

Cost-effective boards for battery management and inverter development

## MPC5775B-EVB and MPC5775E-EVB

### System solution development boards for battery management and inverter applications

The highly integrated NXP MPC5775B-EVB and MPC5775E-EVB development boards include the silicon components and interfaces for efficient application development in the automotive electrification space.

The development boards include either the SPC5775B or SPC5775E microcontroller, the MC33FS6520LAE system basis chip, TJA1100 and TJA1145T/FD Ethernet and CAN FD PHYs, and either the MC33664 high-speed transceiver for use with the MC3377x battery cell controller or a PCIe® X4 style connector for a simple interface to NXP's motor control boards.

#### KEY FEATURES

- ▶ SPC5775B (MPC5775B-EVB) or SPC5775E (MPC5775E-EVB) microcontroller
- ▶ MC33664 high-speed transceiver for use with MC3377x battery cell controller (MPC5775B-EVB only)
- ▶ PCIe X4-style edge connector for motor control interfaces and eTPU header pins (MPC5775E-EVB only)
- ▶ MC33FS6520LAE system basis chip (SBC) for the board power supply
- ▶ TJA1145T/FD CAN physical interface
- ▶ TJA1100 automotive Ethernet physical interface
- ▶ eMIOS header pins
- ▶ ADC header pins
- ▶ DSPI header pins
- ▶ Debug selectable between external debug connection via JTAG or on-board OpenSDA (JTAG to USB interface)
- ▶ Requires 12 V external DC power supply (included with boards)

#### RUNTIME SOFTWARE

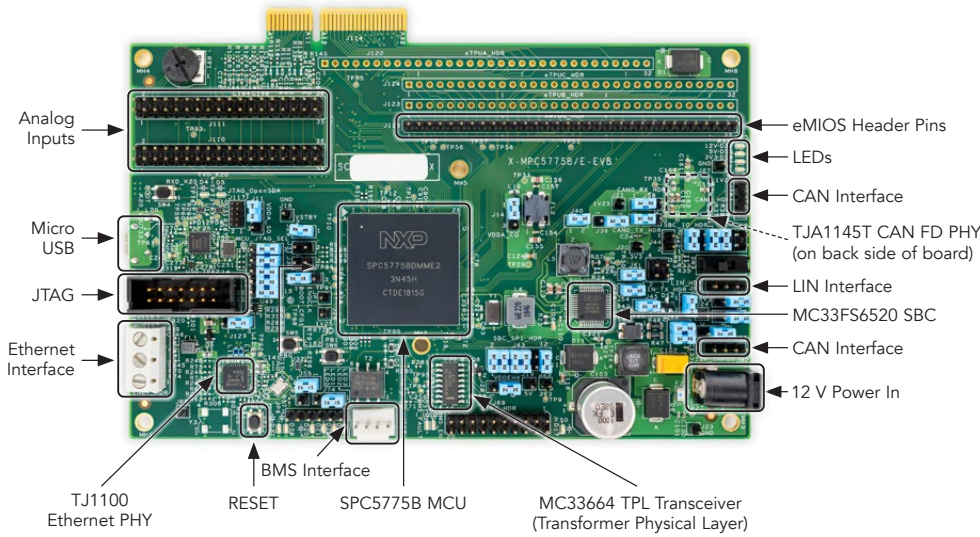
- ▶ S32 Design Studio for Power Architecture includes:
  - NXP GNU toolchain with GCC compiler
  - FreeMASTER data monitor and visualization tool
  - Math and Motor Control Library Set
  - Processor Expert for Pin, Clock, Peripheral and RTOS configuration
  - SDK with production quality, peripheral drivers and FreeRTOS included
  - Example projects
  - Support for Green Hills® and Diab compilers
  - Support for iSystem, Lauterbach, P&E, and PLS debuggers
- ▶ AUTOSAR® MCAL
- ▶ CodeWarrior® Development Studio for eTPU (Eclipse IDE)
- ▶ EEPROM emulation and flash drivers



## KEY FEATURES OF THE SPC5775B AND SPC5775E MICROCONTROLLERS

	SPC5775B	SPC5775E		SPC5775B	SPC5775E
<b>Cores</b>	2 x z7s + 1 x lockstep z7	2 x z7s + 1 x lockstep z7	<b>Ethernet</b>	Yes	Yes
<b>Speed</b>	220 MHz	264 MHz	<b>eTPU</b>	No	Yes, 3 x eTPU2 modules
<b>Flash</b>	4 MB	4 MB	<b>ADC</b>	2 x eQADC (40 input pins)	4 x eQADC (70 input pins) and 4 x SD ADC (20 inputs)
<b>SRAM</b>	512 KB	512 KB	<b>Package</b>	416 BGA (27 mm x 27 mm)	416 BGA (27 mm x 27 mm)
<b>CSE Security Module</b>	Yes	Yes	<b>Operating Temperature</b>	-40 °C to 125 °C Ta	-40 °C to 125 °C Ta
<b>CAN</b>	4 CAN+ 2 CAN FD	4 CAN+ 2 CAN FD	<b>Supply Voltage</b>	4.5 V to 5.5 V	4.5 V to 5.5 V

### MPC5775B-EVB

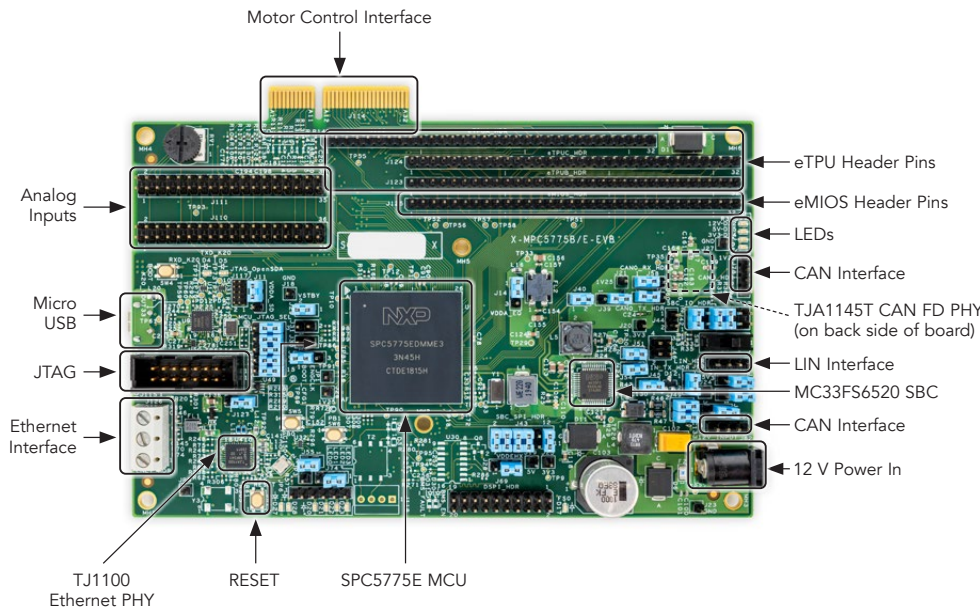


### TARGET APPLICATIONS

- ▶ Battery Management
- ▶ Inverters
- ▶ Engine Management

Development Board Part Number	Target Application	MSRP
MPC5775B-EVB	Battery Management	\$250
MPC5775E-EVB	Inverter	\$250

### MPC5775E-EVB



[www.nxp.com/MPC5775B-EVB](http://www.nxp.com/MPC5775B-EVB) or [www.nxp.com/MPC5775E-EVB](http://www.nxp.com/MPC5775E-EVB)

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Document Number: MPC5775B&E-EVBFS REV 0