RF exposure calculation

8.8.1 Regulation

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines.

8.8.2 Test result

MPE calculation to the IC no: 9941A-RFR500

These equations are generally accurate in the far field of an antenna but will over predict power density in the near field, where they could be used for making a "worst case" prediction.

$S = PG/4\pi R^2$

where S = power density (in appropriate units, e.g. mW/cm^2)
P = power input to the antenna (in appropriate units e.g. mW)
G = power gain of the antenna in the direction of interest relative to the isotropic radiator
R = distance to the center of radiation of the antenna (appropriate units e.g. cm)

Or

$S = EIRP/(4\pi R^2)$

where EIRP = equivalent isotropically radiated power

Calculation:
(Calculated for max. EIRP)
EIRP: 35.5 dBm = 3548.13 mW
calculated at distance of 23 cm:
power density = $3548.13 /(4*\pi*23^2)$ = **0.534 mW/ cm^2**

Limit:

± 0.61 mW/ cm^2 is the reference level for general public exposure according to the OET Bulletin 65, Edition 97-01 Table 1..