

For mobile RF exposure conditions in accordance with 2.1091

This MPE Calculation addresses max 9dBi directional antenna gain limitation of 90.1215(a).

Since power will need to be reduced in the amount of dB that the directional antenna gain exceeds 9dBi, the highest power and antenna combination will be as follows: 32.32dBm = 1.706W as listed on the grant when used with 9dBi antenna produces a power density just below 1mW/cm² at 33 cm. This is considered the minimum separation distance for safe RF exposure condition to meet the FCC requirements for this device when used in mobile RF exposure conditions.

$$S = \frac{PG}{4\pi R^2}$$

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

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

Maximum peak output power at the antenna terminal: 32.32 (dBm)
Maximum peak output power at the antenna terminal: 1706.082389 (mW)
Antenna gain(typical): 9 (dBi)
Maximum antenna gain: 7.943282347 (numeric)
Prediction distance: 33 (cm)
Prediction frequency: 4950 (MHz)
MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm²)

Power density at prediction frequency: 0.990290 (mW/cm²)

For temporary-fixed rapid deployment with maximum antenna gain of 26dBi.

Maximum peak output power at the antenna terminal: 32.32 (dBm)
Maximum peak output power at the antenna terminal: 1706.082389 (mW)
Antenna gain(typical): 26 (dBi)
Maximum antenna gain: 398.1071706 (numeric)
Prediction distance: 233 (cm)
Prediction frequency: 4950 (MHz)
MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm²)

Power density at prediction frequency: 0.995585 (mW/cm²)