

TEST REPORT

Report Number: 3143848LEX-001

Project Number: 3143848

Evaluation of the iSECUREtrac Corporation System 5000 Charging Base with Landline

Tested to the Criteria in CFR Title 47 FCC Part 15 Subpart B

For

iSECUREtrac Corporation

Test Performed by:
Intertek
731 Enterprise Drive
Lexington, KY 40510

Test Authorized by:
iSECUREtrac Corporation
5022 South 114th Street
Omaha, NE 68137

Prepared By: Jason Centers **Date:** 4/3/2008

Jason Centers, Senior Project Engineer

Approved By: Bryan C. Taylor **Date:** 4/3/2008

Bryan C. Taylor, Team Leader

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Intertek Testing Services NA, Inc.

731 Enterprise Drive, Lexington, KY 40510

Telephone: 859-226-1000 Fax: 859-226-1040 Web: www.etlsemko.com



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1 JOB DESCRIPTION

1.1 Product Description

The iSECUREtrac Corporation System 5000 Charging Base with Landline is a charging and communications base that connects to the System 5000 PTU unit that is used by law enforcement to locate and track offenders. The modem allows the PTU to initiate a landline call. The PTU communicates with the Base using an IRDA link.

Photograph of the Test Sample with PTU



Exhibit 1

1.2 General Information

Company Information	
Manufacturer:	iSECUREtrac Corporation
Address:	5022 South 114th Street Omaha NE 68137
Contact Name:	Jef Higgason
Telephone Number:	(402) 537-5663
Email Address:	jhiggason@isecuretrac.com

Test Sample Information	
Model Number:	System 5000 Charging Base with Landline
Serial Number:	B0297220576
Power Supply Information	
Manufacture	Sunny Computer Technology Co., LTD
Model	SYS1089-1005-T3

1.3 System Support Equipment

The following table contains a list of support equipment used during the evaluation.

Test Support Equipment

Manufacturer	Model Number	Serial Number	Description
iSECUREtrac Corporation	System 5000	P0000051684	Personal Tracking Unit
Teltone	TLS-4A-01	94194	Telephone Line Simulator

Exhibit 2

1.4 Cables Used in the Test Setup

The table below contains the details of the cables associated with the EUT.

Interconnecting cables between modules of EUT

Description	Qty	Length	Shielding	Ferrites	Connection	
					From	To
120 VAC Power Cable	1	12 ft	None	None	120VAC Power Source	EUT

Exhibit 3

1.5 System Block Diagram

The diagram shown below details the interconnection of the EUT and its accessories during the testing.

Block Diagram of Test Configuration

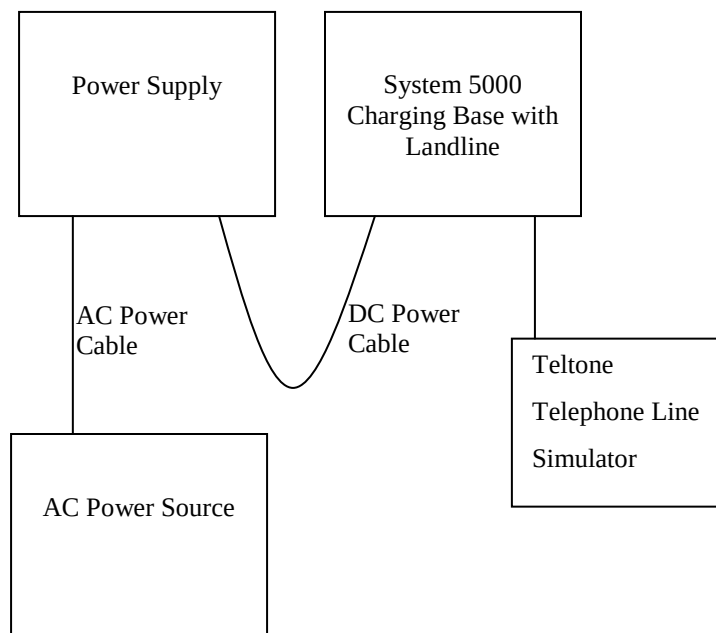


Exhibit 4

1.6 Mode(s) of Operation Evaluated

The System 5000 Charging Base with Landline was setup and configured per instructions provided by iSECUREtrac Corporation. A System 5000 PTU was placed in the System 5000 Charging Base with Landline to initiate a landline call. The System 5000 Charging Base with Landline was powered by 120VAC during testing. The device was tested with the modem in the “on-hook” and “off-hook” states.

1.7 Modifications Required for Compliance

The following modifications were implemented by iSECUREtrac Corporation personnel to obtain compliant radiated emissions results:

- The center antenna on the repeater board was removed. This antenna is not used during actual operation of the device.

