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Test Report:	2007 031019 PX01 FCC
Project number:	26-1019-EXPR1
Applicant:	Carttronics LLC 2042 Corte Del Nogal Suite C Carlsbad, CA 92011
Equipment Under Test (EUT):	No Saw Cut (NSC) Transmitter
Model:	PX01
In Accordance With:	FCC Part 15 Subpart C, 15.249 CANADA, IC RSS-Gen, IC RSS 210
FCC ID#	USH00002
IC ID#	6834A-00002
Tested By:	Nemko USA Inc. 11696 Sorrento Valley Road, Suite F San Diego, CA 92121
Authorized By:	Michael T. Krumweide, EMC Supervisor
Date:	JUNE 7, 2007
Total Number of Pages:	29

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Section 1. Summary of Test Results

General

All measurements are traceable to national standards

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15; Subpart C. Radiated tests were conducted is accordance with ANSI C63.4-2003. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.

This Radio Standards Specification (RSS) sets out the requirements for license exempt low-power intentional radiators. The applicable standard for low-power intentional radiators in Canada, corresponding to FCC Part 15 Subpart C, is RSS-210. The two are very closely harmonized in terms of permitted frequencies, types of operation, and other technical requirements. The test results reported in this report are deemed satisfactory evidence of compliance with Industry Canada Standard RSS-210.

The assessment summary is as follows:

Apparatus Assessed: No Saw Cut (NSC) Transmitter Model PX01

Specification: FCC Part 15 Subpart C, 15.249
IC RSS-Gen (Issue 2, June 2007)
IC RSS 210 (Issue 7. June 2007)

Compliance Status: Complies

Exclusions: None

Non-compliances: None

Report Release History:

REVISION	DATE	COMMENTS
-	June 7, 2007	Prepared By: Ferdinand S. Custodio
-	June 7, 2007	Initial Release: Mike T. Krumweide

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Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025.

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TESTED BY: _____ Date: June 7, 2007
Ferdinand S. Custodio, EMC Test Engineer

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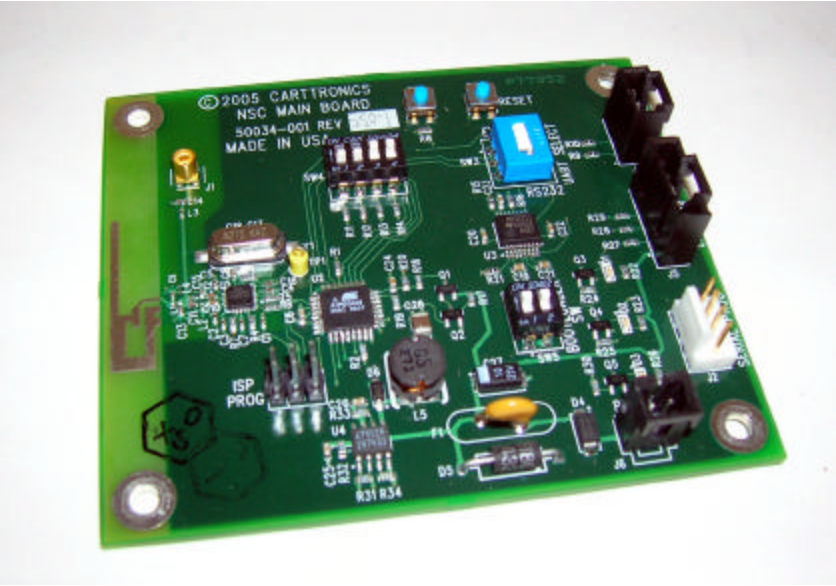
Section 2: Equipment Under Test

2.1 Product Identification

The Equipment Under Test was identified as follows:

PX01 No Saw Cut (NSC) Transmitter

Engineering sample, serial number not available during assessment



2.2 Samples Submitted for Assessment

The following samples of the apparatus have been submitted for type assessment:

Sample No.	Description	Serial No.
PX01	No Saw Cut (NSC) Transmitter	NA
50032-001 Rev A	Antenna Assembly	NA
50101-001 Rev A	AC/DC 12VDC Power Supply Board Assy	NA

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2.3 Theory of Operation

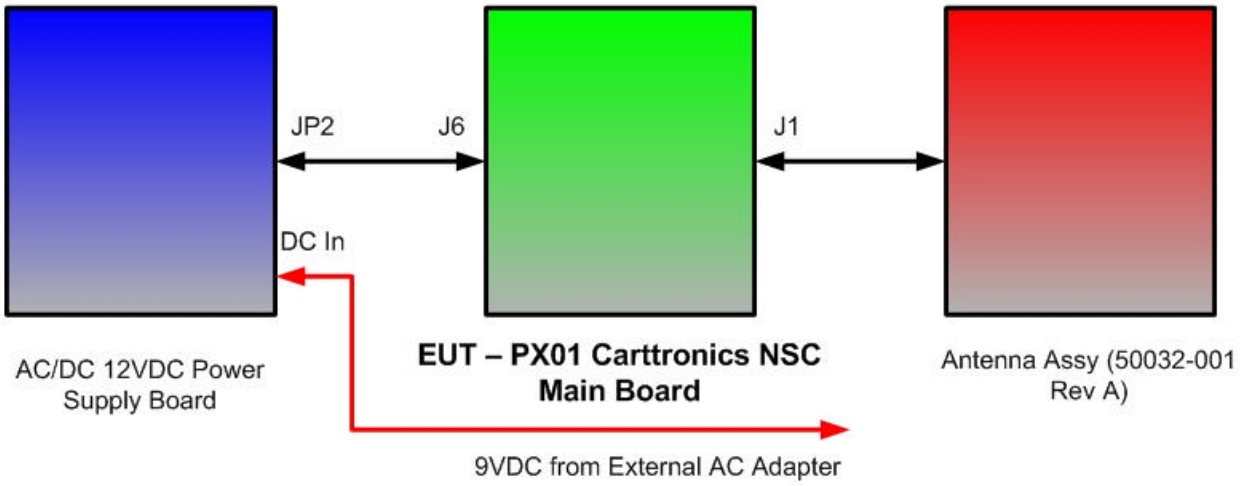
The PX01 is a No Saw Cut (NSC) Transmitter used in retail stores for shopping cart security. It is a 2.4GHz radio transmitter with an internal low gain antenna and an external high gain antenna and was exercised by fully powering on the unit and the output verified by a Spectrum Analyzer. The PX01 is a No Saw Cut (NSC) Transmitter used in retail stores for shopping cart security. It is a 2.4GHz radio transmitter with a high gain antenna and was exercised by fully powering on the unit and the output verified by a Spectrum Analyzer.

