# Overview

The USB Device Charger Detection(DCD) function is integrated with this example and based on Battery Charging Specification, the example will print the charger type.
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

Note

By default, the USB_DEVICE_CONFIG_DETACH_ENABLE and USB_DEVICE_CONFIG_CHARGER_DETECT is enabled to enable the Device Charger Detection function.
The feature is only enabled under EHCI on bm, freertos and lite version.USB_DEVICE_CONFIG_DETACH_ENABLE and USB_DEVICE_CONFIG_CHARGER_DETECT should be disable when KHCI is enabled.

## 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.

- Jumper J13 shouldn't be connected when enable device DCD feature, if connected it will provide a continous 5V to VBUS and can't do VBUS detection.

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

-After step 1,the example will show the following log. the detection type is decided by whether the host is CDP/SDP or DCP.

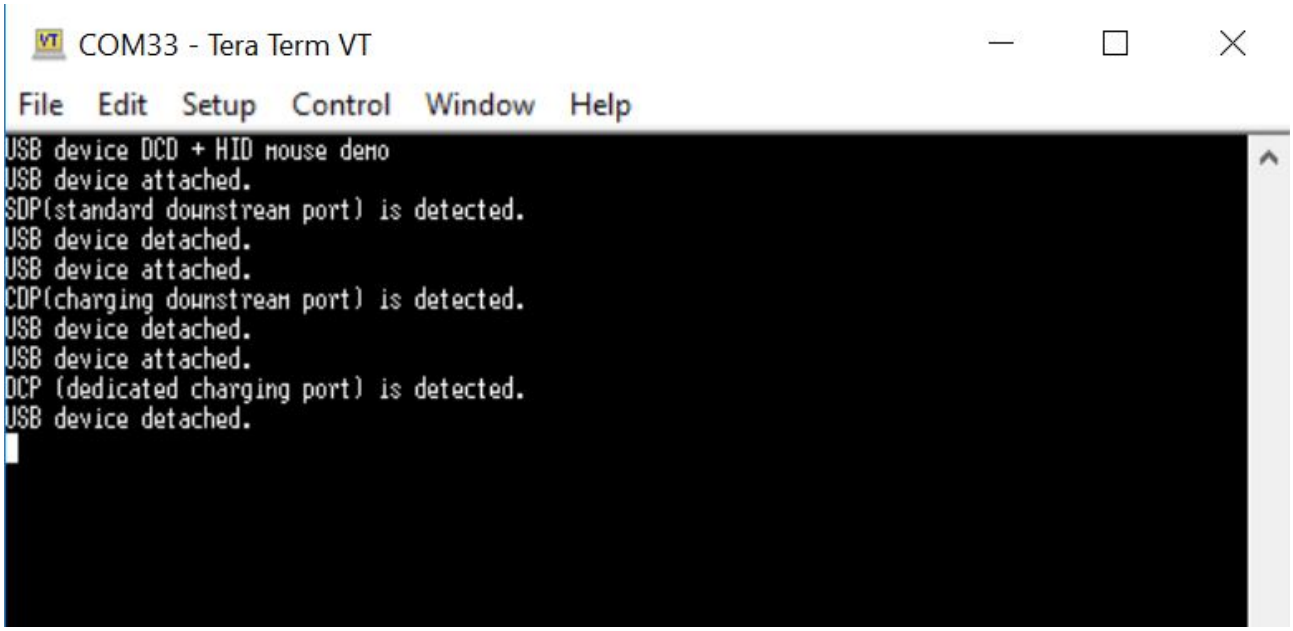


Figure 1: DCD Detection Result

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.