

RF Exposure evaluation

According to 447498 D04 Interim General RF Exposure Guidance v01

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.

This exemption applies to all operating configurations and exposure conditions, for the frequency range 100 kHz to 100 GHz, regardless of fixed, mobile, or portable device exposure conditions. This is a standalone exemption, and it cannot be applied in conjunction with any other test exemption.

Frequency(MHz)	Field Strength (dBuv/m)	calc. Pt (mW)	limit (mW)
27.145	52.55	0.0000171	1

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

Field strength =57.32dBuV/m @3m

Ant gain =5dBi, so gt =3.16

So pt = $(E \times d)^2 / 30 \times gt = \{ [10^{52.55/20} / 10^6 \times 3]^2 / 30 \times 3.16 \} \times 1000 \text{mW} = 0.0000171 \text{mW}$

So a SAR test is not required