

Prediction of MPE limit at a given distance

Product name: NXG01S
FCC ID: XSG-831591

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

Transmitter n°1

Maximum peak output power at the antenna terminal: 9.78 (dBm)
Maximum peak output power at the antenna terminal: 9,506047937 (mW)
Antenna gain(typical): 1.97 (dBi)
Maximum antenna gain: 1,573982864 (numeric)
Prediction distance: 20 (cm)
Prediction frequency: 922.2 (MHz)
MPE limit for uncontrolled exposure at prediction frequency: 0.61 (mW/cm²)

Power density at prediction frequency: 0,002977 (mW/cm²)

Maximum allowable antenna gain: 25,0859969 (dBi)

Transmitter n°2

Maximum peak output power at the antenna terminal: 11.48 (dBm)
Maximum peak output power at the antenna terminal: 14,06047524 (mW)
Antenna gain(typical): 5.56 (dBi)
Maximum antenna gain: 3,597493352 (numeric)
Prediction distance: 20 (cm)
Prediction frequency: 2412 (MHz)
MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm²)

Power density at prediction frequency: 0,010063 (mW/cm²)

Maximum allowable antenna gain: 25,53269855 (dBi)

Transmitter n°3

Maximum peak output power at the antenna terminal: 14.66 (dBm)
Maximum peak output power at the antenna terminal: 29,24152378 (mW)
Antenna gain(typical): 5.56 (dBi)
Maximum antenna gain: 3,597493352 (numeric)
Prediction distance: 20 (cm)
Prediction frequency: 2412 (MHz)
MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm²)

Power density at prediction frequency: 0,020928 (mW/cm²)

Maximum allowable antenna gain: 22,35269855 (dBi)

Collocation evaluation for the following cases:

Pd(n) = Power density of nth transmitter at 20cm

LPd(n)= Power density limit for the nth transmitter

Transmitter n°1 + Transmitter n°2 + Transmitter n°3 :

$$[Pd(1)/LPd(1)] + [Pd(2)/LPd(2)] + [Pd(3)/LPd(3)] = 0,03587 < 1$$