

# **Appendix 5**

## **RF Exposure Information**

**Maximum transmitter power:**

| Frequency (MHz) | Maximum peak output power (dBm) | Duty Cycle % | Average Output power(mW) | Separation Distance (mm) |
|-----------------|---------------------------------|--------------|--------------------------|--------------------------|
| 902.75          | 12.93                           | 30%          | 5.89                     | 5                        |
| 914.75          | 13.15                           | 30%          | 6.20                     | 5                        |
| 927.25          | 13.17                           | 30%          | 6.22                     | 5                        |

**Duty Cycle Calculation**

Hopping rate = 50 Hz

Transmitter on time per hop = 6ms

Duty cycle =  $6/20 \times 100 = 30\%$

According to KDB 447498 D01:

These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR,<sup>24</sup> where

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation<sup>25</sup>
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

Result:

$$(5.89/5) \cdot \sqrt{0.90275} = 1.119 < 3.0$$

$$(6.20/5) \cdot \sqrt{0.91475} = 1.167 < 3.0$$

$$(6.22/5) \cdot \sqrt{0.92725} = 1.198 < 3.0$$

Conclusion:

No SAR is required.