

RF Exposure (MPE) Calculations

905 - 924.6 MHz Frequency Hopping Spread Spectrum Radio

Applicant: Robertshaw Controls Company

FCC ID: QI2-EMSG-100-CR

RF Hazard Distance Calculation (worst case)

mW/cm2 from Table1: 0.60

Max RF Power P, dBm	TX Antenna G, dBi	MPE Safe Distance, cm
12.75	1.15	1.8

Basis of Calculations:

$$E^2/3770 = S, \text{ mW/cm}^2$$

$$E, \text{ V/m} = (P_{\text{watts}} * G_{\text{gain}} * 30)^{.5} / d, \text{ meters}$$

$$d = ((P_{\text{watts}} * G * 30) / 3770 * S)^{.5} \quad P_{\text{watts}} * G_{\text{gain}} = 10^{(P_{\text{dBm}} - 30 + G_{\text{dBi}}) / 10}$$

NOTE: For mobile or fixed location transmitters, minimum separation distance is 20 cm, even if calculations indicate MPE distance is less