

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:

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

Worse case of BT is as below:

[2402MHz 3.32dBm (2.148mW) output power]

$(2.148\text{mW} / 5\text{mm}) \cdot [\sqrt{2.402 (\text{GHz})}] = 0.666 < 3.0$ for 1-g SAR

Worse case of WIFI 2.4G is as below:

[2437MHz 6.49dBm (4.457 mW) output power]

$(4.457\text{mW} / 5\text{mm}) \cdot [\sqrt{2.437(\text{GHz})}] = 1.4 < 3.0$ for 1-g SAR

Worse case of WIFI 5G is as below:

[5200MHz 7.11dBm (5.140mW) output power]

$(5.140 \text{ mW} / 5\text{mm}) \cdot [\sqrt{5.2 (\text{GHz})}] = 2.34 < 3.0$ for 1-g SAR

Then SAR evaluation is not required