MPC5775B and MPC5775E Microcontrollers for Battery Management Systems (BMS) and Inverter Applications

MPC5775B-E

Last Updated: Mar 24, 2023

The MPC5775B and MPC5775E microcontrollers target automotive and industrial battery management and inverter applications that require advanced performance, security, and ASIL-D support.

These MCUs are compatible with the MPC5777C device and offer customers an optimized feature set for the targeted applications. The MPC5775B and MPC5775E provide an ideal migration path for customers using MPC5xx, MPC55xx, MPC5644A and MPC5674F with eTPU timer and similar pin count options.
MPC5775B and MPC5775E Block Diagram

- **Memory**: 512 kB RAM w/ ECC, 256 kB EEPROM w/ ECC, 4 MB Flash w/ ECC
- **System & Safety**: PMU, FMPLL + PLL, FCCU & CRC, 2x DMA, DEBUG Nexus 3+
- **Security**: CSE2
- **CPU Platform**: Z7 @ 220 MHz, 16 kB I-cache, 16 kB D-cache, FPU, SPE1.1/VLE, MMU, Lockstep Cores
- **Connectivity**: 1x Ethernet (100Mbps), 2x N/CAN w/ CAN-FD, 4x FlexCAN, 12x SENT, 5x dSPI, 5x eSCI
- **Timers and ADCs**: 2x eMIOS w/32-ch., 2x eQADC (12-bit) w/40-ch.

MPC5775E-EVB development board architecture Block Diagram

- **12V PWR**
- **SBC FS6520LAE**
- **Analog In**
- **Digital IO**
- **PCI edge Motor control**
- **MCU SPC5775E**
- **CANFD PHY TJA1145T**
- **UART PHY**
- **ETH PHY TJA1100**
- **Serial communication /OpenSDA**
- **Two wire automotive ethernet**

NXP Technology