

RF Safety Requirements to 2.1091 for Mobile Transmitters

Power Output

The EUT's maximum expected output power is

Frequency of Fundamental (MHz)	(dBm)	(Watt)
1611.88	21.43	0.139

Source Based Time Averaging

This information has not been included and the MPE calculations specified below do not take into consideration any duty cycle correction.

The module specifies a +3 dBi antenna. Added to the conducted power output, our result is 24.43 dBm. This yields a power output of 0.277 W.

ERP = Antilog $((24.43-2.15)/10)$ =169mW. Since this value is below the 3W required under 2.1091 for greater than 1.5 GHz, routine evaluation is not necessary.

MPE Calculations

The limits for this unit (uncontrolled exposure) are 1.0 mW/cm² with a minimum separation distance of 20 cm. Taking the RF Density Field Equation:

$$S = (\text{EIRP in mW}) / (4\pi R^2)$$

$$S = (277 \text{ mW}) / (4 * 3.14159 * 20^2)$$

$$S = 277 / 5026.6$$

$$S = 0.06 \text{ mW/cm}^2$$

This value is well below the maximum limit of 1.0 mW/cm².