Test Report:	1W03972.5
Applicant:	Paradox Security Systems 780 Industrial Blvd. St-Eustache, Quebec J7R 5V3
Equipment Under Test: **(EUT)**	OMN-PMD1 Wireless Motion Detector Transmitter
In Accordance With:	**FCC Part 15, Subpart C, 15.231**
Tested By:	Nemko Canada Inc. 3325 River Road, R.R. 5 Ottawa, Ontario K1V 1H2
Authorized By:	
	G. Westwell, Wireless Technologist
Date:	
Total Number of Pages:	21

Table of Contents

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. All tests were conducted using measurement procedure ANSI C63.4-1992. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.
See " Summary of Test Data".

NVLAP LAB CODE: 100351-0

TESTED BY: _____ DATE: _____
Russell Grant, Wireless Group Manager

Summary Of Test Data

Name of Test	Para. Number	Results
Transmission Requirements	15.231(a)	Complies
Radiated Emissions	15.231(b)	Complies
Occupied Bandwidth	15.231(c)	Complies
Frequency Tolerance	15.231(d)	N/A
Periodic Alternate Field Strength Requirements	15.231(e)	N/A
Powerline Conducted Emissions	15.207	N/A

Test Conditions:

Indoor Temperature: 23 °C
Humidity: 46 %

Outdoor Temperature: 25 °C
Humidity: 51 %

Section 2. Equipment Under Test

General Equipment Information

Manufacturer: Paradox Security Systems

Model No.: OMN-PMD1

Date Received In Laboratory: July 6, 2001

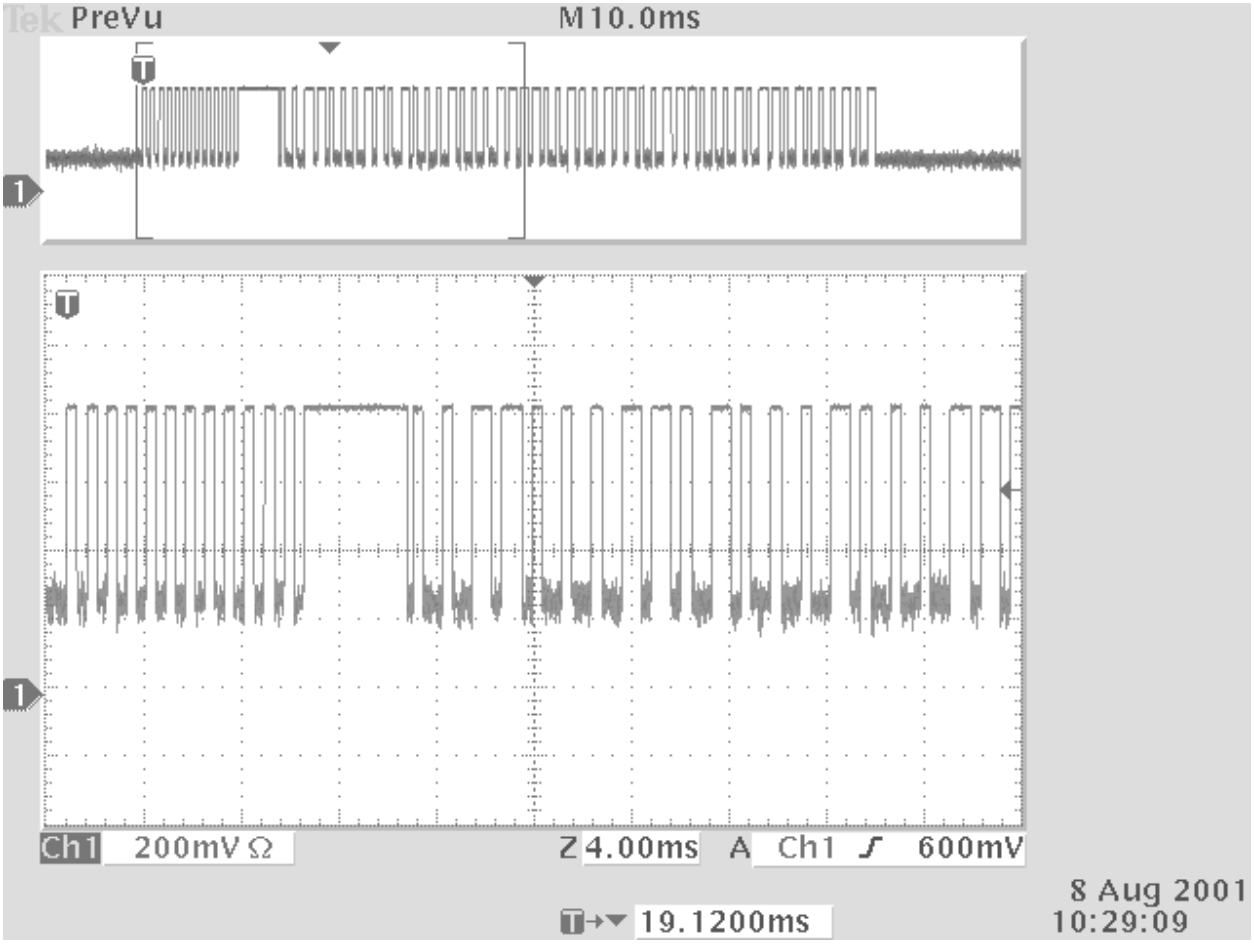
Nemko Identification No.: Items #17 & 19

