeling of Certified Radio Equipment, Certified radio equipment must be labelled with a unique certification/registration number, which consists of the Company Number (CN), assigned by the Bureau, followed by the Unique Product Number (UPN), assigned by the TAC or Certificate holder.
>
> The certification/registration number shall appear as follows:
> "IC:XXXXXX-YYYYYYYY"
> Where:
>
> - "XXXXXX-YYYYYYYY" is the certification/registration number;
> - "XXXXXX" is the Company Number (CN), made of at most 6 alphanumeric characters (A-Z, 0-9), assigned by Industry Canada;
> - "YYYYYYYY" is the Unique Product Number (UPN), made of at most 8 alphanumeric characters (A-Z, 0-9) assigned by the applicant; and
> - The letters "IC" have no other meaning or purpose than to identify the Industry Canada certification number/registration number. Permitted alphanumerical characters used in the CN and UPN are limited to capital letters (A-Z) and digits (0-9). Other characters, such as #, / or -, shall not be used.

All Category I radio equipment intended for use in Canada must permanently display on each transmitter, receiver, or inseparable combination thereof, the information required above. This information must be affixed by Labeling or other means, in such a manner as not to be removable except by destruction or defacement.

User Manual Statements

According to IC ICES-003 6.2 and the Annex the following statements, in both languages, must be included on the identification label and could be included in the User Manual:

This Class B digital apparatus complies with Canadian ICES-003
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

According to IC RSS-Gen you will require the following statement:

"Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device."

Since you have a detachable Antenna, you will require the following statements (Replace [x] and [y] with the correct numbers)

"To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropic ally radiated power (e.i.r.p.) Is not more than that permitted for successful communication."?

"This device has been designed to operate with the antennas listed below, and having a maximum gain of [x] dB. Antennas not included in this list or having a gain greater than [x] dB are strictly prohibited for use with this device. The required antenna impedance is [y] ohms."

(Include a list of Approved Antenna Manufacturers and Part Numbers)

According to IC RSS-102 Section 6.2, It must be noted that the certification applicant/grantee is responsible for providing proper instructions for the user of the radio device, as well as any usage restrictions. Since this is classified as a mobile unit, you will have to ensure that the user maintains a 20cm distance between the Antenna and the User when the unit is in operation. This could be the same information as outlined in you FCC statement According to FCC Section 2.1091, a caution statement about the RADIOFREQUENCY RADIATION EXPOSURE limitation of a separation of at least 20 centimetres is required.

§ 2.1091 (b) For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimetres is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. In this context, the term ''fixed location'' means that the device is physically secured at one location and is not able to be easily moved to another location. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20-centimeter separation requirement.

IC Test Results Summary

Test	Standard	Description	Result
Unintentional Radiated Emissions - Transmit Off	IC ICES-003 Class B Limits; RSS-Gen (6.a)	The radiated emissions are measured in the 30-1000MHz range	Complies
AC Conducted Mains - Transmit Off	IC ICES-003 Class B Limits; RSS-Gen (6.6)	The Conducted Emissions are measured on the phase and Neutral Power lines in the 0.15 - 30.0 MHz range.	Complies
Intentional Radiated Emissions - Transmit Mode	RSS-210 Issue 6 A2.6	Radiated Spurious Emissions (2^{ND} to 10^{TH} Harmonic)	Complies
AC Conducted Mains - Transmit Mode	IC ICES-003 Class B Limits; RSS-GEN 6.6	The Conducted Emissions are measured on the phase and Neutral Power lines in the 0.15 - 30.0 MHz range.	Complies
Intentional Radiated Emissions - Transmit Mode	RSS-210 Annex 2.6	Frequency Tolerance of Carrier Signal	Complies

Part 1 - Unintentional Radiated Emission Testing – Transmit Off

DATE: January 2, 2008

TEST STANDARD: IC ICES-003 Class B
IC RSS-Gen (6.a)

TEST VOLTAGE: 120Vac, 60Hz

TEST SETUP: The URO -1000 was tested in its normal mode of operation, when RFID is not in the transmitting mode with RF ID tag. URO -1000 was attached to a Dell laptop using a USB Port.

MINIMUM STANDARD: Class B Limits:

Frequency Band	Field Strength	
MHz	µV/m	dBµV/m at 3m
0.009 – 0.490	2400/F(kHz) uV/m @ 300 meters	
0.490 – 1.705	2400/F(kHz) uV/m @ 30 meters	
1.705 – 30.0	30	30
30 - 88	100 at 3m	40.0
88 – 216	150 at 3m	43.5
216 – 960	200 at 3m	46.0
960 - above	500 at 3m	54.0

METHOD OF MEASUREMENT: **ANSI Standard C63.4-2003 10.1.7 Measurement Procedures were followed.** The equipment was set up in a 3-meter open field test site. Measurements were performed in vertical and horizontal plane in the frequency range of 9kHz to 1000 MHz. The EUT was placed on a wooden table at 0.80 m of height and in the center of the table. It was positioned in the worst configuration from the three orthogonal positions. Tests were performed using the manufacturer's specified normal cabling configuration, with all cables over 1 meter in length bundled at 1 meter and retained from the floor. A typical application was tested.

