



Prediction of MPE limit at a given distance

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

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

Downlink Indoor Condition, 20 cm distance

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 antenna input terminal: 30.91 (dBm)

Maximum peak output power at antenna input terminal: 1233.104833 (mW)

Antenna gain(typical): 2 (dBi)

Maximum antenna gain: 1.584893192 (numeric)

Prediction distance: 20 (cm)

Prediction frequency: 1930 (MHz)

MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm²)

Power density at prediction frequency: **0.388803** (mW/cm²)

Maximum allowable antenna gain: **6.102698554** (dBi)

Margin of Compliance: 4.102698554



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

Downlink Outdoor Condition, 1 meter distance

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 antenna input terminal: 30.91 (dBm)

Maximum peak output power at antenna input terminal: 1233.104833 (mW)

Antenna gain(typical): 10.1 (dBi)

Maximum antenna gain: 10.23292992 (numeric)

Prediction distance: 100 (cm)

Prediction frequency: 1930 (MHz)

MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm²)

Power density at prediction frequency: **0.100413** (mW/cm²)

Maximum allowable antenna gain: **20.08209864** (dBi)

Margin of Compliance: 9.98209864



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

Uplink with 1 meter
distance

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 antenna input terminal: 30.26 (dBm)

Maximum peak output power at antenna input terminal: 1061.695557 (mW)

Antenna gain(typical): 10.1 (dBi)

Maximum antenna gain: 10.23292992 (numeric)

Prediction distance: 100 (cm)

Prediction frequency: 1915 (MHz)

MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm²)

Power density at prediction frequency: 0.086455 (mW/cm²)

Maximum allowable antenna gain: 20.73209864 (dBi)

Margin of Compliance: 10.63209864