

Getting Started with virtual com

Overview

Virtual com is a mechanism to communicate input/output requests from application code to a host computer which is based on the usb cdc device, it is enumerated as a COM port, which the user can open it through terminal tools.

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. Either press the reset button on your board or launch the debugger in your IDE to begin running the demo.
4. Connect a USB cable between the PC host and the USB device port on the board.

Running the example

Windows

1. A COM port is enumerated in the Device Manager. If it prompts for CDC driver installation, see the next chapter to install the CDC driver.
2. Open the COM port in a terminal tool, such as TeraTerm, SSCOM, Putty, Putty is recommended while virtual com is used.
3. Then user can communicate with target boards through virtual com.

Ubuntu X86 Linux PC

1. Connect CDC device to the PC.
2. In the terminal window, run

```
# ls /dev/tty*
```

Then '/dev/ttyACM0' is found.
3. In the terminal window, run

```
# minicom -s
```
4. To configure the ttyACM0 as the default console and other configurations, run

```
# minicom
```

The ttyACM0 can be opened successfully and user can input/output characters by using the minicom.

i.MX 6DQ board with Yocto rootfs

1. Enable the ACM feature and rebuild the kernel.

```
| Symbol:  USB_ACM [=y] |  
| Type :  tristate |  
| Prompt:  USB Modem (CDC ACM) support |  
| Location:  |  
| -> Device Drivers |  
| -> USB support (USB_SUPPORT [=y]) |  
| (1) -> Support for Host-side USB (USB [=y])
```
2. Bring up i.MX board with the rebuilt kernel.
3. Plug in the CDC device to the i.MX board.

4. In the i.MX board.

```
# ls /dev/tty*
```

The /dev/ttyACM0 is found.

5. In the i.MX board, a pipe is used to read and write to ttyACM0 because the minicom is not available for yactor roots.

```
# cat /dev/ttyACM0 >> read1 &
```

```
# echo "Hello World" > /dev/ttyACM0
```

```
# fg
```

