

RF Exposure Requirements

Product Description: Range Extender

Model No.: RE001

FCC ID: 2AZQL-RANGEEEXTENDER

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:

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

For Bluetooth:

Tx frequency range: 2402-2480MHz

Min. test separation distance: 5mm

Maximum Conducted Output Power: 1.661dBm

Tune-Up output power: 2.0 dBm

RF channel transmit frequency: 2402MHz

Result: 0.5

Limit: 3.0

For SRD:

Tx frequency range: 915MHz

Min. test separation distance: 5mm

Maximum Conducted Output Power: 6.16dBm

Tune-Up output power: 6.5dBm

RF channel transmit frequency: 915MHz

Result: 0.9

Limit: 3.0

The exclusion thresholds is $0.5 + 0.9 = 1.4 < 3$, so the transmitter complies with the RF exposure requirements and the SAR is not required.