1.8 Test Site

All testing was performed at the Intertek office located at 731 Enterprise Drive, Lexington Kentucky, 40510. The test site is listed with the FCC under registration number 485103. The test site is listed with Industry Canada under site number 2055A-1.

2 TEST RESULTS SUMMARY

The System 5000 Charging Base with Landline manufactured by iSECUREtrac Corporation was tested to and found to be compliant with the requirements of CFR Title 47 FCC Part 15 Subpart B. A summary of the test results are contained in the table below. For actual test data, please see the report sections following this table.

Test Name	Test Level/Equipment Class	Results / Notes
Emissions Testing	-	-
Radiated Emissions	Class B	Compliant
Conducted Voltage Emissions	Class B	Compliant

3 RADIATED EMISSIONS

3.1 Test Method

- Measurements are made over the frequency range of 30 MHz to five times the highest frequency operating within the device.
- The measuring receiver meets the requirements of Section One of CISPR 16 and the measuring antenna correlates to a balanced dipole.
- From 30 to 1000 MHz, a quasi-peak detector was used for measurement. Above 1000 MHz, average measurements were performed.
- The antenna is adjusted between 1m and 4m in height above the ground plane for maximum meter reading at each test frequency.
- The antenna-to-EUT azimuth is varied during the measurement to find the maximum field-strength readings.
- The antenna-to-EUT polarization (horizontal and vertical) is varied during the measurements to find the maximum field-strength readings.
- The EUT, where intended for tabletop use, is placed on a table whose top is 0.8m above the ground plane. The table is constructed of non-conductive materials. Its dimensions are 1m by 1.5m, but may be extended for larger EUT.
- Equipment setup for radiated disturbance tests followed the guidelines of ANSI C63.4. Photographs of the test setup are shown in Exhibit 8 and Exhibit 9.

3.2 Test Results

The System 5000 Charging Base with Landline was **compliant** with the radiated emissions requirements of CFR Title 47 FCC Part 15 Subpart B. The maximized quasi peak data can be found in Exhibit 5. Graphical data is shown in Exhibit 6 and Exhibit 7.

Maximized Quasi Peak and Average Emissions¹ - On-Hook

Test Engineer: Jason Centers

Test Start Date: 2/28/2008 Test End Date: 3/31/2008

Emissions Specification: CFR Title 47 FCC Part 15 Subpart B

Emission Limit Tested To: Class B Test Distance (EUT to Antenna): 3 Meters

General Notes / Comments / Performance Monitoring Method: Tested in On-Hook and Off-Hook Modes

Mode	Frequency (MHz)	Polarity (H/V)	Cab. (dB)	Ant. (dB)	Corr. Reading. (dBuV/m)	Limit (dBuV/m)	Delta (dB)	Azimuth (deg)	Tower (cm)	Results
On-Hook	36.282	V	0.81	12.19	34.58	40	-5.42	183	100	Compliant
On-Hook	84.691	V	1.23	7.2	26.88	40	-13.12	217	339	Compliant
On-Hook	108.87	V	1.42	9.2	36.06	43.52	-7.46	332	99	Compliant
On-Hook	112.9	V	1.44	8.79	34.71	43.52	-8.81	326	100	Compliant
On-Hook	5313.5	V	-31.35	33.86	28.12	53.98	-25.86	229	100	Compliant
On-Hook	254.0	H	2.2	12.48	32.5	46.02	-13.52	108	100	Compliant
On-Hook	262.07	H	2.25	12.78	32.47	46.02	-13.55	278	100	Compliant
On-Hook	440.69	H	2.96	16.93	37.09	46.02	-8.93	11	241	Compliant
Off-Hook	36.291	V	0.81	12.18	36.24	40	-3.76	183	100	Compliant
Off-Hook	108.86	V	1.42	9.2	39.48	43.52	-4.04	331	100	Compliant
Off-Hook	112.9	V	1.44	8.79	36.95	43.52	-6.57	331	100	Compliant
Off-Hook	116.43	V	1.47	8.38	33.8	43.52	-9.72	331	100	Compliant
Off-Hook	108.88	H	1.42	8.42	24.34	43.52	-19.18	331	100	Compliant
Off-Hook	112.92	H	1.44	8.16	22.51	43.52	-21.01	331	100	Compliant

Exhibit 5

¹ Emissions above 1GHz were measured with average detection. Emissions below 1GHz were measured with quasi-peak detection.

