



STSW-STUSB002 QUICK START

Customizing the STUSB45 using
the Graphical User Interface (GUI)



STREF-SCS001V1
Demo BOARD
Ref. DESIGN



STEVAL-ISC005V1
Eval BOARD

QUICK START

Introduction

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This document describes how to configure an STM32 NUCLEO board as a USB to I²C bridge. Configuration of such a NUCLEO board is required in order to connect the STUSB Graphical User Interface ([STSW-STUSB002](#)) running on a laptop with an STUSB evaluation board.

Main components	
NUCLEO-F072RB	STM32 Nucleo-64 development board with AMR Cortex M0
Mini-B USB cable	with USB data support
USB-C cable	with USB data support
STSW-STUSB002	STUSB4500 Graphical User Interface
STEVAL-ISC005V1	STUSB4500 evaluation board
Operating System	Windows OS

HARDWARE CONFIGURATION

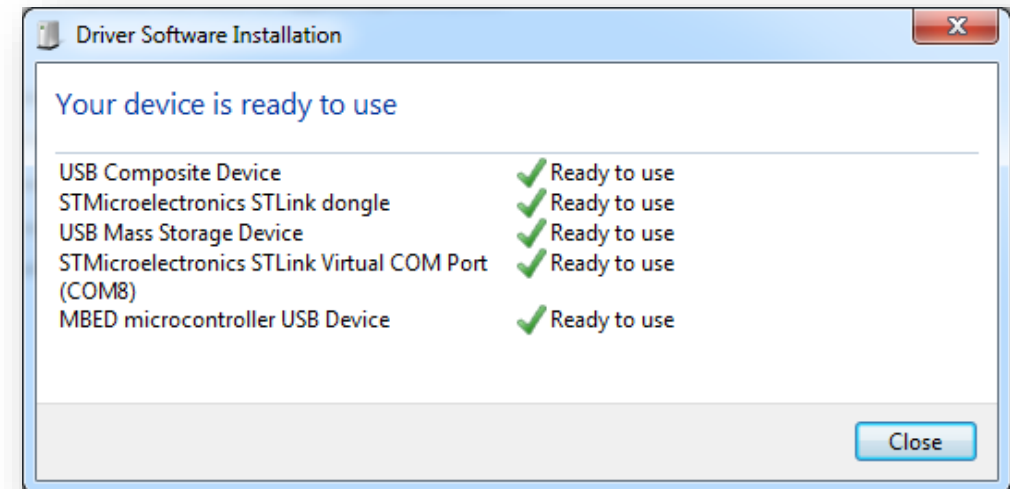
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- 1) Connect the NUCLEO-F072RB to the Laptop using mini-B USB cable



- 2) Please make sure the device drivers are installed successfully:

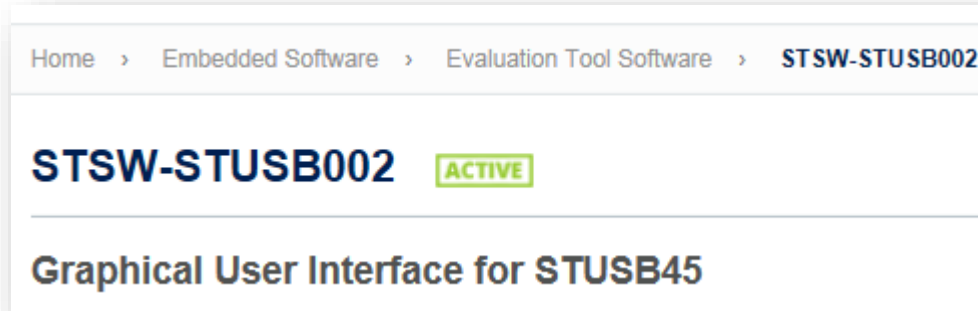


HARDWARE CONFIGURATION

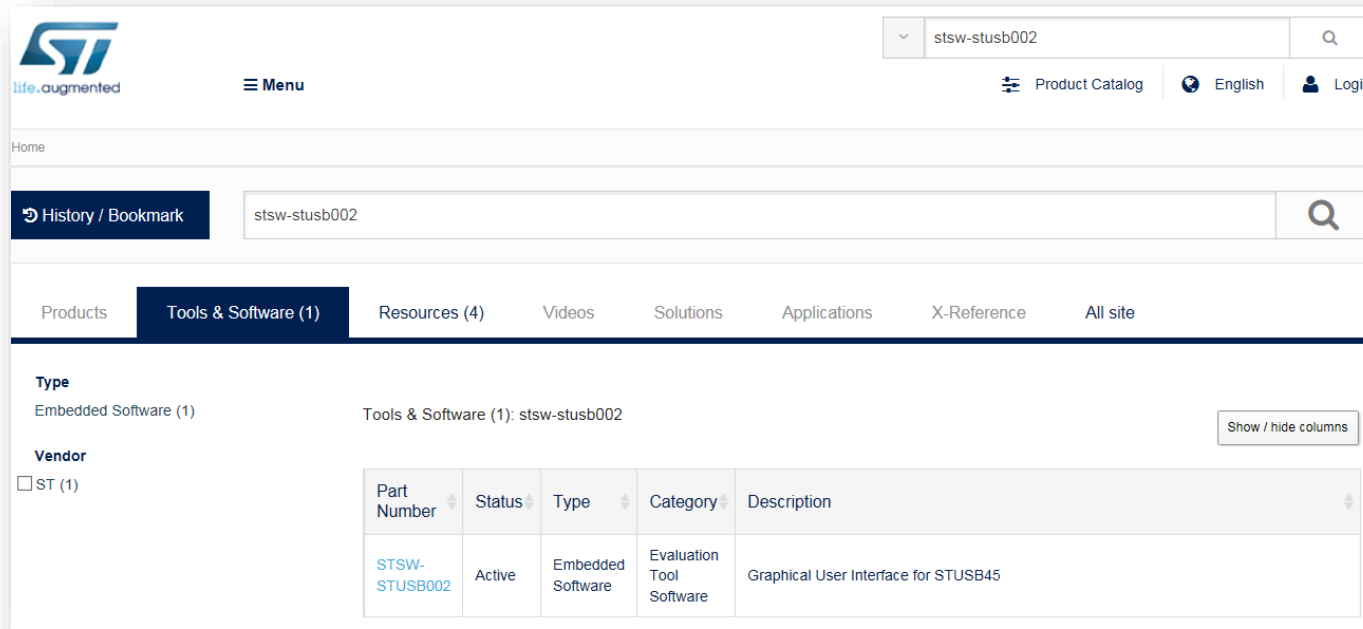
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3) Download from www.st.com the STUSB45 GUI package ([STSW-STUSB002](http://www.st.com/STSW-STUSB002)) from the following location:



or by searching [STSW-STUSB002](http://www.st.com/STSW-STUSB002) from www.st.com home page:



HARDWARE CONFIGURATION

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4) Then click on “Get Software” from the bottom of the page

GET SOFTWARE				
Part Number ▲	Software Version ◆	Marketing Status ◆	Supplier ◆	Order from ST ◆
STSW-STUSB002	1.0.7	Active	ST	Get Software

5) Download will start after accepting the License Agreement, and filling contact information.

