

EXHIBIT 6

Report of Measurements

Para. 2.1033(b)(6)

<b>APPLICANT</b> Detection Systems 130 Perinton Parkway Fairport, NY 14450	<b>MANUFACTURER</b>  SAME
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TEST SPECIFICATION: FCC Rules and Regulations Part 15, Subpart C, Para. 15.231

TEST PROCEDURE: ANSI C63.4:1992

**TEST SAMPLE DESCRIPTION**

BRANDNAME: Detection Systems MODEL: RF3341

TYPE: Pulsed RF Security/Alarm Transmitter

POWER REQUIREMENTS: 3 VDC via Internal Batteries

FREQUENCY OF OPERATION: 304 MHz

**TESTS PERFORMED**

Para. 15.231(a), Radiated Emissions, Fundamental & Spurious

Para. 15.231(c), Occupied Bandwidth

FCC ID: ESV-0407-3

Retlif Report No. R-7970-1

## REPORT OF MEASUREMENTS

Applicant: Detection Systems  
Device: 304 MHz Security Transmitter  
FCC ID: ESV-0407-3  
Power Requirements: 3 VDC via Internal Batteries  
Applicable Rule Section: Part 15, Subpart C, Section 15.231

### TEST RESULTS

- 15.231 (a) - The device is a Remote/Control Security Transmitter designed to transmit arm, disarm signals and other signals to control devices within a residential security system.
- 15.231 (a)(1) - The transmitter is manually activated by pressing either the “arm”, “disarm” or “panic” buttons.
- 15.231 (a)(3) - The unit does not perform periodic transmissions for system integrity and status purposes since it is manually activated.
- 15.231 (a)(4) - The device is used for Security purposes for remote control and the arming and disarming of home security systems.
- 15.231 (b) - The fundamental field strength did not exceed 5580  $\mu\text{V}/\text{M}$  (Average) at a test distance of 3 meters. In addition, the requirements of section 15.35 for averaging pulsed emissions and for limiting peak emissions were met.
- The field strength of harmonic and spurious emissions did not exceed 558 $\mu\text{V}/\text{M}$  (AVERAGE).
- 15.231 (c) - The device operates at 304 MHz. The bandwidth of emissions did not exceed 0.25% of the operating frequency (760 kHz).

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REPORT OF MEASUREMENTS (continued)

DETERMINATION OF FIELD STRENGTH LIMITS

The field strength limits shown below are found in Section 15.231.

<u>Frequency</u>		<u>Limit</u>	
F1	= 260	3750	= L1
Fo	= 304		Lo
F2	= 470	12500	= L2

The formula below was utilized to determine the limits:

$$\text{Limit} = L1 + [(Fo-F1)(L2-L1)/(F2-F1)]$$

Solving yields:

Fundamental Limit	= 5580 $\mu$ V/M (AVERAGE) @ 3 Meters
Harmonic Limit	= 558 $\mu$ V/M (AVERAGE) @ 3 Meters

DETERMINATION OF DUTY CYCLE AS PER DETECTION SYSTEMS:

Each packet contains 76 data bits and the packet transmission time with a 5 kHz data rate is 15.2 milliseconds. The 50% duty cycle Manchester Coding of the transmission ensures a 50% on-air time for every packet which is 7.6 milliseconds. The minimum quiet time between packets is 100 milliseconds.

Packet Time = 15.2 milliseconds

Quiet Time Between Packets = 100 milliseconds

ON-AIR Time = (Packet Time) x 50% = 7.6 milliseconds, in 115.2 milliseconds

**Factor** = 20 LOG(ON-AIR time/100 milliseconds) = 20 LOG(0.076) = -22.38dB

## REPORT OF MEASUREMENTS (continued)

### SPECTRUM ANALYZER DESENSITIZATION CONSIDERATIONS

Due to the nature of the emissions being measured, care was taken to ensure that the resolution bandwidth of the spectrum analyzer was adequate to provide accurate measurements. The following formula was utilized:

$$\text{Pulse Desensitization} = 20 \text{ Log} ( \text{PW} * \text{BW} * 1.5 )$$

Setting pulse desensitization equal to zero and utilizing the minimum observed pulse width of 100 microseconds yields a minimum required bandwidth of 6666.7 Hz. FCC specified bandwidths of 100kHz and 1MHz were utilized below and above 1GHz, respectively.

### GENERAL NOTES:

1. All readings were taken utilizing a peak detector function at a test distance of 3 meters.
2. The duty cycle was applied to the peak readings in order to determine the average value of the emissions.
3. All measurements were made with two (2) new Duracell DL2025 Batteries.
4. The frequency was scanned from 30 MHz to 3.1 GHz. All emissions not reported were more than 20 dB below the specified limit.

7970-1