

➤ **RF Exposure**

FCC Rules and Regulations Part 1.1307,1.1310,2.1091,2.1093:  
RF Exposure Compliance

● **Limit For Maximum Permissible Exposure (MPE)**

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S ( minutes )
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	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

● **MPE Calculations**

Power Density =Pd (mW/cm<sup>2</sup>) = EIRP/4 π d<sup>2</sup>

EIRP = P · G

P=Peak output power (mW)

G=Antenna numeric gain (numeric)

d=Separation distance (cm)

Because the EUT belongs to General Population/ Uncontrolled Exposure, the limit of power density is 1.0 mW/cm<sup>2</sup>.

**GSM 850**

Channel NO.	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated RF Exposure at d=20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
Channel 128	4.00	2.51	31.80	1513.56	0.7567	1.00
Channel 189	4.00	2.51	32.30	1698.24	0.8491	1.00
Channel 1900	4.00	2.51	32.40	1737.80	0.8689	1.00

**PCS 1900**

Channel NO.	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated RF Exposure at d=20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
Channel 512	4.00	2.51	30.10	1023.29	0.5116	1.00
Channel 661	4.00	2.51	29.90	977.24	0.4886	1.00
Channel 810	4.00	2.51	29.70	933.25	0.4666	1.00

● **FCC Radiation Exposure Statement**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm during normal operation.