

| <u>APPLICANT</u>                                                                 | <u>MANUFACTURER</u>                                                                                                                         |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Radio Shack, A Division of Tandy Corp.<br>P.O. 34000<br>Barrie, Ontario, L4M 4W5 | X-10 Electronics Shenzhen Co. Ltd.<br>X-10 Building<br>Labour Industrial District<br>Shenzhen, Xixiang, Bao An<br>Guang Dong, China, 518102 |

TEST SPECIFICATION: FCC Rules and Regulations Part 15, Subpart C

TEST PROCEDURE: ANSI C63.4:1992

#### TEST SAMPLE DESCRIPTION

BRANDNAME: X-10

MODEL: 15-1972 FCC ID: AAO1501972-T

TYPE: 2.4 GHz Wireless Video Sender

FREQUENCY RANGE: 2.41 GHz to 2.473 GHz

POWER REQUIREMENTS: 12 VDC derived from an AC Adapter, Model D9100 manufactured by Hon-KWang

#### TESTS PERFORMED

- 15.249(a) Radiated Emissions, Fundamental and Harmonics
- 15.249(c) Occupied Bandwidth
- 15.249(c) Radiated Emissions, Spurious Case
- 15.207(a) Conducted Emissions

## REPORT OF MEASUREMENTS

Applicant: Radio Shack

Device: 2.4 GHz Transmitter

FCC ID: AAO1501972-T

Power Requirements: 12 VDC derived from an AC Adapter, Model D9100 manufactured by Hon-KWang

Applicable Rule Section: Part 15, Subpart C, Section 15.249

## TEST RESULTS

- 15.207(a): The radio frequency voltage that was conducted back on to the AC power line on any frequency/frequencies within the bandwidth of 450kHz to 30MHz did not exceed 250 microvolts.
- 15.249(a): The unit operates in the 2.4 GHz –2.483.5 GHz band.  
The field strength of the fundamental did not exceed 50mV/M AVERAGE. The field strength of the harmonics did not exceed 500 V/M AVERAGE.
- 15.249(b): Field strength readings were taken at three meters unless otherwise noted.
- 15.249(c): Emissions radiated outside band edges are greater than 50 dB below the specified the level of the fundamental.
- 15.249(d): The peak field strength of any emission did not exceed the maximum permitted average field strength by more than 20dB under any condition of modulation.

## EXHIBIT 4

### Radiated Emissions, Fundamental & Harmonics

Para. 15.249(a)

(See separate e-file attachments named RE Fund Harm.pdf)

## EXHIBIT 4

### Spurious Emissions

Para. 15.249(c)  
(See separate e-file attachment RE Spur.pdf)

## EXHIBIT 4

### Occupied Bandwidth

Para. 15.249(c)

(See separate e-file attachment named Occbw.pdf)

## EXHIBIT 4

### Conducted Emissions

Para. 15.207(a)

(See separate e-file attachment named CEdata.pdf)

## EQUIPMENT LISTS

### FCC 15.249(a) Radiated Emissions, 2GHz-25GHz

| EN   | Type                   | Manufacturer    | Description.        | Model No. | Cal Date   | Due Date   |
|------|------------------------|-----------------|---------------------|-----------|------------|------------|
| 062  | High Gain Horn Antenna | Microlab/FXR    | 1.7 GHz - 2.6 GHz   | R638A     | 01/25/2000 | 01/25/2001 |
| 063  | High Gain Horn Antenna | Microlab/FXR    | 2.6 GHz-3.95 GHz    | S638A     | 01/26/2000 | 01/26/2001 |
| 064  | High Gain Horn Antenna | Microlab/FXR    | 3.95 GHz - 5.85 GHz | H638A     | 01/26/2000 | 01/26/2001 |
| 065  | High Gain Horn Antenna | Microlab/FXR    | 5.85 GHz - 8.2 GHz  | C638A     | 01/26/2000 | 01/26/2001 |
| 066  | High Gain Horn Antenna | Microlab/FXR    | 8.2 GHz - 12.4 GHz  | X638A     | 01/26/2000 | 01/26/2001 |
| 067  | Open Area Test Site    | Retlif          | 3 Meter             | RNY       | 10/15/1997 | 10/15/2000 |
| 129B | Horn Antenna           | MCS Corporation | 26.5 GHz - 40 GHz   | R5041     | 01/26/2000 | 01/26/2001 |
| 129E | High Gain Horn Antenna | Microlab/FXR    | 18 GHz - 26.5 GHz   | K638A     | 09/16/1999 | 09/16/2000 |
| 141  | Spectrum Analyzer      | Hewlett Packard | 100 Hz - 40 GHz     | 8566B     | 03/20/2000 | 09/20/2000 |
| 141A | Graphics Plotter       | Hewlett Packard | N/A                 | 7470A     | 03/08/2000 | 03/08/2001 |
| 141B | Quasi-Peak Adaptor     | Hewlett Packard | 100 Hz - 1 GHz      | 85650A    | 03/20/2000 | 09/20/2000 |
| 420  | Amplifier              | Hewlett Packard | 2.0 GHz - 18 GHz    | 11975A    | 03/09/2000 | 03/09/2001 |
| 421  | Harmonic Mixer         | Hewlett Packard | 18 GHz - 26.5 GHz   | 11970K    | 03/09/2000 | 03/09/2001 |
| 543  | Preamplifier           | Hewlett Packard | 1.0 GHz - 26.5 GHz  | 8449B     | 06/16/1999 | 06/16/2001 |