License Agreement

ACCEPT

IMPORTANT-READ CAREFULLY:

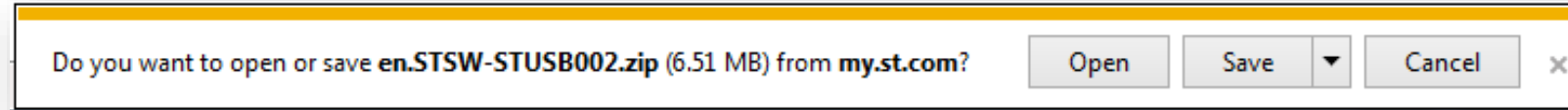
This Limited License Agreement ("LLA") is made between you (either an individual person or a single legal entity, who will be referred to in this LLA as "You" or "Licensee") and STMicroelectronics International NV, a company incorporated under the laws of the Netherlands acting for the purpose of this LLA through its Swiss branch 39, Chemin du Champ des Filles, 1228 Plan-les-Ouates, Geneva, Switzerland (hereinafter "ST") for the software licensed materials that accompany this LLA, including any associated media, printed materials and electronic documentation (the "Licensed Materials"). The Licensed Materials include any software updates and supplements, that ST may provide You or make available to You after the date You obtain the Licensed Materials to the extent that such items are not accompanied by a separate license agreement or other terms of use.

HARDWARE CONFIGURATION

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6) Save the file [en.STSW-STUSB002.zip](#) on your laptop



and unzip:

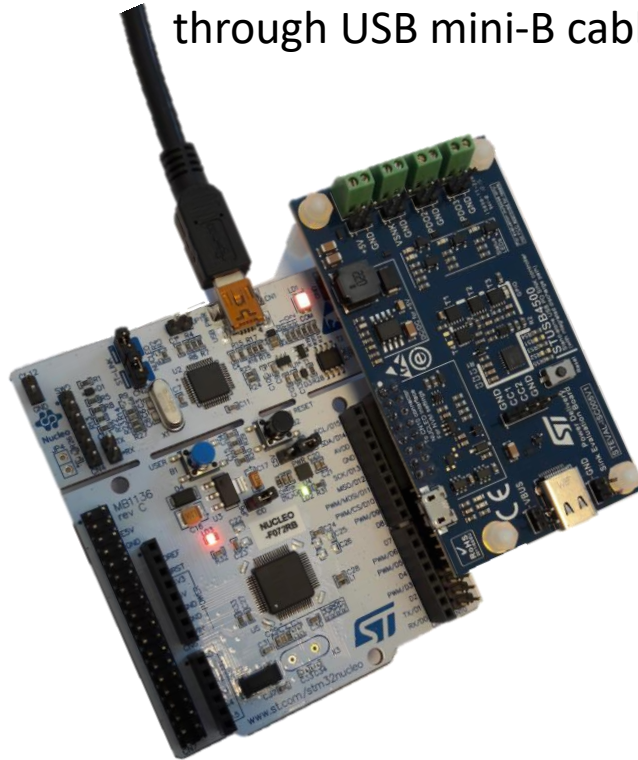
Name	Type	Size
back-up DLL	File folder	
en_visual_cpp_redistributable_for_visual_studio_2012_update_4_x64_3161523.exe	Application	7,019 KB
Nucleo_F072RB_STUSB_HID_NVM_config_1.6.bin	BIN File	52 KB
Nucleo_F072RB_STUSB_UART_NVM_config_1.04.bin	BIN File	13 KB
serialg168.dll	Application extension	130 KB
serialwrap.dll	Application extension	296 KB
STUSB4500_GUI_S_1.07.exe	Application	227 KB
uipinterface.dll	Application extension	189 KB

