

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:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance,}}{\text{min. test separation distance, mm}} \right] \cdot \left[\sqrt{f(\text{GHz})} \right] \leq 3.0$$

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

Worse case of BLE is as below: [2440 MHz -6.57dBm (0.22mW)
output power]

$(0.22\text{mW} / 5\text{mm}) \cdot [\sqrt{2.440}(\text{GHz})] = 0.07 < 3.0$ for 1-g SAR

Worse case of BT is as below: [2480 MHz 1.79dBm (1.51 mW)
output power] Default

$(1.51 \text{ mW} / 5\text{mm}) \cdot [\sqrt{2.480}(\text{GHz})] = 0.48 < 3.0$ for 1-g SAR

Then SAR evaluation is not required