### FCC15.249(c) Radiated Emissions, Spurious, 30MHz-25GHz

| EN   | Type                    | Manufacturer      | Description.         | Model No.    | Cal Date   | Due Date   |
|------|-------------------------|-------------------|----------------------|--------------|------------|------------|
| 062  | High Gain Horn Antenna  | Microlab/FXR      | 1.7 GHz - 2.6 GHz    | R638A        | 01/25/2000 | 01/25/2001 |
| 063  | High Gain Horn Antenna  | Microlab/FXR      | 2.6 GHz-3.95 GHz     | S638A        | 01/26/2000 | 01/26/2001 |
| 064  | High Gain Horn Antenna  | Microlab/FXR      | 3.95 GHz - 5.85 GHz  | H638A        | 01/26/2000 | 01/26/2001 |
| 065  | High Gain Horn Antenna  | Microlab/FXR      | 5.85 GHz - 8.2 GHz   | C638A        | 01/26/2000 | 01/26/2001 |
| 066  | High Gain Horn Antenna  | Microlab/FXR      | 8.2 GHz - 12.4 GHz   | X638A        | 01/26/2000 | 01/26/2001 |
| 067  | Open Area Test Site     | Retlif            | 3 Meter              | RNY          | 10/15/1997 | 10/15/2000 |
| 129E | High Gain Horn Antenna  | Microlab/FXR      | 18 GHz - 26.5 GHz    | K638A        | 09/16/1999 | 09/16/2000 |
| 133  | Broadband Pre-Amplifier | Electro-Metrics   | 10 kHz - 1 GHz, 26dB | BPA-1000     | 06/22/1999 | 06/22/2000 |
| 141  | Spectrum Analyzer       | Hewlett Packard   | 100 Hz - 40 GHz      | 8566B        | 03/20/2000 | 09/20/2000 |
| 141A | Graphics Plotter        | Hewlett Packard   | N/A                  | 7470A        | 03/08/2000 | 03/08/2001 |
| 141B | Quasi-Peak Adaptor      | Hewlett Packard   | 100 Hz - 1 GHz       | 85650A       | 03/20/2000 | 09/20/2000 |
| 206B | 6.0 dB Attenuator       | Texscan           | 0 - 1.0 GHz          | FP-50 - 6 dB | 06/22/1999 | 06/22/2000 |
| 420  | Amplifier               | Hewlett Packard   | 2.0 GHz - 18 GHz     | 11975A       | 03/09/2000 | 03/09/2001 |
| 421  | Harmonic Mixer          | Hewlett Packard   | 18 GHz - 26.5 GHz    | 11970K       | 03/09/2000 | 03/09/2001 |
| 523  | Biconilog               | Electro-Mechanics | 26 - 2000 MHz        | 3142B        | 10/22/1998 | 05/29/2000 |
| 543  | Preamplifier            | Hewlett Packard   | 1.0 GHz - 26.5 GHz   | 8449B        | 06/16/1999 | 06/16/2001 |

### FCC15.207(a) Conducted Emissions, 450kHz-30MHz

| EN   | Type              | Manufacturer      | Description.    | Model No.       | Cal Date   | Due Date   |
|------|-------------------|-------------------|-----------------|-----------------|------------|------------|
| 077  | LISN              | Solar Electronics | 10 kHz - 30 MHz | 8028-50-TS24BNC | 01/12/2000 | 01/12/2001 |
| 079  | LISN              | Solar Electronics | 10 kHz - 30 MHz | 8028-50-TS24BNC | 04/27/2000 | 04/27/2001 |
| 141  | Spectrum Analyzer | Hewlett Packard   | 100 Hz - 40 GHz | 8566B           | 03/20/2000 | 09/20/2000 |
| 141A | Graphics Plotter  | Hewlett Packard   | N/A             | 7470A           | 03/08/2000 | 03/08/2001 |

|      |                    |                 |                    |        |            |            |
|------|--------------------|-----------------|--------------------|--------|------------|------------|
| 141B | Quasi-Peak Adaptor | Hewlett Packard | 100 Hz - 1 GHz     | 85650A | 03/20/2000 | 09/20/2000 |
| 202  | Transient Limiter  | Hewlett Packard | .009 MHz - 200 MHz | 11947A | 07/19/1999 | 07/19/2000 |