MPE Calculation

FCC ID: KA2IR503A

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.

11bgn(HT20) mode:

Frequency range: **2412-2462** 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): $P_{conducted}$ = **17.59** dBm = 57.41 mW

Antenna Gain: G = **2.0** dBi = 1.58 on the linear scale

Calculation: $P_{radiated} = P_{conducted} + G_{linear}$ = 17.59 dBm + 2 dBi = 19.59 dBm = 90.99 mW

Power density S = $(P_{radiated}) / (4\pi \times d^2)$ = 90.99 / 5026 = 0.0181 mW/cm^2 < 1 => below limit

11n(HT40) mode:

Frequency range: **2422-2452** 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): $P_{conducted}$ = **14.74** dBm = 29.79 mW

Antenna Gain: G = **2.0** dBi = 1.58 on the linear scale

Calculation: $P_{radiated} = P_{conducted} + G_{linear}$ = 14.74 dBm + 2 dBi = 16.74 dBm = 47.21 mW

Power density S = $(P_{radiated}) / (4\pi \times d^2)$ = 47.21 / 5026 = 0.0094 mW/cm^2 < 1 => below limit