Tx 433.92MHz

70K0L1D

Duty Cycle Calculation:

$$20\text{Log}\ \frac{12x0.4 + 4.4 + 48x0.8 + 2x0.4}{100} = -6.3dB$$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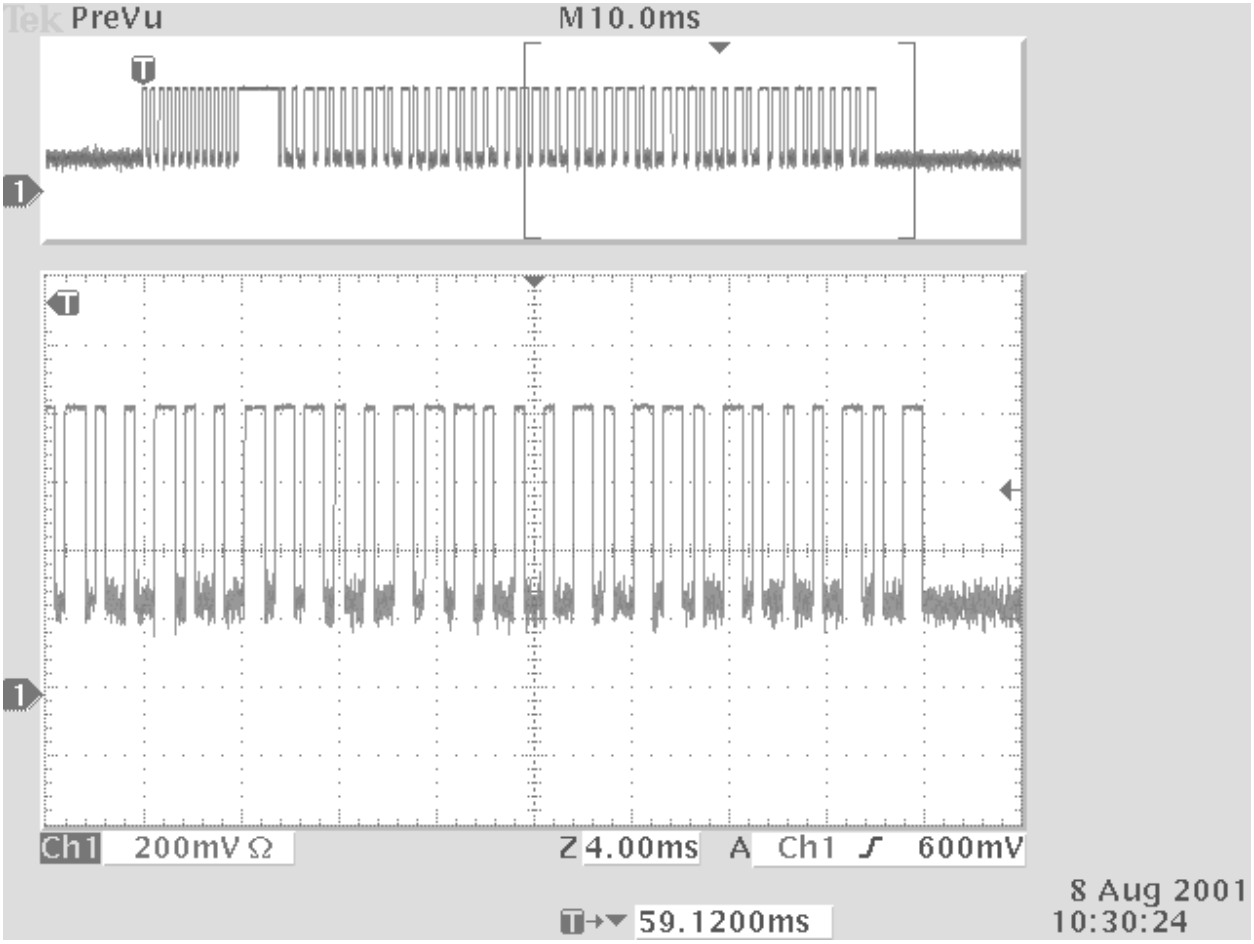
