MPE Calculation

FCC ID: A8IVOOMBOXOUTDOOR

Remark: Average ≤ Peak, which means that calculating the power density applying Peak power is worst case. The worst case operation mode generating the highest power in each frequency range is taken for calculation.

BT30 mode:

Frequency range: **2402-2480** MHz Typical use distance: d ≥ 20 cm

Power density limit for mobile devices at 2.4 GHz: S ≤ 1 mW/cm^2

Maximum measured conducted power (Peak): $P_{conducted}$ = **4.96** dBm = 3.13 mW

Antenna Gain: G = **0** dBi = 1 on the linear scale

Calculation: $P_{radiated} = P_{conducted} + G_{linear}$ = 4.96 dBm + 0 dBi = 4.96 dBm = 3.13 mW

Power density S = $(P_{radiated}) / (4\pi \times d^2)$ = 3.13 / 5026 = 0.0006 mW/cm^2 < 1 => below limit

BT40 mode:

Frequency range: **2402-2480** MHz Typical use distance: d ≥ 20 cm

Power density limit for mobile devices at 2.4 GHz: S ≤ 1 mW/cm^2

Maximum measured conducted power (Peak): $P_{conducted}$ = **4.91** dBm = 3.1 mW

Antenna Gain: G = **0** dBi = 1 on the linear scale

Calculation: $P_{radiated} = P_{conducted} + G_{linear}$ = 4.91 dBm + 0 dBi = 4.91 dBm = 3.1 mW

Power density S = $(P_{radiated}) / (4\pi \times d^2)$ = 3.1 / 5026 = 0.0006 mW/cm^2 < 1 => below limit