

February 10, 1999

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

Subject: Maximum Permissible Exposure calculations for **FCC ID: OEE700**

To whom it may concern,

Serena Medial is submitting a low power transmitter for an equine heart monitor device. The unit operates in the 902 to 928 MHz band with a radiated output power of .025 mW. The monitor transmits on one frequency that is user selectable.

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.

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

The exposure level can be calculated as follows :

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

$$\begin{aligned} \text{OEE700 MPE distance} &= (.025 \text{ mW} * 1 * 4 * 3.14 * 1)^{1/2} \\ &= .045 \text{ cm} \\ &= .017 \text{ in} \end{aligned}$$

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

Sincerely,

Chris Byleckie
Technical Director
Electronic Compliance Laboratories