Scope

This document describes how to test USB composite device MSD_CDC example.

Preparation

Host

Personal computer running Windows Xp or Windows 7.

Device

A board, i.e. twrk70f120m, which is running dev_msd_cdc example.

Libraries dependency

The libraries dependency for various RTOS lists as following,

BM

Library project path:

- *<install_dir>/usb/usb_core/device/lib/bm/<tool_chain>/<soc_name>*
- *<install_dir>/lib/ksdk_platform_lib/<tool_chain>/<platform>*

FreeRTOS

Library project path:

- *<install_dir>/usb/usb_core/device/lib/freertos/<tool_chain>/<soc_name>*
- *<install_dir>/lib/ksdk_freertos_lib/<tool_chain>/<platform>*

MQX

Library project path:

- *<install_dir>/rtos/mqx/mqx/build/<tool_chain>/mqx_<board>*
- *<install_dir>/rtos/mqx/mqx_stdlib/build/<tool_chain>/mqx_stdlib_<board>*
- *<install_dir>/usb/usb_core/device/lib/mqx/<tool_chain>/<soc_name>*
- *<install_dir>/lib/ksdk_mqx_lib/<tool_chain>/<platform>*

uCOSii

Library project path:

- *<install_dir>/usb/usb_core/device/lib/ucosii/<tool_chain>/<soc_name>*
- *<install_dir>/lib/ksdk_ucosii_lib/<tool_chain>/<platform>*

uCOSiii

Library project path:

- *<install_dir>/usb/usb_core/device/lib/ucosiii/<tool_chain>/<soc_name>*
- *<install_dir>/lib/ksdk_ucosiii_lib/<tool_chain>/<platform>*

Refer to **Integration of the USB Stack and Kinetis SDK_review.pdf(***<install_dir>/doc***)** on how to build the corresponding libraries.

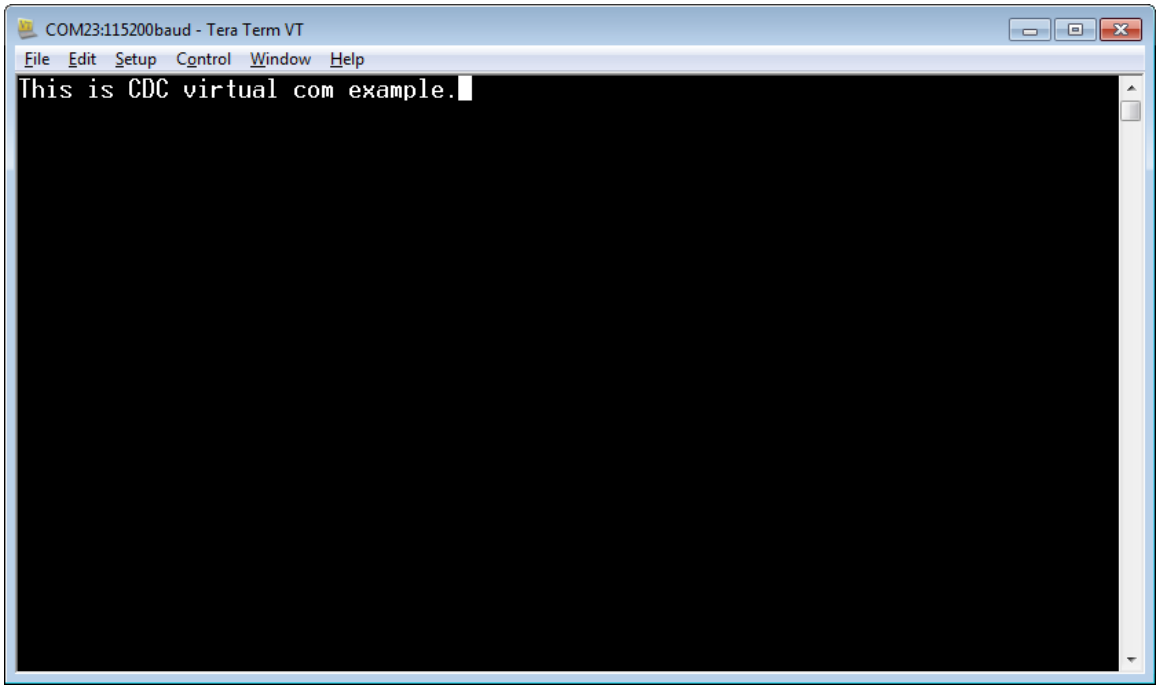
Steps

Follow the steps to run the MSD_CDC demo.

