RF Exposure MPE Exhibit

Maximum permissible exposure is Freq. (MHz)/1500 = MPE mW/cm^2
869 MHz/1500 = 0.5793 mw/cm^2

The following calculations determine at what distance from the antenna the power density is = 0.5793 mw/cm^2

Tx output power = 30.4 dBm (based on GSM power measurement)
Antenna Gain   = 14.6 dBi
EIRP of TX and Antenna = 45 dBm
45 dBm= 28.8 Watts or 28840 mW

MPE Calculation

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

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

$$d = \sqrt{\frac{31622.8}{4\pi 0.5793 mw/cm2}}$$

d = 65.9 cm

The minimum safe distance is 65.9 cm for the Telcosat RPT900 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