

MPE CALCULATION

RF Exposure Requirements:	47 CFR §1.1307(b)
RF Radiation Exposure Limits:	47 CFR §1.1310
RF Radiation Exposure Guidelines:	FCC OST/OET Bulletin Number 65
EUT Frequency Band:	2402-2480 MHz, 2412 - 2462 MHz; 5180 - 5825MHz
Limits for General Population/Uncontrolled Exposure in the band of:	1500 - 100,000 MHz
Power Density Limit:	1 mW / cm ² ;

Equation: $S = PG / 4\pi R^2$ or $R = \sqrt{PG / 4\pi S}$
Where, S = Power Density
P = Power Input to Antenna
G = Antenna Gain
R = distance to the center of radiated antenna

Prediction distance 20cm

BT-ZBR radio (2402-2480MHz): Power = -4.0 dBm, antenna gain = 3.81 dBi, Power density = 0.00019 mW/cm²

WLAN N radio (2412-2462MHz): Power = 16.37 dBm , antenna gain = 2.2 dBi , Power density = 0.014 mW/cm²

WLAN N radio (5180-5825MHz): Power = 16.28 dBm, antenna gain = 5.0 dBi, Power density = 0.0267 mW/cm²

BT and N radio can work simultaneously, so the combined MPE is,

BT + N radio 2.4GHz: Power = 0.00019 mW/cm² + 0.014 mW/cm² = 0.0142 mW/cm² < 1

BT + N radio 5GHz: Power = 0.00019 mW/cm² + 0.0267 mW/cm² = 0.0286 mW/cm² < 1

Maximum MPE is 0.0286 mW/cm², which is less than 1 .

The Above Result had shown that Device complied with MPE requirement.

Completed By : David Zhang

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