2.4 Technical Specifications of the EUT

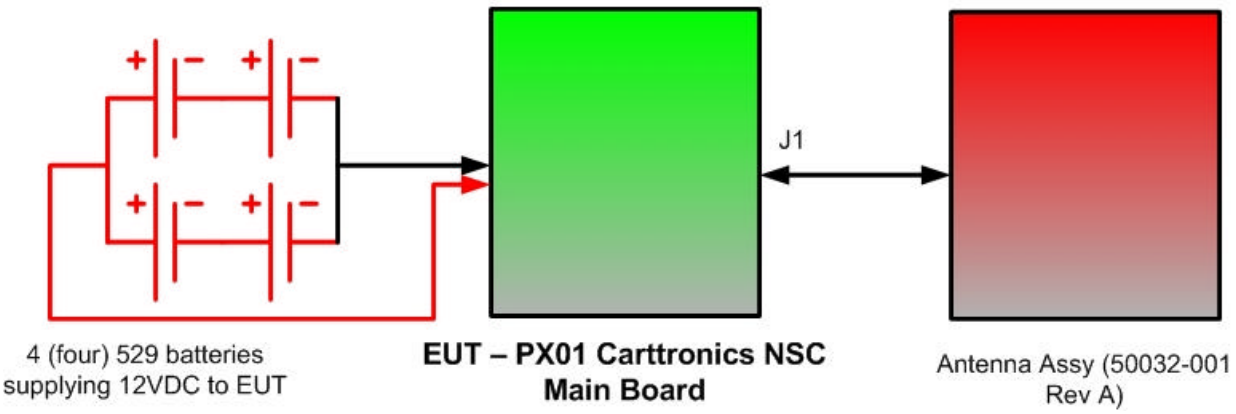
Manufacturer:	Carttronics LLC
Operating Frequency:	2433 MHz in the 2400 - 2483.5 MHz Band
Emission Designator	162KG1D
Rated Power:	61µW
Power Level Setting:	SW4 in EUT all “on” (highest setting)
Modulation:	QPSK
Type of Receiver:	I/Q low-IF receiver
Antenna Data:	Butterfly Antenna 8.5 dBi gain 8.5 dBiPico Cell Patch Antenna Trace antenna – 1.5 dBi gain
Antenna Connector:	Reverse MMCX
Power Sources:	12VDC from 4(four) Energizer 529 Alkaline lantern battery and AC Adapter 9VDC GlobTek®,Inc. Model # GT- A81051-0509UW2 SN5105HB

2.5 Block Diagram

AC Configuration



DC Configuration



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Section 3: Test Conditions

3.1 Specifications

The apparatus was assessed against the following specifications:

FCC Part 15 Subpart C, 15.249
Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5850 MHz and 24.0-24.25 GHz bands.

RSS-Gen General Requirements and Information for the Certification of Radiocommunication Equipment

RSS-210 Low-power License–exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment

3.2 Deviations From Laboratory Test Procedures

No deviations from Laboratory Test Procedure

3.3 Test Environment

All tests were performed under the following environmental conditions:

Temperature range	:	16 – 27 ^{o}C
Humidity range	:	19 - 55 %
Pressure range	:	86 - 106 kPa
Power supply range	:	+/- 5% of rated voltages

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3.4 Test Equipment

Nemko ID	Device	Manufacturer	Model	Serial Number	Cal Date	Cal Due Date
674	Spectrum Analyzer	HP	2882	2007A00910	2/15/06	2/15/07
675	Spectrum Analyzer Display	HP	85662A	2005A01282	2/15/06	2/15/07
676	Quasi-Peak Adapter	HP	85650A	2430A00576	1/5/06	Verified1/19/07
805	LISN	Solar	9348-50-R-24-BNC	992823	12/1/06	12/1/07
542	High Pass Filter	Solar	7801-5.0	838132	3/1/06	3/1/07
560	Transient Limiter	HP	11947A	2820A00502	1/18/06	Verified1/19/07
833	Peak Power Meter	HP	HP8900D	2131A00861	3/31/06	3/31/07
114	Antenna, Bicon	EMCO	3104	2997	12/20/2006	12/20/07
110	Antenna, LPA	Electrometrics	LPA-25	1217	12/18/2006	12/18/07
625	Antenna, Dbl Ridge Horn	EMCO	3116	2325	2/3/2005	Veritfied 1-19-07
827	Preamplifier	Com-Power	PA-103	161032	1/11/06	1/31/07
877	Antenna, DRG Horn, .7-18GHz	AH Systems	SAS-571	688	6/20/06	6/20/07
842	Preamp	NA	Nemko	NA	verified	1/19/07
897	Spectrum Analyzer	Rohde & Schwarz	FSP7	837620/009	8/11/06	8/11/07
835	Spectrum Analyzer	Rohde & Schwarz	RHDFSEK	829058/005	1/18/06	Verified1/19/07
N149	Environmental Chamber	Cincinnati Sub-Zero	ZPHS-32-2-2-H/AC	ZP0552665	5/11/06	5/11/07
911	Spectrum Analyzer	Agilent	E4440A	US41421266	6/7/06	6/7/2007
529	Antenna, DRWG	EMCO	3115	2505	8/31/2006	08/31/07
899	RF Filter Section	HP	85460A	3448A00288	1/18/06	1/18/08
898	EMI Receiver	HP	8546A	3625A00348	1/18/06	1/18/08

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Section 4: Observations

4.1 Modifications Performed During Assessment

No modifications were performed during assessment.

