

Prediction of MPE limit at a given distance for BLE

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

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

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 device output terminal: 4.09 dBm

Cable and Jumper loss: 0.0 dB

Maximum peak output power at antenna input terminal: 4.09 dBm

2.564484037 mW

Single Antenna gain (typical): 1.3 dBi

Number of Antennae: 1

Total Antenna gain (typical): 1.3 dBi

1.348962883 (numeric) distance: 20 cm

Prediction distance: 20 cm Prediction frequency: 2440 MHz

MPE limit for uncontrolled exposure at prediction frequency: ______1 mW/cm²

Power density at prediction frequency: 0.000688 mW/cm²

0.006882 W/m²

Tx On time: 1.000000 ms
Tx period time: 1.000000 ms

Average Factor: 100.000000 %

Average Power density at prediction frequency: 0.006882 W/m²

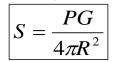
Maximum allowable antenna gain: 32.92269855 dBi

Margin of Compliance: 31.62269855 dB



Prediction of MPE limit at a given distance for RFID

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 device output terminal:

Cable and Jumper loss:

0.0 dB

Maximum peak output power at antenna input terminal:

Single Antenna gain (typical):

Number of Antennae:

Total Antenna gain (typical):

0 dBi

1 (numeric)

Prediction distance: 20 cm
Prediction frequency: 13.56 MHz

MPE limit for uncontrolled exposure at prediction frequency: 13.27433628 mW/cm²

Power density at prediction frequency: 0.00000000078 mW/cm²

0.000000 W/m²
Tx On time: 1.000000 ms
Tx period time: 1.000000 ms
Average Factor: 100.00000 %

Average Power density at prediction frequency: 0.000000 W/m²

Maximum allowable antenna gain: 102.3128267 dBi

Margin of Compliance: 102.3128267 dB