

## RF EXPOSURE EVALUATION

### 1. PRODUCT INFORMATION

Product Description	Smart Security Alarm System-Motion Detector
Model Number	PH-818HW
FCC ID	2AKOIPH818HW

### 2. EVALUATION METHOD

According to 447498 D01 General RF Exposure Guidance v05

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR.

Where  $f(\text{GHz})$  is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

### 3. CALCULATION

According to the follow transmitter output power (  $P_t$  ) formula :

$$P_t = ( E \times d )^2 / ( 30 \times g_t )$$

$P_t$ =transmitter output power in watts

$g_t$ =numeric gain of the transmitting antenna (unitless)

$E$ =electric field strength in V/m

$d$ =measurement distance in meters (m)

According to the report AGC08611161104FE03,

$$E_{\text{max}}=77.85\text{dBuV/m}=0.0078\text{V/m}, d=3\text{m}, g_t=1$$

$$P_t = ( E \times d )^2 / ( 30 \times g_t ) = 0.018\text{mW}$$

The result for RF exposure evaluation

$$\text{SAR}=(0.018\text{mW} / 5\text{mm}) \cdot [\sqrt{0.43392(\text{GHz})}] = 0.0024 < 3.0 \text{ for 1-g SAR}$$

### 4. CONCLUSION

The SAR evaluation is not required.