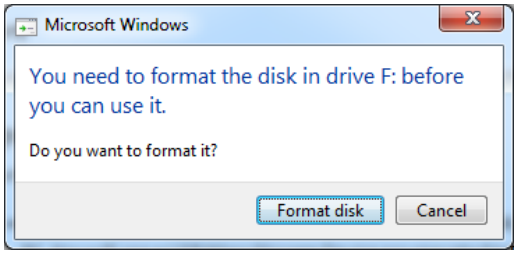
1. Plug-in the CDC device which is running dev_msd_cdc example into PC. You will see a COM port and see a USB Mass Storage Device enumerated in Device Manager. If it prompts for CDC driver installation. Refer to the next section to see how to install CDC driver.

2. Open the COM port in a terminal tool, i.e. Tera Term.

3. Type some characters and you can see them echoed back from the COM port.



4. The Windows will prompt you to format the u disk



When the format is completed, the computer will display the capacity of 10k removable disk.

5. Then you can do any operation, just like as a u-disk.

Note:

1. Since there is no dynamic detection between host and device, the COM port must be closed from the terminal tool prior to plug-out the CDC device. Or the CDC device won't get recognized next time you plug-in with the COM port still opened.

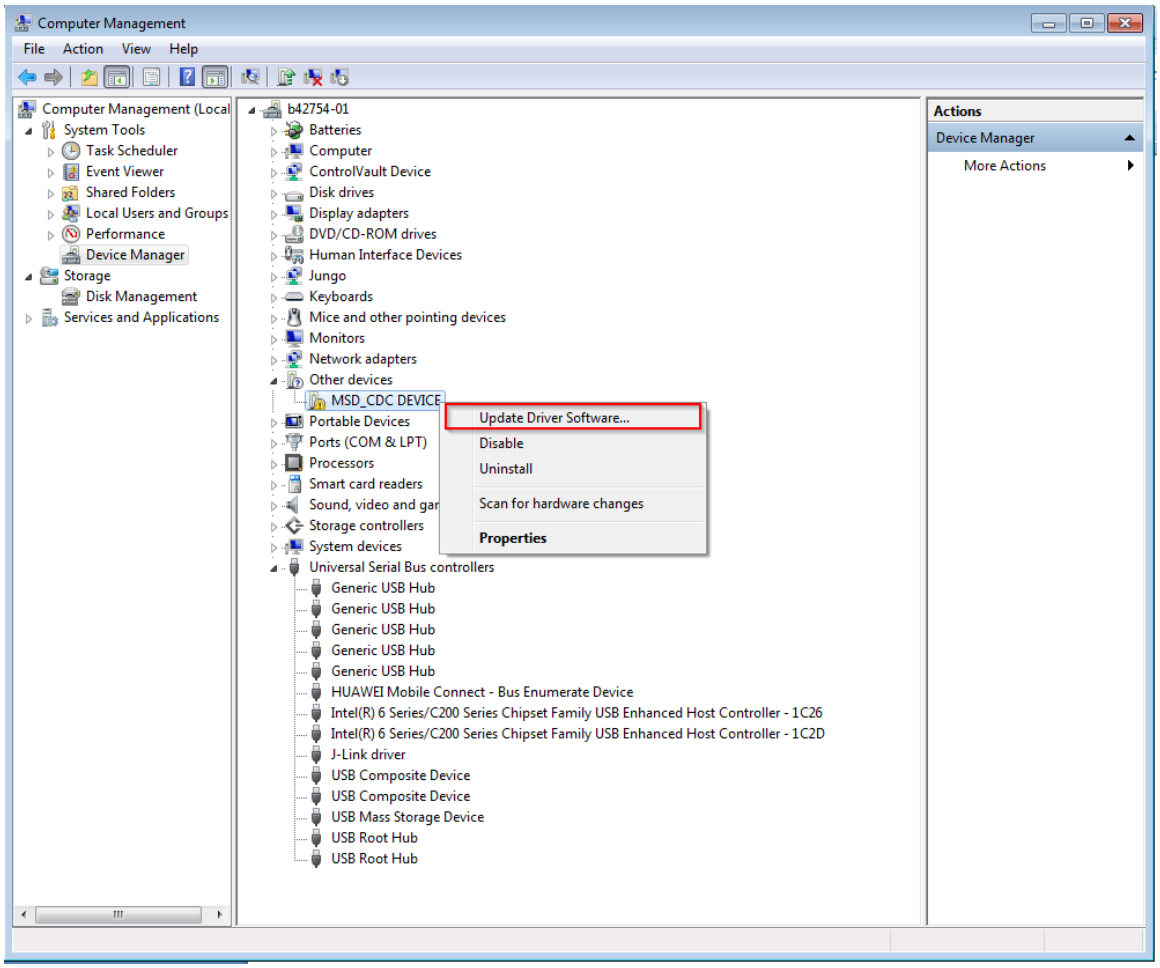
2. The ram disk and SD disk function can't be enabled in the same time.

