

**** MPE Calculations ****

The MPE calculation for this exposure is shown below.

Limits for Occupational/Controlled Exposure

The peak radiated output power (EIRP) is calculated as follows:

Maximum permissible exposure is Freq. (MHz)/1500 = MPE mW/cm²

1930 MHz/1500 = 1.287 mW/cm²

The following calculations determine at what distance from the antenna the power density is

=1.287 mW/cm²

Tx output power = 40.76 dBm

numeric Gain = 11.22 dBi

EIRP of TX and Antenna = 51.98 dBm

51.98 dBm=157.8 Watts or 157761 mW

MPE Calculation

Estimated safe separation:

$R = \sqrt{(PG / 4\pi 1.287)}$	Where, P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna (20cm = limit for MPE)
$R = \sqrt{(11912 * 11.22 / 4\pi 1.287)}$	
$R = 103.16\text{Cm}$	

The minimum safe distance for Occupational/Controlled exposure is 103.16cm for the antenna when installed. This is the worst case for the downlink. The maximum antenna gain stated is for the downlink. This product is installed by trained professionals in outdoor applications only