



## **Exhibit: RF Exposure – FCC**

FCC ID: WR9EBSTAT3LT02

Report File #: 7169010650R-000

|             |                                                  |                                                                                     |
|-------------|--------------------------------------------------|-------------------------------------------------------------------------------------|
| Client      | <b>Ecobee Inc.</b>                               |  |
| Product     | <b>EB-STATE3LT02</b>                             |                                                                                     |
| Standard(s) | FCC Part 15 Subpart 15.247<br>FCC KDB 447498 v06 |                                                                                     |

## ***RF Exposure – FCC***

The device is a mobile device intended to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure and the body of the user or nearby persons.

The EUT contains a 902 – 928 MHz FHSS/Hybrid transmitter and a 2400 – 2483.5 MHz DTS transmitter. The Firmware guarantees simultaneous will not occur. Antenna co-location evaluation is therefore not applicable.

## **RF Exposure Exemption Evaluation: Mobile Devices**

Mobile devices are exempted from routine MPE evaluation based on guidance provided in FCC §1.1307 (b)(3)(i)(C) for devices operating from 300 kHz to 100 GHz with a minimum separation distance of  $\lambda/2\pi$  and with an ERP lower than the Threshold ERP.

The Threshold ERP is given in Table 1 to § 1.1307(b)(3)(i)(C).

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

| <b>RF Source frequency (MHz)</b> | <b>Threshold ERP (watts)</b> |
|----------------------------------|------------------------------|
| 0.3-1.34                         | $1,920 R^2$ .                |
| 1.34-30                          | $3,450 R^2/f^2$ .            |
| 30-300                           | $3.83 R^2$ .                 |
| 300-1,500                        | $0.0128 R^2f$ .              |
| 1,500-100,000                    | $19.2R^2$ .                  |

Where R is the separation distance in meters and f is in MHz.

The table below lists the minimum separation distance  $\lambda/2\pi$  for the lowest channel of operation for the FHSS/Hybrid transmitter and for the DTS transmitter.

| <b>RF Source frequency (MHz)</b> | <b>Minimum separation Distance (cm)</b> |
|----------------------------------|-----------------------------------------|
| 920                              | 5.19                                    |
| 2412                             | 1.98                                    |

|             |                                                  |                                                                                     |
|-------------|--------------------------------------------------|-------------------------------------------------------------------------------------|
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| Product     | <b>EB-STATE3LT02</b>                             |                                                                                     |
| Standard(s) | FCC Part 15 Subpart 15.247<br>FCC KDB 447498 v06 |                                                                                     |

The declared separation distance by the client is 20 cm.

The table below lists the Threshold ERP at 20 cm for the lowest channel of operation for the FHSS/Hybrid transmitter and for the DTS transmitter.

| RF Source frequency (MHz) | Threshold ERP (watts) | Threshold ERP (mW) | Threshold ERP (dBm) |
|---------------------------|-----------------------|--------------------|---------------------|
| 920                       | 0.471                 | 471.0              | 26.73               |
| 2412                      | 0.768                 | 768.0              | 28.85               |

Given that  $EIRP = P_{out} + G$  and  $ERP = EIRP - 2.15$

Therefore,  $ERP = P_{out} + G - 2.15$

### Threshold ERP Calculation: 920 – 927.7 MHz FHSS/Hybrid transmitter

The lowest frequency of operation and the channel transmitter with highest power is 920 MHz for the FHSS/Hybrid transmitter. The transmitter has a maximum conducted (Average) output power of 9.18 dBm and an antenna gain of 1.5 dBi.

The ERP of the EUT is  $9.18 \text{ dBm} + 1.5 \text{ dBi} - 2.15 = 8.53 \text{ dBm}$  (0.007 W) which is significantly less than the Threshold ERP of 0.471 W exemption limit.

### Threshold ERP Calculation: 2412 – 2462 MHz DTS transmitter

The DTS transmitter has a maximum conducted (Average) output power of 20.02 dBm and an antenna gain of 2.0 dBi.

The ERP of the EUT is  $20.02 \text{ dBm} + 2 \text{ dBi} - 2.15 = 19.87 \text{ dBm}$  (0.097 W) which is significantly less than the Threshold ERP of 0.768 W exemption limit.

### Conclusion

Both 920 MHz and 2412 MHz transmitters qualify for standalone testing exemption.