

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:

$$\text{EIRP} = 32.8 \text{ dBm} = 1905.5 \text{ mW}$$

$$S(\text{mW}/\text{cm}^2) = \text{EIRP}(\text{mW}) / (4 \pi R(\text{cm})^2) = 1905.5 / (4 \pi 20^2) = 0.379 \text{ mW}/\text{cm}^2$$

ERP is computed to be:

$$\text{ERP} = \text{EIRP} - 2.15 = 32.8 - 2.15 = 30.65 \text{ dBm}$$

$$= 1.161 \text{ W}$$

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.