



HX2VL Development Kit Guide

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Cypress Semiconductor
198 Champion Court
San Jose, CA 95134-1709
Phone (USA): 800.858.1810
Phone (Intl): 408.943.2600
<http://www.cypress.com>

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1. Getting Started



This document describes how to use the Cypress CY4607/CY4608 HX2VL Development Kit. It discusses the CY4607/CY4608 and the various configuration options available in it.

1.1 Host Controller Hardware

The USB 2.0 Specification requires backward compatibility; therefore, the HX2VL functions with either a full-speed (12 Mbits/sec) USB host or a high-speed (480 Mbits/sec) USB host. Nowadays, almost all PCs have a full-speed host capability built in, which allows you to begin work with the HX2VL right away.

New PCs are pre-configured with high-speed USB support – either with an add-in PCI (or PCMCIA) card or with high-speed USB integrated on to the motherboard. If you want high-speed USB, but your computer does not have this capability, then you need to obtain a high-speed USB host controller from a third-party supplier.

1.2 High-Speed Drivers

A USB 2.0 host controller driver is required for the USB 2.0 host controller. Support for full-speed USB is already integrated into the major operating systems. Therefore, no further work is required and you can begin working with the HX2VL.

The support for high-speed USB is provided by the operating system (OS), just as it is for full-speed. You may have to obtain the drivers via Windows Update if they were not included on your PC when the OS was installed. For Windows 2000 and XP, drivers are available from Microsoft. Apple also provides high-speed drivers in their latest OS.

For host controllers obtained from third-party vendors, drivers may have been included with the add-in card. Contact your supplier for more information. You can also upgrade to a native version of drivers from Microsoft or Apple.

1.3 Setting Up and Using the HX2VL Hardware

Due to the hot-plug nature of USB, hardware setup is easy. First, determine if this is a bus-powered hub or a self-powered hub. If it is a self-powered hub, plug the wall mounted power supply (provided) into an AC power receptacle providing power in the range, 100 V-240 V, 50 or 60 Hz. Then, connect the power supply's plug (5 V) to the hub's 'DC SUPPLY' jack. To connect to the PC, plug a USB A-B cable (provided) into the hub's 'Upstream' connector. Plug the other end of the cable into one of the PC's host controller ports. Remember that some host controllers have full-speed ports in addition to high-speed ports. Therefore, if the hub is plugged into a full-speed port on the host controller, it operates at full speed.

Determine if the hub design will operate with internal regulator or external regulator and set the switch SW1 accordingly. CY4608 (Figure 1-1) is based on the 28-QFN of HX2VL and does not sup-

port SPI EEPROM and removable port configuration through pin-strapping. To enable the I²C EEPROM, set J5 (place jumper).

Figure 1-1. CY4608

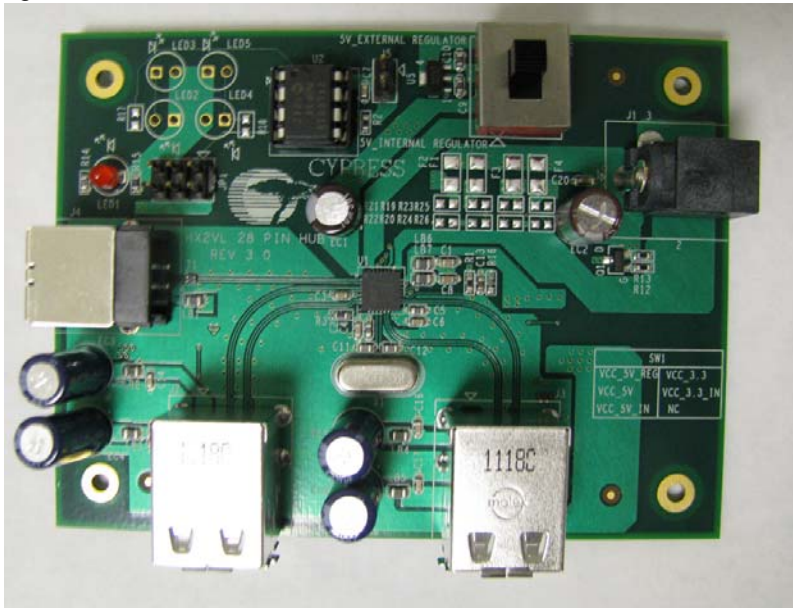
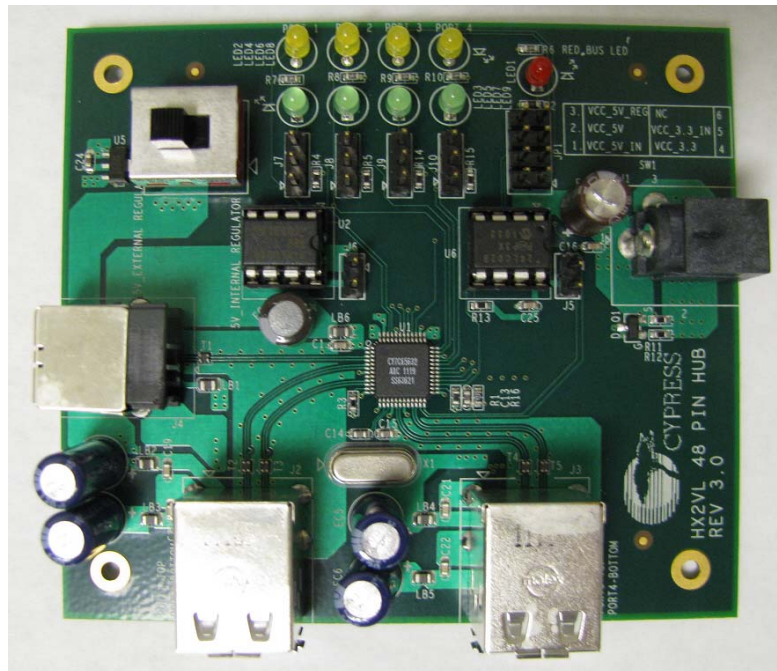


Figure 1-2. CY4607



CY4607 shown in [Figure 1-2](#) is based on the 48-TQFP of HX2VL. In CY4607, determine if the hub will operate with I²C EEPROM or SPI EEPROM and set J5 and J6 (place jumper to enable the corresponding EEPROM) accordingly. When SPI EEPROM is used J9 and J10 should be in position 2-3. Determine the removable ports in the design and set J7, J8, J9, and J10 (place jumper in position 1-2 to configure the port as fixed port, position 2-3 to use the green LED) accordingly.

The hub is now ready for any low-speed, full-speed, or high-speed devices to be plugged into any and all of the ports. The hub is a 4-port hub, each port in the hub has two associated LEDs. The green LED indicates the port is enabled. The amber LED indicates the port has an exception condition. The cause for an exception is the device plugged into the USB hub has drawn excess current. The HX2VL is commanded by the OS to turn off the port and set the amber LED until the condition is cleared. If an exception occurs, your OS should indicate the procedure to clear the port.

1.4 Document Revision History

Revision	PDF Creation Date	Origin of Change	Description of Change
**	11/10/2011	AASI	New user guide for CY4607/CY4608

