NCV70627EVK

1. Micro-Stepping motor driver evaluation software with USB-LIN Interface

The NCV70627 is a single–chip micro–stepping motor driver with position controller and control/diagnostic interface. It is ready to build dedicated mechatronics solutions connected remotely with a LIN master.

Following section describes how to build NCV70627 motor driver with USB-LIN interface.

USB–LIN Interface provides a simple USB interface that connects PC and LIN based slave device.
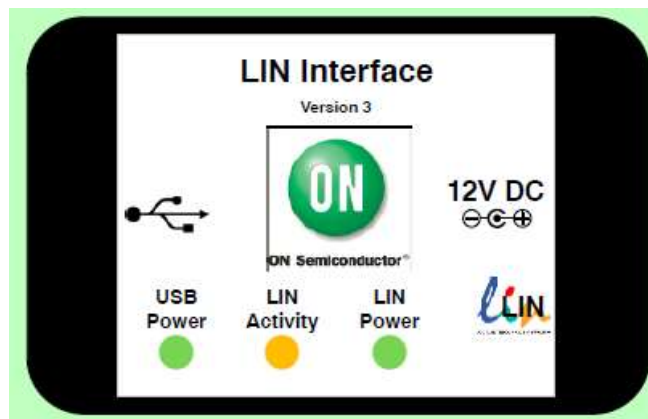

Figure 1 - USB-LIN Interface

Connector	Pin	Pin Name	Description
LIN INTERFACE			
Power			V_{BAT} External Power Supply Input (LIN Bus side)
LIN (RJ11)	1	V_{BAT}	V_{BAT} Supply Voltage Output / Input (LIN Interface can be supplied through this pin)
	2	LIN	LIN Bus Line
	3	GND	Ground Connection
	4	NC	Not Connected
USB			USB Connector

Table 1 - Pin Function Description

Figure 2 - USB to LIN Interface Connectors

2. Gettting Started

This section contains instructions for the NCV70627 setup configuration and first connection. Only a few steps need be proceeded to get fully working simple LIN motor driver network.

Please take the following steps to get a functional setup:

1. Install the NCV70627 Evaluation Software (see the NCV70627 Evaluation Software section for details). The USB drivers are included in the installation package. This installation requires administrator rights!

2. Connect LIN Interface to USB and wait until the device is installed.

3. Connect the boards according to figure below. The following software uses address set to default value 16 (0x10). In case the node addresses haven't been set previously, set the jumpers HW0 and HW1 to GND. Jumper HW2 needs to be set to Vbat (see the - LIN Interface Connection - NCV70627 Evaluation Setup).
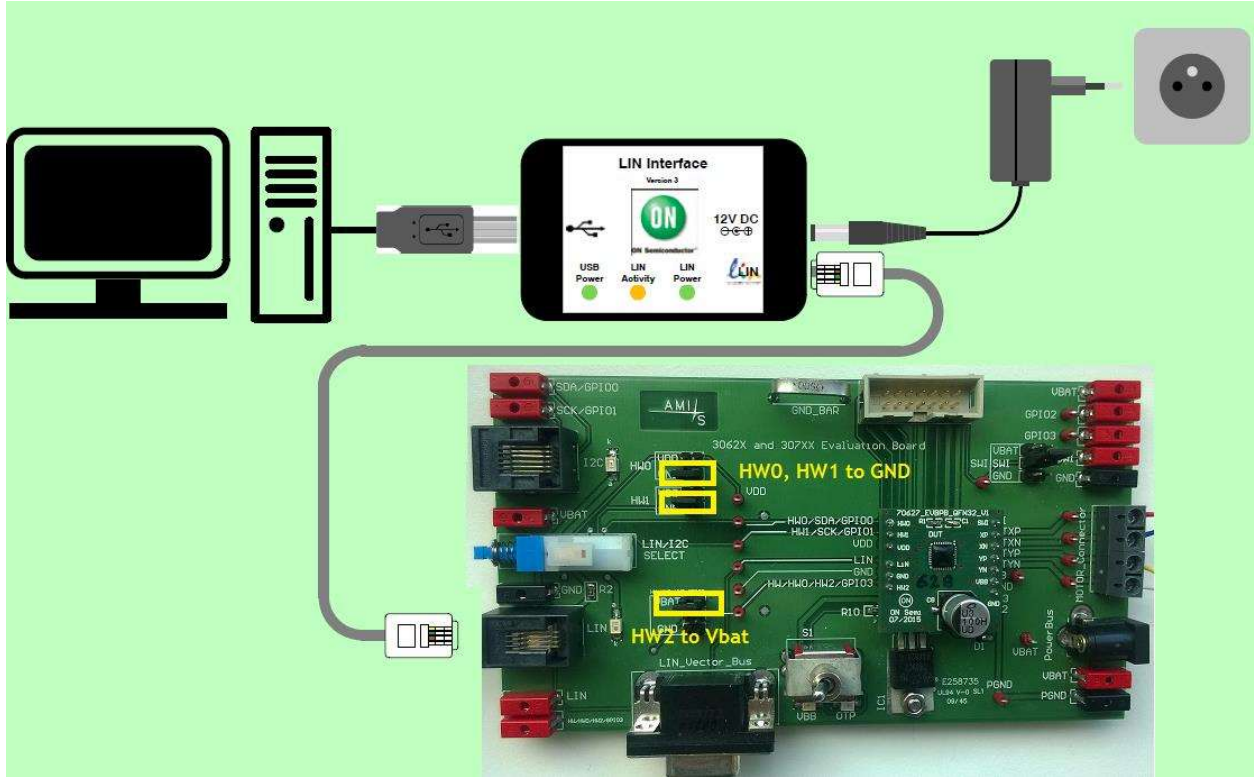
4. Run the NCV70627 Evaluation Software

