Exhibit B – Test Report
Capitol Circuit Works.
Pest Alert System - Transmitter

Project Number: 03342-10

Prepared for:

CAPITOL CIRCUIT WORKS.
P. O. Box 500169
Austin, TX 78750

By

Professional Testing (EMI), Inc.
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April 2003

CERTIFICATION
Electromagnetic Interference
Test Report

CAPITOL CIRCUIT WORKS.
PEST ALERT SYSTEM
(Transmitter Portion)

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Certificate of Compliance

Applicant:	Capitol Circuit Works.
Applicant's Address:	P. O. Box 500169 Austin, TX 78750
Model:	Pest Alert System - Transmitter
Serial Number:	5/4
Project Number:	03342-10

The **Capitol Circuit Works. Pest Alert System – Live Trap and Rodent TrapTransmitters** were tested to and found to be in compliance with FCC Part 15.205, 15.209, and 15.231 for Intentional Radiators that transmit only recognition codes.

The highest average emissions generated by the above equipments are listed below:

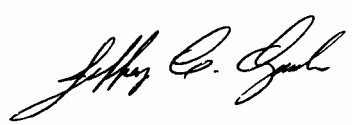
Live Trap Transmitter XP100

	Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)
Average Fundamental	315	72.8	75.6	-2.8
Peak Fundamental	315	77.9	95.6	-17.7

Rodent Trap Transmitter XP101

	Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)
Average Fundamental	315	73.6	75.6	-2.0
Peak Fundamental	315	78.7	95.6	-16.9

I, Jeffrey A. Lenk, for Professional Testing (EMI), Inc., being familiar with the FCC rules and test procedures have reviewed the test setup, measured data and this report. I believe them to be true and accurate.



Jeffrey A. Lenk
President

1.0 EUT Description

The Equipments Under Test (EUT) are the **Capitol Circuit Works. Pest Alert System – Live Rap and Rodent Trap Transmitters**. The internal circuitry of each transmitter is identical with the exception of the triggering method.

The Live Trap Transmitter XP100 is a device that fits on trap doors and sends a signal to the accompanying receiver when a live animal enters the trap and the door swings shut into a vertical position. The XP100 is a 9V internal battery powered transmitter. It transmits a recognition code non-regularly every 15 to 20 minutes when activated. This transmitter only transmits in the vertical upright position. A tilt switch is used to accomplish activation.

The Rodent Trap transmitter XP101 attaches to standard Rodent Traps. When the Rodent Trap is tripped, circuit is broken and the transmitter sends a signal to the receiver. The XP100 is a 9V internal battery powered transmitter. It transmits a recognition code non-regularly every 15 to 20 minutes when activated.

The EUTs operate at 315 MHz and are designed for compliance with 47 CFR 15.231 of the FCC rules. Specific test requirements for the devices include the following:

47 CFR 15.231	Fundamental Transmit Power
47 CFR 15.231 & 15.209	Spurious Radiated Power
47 CFR 15.203	Antenna Requirement

The system tested consisted of the following:

Manufacturer & Model	Serial #	FCC ID #	Description
Capitol Circuit Works., Pest Alert System – Transmitters		None	
Live Trap Transmitter XP100	5		Pest Alert transmitter for Live Trap
Rodent Trap Transmitter XP101	4		Pest Alert transmitter for Rodent Trap
System Peripherals			
Victor	None	None	3 x 7 Inch Rodent Trap

1.1 EUT Operation

The **Live Trap Transmitter XP100 Transmitter** was tested only in the upright position. The EUT only transmits in the upright position. No conducted emissions testing was done due to battery powered operation.

The **Rodent Trap XP101** was tested in all three orthogonal planes.

2.0 Electromagnetic Emissions Testing

Professional Testing (EMI), Inc. (PTI), follows the guidelines of NIST for all uncertainty calculations, estimates and expressions thereof for EMC testing.

2.1 Radiated Emissions Measurements

Radiated emission measurements were made of the Fundamental and Spurious Emission levels for the **Pest Alert System System- Live Trap and Rodent TrapTransmitters**. Measurements of the occupied bandwidth were also made for the equipments.