Ch1 200mV Ω
Z 4.00ms A Ch1 ∫ 600mV
19.1200ms
8 Aug 2001
10:29:09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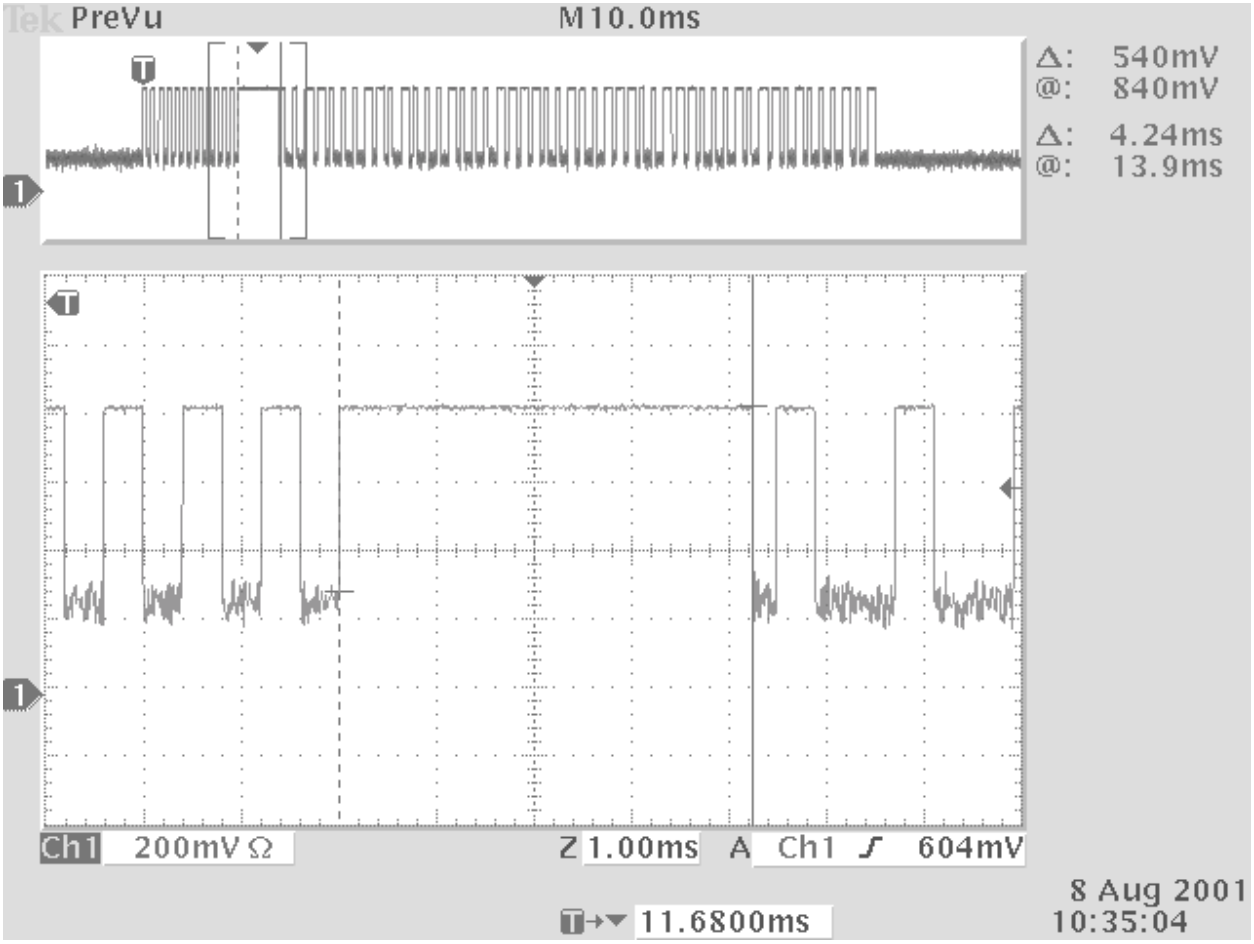
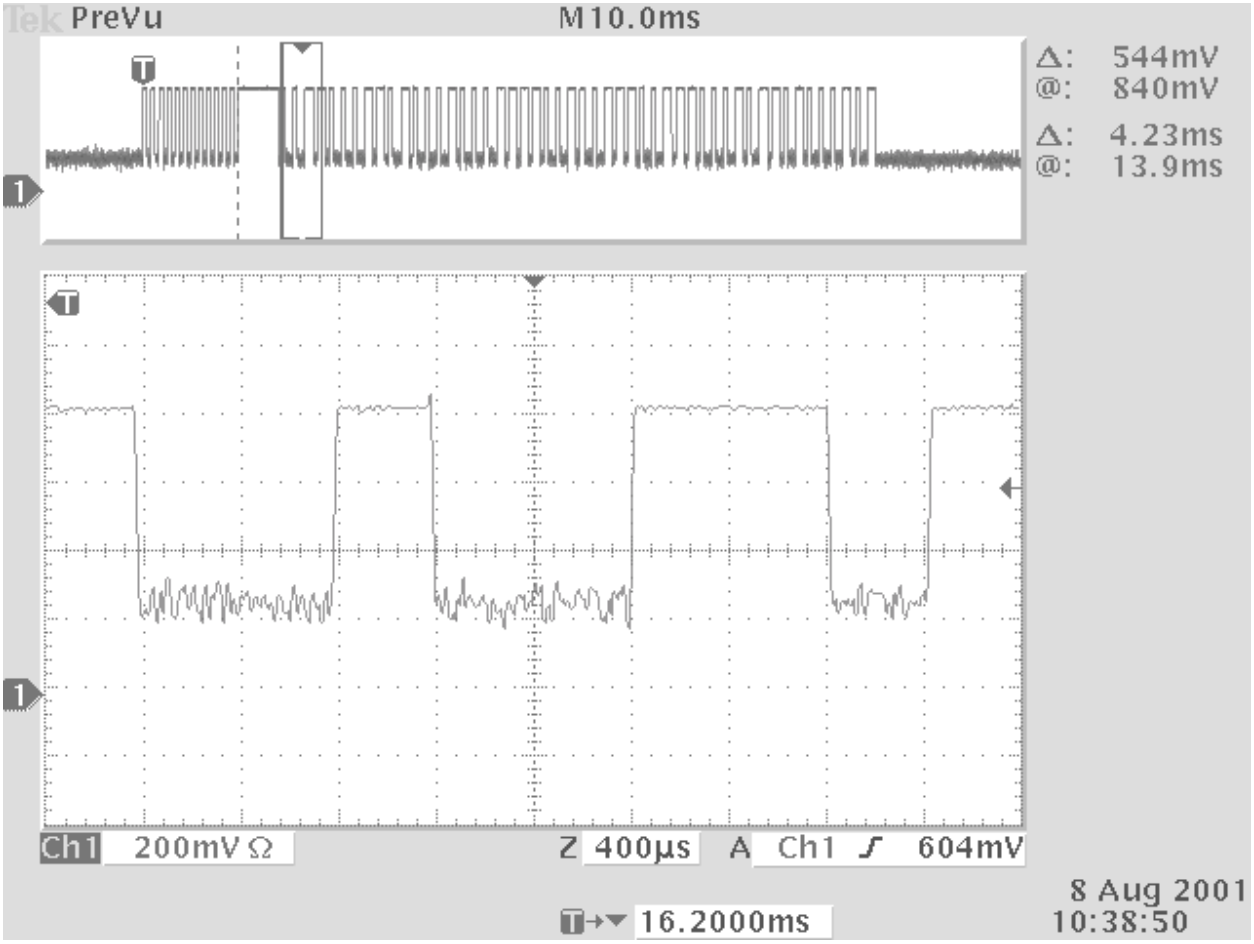

