

**Prediction of MPE limit at given distance**

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

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

where: S = power density

P = power input to the 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

**Prediction for GSM 1900 (1850-1910 MHz) Band**

Maximum peak output power at antenna input terminal:	<u>31,45</u>	dBm
Maximum peak output power at antenna input terminal:	<u>1396,368</u>	mW
Antenna gain(typical):	<u>-1,84</u>	dBi
Maximum antenna gain:	<u>0,654</u>	numeric
Prediction distance:	<u>20</u>	cm
Prediction frequency:	<u>1880</u>	MHz
MPE limit for uncontrolled exposure at prediction frequency:	<u>1</u>	$\frac{mW}{cm^2}$
Power density at prediction frequency:	<b>0,181680276</b>	$\frac{mW}{cm^2}$

**Prediction for GSM 850 (824-849 MHz) Band**

Maximum peak output power at antenna input terminal:	<u>30,47</u>	dBm
Maximum peak output power at antenna input terminal:	<u>1114,294</u>	mW
Antenna gain(typical):	<u>-1,47</u>	dBi
Maximum antenna gain:	<u>0,713</u>	numeric
Prediction distance:	<u>20</u>	cm
Prediction frequency:	<u>839</u>	MHz
MPE limit for uncontrolled exposure at prediction frequency:	<u>1</u>	$\frac{mW}{cm^2}$
Power density at prediction frequency:	<b>0,158059086</b>	$\frac{mW}{cm^2}$

The power density levels at a distance of 20 cm. are well below the maximum levels allowed by the FCC regulations.