**TSW14J56revD Loading FX3 Firmware and Configuring the Board Descriptors**

**Unlocking the SPI Flash Sector 7 for Updating the Firmware**

1. Please confirm whether the Jumper JP11 and JP12 have their pins 1& 2 closed. They are for assigning the PMODE 0 and PMODE 1 to High. Also, PMODE 2(JP13) is open. This PMODE setting is to set the boot mode to USB Boot.
2. When connected to a USB Host, the FX3 device enumerates in the Control Center as “Cypress USB BootLoader”, as shown in figure 1.

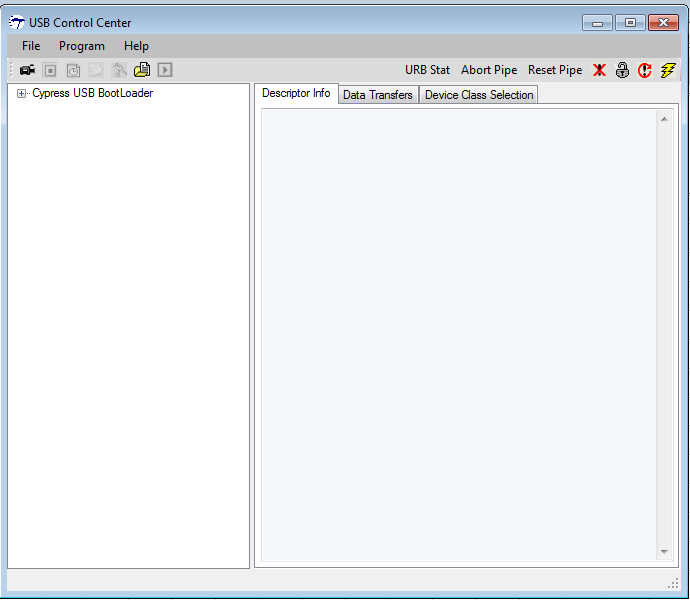
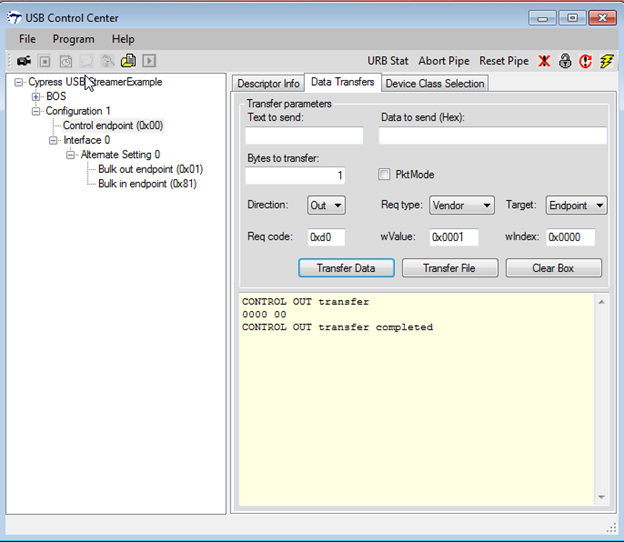


Figure 1 – FX3 USB Boot

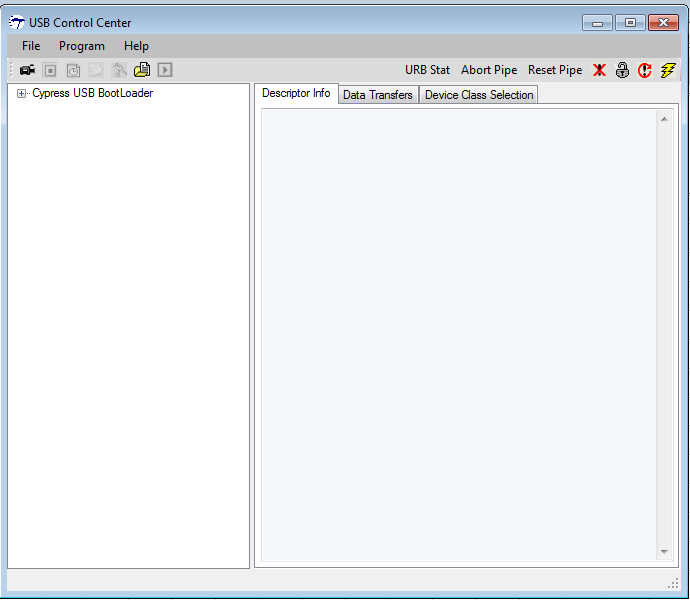
1. In the Control Center, select the FX3 device and then choose Program > FX3 > RAM; Select the “SlaveFifoSync\_RevD\_FPP\_FX3.img” in the pop up window which has appeared after selecting RAM.
2. Now the device will be enumerated as USB Streamer Example as shown in the following figure 2.
3. Perform Control Transfer with **Req code =d0,** **Direction = out, wValue = 0x0001** and **Transfer Size = 1**. (data and wIndex can be zero)