PreVu
M10.0ms
Δ: 540mV
@: 840mV
Δ: 4.24ms
@: 13.9ms
Ch1 200mV Ω
Z 1.00ms A Ch1 ∫ 604mV
11.6800ms
8 Aug 2001
10:35:04


PreVu
M10.0ms
Δ: 544mV
@: 840mV
Δ: 4.23ms
@: 13.9ms
Ch1 200mV Ω
Z 400µs A Ch1 ƒ 604mV
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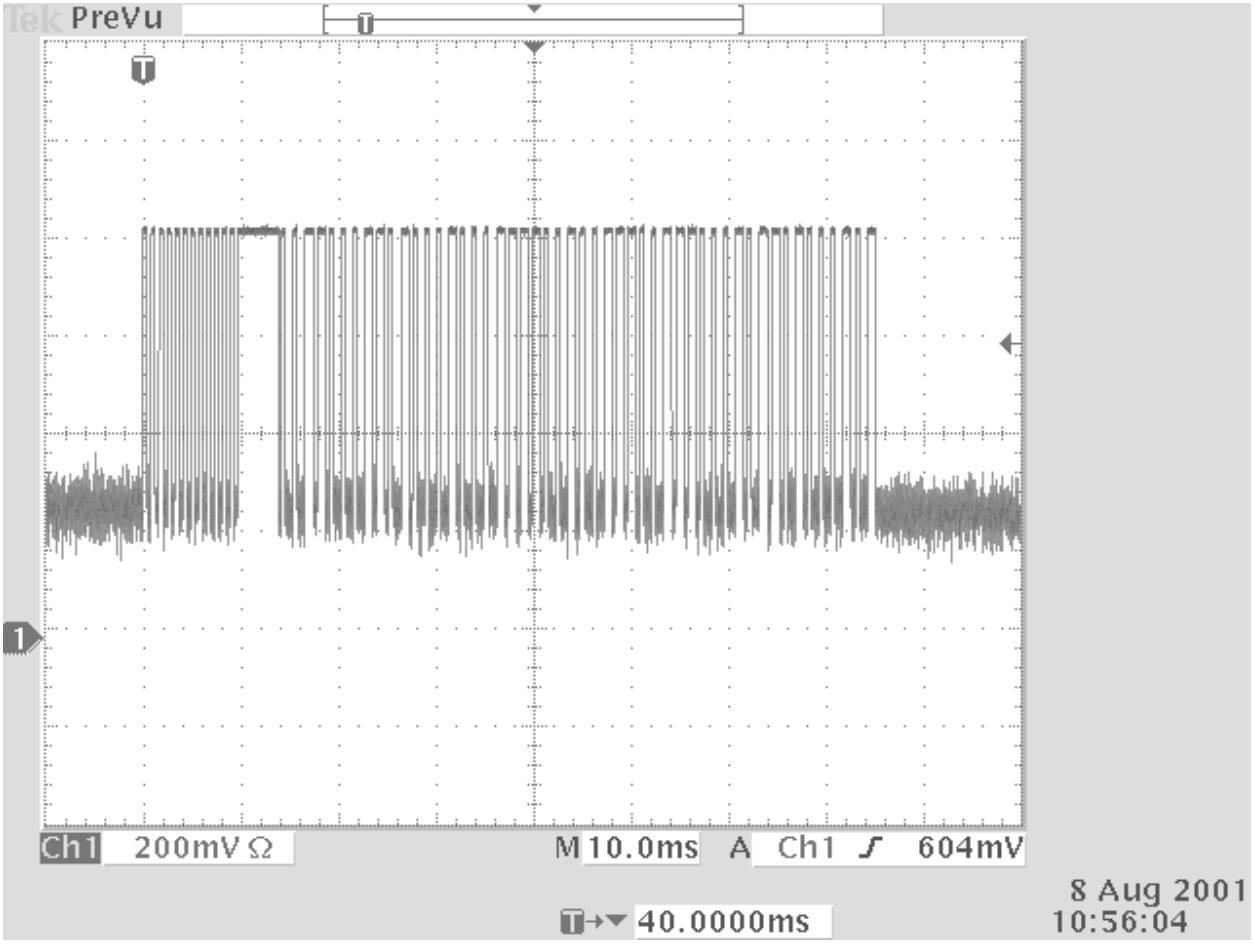
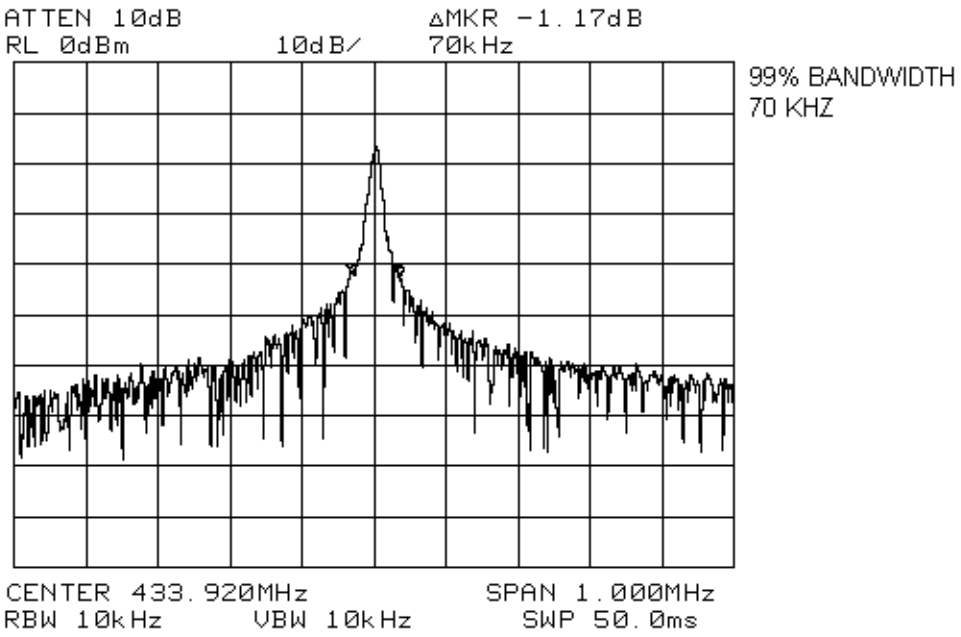
8 Aug 2001
10:38:50


Tek PreVu
Ch1 200mV Ω
M 10.0ms A Ch1 ƒ 604mV
40.0000ms
8 Aug 2001
10:56:04


ATTEN 10dB
RL 0dBm
10dB/
ΔMKR -1.17dB
70kHz
99% BANDWIDTH
70 KHZ
CENTER 433.920MHz
SPAN 1.000MHz
RBW 10kHz
VBW 10kHz
SWP 50.0ms

Section 3. Transmission Requirements

Para. No.: 15.231(a)

Test Performed By: Russell Grant	**Date of Test:** August 3, 2001

Minimum Standard:

15.231(a) Continuous transmissions such as voice, video or data transmissions are not permitted.

15.231(a)(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds after being released.

15.231(a)(2) A transmitter activated automatically shall cease transmission within 5 seconds of activation.

15.231(a)(3) Periodic transmissions at regular pre-determined intervals are not permitted. However polling or supervisory transmissions to determine system integrity of transmitters used in security or safety applications are allowed if the periodic rate of transmission does not exceed one transmission of not more than one second duration per hour for each transmitter.

15.231(a)(4) Intentional radiators which are employed for radio control purposes during emergencies involving fire, security, and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm.

