



## RF Exposure Compliance Requirement

The product belongs to **standalone portable device** base the FCC rule part 2.1091&2.1093. The transmission frequencies of the device are between 100 MHz and 6 GHz. The worst case test separation distance is **5mm**.

The Max Conducted Output Power and SAR Test Exclusion Threshold (mW) are listed below:

Classic:

The Max Conducted Peak Output Power **0.01** dBm on the lowest channel **2.48** GHz

0.01 dBm logarithmic terms convert to numeric result is nearly 1.00 mW

According to the formula, calculate the test exclusion thresholds:

$[(\text{max. power of channel, including tune-up tolerance, mW}) /$

$(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$

General RF Exposure =  $(1.00 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.48 \text{ GHz}} = 0.31$  (1)

SAR requirement:

$S = 3.0$  (2)

$(1) < (2)$

So the SAR report is not required.

BLE:

The Max Conducted Peak Output Power **0.90** dBm on the lowest channel **2.48** GHz

0.90 dBm logarithmic terms convert to numeric result is nearly 1.23 mW

According to the formula, calculate the test exclusion thresholds:

$[(\text{max. power of channel, including tune-up tolerance, mW}) /$

$(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$

General RF Exposure =  $(1.23 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.48 \text{ GHz}} = 0.39$  (1)

SAR requirement:

$S = 3.0$  (2)

$(1) < (2)$

So the SAR report is not required.

The SAR Test Exclusion Threshold for 100 MHz to 6 GHz is calculated from:

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  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  $\leq 7.5$  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

The result is rounded to one decimal place for comparison



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The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  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.

According to SAR Exclusion Threshold in KDB 447498 (D01) General RF Exposure Guidance v06, the SAR report is not required.