



Monday, October 31, 2005

PCOM08-A1 SPEEDLAN 9200

Maximum Permissible Exposure Calculation

FCC, Part 90 Subpart C §90.1217

Calculations for Maximum Permissible Exposure Levels

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

$$\text{EIRP} = P * G$$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

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

4 9 GHz 20 MHz Channel = Max. Output Power +23.37 dBm, 217.3 mW

Max. Antenna Gain = 26 dBi, **398.1 numeric**

Min. Antenna Gain = 9 dBi, **7.9 numeric**

The EUT belongs to the General Population/Uncontrolled Exposure, power density limit is 1.0mW/cm²

Antenna Gain (Numeric)	Peak Output Power (mW)	Calculated RF Exposure at d=20cm (mW/cm ²)	Limit (mW/cm ²)
7.9	217.3	0.34	1.0

Maximum Gain Antennas – Calculated Safe Distance @ 1 mW/cm²

Antenna Gain (Numeric)	Peak Output Power (mW)	Calculated Safe Distance at 1 mW/cm ² (cm)	Limit (mW/cm ²)
398.1	217.3	83.0	1.0