

Maximum Public Exposure to RF (MPE) CFR 15.247 (i), CFR 1.1310 (e) & RSS-102, 2.5.2

The maximum exposure level to the public from the RF power of the EUT shall not exceed a power density, **S**, of 1 mW/cm² at a distance, **d**, of 20 cm from the EUT.

Therefore, for:

Maximum Peak Power (dBm) = 17.82 dBm at 802.11b 2412MHz
Peak Power (Watts) = 0.0605 W
Maximum Gain of Transmit Antenna = 2.0 dBi = 1.58, numeric
d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S &= (PG / 4 \pi d^2) = EIRP / 4A = 0.0605 * (1.58) / (4 * \pi * 0.2^2) \\ &= 0.0956 / 0.5030 = 0.1901 \text{ W/m}^2 \\ &= (0.1901 \text{ W/m}^2) (1 \text{ m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= 0.01901 \text{ mW/cm}^2 \end{aligned}$$

which is << less than 1.0 mW/cm²

RSS-102, 2.5.2 Compliance for 2412 MHz ~ 2462 MHz band:

At or above 300 MHz and below 6 GHz and the source based time averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ in Watts (adjusted for tune-up tolerance where applicable), where **f** = frequency in MHz.

$$1.31 * 10^{-2} * 2412^{0.6834} = 2.68 \text{ W}$$

EUT max EIRP = 17.82 dBm + 2.0 dBi = 19.82 dBm EIRP = 0.0959 W
Which is << than 2.68 W

The MPE limits are below the threshold as stated in KDB447498 D01 V06 in Section 4.3. The calculations above are presented to show that the EUT meets the exclusion requirements.