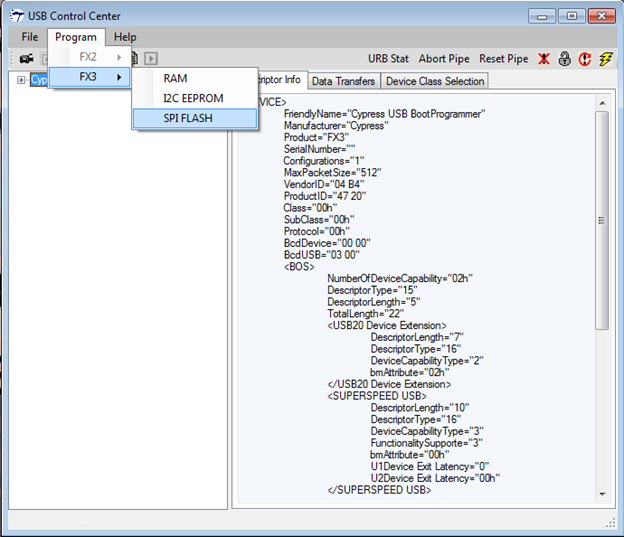
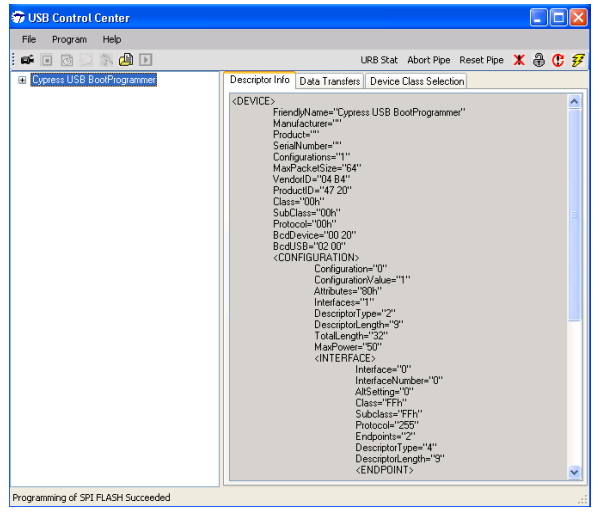
This operation will *unlock the SPI Flash Last Sector* (Sector 7, which has the board descriptor details)

Figure 2 – Unlock SPI Flash Sector 7 Command

**Loading FX3 firmware to SPI Flash**

1. Please Unlock the SPI Flash Sector 7 before Updating the Firmware in the SPI Flash using the above mentioned instructions.
2. Power Cycle (or) hard reset the FX3 Board.
3. The FX3 device will now enumerate in the Control Center again as “Cypress USB BootLoader”, as shown in following figure.

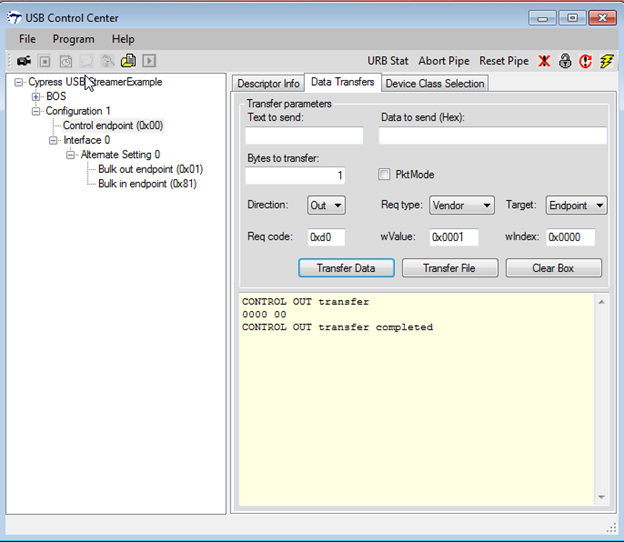


1. In the Control Center, select the FX3 device and then choose Program > FX3 > SPI FLASH, as shown below.  
   
2. Browse for the .img file named ”SlaveFifoSync\_RevD\_FPP\_FX3.img“ to be loaded into the SPI flash from the shown popup.
3. After programming is complete, the bottom left corner of the window displays “Programming of SPI FLASH Succeeded,” as shown below.  
   

