

10. RF EXPOSURE STATEMENT

1. LIMITS

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

(B) Limits for General Population/Uncontrolled Exposures

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/ f ²)	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

2. MAXIMUM PERMISSIBLE EXPOSURE Prediction

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

S = Power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

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2-1. GSM Downlink

Max Peak output Power at antenna input terminal	12.990	dBm
Max Peak output Power at antenna input terminal	19.907	mW
Prediction distance	20.000	cm
Prediction frequency	893.800	MHz
Antenna Gain(typical)	0.000	dBi
Antenna Gain(numeric)	1.000	–
Power density at prediction frequency(S)	0.004	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	0.596	mW/cm ²

3. RESULTS

The power density level at 20 cm is 0.004 (GSM)mW/cm², which is below the uncontrolled exposure limit for GSM band.

Warning: In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, it must also have a minimum distance of 20 cm from the body during normal operation.

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