MPE Calculation

FCC ID: I88VMG1312T10C

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

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): $P_{conducted}$ = **21.15** dBm = 130.32 mW

Antenna Gain: G = **5** dBi = 3.16 on the linear scale

Calculation: $P_{radiated} = P_{conducted} + G_{linear}$ = 21.15 dBm + 5 dBi = 26.15 dBm = 412.1 mW

Power density S = $(P_{radiated}) / (4\pi \times d^2)$ = 412.1 / 5026 = 0.0820 mW/cm^2 < 1 => below limit

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): $P_{conducted}$ = **21.25** dBm = 133.35 mW

Antenna Gain: G = **5** dBi = 3.16 on the linear scale

Calculation: $P_{radiated} = P_{conducted} + G_{linear}$ = 21.25 dBm + 5 dBi = 26.25 dBm = 421.7 mW

Power density S = $(P_{radiated}) / (4\pi \times d^2)$ = 421.7 / 5026 = 0.0839 mW/cm^2 < 1 => below limit

NOTE:
Total (Chain0+Chain1) , the formula of calculated the MPE is:
CPD1 / LPD1 + CPD2 / LPD2 + ...etc. < 1
CPD = Calculation power density
LPD = Limit of power density