Emissions in both horizontal and vertical polarization's were measured while rotating the EUT on a turntable to maximize the emissions signal strength. When an emission frequency from the EUT was found, the table was rotated until the frequency was maximized, at this point antenna was raised and lowered from 1m to 4m and frequency was maximized again.

DEVICE DESCRIPTIONS: As described in the Equipment Under Test Section, above.

CABLE DESCRIPTIONS: cables as specified in **Section 1 - CABLING**

MEASUREMENT DATA: See Appendix B for corresponding frequencies tables and plots

PERFORMANCE: Complies.

Part 2 - AC Conducted Mains – Transmit Off

DATE: January 2, 2007

TEST STANDARD: IC ICES-003 Class B
IC RSS-Gen (6.6)

TEST VOLTAGE: 120Vac, 60Hz

TEST SETUP: The EUT was connected to the conducted emissions LISN apparatus. The equipment was operated and tested at 120Vac 60Hz. URO-1000 was tested with internal power supply to ensure compliance. The URO-1000 was tested in its normal mode of operation, when not in communications with a RFID.

MINIMUM STANDARD: Class B Limit:

Frequency (MHz)	**Conducted Limit (dBµV)**	
	Quasi-Peak	Average
0.15 - 0.50	66-56	56-46
0.50 - 5	56	46
5 - 30	60	50

METHOD OF MEASUREMENT: **ANSI Standard C63.4-2003 Measurement Procedures were followed**
Measurements were made using a spectrum analyzer with 10kHz RBW, Peak detector. Any emissions that are close to the limit are measured using a test receiver with 10kHz bandwidth, CISPR Quasi-Peak detector as well as an average detector meter.

DEVICE DESCRIPTIONS: As described in the Equipment Under Test Section, above.

CABLE DESCRIPTIONS: cables as specified in **Section 1 - CABLING**

MEASUREMENT DATA: See Appendix B for corresponding frequencies tables and plots

PERFORMANCE: Complies.

Part 3 - Intentional Radiated Emission –Transmit Mode

DATE: January 04, 2008

TEST STANDARD: RSS-210 Annex 2.6(1) to (4)
IC ICES-003 Class B

TEST VOLTAGE: 120Vac, 60Hz

TEST SETUP: The URO-1000 was tested in its transmitting mode of operations, when RFID is in the communicating mode with RF ID tag. URO-1000 was attached to a Dell laptop using a USB Port.

MINIMUM STANDARD:

Frequency Band	Field Strength	
MHz	µV/m	dBµV/m
0.009 – 0.490	2400/F(kHz) uV/m @ 300 m	
0.490 – 1.705	2400/F(kHz) uV/m @ 30 m	
1.705 – 13.553	30 uV/m @ 30 m	30
13.553-13.567	15,848 uV/m @ 30 m	84.0
13.410-13.553 13.567-13.710	334 uV/m @ 30 m	50.5
13.110-13.410 13.710-14.010	106 uV/m @ 30 m	40.5
14.010- 30	30 uV/m @ 30 m	29.5
30-960	30 uV/m @ 30 m	29.5
960-above	30 uV/m @ 30 m	29.5

METHOD OF MEASUREMENT: **ANSI Standard C63.4-2003 10.1.7 Measurement Procedures were followed** The equipment was set up in a 3-meter open field test site. Measurements were performed in vertical and horizontal plane in the frequency range of 9kHz to 1000 MHz. The EUT was placed on a wooden table at 0.80 m of height and in the center of the table. It was positioned in the worst configuration from the three orthogonal positions. Tests were performed using the manufacturer's specified normal cabling configuration, with all cables over 1 meter in length bundled at 1 meter and retained from the floor. A typical application was tested.

Emissions in both horizontal and vertical polarization's were measured while rotating the EUT on a turntable to maximize the emissions signal strength. When an emission frequency from the EUT was found, the table was rotated till the frequency was maximized, at this point antenna was raised and lowered from 1m to 4m.

Due to high ambient noise and low transmitter power measurement for frequency range 9kHz to 30MHz were performed at 1meter using an active monopole antenna with the counter poise attached to earth ground and the ground plane. The results of the 1 m measurements were then corrected to represent the equivalent field strength at the required distance using the formula(s):

= 20 Log (measurement distance / required distance)

Then converted to linear field strength

$= 10^{(\text{measured dBuV}/20)} = \text{uV/m}$

Also Limit line was converted to dBuV using following formula:

= 20 log (uV/m)

DEVICE DESCRIPTIONS: As described in the Equipment Under Test Section, above.

CABLE DESCRIPTIONS: cables as specified in **Section 1 - Cabling**

MEASUREMENT DATA: See Appendix B for corresponding frequencies tables and plots

PERFORMANCE: Complies.

Part 4 - AC Conducted Mains – Transmit Mode

DATE: January 2, 2007

TEST STANDARD: IC ICES-003 Class B
IC RSS-Gen (6.6)

TEST VOLTAGE: 120Vac, 60Hz

TEST SETUP: The EUT was connected to the conducted emissions LISN apparatus. The equipment was operated and tested at 120Vac 60Hz. URO-1000 was tested with internal power supply to ensure compliance. The URO-1000 was tested in its normal mode of operation, when RFID is in communications with a RF ID tag.