Figure 3 - LIN Interface Connection - NCV70627 Evaluation Setup

5. Select the first USB to LIN Communication Board (Device 0) (see the - Select the USB to LIN Communication Board)
6. Main NCV70627 Evaluation Software window will appear. (see the - NCV70627 Evaluation Main Window)
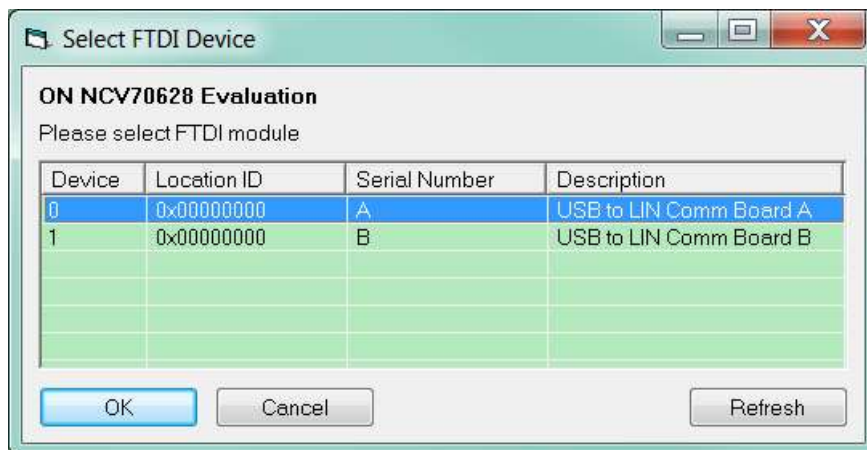

