Overview

The Host PHDC Manager Example is a simple demonstration program based on the MCUXpresso SDK.
The application supports the USB weight scale device. It prints out the body mass and body mass index information when the USB weight scale 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

Software requirements

- The project files are in:

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

  Note

  The <rtos> is Bare Metal or FreeRTOS OS.

- Terminal tool.

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

  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 a USB weight scale device to the board.

   Note

   this example could be tested with the "usb_device_phdc_manager" example in pairs.

Run the example

1. Connect the board UART to the PC and open the COM port in a terminal tool.
2. Plug in a hub or the USB weight scale device to the board that is running the PHDC manager example. The attached information prints out in the terminal.
3. The weight scale data (body mass and body mass index) is automatically sent to the host. The scan report number, time, value, and unit of each field is shown in terminal tool.

The following figure is an example for attaching one USB weight scale device.

Figure 1: Attach USB weight scale device