

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 , 902.75~927.25 MHz
Limits for General Population/Uncontrolled Exposure in the band of:	1500 - 100,000 MHz
Power Density Limit:	1 mW / cm ² ; 0.6 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

WLAN , Power = 16.90 dBm , antenna = 2.14 dBi , Power density = 0.016 mW/cm²

RFID , Power = 27.93dBm , Antenna = -20dBi , Power Density = 0.123 mW/cm² , (note , 0dBi was used in MPE instead)

Effective MPE ratio = $0.016 / 1 + 0.123 / 0.6 = 0.221$, which is less than 1 .

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

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