

MPE Prediction for Andrew PCSSSR Repeater

Maximum peak eirp: +20 dBm (100 mW)

Prediction distance: 20 cm

MPE limit for uncontrolled exposure at tx frequency = 1 mW/cm²

Using the equation from page 18 of OET Bulletin 65, Edition 97-01 to predict the worst-case exposure at 20 cm:

$$S = \frac{EIRP}{4\pi R^2}$$

where: S = power density

EIRP = equivalent isotropically radiated power

R = distance to the center of radiation of the antenna

$$S = \frac{100mW}{12.56637 \times 20cm^2} = .01989mW / cm^2$$

The minimum allowable separation distance to maintain the 1 mW/cm² limit would be:

$$R = \sqrt{\frac{EIRP}{4\pi S}}$$

$$R = \sqrt{\frac{100mW}{4\pi \times 1mW}}$$

$$R = \sqrt{\frac{100}{12.56637061}}$$

$$R = 2.82cm$$