MINIMUM STANDARD: Class B Limit:

Frequency (MHz)	**Conducted Limit (dBµV)**	
	Quasi-Peak	Average
0.15 - 0.50	66-56	56-46
0.50 - 5	56	46
5 - 30	60	50

METHOD OF MEASUREMENT: **ANSI Standard C63.4-2003 Measurement Procedures were followed.**
Measurements were made using a spectrum analyzer with 10kHz RBW, Peak detector. Any emissions that are close to the limit are measured using a test receiver with 10kHz bandwidth, CISPR Quasi-Peak detector as well as an average detector meter.

DEVICE DESCRIPTIONS: As described in the Equipment Under Test Section, above.

CABLE DESCRIPTIONS: cables as specified in **Section 1 - Cabling**

MEASUREMENT DATA: See Appendix B for corresponding frequencies tables and plots

PERFORMANCE: Complies.

Part 5 - Frequency Tolerance of Carrier Signal (Temprature)

DATE:	January 26, 2008
TEST STANDARD:	RSS-210 Issue6 Annex2.6
TEST VOLTAGE:	120Vac, 60Hz
STANDARD:	§25.225(e) *Frequency tolerance, URO-1000 w/RFID.* The frequency tolerance of the carrier signal shall be maintained within ± 0.01% of the operating frequency over a temperature variation of –20 degrees to +50 degrees C at nominal supply voltage.
TEST SETUP:	**ANSI Standard C63.4-2003 Measurement Procedures were followed.** As required by §2.1055 of CFR 47, stability measurements were made using loop antenna stationed with EUT in the heat chamber and was connected to a spectrum analyzer by 1m cable, the resolution bandwidth was set at 10kHz and video bandwidth at 1MHz. For the Temperature Stability part of the test, the measurements were taken over the temperature range of –20 to +50 degrees Celsius, in 10 degrees increments for each of the frequencies under test. The measurements were taken after the frequency and unit had stabilized for each frequency and temperature over a period of 10 minutes from Power ON.
DEVICE DESCRIPTIONS:	As described in the Equipment Under Test Section, above.
CABLE DESCRIPTIONS:	cables as specified in **Section 1 - Cabling**
MEASUREMENT DATA:	See Appendix B for corresponding frequencies tables and plots
PERFORMANCE:	Complies.

Part 6 - Frequency Tolerance of Carrier Signal (Supply Voltage)

DATE:	January 26, 2008
TEST STANDARD:	RSS-210 Issue6 Annex2.6
TEST VOLTAGE:	120Vac, 60Hz
STANDARD:	§25.225(e) *Frequency tolerance, URO-1000 w/RFID.* The frequency tolerance of the carrier signal shall be maintained within ± 0.01% of the operating frequency over a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.
TEST SETUP:	**ANSI Standard C63.4-2003 Measurement Procedures were followed.** As required by §2.1055 of CFR 47, stability measurements were made using loop antenna stationed with EUT in the heat chamber and was connected to a spectrum analyzer by 1m cable, the resolution bandwidth was set 10kHz and video bandwidth to 1MHz. For the Frequency Tolerance of Carrier Signal vs. Supply Voltage test, the measurements were taken over the supply voltage range of 85% to 115% of the rated supply voltage at a temperature of 20 degrees Celsius. The measurements were taken after the frequency and unit had stabilized for each voltage and at 20 degrees Celsius of temperature over a period of 10 minutes from Power ON.
DEVICE DESCRIPTIONS:	As described in the Equipment Under Test Section, above.
CABLE DESCRIPTIONS:	cables as specified in **Section 1 - Cabling**
MEASUREMENT DATA:	See Appendix B for corresponding frequencies tables and plots
PERFORMANCE:	Complies.

Appendix A: Report of Measurements of EUT Photos

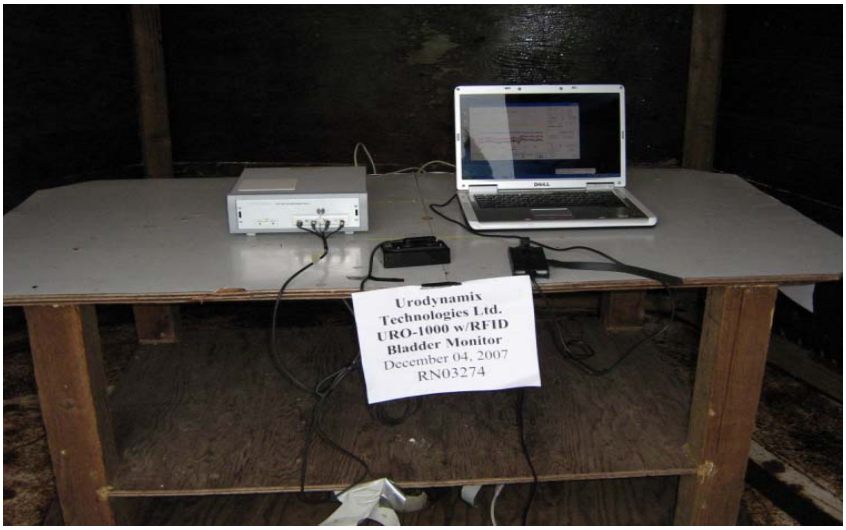


Figure 1 - Emissions front view

Figure 2 – Radiated Emissions rear view

Figure 3 - Conducted Emissions

Appendix B: Report of Measurements Data & Plots

Radiated and Conducted Emissions per:
FCC/IC Class B - Standards: FCC Part 15.107, 15.207; IC ICES-003, RSS-210

