

RF Exposure Requirements

Product Description: DC Tubular Motor

Model No.: 8000912-S002

FCC ID: 2AY5W-8000912-S002

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 calculation¹⁷

- The result is rounded to one decimal place for comparison

Calculation Result:

Tx frequency range: 433.92 MHz

Min. test separation distance: 5mm

Max. Field Strength: 85.07dBuV/m @3m

$EIRP = E - 104.8 + 20 \log D = 85.07 - 104.8 + 20 \log 3 = -10.19 \text{ dBm}$

Maximum Conducted Output Power: -10.19 dBm

Tune-Up output power: -10.0 dBm

Result: 0.1

Limit: 3.0

The exclusion threshold is $0.1 < 3$, so the transmitter complies with the RF exposure requirements and the SAR is not required.