3. Mac system default will create .fseventsd ,.Trashes folder and some other files if we format the disk on MAC. The total files size is about 8K. We need increase the RAM size at least to 32K if USB mass storage example running on MAC. Please change the MACRO TOTAL_LOGICAL_ADDRESS_BLOCKS_NORMAL in disk.h from 48 to 64.

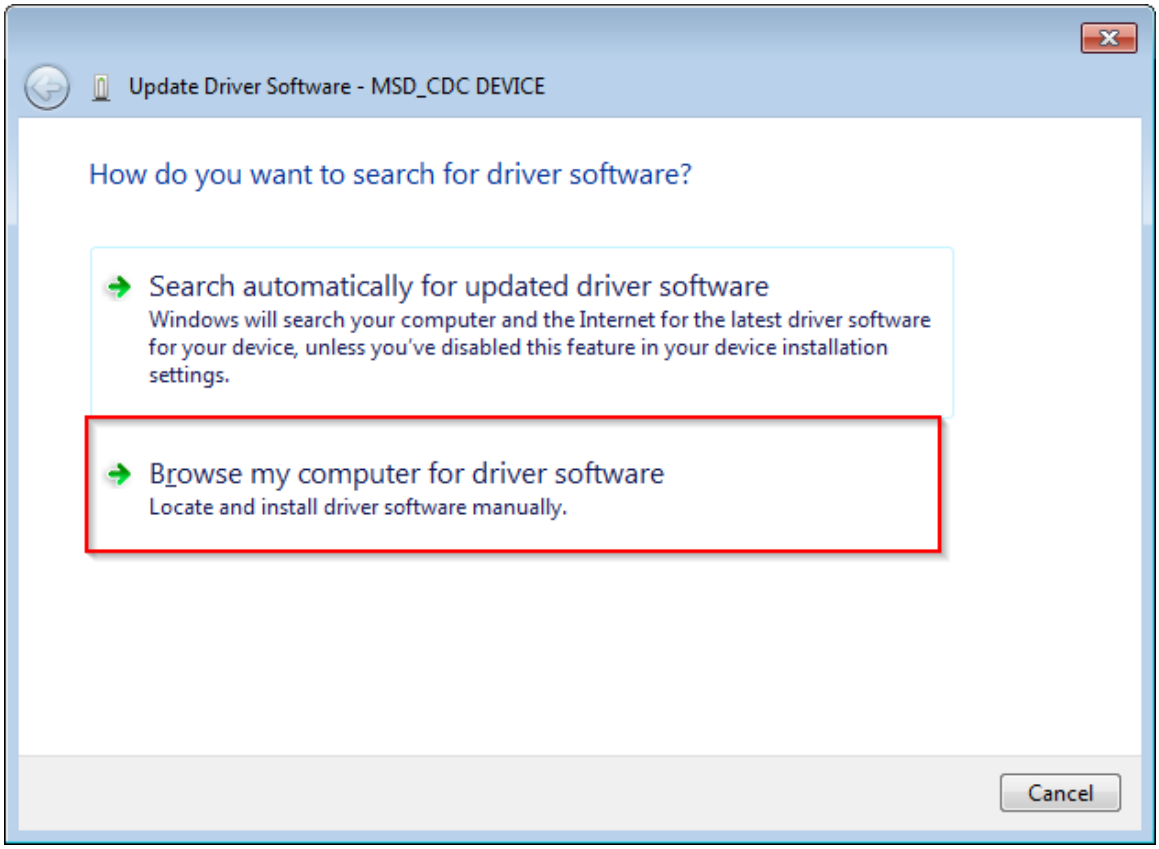
How to install CDC driver for virtual_com and msd_cdc composite example

Below are the steps to install CDC driver on Windows 7, while on Windows XP the similar way apply.

