# Overview

The Host PHDC Manager Example is a simple demonstration program based on the KSDK.
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:

  <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

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.

# 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.

```
File  Edit  Setup  Control  Window  Help

host init done
phdc device attached:pid=0x400vid=0x15a2 address=1
phdc device attached

11073Manager: Enter Connected Unassociated state
11073Manager: Received Association request.
11073Manager: Enter Associated Configuring Waiting state
11073Manager: Received a configuration event report.
11073Manager: --------------------------------------------------
11073Manager: Configuration Report Id: 16384.
11073Manager: Number of configuration Objects: 3.
11073Manager:  > Object Handle 1: Class = 6  Num Attributes = 4.
11073Manager:  > > Attribute0: Id = ID type
11073Manager:  > > Attribute1: Id = Small metric specification
11073Manager:  > > Attribute2: Id = Unit code
11073Manager:  > > Attribute3: Id = Value map
11073Manager:  > Object Handle 2: Class = 6  Num Attributes = 4.
11073Manager:  > > Attribute0: Id = ID type
11073Manager:  > > Attribute1: Id = Small metric specification
11073Manager:  > > Attribute2: Id = Unit code
11073Manager:  > > Attribute3: Id = Value map
11073Manager:  > Object Handle 3: Class = 6  Num Attributes = 5.
11073Manager:  > > Attribute0: Id = ID type
11073Manager:  > > Attribute1: Id = Small metric specification
11073Manager:  > > Attribute2: Id = Unit code
11073Manager:  > > Attribute3: Id = 2631
11073Manager:  > > Attribute4: Id = Value map
11073Manager: Enter Associated Configuring Checking state
11073Manager: Enter Associated Operating state
11073Manager: Received a RORS_CMIP_GET_CHOSEN.
11073Manager: --------------------------------------------------
11073Manager: Number of attributes = 6
11073Manager: Type = Scale, Version = 1
11073Manager: Model: Freescale WeightScale
11073Manager: Received a MDC Noti Scan Report Fixed event.
11073Manager: --------------------------------------------------
11073Manager: Scan Report Number: 0  Number Observations: 4
11073Manager: Object Type : Body Weight, Partition: SCADA
11073Manager: Observation Value = 28.100000 kg
11073Manager: Absolute Time Stamp = 2007-12-06  12:10:01
11073Manager: Object Type : BMI, Partition: SCADA
11073Manager: Observation Value = 28.100000 kg/m2
11073Manager: Absolute Time Stamp = 2007-12-06  12:10:01
11073Manager: Object Type : Body Weight, Partition: SCADA
11073Manager: Observation Value = 76.300003 kg
11073Manager: Absolute Time Stamp = 2007-12-06  20:05:01
11073Manager: Object Type : BMI, Partition: SCADA
11073Manager: Observation Value = 24.400000 kg/m2
11073Manager: Absolute Time Stamp = 2007-12-06  20:05:01
11073Manager: --------------------------------------------------
11073Manager: Send back MDC Noti Scan Fixed response.
11073Manager: Received a MDC Noti Scan Report Fixed event.
11073Manager: --------------------------------------------------
11073Manager: Scan Report Number: 1  Number Observations: 4
11073Manager: Object Type : Body Weight, Partition: SCADA
11073Manager: Observation Value = 28.200001 kg
11073Manager: Absolute Time Stamp = 2007-12-06  12:10:02
11073Manager: Object Type : BMI, Partition: SCADA
11073Manager: Observation Value = 28.200001 kg/m2
```

Figure 1: Attach USB weight scale device