9. RF Exposure Information:

Calculation for compliance with SAR requirements (47CFR2.1093) is done using a worst-case transmitter power of 50 mW time-averaged by the duty cycle of the transmitter, and the assumption that all RF energy could be absorbed in 1 gram of tissue. The peak exposure limit is 1.6 mW/g (equivalent to 1.6 W/kg per 47CFR2.1093) in any 1 gram of tissue for General Population/Uncontrolled applications. This device has an extremely low duty cycle that dramatically reduces the average power level that could pose an exposure hazard.

The user only activates the transmitter during a duress or panic situation, which is a very rare event. The transmitter is also configured to transmit a supervisory message once every 3 minutes. For a worst-case calculation, we assume 1 panic transmission and a supervision transmission in a 3-minute interval. A panic message consists of 21 redundant packets and a supervisory message consists of 3 redundant packets for a total of 24 packets in the interval. Each packet has duration of 20 ms.

The time-averaged RF transmit power is then,

$$0.05W \times \frac{24\,packets}{3\min} \times \frac{20ms}{packet} \times \frac{1\min}{60\times 10^{3}\,ms} = 0.133mW$$

If all of the transmitted power were absorbed in a 1-gram sample of tissue, the power density is 0.133 mW/gram and is well below the 1.6 mW/gram limit.