Maximized Quasi Peak and Average Emissions – On-Hook

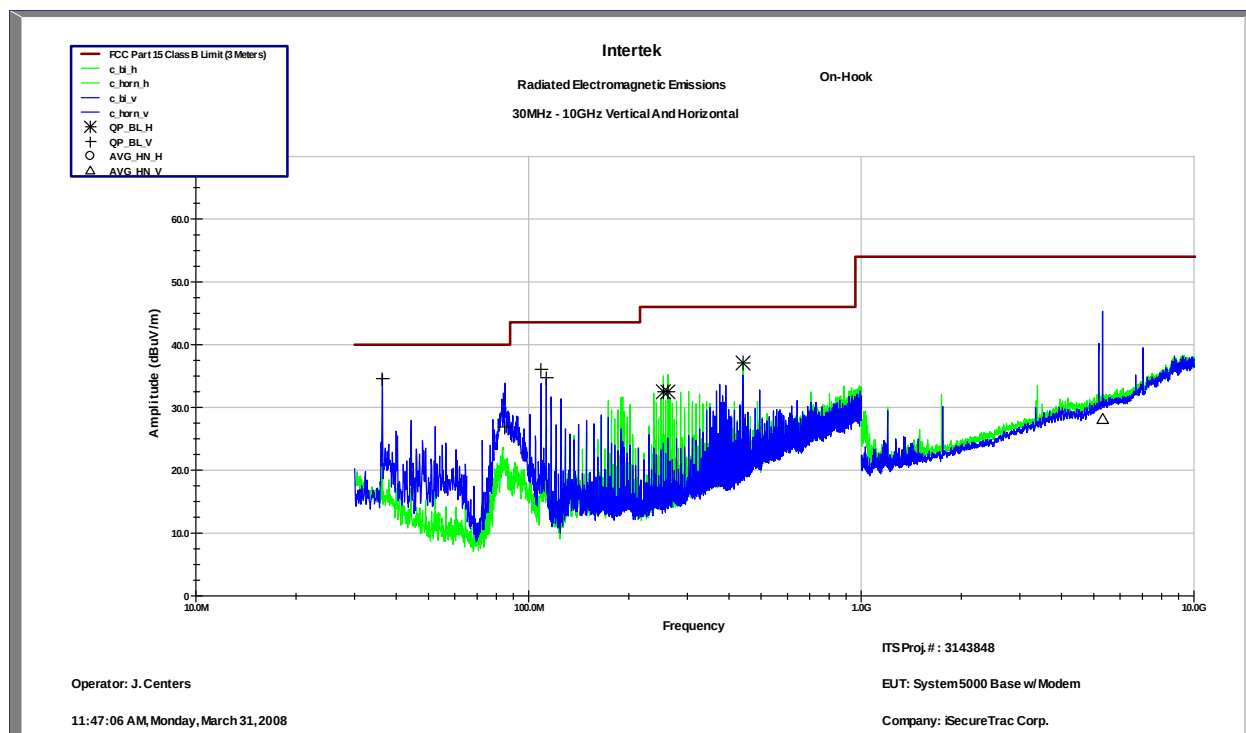


Exhibit 6

Maximized Quasi Peak and Average Emissions – Off-Hook

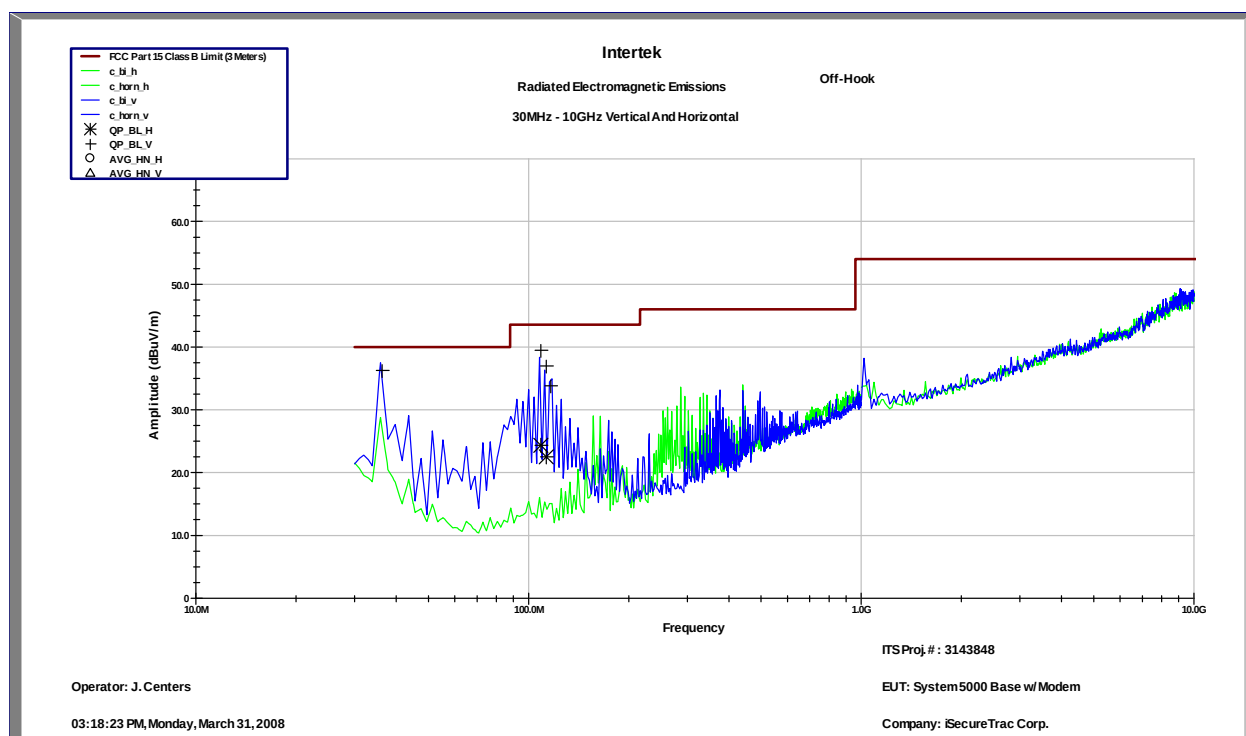


Exhibit 7

Photograph of Radiated Emissions Test Setup – Front