Un-Intentional Radiated Emissions

URO-1000 – On (RFID – OFF) Operating in Normal Mode

Table 1: FCC Class B - 3m

Frequency (MHz)	Pol	Hgt (m)	Angle (deg)	Uncor-Pk (dBµV)	Tot Corr (dB)	Peak (dBµV/m)	QP Lmt (dBµV/m)	DelLim-Pk (dB)	Quasi-Peak (dBµV/m)	DelLim-QPk (dB)
62.30675	V	1	160	10	10.4	20.4	40.0	-19.6	17.18	-22.8
99.99870	V	1	300	24.90	12.10	36.9	43.5	-6.6	35.93	-7.5
149.9978	V	1	270	21	14.35	35.35	43.5	-8.15	34.67	-8.8
199.9978	V	1	250	13.3	16.7	30	43.5	-13.5	26.85	-16.6
249.9965	H	2	270	20.6	14.02	34.62	46	-11.38	33.70	-12.3
299.99737	Vert	2	270	16.6	16.35	32.95	46	-13.05	31.51	-14.49

Table 2: ICES-003 Class B - 3m

Frequency (MHz)	Pol	Hgt (m)	Angle (deg)	Uncor-Pk (dBµV)	Tot Corr (dB)	Peak (dBµV/m)	QP Lmt (dBµV/m)	DelLim-Pk (dB)	Quasi-Peak (dBµV/m)	DelLim-QPk (dB)
62.30675	V	1	160	10	10.4	20.4	39.5	-19.1	17.18	-22.3
99.99870	V	1	300	24.90	12.10	36.9	39.5	-2.6	35.93	-3.57
149.9978	V	1	270	21	14.35	35.35	39.5	-4.15	34.67	-4.83
199.9978	V	1	250	13.3	16.7	30	39.5	-9.5	26.85	-12.65
249.9965	H	2	270	20.6	14.02	34.62	39.5	-4.88	33.70	-5.8
299.99737	Vert	2	270	16.6	16.35	32.95	39.5	-6.55	31.51	-7.99

Intentional Radiated Emissions (Spurious Emission and Harmonics)

URO-1000 – On (RFID – On) Operating in Transmit Mode

Table 3: FCC Harmonics & Spurious Emissions Class B - 3m

Frequency (MHz)	Pol	Hgt (m)	Angle (deg)	Uncor-Pk (dBµV)	Tot Corr (dB)	Peak (dBµV/m)	Measurement Distance (m)	Distance Correection (dB)	QP Lmt (dBµV/m)	DelLim-Pk (dB)	Quasi-Peak (dBµV/m)	DelLim-QPk (dB)
27.12102	V	1	350	37.60	1.26	38.86	1	-9.5	49.50	-20.14	27.84	-21.66
40.67678	V	1	320	22.40	2.84	25.24	3	0	40.00	-14.76	21.49	-18.51
54.23720	V	1	20	15.10	3.33	18.43	3	0	40.00	-21.57	16.90	-23.10
62.30675	V	1.5	330	11.20	2.70	13.90	3	0	40.00	-26.10	10.86	-29.14
67.79349	V	1	10	12.40	10.44	22.84	3	0	40.00	-17.16	17.60	-22.4
81.35580	V	1	90	19.30	10.93	30.23	3	0	40.00	-9.77	24.74	-15.26
94.92268	V	1	270	25.40	11.81	37.21	3	0	44.00	-6.79	33.22	-10.78
99.99870	V	1	270	20.60	12.10	32.70	3	0	44.00	-11.30	29.41	-14.59
108.48203	H	2	100	19.10	12.57	31.67	3	0	44.00	-12.33	26.90	-17.10
122.03370	H	1.5	350	15.80	13.29	29.09	3	0	44.00	-14.91	25.16	-18.84
135.59300	V	1	270	22.60	13.85	36.45	3	0	44.00	-7.55	29.05	-14.95
149.15230	V	1.5	350	12.11	14.32	26.42	3	0	44.00	-17.58	18.86	-25.14
149.99788	V	2	10	21.30	14.35	35.65	3	0	44.00	-8.35	34.89	-9.11
199.9978	V	2.5	30	11.50	16.7	28.20	3	0	44.00	-15.80	24.16	-19.84
216.96632	H	1	270	24.73	12.93	37.66	3	0	46.00	-8.34	35.52	-10.48
249.9965	H	2	270	24.1	14.02	38.12	3	0	46.00	-11.38	33.7	-12.3
299.99737	V	2	270	16.6	16.35	32.95	3	0	4600	-13.05	31.51	-14.49