Measurements of the maximum emission levels for the fundamental and the spurious/harmonic emissions of the **Pest Alert System - Live Trap and Rodent TrapTransmitters** were made at the Professional Testing "Open Field" Site 3, located in Round Rock, Texas to determine the radio noise radiated from the EUT. A "Description of Measurement Facilities" has been submitted to the FCC and approved pursuant to Section 2.948 of CFR 47 of the FCC rules.

2.1.1 Test Procedure

The following testing procedure was applied to both the EUTs mentioned above.

The EUT was placed on a non-conductive table 0.8 meters above the ground plane. The table was centered on a motorized turntable, which allows 360-degree rotation. For measurements of the fundamental signal, a measurement antenna was positioned at a distance of 1 meter as measured from the closest point of the EUT. For spurious/harmonic measurements above 1 GHz, the measurement antenna was placed 1 meter from the EUT. The radiated emissions were maximized by configuring the EUT and by rotating the EUT.

A Spectrum Analyzer with peak detection was used to find the maximums of the radiated emissions during the variability testing. A drawing showing the test setup is given as Figure 1.

2.1.2 Test Criteria

The table below shows FCC Part 15.231 radiated limits for an intentional radiator operating at 315 MHz, with a pulse-transmitted recognition code at non-predetermined intervals. In addition to these requirements, the EUT must meet the restricted emission band requirements of §15.209. For this frequency range, the unintentional radiated emission limits of §15.231 for 315 MHz radiator is higher than the restricted band limits of §15.209. Therefore, the limits of §15.231 was used for the spurious emission test. The spurious measurements of the harmonic were performed to the 10th harmonic of the fundamental. The reference distance for each limit is also shown in this table.

Signal Type	Test Distance (Meters)	Field Strength (uV/m)	(dBuV/m)
Fundamental (315 MHz)	3	6041.7	75.6
2nd Harmonic (630 MHz)	3	604.2	55.6
3rd Harmonic 945 MHz	3	604.2	55.6
4th Harmonic and above	1	1812.6	65.2

2.1.3 Test Results

The radiated test data for the fundamental is included in Appendix A. Both Peak and Average detector functions were used during the test. The radiated emission test data for the harmonics is included in Appendix A. The emissions were maximized at each frequency and the highest emissions identified were measured using average detection. The radiated emissions generated by the **Pest Alert System – Live Trap and Rodent TrapTransmitters** are below the FCC Part 15.231 maximum emission criteria.

3.0 Antenna Requirement

An analysis of the **Pest Alert System –Live Trap and Rodent Trap Transmitters** was performed to determine compliance with Section 15.203 of the Rules. This section requires specific handling and control of antennas used for devices subject to regulations under the Intentional Radiator portions of Part 15.

3.1 Evaluation Procedure

The structure and application of the **Pest Alert System - Live Trap and Rodent Trap Transmitters** were analyzed with respect to the rules. The antenna for this unit is an internal antenna. An auxiliary antenna port is not present.

3.2 Evaluation Criteria

Section 15.203 of the rules states that the subject device must meet at least one of the following criteria:

(a) Antenna be permanently attached to the unit.

(b) Antenna must use a unique type of connector to attach to the EUT.

(c) Unit must be professionally installed. Installer shall be responsible for verifying that the correct antenna is employed with the unit.

3.3 Evaluation Results

The **Pest Alert System - Transmitters** meet the criteria of this rule by virtue of having an internal antenna permanently attached to the unit. The EUT is therefore compliant with §15.203.

4.0 Modifications to Equipment

The following modifications were made to the **Pest Alert System** during the performance of the test program in order to meet the FCC criteria.

No modification was made for the Live Trap Transmitter XP100.
The following modifications were made for the Rodent Trap transmitter XP101.

1. The XP101 resistor R9 was changed to 4700 Ohms.
2. The wire leads were shortened to 3 inches beyond the box.
3. The routing of the wire leads was changed to direct it away from the antenna.
4. A 20 K Ohm resistor was placed in each lead at the circuit board.
5. Each lead was run through a ferrite core made by Fair-Rite P/N 2643250402.

