

RF Exposure evaluation

According to KDB 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:

$$\left[\frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \right] \cdot \left[\sqrt{f \text{ (GHz)}} \right]$$
$$\leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}$$
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

Worse case is as below: [2480 MHz 7.71 dBm (5.90mW) output power]

$$(5.90\text{mW} / 5\text{mm}) \cdot \left[\sqrt{2.480 \text{ (GHz)}} \right] = 1.86 < 3.0 \text{ for 1-g SAR}$$

Then SAR evaluation is not required