

Product: Set Top Box
Trademark: Technicolor
Manufacturer: Technicolor
Model: UIW4059MIL
FCC ID: G95UIW4059

Prediction of MPE limit at a given distance

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

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

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 (Wi-Fi: 2400-2483,5 MHz)

Maximum peak output power at the antenna terminal: 25,43 (dBm)
Maximum peak output power at the antenna terminal: 349,1403155 (mW)
Antenna gain(typical): 1,7 (dBi)
Maximum antenna gain: 1,479108388 (numeric)
Prediction distance: 30 (cm)
Prediction frequency: 2437 (MHz)
MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm²)

Power density at prediction frequency: **0,045661** (mW/cm²)

*Note: Transmitter n°1 includes 2 antennas for 2.4GHz
Equivalent maximum gain for the 2 combined antenna is equal to 1,7dBi
25,43dBm is the maximum power delivered to the 2 combined antennas*

Transmitter n°2 (Wi-Fi: 5150-5850 MHz)

Maximum peak output power at the antenna terminal: 21,40 (dBm)
Maximum peak output power at the antenna terminal: 138,0384265 (mW)
Antenna gain(typical): 3 (dBi)
Maximum antenna gain: 1,995262315 (numeric)
Prediction distance: 30 (cm)
Prediction frequency: 5785 (MHz)
MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm²)

Power density at prediction frequency: **0,024353** (mW/cm²)

*Note: Transmitter n°2 includes 2 antennas for 5150-5850 MHz band
Equivalent maximum gain for these 2 combined antennas equal to 3dBi
21,4 dBm is the maximum power delivered to the 2 combined antennas*

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

Maximum peak output power at the antenna terminal: 7,37 (dBm)
Maximum peak output power at the antenna terminal: 5,457578611 (mW)
Antenna gain(typical): 2,9 (dBi)
Maximum antenna gain: 1,9498446 (numeric)
Prediction distance: 30 (cm)
Prediction frequency: 2441 (MHz)
MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm²)

Power density at prediction frequency: **0,000941** (mW/cm²)

Transmitter n°4 (Bluetooth LE: 2400-2483,5 MHz)

Maximum peak output power at the antenna terminal: 4,89 (dBm)
Maximum peak output power at the antenna terminal: 3,08318795 (mW)
Antenna gain(typical): 2,9 (dBi)
Maximum antenna gain: 1,9498446 (numeric)
Prediction distance: 30 (cm)
Prediction frequency: 2441 (MHz)
MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm²)

Power density at prediction frequency: **0,000532** (mW/cm²)

Transmitter n°1 (Wi-Fi: 2400-2483,5 MHz) + Transmitter n°3 (Bluetooth EDR: 2400-2483,5 MHz)

$$[Pd(1)/LPd(1)] + [Pd(3)/LPd(3)] = 0,0466 < 1$$

Transmitter n°1 (Wi-Fi: 2400-2483,5 MHz) + Transmitter n°4 (Bluetooth LE: 2400-2483,5 MHz)

$$[Pd(1)/LPd(1)] + [Pd(4)/LPd(4)] = 0,04619 < 1$$

Transmitter n°2 (Wi-Fi: 5150-5850 MHz) + Transmitter n°3 (Bluetooth EDR: 2400-2483,5 MHz)

$$[Pd(2)/LPd(2)] + [Pd(3)/LPd(3)] = 0,02529 < 1$$

Transmitter n°2 (Wi-Fi: 5150-5850 MHz) + Transmitter n°4 (Bluetooth LE: 2400-2483,5 MHz)

$$[Pd(2)/LPd(2)] + [Pd(4)/LPd(4)] = 0,02488 < 1$$