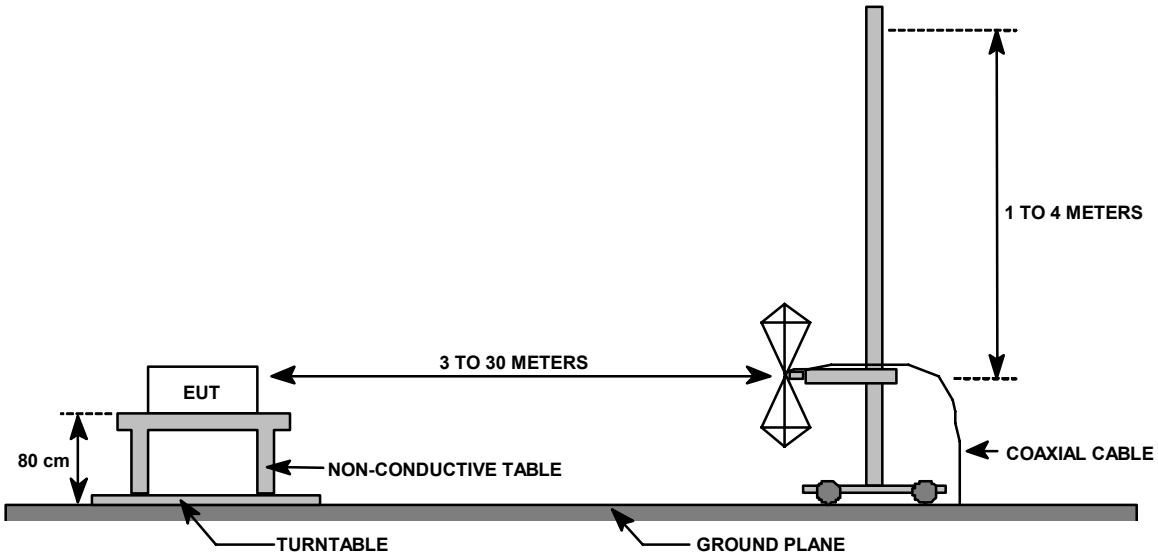
5.0 List of Test Equipment

A list of the test equipment utilized to perform the testing is given below. The date of calibRodention is given for each.

Electromagnetic Emissions Test Equipment

Device	Description	Calibration Due
HP8566B	Spectrum Analyzer	November 2003
Tektronix 2706	RF Preselector	December 2003
HP 8447D	Preamplifier	November 2003
Compliance Design B-100	Biconical Antenna	October 2003
EMCO 3115	Ridge Guide Antenna	July 2003
EMCO 3146	Log Periodic Antenna	July 2003
MITEQ	20 GHz Preamp	December 2003
Armored 10 meter microwave cable		May 2003
Site Cables for 3 meters (30 -1000 MHz)		January 2003

FIGURE 1: Radiated Emissions Test Setup



Appendix A Emissions Data Sheets

Average Radiated Data Sheet
Fundamental and Harmonics
Capitol Circuit Works.
Pest Alert System
Live TrapTransmitter

Model XP100
Serial# 5
DATE: March 26, 2003
PROJECT #: 03342-10

MEASUREMENT DISTANCE (m): 3
ANTENNA POLARIZATION: Horizontal
DETECTOR FUNCTION: Quasi-Peak

Transmit on ms 17.58, transmit off ms 14.1
Average Corrected Level = Peak Corrected Level + Averaging Factor (when T on < 100 ms)
*Averaging Factor= 20 * Log(T on/ (T on + T off) which in this case = -5.1 dB*

