

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/cm^2)
Power density at prediction frequency:	0,045661	(mW/cm^2)

*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/cm^2)
Power density at prediction frequency:	0,024353	(mW/cm^2)

*Note : Transmitter n°2 includes 2 antennas for 5150-5850 MHz band
Equivalent maximum gain for these 2 combined antennas is 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/cm^2)
Power density at prediction frequency:	0,000941	(mW/cm^2)

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)

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