HARDWARE CONFIGURATION

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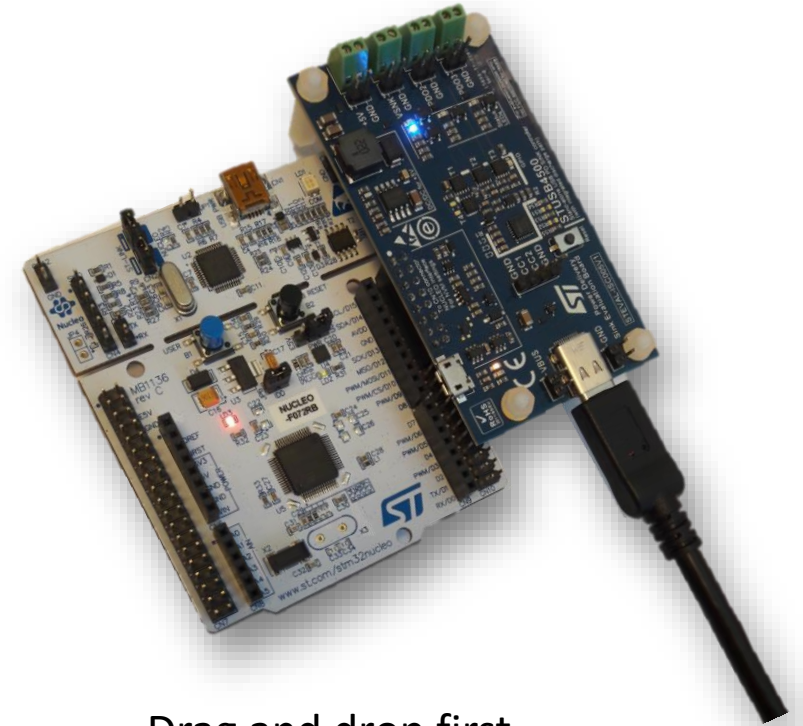
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Connection between the GUI and
NUCLEO-F072RB + STEVAL-ISC005V1
through USB mini-B cable.



Drag and drop
NUCLEO_F072RB_STUSB_ **UART** _NVM_config_1.04.bin
into NUCLEO-F072RB

Connection between the GUI
NUCLEO-F072RB and STEVAL-ISC005V1
with USB type-C cable



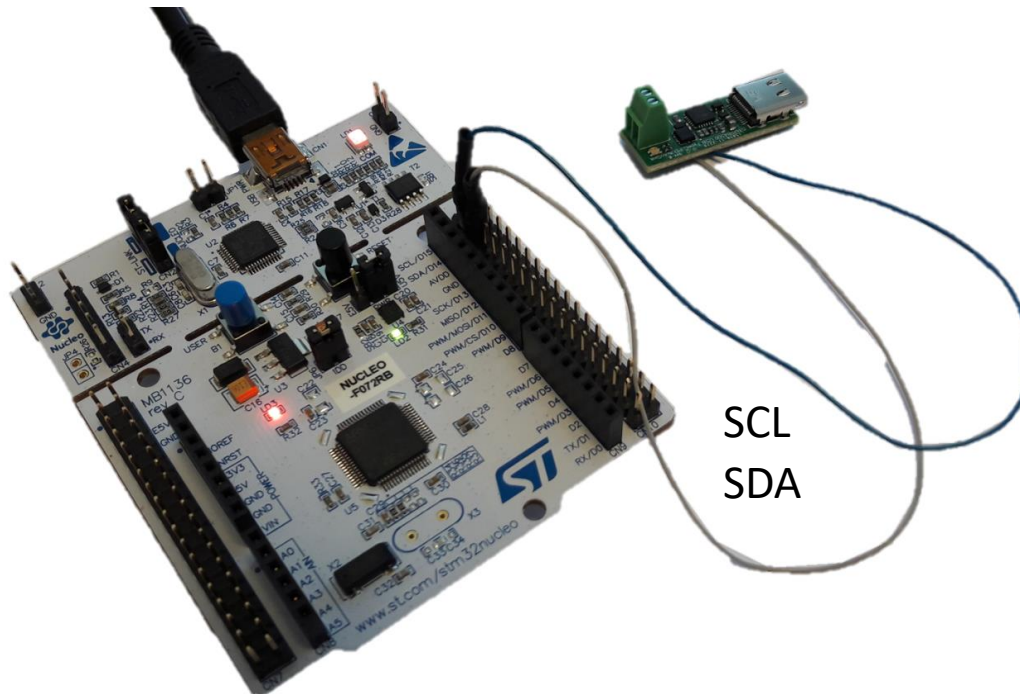
Drag and drop first
NUCLEO_F072RB_STUSB_ **HID** _NVM_config_1.6.bin
into NUCLEO-F072RB using USB mini-B cable

