

RF Exposure evaluation

According to KDB 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

Worse case is as below: [2402MHz 4.821dBm (3.035 mW) output power]

According to the formula, calculate the EIRP test result:

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

$$(4\text{mW} / 5\text{mm}) \cdot [\sqrt{2.402(\text{GHz})}] = 1.24 < 3.0 \text{ for 1-g SAR}$$

Then SAR evaluation is not required