

RF Exposure evaluation

According to 447498 D04 Interim General RF Exposure Guidance v01

2.1.2 1-mW Test Exemption

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.

$$e_{\text{irp}} = p_{\text{t}} \times g_{\text{t}} = (E \cdot d)^2 / 30$$

where:

p_{t} = transmitter output power in watts,

g_{t} = numeric gain of the transmitting antenna (unitless),

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

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

$$\text{So } p_{\text{t}} = (E \cdot d)^2 / 30 \times g_{\text{t}}$$

Field strength = 75.08dB μ V/m @3m

Antenna gain=0dBi

So EIRP=75.08-95.2+4.7=-15.42dBm

$$10^{-15.42} = 0.0287 \text{ mW} < 1 \text{ mW}$$

Then SAR evaluation is not required