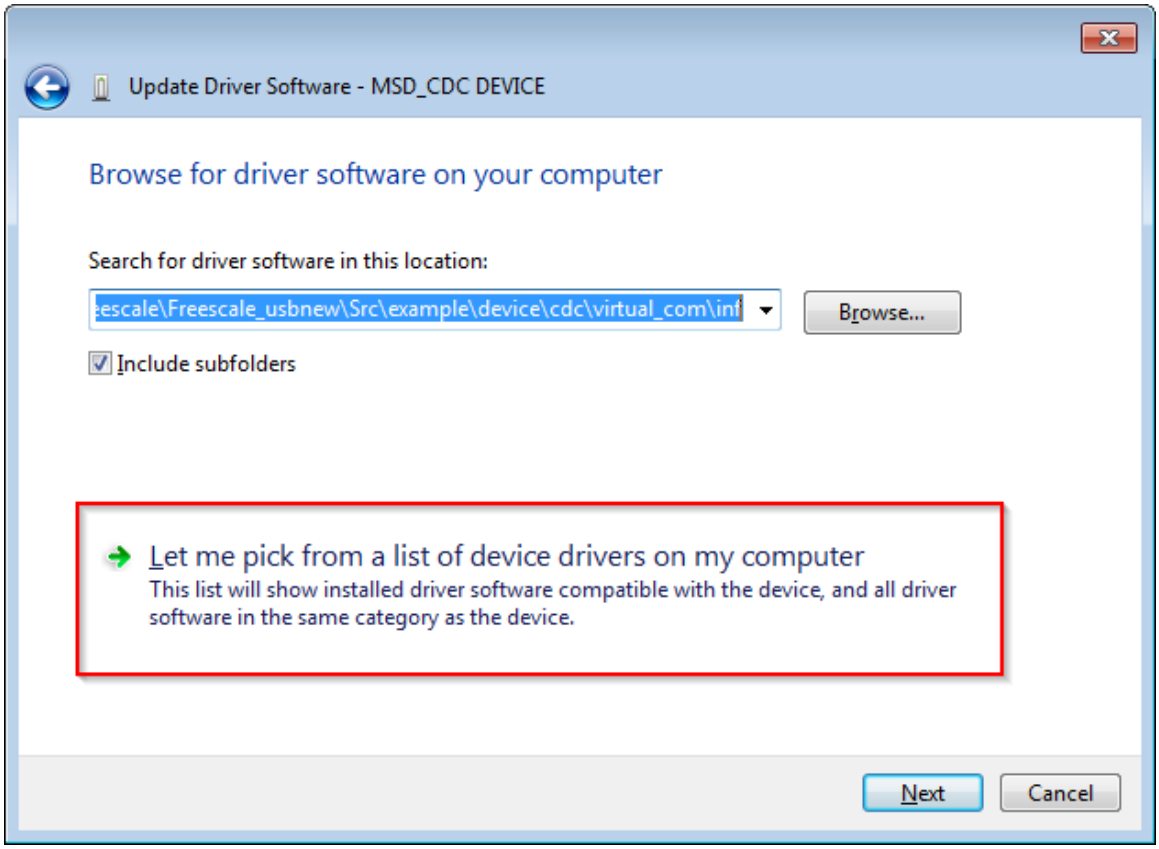
Step 1. Click "Update Driver Software…"



Step 2. Choose “Browse…”