Test Results: Complies.

Test Data: Compliance was determined by verification of technical specifications and a functional test on the equipment.

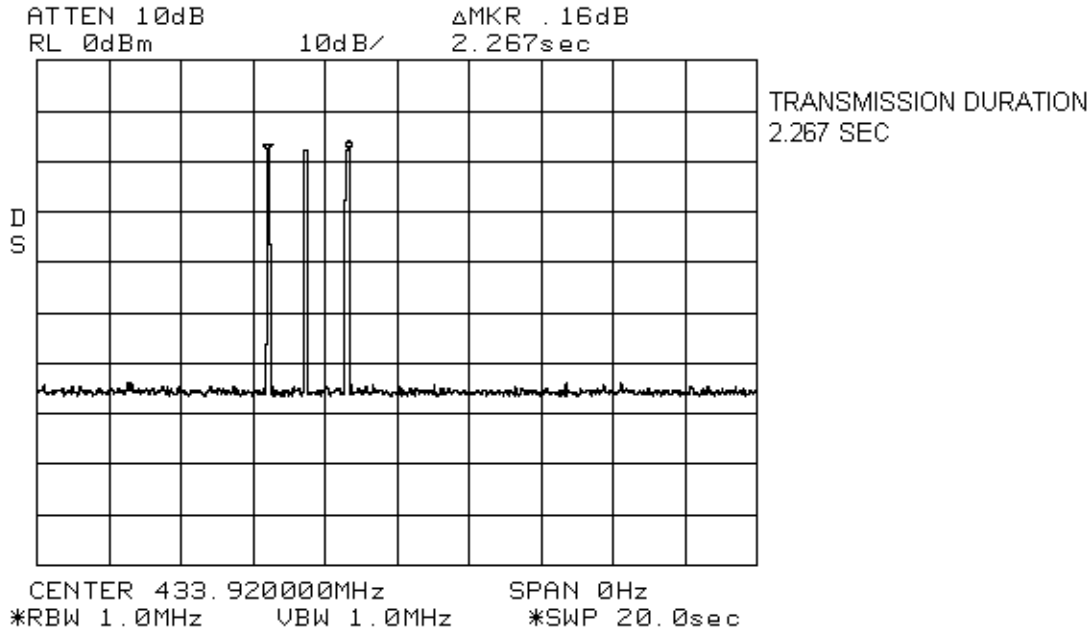
Rationale for Compliance with Transmission Requirements

15.231(a)(1) : N/A – No manual activation.

15.231(a)(2) : The transmitter is deactivated within 5 seconds.

15.231(a)(3) : N/A – No periodic transmissions.

15.231(a)(4) : N/A


ATTEN 10dB
RL 0dBm
10dB/
ΔMKR .16dB
2.267sec
TRANSMISSION DURATION
2.267 SEC
D
S
CENTER 433.920000MHz
SPAN 0Hz
*RBW 1.0MHz
VBW 1.0MHz
*SWP 20.0sec

Section 4. Radiated Emissions

Para. No.: 15.231(b)

Test Performed By: Russell Grant	**Date of Test:** August 3, 2001

Minimum Standard:

Fundamental Frequency (MHz)	Field Strength of Fundamental (µV/m @ 3m)	Field Strength of Spurious Emissions (µV/m @ 3m)
40.66 - 40.70	2,250	225
70-130	1, 250	125
130-174	1,250 to 3,750*	125 to 375
174-260 (note 1)	3,750	375
260-470 (note 1)	3,750 to 12,500*	375 to 1,250
Above 470	12,500	1,250

Restricted Band Limits		
Frequency (MHz)	**Field Strength (µV/m @ 3m)**	**Field Strength (dBµV/m @ 3m)**
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
Above 960	500	54.0

Test Results: Complies.

Test Data: As per attached tabulated data.

