

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

- $f(\text{GHz})$ 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
So $\text{pt} = (\text{Exd})^2/30 \times \text{gt}$

Ant gain 2.85dBi ; so Ant numeric gain=1.93

Field strength = 89.10dB μ V/m@5743MHz@3m
So Pt={ $[10^{(89.1/20)}/10^6 \times 3]^2/30 \times 1.93$ } $\times 1000$ mW = 0.13 mW

So (0.13 mW/5mm) $\times \sqrt{5.743}$ GHz = 0.6 < 3

Then SAR evaluation is not required