

RF Exposure evaluation

According to 447498 D01 General RF Exposure Guidance v07

Per § 1.1307(b)(3)(i)(A), a single RF source is exempt RF device (from the requirement to show data demonstrating compliance to RF exposure limits, as previously mentioned) if the available maximum time-averaged power is no more than 1 mW, regardless of separation distance.

$$\text{eirp} = \text{pt} \times \text{gt} = (\text{EXd})^2/30$$

where:

pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m, --- $10^{((\text{dBuV/m})/20)}/10^6$

d = measurement distance in meters (m)---3m

$$\text{So pt} = (\text{EXd})^2/30 \times \text{gt}$$

For Worst case Mode: 2455MHz

Field strength =90.07dBuV/m @3m

Ant gain 1.5 dBi; so Ant numeric gain=1.41

$$\text{So pt} = \{ [10^{(90.07/20)}/10^6 \times 3]^2 / 30 \times 1.41 \} \times 1000 \text{ mW} = 0.1347 \text{ mW}$$

So: 0.1347mW < 1mW

Then SAR evaluation is not required