Freq. (MHz)	EUT Orientation-	EUT Dir (Deg.)	Antenna Elevation (Meters)	Test Distance (Meters)	Peak Correction Level (dBuV/m)	Averaging Factor (dB)	Average Corr Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
315	Upright	0	2	3.0	77.9	-5.1	72.8	75.6	-2.8
630	Upright	300	1	3.0	46.8	-5.1	41.7	55.6	-13.9
945	Upright	90	1	3.0	47.8	-5.1	42.7	55.6	-12.9
1260	Upright	90	1	1.0	59.4	-5.1	54.3	65.1	-10.8
1575	Upright	Noise	Floor	1.0	26.4	0.0	26.4	65.1	-38.7
1890	Upright	Noise	Floor	1.0	28.1	0.0	28.1	65.1	-37.0
2205	Upright	Noise	Floor	1.0	28.5	0.0	28.5	65.1	-36.6
2520	Upright	Noise	Floor	1.0	29.3	0.0	29.3	65.1	-35.8
2835	Upright	Noise	Floor	1.0	30.5	0.0	30.5	65.1	-34.6
3150	Upright	Noise	Floor	1.0	31.5	0.0	31.5	65.1	-33.6

Comment: Test Type FCC 15.231

Test Engineer: Bob Ripley

Average Radiated Data Sheet
Fundamental and Harmonics
Capitol Circuit Works.
Pest Alert System
Live Trap Transmitter

Model XP100
Serial# 5
DATE: March 26, 2003
PROJECT #: 03342-10

MEASUREMENT DISTANCE (m): 3
ANTENNA POLARIZATION: Vertical
DETECTOR FUNCTION: Quasi-Peak

Transmit on ms 17.58, transmit off ms 14.1
Average Corrected Level = Peak Corrected Level + Averaging Factor (when T on < 100 ms)
*Averaging Factor= 20 * Log(T on/ (T on + T off) which in this case = -5.1 dB*

Freq. (MHz)	EUT Orientation-	EUT Dir (Deg.)	Antenna Elevation (Meters)	Test Distance Meters	Peak Correction Level (dBuV/m)	Averaging Factor (dB)	Average Correction Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
315	Upright	275	2	3.0	76.6	-5.1	71.5	75.6	-4.1
630	Upright	0	1.4	3.0	39.9	-5.1	34.8	55.6	-20.8
945	Upright	300	1.1	3.0	46.9	-5.1	41.8	55.6	-13.8
1260	Upright	180	1	1.0	64.4	-5.1	59.3	65.1	-5.8
1575	Upright	180	1	1.0	36.8	-5.1	31.7	65.1	-33.4
1890	Upright	180	1	1.0	41.5	-5.1	36.4	65.1	-28.7
2205	Upright	Noise	Level	1.0	31.4	0.0	31.4	65.1	-33.7
2520	Upright	Noise	Level	1.0	29.3	0.0	29.3	65.1	-35.8
2835	Upright	Noise	Level	1.0	30.4	0.0	30.4	65.1	-34.7
3150	Upright	Noise	Level	1.0	31.4	0.0	31.4	65.1	-33.7

Comments: Test type FCC 15.231

Test Engineer: Bob Ripley

Average Radiated Data Sheet
Fundamental and Harmonics
Capitol Circuit Works.
Pest Alert System
Rodent Trap Transmitter

Model XP101
Serial# 4
DATE: March 26, 2003
PROJECT #: 03342-10

MEASUREMENT DISTANCE (m): 3
ANTENNA POLARIZATION: Horizontal
DETECTOR FUNCTION: Quasi-Peak

Transmit on ms 17.58, transmit off ms 14.1
Average Corrected Level = Peak Corrected Level + Averaging Factor (when T on < 100 ms)
*Averaging Factor= 20 * Log(T on/ (T on + T off) which in this case = -5.1 dB*