4.2 Record Of Technical Judgements

No technical judgements were made during the assessment.

4.3 EUT Parameters Affecting Compliance

The EUT has a DIP switch (SW4) for output power level settings. All tests performed in this report were done with all switches in “on” position (highest setting).

4.4 Tests Deleted

No Tests were deleted from this assessment.

4.5 Additional Observations

There were no additional observations made during this assessment.

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Section 5: Results Summary

This section contains the following:

FCC Part 15 Subpart C: Test Results and corresponding IC RSS-210 equivalent.

The column headed "Required" indicates whether the associated clauses were invoked for the apparatus under test. The following abbreviations are used:

N No: not applicable / not relevant
Y Yes: Mandatory i.e. the apparatus shall conform to these test.
N/T Not Tested, mandatory but not assessed. (See section 4.4 Test deleted)

The results contained in this section are representative of the operation of the apparatus as originally submitted.

5.1 FCC Part 15 Subpart C and IC RSS-210 Equivalent: Test Results

Part 15	Test Description	Required	Result
15.207 (a) *IC RS-Gen 7.2.2*	Powerline Conducted Emissions	Y	Pass
15.209 (a) *IC RS-210 2.2/2.7*	Radiated Emissions within Restricted Bands	Y	Pass
15.215 (c) *IC RS-Gen 4.4.1*	Occupied Bandwidth	Y	Pass
15.249 (a) *IC RS-210 A2.9*	Radiated Emissions not in Restricted Bands	Y	Pass
15.249 (b)	Fixed Point-to-Point operation in the 24.0-24.25 GHZ Band	N	
15.249 (d) *IC RS-210 2.6*	Spurious Emissions (except Harmonics)	Y	Pass
2.1055 (a) *IC RS-210 2.1,IC RS-Gen 4.5*	Frequency Stability	Y	Pass

Notes:

Spurious Emissions was measured when the unit is in "Stand By" mode to show compliance with IC RSS General Receiver requirements, however no emissions were detected.

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Appendix A: Test Results

Clause 15.209(a) Radiated Emissions within Restricted Bands

(a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (uV/meter)	Measurement Distance (meter)
0.009-0.490	2400/F (kHz)	300
0.490-1.705	24000/F (kHz)	30
1.705-30.0	30	3
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Conditions:

Sample Number:	PX01	**Temperature:**	16
Date:	January 19, 2007	**Humidity:**	25
Modification State:		**Tester:**	Ferdinand Custodio
		Laboratory:	OATS

Test Results:

There are no Radiated Emissions found within the Restricted Bands.

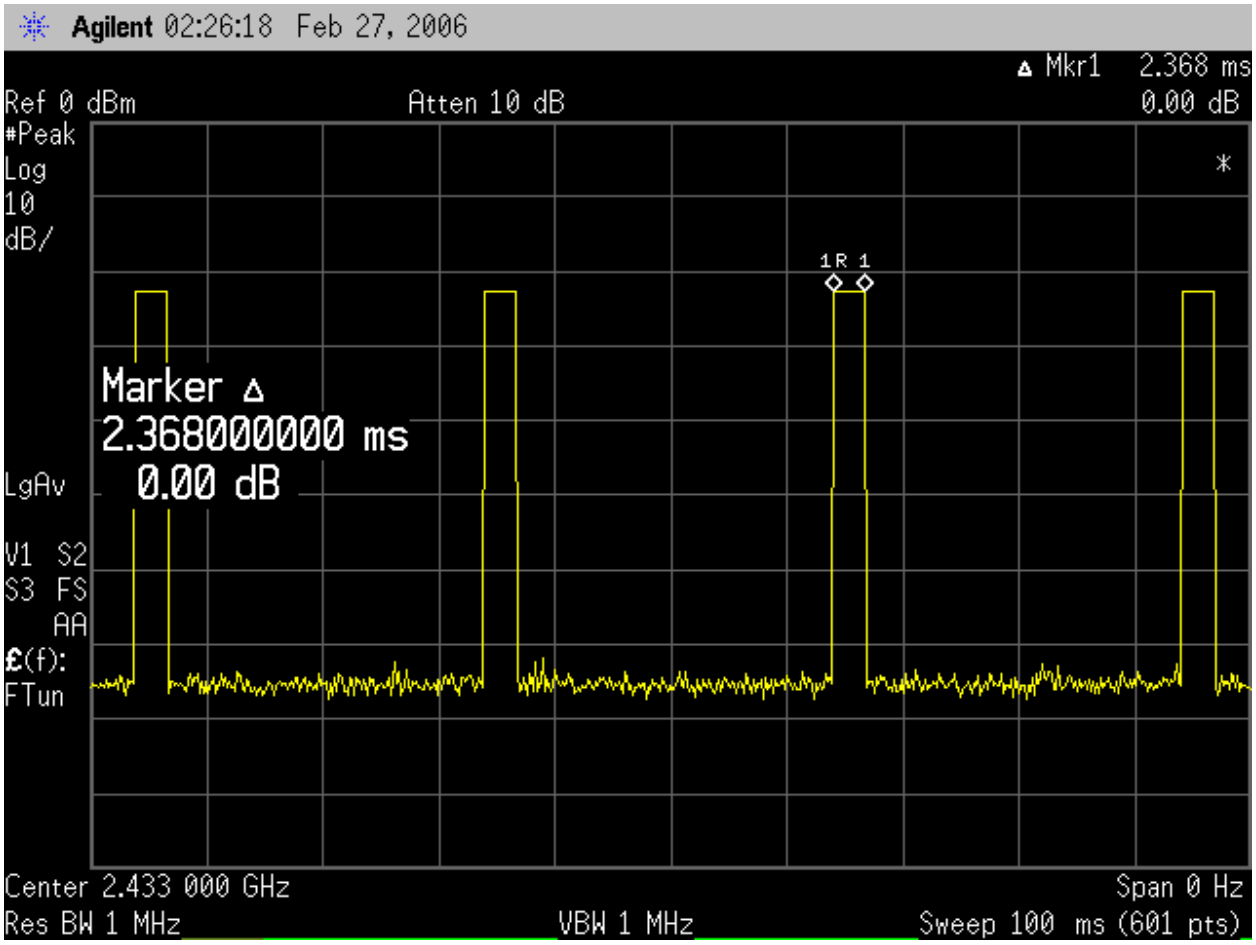
Additional Observations:

The Spectrum was searched from 30MHz to the 10th Harmonic or 24330 MHz.

