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Lite5200B Evaluation Board for MPC5200B

Overview

Freescale Semiconductor's Lite5200B evaluation board (EVB) provides developers with a cost-effective method to evaluate the power of the new 466MHz MPC5200B (which is pin- and code-compatible with the MPC5200B). The Lite5200B EVB includes the MPC5200B processor, support for DDR memory, a second PCI slot and expanded Flash and SDRAM memory. The board makes Ethernet, USB, PCI, ATA, serial interfaces, CAN and GPIO with complete DDR, SDRAM and Flash memory support available. The I²C, I²S, SPI, J1850, AC97 and secondary port facilities, as well as all other resources of the MPC5200B, are accessible via an on-board connector and user-supplied transceivers. Because nearly all of the MPC5200B's I/O pins are re-programmable, various combinations of I/O may be traded off, depending on the user's specific needs.

Complete with various physical interfaces and available debug tools, the Lite5200B provides a low-cost way to start your development. The Lite5200B is a subset of the Media5200 standard development platform, which includes more extensive audio, video and graphics features.

Comprehensive schematics are included with the Lite5200B EVB. A wide variety of board support packages (BSPs) and application software is now available. Please visit **www.freescale.com/files/abstract/overview/SPSMPC5200.html** for a current list.

MPC5200B Single-Chip, Cost-Effective, Highly Integrated 32-bit PowerPC® Processor with Floating Point Unit (FPU)

> 466 MHz, low-power MPC5200B high-performance embedded PowerPC device
> PowerPC 603e® processor core with double precision FPU, hardware MMU and BestComm DMA
> 885 Dhrystone 2.1 MIPS for plenty of application headroom and upgradeability
> MPC5200B processor operates at just one watt at 400 MHz in typical applications
> PCI, Dual CAN, J1850, I²C, I²S, serial, USB, SPI, AC97, COP/JTAG, and DDR memory controller on chip for easy expansion
> On-chip BestComm DMA I/O control offers low processor core I/O management overhead
> -40°C to +85°C automotive qualified, QS9000 certified for production readiness confidence
> Long-term availability due to commitment to automotive market

Comprehensive On-Chip I/O Implemented Onboard with Transceivers and Connectors

> Peripheral serial controller (PSC1) with transceiver
> Single USB 1.1 (master-only compatibility)
> Dual CAN 2.0A/B (high-speed, standard and extended frames, programmable bit rate to 1 Mbps; two high-speed transceivers supplied)
> 10/100 Base-T Ethernet
> I²C (to 520 kbps) for EEPROM (also available on two connectors)
> Version 4 5V ATA (compact Flash with true IDE mode); supports Ultra33
> Two PCI interfaces with standard PC-type connectors
> Multiple, reconfigurable GPIO
> Available GPIO dependent on use of interrupts and timers
> Nearly all MPC5200B pins may be reconfigured as GPIO with a minimum of 12 pins available
> COP/JTAG debug port
> Debug LEDs

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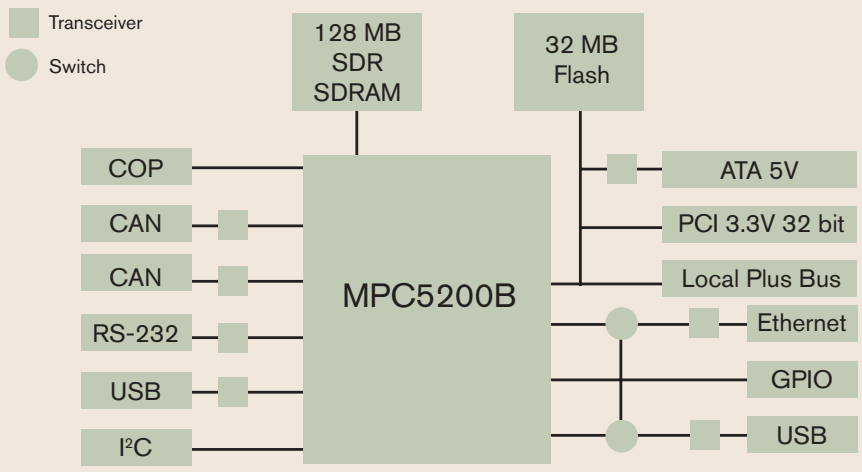
LITE5200B DEVELOPMENT BOARD BLOCK DIAGRAM



Additional User Accessible I/O via On-Board Connector

> AC97: user-supplied transceiver

> PSC2 and PSC3 via connector and user-supplied transceivers

> Second master USB: user-supplied transceiver

> I²C extension

Memory

> 128 MB DDR SDRAM

> 32 MB Flash

Power Requirements

> Single 5V @ 4A brick-type wall unit (AC/DC converter) supplied

> All required voltages derived from single 5V source (on-board 3.3V and 1.5V DC/DC conversion)

> Stake pins on board for externally supplied +/- 12V for PCI

> Optional AT power supply input

Available Debug Interfaces

> Abatron AG-BDM/JTAG
www.abatron.ch

> Green Hills SlingShot® and Probe
www.ghs.com

> Lauterbach Datentechnik GmbH
www.lauterbach.com

> Metrowerks WireTAP® and PowerTAP
www.metrowerks.com

> Wind River Systems (several available)
www.windriver.com

Dimensions

Board: 216 mm x 176 mm

MicroATX-compatible form factor

Physical Connector

> Ethernet (10/100 BaseT) RJ-45 port

> Universal serial bus (USB) connector

> Controller area network (CAN)
Two x 10-pin (5 x 2) PCB headers

> Universal asynchronous receiver/transmitter (UART) RS-232 DB-9 male connector

> General purpose input output (GPIO) multiple PCB headers

> Advanced technology attachment (ATA) 40-pin ATA connector

> Peripheral component interconnect (PCI) bus connector

> JTAG/COP 16-pin (8 x 2) PCB header

> Two I²C 4-pin (4 x 1) PCB headers

Ordering Information for LITE5200B Kit

Order the Lite5200B EVB with evaluation software directly from your distributor.

> Part number: CWMPCEVB5200B US$995

> Access for ordering information
www.metrowerks.com

> Visit **www.freescale.com/files/abstract/overview/SPSMPC5200.htm** for additional MPC5200B information

Additional Documentation

> Lite5200B Kit Product Brief
CWMPCEVB5200BPB

> Media5200 Development Platform
Product Brief: MED5200BDEVPFPB

> mobile*GT* Media5200 SDP Product Brief: MOBILEGT5200BPB

> MPC5200B Technical Summary
MPC5200BTS

Learn More: For more information about Freescale's products, please visit **www.freescale.com**.

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