



RF Exposure evaluation

According to 447498 D01 General RF Exposure Guidance v06

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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$
$$f(\text{GHz}) \text{ is the RF channel transmit frequency in GHz}$$

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

EDR:

Worse case output power is as below: [2402MHz: 3.44dBm]

Antenna Gain is 0.09dBi

Maximum output power is 3.44dBm (2.21 mW).

$(2.21\text{mW} / 5\text{mm}) \cdot [\sqrt{2.402(\text{GHz})}] = 0.68 < 3.0$ for 1-g SAR.

BLE:

Worse case output power is as below: [2402MHz: 2.86dBm]

Antenna Gain is 0.09dBi

Maximum output power is 2.86dBm (1.93 mW).

$(1.93\text{mW} / 5\text{mm}) \cdot [\sqrt{2.402(\text{GHz})}] = 0.60 < 3.0$ for 1-g SAR.

Then SAR evaluation is not required.