These results apply to emissions found in the restricted bands defined in FCC Part 15 Subpart C, 15.205. The EUT was measured on three orthogonal axes, worst case presented.

All Measurements (including above 1GHz) were performed at 3m with a Peak detector of 1MHz RBW/VBW. Average measurements are computed using the formula FS avg = FS peak-20 log (duty cycle).

Duty Cycle Plot



2.368 x 4 = 9.47
9.47/100 = 0.0947
20 x log(0.0947) = -20.47 dB, which is more than FCC allows.
Therefore DCF = -20 dB

Using 1.5 dBi gain trace antenna

Radiated Emissions Data

Complete X — Job # : 26-1019-EXPR — Test # : 1
Preliminary — Page 1 of 1

Client Name : Carttronics
EUT Name : NSC Transmitter
EUT Model # : PX01
EUT Part # :
EUT Serial # :
EUT Config. : Transmit (Average computed using 10.0% duty cycle - Actual is 9.47%)

Specification : FCC Part 15.209 (a) Not in Restricted Bands — Reference :
Rod. Ant. #: NA — Temp. (deg. C) : 16 — Date : Jan. 19, 2007
Bicon Ant.#: NA — Humidity (%) : 25 — Time : 3:00PM
Log Ant.#: NA — EUT Voltage : Battery — Staff : FSCustodio
DRG Ant. # 877 — EUT Frequency : — Quasi-Peak RBW: 120 kHz
Dipole Ant.#: NA — Phase: — Video Bandwidth 120 kHz
Cable#: 40ft — Location: RN# 329550-01 — Average RBW: 1 MHz
Preamp#: 842 — Distance: 3 meters — Video Bandwidth 10 Hz
Spec An.#: 835 — Peak RBW: 1 MHz
QP #: NA — Video Bandwidth 1 MHz
PreSelect#: NA

Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.
Measurements above 1 GHz are Average values, unless otherwise stated.

Meas. Freq. (MHz)	Ant. Pol. (H/V)	Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail Unc.	Comment
4866	V		58.7	33.9	6.0	44.4	54.2	74.0	-19.8	Pass	Peak
4866	H		54.6	33.9	6.0	44.4	50.1	74.0	-23.9	Pass	
4866	V		38.7	33.9	6.0	44.4	34.2	54.0	-19.8	Pass	Average
4866	H		34.6	33.9	6.0	44.4	30.1	54.0	-23.9	Pass	
7299	V		53.9	36.8	9.6	42.4	57.9	74.0	-16.1	Pass	Peak
7299	H		53.9	36.8	9.6	42.4	57.9	74.0	-16.1	Pass	
7299	V		33.9	36.8	9.6	42.4	37.9	54.0	-16.1	Pass	Average
7299	H		33.9	36.8	9.6	42.4	37.9	54.0	-16.1	Pass	

Using 8.5 dBi gain antenna

Radiated Emissions Data

Complete X — Job # : 26-1019-EXPR — Test # : 1
Preliminary — Page 1 of 1

Client Name : Carttronics
EUT Name : NSC Transmitter
EUT Model # : PX01
EUT Part # :
EUT Serial # :
EUT Config. : Transmit (Average computed using 10.0% duty cycle - Actual is 9.47%)

Specification : FCC Part 15.209 (a) Restricted Bands — Reference :
Rod. Ant. #: NA — Temp. (deg. C) : 16 — Date : Jan.19, 2007
Bicon Ant.#: NA — Humidity (%) : 25 — Time : 1:00PM
Log Ant.#: NA — EUT Voltage : Battery — Staff : FSCustodio
DRG Ant. # 877 — EUT Frequency :
Dipole Ant.#: NA — Phase:
Cable#: 40ft — Location: RN# 329550-01
Preamp#: 842 — Distance: 3 meters
Spec An.#: 835
QP #: NA
PreSelect#: NA

Quasi-Peak RBW: 120 kHz
Video Bandwidth 120 kHz
Avergage = Peak + Duty Cycle Factor
Peak RBW: 1 MHz
Video Bandwidth 1 MHz

Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.
Measurements above 1 GHz are Average values, unless otherwise stated.

Meas. Freq. (MHz)	Ant. Pol. (H/V)	Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail Unc.	Comment
4866	V		62.6	33.9	6.0	44.4	58.1	74.0	-15.9	Pass	Peak
4866	H		57.5	33.9	6.0	44.4	53.0	74.0	-21.0	Pass	
4866	V		42.6	33.9	6.0	44.4	38.1	54.0	-15.9	Pass	Average
4866	H		37.5	33.9	6.0	44.4	33.0	54.0	-21.0	Pass	
7299	V		54.1	36.8	9.6	42.4	58.1	74.0	-15.9	Pass	Peak
7299	H		54.6	36.8	9.6	42.4	58.6	74.0	-15.4	Pass	
7299	V		34.1	36.8	9.6	42.4	38.1	54.0	-15.9	Pass	Average
7299	H		34.6	36.8	9.6	42.4	38.6	54.0	-15.4	Pass	

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IC RS-210 2.2/2.7 Radiated Emissions within Restricted Bands

Test Results:

There are no Radiated Emissions found within the Restricted Bands. See table from previous page.

