

# Analysis Report

Report No.: 15051548HKG-001

The equipment under test (EUT) is a Motion Sensor operating at 315MHz. The EUT is powered by 3VDC AAA batteries. While someone walking in front of the EUT, the red LED on the sensor will flash and it will transmit RF signal to the corresponding receiver (i.e. Doorbell).

A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

For sensor part, a transmitter activated automatically shall cease transmission within 5 seconds after activation.

Antenna Type: Internal integral antenna

Antenna Gain: 0dBi

Nominal rated field strength: 77.0dB $\mu$ V/m at 3m

Maximum allowed field strength of production tolerance: +3dB / - 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 80.0dB $\mu$ V/m at 3m in frequency 315MHz, thus;

$$\text{The EIRP} = [(FS \cdot D)^2 \cdot 1000 / 30] = 0.030\text{mW}$$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.030mW

The SAR Exclusion Threshold Level:

$$= 3.0 * (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$$

$$= 3.0 * 5 / \sqrt{0.315} \text{ mW}$$

$$= 26.7 \text{ mW}$$

Since the above conducted output power is well below the SAR Exclusion threshold level, so the EUT is considered to comply with SAR requirement without testing.