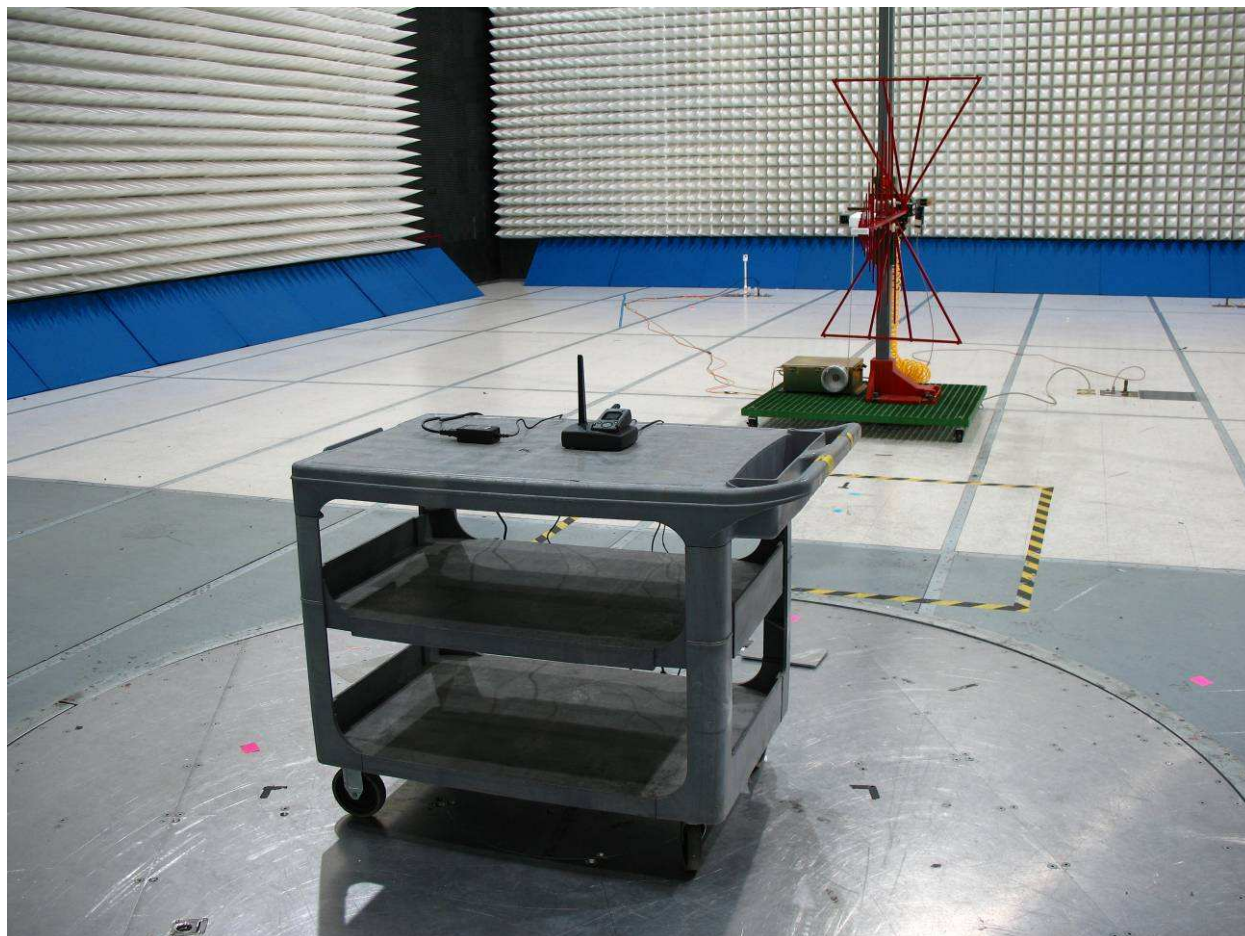


Exhibit 8

Photograph of Radiated Emissions Test Setup – Back

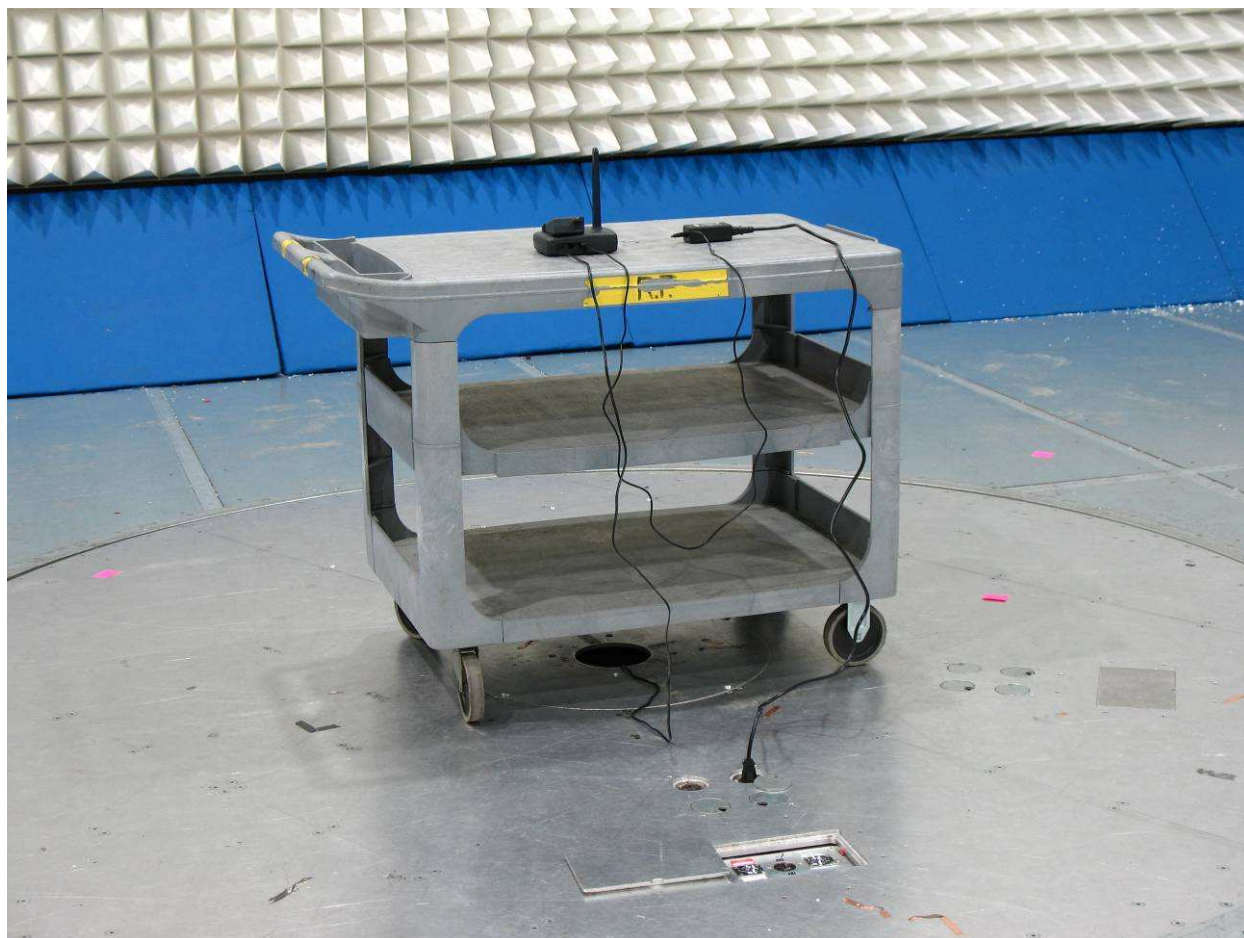


Exhibit 9

3.3 Test Equipment List

Description	Asset Number	Manufacturer	Model	Cal. Date	Cal. Due
EMI Receiver	2327	Rohde & Schwarz	ESI 26	9/17/2007	9/17/2008
Bilog Antenna	3133	ETS	3142C	11/14/2007	11/14/2008
Preamplifier	987410	Miteq	AFS44-00102000-30-10P-44	6/19/2007	6/19/2008
Horn Antenna	6556	ETS	3115	8/2/2007	8/2/2008