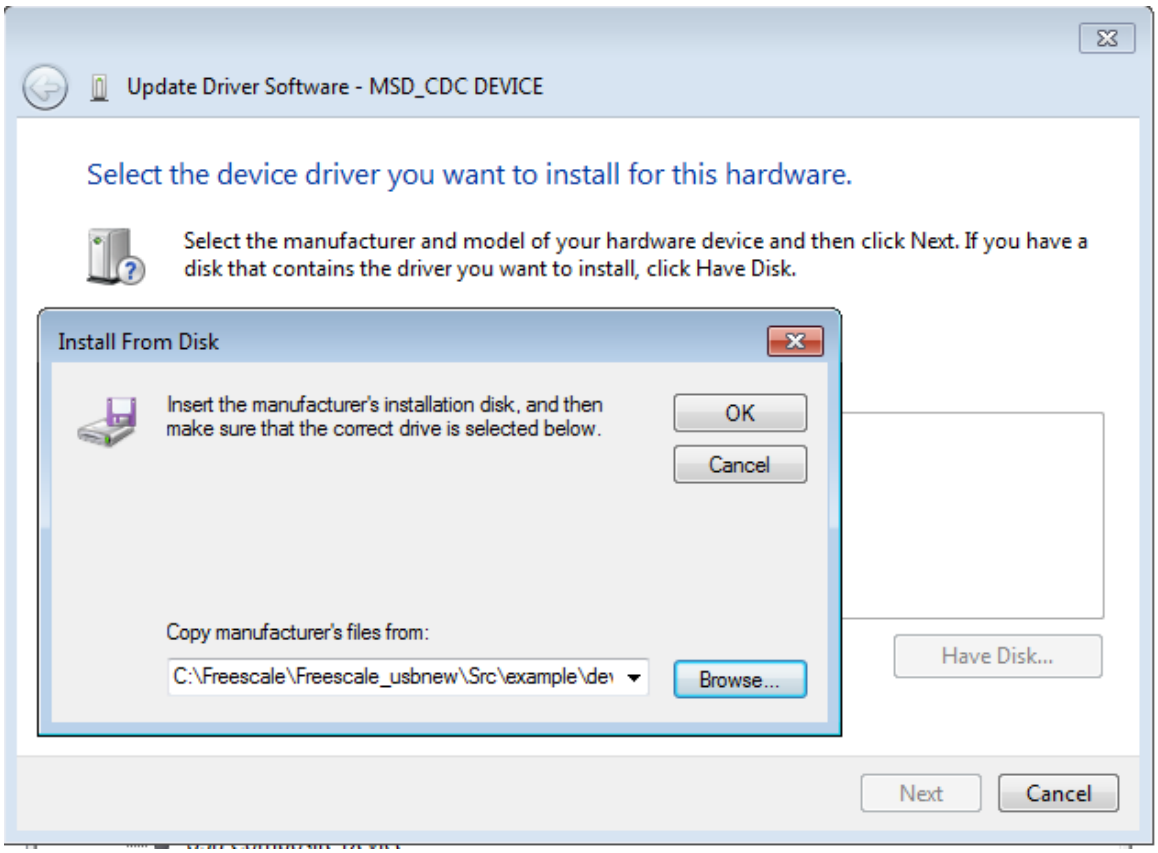


Step 3. Select “Let me pick…”

