

RF Exposure

Maximum Permissible Exposure

Performance Criterion (Limits): 1 mW/cm²

Evaluation Results: Complies

Details: The maximum permissible exposure (MPE) is predicted by using the following equation:

$$S = PG/4\pi R^2$$

where: S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

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 (appropriate units, e.g., cm)

For BLE transmitter: P = 14.52 mW, G = 2 dBi (1.59), R = 20 cm,

$$S = [(14.52) \cdot (1.59)] / (4 \cdot \pi \cdot 20^2) = 0.0046 \text{ mW/cm}^2 = 0.046 \text{ W/m}^2$$

For Wi-Fi 2.4 GHz IEEE 802.11b/g/n transmitter:

$$S = 0.018 \cdot \text{mW/cm}^2 = 0.18 \text{ W/m}^2$$

FCC: $\Sigma(S_i/\text{MPE}_i) = (0.0046/1) + (0.018/1) = 2.26 \%$ < 100%

ISED Canada: $\Sigma(S_i/\text{MPE}_i) = (0.046/5.351) + (0.18/5.366) = 4.21 \%$ < 100%

*: Data was taken from the FCC filing, FCC ID: Z64-CC3220MOD (provided by Spectrum Brands). Intertek takes no responsibility for the accuracy of the data