

Appendix A: FCC Part 1.1307, 1.1310, 2.1091, 2.1093; IC RSS-Gen: RF Exposure

According to KDB 447498 D01 General RF Exposure Guidance v05 4.3.1. Standalone SAR test exclusion considerations, unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

Limits

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:

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

EUT RF Exposure

The max conducted peak output power is 0.08 mW at 2480 MHz.

The best case gain of the antenna is 2.1 numeric

$\text{EIRP} = 0.08 \text{ mW} \times 2.1 = 0.17 \text{ mW}$ (rounding to the nearest mW = 1 mW)

$\text{General RF Exposure} = (1 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.480 \text{ GHz}} = 0.3$

Therefore, SAR test is not required since the result is below the ≤ 3.0 1-g SAR limit.

No RF Exposure Evaluation Required if power is below the following threshold:

Tunable Range		Center of Tunable Band (GHz)	60/f SAR Limitation (mW)
f(GHz) Low	f(GHz) High		
2.405	2.480	2.443	24.6