Table 4: ICES-003 Harmonics & Spurious Emissions Class B - 3m

Frequency (MHz)	Pol	Hgt (m)	Angle (deg)	Uncor-Pk (dBµV)	Tot Corr (dB)	Peak (dBµV/m)	Measurement Distance (m)	Distance Correection (dB)	QP Lmt (dBµV/m)	DelLim-Pk (dB)	Quasi-Peak (dBµV/m)	DelLim-QPk (dB)
27.12102	V	1	350	37.60	1.26	38.86	1	-9.5	49.50	-20.14	27.84	-21.66
40.67678	V	1	320	22.40	2.84	25.24	3	0	39.50	-14.26	21.49	-18.01
54.23720	V	1	20	15.10	3.33	18.43	3	0	39.50	-21.07	16.90	-22.6
62.30675	V	1.5	330	11.20	2.70	13.90	3	0	39.50	-25.60	10.86	-28.64
67.79349	V	1	10	12.40	10.44	22.84	3	0	39.50	-16.66	17.60	-21.9
81.35580	V	1	90	19.30	10.93	30.23	3	0	39.50	-9.27	24.74	-14.76
94.92268	V	1	270	25.40	11.81	37.21	3	0	39.50	-2.29	33.22	-6.28
99.99870	V	1	270	20.60	12.10	32.70	3	0	39.50	-6.80	29.41	-10.09
108.48203	H	2	100	19.10	12.57	31.67	3	0	39.50	-7.83	26.90	-12.60
122.03370	H	1.5	350	15.80	13.29	29.09	3	0	39.50	-10.41	25.16	-14.34
135.59300	V	1	270	22.60	13.85	36.45	3	0	39.50	-3.05	29.05	-10.45
149.15230	V	1.5	350	12.11	14.32	26.42	3	0	39.50	-12.98	18.86	-20.62
149.99788	V	2	10	21.30	14.35	35.65	3	0	39.50	-3.85	34.89	-4.61
199.9978	V	2.5	30	11.50	16.7	28.20	3	0	39.50	-11.30	24.16	-15.34
216.96632	H	1	270	24.73	12.93	37.66	3	0	39.50	-1.84	35.52	-3.98
249.9965	H	2	270	24.1	14.02	38.12	3	0	39.50	-1.38	33.7	-5.8
299.99737	V	2	270	16.6	16.35	32.95	3	0	39.50	-6.55	31.51	-7.99

Peak Power of Fundamental Frequency

Table 5: FCC Part 15.225 (a) & RSS-210 A2.6 (a) - 3m

Frequency (MHz)	Pol	Hgt (m)	Angle (deg)	Uncor-Pk (dBµV)	Tot Corr (dB)	Peak (dBµV/m)	Measurement Distance (m)	Distance Correction(dB)	Cor Peak (dBµV/m)	QP Lmt (dBµV/m)	DelLim-Pk (dB)
13.56091	V	1	160	48.56	0.94	42.90	1	9.5	52.4	104	-51.6

AC MAINS Conducted Emissions:

URO-1000 Module using A URO-100 internal power supply – while operating in Transmit-Off Mode.

Table 6: Line 1- Peaks 120Vac, 60Hz

Frequency (MHz)	Peak (dBµV)	DelLim-Pk (dB)
0.3098	63.9	14.0
0.2454	63.8	11.9
0.2629	61.8	10.5
0.3266	57.0	7.5
0.2161	57.3	4.4
0.1893	58.0	4.0

Table 7: Line 1- AVG 120Vac, 60Hz

Frequency (MHz)	Peak (dBµV)	DelLim-Pk (dB)
0.2587	43.8	-7.6
0.2415	43.1	-8.9
0.3214	40.6	-9.0
0.2377	42.9	-9.2
0.1914	44.5	-9.4
0.2454	42.1	-9.8

Table 8: Line 2- Peaks 120Vac, 60Hz

Frequency (MHz)	Peak (dBµV)	DelLim-Pk (dB)
0.2352	60.2	8.0
0.2831	57.7	7.0
0.2757	56.5	5.6
0.3318	54.4	5.0
0.2184	57.3	4.5
0.5785	46.8	0.8

Table 9: Line 2- AVG 120Vac, 60Hz

Frequency (MHz)	Peak (dBµV)	DelLim-Pk (dB)
0.3249	42.2	-7.3
0.2574	43.0	-8.5
0.3889	35.6	-12.4
0.3065	36.2	-13.8
0.3017	36.0	-14.1
0.5785	31.2	-14.8

URO-1000 Module using "A URO-100 internal power supply – while operating in Transmit Mode.

