

Exemption from SAR evaluation

Worst case emission from device = 101.7 dB μ V/m at 2402 MHz

| Electric field strength is related to transmitter power by the following formula:

$$P_t = \text{eirp} = \frac{E^2 r^2}{30}$$

Where E is the electric field strength (V/m) of EUT emissions measured at the test antenna, and
 r is the separation of the EUT and test antenna.

Using units of dB μ V/m for field strength, and dBm for EIRP, the above formula becomes:

$$P = E + 20 \log_{10} r - 104.8 \quad (\text{dBm})$$

for a measurement distance of $r = 3\text{m}$,

$$P = E - 95.3 \quad (\text{dBm})$$

$$\begin{aligned} P &= 101.7 - 95.3 \text{ dBm} \\ &= 6.4 \text{ dBm} \\ &= 4.4 \text{ mW} \end{aligned}$$

The power threshold above which SAR testing is required is equal $60/f$ (GHz) mW. For the worst-case frequency in the 2.4 GHz band (2.4835 GHz) this threshold is equates to 24 mW. Therefore the device is exempt from SAR evaluation.