

R.F Exposure/Safety Calculation

The E.U.T. is desk or wall mounted. The typical distance between the E.U.T. and the general population is >10 cm for desk mounted operation (distance between E.U.T. and any person's arm while seated at desk) and >20 cm for wall mounted operation.

Calculation of Maximum Permissible Exposure (MPE)

Based on Section 1.1307(b)(1) Requirements

(a) FCC limits at 1960 MHz is: $1 \frac{mW}{cm^2}$

Using table 1 of Section 1.1310 limit for general population/uncontrolled exposures, the above level is an average over 30 minutes.

(b) The power density produced by the E.U.T. is

$$S = \frac{P_t G_t}{4\pi R^2}$$

P_t - Transmitted Peak Power (worst case)

G_T - Antenna Gain ,dBi

R- Distance from Transmitter

(c) Peak power density (time averaging):

Modulation	Pt (mW)	Antenna type	G _T (dBi)	R (cm)	S _{AV} (mW/cm ²)	Spec (mW/cm ²)
GSM	19.7	Integral	1	10	19.6×10 ⁻³	1.0
W-CDMA	42.4	Integral	1	10	42.0×10 ⁻³	1.0
CDMA	51.3	Integral	1	10	50.8×10 ⁻³	1.0
GSM	19.7	External	10	10	156.0×10 ⁻³	1.0
W-CDMA	42.4	External	10	10	336.0×10 ⁻³	1.0
CDMA	51.3	External	10	10	408.0×10 ⁻³	1.0