

### Prediction of MPE limit at a given distance

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

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

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:	2R6A0881
Field strength of fundamental emission:	<u>40.8</u> [dB $\mu$ V/m]
Field strength of fundamental emission:	<u>110</u> [ $\mu$ V/m]
Measured distance of fundamental emission:	<u>3</u> [m]
Antenna gain(typical):	<u>-53.00</u> [dBi]
Equivalent isotropically radiated power:	<u>0.0000036</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:	0.0000000072 [mW/cm <sup>2</sup> ] 0.0000000072 [W/m <sup>2</sup> ]
Maximum allowable antenna gain:	38.3 [dBi]
Margin of Compliance:	91.3 [dB]