

9.2 MPE calculation

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

where S = power density (in appropriate units, e.g. mW/cm²)
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 centre of radiation of the antenna (appropriate units e.g. cm)

Or

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

where EIRP = equivalent isotropically radiated power

Calculation:

The manufacturer declared a maximal EIRP of 24.5 dBm

EIRP: 24.5 dBm (282 mW)

Calculated power density S:

$$S = 282 \text{ mW} / (4\pi * 20 \text{ cm} * 20 \text{ cm}) = 0.056 \text{ mW} / \text{cm}^2$$

Limit:

1 mW / cm² is the reference level for general public exposure according to:
FCC OET Bulletin 65, Edition 97-01 Table 1
IC Safety Code 6

Result: The measurement is passed.