

RF Safety Exposure Per FCC Requirement

The Maximum Permissible Exposure (MPE) distance per ANSI C95.1, table 2 for uncontrolled Environments is $f(\text{MHz})/1500$ [mW/cm^2]. The maximum output power for the pager is 2000 mW and for the LAN radio is 1000 mW. The numerical value of the gain for both antennas is 4 (6dBi). Therefore, the power density is:

$$[(2000 \text{ mW} + 1000 \text{ mW}) \times 4.0] / (4 \pi r^2) = 900 \text{ MHz} / 1500 [\text{mW}/\text{cm}^2]$$

$$r = \left[(900 \text{ MHz} / 1500 \text{ mW}/\text{cm}^2) (4 \pi) / 3000 \text{ mW} \right]^{1/2}$$

$$r = 50.1 \text{ cm} \text{ or } 19.7 \text{ in}$$

Therefore, the maximum calculated MPE distance (r) is 51 cm. The installation instructions shall indicate that at least 53cm (51+2 margin) separation be provided between the antennas and the people.