

MPE CALCULATION

The MPE calculation for Telular (EIRP = 32 dBm) @ 20cm:

$$\begin{aligned} P &= E^2 / 120 * \pi \\ &= \{ 32 \text{ (field strength@1meter)} + 20 \log(1/0.2) \text{ (distance correction factor for 0.2 meter)} \}^2 / 120 * \pi \\ &= \{ 32 \text{ (dBm)} + 14 \text{ dB (distance correction factor for 0.2 meter)} \}^2 / 120 * \pi \\ &= \{ 46 \text{ (dBm)} \}^2 / 120 * \pi \\ &= \{ 45 \text{ (V/m)} \}^2 / 120 * \pi \\ &= (45 \times 45) / 376.6 \\ &= 5.38 \text{ W/m}^2 \end{aligned}$$

***P is power density in W/m² and E is field strength in V/m**

***The power density P = 5.38 W/m² is less than 10 W/m² (listed MPE limit)**