Easy-to-use, high-voltage battery management system

MPC5775B Battery Management + Battery Cell Controller System

High-Voltage Battery Management targeting ISO 26262

MPC5775B battery management and battery cell controller system includes hardware and software enablement and is aimed at illustrating how to develop a simple high-voltage battery management system in an efficient and simple to implement manner.

KEY FEATURES

- SPC5775B BMC board (MPC5775B-EVB)
- MC33664 high-speed transceiver for use with MC3377x battery cell controller
- MC33FS6520LAE system basis chip (SBC) for the board power supply
- TJA1145T/FD CAN physical interface
- TJA1100 automotive ethernet PHY (physical interface)
- eMIOS header pins
- ADC header pins
- DSPI header pins
- Debug selectable between external debug connection via JTAG or onboard OpenSDA (JTAG to USB interface)
- MC33771C BCC board (RD33771CDSTEVB)
- 14-channel Li-ion battery cell controller IC, 100 mA cell balancing
- TPL communication, daisy chain up to 63
- 26-pin connector for 14 cell battery connections, 4 external temperature sensors
- 3 onboard temperature sensors
- V_{COM} status RGB LED
- Diagnostic functions

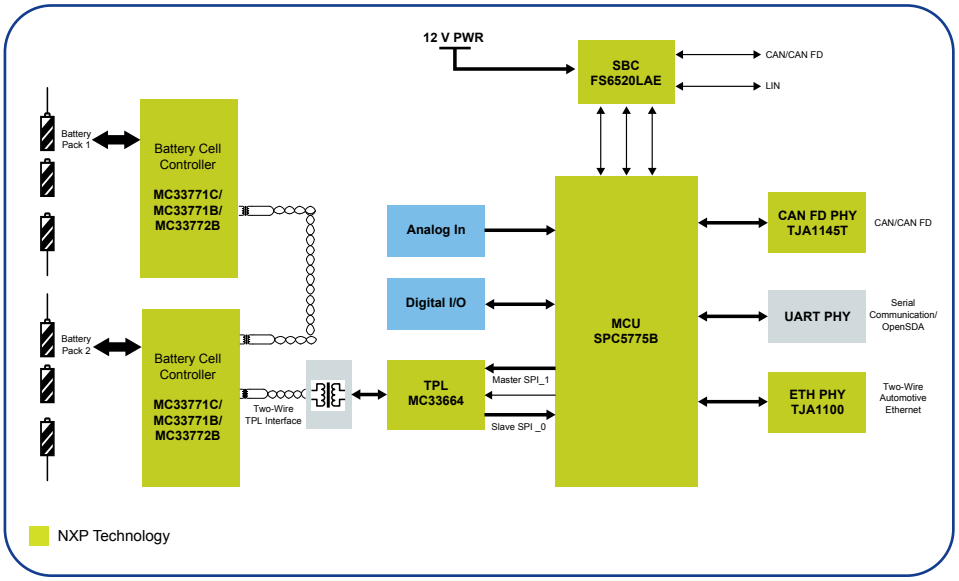
ENABLEMENT/RUNTIME SOFTWARE

- S32 Design Studio for Power Architecture® includes:
  - NXP GNU toolchain with GCC compiler
  - FreeMASTER data monitor and visualization tool
  - Processor Expert® for pin, clock, peripheral and RTOS configuration
  - SDK with production quality, peripheral drivers and FreeRTOS included
  - Example projects
  - Support for Green Hills® and Diab compilers
  - Support for iSystem, Lauterbach, P&E, and PLS debuggers
- SDK and FreeRTOS-based jumpstart sample code
- AUTOSAR® MCAL for MPC5775B
- EEPROM emulation and flash drivers for MPC5775B
- MC33771C (battery cell controller) evaluation GUI

TARGET APPLICATIONS

- High-voltage battery management system

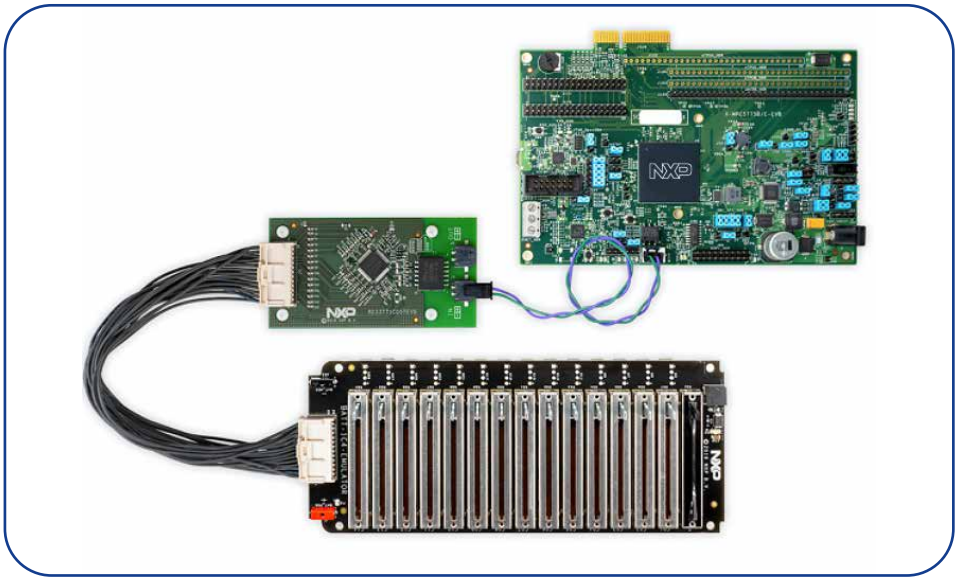
SYSTEM BLOCK DIAGRAM



ORDERABLE PART NUMBER

Part Number	Description	MSRP
MPC5775B-EVB	Battery management controller board	$250
RD33771CDSTEVB	Battery cell controller board with isolated daisy chain communication	$280
BATT-14CEMULATOR	Battery cell emulator	$513

BMC + BCC + BATTERY EMULATOR SYSTEM



www.nxp.com/MPC5775B-BatterySystem

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