Ctrl+c to interrupt the progress

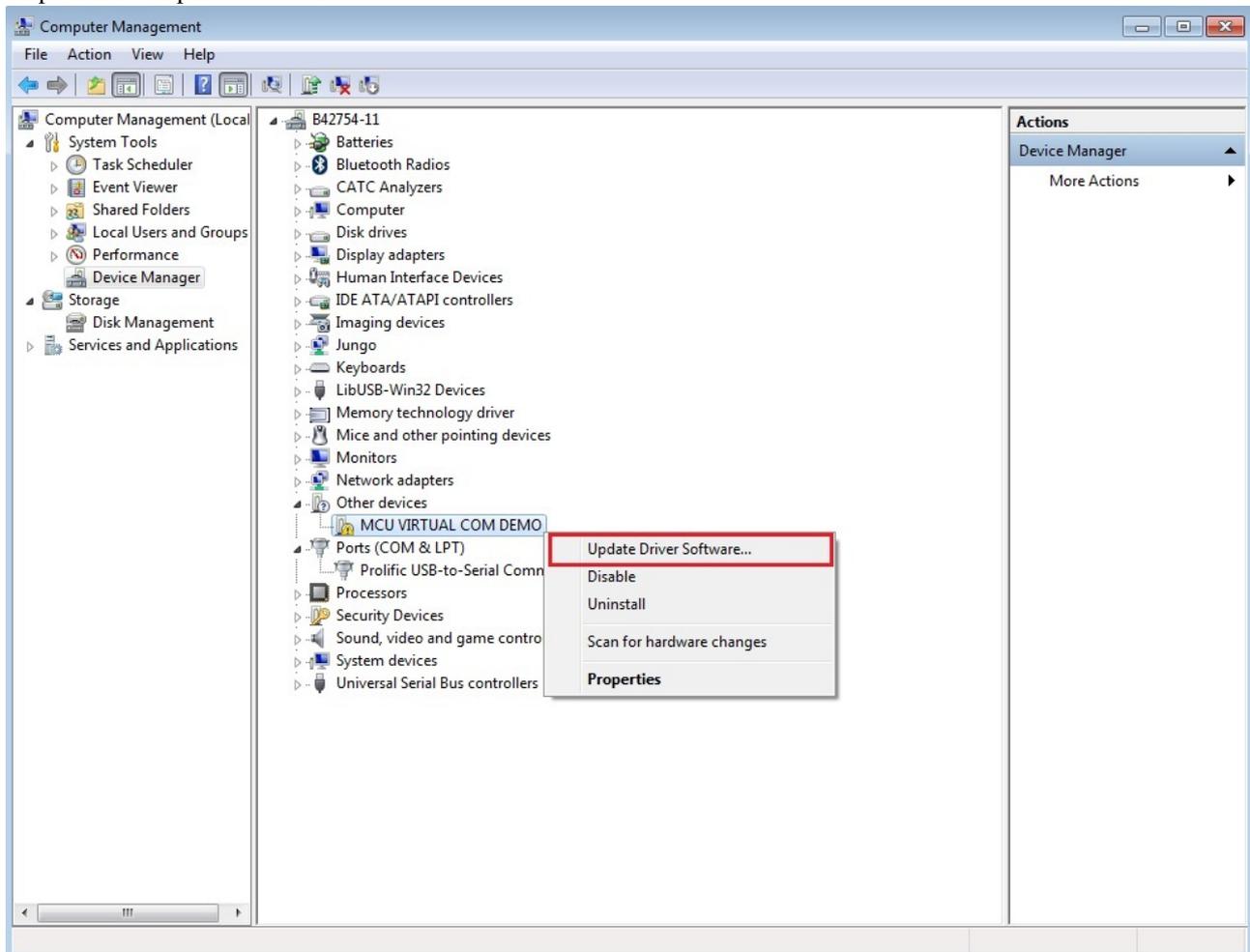
```
# vi read1
```

Result: "Hello world" is in read1.

