

January 18, 1999

Federal Communications Commission  
Equipment Authorization Division  
7435 Oakland Mills Road  
Columbia, MD 21046

Subject: Maximum Permissible Exposure calculations for **FCC ID: IMKRL26330M**

To whom it may concern,

Proxim is submitting a low power transmitter for the Mini ISA Design-in Card. The unit has a low power frequency hopping spread spectrum radio operating in the 2480 - 2483.5 MHz range with an output power of 99 mW.

Assuming a worst case of no duty cycle.

For an Isotropic radiator the surface area of a sphere can be used to determine the area over which the transmitter energy is radiated.

$$\text{Surface area of a sphere} = 4 \cdot \pi \cdot \text{radius}^2$$

In the case where there is antenna gain, the worst case energy density is increased by the antenna gain. The exposure level can be calculated as follows for the 1.5 dBi antenna gain:

$$\text{MPE distance} = (\text{output power} \cdot \text{duty cycle} \cdot 10(\text{antenna gain}/10)) / (4 \cdot \pi \cdot \text{Exposure Limit (mW/cm}^2\text{)})^{1/2}$$

**For the 1.5 dBi Dipole Antenna**

$$\begin{aligned} \text{IMKRL26330M MPE distance} &= (99 \text{ mW} \cdot 1 \cdot 1.4 / 4 \cdot 3.14 \cdot 1)^{1/2} \\ &= 3.32 \text{ cm} \\ &= 1.3 \text{ in} \end{aligned}$$

If you have any questions please do not hesitate to call me.

Sincerely,

Chris Byleckie  
Technical Director  
Electronic Compliance Laboratories