

FCCID: 2AFHF-MW418
RF Exposure evaluation

According to 447498 D01 General RF Exposure Guidance v05
The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at
test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test
separation distance, mm)] $\cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for
10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before
calculation

The result is rounded to one decimal place for comparison

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

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

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

Field strength = 96.86 dBuV/m @3m

Ant gain 1dBi ;so Ant numeric gain=1.2589

$$\text{So pt} = \{ [10^{(96.86/20)}/10^6 \times 3]^2 / 30 \times 1.2589 \} \times 1000 \text{ mW} = 1.156 \text{ mW}$$

$$\text{So } (1.156 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.445 \text{ GHz}} = 0.362 < 3$$

Then SAR evaluation is not required