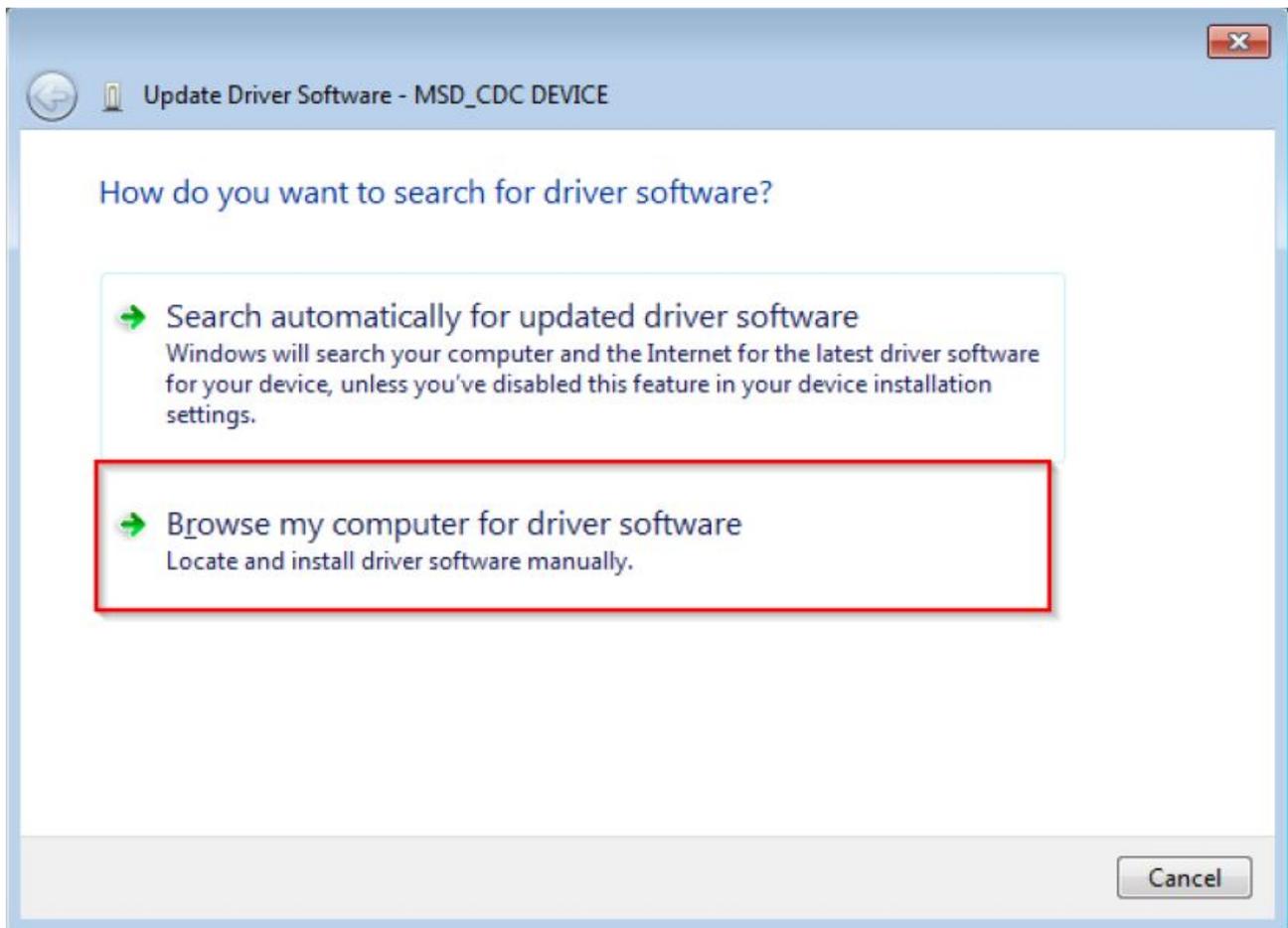
Installing the CDC driver for virtual_com and msd_cdc composite example

