

RF Exposure Requirements

Product Description: Gaming mouse

Model No.: Thorn

FCC ID: 2A8LL-THORM

According to the KDB 447498 D01 v06 section 4.3.1, for 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

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

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

- Power and distance are rounded to the nearest mW and mm before calculation¹⁷

- The result is rounded to one decimal place for comparison

Calculation Result:

Tx frequency range: 2403-2480MHz

Min. test separation distance: 5mm

Max. Field Strength: 97.90dBuV/m

$EIRP = E - 104.8 + 20 \log D = 97.90 - 104.8 + 20 \log 3 = 2.64 \text{ dBm}$

Maximum Conducted Output Power: 2.64Bm

Tune-Up output power: 3.0dBm

RF channel transmit frequency: 2480MHz

Result: 0.6

Limit: 3.0

The exclusion thresholds is $0.6 < 3$, so the transmitter complies with the RF exposure requirements and the SAR is not required.