

RF EXPOSURE EVALUATION

According to 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 the following:

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

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

Operational Mode	Frequency (MHz)	The Maximum Conducted Power (dBm)	Conducted power Tune-up tolerance(dBm)	Maximum EIRP(dBm)	
				dBm	mw
BLE	2402-2480	4.12	4±1	5.0	3.16

Note: the maximum antenna gain is 0dBi

The result is rounded to one decimal place for comparison

Worst case value = $P_{\text{max}} / \text{Distance}_{5\text{mm}} * \sqrt{f(\text{GHz})} = 3.16 / 5 * \sqrt{2.402} = 0.979 < 3.0$ for 1-g SAR

Then SAR test is not required