HX3 USB 3.0 HUB DEVELOPMENT KIT (DVK)

Indicates the version of HX3 Silicon. "C" indicates HX3 *C Silicon

Note: Kits with HX3 *C Silicon supports internal ROM Boot. Install jumpers on pins 1 and 2 of Jumpers J17 and J18 to boot from Internal ROM

J17

Configuration mode select jumpers

J18

Pin 3   Pin 2   Pin 1

1

## Step 1: Configuring the HX3 Board

- Unpack the kit contents which includes DVK board, 5-V 4-A AC-DC adapter and the USB 3.0 A to B cable. Ensure that the configuration mode select jumpers (J17 and J18) are set for default operation, as shown above. Ensure that all other jumpers are set on pins 2 and 3 as shown in step 2

DC Supply Jack (J1)

Power LED (PWR)

Suspend Status LED (SUSP)

Pin 3 Pin 2 Pin 1

Pin 3
Pin 2
Pin 1
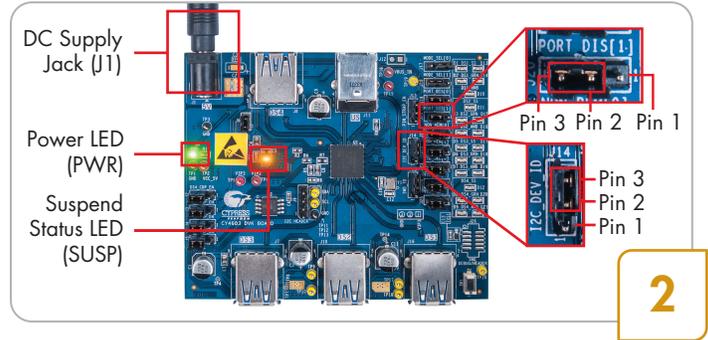
2

Step 2: Powering the HX3 Board

- Plug the AC-DC adapter into an AC wall power receptacle. Connect the power supply plug to the board's DC supply jack. The power LED (PWR) glows green to indicate that the board is powered and the suspend status LED (SUSP) glows amber to indicate that the hub is in suspend mode

USB cable connected to upstream port

Suspend Status LED (SUSP)

USB 3.0 port on the PC/Laptop
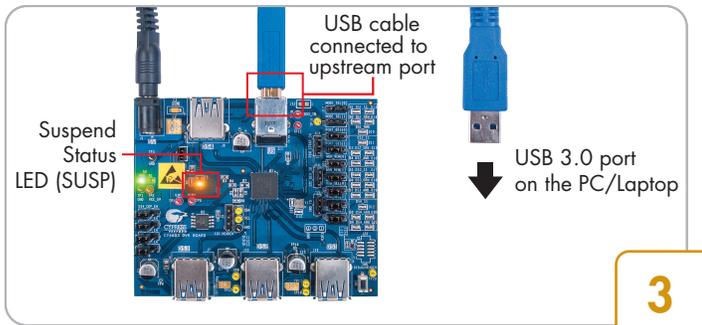
3

## Step 3: Connecting the HX3 Board to a USB 3.0 PC / Laptop

- Connect the B end of the USB cable to the board's upstream port; connect the other end to the USB 3.0 receptacle on a PC / laptop. The suspend status LED (SUSP)* turns off (on a PC / laptop running Windows 7 operating system)

USB 3.0 flash drive connected to downstream port 4 (DS4)

Status LED for downstream port 4 (DS4)
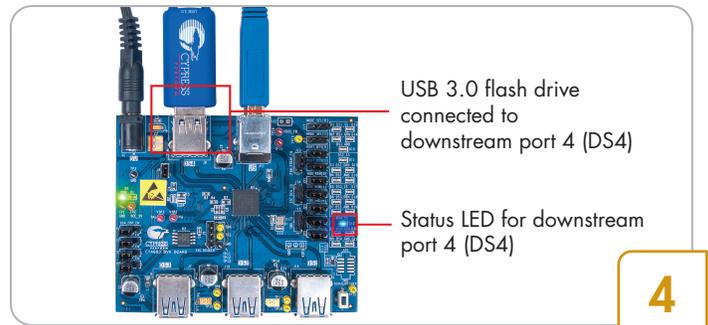
4

