R.F Exposure/Safety Calculation for 2000-S80S90-A-TC

The E.U.T. is rack or wall mounted. The typical distance between the E.U.T. and the general population is > 25 cm.

Calculation of Maximum Permissible Exposure (MPE)

Based on Section 1.1307(b)(1) Requirements

(a) FCC Limit at 851.0125 MHz is: $f/1500 = 0.567 \frac{mW}{cm^2}$

FCC limit at 860.0000 MHz is: $f/1500 = 0.573 \frac{mW}{cm^2}$

FCC limit at 868.9875 MHz is: $f/1500 = 0.579 \frac{mW}{cm^2}$

FCC Limit at 929.0125 MHz is $f/1500 = 0.619 \frac{mW}{cm^2}$

FCC Limit at 935.0000 MHz is $f/1500 = 0.623 \frac{mW}{cm^2}$

FCC Limit at 940.9875 MHz is $f/1500 = 0.627 \frac{mW}{cm^2}$

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 at worst case continuous transmission:

Band	Frequency (MHz)	Pt (mW)	Antenna type	G_T (dBi)	R (cm)	S_{AV} (mW/cm^2)	Spec (mW/cm^2)
iDEN	851.0125	350.752	External	10	25	0.447	0.567
	860.0000	269.774	External	10	25	0.343	0.573
	868.9875	236.048	External	10	25	0.301	0.579
SMR	929.0125	179.473	External	10	25	0.229	0.619
	935.0000	242.103	External	10	25	0.308	0.623
	940.9875	211.836	External	10	25	0.270	0.627