

This document provides a brief introduction on how to install and run the ECP5™ PCI Express Basic demo included with the ECP5 PCI Express Development Kit. Please refer to the ECP5 PCI Express Development Kit web page at www.latticesemi.com/ecp5pciekit for further details on additional demo designs, reference designs and other collateral included with the kit.

1

Check Kit Contents

The ECP5 PCI Express Development Kit contains the following items:

- ECP5 PCI Express Board
- 12V AC/DC Adapter & International Plug Adapters
- USB Cable for Programming via PC (USB-A to Mini-B)
- QuickSTART Guide

Storage and Handling Tips:

Static electricity can shorten the lifespan of electronic components. Please observe these tips to prevent any damage that could occur from electro-static discharge:

- Use anti-static precautions such as operating on an anti-static mat and wearing an anti-static wristband.
- Store the board in the anti-static packaging foam provided.
- Touch the metal USB housing to equalize voltage potential between you and the board.

2

Install the Development Kit

The necessary PCI Express demo design files, bitstream, and drivers are available from the ECP5 PCI Express Development Kit web page at www.latticesemi.com/ecp5pciekit.

The ECP5 PCI Express Board is pre-loaded with the ECP5 PCI Express Basic Demo bitstream.

You will need to download PCI Express software drivers on your host PC. For the Windows environment, please download and execute the PCI Express Windows download file to install design files, software drivers, executables, and documentation on your host PC. If you are using a Linux-based system, see Appendix A of the PCI Express Demos for the ECP5 PCI Express Development Kit User's Guide for installation instructions.

If you do not have Lattice Diamond® design software (version 3.2 or later) installed on your PC, visit www.latticesemi.com/ecp5pciekit for instructions on how to download the software and obtain a license.

3

Install the ECP5 PCI Express Board

Switch off power to your PC and install the ECP5 PCI Express Board using the x1 connector into a PCI Express slot.

Note: 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.

**4**

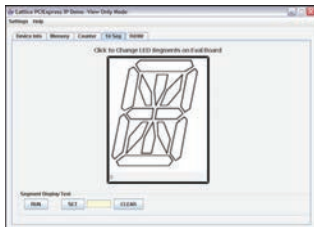
Install Hardware Drivers

1. Turn on power to the PC. A Found New Hardware popup is displayed if the board is recognized by Windows (refer to the PCI Express Demos for the ECP5 PCI Express Board Troubleshooting appendix if this window does not appear).
2. Choose the installation location from the specific location option. The default installation location is:
C:\Lattice_DevKits\DK-ECP5-PCIE-010\ Demonstration\ PCIeBasic\Driver.
3. Check that the driver is installed correctly using Device Manager (Control Panel > System > Hardware).

**5**

Run the PCI Express Basic Demo

1. To run the PCI Express Basic Demo, go to **C:\Lattice_DevKits\KD-ECP5-PCIE-010\ Demonstration\PCIeBasic**, run **PCIeBasic.bat**.
2. The 14-Segment Control window in the demo allows interactive control of the LEDs display on the board. The mapping of the LEDs to the character on the screen is found in the Usage Guide. The Memory and Read/Write windows allow you to access the FPGA memory over the PCI Express bus.
3. Refer to the PCI Express Demos for the ECP5 PCI Express Board User's Guide for details on running the PCI Express Basic Demo and application features.



6**Done!**

Congratulations! You have successfully installed the Versa Evaluation Board and accessed the ECP5 via a PCI Express link. Refer to the PCI Express Demos for the ECP5 PCI Express Development Kit User's Guide for the following:

- Running the PCI Express Throughput and DMA demos
- Modifying and generating the demo bitstreams from the Lattice Diamond project files
- Modifying and generating the demo software drivers from the provided source code

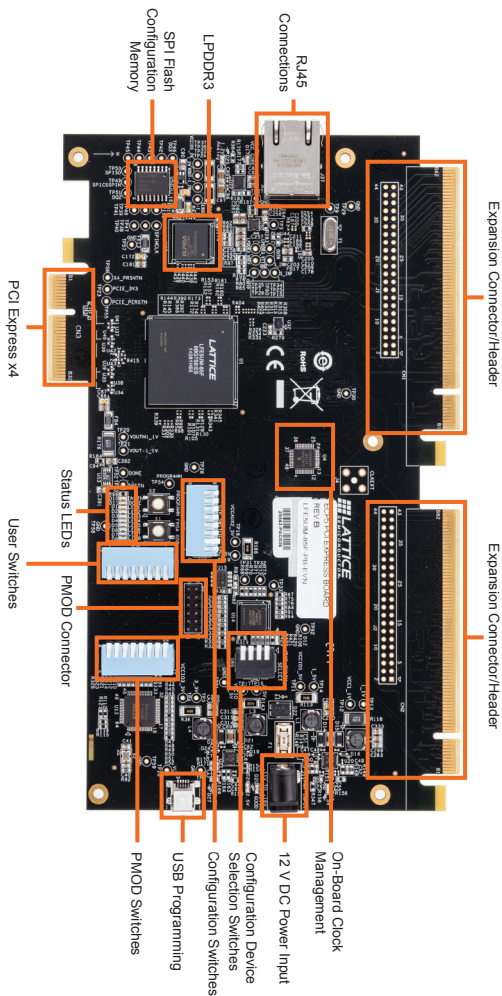
For information on additional ECP5 PCI Express Board demonstrations, reference designs and other collateral, refer to the ECP5 PCI Express Board web page at www.latticesemi.com/ecp5pciekit.

Technical Support

If you experience problems running the kit demos please refer to the Troubleshooting appendix in the ECP5 PCI Express Development Kit User's Guide. If problems persist or if any kit contents are missing, please email us at techsupport@latticesemi.com.

Additional Terms and Conditions Applicable to Lattice Programming and Development Hardware

Lattice device programmers, programming cables, socket adapters, and other hardware sold for use in conjunction with Lattice software ("Programming Hardware") and Lattice evaluation boards and development kits sold for use in conjunction with evaluating Lattice products ("Development Hardware") are designed and intended for use solely with semiconductor components manufactured by Lattice Semiconductor Corporation. Programming and Development Hardware is warranted to meet Lattice specifications only for a period of ninety (90) days; in all other respects the terms and conditions of sale of Programming and Development Hardware shall be Lattice's standard terms and conditions set forth in Lattice's Sales Order Acknowledgment. Additionally, Lattice specifications for Programming and Development Hardware limit their use to low-volume engineering applications only, and not for volume production use. The warranty for Programming and Development Hardware will not apply to any Programming or Development Hardware used in production, used with worn or improperly installed hardware, or used with incompatible systems or components.



Technical Support

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