Table 10: Line 1- Peaks 120Vac, 60Hz

Frequency (MHz)	Peak (dBµV)	DelLim-Pk (dB)
0.2629	63.8	12.5
0.2480	59.6	7.8
0.3266	56.4	6.9
0.2786	56.9	6.1
0.2938	55.3	4.9
0.5846	47.2	1.2

Table 11: Line 1- AVG 120Vac, 60Hz

Frequency (MHz)	Peak (dBµV)	DelLim-Pk (dB)
0.2907	43.2	-7.3
0.2587	43.6	-7.8
0.2403	43.9	-8.1
0.2441	43.6	-8.3
0.3214	40.3	-9.3
0.2846	40.9	-9.7

Table 12: Line 2- Peaks 120Vac, 60Hz

Frequency (MHz)	Peak (dBµV)	DelLim-Pk (dB)
0.3114	65.4	15.5
0.2629	60.8	9.5
0.2938	59.0	8.6
0.5785	46.3	0.3
0.2786	51.0	0.2
0.1903	53.7	-0.3

Table 13: Line 2 Average 120Vac, 60Hz

Frequency (MHz)	Peak (dBµV)	DelLim-Pk (dB)
0.2560	43.0	-8.5
0.3197	41.1	-8.6
0.1924	43.4	-10.5
0.3001	26.5	-23.7
0.2861	24.4	-26.2
0.2786	24.2	-26.6

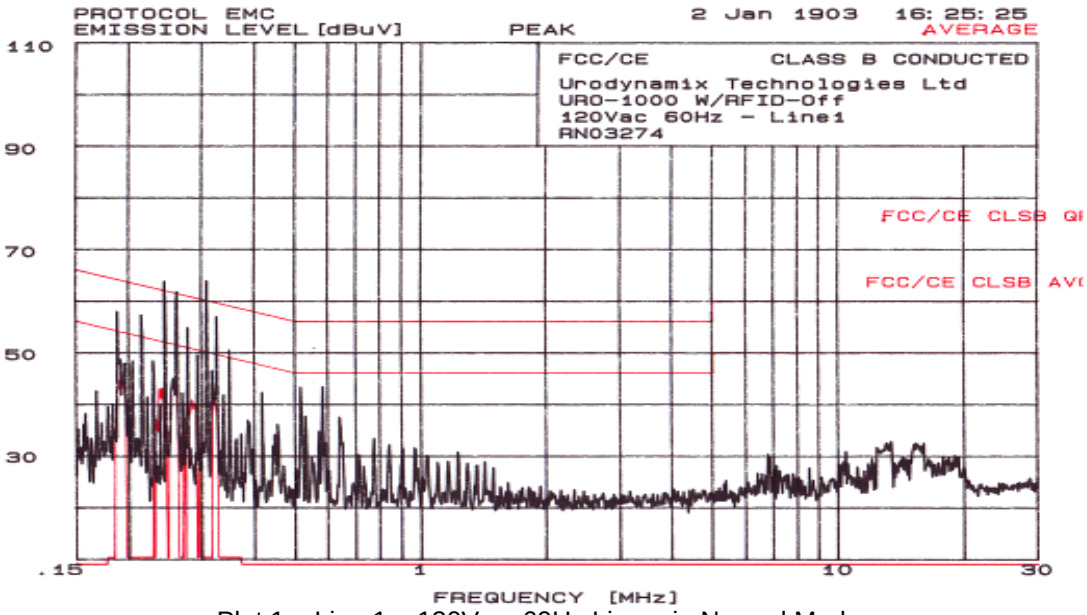
Table 14: Frequency Stability vs Ambient Temperature

Temprature (oC)	Starup	Frequency Error (%)	t+5	Frequency Error (%)	t+10	Frequency Error (%)	t+15	Frequency Error (%)
-20	13.558998	0.0008	13.558987	0.0007	13.559979	0.0006	13.559878	0.0009
-10	13.558989	0.0009	13.558988	0.0008	13.558979	0.0005	13.559877	0.0007
0	13.558979	0.0009	13.558986	0.0007	13.559886	0.0007	13.559776	0.0007
10	13.558897	0.0007	13.558879	0.0008	13.559979	0.0009	13.559889	0.0009
20	13.558896	0.0018	13.558894	0.0021	13.559894	0.0012	13.559997	0.0017
30	13.558988	0.0017	13.558988	0.0017	13.558788	0.0019	13.558976	0.0021
40	13.558889	0.0024	13.558779	0.0021	13.558979	0.0024	13.558896	0.0022
50	13.558977	0.0026	13.558977	0.0023	13.558979	0.0027	13.558987	0.0023

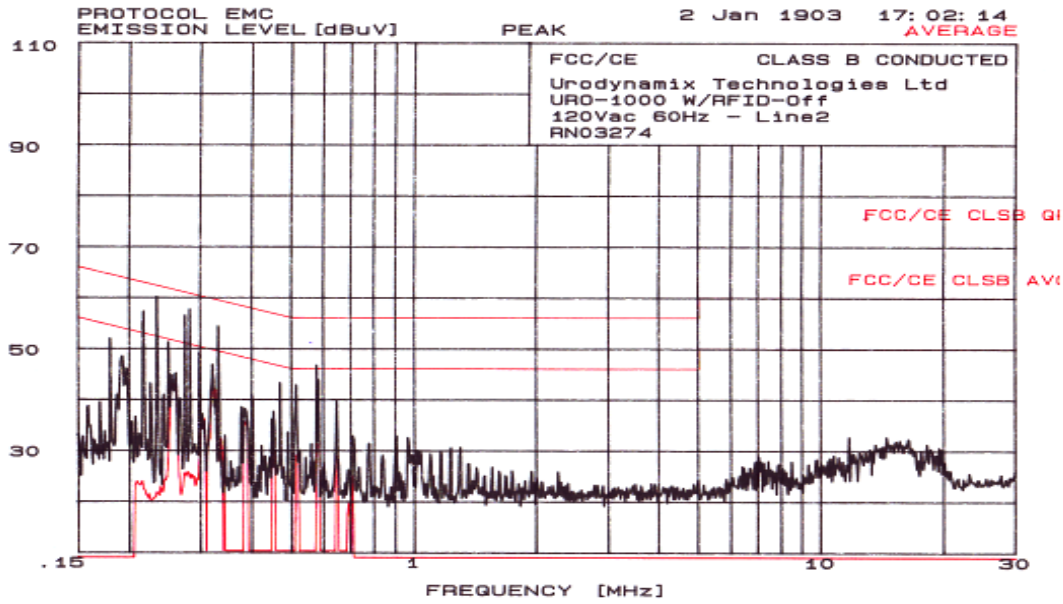
Table 15: Frequency Stability vs Voltage at 20 degree Celsius

