

13 RF Exposure

Test Requirement:	FCC Part 1.1307
Evaluation Method	447498 D01 General RF Exposure Guidance v05r02

13.1 Requirements

1) 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:

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

1. $f(\text{GHz})$ is the RF channel transmit frequency in GHz
2. Power and distance are rounded to the nearest mW and mm before calculation
3. The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

13.2 The procedures / limit

Conducted Peak power(dBm)	Conducted Peak power(mW)	Source-based time-averaged maximum conducted output power(mW)	Minimum test separation distance required for the exposure conditions (mm)	SAR Test Exclusion Thresholds(mW)
-0.40	0.912	0.912	5	10

Remark: Max. duty factor is 100%

Calculation formula: Source-based time-averaged maximum conducted output power(mW) = Conducted peak power(mW) * Duty factor

For frequency in 2.402GHz: SAR Test Exclusion Thresholds $\leq 3.0 / [\sqrt{f(\text{GHz})}] * (\text{min. test separation distance, mm}) = 3.0 / (\sqrt{2.402}) * 5 = 9.679 \text{ mW} \approx 10 \text{ mW}$

For frequency in 2.480GHz: SAR Test Exclusion Thresholds $\leq 3.0 / [\sqrt{f(\text{GHz})}] * (\text{min. test separation distance, mm}) = 3.0 / (\sqrt{2.480}) * 5 = 9.525 \text{ mW} \approx 10 \text{ mW}$