

RF Exposure evaluation

According to 447498 1 D01 v05r02, 4.1.3 General RF Exposure Guidance v05

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, 16 where

- ☐ $f(\text{GHz})$ 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

Worse case is as below: [2402MHz 1dBm(1.259mW) output power]

Worse case is as below: [2442MHz 0dBm(1.000mW) output power]

Worse case is as below: [2480MHz 0dBm(1.000mW) output power]

$(1.259/50) \cdot [\sqrt{2.402(\text{GHz})}] = 0.039 < 3.0$ for 1-g SAR

$(1.000/50) \cdot [\sqrt{2.442(\text{GHz})}] = 0.031 < 3.0$ for 1-g SAR

$(1.000/50) \cdot [\sqrt{2.480(\text{GHz})}] = 0.032 < 3.0$ for 1-g SAR

Then SAR evaluation is not required.

Channel	Frequency (MHz)	Measured Output Peak Power(dBm)	Tune-up Power Range(dBm)	Max. Tune-up power(dBm)	Distance (mm)	RF Exposure	Limit
0	2402	0.35	0 ± 1	1	50	0.039	3
20	2442	-0.51	-1 ± 1	0	50	0.031	3
39	2480	-1.69	-1 ± 1	0	50	0.032	3