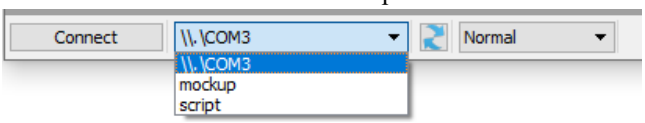
NCV70516R1DAGEVB Evaluation Board Test Procedure

Required Equipment and Instruments:

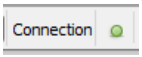
a) NCV70516R1DAGEVB daughter board
b) SPI Stepper Motor Driver Evaluation Kit NCV705XXLITEGEVK including NCV705XX Micro-stepping Motor Driver Evaluation Board User's Manual
c) Bench power supply with current limitation of 1A minimum
    a. As an alternative the power adapter 12V 2A which is usually supplied as part of the NCV705XXLITEGEVK can be used
d) GUI SW for NCV705XXLITEGEVK SPI Stepper Motor Driver installed on PC

Testing procedure

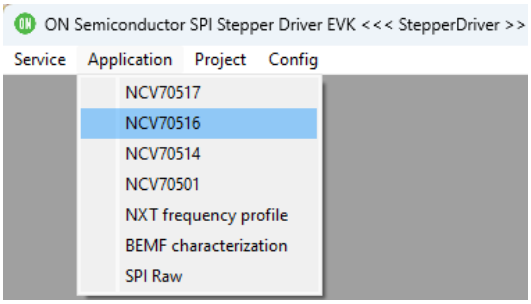
1) Insert NCV70516R1DAGEVB daughter board into NCV705XXLITEGEVK evaluation kit motherboard
2) Connect Stepper Motor to the EVK
3) Connect power supply 12V to the EVK and switch it on
4) Connect usb cable to the EVK
5) Run the SPI Stepper Motor Driver GUI SW – instructions how to use GUI SW are described in NCV705XX Micro-stepping Motor Driver Evaluation Board User's Manual
6) In GUI SW select the virtual COM port to which Evaluation Kit is connected:



7) If you are asked to update firmware, click “No”
8) After clicking “Connect” button, the successful connection status should be indicated in status bar:

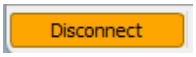


9) In menu “Application” select “NCV70516”



10) In Application window click “Read All” button. In Status Register 0x08, DEVID = 16 and REVID = 2 should be read out.
    If you did not use “Read All” button, you need also read diagnostic Status Register 0x05 to clear out potential errors which would prevent enabling the output of motor driver.
11) In SPI Control Register 0x01 set MOTEN = 1 and IMOT = 400mA, other registers can be left with default values
12) Click button “UPDATE ALL and ENABLE MOTOR” or click button “Write” at Control Register 0x01

13) In left part of the window in “NXT pulse generator” section check “MCU” checkbox, fill number 1000 [Hz] and click button “Set Freq”
14) Motor should start slowly rotating
15) Check “DIR” checkbox and motor should change direction of rotation
16) By this procedure the whole daughterboard is now tested (SPI pins, NXT and DIR pins and connection to motor via MOTXP, MOTXN, MOTYP, MOTYN pins).
17) Uncheck “MCU” checkbox and write MOTEN = 0 into Control Register 0x01 to deactivate the driver
18) Click Disconnect button



19) Disconnect usb cable
20) Switch off power supply
21) Remove NCV70516R1DAGEVB daughter board