4 CONDUCTED VOLTAGE EMISSIONS

4.1 Test Method:

Conducted voltage emission measurements were performed as follows:

- The System 5000 Charging Base with Landline was connected to the power source using a Line Impedance Stabilization Network (LISN) in line with each current carrying conductor.
- A spectrum analyzer was connected to the RF port of the LISN installed on the line under test.
- The LISNs installed on all lines not under test were terminated into 50 Ω .
- The System 5000 Charging Base with Landline was powered. Its functions and features were exercised during the testing process, and a scan was taken.
- The orientation of each connecting cable was varied to find the configuration that maximized the conducted emission.
- The insertion loss of the measurement cable, the LISN insertion loss, and the output of the spectrum analyzer were added together to give a corrected reading in dBuV.
- The corrected reading was compared to the limit above to determine compliance.
- A quasi-peak and/or average detector was used for measurements close to or exceeding the limit with a peak detector.

4.2 Test Results:

The System 5000 Charging Base with Landline was **compliant** with conducted voltage emissions requirements for CFR Title 47 FCC Part 15 Subpart B. No conducted voltage emissions on the AC power interface exceeded the quasi-peak or average limits. See Exhibit 10 for tabular results of conducted voltage emissions and Exhibit 11 and Exhibit 12 for graphical test results.

Conducted Voltage Emissions Tabular Data

Test Engineer: Jason Centers

Test Start Date: 2/28/2008 Test End Date: 3/31/2008

Emissions Specification: CFR Title 47 FCC Part 15 Subpart B

Emission Limit Tested To: Class B

General Notes / Comments / Performance Monitoring Method: Tested in On-Hook and Off-Hook states.

Mode	Line	Frequency (MHz)	Quasi-Peak (dBuV)	Quasi-Peak Limit (dBuV)	Quasi-Peak Delta (dB)	Average (dBuV)	Average Limit (dBuV)	Average Delta (dB)	Results
On-Hook	L1	150.0 KHz	47.56	66	-18.44	25.54	56	-30.46	Compliant
On-Hook	L1	159.0 KHz	46.56	65.52	-18.95	24.24	55.52	-31.27	Compliant
On-Hook	L1	177.0 KHz	43.65	64.63	-20.97	23.12	54.63	-31.5	Compliant
On-Hook	L1	269.9 KHz	40.67	61.12	-20.45	32.09	51.12	-19.03	Compliant
On-Hook	L2	150.0 KHz	44.46	66	-21.54	24.04	56	-31.96	Compliant
On-Hook	L2	159.0 KHz	44.2	65.52	-21.31	23.5	55.52	-32.01	Compliant
On-Hook	L2	177.0 KHz	41.77	64.63	-22.85	22.63	54.63	-31.99	Compliant
On-Hook	L2	275.9 KHz	35.77	60.94	-25.17	27.07	50.94	-23.87	Compliant

