

## RF Exposure (MPE) Calculations

**Applicant: Breezecom Ltd.**

**FCC ID: LKT-SUR-24**

**2.4 GHz Frequency Hopping Spread Spectrum**

### RF Hazard Distance Calculation

<b>mW/cm2 from Table1:</b>		<b>1.00</b>
Max RF Power P, dBm	TX Antenna G, dBi	MPE Safe Distance, cm
<b>27.4</b>	<b>7.0</b>	<b>14.8</b>

### Basis of Calculations:

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

$$E, \text{ V/m} = (\text{Pwatts} * \text{Ggain} * 30)^{.5} / d, \text{ meters}$$

$$d = ((\text{Pwatts} * \text{G} * 30) / 3770 * S)^{.5}$$

$$\text{Pwatts} * \text{Ggain} = 10^{(\text{PdBm} - 30 + \text{GdBi}) / 10}$$

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

\*Worst case antenna : Huber-Shuner SPA 2400/75/9/0/V (Breezecom model UNI-8.5 dBi).

As stated previously, this antenna has a permanently attached cable with 1.5 dB loss at 2400 MHz. The effective antenna gain is therefore 8.5 dBi - 1.5 dB = 7.0 dBi.