Figure 4 - Select the USB to LIN Communication Board

7. The main window consists of control buttons together with data grid view where the LIN communication is stored. How to use NCV70627 Evaluation Software window is described in the other document.
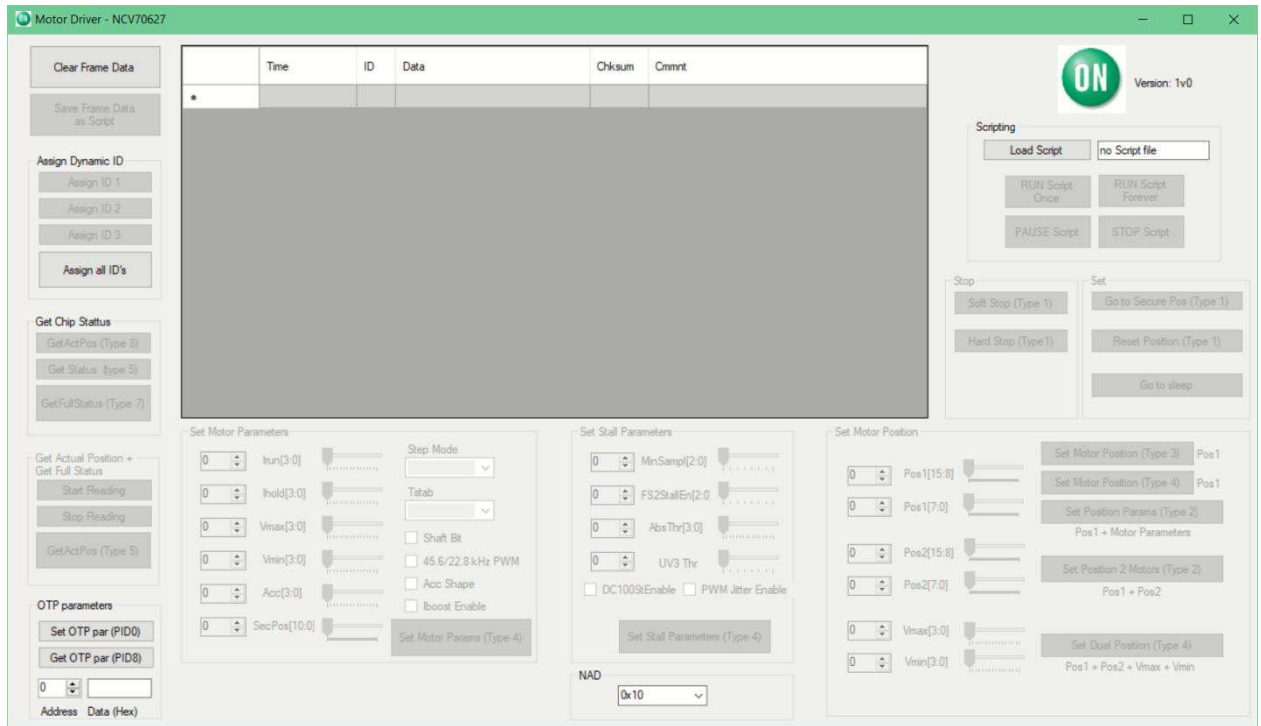

Figure 5 - NCV70627 Evaluation Main Window

3. NCV70627 Evaluation Software

ON Semiconductor LIN Interface works in combination with the custom NCV70627 Evaluation Software.

Driver Setup

USB drivers should be installed automatically with the software. Once installed, you can plug the LIN Interface into the USB port.

Run the NCV70627setup.exe. Note : it need the administrator rights in order to install necessary drivers!

