QuickSTART

LatticeECP3™ PCI Express Development Kit

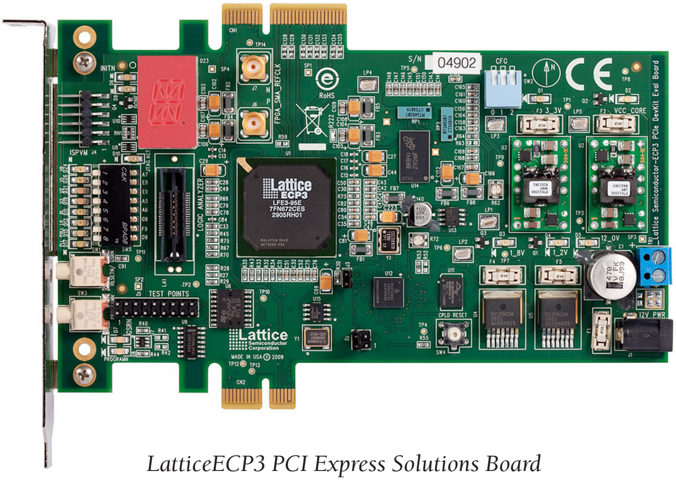
This document provides a brief introduction and instructions on how to install and run the LatticeECP3 PCI Express Basic demo on Windows®. Please refer to the *LatticeECP3 PCI Express Development Kit User's Guide* for more details on this demo and others included with the kit. Linux users should refer to the user's guide for information on installation and demo operation.

1 Check Kit Contents

The LatticeECP3 PCI Express Development Kit contains the following items:

- LatticeECP3 PCI Express Solutions Board
- 12V AC Adapter
- USB Programming Cable (HW-USBN-2A)
- QuickSTART Guide
- LatticeECP3 PCI Express Solutions Board User's Guide
- Lattice Diamond™ Software 60-day Evaluation License (serial number)

Static electricity can shorten the lifespan of electronic components. Please handle the kit components carefully.



LatticeECP3 PCI Express Solutions Board

2 Install the Development Kit

Download the LatticeECP3 PCI Express Development Kit for the target platform (Windows or Linux) from the LatticeECP3 PCI Express Development Kit Downloadable Software page on the Lattice web site.

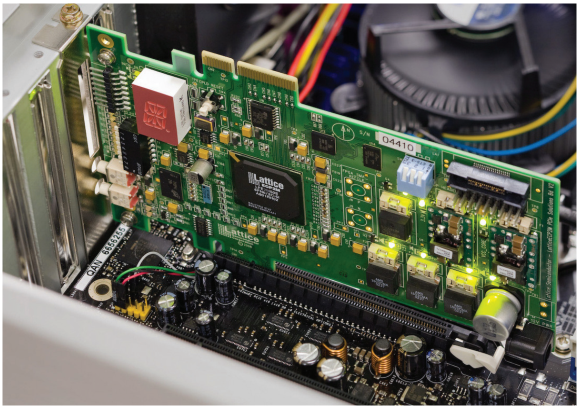
For Windows, execute the downloaded installer (DK-ECP3-PCIE-020.exe) to install the kit.

If you are using a Linux-based system see Appendix A of the *LatticeECP3 PCI Express Development Kit User's Guide* for installation instructions.

3 Install the PCI Express Solutions Board

Switch off power to your PC and install the LatticeECP3 PCI Express Solutions Board using the x1 connector into a PCI Express slot. The board is shipped with its bracket installed for x1 operation.

Note: The ispVM™ cable does not have to be connected to the board for the demo. Ensure that the board is not connected to any external power supply. The board can be installed in any PCI Express slot of the same or greater width than the board.



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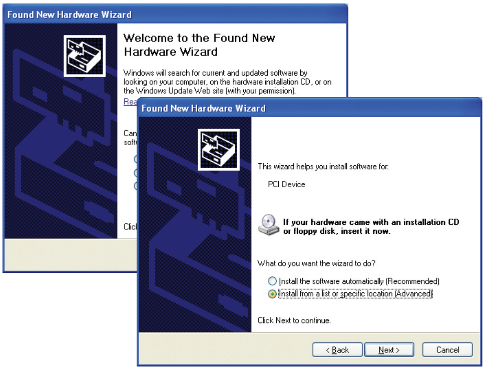
4 Install Hardware Drivers

Switch on power to the PC. A Found New Hardware popup is displayed if the board is recognized by Windows (refer to the *LatticeECP3 PCI Express Development Kit User's Guide* Troubleshooting appendix if this window does not appear).

Choose the install from the specific location option. The default installation location is **C:\Lattice_DevKits\ DK-ECP3-PCIE-020\Demonstration\PCIeBasic\Driver**.

Check that the driver is installed correctly using Device Manager (**Control Panel > System > Hardware**).



Welcome to the Found New Hardware Wizard

Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).

This wizard helps you install software for:

PCI Device

If your hardware came with an installation CD or floppy disk, insert it now.

What do you want the wizard to do?

○ Install the software automatically (Recommended)
● Install from a list or specific location (Advanced)

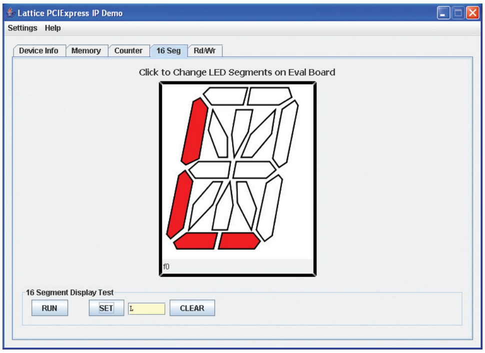
Click Next to continue.

5 Run the PCI Express Basic Demo Application

To run the PCI Express Basic Demo from the desktop, click **Start > Program > LatticeECP3 PCI Express Development Kit > PCIe Basic Demo**.

The 16-Segment Control Page in the demo allows interactive control of the 16-segment LED display on the board. Memory and Read/Write Pages allow you to access the FPGA memory over the PCI Express bus.

Refer to the *LatticeECP3 PCI Express Development Kit User's Guide* for details on running the PCI Express Basic Demo and application features.



Click to Change LED Segments on Eval Board

16 Segment Display Test: L

6 What's Next?

Congratulations! You have successfully installed and accessed the LatticeECP3 on a PCI Express bus. Please refer to the *LatticeECP3 PCI Express Development Kit User's Guide* for the following:

- Details on LatticeECP3 PCI Express Solutions Board features and operation
- Running the PCI Express throughput and DMA demos
- Modifying and generating the demo bitstreams from the Lattice Diamond or ispLEVER project sources
- Modifying and generating the demo software drivers from the provided source code

Technical Support

If you experience problems running the kit demos please refer to the Troubleshooting appendix in the *LatticeECP3 PCI Express Development Kit User's Guide*. If problems persist or if any kit contents are missing, please e-mail us at techsupport@latticesemi.com or call 1-800-528-8423 (USA) or +1 503-268-8001 (other locations).

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