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

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.
### Key Features of the SPC5775B and SPC5775E Microcontrollers

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

### Target Applications
- Battery Management
- Inverters
- Engine Management

### MPC5775B-EVB
- Analog Inputs
- Micro USB
- JTAG
- Ethernet Interface
- BMS Interface
- TJ1100 Ethernet PHY
- RESET
- SPC5775B MCU
- MC33664 TPL Transceiver (Transformer Physical Layer)

### MPC5775E-EVB
- Analog Inputs
- Micro USB
- JTAG
- Ethernet Interface
- TJ1100 Ethernet PHY
- RESET
- SPC5775E MCU

www.nxp.com/MPC5775B-EVB or www.nxp.com/MPC5775E-EVB

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