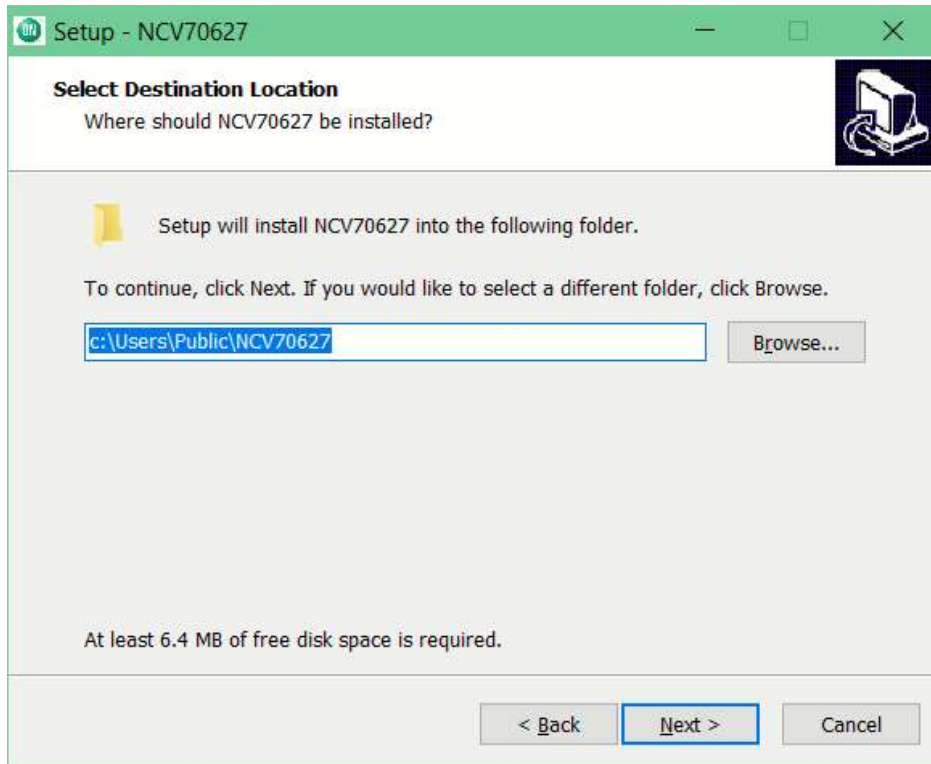You will go thru the following dialog screens :
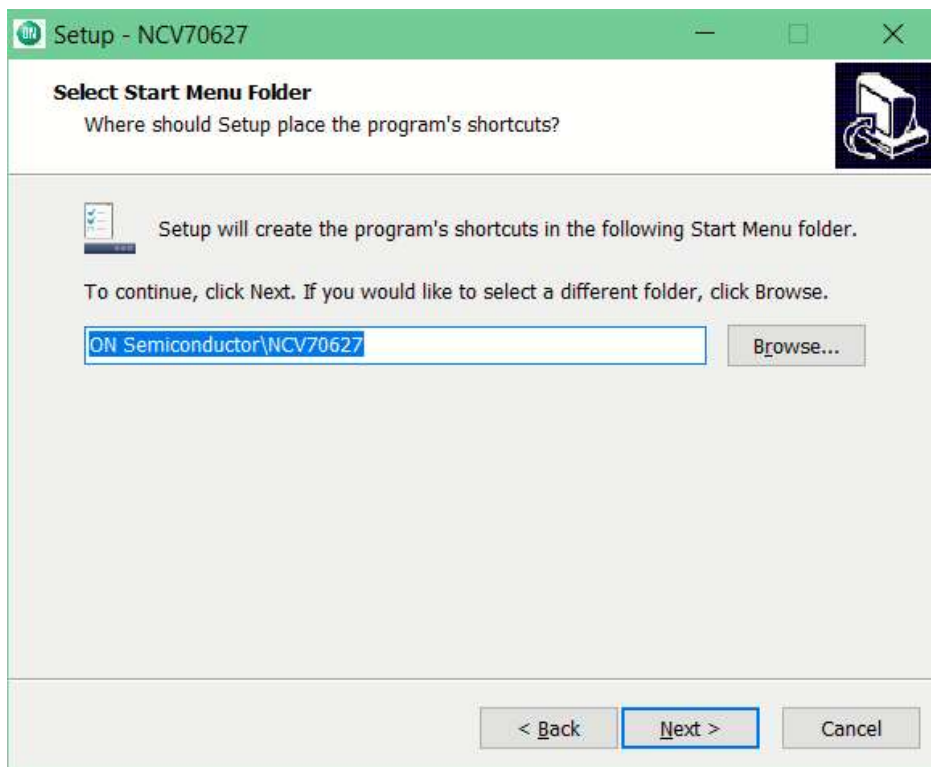
Figure 6 - Select Destination
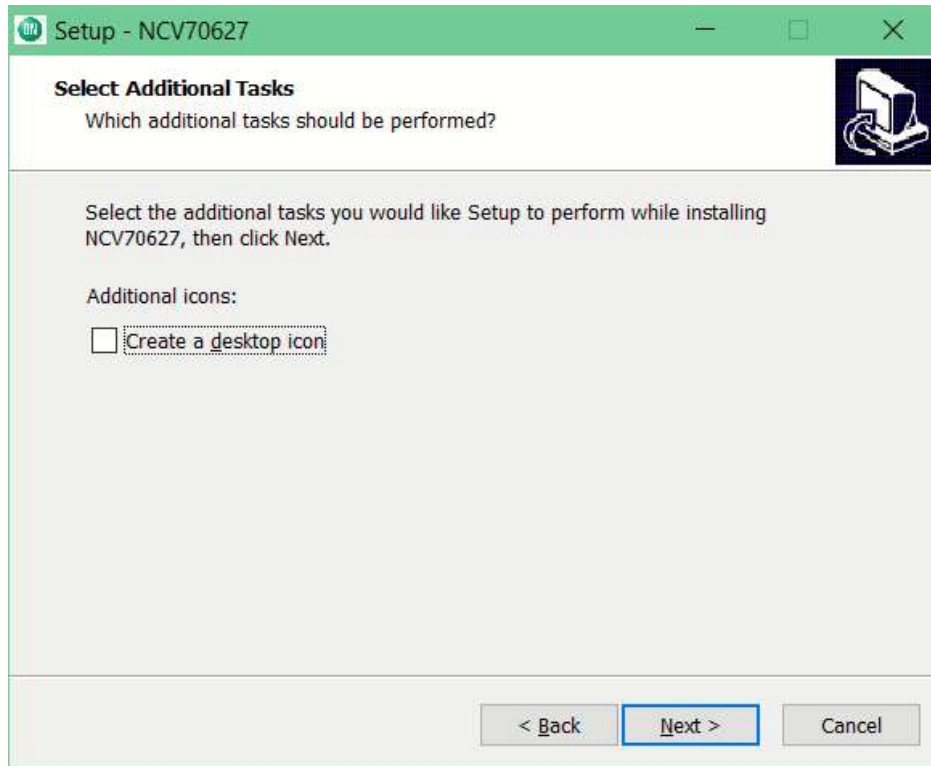