**Changing the Board description**

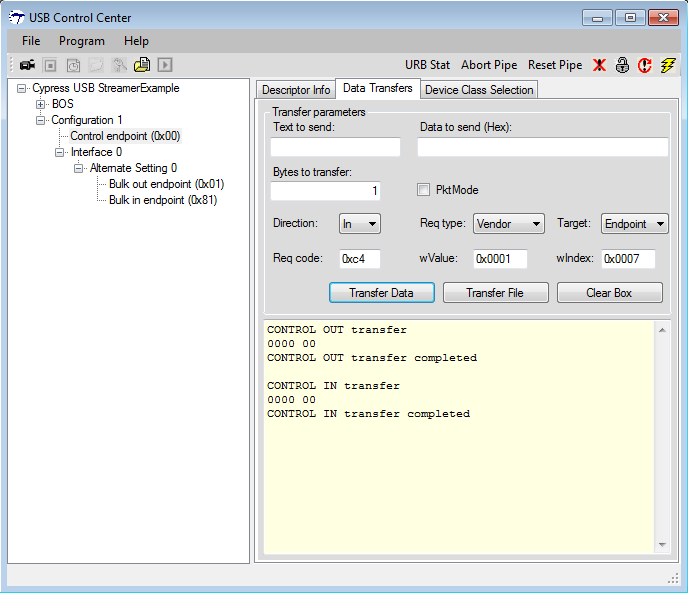
1. Please Change the Jumper JP11 and JP13 to have their pins 1& 2 closed. They are for assigning the PMODE 0 and PMODE 2 to High. Also, Leave PMODE 1(JP12) as open. This PMODE setting is to set the boot mode to SPI Boot.
2. Power Cycle the Board to load the Firmware from SPI Flash to the FX3 RAM. This Firmware in SPI Flash has the functions to perform all the board descriptor related operations.
3. Perform Control Transfer with **Req code =d0**, **Direction = out, wValue = 0x0001** and **Transfer Size = 1**. (data and wIndex can be zero)

This operation will *unlock the SPI Flash Last Sector* (Sector 7, Which has the board descriptor details)

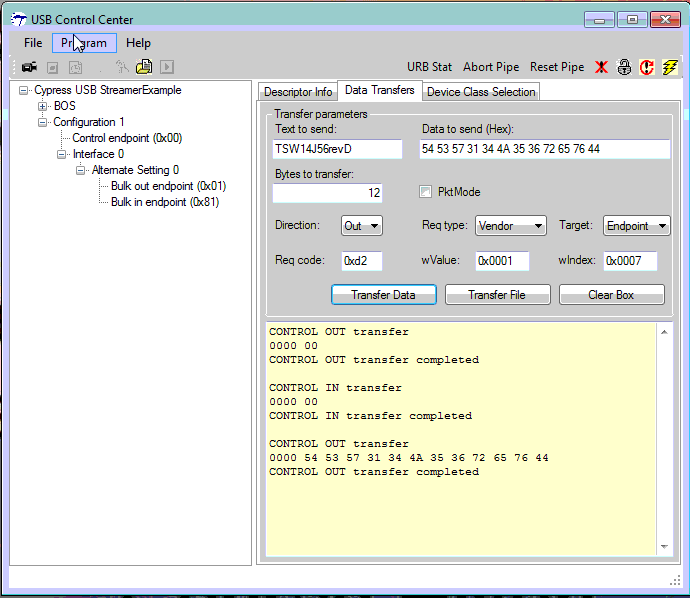


1. Perform Control Transfer with **Req code =c4**, **Direction = in**, **Transfer Size = 1**, **wValue = 0x01** (Flag to delete) and **wIndex = 0x07** (Sector Address).

This operation will *erase the sector 7* of the SPI Flash (where the Board Enumeration Details are stored).

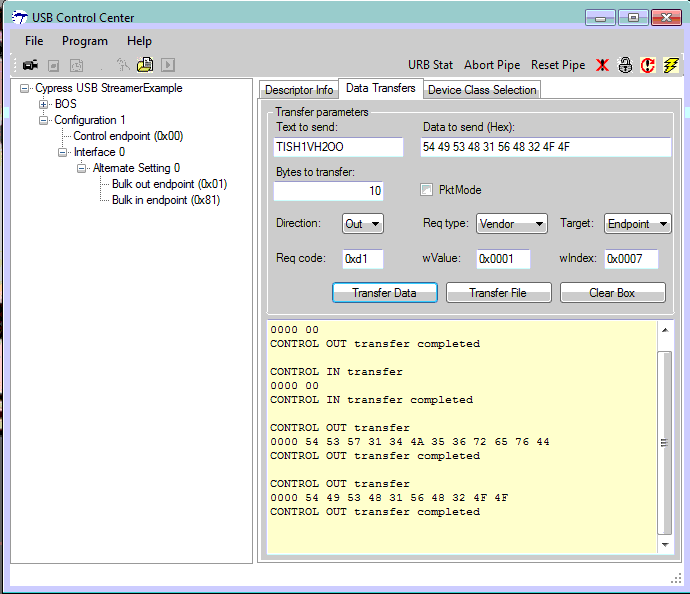


1. Perform Control Transfer with **Req code =d2**, **Direction = out**, **Transfer Size = 12** (size of the Name)and **data to send = TSW14J56revD** (New Board Name).

This operation will *write the Board Name* to the Sector 7 of the SPI Flash.  


1. Perform Control Transfer with **Req code =d1**, **Direction = out**, **Transfer Size = 10** (Size of the Serial No.)and **data to send =TISH1VH2OO** (New Board Serial Number).

This operation will *write the Board Serial Number* to the Sector 7 of the SPI Flash and also ***protects the Sector 7*** from further Write Operations.



1. Now, the specified Serial number will be detected in HSDC Pro.