Test Data – Radiated Emissions

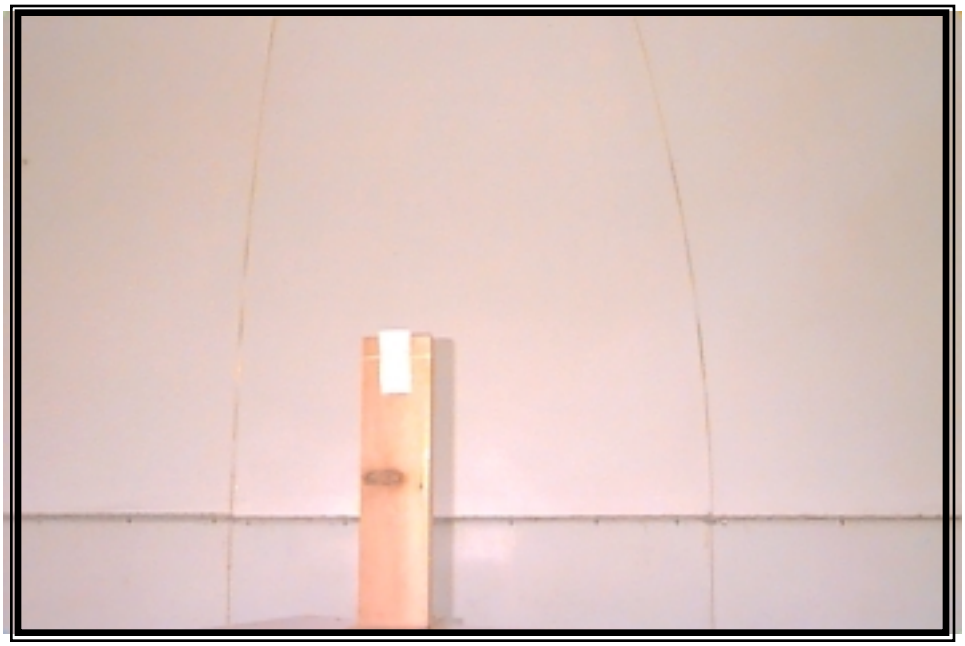
Test Distance (meters) : 3		Range: A Tower		Receiver: Other		RBW(kHz): 120/1000		Detector: Peak	
Freq. (MHz)	Ant. *	Pol. (V/H)	RCVD Signal (dBµV/m)	Ant. Factor (dB)**	Amp. Gain (dB)***	Dist. Corr. (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
433.92	E/D4	V	62.7	24.0		-6.3	80.4	80.8	0.4
433.92	E/D4	H	53.5	24.0		-6.3	71.2	80.8	9.6
867.84	E/D4	V	7.4	31.1		-6.3	32.2	46.0	13.8
867.84	E/D4	H	-1.8	31.1		-6.3	23.0	46.0	23.0
1301.76	Hrn2	V	71.8	28.4	-48.1	-6.3	45.8	54.0	8.2
1301.76	Hrn2	H	63.8	28.4	-48.1	-6.3	37.8	54.0	16.2
1735.68	Hrn2	V	53.8	30.6	-48.4	-6.3	29.7	60.8	31.1
1735.68	Hrn2	H	53.7	30.6	-48.4	-6.3	29.6	60.8	31.2
2169.6	Hrn2	V	64.8	32.9	-58.5	-6.3	32.9	60.8	27.9
2169.6	Hrn2	H	69.5	32.9	-58.5	-6.3	37.6	60.8	23.2
2603.52	Hrn2	V	73.8	34.1	-59.7	-6.3	41.9	60.8	18.9
2603.52	Hrn2	H	80.5	34.1	-59.7	-6.3	48.6	60.8	12.2
3037.44	Hrn2	V	55.2	36.1	-60.0	-6.3	25.0	60.8	35.8
3037.44	Hrn2	H	59.5	36.1	-60.0	-6.3	29.3	60.8	31.5
3471.36	Hrn2	V	62.8	37.8	-60.2	-6.3	34.1	60.8	26.7
3471.36	Hrn2	H	56.3	37.8	-60.2	-6.3	27.6	60.8	33.2
3905.28	Hrn2	V	50.5	39.6	-58.6	-6.3	25.2	54.0	28.8
3905.28	Hrn2	H	45.7	39.6	-58.6	-6.3	20.4	54.0	33.6
4339.2	Hrn2	V	42.7	40.0	-55.7	-6.3	20.7	54.0	33.3
4339.2	Hrn2	H	38.2	40.0	-55.7	-6.3	16.2	54.0	37.8

Notes:

B/C = Biconical, B/L = Biconilog, L/P = Log-Periodic, H = Horn, D/P = Dipole
* Re-measured using dipole antenna.
** Includes cable loss when amplifier is not used.
*** Includes cable loss.
( ) Denotes failing emission level.
N.D. = Not Detected

Radiated Emissions Photograph

Front View:



Section 5. Occupied Bandwidth

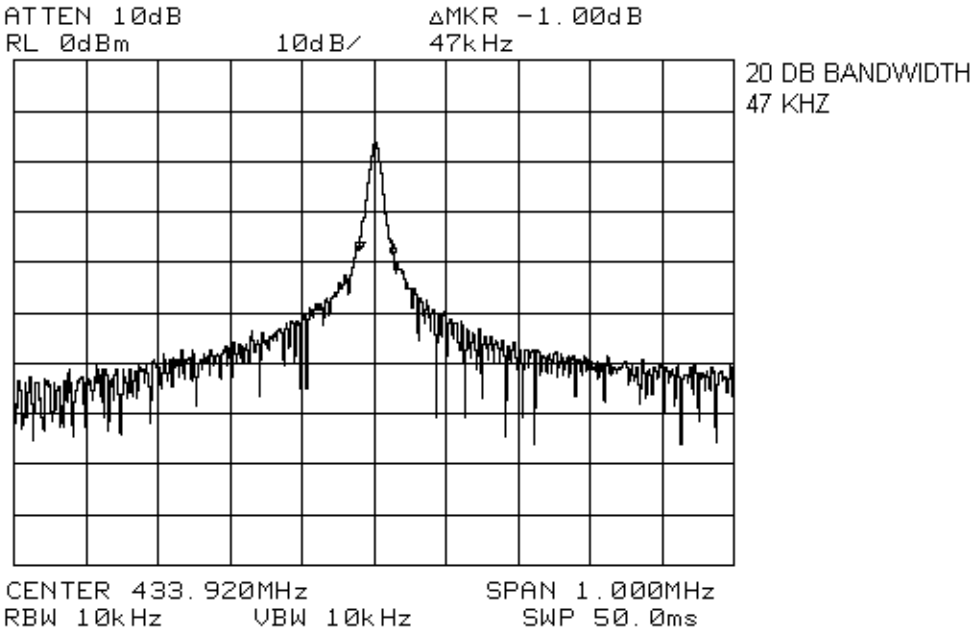
Para. No.: 15.231(c)

