RF Exposure MPE Exhibit

Limits for Occupational/Controlled Exposure

Maximum permissible exposure is Freq. (MHz)/1500 = MPE mW/cm^2
1850 MHz/1500 = 1.233 mw/cm^2

The following calculations determine at what distance from the antenna the power density is = 1.233 mw/cm^2

Tx output power = 32.7 dBm
Antenna Gain = 18 dBi
EIRP of TX and Antenna = 50.7 dBm
50.7 dBm= 120.2 Watts or 120226.4 mW

MPE Calculation

$$PowerDensity = Pd(\mathrm{mW/cm^2}) = \frac{EIRP}{4\pi d^2}$$

$$d = \sqrt{\frac{EIRP}{4\pi Pd}}$$

$$d = \sqrt{\frac{120226.4}{4\pi 1.233 mw/cm2}}$$

d = 88.09 cm

The minimum safe distance for Occupational/Controlled exposure is 88.09cm for the Telcosat RPT1900 antenna when installed. This is the worst case for both the uplink and downlink. The maximum antenna gain stated is for both uplink and downlink. This product is installed by trained professionals in outdoor applications only