Freq. (MHz)	EUT Orientation-	EUT Dir (Deg.)	Antenna Elevation (Meters)	Test Distance (Meters)	Peak Correction Level (dBuV/m)	Averaging Factor (dB)	Average Correction Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
315	Wires Up	0	2	3.0	78.7	-5.1	73.6	75.6	-2.0
315	LED Up	90	1.2	3.0	77.9	-5.1	72.8	75.6	-2.8
315	On Side	45	1	3.0	77.1	-5.1	72.0	75.6	-3.6
630	Wires Up	150	1.4	3.0	57.4	-5.1	52.3	55.6	-3.3
630	LED Up	300	1.4	3.0	48.0	-5.1	42.9	65.1	-22.2
630	On Side	330	1.4	3.0	44.7	-5.1	39.6	65.1	-25.5
945	Wires Up	45	1.4	3.0	36.6	-5.1	31.5	55.6	-24.1
945	LED Up	160	1.4	3.0	48.2	-5.1	43.1	65.1	-22.0
945	On Side	90	2	3.0	41.6	-5.1	36.5	65.1	-28.6
1260	LED Up	90	1	1.0	64.4	-5.1	59.3	65.1	-5.8
1575	LED Up	90	1	1.0	33.3	-5.1	28.2	65.1	-36.9
1890	LED Up	90	1	1.0	33.0	-5.1	27.9	65.1	-37.2
2205	LED Up	Noise	Floor	1.0	28.2	0.0	28.2	65.1	-36.9
2520	LED Up	Noise	Floor	1.0	29.3	0.0	29.3	65.1	-35.8
2835	LED Up	Noise	Floor	1.0	30.5	0.0	30.5	65.1	-34.6
3150	LED Up	Noise	Floor	1.0	31.5	0.0	31.5	65.1	-33.6

Comments: Test type FCC 15.231

Test Engineer: Bob Ripley

Average Radiated Data Sheet
Fundamental and Harmonics
Capitol Circuit Works.
Pest Alert System
Rodent Trap Transmitter

Model XP101
Serial# 4
DATE: March 26, 2003
PROJECT #: 03342-10

MEASUREMENT DISTANCE (m): 3
ANTENNA POLARIZATION: Vertical
DETECTOR FUNCTION: Quasi-Peak

Transmit on ms 17.58, transmit off ms 14.1
Average Corrected Level = Peak Corrected Level + Averaging Factor (when T on < 100 ms)
*Averaging Factor= 20 * Log(T on/ (T on + T off) which in this case = -5.1 dB*