Below are the steps to install the CDC driver on Windows 7. Similar steps apply for Windows XP.

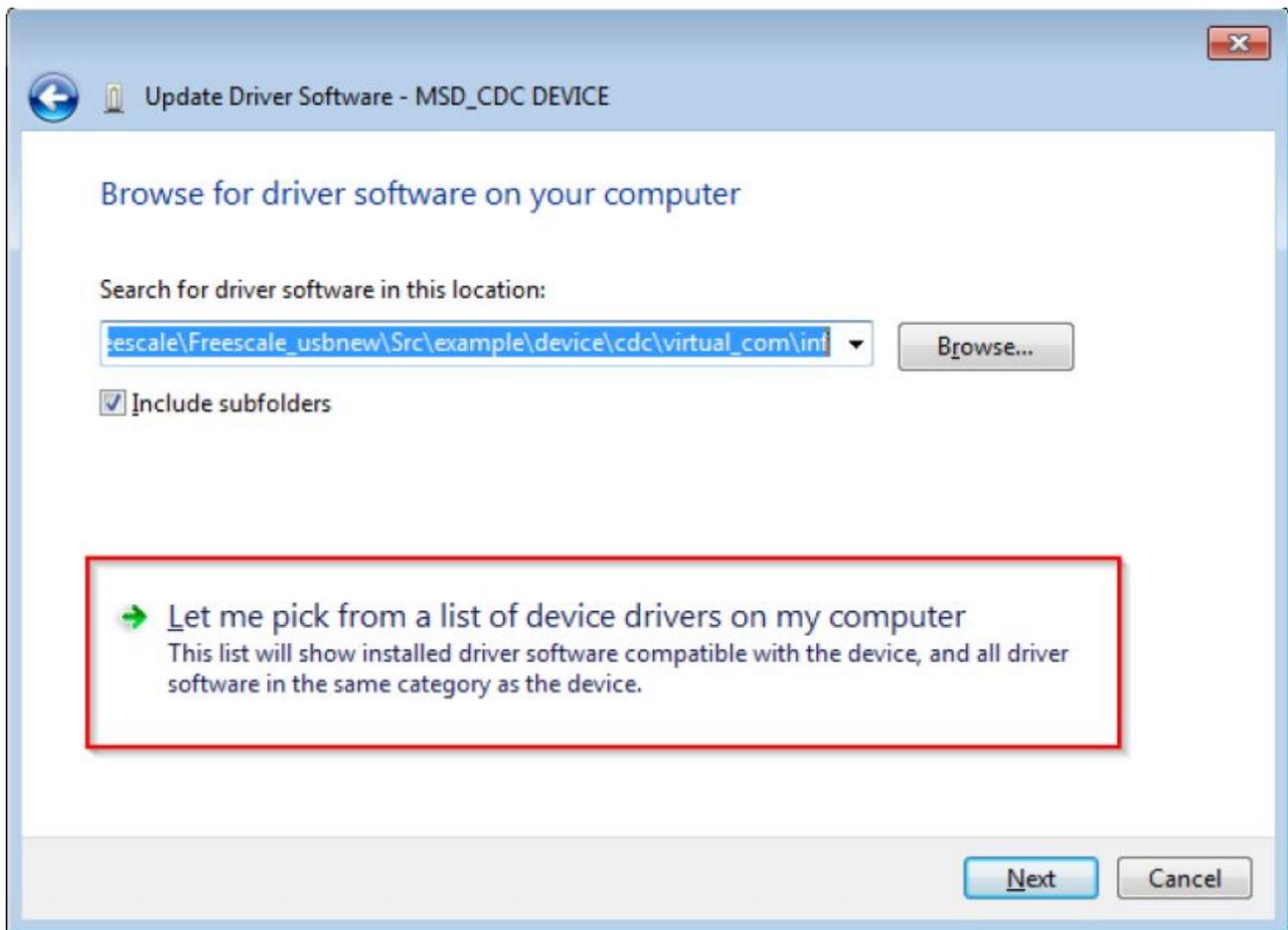
Step 1. Click "Update Driver Software..."



