

# RF Exposure Assessment

FCC ID: MCLNSKDTR

## 1. Introduction

RF exposure compliance for the emergency alert position location system is assessed by applying a transmission duty cycle to the maximum transmit power of the CDMA transmitter. This methodology is valid because the transmitter only transmits when the devices reports back position locations at a fixed interval.

The modem is not used to transmit voice or user data other then position location information.

If the adjusted transmit power is below the  $60/f(\text{GHz})$  power threshold defined KDB 447498, SAR measurements are not required for the respective device.

## 2. Duty Cycle Calculation

The CDMA transmission duty factor for an emergency situation is calculated based on the transmission time duration to send the necessary position location information and a fixed value of how often the location information is transmitted.

- Total Transmission time to send location report at CDMA maximum power=6 seconds
- Frequency of Location reports= Once every 2 minutes (120 seconds)

CDMA Transmit Duty Factor:  $6/120 = 5.00\%$

## 3. SAR Evaluation Requirements base on Adjusted Transmit Power Calculations

The Adjusted transmit power in the following table is calculated with the equation:

Adjusted Transmit Power with duty cycle = Max Conducted TX Power \* Duty Cycle

**Table 1: SAR Evaluation Requirement based on Adjusted Transmit Power**

CDMA Band	Frequency (MHz)	Maximum Conducted TX Power (dBm)	Maximum Conducted TX Power (mW)	Transmitter Duty Cycle	Adjusted Transmit Power with duty cycle (mW)	SAR Power Threshold ( $60/f(\text{GHz})$ ) (mW)	SAR Evaluation Result
Band Class 0 (850 Mhz)	824	23.8	239.88	5%	12.0	72.8	Less then SAR Pw r threshold
	836	23.8	239.88	5%	12.0	71.8	Less then SAR Pw r threshold
	848	23.6	229.09	5%	11.5	70.8	Less then SAR Pw r threshold
Band Class 1 (19000 Mhz)	1850	24.7	295.12	5%	14.8	32.4	Less then SAR Pw r threshold
	1880	23.6	229.09	5%	11.5	31.9	Less then SAR Pw r threshold
	1910	23.5	223.87	5%	11.2	31.4	Less then SAR Pw r threshold

## 4. Conclusion

Based on the duty cycle adjusted transmit power, SAR measurement evaluation is not required for this tracking device where the transmitter is only active for 6 seconds every 2 minutes for the purposes of transmitting position information.