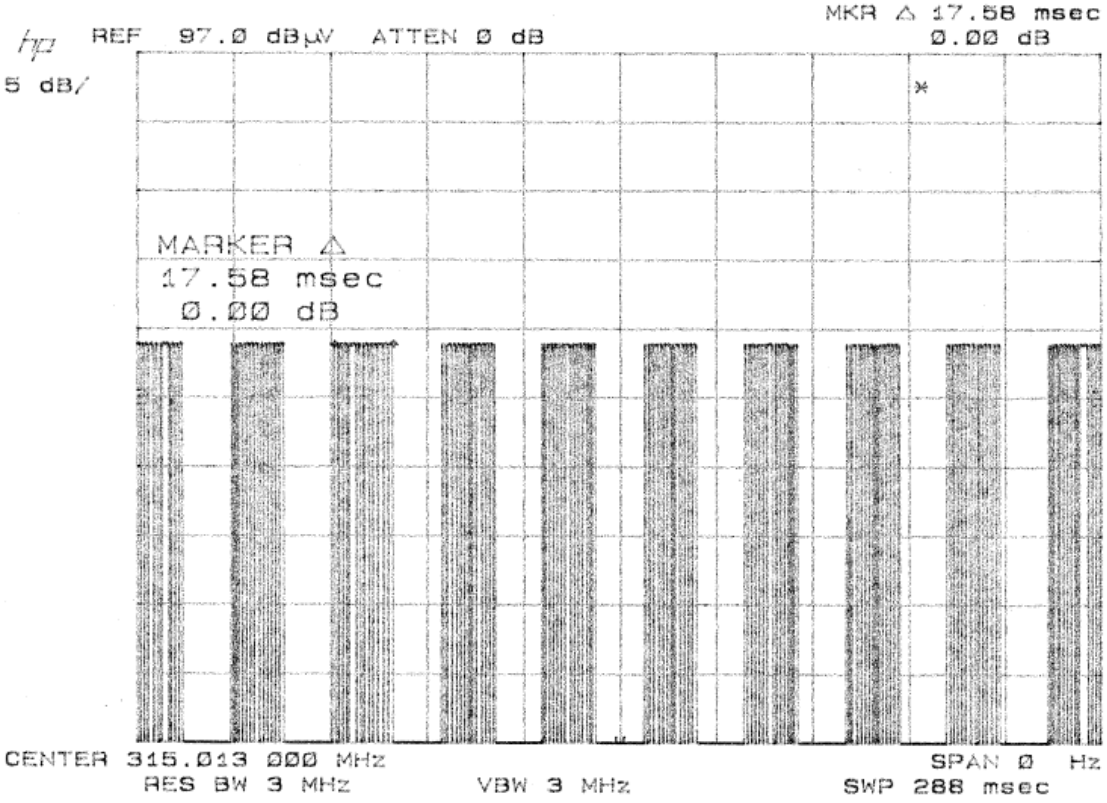
Freq. (MHz)	EUT Orientation-	EUT Dir (Deg.)	Antenna Elevation (Meters)	Test Distance Meters	Peak Correction Level (dBuV/m)	Averaging Factor (dB)	Average Correction Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
315	Wires Up	275	1.8	3.0	73.3	-5.1	68.2	75.6	-7.4
315	LED Up	90	1.4	3.0	62.1	-5.1	57.0	75.6	-18.6
315	On Side	90	1.8	3.0	44.8	-5.1	39.7	75.6	-35.9
630	Wires Up	0	1	3.0	53.9	-5.1	48.8	55.6	-6.8
630	LED Up	160	1	3.0	40.4	-5.1	35.3	65.1	-29.8
630	On Side	10	1	3.0	40.1	-5.1	35.0	65.1	-30.1
945	Wires Up	270	1.1	3.0	43.8	-5.1	38.7	55.6	-16.9
945	LED Up	0	1	3.0	39.8	-5.1	34.7	65.1	-30.4
945	On Side	0	1	3.0	49.9	-5.1	44.8	65.1	-20.3
1260	LED Up	85	1	1.0	64.6	-5.1	59.5	65.1	-5.6
1575	LED Up	180	1	1.0	37.7	-5.1	32.6	65.1	-32.5
1890	LED Up	180	1	1.0	42.4	-5.1	37.3	65.1	-27.8
2205	LED Up	Noise	Floor	1.0	31.2	0.0	31.2	65.1	-33.9
2520	LED Up	Noise	Floor	1.0	29.3	0.0	29.3	65.1	-35.8
2835	LED Up	Noise	Floor	1.0	30.5	0.0	30.5	65.1	-34.6
3150	LED Up	Noise	Floor	1.0	31.5	0.0	31.5	65.1	-33.6

