# Exhibit: RF Exposure – FCC/ISED

FCC/ISED RF exposure evaluation of the
**Saffire LX Deadbolt**
**&**
**Saffire Evo LX Deadbolt**
System in accordance with FCC 1.1310 & RSS-102

COMMERCIAL-IN-CONFIDENCE

FCC: Q8SSAFFIREEVO & 2AU49-DA16200MC
IC: 4652A-SAFFIREEVO & 25650-DA16200MC

Report File #: 7169011562B-000

## *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 $mW/cm^2$
$P_{out}$ = Conducted output power to antenna in mW
G = Numeric Antenna Gain
Pi = 3.1416
R = uncontrolled distance of  20 cm as per normal operation.

# MPE Calculation (RFID):

**Prediction of MPE limit at a given distance**

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: | -32.80 | (dBm) |
| Maximum peak output power at antenna input terminal: | 0.000524807 | (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^2) |
| Power density at prediction frequency: | 0.000000 | (mW/cm^2) |
| Margin of compliance: | -69.7 | (dB) |
| This equates to | 1.04407E-06 | W/m^2 |
| RSS-102 Issue 5 limit | 0.155568538 | W/m^2 |
| FCC Percentage of limit | 0.00001% | |
| RSS-102 Percentage of limit | 0.00067% | |

# MPE Calculation (BlueTooth™):

**Prediction of MPE limit at a given distance**

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: | -14.80 | (dBm) |
| Maximum peak output power at antenna input terminal: | 0.033113112 | (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: | 2450 | (MHz) |
| FCC MPE limit for uncontrolled exposure at prediction frequency: | 1 | (mW/cm^2) |
| Power density at prediction frequency: | 0.000007 | (mW/cm^2) |
| Margin of compliance: | -51.8 | (dB) |
| This equates to | 6.58764E-05 | W/m^2 |
| RSS-102 Issue 5 limit | 5.423649309 | W/m^2 |
| FCC Percentage of limit | 0.00066% | |
| RSS-102 Percentage of limit | 0.00121% | |

## MPE Calculation (WiFi™):

**Prediction of MPE limit at a given distance**

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: | 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/cm^2) |
| Power density at prediction frequency: | 0.032191 | (mW/cm^2) |
| Margin of compliance: | -14.9 | (dB) |
| This equates to | 0.321906795 | W/m^2 |
| RSS-102 Issue 5 limit | 5.423649309 | W/m^2 |
| 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.