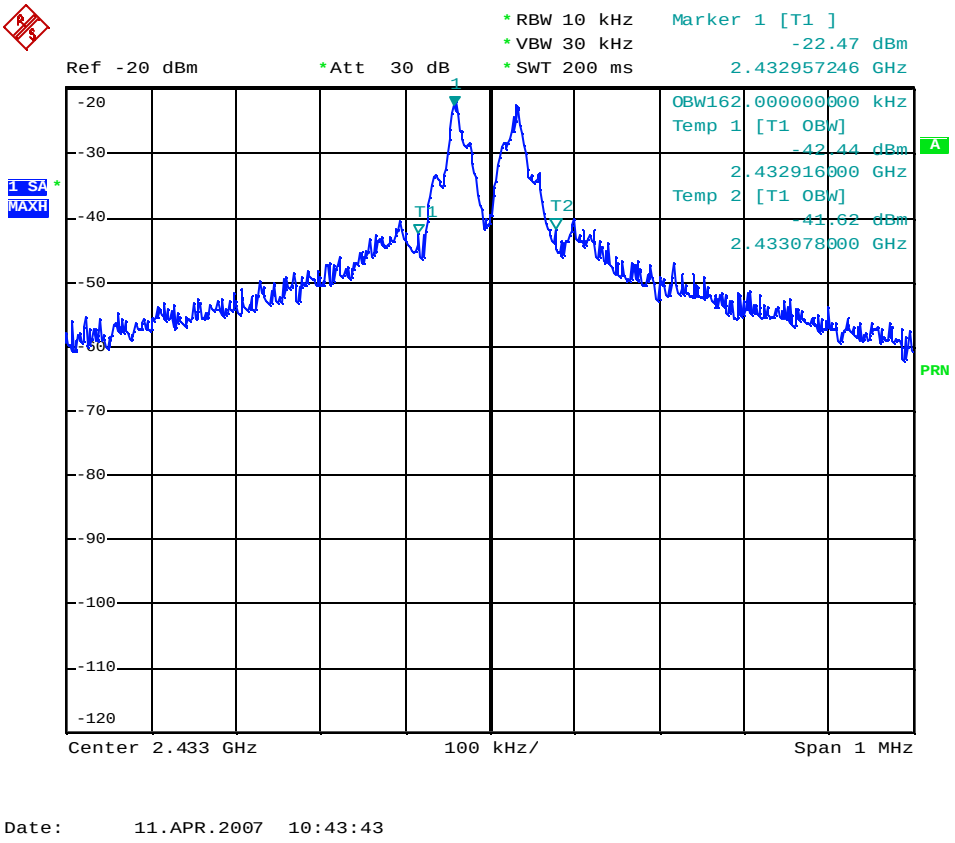
Clause 15.215(c) Occupied Bandwidth

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in Sec. Sec. 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

Test Conditions:

Sample Number:	PX01	**Temperature:**	22
Date:	April 11, 2007	**Humidity:**	44
Modification State:		**Tester:**	Ferdinand Custodio
		Laboratory:	Nemko

Test Results: Single channel radio.



Measured Occupied Bandwidth = 162kHz

Clause 15.249(a) Radiated Emissions not in Restricted Bands

Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency (MHz)	Field strength of fundamental (mV/meter)	Field strength of harmonics (uV/meter)
902-928	50	500
2400-2483.5	50	500
5725-5875	50	500
24000-24250	250	2500

Test Conditions:

Sample Number:	PX01	**Temperature:**	16
Date:	January 19, 2007	**Humidity:**	25
Modification State:		**Tester:**	Ferdinand Custodio
		Laboratory:	OATS

Test Results:

See Attached Plots.

Additional Observations:

The Spectrum was searched from 30MHz to the 10th Harmonic.

The EUT was measured on three orthogonal axes with supplied AC Adapter, no output power changes occurred when AC was varied by 15% of rated voltage.

All Measurements (including above 1GHz) were performed at 3m with a Peak detector of 1MHz RBW/VBW. Average measurements are measured using VBW of 10Hz.

Rated Power Calculations:

TP =$(FS \times D)^2 / (30 \times G)$
where
TP= Transmitter Output Power in Watts
FS= Field Strength in V/m
D = Distance in meters
G = Antenna Gain reference to Isotropic =1

FS in V/m = $10^{((FSdBuV/m-120)/20)}$
FS in V/m = $10^{((83.1dBuV/m-120)/20)}$
= 0.0193 V/m
TP =$(0.0143 \times 3)^2 / (30 \times 1)$
= 0.061mW
=**-12.2 dBm**

Corrected Reading = Average + Antenna Factor + Path Loss – RF Gain(preamp)
Using 8.5 dBi gain antenna

Radiated Emissions Data

Complete X
Preliminary
Job # : 26-1019-EXPR Test # : 1
Page 1 of 1

Client Name : Carttronics
EUT Name : NSC Transmitter
EUT Model # : PX01
EUT Part # :
EUT Serial # :
EUT Config. : Transmit

Specification : FCC Part 15.209 (a) Not in Restricted Bands
Reference :
Rod. Ant. #: NA
Temp. (deg. C) : 16
Date : Jan. 19, 2007
Bicon Ant.#: NA
Humidity (%) : 25
Time : 1:00PM
Log Ant.#: NA
EUT Voltage : Battery
Staff : FSCustodio
DRG Ant. # 877
EUT Frequency :
Quasi-Peak RBW: 120 kHz
Dipole Ant.#: NA
Phase:
Video Bandwidth 120 kHz
Cable#: 40ft
Location: RN# 329550-01
Averagen = Peak + Duty Cycle Factor
Preamp#: NA
Distance: 3 meters
Spec An.#: 835
Peak RBW: 1 MHz
QP #: NA
Video Bandwidth 1 MHz
PreSelect#: NA

Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.
Measurements above 1 GHz are Average values, unless otherwise stated.

