Overview

The USB virtual printer application is a simple application to demonstrate a virtual printer functionality. Because there is no printer language parsing, the received raw data is output directly in the debug console. As a result, only plain text is suitable for testing. For other printer language support, such as postscript, implement the corresponding parser.

System Requirements

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 files for lite version examples are in:
  <MCUXpresso_SDK_Install>/boards/<board>/usb_examples/usb_device_printer_virtual_plain_text_lite/<rtos>/<toolchain>
  For non-lite version example, the path is:
  <MCUXpresso_SDK_Install>/boards/<board>/usb_examples/usb_device_printer_virtual_plain_text/<rtos>/<toolchain>.

  Note

  The <rtos> is Bare Metal or FreeRTOS OS.

Getting Started

Hardware Settings

Note

Set the hardware jumpers (Tower system/base module) to default settings.

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. Power off the target board. Then power on again.
4. Connect a USB cable between the PC and the USB device port of the board.

Note

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

Run the example

1. Plug in the device, which is running the printer example, into the PC.
2. Wait for the PC to auto-install the driver. When the PC completes the installation, no driver is found as follows:

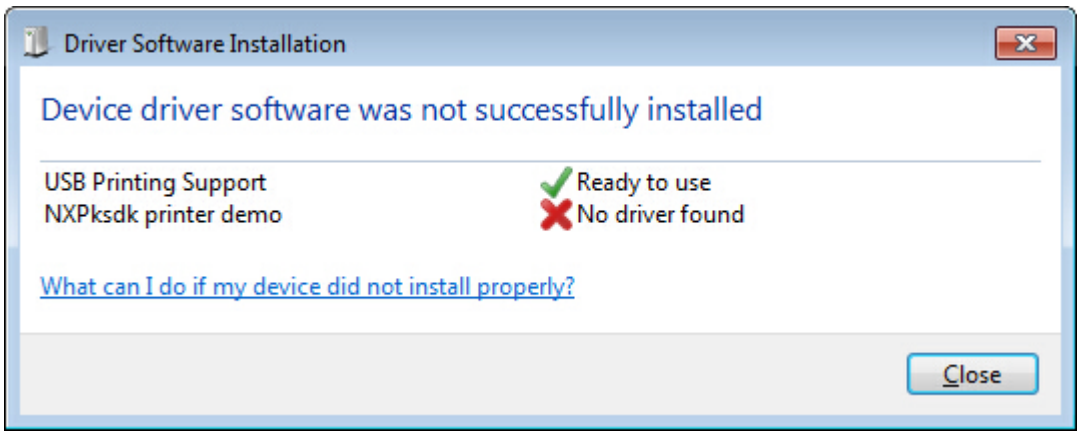

Figure 1: printer in device manager

Opening the device manager, these devices are shown:

