RF Exposure   **MPE Calculation**

KDB 447498

Prediction of MPE limit at a given distance

Equation from IEEE C95.1

$$S = \frac{EIRP}{4\pi R^2} \text{ re - arranged } R = \sqrt{\frac{EIRP}{S4\pi}}$$

where:

S = power density
R = distance to the centre of radiation of the antenna
EIRP = EUT Maximum power

Note:

The following formula may be used to convert field strength (FS) in volts/metre to transmitter output power (TP) in watts:

$$TP = (FS \times D)^2 / (30 \times G)$$

where D is the distance in metres between the two antennas and G is the antenna numerical gain referenced to isotropic gain.

Result

Prediction Frequency (MHz)	Maximum EIRP (mW)	Minimum Distance (cm)	Power density at distance (mW/cm^2)	Power density limit (S) (mW/cm^2)
905.2	8.88	1.1	0.58	0.60
910.5	8.88	1.1	0.57	0.61
915.91	8.88	1.1	0.57	0.61