HARDWARE CONFIGURATION

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I²C connection between
NUCLEO-F072RB and STREF-SCS001V1
using
NUCLEO_F072RB_STUSB_UART_NVM_config_1.04.bin
with USB mini-B cable



NB:

STREF-SCS001V1 must be supplied through
USB connector

Additional GND connection to the NUCLEO is
recommended

HARDWARE CONFIGURATION

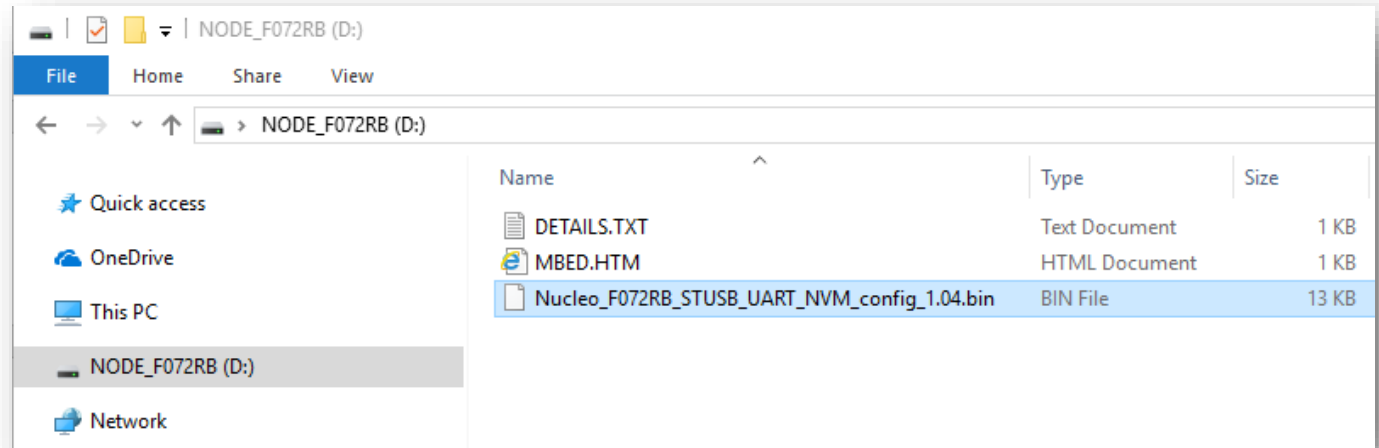
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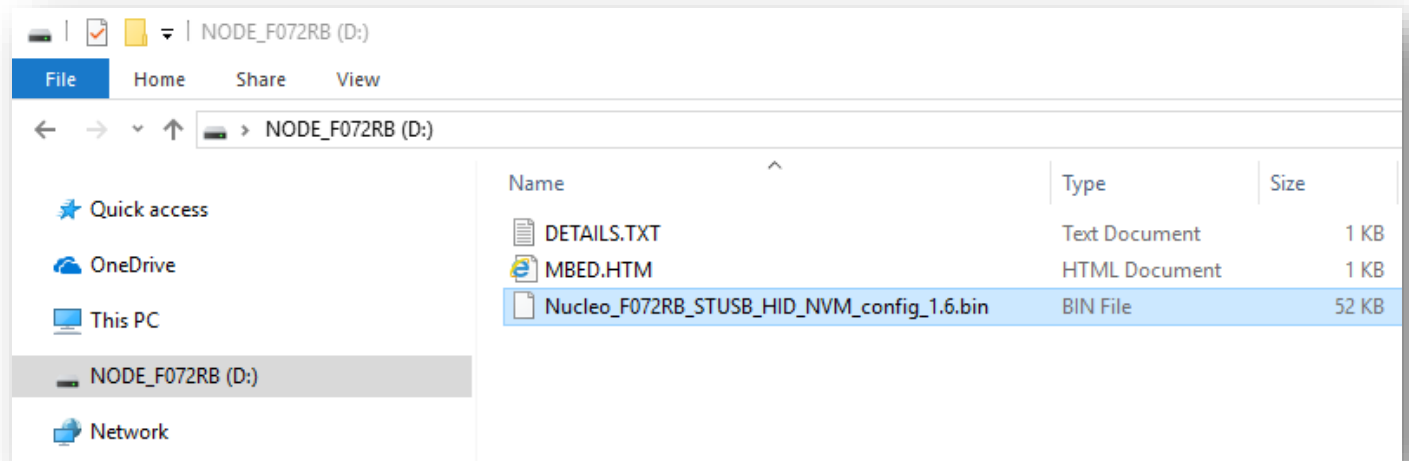
7) For the laptop connection (GUI):

