Sony Ericsson

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Application **PY76220511**

Prediction of MPE limit at given distance

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

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

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:	27,80	dBm
Maximum peak output power at antenna input terminal:	602,559	mW
Antenna gain (typical):	5,0	dBi
Maximum antenna gain:	3,162	numeric
Prediction distance:	20	cm
Prediction frequency:	1880	MHz
MPE limit for uncontrolled exposure at prediction frequency:	1	$\frac{mW}{cm^2}$
Power density at prediction frequency:	**0,379045712**	$\frac{mW}{cm^2}$

Prediction for GSM 850 (824-849 MHz) Band

Maximum peak output power at antenna input terminal:	31,40	dBm
Maximum peak output power at antenna input terminal:	1380,384	mW
Antenna gain (typical):	5.0	dBi
Maximum antenna gain:	3.162	numeric
Prediction distance:	20	cm
Prediction frequency:	839	MHz
MPE limit for uncontrolled exposure at prediction frequency:	1	$\frac{mW}{cm^2}$
Power density at prediction frequency:	**0,868344238**	$\frac{mW}{cm^2}$

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

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