

RF Exposure Requirements

Product Description: SEGA Saturn Control Pad - Model 2 - Wireless 2.4gh

Model No.: RB-SGA-048, RB-SGA-047, RB-SGA-038, RB-SGA-039, RB-SGA-067,

RB-SGA-068, RB-SGA-069, RET00266, RET00165, RET00164

FCC ID: 2ARPVRB-SGA-048

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:

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

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

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

- The result is rounded to one decimal place for comparison

Calculation Result:

Tx frequency range: 2410-2470MHz

Min. test separation distance: 5mm

Max. Field Strength: 99.49dBuV/m

Antenna gain: 1.5 (dBi)

$EIRP = E - 104.8 + 20 \log D = 99.49 - 104.8 + 20 \log 3 = 4.23 \text{ dBm}$

Maximum Conducted Output Power = $EIRP - \text{Antenna Gain} = 4.23 - 1.5 = 2.73 \text{ dBm}$

Tune-Up output power: 3.0dBm

RF channel transmit frequency: 2410MHz

Result: 0.6

Limit: 3.0

The exclusion thresholds is $0.6 < 3.0$, so the transmitter complies with the RF exposure requirements and the SAR is not required.