FCC §1.1307 & §2.1091 - RF EXPOSURE

Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

Test Data

Predication of MPE limit at a given distance

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

Where: S = power density (in appropriate units, e.g. mW/cm2)
    P = output power to antenna
    G= Antenna Gain (numeral)
    R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

Table: Maximum Permissible Exposure (MPE) Calculations

Band	Frequency (MHz)	Ant. Gain (dBi)	Max Conducted Power		Duty Cycle	Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
			(dBm)	(mW)				
GSM 850 (2 Slots)	848.8	0.5	32.45	1757.92	25%	20	0.098	0.566
PCS 1900 (2 Slots)	1850.2	1.0	29.06	805.38	25%	20	0.050	1.0

Result: EUT meets the MPE limits at 20 cm distance as specified in section 2.1091 of the FCC rules.
    An appropriate RF exposure compliance statement will be placed in the User's Guide.