Step 2. Choose "Browse..."

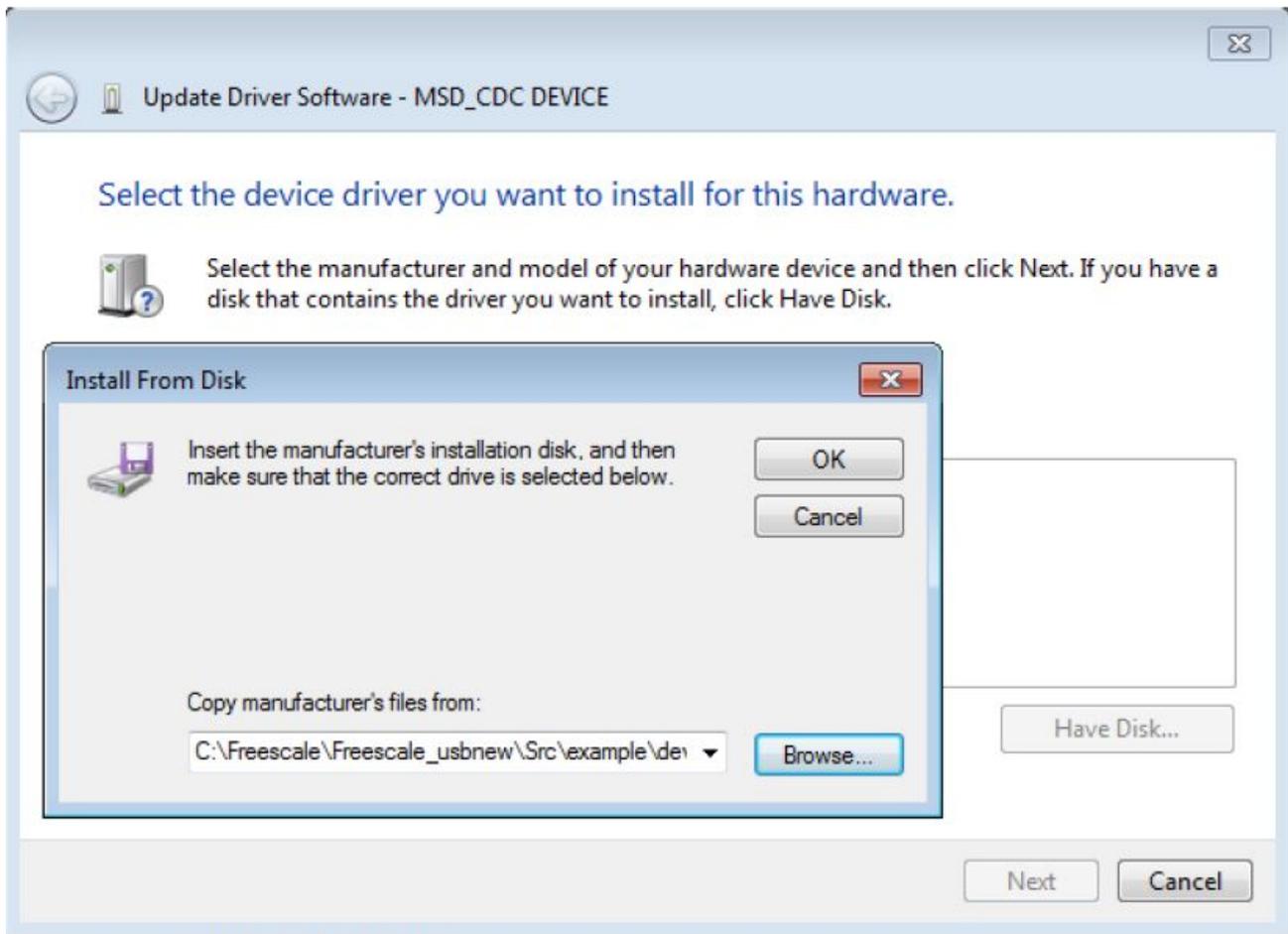


Step 3. Select "Let me pick..."

