

MachXO2 Control Development Kit

Complete Development Platform for System Control Applications

The MachXO2™ Control Development Kit provides a full featured development platform to prototype typical board control functions such as temperature and current monitoring, power supply sequencing and data logging.

This kit features a MachXO2 LCMXO2-1200HC device, a Power Manager II ispPAC-POWR1014A, 128Mbit LPDDR memory, 4Mbit SPI Flash and a microSD Flash card socket.

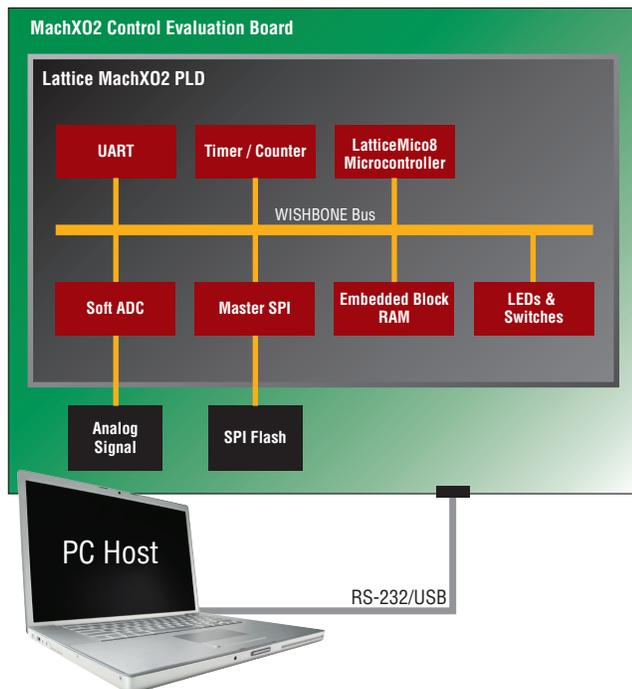
Control SoC Design Accelerates Time-to-Market

Using the preloaded Control system-on-chip (SoC) design provided with the development kit, you can test within minutes board control functions based on power supply sequencing, reset distribution, power supply monitoring and data logging using the Power Manager II POWR1014A and 8-bit LatticeMico8™ microcontroller.

You can then build your own designs using the free downloadable reference design source code, implementing these features in less than an hour. For more information go to www.latticesemi.com/ip.

Other downloadable demonstration applications for the Control Development Kit include a Display Interface design.

MachXO2 Control Eval Board Block Diagram



Key Features

- MachXO2 PLD: LCMXO2-1200HC-MG132CR1
- Power Manager II ispPAC-POWR1014A
- 128Mbit LPDDR Memory
- 4Mbit SPI Flash
- Current and Voltage Sensor Circuits
- microSD Memory Card Socket
- Audio Output Channel
- Expansion Header for JTAG, SPI, I²C and PLD I/Os
- LEDs & Switches
- RS-232/USB Interface
- JTAG Interface
- SPI Interface
- I²C Interface
- Programmed via Standard USB Cable
- QuickSTART Guide
- Marked for CE, China RoHS Environment-Friendly Use Period (EFUP) and Waste Electrical and Electronic Equipment (WEEE) Directives

Ordering Information

Product	Description	Ordering Part #
MachXO2 Control Development Kit	MachXO2 Control Evaluation Board with LCMXO2-1200HC-MG132CR1 device, USB cable, AC adaptor (international plugs), QuickSTART Guide, and demonstration design	LCMXO2-1200HC-C-EVN

Power Supply Sequencing & Reset Distribution

Monitor multiple power supply voltage and current levels, distribute reset signals and sequence power supplies in conjunction with the Power Manager II and LatticeMico8 microcontroller.

Data Logging

Monitor and keep a log of power supply voltage using the MachXO2 PLD and SPI Flash memory. Use the Power Manager II POWR1014A device to maximize system reliability by monitoring devices on a PCB for marginal power supply failures.

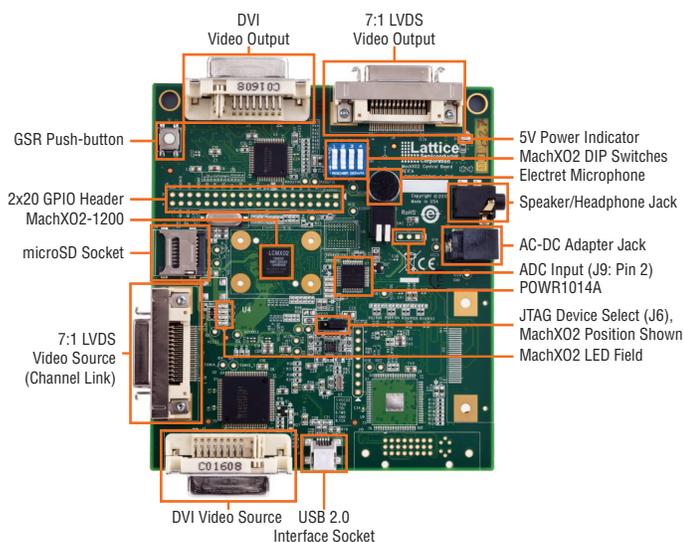
Accelerate Boundary Scan Testing Using BSCAN Linker

Using MachXO2 PLDs, leverage BSCAN1 and BSCAN2 reference designs to partition complex JTAG chains on a printed circuit board. Simplify board layout, detect and isolate faults more efficiently and cost effectively with zero risk.

Interface to microSD Flash Memory

microSD Flash memory is commonly found in system control designs to provide simple plug memory. You can use a free Lattice SD Flash reference design to interface MachXO2 to microSD Flash.

MachXO2 Control Eval Board Top View



Additional Information

Documentation including reference design source, sub-system descriptions, and schematics are available at www.latticesemi.com/mxo2-control-kit.

Easy-to-Use Lattice Software **FREE**



Lattice Diamond design tool offers a comprehensive design environment for the MachXO2 architecture and other select PLD families. Featuring design exploration, ease of use, improved design flow, and numerous other enhancements, Diamond is the next generation replacement for ispLEVER. The combination of new and enhanced features allows you to complete designs faster, easier, and with better results than ever before.

Reference Design Portfolio

Lattice offers an expanding portfolio of IP cores and reference designs targeted for system applications. The reference designs, source codes and documentation can be downloaded for free from the Lattice website. For more information, go to www.latticesemi.com/ip.

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