Figure 7 - Select Start Menu Folder

Figure 8 - Select Additional Tasks

Important: After clicking Install make sure that following checkboxes need to be checked in the dialogbox: Figure 9 - Installing FTDI Drivers, Registering Active X Components

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When the checkboxes are selected as per Figure 9 - Installing FTDI Drivers, Registering Active X Components then click Finish button.

This will run installation of the FTDI drivers. You need to proceed according to wizard, accept agreement so that you get following dialog box : Figure 10 - FTDI Driver Installation Result

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If the drivers are not installed properly (it means you get different result window as Figure 10 - FTDI Driver Installation Result) then you need to installing the drivers manually.

The drivers can be found on http://www.ftdichip.com/Drivers/D2XX.htm – D2XX drivers – also available as executable file.

Then the last item to install is registering dll libraries : Figure 11 - Registering the DLL compoments for USB-LIN
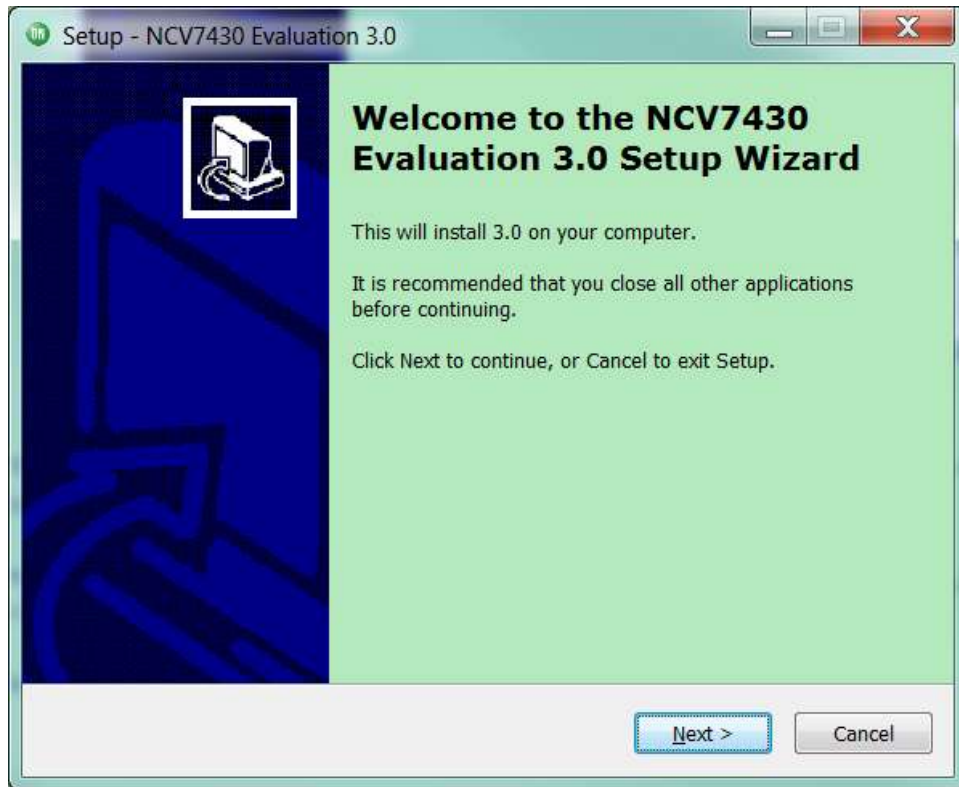
Again you will need thru the installing dialog boxes till you reach the Figure 12 - Do not create Start Menu Folder . You can uncheck the check box. After that last dialog box appears: Figure 13 - Install DLL.
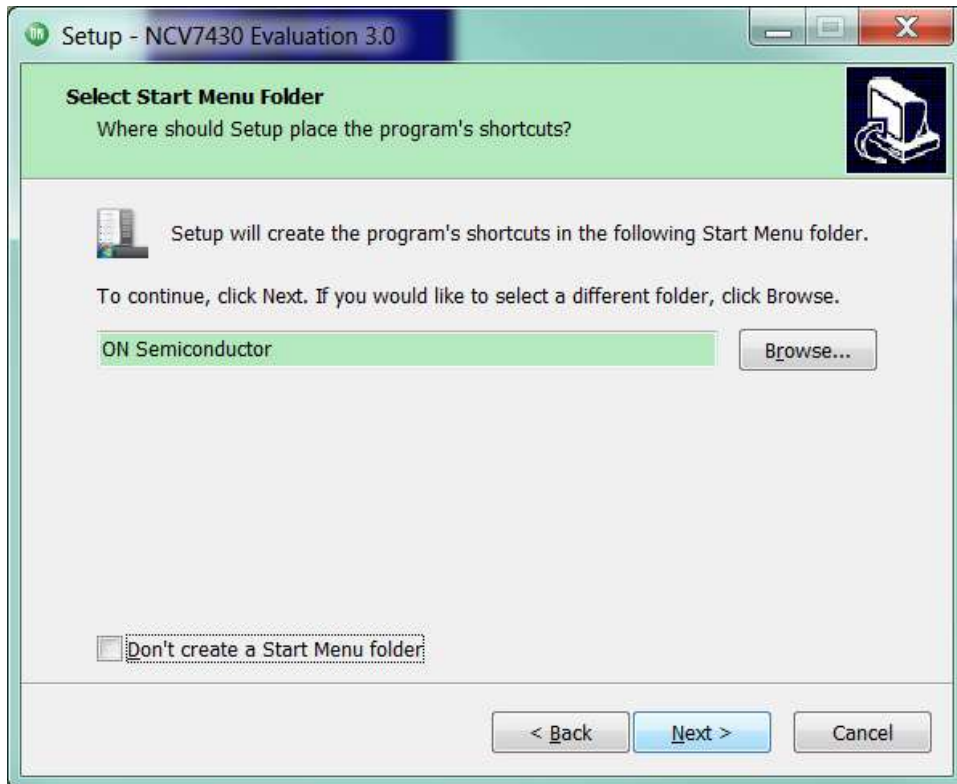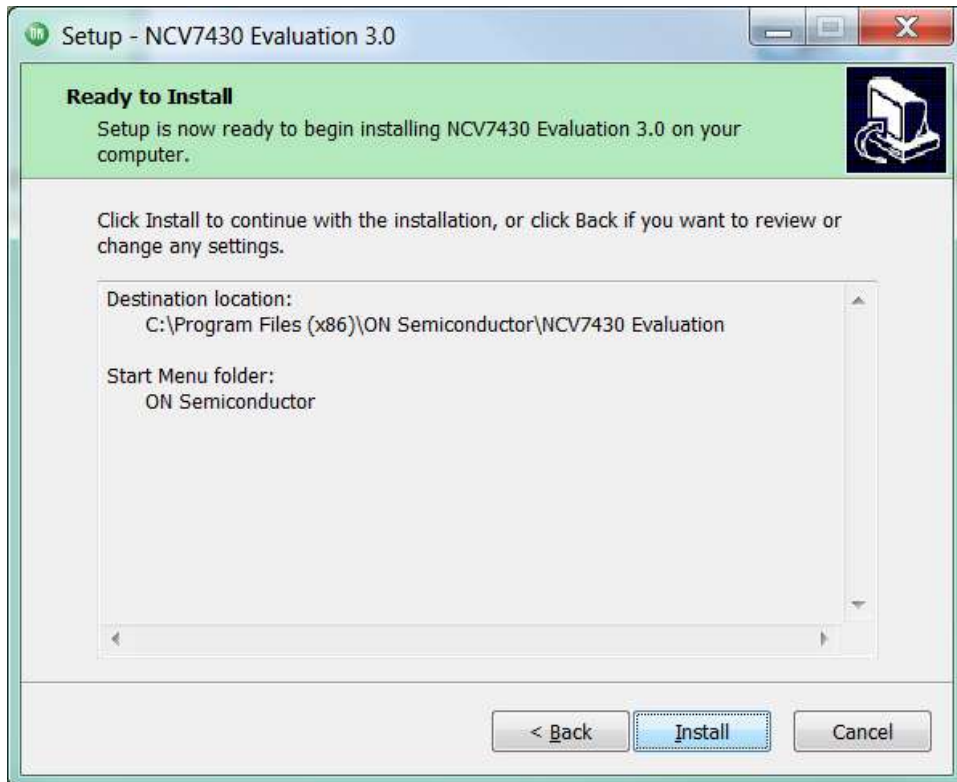
Figure 12 - Do not create Start Menu Folder

Figure 13 - Install DLL