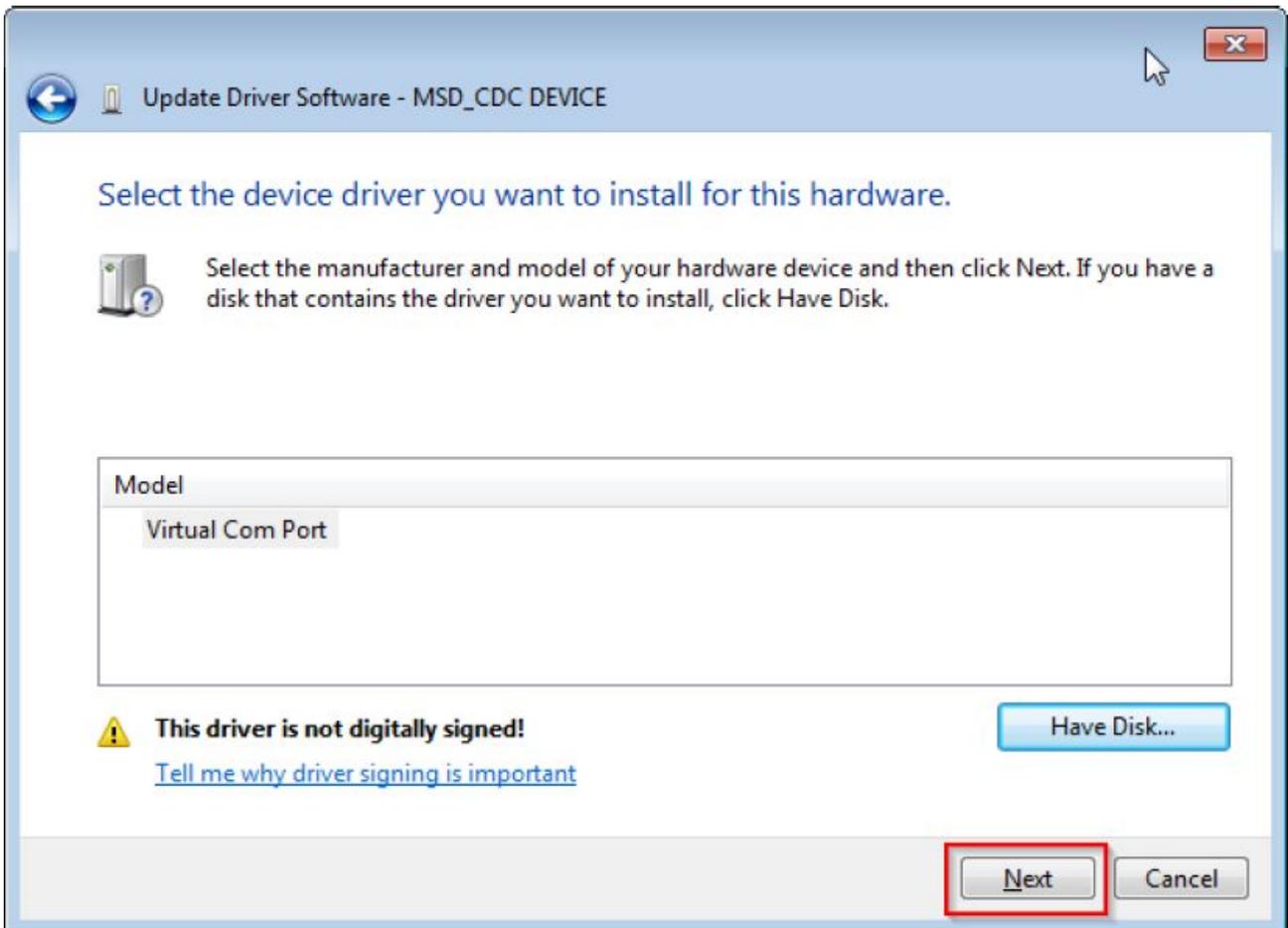


Step 4. Navigate to your CDC driver location.

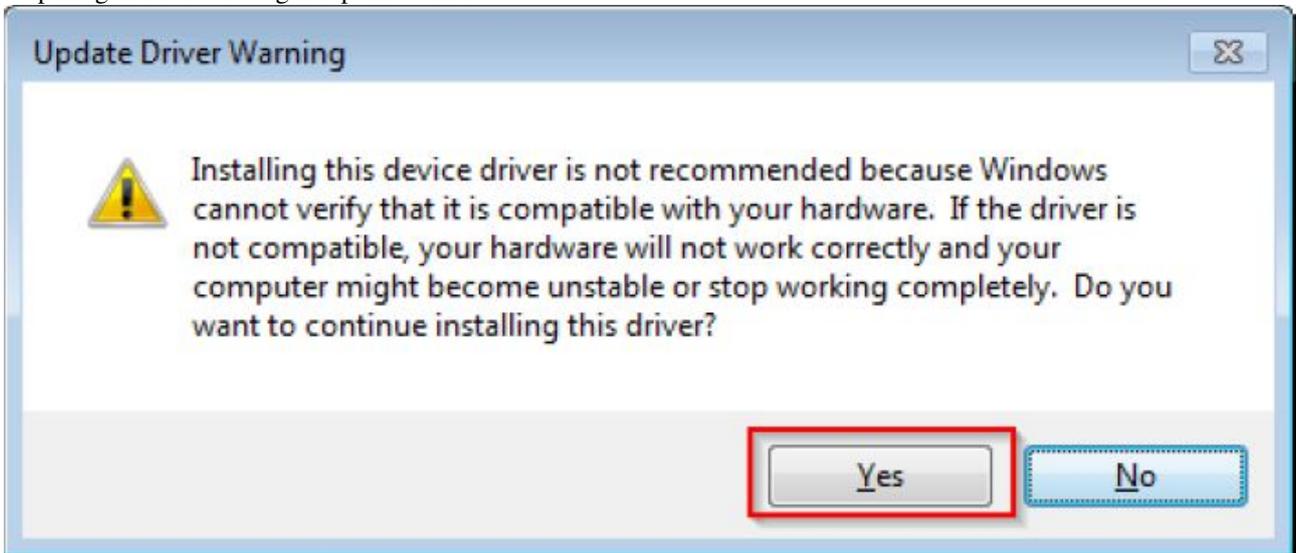
In Release package: <install_dir>\devices\<soc>\utilities\fsl_ucwpx.inf



