

Product name: DCIWA384 UHD Alt US V4
Manufacturer: SAGEMCOM BROADBAND SAS
FCC Id: VW3DCIWA384-V4

Prediction of MPE limit at a given distance

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

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

(formula 1)

$$PG = \frac{(Ed)^2}{30}$$

(formula 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

PG = Effective Isotropic Radiated Power (EIRP)
E = Electric field measured at distance R distance
d = measurment distance

Transmitter n°1 (Wi-Fi: 5150-5850 MHz)

Maximum peak output power at the antenna terminal: 427 (mW)

Antenna gain(typical): 8,65 (dBi)

Maximum antenna gain: 7,328245331 (numeric)

Prediction distance: 30 (cm)

Prediction frequency: 5150 (MHz)

MPE limit for uncontrolled exposure at prediction frequency (limit table FCC §1.1310): 1 (mW/cm^2)

Power density at prediction frequency: 0,276679 (mW/cm^2) (formula 1)

Transmitter n°2 (Bluetooth EDR: 2400-2483,5 MHz)

Maximum peak output power at the antenna terminal: 7,5 (mW)

Antenna gain(typical): 2,5 (dBi)

Maximum antenna gain: 1,77827941 (numeric)

Prediction distance: 30 (cm)

Prediction frequency: 2402 (MHz)

MPE limit for uncontrolled exposure at prediction frequency (limit table FCC §1.1310): 1 (mW/cm^2)

Power density at prediction frequency: 0,001179 (mW/cm^2) (formula 1)

Transmitter n°3 (Bluetooth BLE: 2400-2483,5 MHz)

Maximum peak output power at the antenna terminal: 1,9 (mW)

Antenna gain(typical): 2,5 (dBi)

Maximum antenna gain: 1,77827941 (numeric)

Prediction distance: 30 (cm)

Prediction frequency: 2402 (MHz)

MPE limit for uncontrolled exposure at prediction frequency (limit table FCC §1.1310): 1 (mW/cm^2)

Power density at prediction frequency: 0,000299 (mW/cm^2) (formula 1)

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

[Pd(1)/LPd(1)] + [Pd(2)/LPd(2)] + [Pd(3)/LPd(3)] = 0,28<1