

RF EXPOSURE EVALUATION**EUT Specification**

EUT	2.4G Mouse
Model Name	MW156S
Frequency band (Operating)	Wireless 2.4G: 2405MHz-2470MHz
Device category	Portable (<5mm separation)
Antenna diversity	Single antenna
Max. output power	70.34dBuV/m
Antenna gain	1.87 dBi
Evaluation applied	MPE Evaluation

Standard Requirement**Portable Device**

According to §15.247(i) and §1.1307b(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See KDB 447498 D01 General RF Exposure Guidance v06, section 4.3.1.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,¹⁶ where

- f(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

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.

Measurement Result

Channel Frequency (MHz)	Max Output power (dBuV)	Max Output power (dBm)	Max Output power (mW)	Calculation Value (Note 1)	Threshold Value
2405	68.83	-26.43	0.002	0.02	3.0
2430	69.67	-25.59	0.003	0.03	3.0
2470	70.34	-24.92	0.003	0.03	3.0

$$E = \text{EIRP} - 20 \log D + 104.8$$

Where:

E=electric field strength in dBuV/m

EIRP=equivalent isotropic radiated power in dBm

D=specified measurement distance in meters

$$\text{EIRP} = E - 104.8 + 20 \log D = 68.83 - 104.8 + 20 \log 3 = \mathbf{-26.43 \text{ dBm}}$$

Note 1: Calculation Value = [(max. power of channel, mW)/(min. test separation distance, mm)] $[\sqrt{f(\text{GHz})}]$.

For example: $0.002/5 * \sqrt{2.405} = 0.02 \leq 3.0$

According to KDB447498 D01 V06, threshold at which no SAR required is ≤ 3.0 for 1-g SAR, separation distance is 5mm, and no simultaneous SAR measurement is required.

The SAR measurement is not necessary.