Overview

This Host HID example is a simple demonstration program based on the MCUXpresso SDK.
The application supports the mouse device. It prints the mouse operation when the mouse device is attached.

System Requirement

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 path is:

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

  Note

  The <rtos> is Bare Metal or FreeRTOS OS.

Getting Started

Hardware Settings

- Jumper settings for REV B:

  J17 1-2 and 3-5. Besides, two 33ohm resistors (R225 and R227) have to be populated on nets K21_MICRO_USB_-DP and K21_MICRO_USB_DN and two 33ohm resistors (R224 and R226) on nets USB0_DP and USB0_DN have to be removed for using micro USB connector. 1-2 and 3-5. Besides , two 33ohm resistors (R224 and R226) have to be populated on nets USB0_DP and USB0_DN and two 33ohm resistors (R225 and R227) on nets K21_MICR-O_USB_DP and K21_MICRO_USB_DN have to be removed for using TWR-SER board's mini USB connector.

- The Jumper settings REV C:

  J17 1-2 and 3-5, J24 1-2 for micro USB connector. 1-2, J24 2-3 for using TWR-SER mini USB connector.

  Note

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

Prepare the example

1. Download the program to the target board.
2. Power off the target board and power on again.
3. Connect devices to the board.

Note

For detailed instructions, see the appropriate board User's Guide.
Host hid example doesn't support HID report descriptor analysis, this example assume that the device data are sent by specific order.
For more detail, please refer to the code. For the device list we tested,
please refer to chapter "Peripheral devices tested with the USB Host stack" in "SDK Release Notes xxxx(board name)".

Run the example

1. Connect the board UART to the PC and open the COM port in a terminal tool.
2. Plug in the HUB or the mouse device to the board. The attached information prints out in the terminal.
3. The mouse operation information prints in the terminal when you operate the mouse.

   The application prints the mouse operation information in one line. Each line contains the following sequential string: "Left Click", "Middle Click", "Right Click", "Right"/"Left" movement, "UP"/"Down" movement and "Wheel Down"/"Wheel Up" movement. White space replaces the above string if the mouse doesn't have the corresponding operation.

   For example, when the mouse moves right and up,

   " Right UP "

   prints in the terminal.

The following figure is an example to attach one mouse device.

```
host init done
hid mouse attached:pid=0x2510vid=0x93a address=1
mouse attached
control transfer error
                                          Wheel Down
                     Right Click

Left Click

                                Right Down
                                      UP
                                      UP
                                Right UP
                                      UP
                                      UP
                                Right UP
                                Left  UP
                                Left
                                Left  Down
                                Left  Down
                                Left  Down
                                Left  Down
```

Figure 1: Attach mouse