

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:

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

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

Worse case is as below: [2412MHz 9.29dBm (8.5 mW)
output power]

$$\left(\frac{8.5 \text{ mW}}{5\text{mm}} \right) \cdot [\sqrt{2.412 \text{ (GHz)}}] = 2.64 < 3.0 \text{ for 1-g SAR}$$

Then SAR evaluation is not required