Meas. Freq. (MHz)	Ant. Pol. (H/V)	Peak Reading (dBuV)	Ave. Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail Unc.	Comment
2433	V	70.61	50.61	28.5	4.0	0.0	83.1	94.0	-10.9	Pass	
2433	H	50.13	30.13	28.5	4.0	0.0	62.6	94.0	-31.4	Pass	

Using 1.5 dBi gain trace antenna

Radiated Emissions Data

Complete: X | Job # : 26-1019-EXPR | Test # : 1
Preliminary: | Page 1 | of 1

Client Name : Carttronics
EUT Name : NSC Transmitter
EUT Model # : PX01
EUT Part # :
EUT Serial # :
EUT Config. : Transmit (1.5dBi antenna)

Specification : FCC Part 15.209 (a) Not in Restricted Bands | Reference :
Rod. Ant. #: NA | Temp. (deg. C) : 16 | Date : Jan. 19, 2007
Bicon Ant.#: NA | Humidity (%) : 25 | Time : 1:00PM
Log Ant.#: NA | EUT Voltage : 120VAC | Staff : FSCustodio
DRG Ant. # 877 | EUT Frequency : 60Hz | Quasi-Peak RBW: 120 kHz
Dipole Ant.#: NA | Phase: 1 | Video Bandwidth 120 kHz
Cable#: 40ft | Location: RN# 329550-01 | Average RBW: 1 MHz
Preamp#: NA | Distance: 3 meters | Video Bandwidth 10 Hz
Spec An.#: 835 | Peak RBW: 1 MHz
QP #: NA | Video Bandwidth 1 MHz
PreSelect#: NA

Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.
Measurements above 1 GHz are Average values, unless otherwise stated.

Meas. Freq. (MHz)	Ant. Pol. (H/V)	Peak Reading (dBuV)	Ave. Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail Unc.	Comment
2433	V	48.91	45.71	29.5	5.9	0.0	81.1	94.0	-12.9	Pass	
2433	H	46.73	43.05	29.5	5.9	0.0	78.4	94.0	-15.6	Pass	

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Clause 15.249(d) Spurious Emissions (except Harmonics)

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Sec. 15.209, whichever is the lesser attenuation.

Test Conditions:

Sample Number:	PX01	**Temperature:**	22
Date:	November 22, 2006	**Humidity:**	55
Modification State:		**Tester:**	Ferdinand Custodio
		Laboratory:	SOATS

Test Results:

See Attached Tables.

Additional Observations:

The Spectrum was searched from 30MHz to the 10th Harmonic.

The EUT was measured on three orthogonal axes with supplied AC Adapter.

All Measurements were performed at 3m with a Quasi-Peak detector below 1GHz and a Peak detector of 1MHz RBW/VBW above 1GHz.

No Spurious Emissions (except Harmonics) were detected above 1GHz.

Measurements without RF gain were measured using Asset # 899 and 898 with built-in pre-amp.

NEMKO USA, Inc.

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Radiated Emissions Data

Complete X
Preliminary

Job # : 26-1019-EXPR Test # : 5
Page of

Client Name : Carttronics
EUT Name : Magnetic Transceiver System
EUT Model # : PX01
EUT Part # :
EUT Serial # :
EUT Config. : Transmit

Specification : CFR47 Part 15, Subpart B, Class B
Reference :

Rod. Ant. #: NA
Bicon Ant.#: 114
Log Ant.#: 110
DRG Ant. # 529
Dipole Ant.#: NA
Cable#: SOATS
Preamp#: 827
Spec An.#: 911/899/898
QP #: 911/899
PreSelect#: NA

Temp. (deg. C) : 27
Humidity (%) : 19
EUT Voltage : Battery
EUT Frequency :
Phase:
Location: SOATS
Distance: 3 meters

Date : Nov. 22, 2006
Time :
Staff : Ferdinand Custodio

Quasi-Peak RBW:	120 kHz
Video Bandwidth	120 kHz
Average RBW:	1 MHz
Video Bandwidth	10 Hz
Peak RBW:	1 MHz
Video Bandwidth	1 MHz

Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.
Measurements above 1 GHz are Average values, unless otherwise stated.

Meas. Freq. (MHz)	Ant. Pol. (H/V)	Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail Unc.	Comment
30.578	V		36.54	12.9	1.0	32.4	18.0	40.0	-22.0	Pass	Ambient Noise
61.722	V		44.32	11.1	1.3	32.5	24.2	40.0	-15.8	Pass	Ambient Noise
100.45	V		8.5	12.2	1.7	0.0	22.4	43.5	-21.1	Pass	
108.74	V		15.3	13.1	1.7	0.0	30.1	43.5	-13.4	Pass	
123.21	V		11.9	15.7	1.8	0.0	29.4	43.5	-14.1	Pass	
137.32	V		10.6	11.5	1.8	0.0	23.9	43.5	-19.6	Pass	
300.11	H		10.1	14	2.9	0.0	27.0	46.0	-19.0	Pass	

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IC RSS-Gen 7.2.2 Transmitter and Receiver AC Power Lines Conducted Emissions Limits

The purpose of this test is to measure unwanted radio frequency currents induced in any AC conductor external to the equipment which could conduct interference to other equipment via the AC electrical network.
Except when the requirements applicable to a given device state otherwise, for any licence-exempt radiocommunication device equipped to operate from the public utility AC power supply, either directly or indirectly, the radio frequency voltage that is conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in Table 2. The tighter limit applies at the frequency range boundaries.
The conducted emissions shall be measured with a 50 ohm/50 microhenry line impedance stabilization network. A description of the method of measurement that is acceptable to Industry Canada is found in RSS-212.