Comments: Test type FCC 15.231

Test Engineer: Bob Ripley

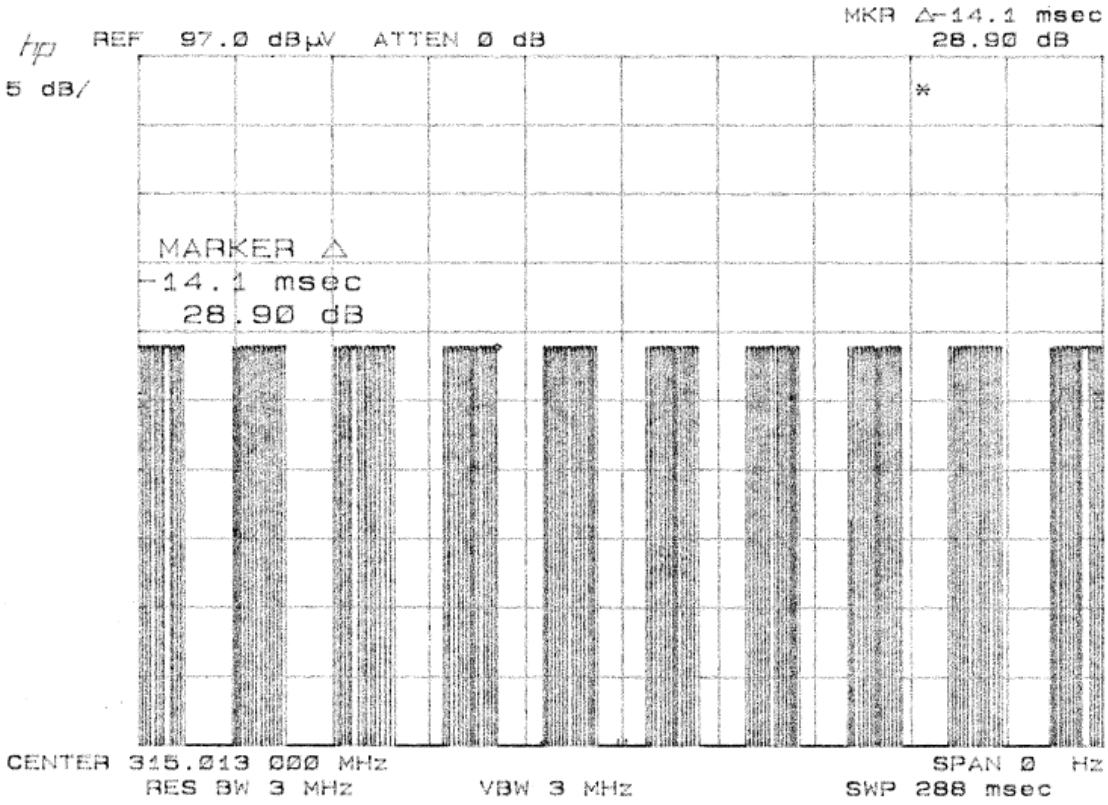
Capitol Circuit Works.
Pest Alert System
Live and Rodent Trap Transmitters
Transmitter Pulse Modulation

Transmitter On Time



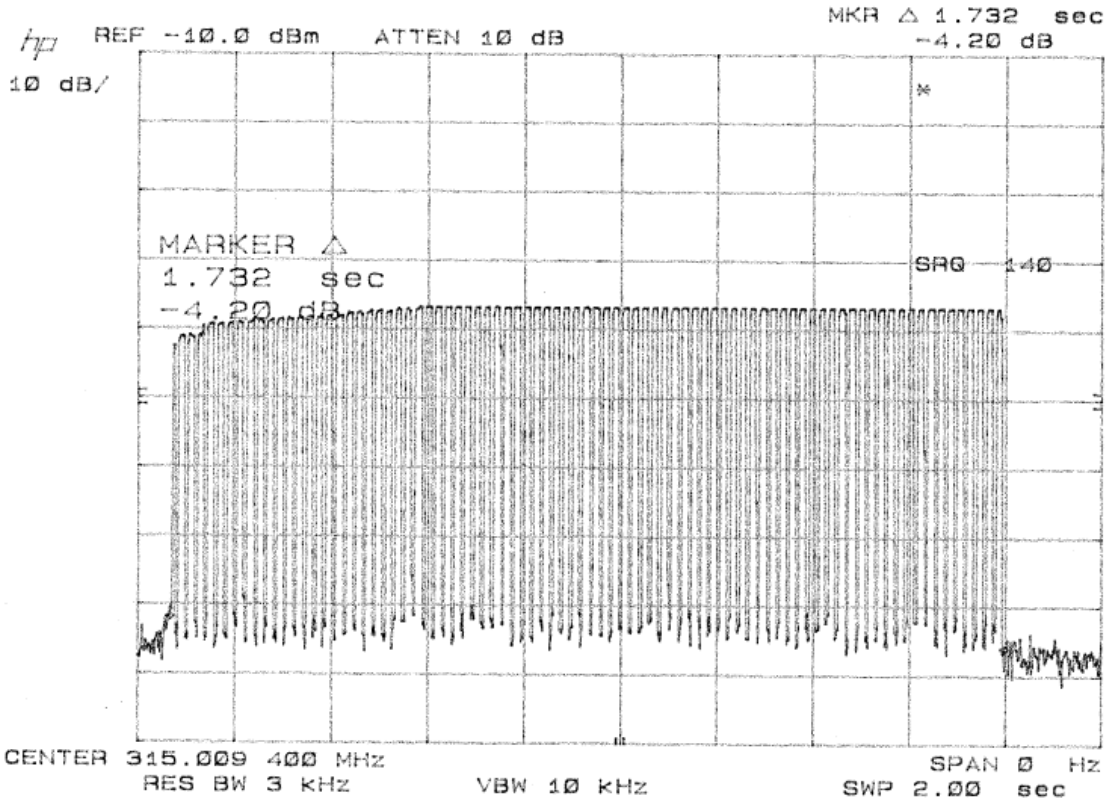
Capitol Circuit Works.
Pest Alert System
Live and Rodent Trap Transmitters
Transmitter Pulse Modulation