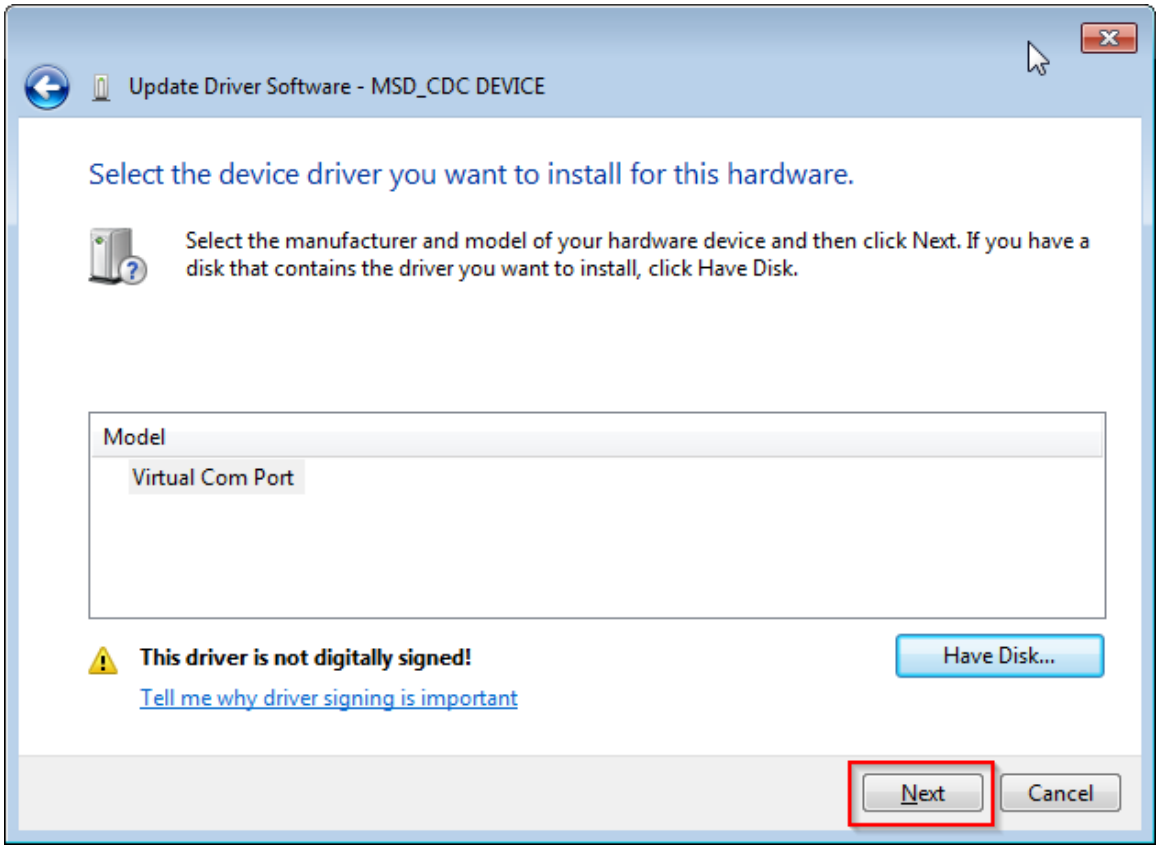


Step 4. Navigate to your CDC driver location.

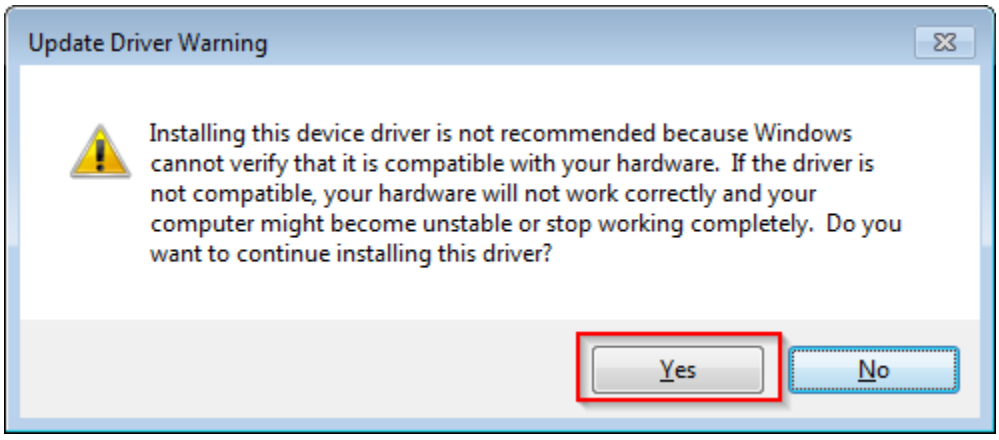
<install_dir>\<usb_root_dir>\example\device\cdc\virtual_com\inf


Update Driver Software - MSD_CDC DEVICE
Select the device driver you want to install for this hardware.
Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.
Install From Disk
Insert the manufacturer's installation disk, and then make sure that the correct drive is selected below.
OK
Cancel
Copy manufacturer's files from:
C:\Freescale\Freescale_usbnew\Src\example\de
Browse...
Have Disk...
Next
Cancel

Step 5. Press “Next”.



Step 6. Ignore the warning and press “Yes”.



Step 7. Now the CDC driver should has been installed successfully.