

## Overview

The host CDC-ECM project is a simple demonstration program based on the MCUXpresso SDK . It demonstrates Ping and UDP echo server, it also join into a multicast group. The application periodically sends the ICMP echo request to a PC and processes the PC reply and always forwarding UDP message on echo port.

## 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\_cdc\_ecm/<rtos>/<toolchain>.

Note

The <rtos> is Bare Metal or FreeRTOS OS.

## 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. Connect a USB cable between the PC host and the USB port on the target board with these settings:
  - 115200 baud rate
  - 8 data bits
  - No parity
  - One stop bit
  - No flow control
2. Connect the target board to the external power source (the example is self-powered).
3. Download the program to the target board.
4. Power off the target board, then power on again.

Note

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

## Run the example

1. Connect serial port to board and run the example `host_cdc_ecm`, then plug in USB CDC-ECM device to the board. The log will printed like below:

```
USB host init success.
Device CDC-ECM attached: PID=0x8156, VID=0xBDA, Address=1.
USB CDC-ECM device is attached.
```

Figure 1: Host enumerates CDC-ECM device

2. If network link of CDC-ECM device is up, the example `host_cdc_ecm` will start DHCP service and join into a multicast group using IGMP. The example `host_cdc_ecm` will always listening on UDP port 7 and echo message to sender, then start Ping. The log will printed like below:

```
USB host init success.
Device CDC-ECM attached: PID=0x8156, VID=0xBDA, Address=1.
USB CDC-ECM device is attached.
Device network connection is connected.
Network speed have been changed to DL 1000000000 bps / UL 1000000000 bps.

*****
DHCP Information
*****
DHCP state      : SELECTING
DHCP state      : REQUESTING
DHCP state      : BOUND

IPv4 Address    : 10.193.102.36
IPv4 Subnet mask : 255.255.255.0
IPv4 Gateway    : 10.193.102.254

*****
IGMP Information
*****
IPv4 Group      : 239.0.0.1

Server listening on UDP port 7
Pinging www.nxp.com [125.252.234.167]:
ping: send 125.252.234.167
ping: rcv 125.252.234.167 72 ms
ping: send 125.252.234.167
ping: rcv 125.252.234.167 127 ms
```

Figure 2: Host running