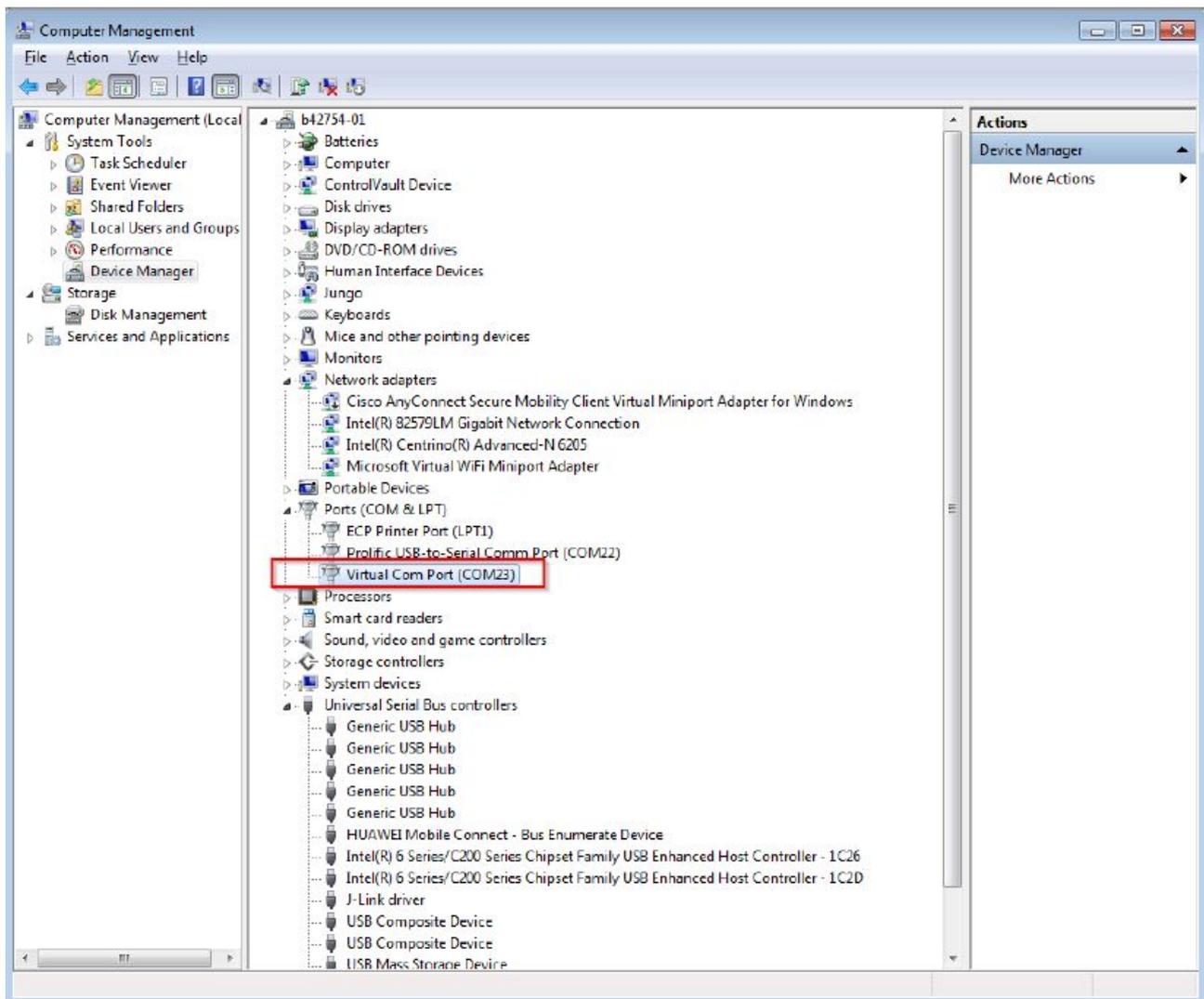
Step 5. Press "Next".



Step 6. Ignore the warning and press "Yes".



Step 7. Now the CDC driver should be installed successfully.



- If a driver signature issue occurs on Windows 8 OS, see the link, [Disabling Driver Signature on Windows 8](#)
- To enable driver signing on Windows OS, see the link,
 - [Driver Signing](#)
 - [Practical Windows Code and Driver Signing](#)