Exhibit 10

Conducted Voltage Emissions Graphical Data – On-Hook

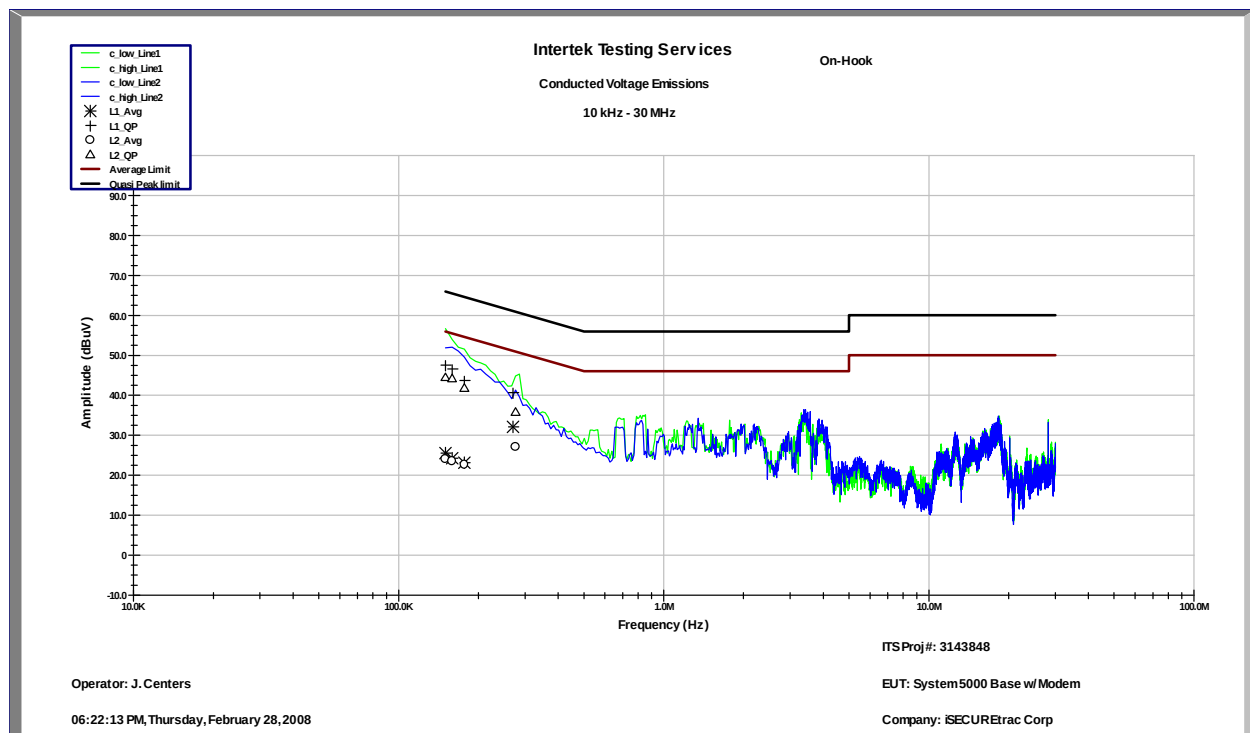


Exhibit 11

Conducted Voltage Emissions Graphical Data – Off-Hook

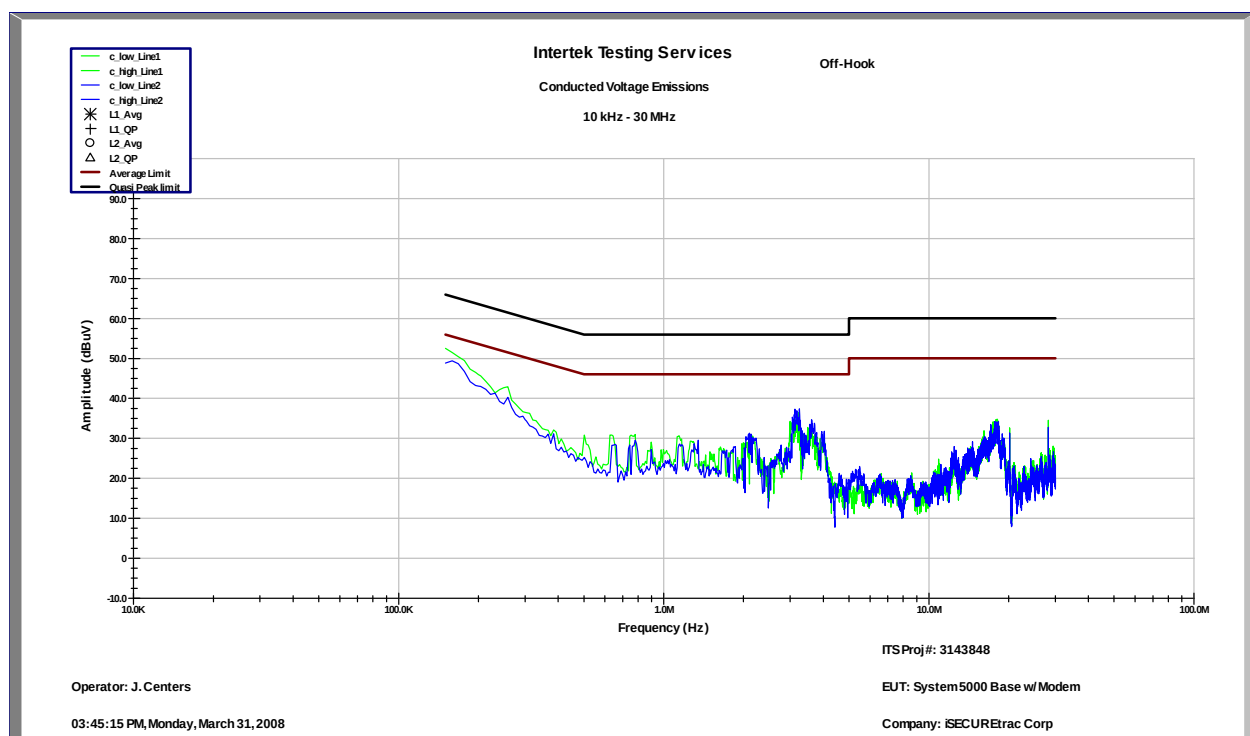


Exhibit 12

Photograph of the Conducted Voltage Emissions Test Setup - Front



Exhibit 13

Photograph of the Conducted Voltage Emissions Test Setup - Back