AC Power Lines Conducted Emissions Limits

Frequency range (MHz)	**Conducted limit (dBµV)**	
	Quasi-peak	**Average**
0.15 – 0.5	66 to 56*****	56 to 46*****
0.5 – 5	56	46
5 – 30	60	50

*Decreases with the logarithm of the frequency

Test Conditions:

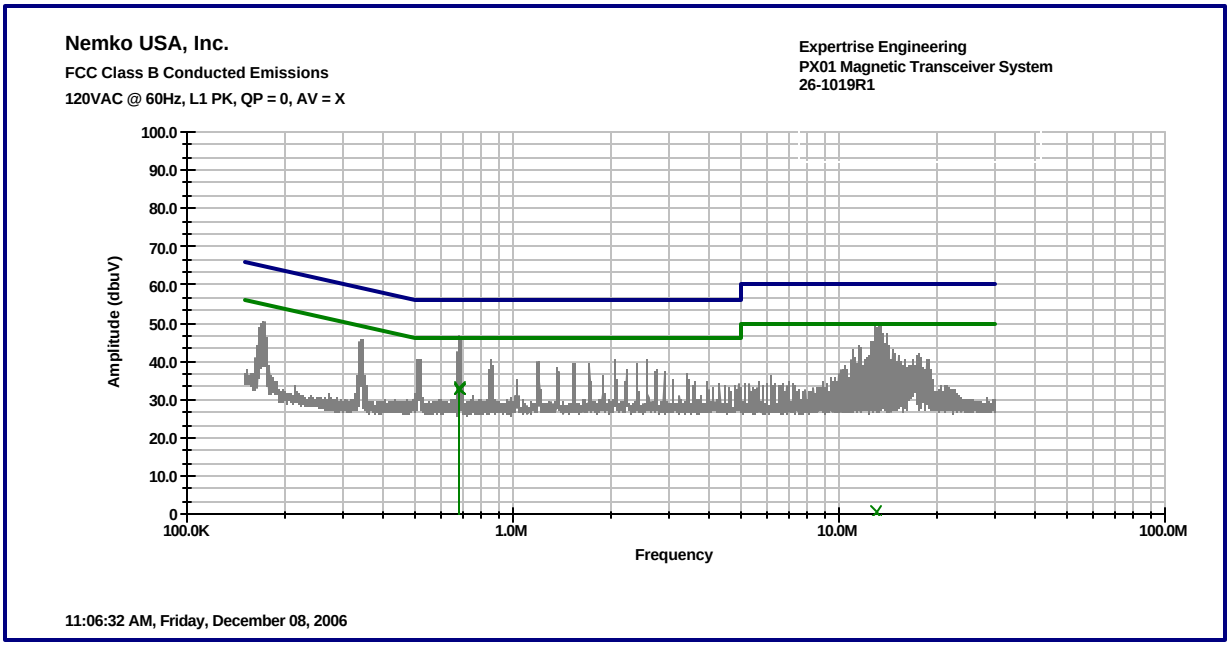
Sample Number:	PX01	**Temperature:**	22
Date:	December 8, 2006	**Humidity:**	44
Modification State:	Transmit	**Tester:**	Ferdinand Custodio
		Laboratory:	Shield Room #1

Test Results:

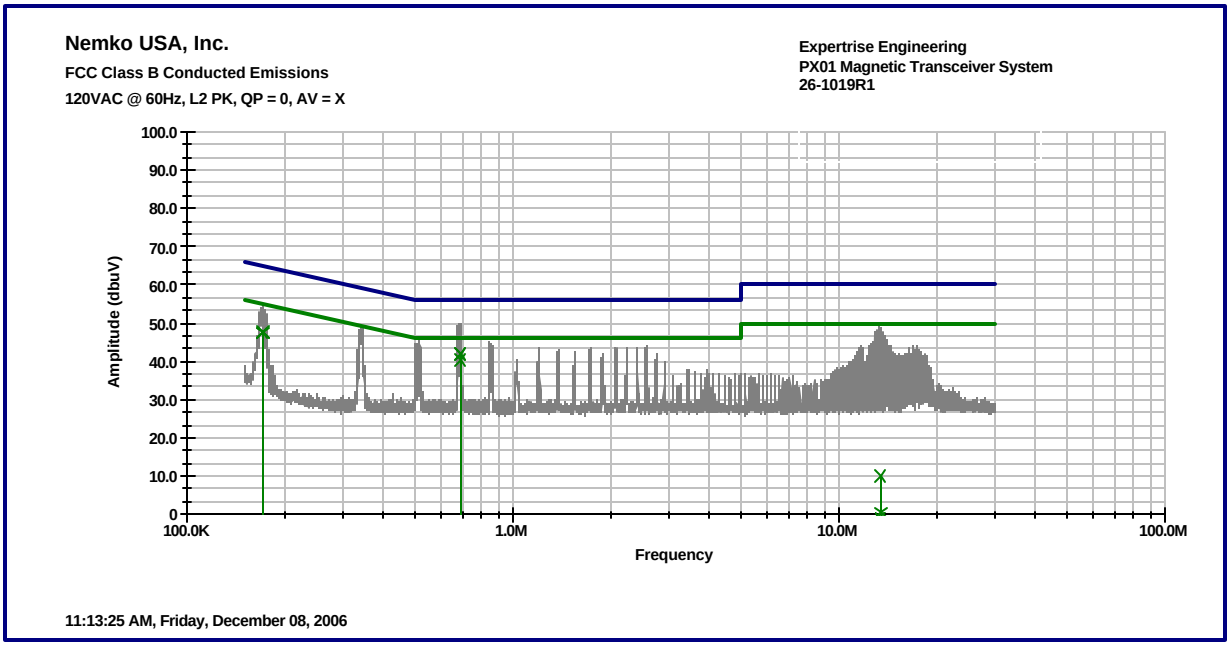
See Attached Plots.

Notes:

- Test was done using the supplied AC Adapter/Charger (GlobTek Inc. Model# GT- A81051-0509UW2, DC 9V). Detector is Peak with RF BW of 100kHz. No Quasi Peak measurements were done since peak results are below the Quasi Peak limits.
- Data are peak. Green limit line is Average while Blue limit line is Quasi Peak.