Voltage (V)	**Starup**	**Frequency** Error (%)
100	13.559897	0.0006
102	13.558997	0.0007
105	13.558976	0.0006
110	13.558798	0.0007
115	13.558879	0.0008
120	13.559887	0.0007
125	13.558788	0.0006
130	13.558999	0.0007
135	13.558999	0.0006
138	13.558999	0.0007
140	13.558999	0.0006

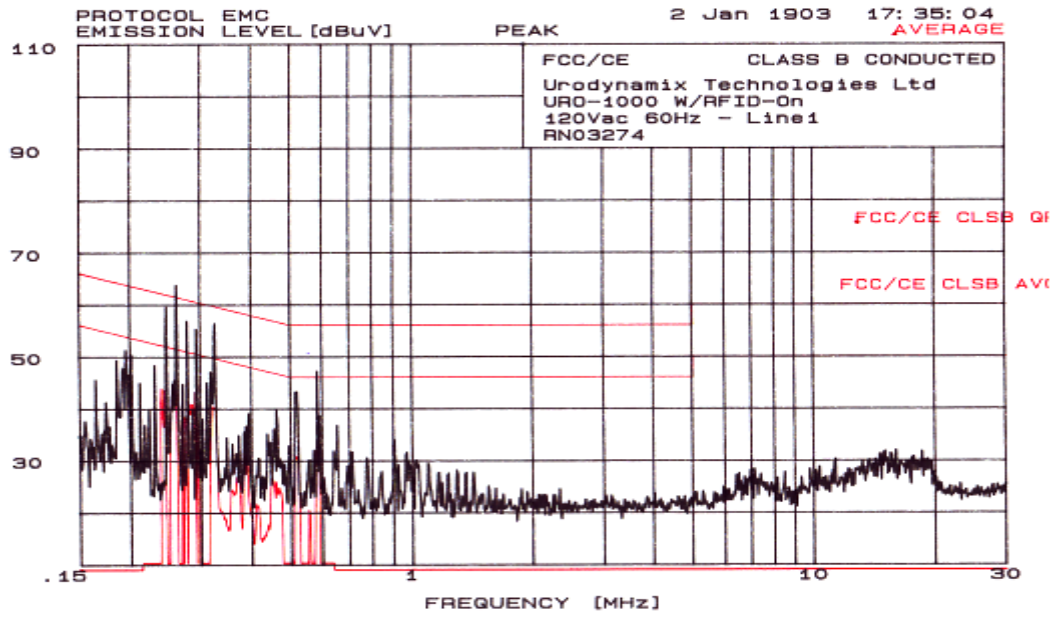
Plots using URO-100 Internal 120Vac @ 60Hz Power Supply



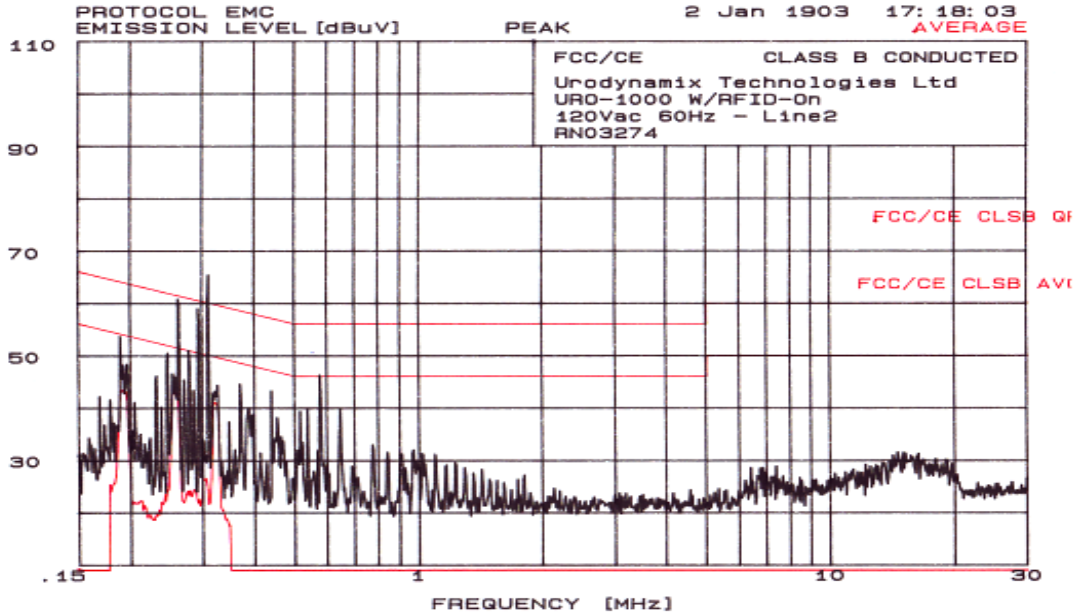
Plot 1 – Line 1 – 120Vac, 60Hz Line – in Normal Mode