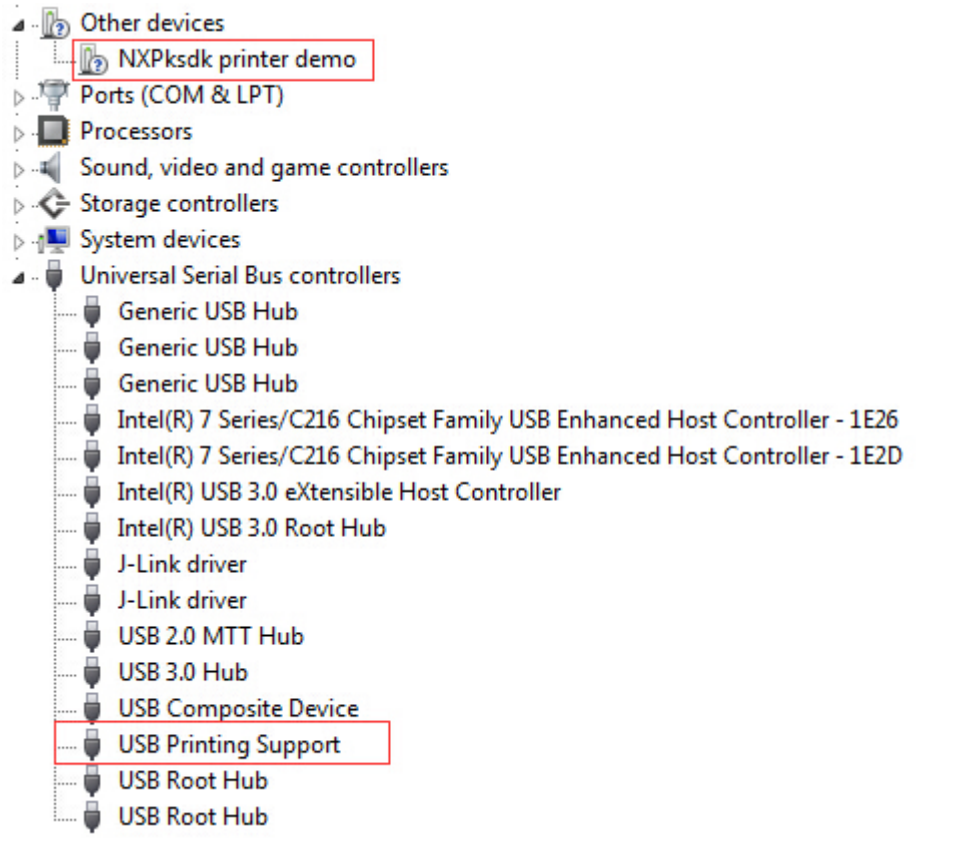

Figure 2: printer in device manager

3. Test generic printer driver. Right click the device in "Other devices" group, select "Update Driver Software...", select "Browse my computer for driver software", select "Let me pick from a list of device drivers on my computer", select "Printers", select "Generic" & "Generic / Text Only", and click on "Next" and "Yes" to install.

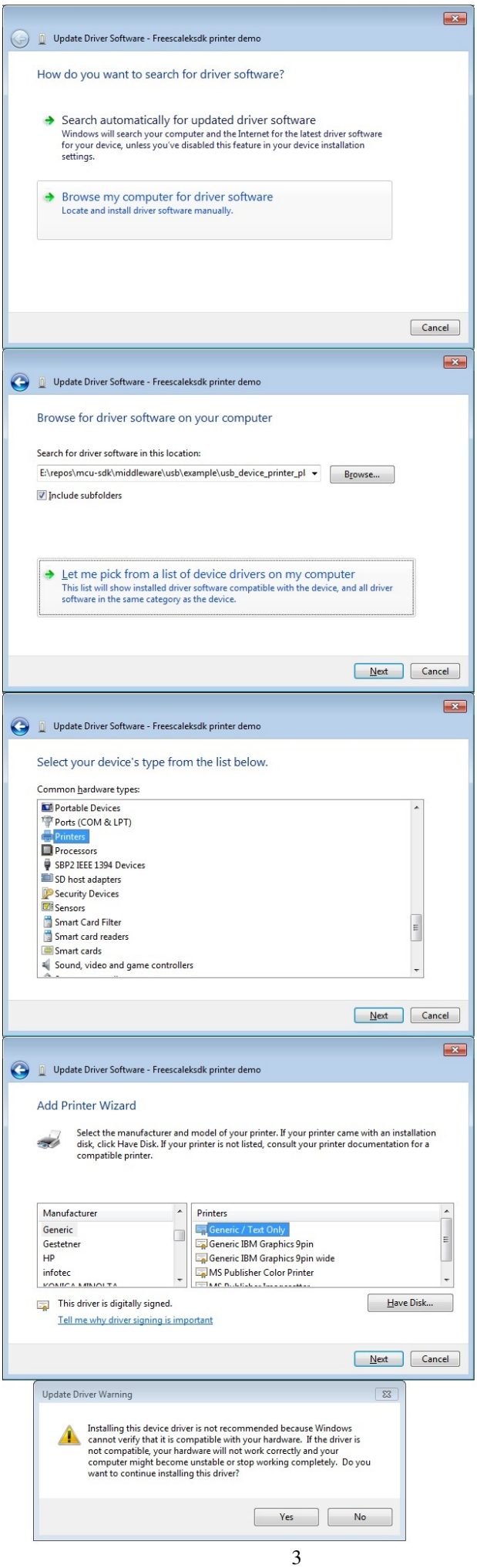

Figure 3: printer in device manager

4. After installing the driver, the "Generic / Text Only" printer is available in the "Devices and Printers"
5. Print one text file using this printer.

