

## FCC RF Exposure

EUT Description: Outdoor Security Camera

ModelNo.:PC710,PC720,PC730,PC740,PC750,PC760,PC770,PC780,PC790,PC730Pro,PC750 Pro, PC770Pro, PC780 Pro,PC790 Pro

FCC ID: 2AWNK-PC730

Equipment type: fixed equipment

### 1. Limits

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

#### Limits for Maximum Permissible Exposure (MPE)

| Frequency range<br>(MHz)                                | Electric field<br>strength<br>(V/m) | Magnetic field strength<br>(A/m) | Power density<br>(mW/cm <sup>2</sup> ) | Averaging time<br>(minutes) |
|---------------------------------------------------------|-------------------------------------|----------------------------------|----------------------------------------|-----------------------------|
| (A) Limits for Occupational/Controlled Exposures        |                                     |                                  |                                        |                             |
| 0.3–3.0                                                 | 614                                 | 1.63                             | *(100)                                 | 6                           |
| 3.0–30                                                  | 1842/f                              | 4.89/f                           | *(900/f <sup>2</sup> )                 | 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 |                                     |                                  |                                        |                             |
| 0.3–1.34                                                | 614                                 | 1.63                             | *(100)                                 | 30                          |
| 1.34–30                                                 | 824/f                               | 2.19/f                           | *(180/f <sup>2</sup> )                 | 30                          |
| 30–300                                                  | 27.5                                | 0.073                            | 0.2                                    | 30                          |
| 300–1500                                                |                                     |                                  | f/1500                                 | 30                          |
| 1500–100,000                                            |                                     |                                  | 1.0                                    | 30                          |

F = frequency in MHz

Formula:  $Pd = (P_{out} * G) / (4 * \pi * r^2)$

Where :

Pd = power density in mW/cm<sup>2</sup>,

Pout = output power to antenna in mW;

G = gain of antenna in linear scale,

$\pi = 3.14$ ;

R = distance between observation point and center of the radiator in cm

Pd is the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

### 2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

### 3. Test Result of RF Exposure Evaluation

|                | Output power<br>(dBm/ mW) | Antenna<br>Gain(dBi) | Power Density<br>at R=20cm<br>(mW/cm <sup>2</sup> ) | Limit<br>(mW/cm <sup>2</sup> ) | Result |
|----------------|---------------------------|----------------------|-----------------------------------------------------|--------------------------------|--------|
| 802.11b        | 7.24/5.2966               | 1.0                  | 0.00123                                             | 1.0                            | Pass   |
| 802.11g        | 7.03/5.0466               | 1.0                  | 0.00126                                             | 1.0                            | Pass   |
| 802.11n(20MHz) | 6.75/4.7315               | 1.0                  | 0.00118                                             | 1.0                            | Pass   |
| 802.11n(40MHz) | 4.70/2.9512               | 1.0                  | 0.00074                                             | 1.0                            | Pass   |

| Turn-up power |                       |
|---------------|-----------------------|
| Mode          | Peak power range(dBm) |
| WIFI          | 4.00-8.00             |

| WIFI | Output power<br>(dBm/ mW) | Antenna<br>Gain(dBi) | Power Density<br>at R=20cm<br>(mW/cm <sup>2</sup> ) | Limit<br>(mW/cm <sup>2</sup> ) | Result |
|------|---------------------------|----------------------|-----------------------------------------------------|--------------------------------|--------|
|      | 8.00/6.3095               | 1.0                  | 0.00158                                             | 1.0                            | Pass   |

Conclusion: No SAR is required