MPE / Health Hazard

Requirement:
According to CFR 15 §1.1307 (b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines.

MPE / Health Hazard Separation Distance:
The minimum separation distance calculated following FCC OET Bulletin 65 is calculated as follows, where S is power density,

The power density at 20 cm is computed to be:

$$EIRP \text{ (Avg)} = 25.2 \text{ dBm (Pk)} - 4.7 \text{ dB (Duty)} = 112.2 \text{ mW}$$

$$S(mW/cm^2) = EIRP(mW)/(4 \pi R(cm)^2) = 112.2/(4 \pi 20^2) = 0.0223 \text{ mW/cm}^2$$

ERP is computed to be:

$$ERP(Pk) = EIRP(Pk) - 2.15 = 25.2 - 2.15 = 23.05 \text{ dBm}$$

$$= 0.202 \text{ W}$$

NOTE: Under no circumstances is the ERP of this device greater than 3W, as required by 2.1091 and the FCC mm-wave accepted test procedures.