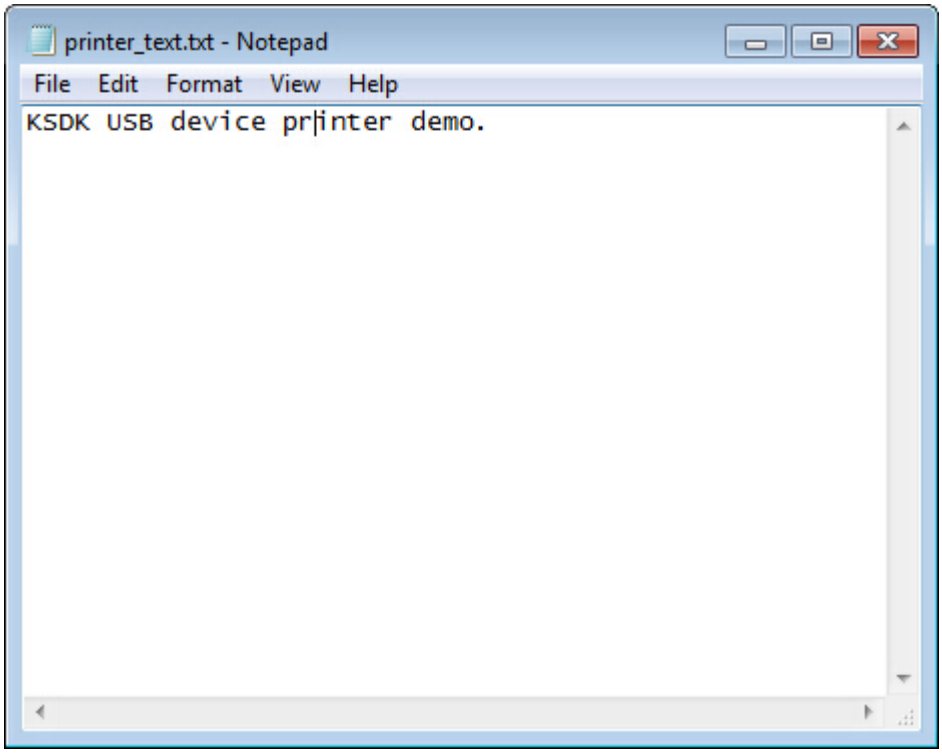

Figure 4: printer in device manager

The debug console data is as follows:

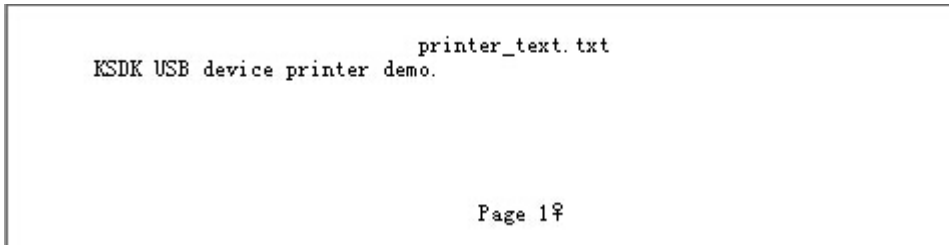

Figure 5: printer in device manager

6. Test postscript printer driver. Right click the "USB printing Support" and select "Uninstall". Unplug and plug in again.
7. Wait for the PC to install the driver as in step 2.
8. Create one inf file, the content is as follow:

```
[Version]
Signature="$Windows NT$"
Class=Printer
ClassGUID={4D36E979-E325-11CE-BFC1-08002BE10318}
Provider=%MFGNAME%
CatalogFile=printer.cat
DriverVer=03/15/2016,1.0

[Manufacturer]
%MFGNAME%=NXPDevice,NTamd64

[NXPDevice]
%DESCRIPTION%=DriverInstall, USB\VID_1FC9&PID_009B
```

```
[NXPDevice.NTamd64]
%DESCRIPTION% = DriverInstall, USB\VID_1FC9&PID_009B

[DriverInstall.nt]
CopyFiles=@ADIST5.PPD
DataSection=PSCRIPT_DATA
DataFile=ADIST5.PPD
Include=NTPRINT.INF
Needs=PSCRIPT.OEM

[DriverInstall.NTamd64]
CopyFiles=@ADIST5.PPD
DataSection=PSCRIPT_DATA
DataFile=ADIST5.PPD
Include=NTPRINT.INF
Needs=PSCRIPT.OEM

[DestinationDirs]
DefaultDestDir=66000

[SourceDisksNames]
1=%Disk1%,,,""

[SourceDisksFiles]
ADIST5.PPD =1

[Strings]
MFGNAME="NXP"
DESCRIPTION="Adobe Generic PostScript printer driver"
Disk1="Adobe Driver Disk"
```

9. Download the driver file, `Download Now`.

   Unzip the files to the same directory as the inf file.

10. Right click the device in the "Other devices" group, select the "Update Driver Software...", select "Browse my computer for driver software", select "Let me pick from a list of device drivers on my computer", select "Printers", select "Have Disk...", browse to the inf file in the example directory, click "OK", and click on "Next" and "Yes" to install.

11. Print one text file using this printer. For example, if printing the same file as in step 5, the postscript data is displayed in the debug console. The demo does not parse the data and outputs it to the debug console directly.