Line 1



Line 2

Legend:

Gray - Peak Data with Average measurements (green X marker)
Green - Average limit
Blue - Quasi Peak limit

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Clause 2.1055(a) Frequency Stability

(a) The frequency stability shall be measured with variation of ambient temperature as follows:
(1) From -30[deg] to +50[deg] centigrade for all equipment except that specified in paragraphs (a) (2) and (3) of this section.

Test Conditions:

Sample Number:	PX01	**Temperature:**	19.4
Date:	January 12, 2007	**Humidity:**	26
Modification State:	Transmit	**Tester:**	Ferdinand Custodio
		Laboratory:	Humidity Chamber

Test Results:

3300 Hz difference, which corresponds to 1.35 ppm
Limit = 10 ppm

See Attached table.

Part 2.1055 (-30°C to +50°C)
Spectrum Analyzer @ 100KHz RBW, 100KHZ VBW, 5MHz Span

Worst case variation: **3300.0** **Hz (>Set freq.)**
2460.0 **Hz (<Set freq.)**

Mid Channel
Set Frequency: **2433** MHz@25C
*Red are negative numbers

Temp.Set Point Temp.Actual	Time	**85% of Vnom (7.65VDC)** Frequency ? (MHz) Difference (MHz)	**Vnom=9VDC** Frequency ? (MHz) Difference (MHz)	**115% of Vnom (10.35VDC)** Frequency ? (MHz) Difference (MHz)
-30 -29.9	8:30AM	2432.99985 0.000150000	2432.999 0.001000000	2433.0013 0.001300000
-20 -20.1	9:30AM	2432.9985 0.001500000	2432.9985 0.001500000	2433.0024 0.002400000
-10 -10	10:30AM	2432.9977 0.002300000	2432.9977 0.002300000	2433.0025 0.002500000
0 0.1	11:30AM	2432.99767 0.002330000	2432.9976 0.002400000	2433.0033 0.003300000
10 10.01	12:30PM	2432.99767 0.002330000	2432.99767 0.002330000	2433.0001 0.000100000
20 20.1	1:30PM	2432.99767 0.002330000	2432.9982 0.001800000	2433 0.000000000
30 29.99	2:30PM	2432.99754 0.002460000	2432.99754 0.002460000	2433 0.000000000
40 40.02	3:30PM	2432.99767 0.002330000	2432.9991 0.000900000	2433.0021 0.002100000
50 50	4:30PM	2432.9996 0.000400000	2432.9991 0.000900000	2433.0021 0.002100000

Appendix B: Test Set Up Photographs

Spurious Emissions Setup :

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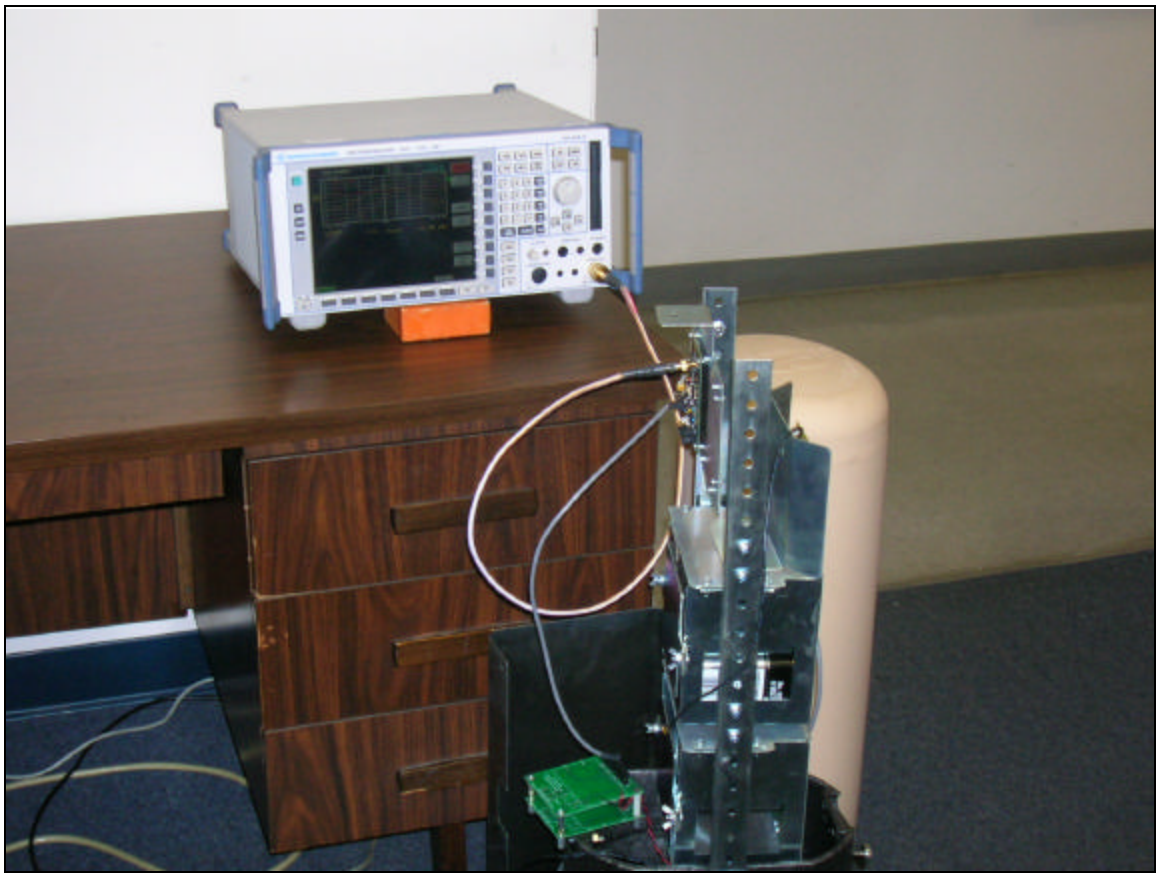
Occupied Bandwidth Test Setup:



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Conducted Emissions Test Setup:

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Frequency Stability Test Setup: