Maximum Permissible Exposure calculations

The MPE distance will be calculated for the worst case of a 100% transmitter duty cycle. For an isotropic radiator the surface area of a sphere can be used to determine the area over which the transceiver energy is radiated.

*Surface area of a sphere = 4 * π * radius*^{2}

In the case where there is an antenna gain, the worst case energy density is increased by the antenna gain. In this case, the exposure level for a controlled environment can be calculated as follows:

*MPE distance =((output power*duty cycle*10*(antenna gain/10))/(4*π*Exposure Limit [mW/cm*^{2}*]))*$^{1/2}$

In the case of 0.0 dBi antenna

*MPE distance = ((960 mW * 1 * 1) /(4 * 3.14 * 1))*$^{1/2}$
= 6.9 cm