

## RF Exposure Report

**Report No.:** SA150623E05

**FCC ID:** 2ABC8-5898

**Test Model:** 5898

**Received Date:** June 23, 2015

**Test Date:** Aug. 19, 2015

**Issued Date:** Oct. 02, 2015

**Applicant:** Honeywell Security Sensor CoE

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

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### Release Control Record

| Issue No.   | Description       | Date Issued   |
|-------------|-------------------|---------------|
| SA150623E05 | Original release. | Oct. 02, 2015 |

## 1 Certificate of Conformity

**Product:** Wireless DUAL TEC Motion Sensor

**Brand:** Honeywell

**Test Model:** 5898

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Honeywell Security Sensor CoE

**Test Date:** Aug. 19, 2015

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D03

IEEE C95.1

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :** Phoenix Huang, **Date:** Oct. 02, 2015  
Phoenix Huang / Specialist

**Approved by :** May Chen, **Date:** Oct. 02, 2015  
May Chen / Manager

## 2 RF Exposure

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

| Frequency Range (MHz)                                 | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm <sup>2</sup> ) | Average Time (minutes) |
|-------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|------------------------|
| Limits For General Population / Uncontrolled Exposure |                               |                               |                                     |                        |
| 300-1500                                              | ...                           | ...                           | F/1500                              | 30                     |
| 1500-100,000                                          | ...                           | ...                           | 1.0                                 | 30                     |

F = Frequency in MHz

### 2.2 MPE Calculation Formula

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

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

$\pi$  = 3.1416

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

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

### 3 Calculation Result of Maximum Power

| Frequency Band | Max Field Strength Of Fundamental (dBuV/m) | Max Pout EIRP (dBm) | Max Pout EIRP (mW) | Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|----------------|--------------------------------------------|---------------------|--------------------|---------------|-------------------------------------|-----------------------------|
| 345 MHz        | 88.6                                       | -6.63               | 0.2173             | 20            | 0.00004                             | 0.23<br>(See Note 2)        |
| 10.527 GHz     | 108.9                                      | 13.67               | 23.2809            | 20            | 0.00463                             | 1                           |

Note:

1. Pout EIRP (dBm) = Field Strength of Fundamental (dBuV/m) - 95.23 (dB)
2. Limit of Electric field=F/1500

#### Conclusion:

Both of the 345MHz and 10.527GHz can transmit simultaneously, the formula of calculated the MPE is:

$$CPD_1 / LPD_1 + CPD_2 / LPD_2 + \dots \text{etc.} < 1$$

**CPD** = Calculation power density

**LPD** = Limit of power density

Therefore, the worst-case situation is  $0.00004 / 0.23 + 0.00463 / 1 = 0.005$ , which is less than "1". This confirmed that the device comply with FCC 1.1310 MPE limit.

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