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:

$$EIRP = 22.5 \text{ dBm} = 177.8 \text{ mW (Pk)}$$

$$S(mW/cm^2) = EIRP(mW)/(4 \pi R(cm)^2) = 177.8/(4 \pi 20^2) = 0.0354 \text{ mW/cm}^2 \text{ (Pk)}$$

ERP is computed to be:

$$ERP = EIRP - 2.15 = 22.5 - 2.15 = 20.35 \text{ dBm}$$

$$= 0.108 \text{ W (Pk)}$$

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.