

6.7 Potential Health Hazard EM Radiation Level

The minimum separation distance calculated following FCC OET Bulletin 65 is calculated as follows, where S is power density,

$$\text{EIRP(dBm)} = E_3(\text{dB}\mu\text{V/m}) - 95.2 \text{ dB(mW/(\mu V/m))}$$

$$\text{EIRP} = 119.4 (\text{dB}\mu\text{V/m}) - 95.2 \text{ dB(mW/(\mu V/m))} = 24.2 \text{ dBm} = 263.0 \text{ mW}$$

$$\begin{aligned} \text{ERP} &= \text{EIRP} - 2.15 = 24.2 - 2.15 = 22.05 \text{ dBm} \\ &= 160.3 \text{ mW} = 0.160 \text{ W} \end{aligned}$$

Thus, the power density at 20 cm becomes $S(\text{mW/cm}^2) = \text{EIRP}(\text{mW}) / (4\pi R(\text{cm})^2) = 0.052 \text{ mW/cm}^2$

NOTE:

- (1) 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.