Overview

The USB HID mouse application is a simple demonstration program based on the MCUXpresso SDK. It is enumerated as a mouse. Users can see the mouse arrow moving on the PC screen according in a rectangular fashion.

System Requirements

Hardware requirements

- Mini/micro USB cable
- USB A to micro AB cable
- Hardware (Tower module/base board, and so on) for a specific device
- Personal Computer (PC)

Software requirements

- The project files are in:

  <MCUXpresso_SDK_Install>/boards/<board>/usb_examples/usb_device_hid_mouse/<rtos>/<toolchain>.

  For lite version, the project files are in:

  <MCUXpresso_SDK_Install>/boards/<board>/usb_examples/usb_device_hid_mouse_lite/<rtos>/<toolchain>.

  Note

  The <rtos> is Bare Metal or FreeRTOS OS.

Getting Started

Hardware Settings

- The Jumper settings:

  J14 1-2.

  If enable USB Full Speed function, please add jumper on J53.

  If enable USB High Speed function, please remove jumper on J53.

USB Device Charger Detection example on FRDM-K28F

- The feature is only enabled under EHCI on bm, freertos and lite version. Jumper J13 shouldn't be connected since it is a host function, if connected it will provide a continous 5V to VBUS and can't do VBUS detect.

1. Change USB_DEVICE_CHARGER_DETECT_ENABLE and USB_DEVICE_CONFIG_DETACH_ENABLE in usb_device_config.h from 0 to 1.
2. Download the program to the target board.
3. If the host type is SDP(Standard Downstream Port), it will print "The device has been connected to a facility which is SDP(Standard Downstream Port)." and start enumeration.
4. If the host type is CDP(Charging Downstream Port), it will print "The device has been connected to a facility which is CDP(Charging Downstream Port)." and start enumeration.
5. If the host type is DCP(Dedicated Charging Port), it will print "The device has been connected to a facility which is DCP(Dedicated Charging Port).".

   Note

   Set the hardware jumpers (Tower system/base module) to default settings.

Prepare the example

1. Download the program to the target board.
2. Connect the target board to the external power source (the example is self-powered).
3. Power off the target board. Then power on again.
4. Connect a USB cable between the PC and the USB device port of the board.

Note

For detailed instructions, see the appropriate board User's Guide.

Run the example

1. Plug-in the device, which is running HID mouse example, into the PC. A HID-compliant mouse is enumerated in the Device Manager.
2. The mouse arrow is moving on PC screen in the rectangular rotation.