

## FCC RF Exposure

EUT Description: Smart Indoor Camera

Model No.: SK111

Series Model: MI-CW051-199W, MI-CW251-199W, SK115, SK116, SK117, SK118, SK119, SK120, SK121, SK122, SK123, SK124, SK125, SK126, SK127, SK128, SK129, SK130, SK131, SK132, SK133

FCC ID: 2BE8B-SK111

Equipment type: Mobile Device equipment

Test procedures according to the technical standards: KDB 447498 D01 V06 and FCC 2.1091.

### 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:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where :

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

$P_{out}$  = 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

$P_d$  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

### WIFI

| Modulation | Channel Freq. (MHz) | Conduct ed power (dBm) | Max tune-up power (mW) | Antenna Gain (dBi) | Antenna gain numeric | Evaluation result (mW/cm2 ) | Power density Limits (mW/cm2) |
|------------|---------------------|------------------------|------------------------|--------------------|----------------------|-----------------------------|-------------------------------|
| 802.11b    | 2412                | 17.61                  | 57.67664               | 2.98               | 1.986                | 0.022799725                 | 1                             |
|            | 2437                | 17.15                  | 51.88000               | 2.98               | 1.986                | 0.020508298                 | 1                             |
|            | 2462                | 17.84                  | 60.81350               | 2.98               | 1.986                | 0.024039732                 | 1                             |
| 802.11g    | 2412                | 17.76                  | 59.70352               | 2.98               | 1.986                | 0.023600957                 | 1                             |
|            | 2437                | 17.60                  | 57.54399               | 2.98               | 1.986                | 0.022747287                 | 1                             |
|            | 2462                | 17.28                  | 53.45643               | 2.98               | 1.986                | 0.021131465                 | 1                             |
| 802.11n    | 2412                | 17.87                  | 61.23503               | 2.98               | 1.986                | 0.024206367                 | 1                             |
|            | 2437                | 17.75                  | 59.56621               | 2.98               | 1.986                | 0.023546676                 | 1                             |
|            | 2462                | 17.36                  | 54.45026               | 2.98               | 1.986                | 0.021524329                 | 1                             |

Wifi: Conclusion: the max result 0.024206367:  $\leq 1.0$  compliance with FCC's RF Exposure.

Conclusion: No SAR is required