



# RF Exposure Evaluation Report

**Equipment** : IP Wirelless Camera  
**Brand Name** : FLIR SECURE  
**Model No.** : FXCx3xxxxx ( x= 0-9, A-Z, or blank)  
**FCC ID** : UCZFXC23V  
**Standard** : 47 CFR Part 2.1091  
**Applicant** : Lorex Technology Inc  
250 Royal Crest Court, Markham, Ontario,  
L3R 3S1 Canada  
**Manufacturer** : Chicony Electronics (Dong Guan ) Co.,Ltd.  
San Zhong Guan Li Qu, Qingxi Town,  
Dongguan City Guangdong 523651 China

The product sample received on Feb. 06, 2017 and completely tested on Feb. 17, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit.

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Jordan Hsiao  
SPORTON INTERNATIONAL INC.





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# 1 General Description

## 1.1 EUT General Information

| RF General Information |                       |                           |   |
|------------------------|-----------------------|---------------------------|---|
| Evaluation Mode        | Frequency Range (MHz) | Operating Frequency (MHz) | Modulation Type   |
| 2.4GHz WLAN            | 2400-2483.5           | 2412-2462                 | 802.11b: DSSS (DBPSK, DQPSK, CCK)<br>802.11g: OFDM (BPSK, QPSK, 16QAM, 64QAM) |
| Bluetooth              | 2400-2483.5           | 2402-2480                 | LE: DSSS (GFSK)   |

## 1.2 Testing Location

| Testing Location                    |        |  |                      |
|-------------------------------------|--------|--|----------------------|
| <input checked="" type="checkbox"/> | HWA YA | ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.  |                      |
|                                     |        | TEL : 886-3-327-3456   | FAX : 886-3-327-0973 |
| <input type="checkbox"/>            | JHUBEI | ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. |                      |
|                                     |        | TEL : 886-3-656-9065   | FAX : 886-3-656-9085 |

## 2 Maximum Permissible Exposure

### 2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/ cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|--|--|
| 0.3-3.0               | 614                               | 1.63                              | (100)*                                   | 6  |
| 3.0-30                | 1842 / f                          | 4.89 / f                          | (900 / f)*                               | 6  |
| 30-300                | 61.4                              | 0.163                             | 1.0                                      | 6  |
| 300-1500              |                                   |                                   | F/300                                    | 6  |
| 1500-100,000          |                                   |                                   | 5  | 6  |

(B) Limits for General Population / Uncontrolled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/ cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|--|--|
| 0.3-1.34              | 614                               | 1.63                              | (100)*                                   | 30   |
| 1.34-30               | 824/f                             | 2.19/f                            | (180/f)*                                 | 30   |
| 30-300                | 27.5                              | 0.073                             | 0.2                                      | 30   |
| 300-1500              |                                   |                                   | F/1500                                   | 30   |
| 1500-100,000          |                                   |                                   | 1.0                                      | 30   |

Note: f = frequency in MHz ; \*Plane-wave equivalent power density

### 2.2 MPE Calculation Method

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

**E** = Electric field (V/m)

**P** = RF output power (W)

**G** = EUT Antenna numeric gain (numeric)

**d** = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$



### 2.3 Calculated Result and Limit

**Exposure Environment: General Population / Uncontrolled Exposure**

| Mode       | DG (dBi) | Tune-up Power (dBm) | EIRP (dBm) | EIRP (W) | Distance (cm) | S (mW/cm <sup>2</sup> ) | S Limit (mW/cm <sup>2</sup> ) |
|------------|----------|---------------------|------------|----------|---------------|-------------------------|-------------------------------|
| 2.4G;G1D   | 1.38     | 19.50               | 20.88      | 0.12246  | 20            | 0.02436                 | 1.00000                       |
| 2.4G;D1D   | 1.38     | 19.50               | 20.88      | 0.12246  | 20            | 0.02436                 | 1.00000                       |
| 2.4G;BT-LE | 1.38     | 1                   | 2.38       | 0.00173  | 20            | 0.00034                 | 1.00000                       |