

SAR Test Reduction and Exclusion

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 (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
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

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 according to 5) in section 4.1 of 447498 D01 General RF Exposure Guidance v05r02 is applied to determine SAR test exclusion.

Note: Minimum test separation distance from antenna to outer enclosure is found to be 7mm.

Calculations:

- ❖ f (GHz) = 2.440GHz
- ❖ Power = 0.458mW
- ❖ Minimum test separation distance = 7mm

$[(0.458\text{mW}) / (7\text{mm})] \cdot [\sqrt{(2.440)}] = 0.1$

Limit: should be ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR

Note: The result is rounded to one decimal place for comparison. The Operating frequency at which the maximum RF output power was observed is used for above calculation.