

### Prediction of MPE limit at a given distance

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

$$S = \frac{P G}{4 \pi R^2} = \frac{EIRP}{4 \pi R^2} = \frac{E^2 D^2}{120 \pi R^2}$$

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  
EIRP = equivalent isotropically radiated power  
E = field strength of fundamental emission  
D = distance when measured field strength

Model: 2TJA1082

Field strength of fundamental emission:	<u>56.3</u>	[dBμV/m]
Field strength of fundamental emission:	<u>653.13</u>	[μV/m]
Measured distance of fundamental emission:	<u>3</u>	[m]
Antenna gain:	<u>-53.00</u>	[dBi]
Equivalent isotropically radiated power:	<u>0.000128</u>	[mW]
Prediction distance:	<u>20</u>	[cm]
Prediction frequency:	<u>13.56</u>	[MHz]
MPE limit for uncontrolled exposure at prediction frequency:	<u>0.97</u>	[mW/cm <sup>2</sup> ]
Power density at prediction frequency:	<u>0.000000255</u>	[mW/cm <sup>2</sup> ]
	<u>0.000000255</u>	[W/m <sup>2</sup> ]
Maximum allowable antenna gain:	<u>22.8</u>	[dBi]
Margin of Compliance:	<u>75.8</u>	[dB]