

3.6 RF Exposure Compliance

For 2 dBi Antenna:

The maximum measured antenna conducted power, P is 9.56dBm

The antenna gain, G is 2.0dBi

The maximum EIRP power = P + G

ERP = 9.56+2.0= 11.56dBm, or 0.01432W=14.32mW

The limits for Maximum Permissible Exposure (MPE) for transmitter operating at 2.4Hz, MPE is 1mW/cm², or 10W/m²

$S = 10W/m^2$

The Power Density is related to EIRP with the equation:

$S = EIRP / 4\pi D^2$, or $10 = 0.01432 / 4\pi D^2$, where D is a separation distance

The minimum safe separation distance, D = 1.06cm, which is below 20cm

For 8 dBi Antenna:

The maximum measured antenna conducted power, P is 9.56dBm

The antenna gain, G is 8.0dBi

The maximum EIRP power = P + G

ERP = 9.56+8.0= 17.56dBm, or 0.05702W=57.02mW

The limits for Maximum Permissible Exposure (MPE) for transmitter operating at 2.4Hz, MPE is 1mW/cm², or 10W/m²

$S = 10W/m^2$

The Power Density is related to EIRP with the equation:

$S = EIRP / 4\pi D^2$, or $10 = 0.05702 / 4\pi D^2$, where D is a separation distance

The minimum safe separation distance, D = 2.13cm, which is below 20cm