




## **Exhibit: RF Exposure – FCC/ISED**

FCC/ISED RF exposure evaluation of the  
System in accordance with FCC 1.1310 & RSS-102

COMMERCIAL-IN-CONFIDENCE

FCC: Q8SSAFFIREEVOM & 2AU49-DA16200MC  
IC: 4652A-SAFFIREEVOM & 25650-DA16200MC

Report File #: 7169011562B-000

|             |  |   |
|-------------|--|---|
| Client      | <b>Dormakaba</b>   |  |
| Product     | <b>Saffire LX Deadbolt &amp; Saffire Evo LX Deadbolt</b> |   |
| Standard(s) | FCC 1.1310 & RSS-102                                     |   |

## ***RF Exposure – ISED***

The EUT contains an several types of transmitters as depicted in the table below.

### **Radiofrequency Radiation Exposure Evaluation: Mobile Devices**

The power density can be calculate using the formula:

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

where,

f = frequency in MHz


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

$P_{out}$  = Conducted output power to antenna in mW

G = Numeric Antenna Gain


$\pi$  = 3.1416

R = uncontrolled distance of 20 cm as per normal operation.

|             |   |   |
|-------------|---|---|
| Client      | Dormakaba                                     | <br>Canada |
| Product     | Saffire LX Deadbolt & Saffire Evo LX Deadbolt |   |
| Standard(s) | FCC 1.1310 & RSS-102                          |   |


## MPE Calculation (RFID):

|  |  |                       |  |
|--|--|-----------------------|--|
| <u>Prediction of MPE limit at a given distance</u>               |  |                       |  |
| Equation from page 18 of OET Bulletin 65, Edition 97-01          |  |                       |  |
| $S = \frac{PG}{4\pi R^2}$  |  |                       |  |
| where:   | S = power density  |                       |  |
|  | P = power input to the antenna   |                       |  |
|  | G = power gain of the antenna in the direction of interest relative to an isotropic radiator |                       |  |
|  | R = distance to the center of radiation of the antenna                                       |                       |  |
| Maximum peak output power at antenna input terminal:             | -37.10   | (dBm)                 |  |
| Maximum peak output power at antenna input terminal:             | 0.000194984  | (mW)                  |  |
| Number of Ports  | 1  |                       |  |
| Antenna gain(typical):   | 0  |                       |  |
| Antenna gain(total):   | 0  | (dBi)                 |  |
| Maximum antenna gain:  | 1  | (numeric)             |  |
| Time Averaging:  | 100  | (%)                   |  |
| Prediction distance:   | 20   | (cm)                  |  |
| Prediction frequency:  | 13.56  | (MHz)                 |  |
| FCC MPE limit for uncontrolled exposure at prediction frequency: | 0.978933354  | (mW/cm <sup>2</sup> ) |  |
| Power density at prediction frequency:                           | 0.000000   | (mW/cm <sup>2</sup> ) |  |
| Margin of compliance:  | -74.0  | (dB)                  |  |
| This equates to  | 3.87909E-07  | W/m <sup>2</sup>      |  |
| RSS-102 Issue 5 limit  | 0.155568538  | W/m <sup>2</sup>      |  |
| FCC Percentage of limit  | 0.00000%   |                       |  |
| RSS-102 Percentage of limit                                      | 0.00025%   |                       |  |

|             |   |   |
|-------------|---|---|
| Client      | Dormakaba                                     |  |
| Product     | Saffire LX Deadbolt & Saffire Evo LX Deadbolt |   |
| Standard(s) | FCC 1.1310 & RSS-102                          |   |

## MPE Calculation (BlueTooth™):

|  |  |
|--|--|
| <u>Prediction of MPE limit at a given distance</u>               |  |
| Equation from page 18 of OET Bulletin 65, Edition 97-01          |  |
| $S = \frac{PG}{4\pi R^2}$  |  |
| where:   | <p>S = power density</p> <p>P = power input to the antenna</p> <p>G = power gain of the antenna in the direction of interest relative to an isotropic radiator</p> <p>R = distance to the center of radiation of the antenna</p> |
| Maximum peak output power at antenna input terminal:             | -13.30 (dBm)   |
| Maximum peak output power at antenna input terminal:             | 0.046773514 (mW)   |
| Number of Ports  | 1  |
| Antenna gain(typical):   | 0  |
| Antenna gain(total):   | 0 (dBi)  |
| Maximum antenna gain:  | 1 (numeric)  |
| Time Averaging:  | 100 (%)  |
| Prediction distance:   | 20 (cm)  |
| Prediction frequency:  | 2400 (MHz)   |
| FCC MPE limit for uncontrolled exposure at prediction frequency: | 1 (mW/cm²)   |
| Power density at prediction frequency:                           | 0.000009 (mW/cm²)  |
| Margin of compliance:  | -50.3 (dB)   |
| This equates to  | 9.30529E-05 W/m²   |
| RSS-102 Issue 5 limit  | 5.347759415 W/m²   |
| FCC Percentage of limit  | 0.00093%   |
| RSS-102 Percentage of limit                                      | 0.00174%   |

|             |   |   |
|-------------|---|---|
| Client      | Dormakaba                                     | <br>Canada |
| Product     | Saffire LX Deadbolt & Saffire Evo LX Deadbolt |   |
| Standard(s) | FCC 1.1310 & RSS-102                          |   |

## MPE Calculation (WiFi™):

|  |   |
|--|---|
| <u>Prediction of MPE limit at a given distance</u>               |   |
| Equation from page 18 of OET Bulletin 65, Edition 97-01          |   |
| $S = \frac{PG}{4\pi R^2}$  |   |
| where:   | S = power density<br>P = power input to the antenna<br>G = power gain of the antenna in the direction of interest relative to an isotropic radiator<br>R = distance to the center of radiation of the antenna |
| Maximum peak output power at antenna input terminal:             | 20.09 (dBm)   |
| Maximum peak output power at antenna input terminal:             | 102.0939484 (mW)  |
| Number of Ports  | 1   |
| Antenna gain(typical):   | 0   |
| Antenna gain(total):   | 2 (dBi)   |
| Maximum antenna gain:  | 1.584893192 (numeric)   |
| Time Averaging:  | 100 (%)   |
| Prediction distance:   | 20 (cm)   |
| Prediction frequency:  | 2450 (MHz)  |
| FCC MPE limit for uncontrolled exposure at prediction frequency: | 1 (mW/cm²)  |
| Power density at prediction frequency:                           | 0.032191 (mW/cm²)   |
| Margin of compliance:  | -14.9 (dB)  |
| This equates to  | 0.321906795 W/m²  |
| RSS-102 Issue 5 limit  | 5.423649309 W/m²  |
| FCC Percentage of limit  | 3.21907%  |
| RSS-102 Percentage of limit                                      | 5.93524%  |

Combined, the total of all three RF protocols operating simultaneously is less than 10% of the applicable limit. The device passes the requirement(s) at all applicable frequencies combined.