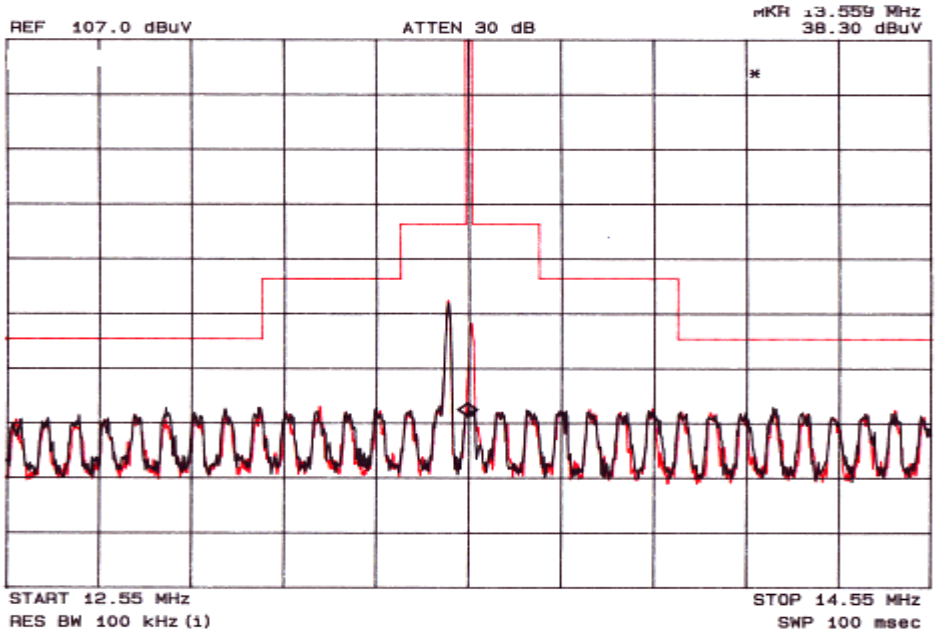
Plot 2 - Line 2 – 120Vac, 60Hz Neutral – in Normal Mode



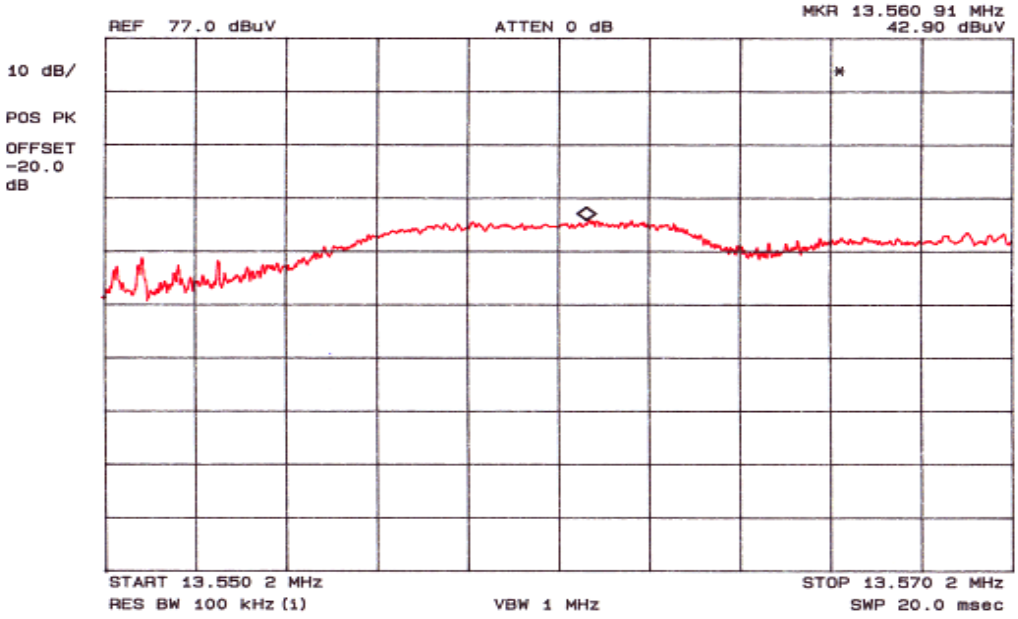
Plot 3 – Line 1 – 120Vac, 60Hz Line – in Transmit Mode



Plot 4 - Line 2 – 120Vac, 60Hz Neutral – in Transmit Mode



Plot 5 – Fundamental and Harmonics



Plot 7 – Peak Power 13.5MHz