Test Performed By: Russell Grant	**Date of Test:** August 3, 2001

Minimum Standard: 15.231(c) The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

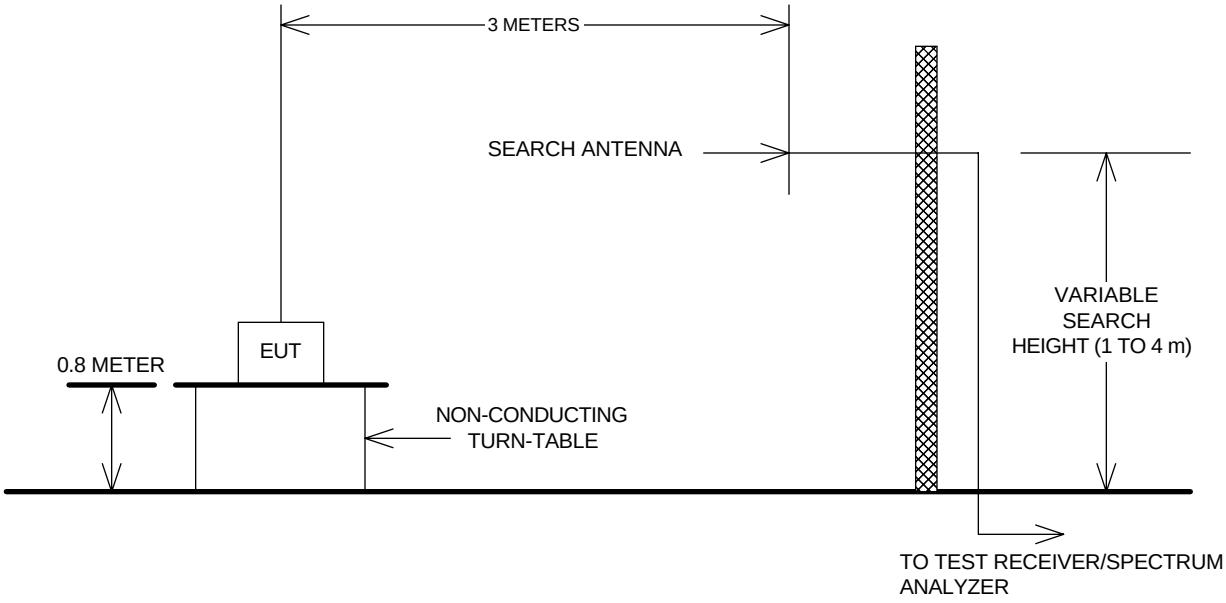
Test Results: Complies.

Test Data: See attached graph.


ATTEN 10dB
RL 0dBm
10dB/
ΔMKR -1.00dB
47kHz
20 DB BANDWIDTH
47 KHZ
CENTER 433.920MHz
SPAN 1.000MHz
RBW 10kHz
VBW 10kHz
SWP 50.0ms

Section 6. Block Diagrams

Outdoor Test Site For Radiated Emissions



The spectrum was searched up to the 10th harmonic of the fundamental frequency of operation.

Section 7. Test Equipment List

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Spectrum Analyzer	Hewlett Packard	8565E	FA000981	June 08/01	June 08/02
1 Year	Receiver	Rohde & Schwarz	ESVP	892661/014	April 5/01	April 5/02
1 Year	Horn Antenna	EMCO #2	3115	4336	Dec. 1/00	Dec. 1/01
1 Year	Log Periodic Antenna 2	EMCO	3148	9904-1054	Apr. 30/99	Oct. 30/00
1 Year	RF AMP	JCA	2-4 GHz	FA001496	May 31/01	May 31/02
1 Year	RF AMP	JCA	1-2 GHz	FA001498	May 31/01	May 31/02
1 Year	RF AMP	JCA	4-8 GHz	FA001497	May 31/01	May 31/02
1 Year	Oscilloscope	Tektronix	TDS 3012	FA001560	June 29/01	June 29/02
1 Year	Dipole Antenna Set	EMCO #2	3121C	FA001349	Apr. 3/01	Apr. 3/02

NA: Not Applicable
NCR: No Cal Required
COU: CAL On Use