ARROW - Arrow Engineering Services (AES)

BLDC Motor Control Code Port for EFM8BB1LCK

The Silicon Labs BDLC motor reference design originally utilized the C8051F850 (now nearing end of life)

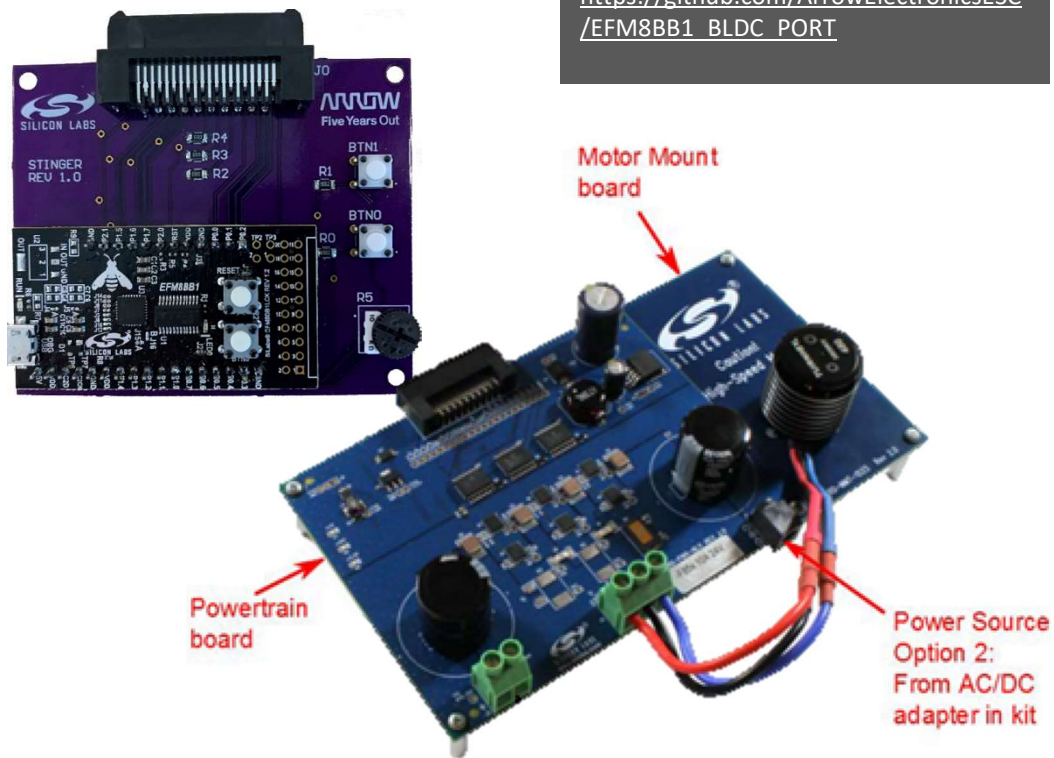The AES engineering team ported the firmware to now run on the low cost EFM8 Busy Bee 8-bit MCU.

The Stinger Rev1.1 interposer board was created to replace the existing MCRD-MCU-C8051F850, interfacing the BB1 to the powertrain board.

For more information visit:
https://github.com/ArrowElectronicsESC/EFM8BB1_BLDC_PORT

Features:

- EFM8BB1LCK with the motor control firmware preprogrammed into the MCU
- Stringer 1.1 interposer board
- Powertrain Board: MCRD-PWR-NLV-F85X
- BLDC Motor: Turnigy 450 Series 3800 kV Brushless Outrunner Helicopter Motor
- Motor Mount Board

The unique features offered by this implementation to the 8 bit MCU for BLDC motor operation are:

- PWM synchronized blanking of comparator for BEMF Zero-Crossing Detection
- Automatic PWM duty cycle reduction to limit motor current during startup
- Hyperdrive mode to increase the maximum speed of some motors