



Tuesday, July 19, 2005

ARWT01-A1 AlphaWave AW400

Maximum Permissible Exposure Calculation

Calculations for Maximum Permissible Exposure Levels

Power Density = P_d (mW/cm^2) = $\text{EIRP}/(4\pi d^2)$

$d = \sqrt{(\text{EIRP}/(4\pi P_d))}$

$\text{EIRP} = P * G$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

Numeric Gain = $10^{(G(\text{dBi})/10)}$

P (worst case) = +33 dBm, **2,000 mW**, Antenna Gain = 0 dBi, **1.0 numeric**

The MPE limit for 450 MHz in this case is $f(\text{MHz})/1500$ or $0.3 \text{ mW}/\text{cm}^2$

Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance (d) @ $0.3 \text{ mW}/\text{cm}^2$	Limit (mW/cm^2)
1	+33.0	2,000	23 cm	0.3