

Maximum Human Exposure Calculation

The equation used for calculating the power density at the surface of a parabolic aperture antenna is as follows:

$$S = 4P/A$$

where: S = maximum power density at the antenna surface

P = power fed to the antenna

A = physical area of the aperture antenna

This Application:

$$P = 19.3\text{dBm} = 84.9\text{mW}$$

$$A = \pi * r^2 = \pi * (30.48\text{cm})^2 = 2918.6\text{cm}^2$$

$$S = 4(84.9\text{mW})/2918.6\text{cm}^2 = \mathbf{0.116\text{mW/cm}^2}$$

Since the surface power density of this product passes the limit of 1mW/cm^2 , then the only distance requirement that applies is the requisite 2m for fixed antennas.