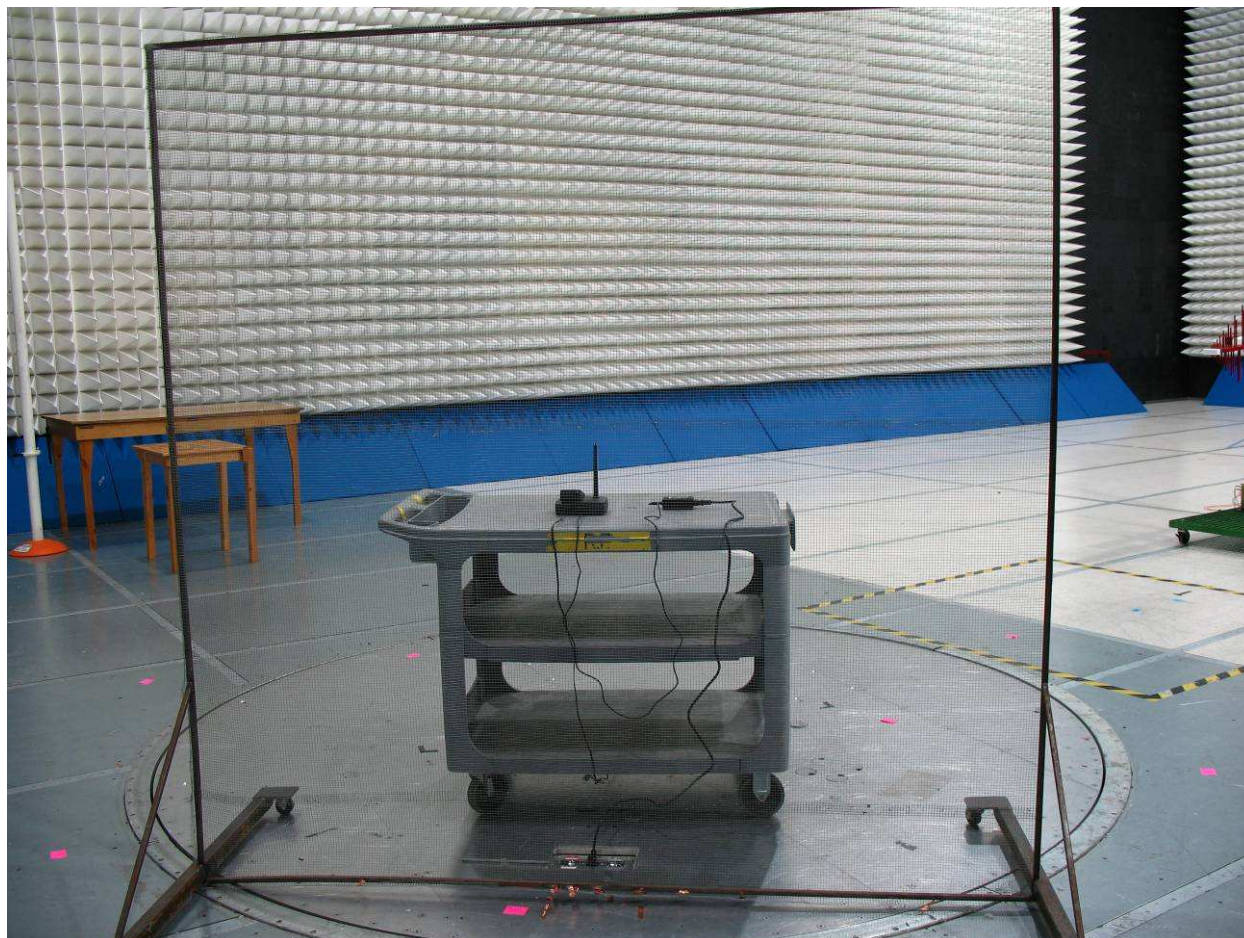


Exhibit 14

4.3 Test Equipment List

Description	Asset Number	Manufacturer	Model	Cal. Date	Cal. Due
EMI Receiver	2327	Rohde & Schwarz	ESI 26	9/17/2007	9/17/2008
LISN	1025	Fischer Custom Communication	FCC-LISN-50-50-2M	5/11/2007	5/11/2008
LISN	1026	Fischer Custom Communication	FCC-LISN-50-50-2M	5/11/2007	5/11/2008