Transmitter Off Time



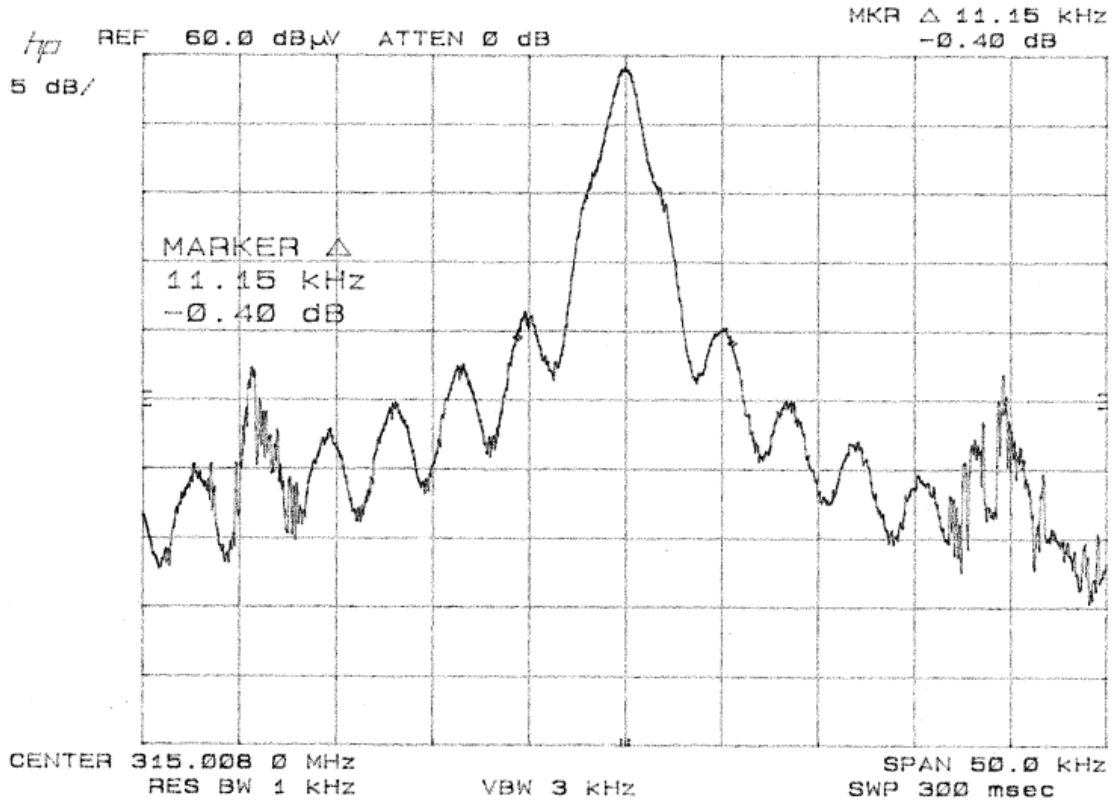
Capitol Circuit Works.
Pest Alert System
Live and Rodent Trap Transmitters
Transmitter Pulse Modulation

Total Transit Time



Capitol Circuit Works.
Pest Alert System
Live and Rodent Trap Transmitters
Transmitter Pulse Modulation

Occupied Bandwidth



Note: The permitted bandwidth limit is 787.5 KHz. 25% of 315 MHz is allowed.