

RF Exposure Requirements

Product Description:Bluetooth Machine core

Model No.:ZD-9688

FCC ID:2AQRO-ZD-9688

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:2402MHz

Min. test separation distance: 5mm

Maximum Conducted Output Power:-0.62dBm(0.867mW)

Tune-Up output power: 2dBm(1.58mW)

RF channel transmit frequency:2402MHz

Result: 0.2

Limit: 3.0

Tx frequency range:2442MHz

Min. test separation distance: 5mm

Maximum Conducted Output Power:0.95dBm(1.245 mW)

Tune-Up output power: 2dBm(1.58mW)

RF channel transmit frequency:2442MHz

Result: 0.2

Limit: 3.0

Tx frequency range:2480MHz

Min. test separation distance: 5mm

Maximum Conducted Output Power:-0.53dBm(0.885 mW)

Tune-Up output power: 2dBm(1.58mW)

RF channel transmit frequency:2480MHz

Result: 0.2

Limit: 3.0

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