Step 4: Demonstrating USB 3.0 Data Transfer

- Get a USB 3.0 certified flash drive and store a 2 GB file. Connect the flash drive to one of the downstream ports. The status LED associated with that downstream port glows blue. Copy the 2 GB file from the flash drive to the PC / laptop to transfer data in USB 3.0 mode

Charging of a device connected on the downstream port
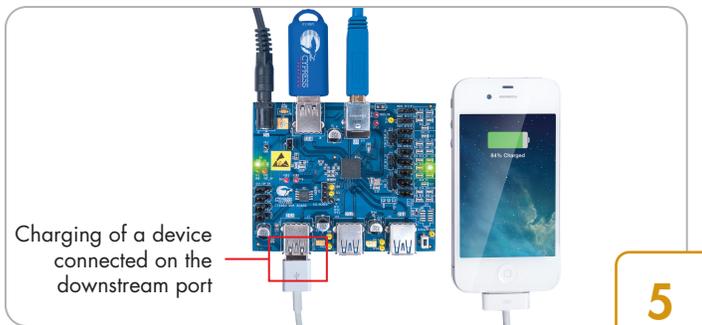
5

Step 5: Demonstrating Battery Charging

- Connect an Apple device/an USB battery charging device to a downstream port to charge the device. The status LED associated with that downstream port glows blue in case of a USB 3.0 device and green in case of a USB 2.0 device

> * The behavior of the SUSP LED varies across operating systems. For e.g, in Windows 8, the SUSP LED turns off momentarily and turns on again when there is no further USB activity on the board
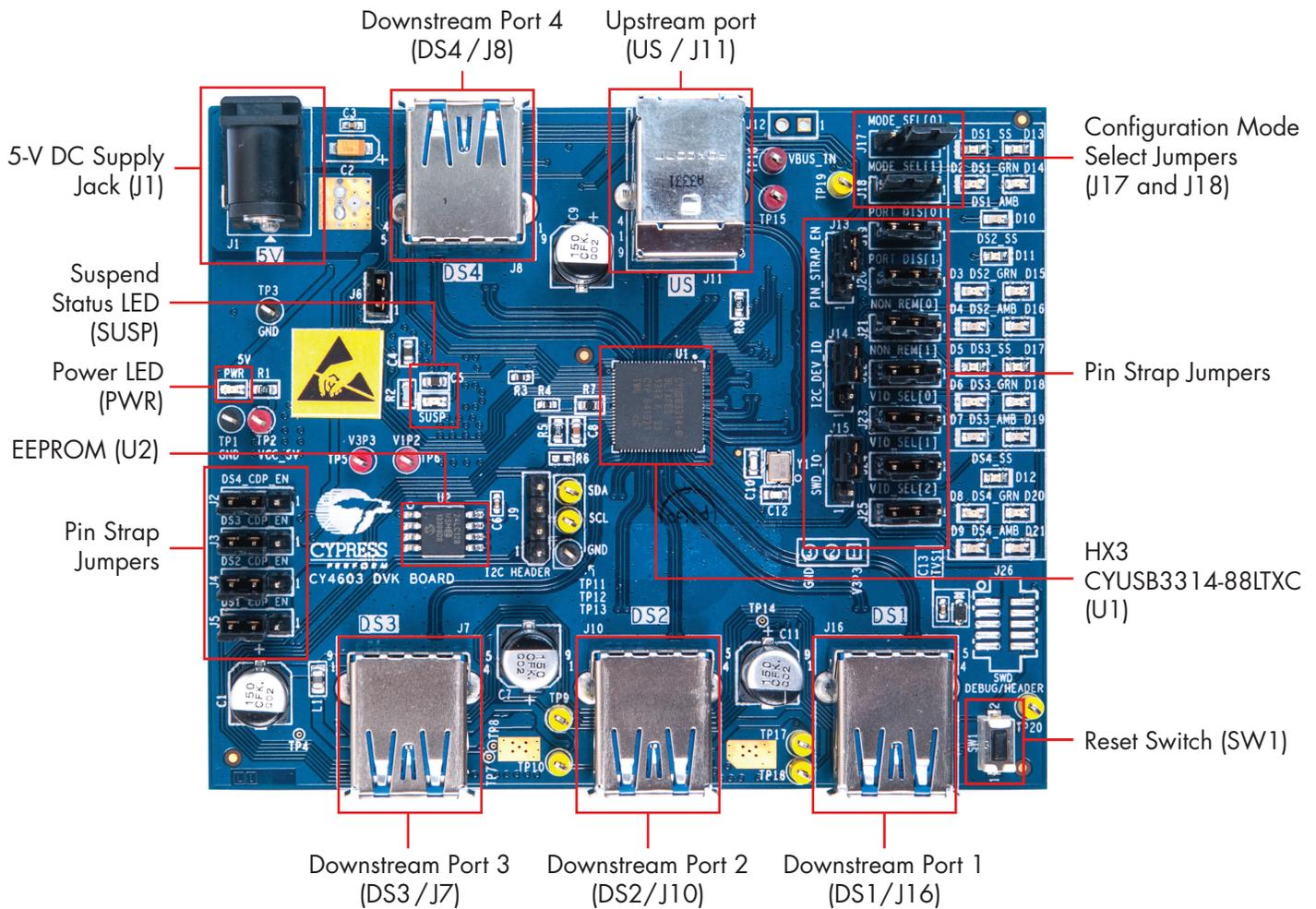

