

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:

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

For WiFi:

Worse case is as below: [2412 MHz 4.50 dBm dBm (2.82mW) output power]

$$(2.82\text{mW} / 5\text{mm}) \cdot [\sqrt{2.412} (\text{GHz})] = 0.87 < 3.0 \text{ for 1-g SAR}$$

For BT:

Worse case is as below: [2402 MHz 3.99 dBm dBm (2.51mW) output power]

$$(2.51\text{mW} / 5\text{mm}) \cdot [\sqrt{2.402} (\text{GHz})] = 0.78 < 3.0 \text{ for 1-g SAR}$$

$$0.87 + 0.78 = 1.65 < 3.0 \text{ for 1-g SAR}$$

Then SAR evaluation is not required