



Application **PY76220512**

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:	29,60 dBm
Maximum peak output power at antenna input terminal:	912,011 mW
Antenna gain (typical):	3,4 dBi
Maximum antenna gain:	2.188 numeric
Prediction distance:	20 cm
Prediction frequency:	1880 MHz
MPE limit for uncontrolled exposure at prediction frequency:	1 $\frac{\text{mW}}{\text{cm}^2}$
Power density at prediction frequency:	0,395536635 $\frac{\text{mW}}{\text{cm}^2}$

Prediction for GSM 850 (824-849 MHz) Band

Maximum peak output power at antenna input terminal:	32,60 dBm
Maximum peak output power at antenna input terminal:	1819,701 mW
Antenna gain (typical):	3.4 dBi
Maximum antenna gain:	2.188 numeric
Prediction distance:	20 cm
Prediction frequency:	839 MHz
MPE limit for uncontrolled exposure at prediction frequency:	1 $\frac{\text{mW}}{\text{cm}^2}$
Power density at prediction frequency:	0,792095409 $\frac{\text{mW}}{\text{cm}^2}$

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

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