6

Step 6: Demonstrating Ghost Charging™

- Disconnect the USB cable from the upstream port to detach the board from the PC / laptop. The device connected to the downstream port continues to be charged using the Ghost Charging™ feature

  Note: When the Ghost Charging feature is enabled, charging of the device stops momentarily and resumes in 1-2 seconds

HX3 USB 3.0 HUB DEVELOPMENT KIT (DVK)

Downstream Port 4 (DS4 / J8)

Upstream port (US / J11)

Configuration Mode Select Jumpers (J17 and J18)

5-V DC Supply Jack (J1)

Suspend Status LED (SUSP)

Power LED (PWR)

EEPROM (U2)

Pin Strap Jumpers

Pin Strap Jumpers

HX3 CYUSB3314-88LTXC (U1)

Reset Switch (SW1)

Downstream Port 3 (DS3 / J7)

Downstream Port 2 (DS2/J10)

Downstream Port 1 (DS1/J16)

Kit Operation: CY4603 is the development kit (DVK) for CYUSB3314-88LTXC, an advanced 88-QFN, 4-port USB 3.0 hub controller from Cypress. The hub controller supports Low-Speed (LS), Full-Speed (FS), Hi-Speed (HS) and SuperSpeed (SS) peripherals on all the four downstream ports. It supports status LEDs and individual power control for all the four downstream ports. It goes into suspend state to save power when the upstream port is not connected to a PC / laptop. All the downstream ports are compliant to USB Battery Charging Specification v1.2; they also emulate Apple charging. The hub controller also supports Ghost Charging, a unique feature where the downstream ports emulate Dedicated Charging Port (DCP) to support battery charging even when the upstream port of the board is not connected to a PC / laptop.

The hub controller can be configured for parameters such as vendor ID, product ID, etc. using a Windows based PC tool named Blaster Plus. The configured values are stored in an on-board EEPROM. The hub controller can also be configured using pin straps which are implemented as jumpers on the board. Parameter such as vendor ID, number of removable ports, etc. can be configured using these jumpers. More details can be found in the kit user guide. To access the Blaster Plus tool, the kit user guide, and the hardware design files, download the DVK EXE file (CY4603HX3DVKSetup.exe) from www.cypress.com/go/CY4603. Click the EXE file and follow the steps in the installer window.

For the latest information about HX3 products, visit www.cypress.com/hx3

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