

RF Exposure Requirements

Product Description: BLUETOOTH SPEAKER

Model No.: S91, S90, J11, J12, J15, J16, J21, J23, J25

FCC ID: 2AQRZ-S91

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 calculation¹⁷

- The result is rounded to one decimal place for comparison

Calculation Result:

Tx frequency range: 2402 MHz

Min. test separation distance: 5 mm

Maximum Conducted Output Power: 0.38 dBm (1.091 mW)

Tune-Up output power: 4 dBm (2.5 mW)

RF channel transmit frequency: 2402 MHz

Result: 0.77

Limit: 3.0

Tx frequency range: 2442 MHz

Min. test separation distance: 5 mm

Maximum Conducted Output Power: 1.92 dBm (1.556 mW)

Tune-Up output power: 4 dBm (2.5 mW)

RF channel transmit frequency: 2442 MHz

Result: 0.78

Limit: 3.0

Tx frequency range: 2480 MHz

Min. test separation distance: 5 mm

Maximum Conducted Output Power: 0.49 dBm (1.119 mW)

Tune-Up output power: 4 dBm (2.5 mW)

RF channel transmit frequency: 2480 MHz

Result: 0.79

Limit: 3.0

The exclusion threshold is $0.31 < 3$, so the transmitter complies with the RF exposure requirements and the SAR is not required.