- if using a USB mini-B cable, please follow a)
- if using a USB type-C cable, please follow b)

a) Drag and drop (*) the BIN file (**NUCLEO_F072RB_STUSB_UART_NVM_config_1.04.bin**) to the STM32 Nucleo board (NODE_F072RB):



b) Drag and drop (*) the BIN file (**NUCLEO_F072RB_STUSB_HID_NVM_config_1.6.bin**) to the STM32 Nucleo board (NODE_F072RB):

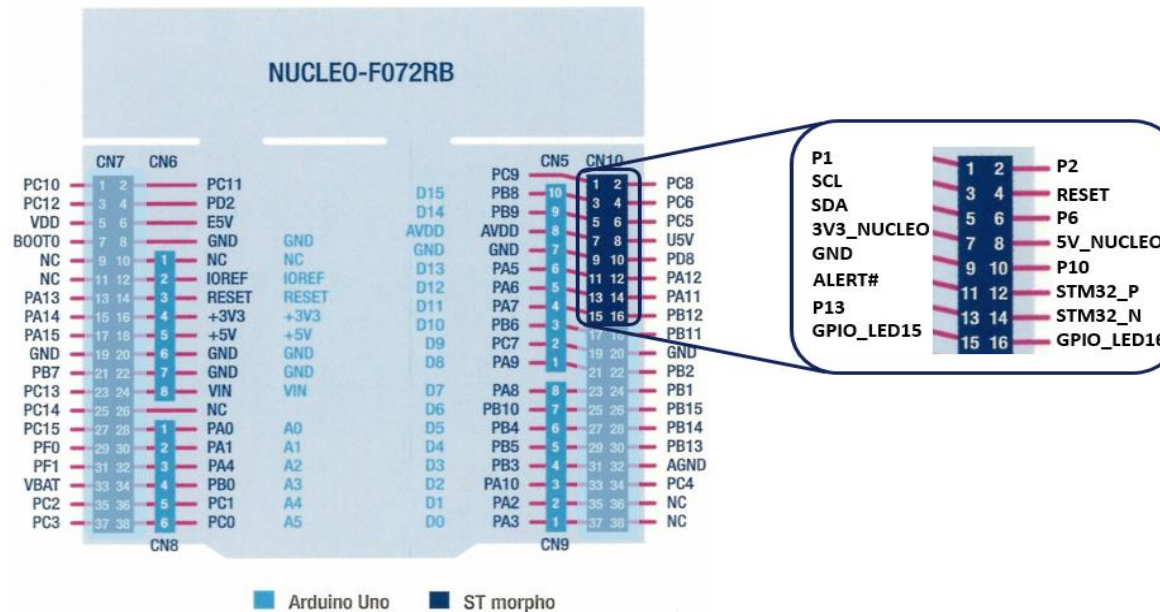


HARDWARE CONFIGURATION

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- 8) Press the NUCLEO-F072RB “RESET” button (B2 – Black push button).
- 9) The board is now configured to act as a USB to I²C bridge between the STUSB Graphical User Interface (GUI) and STUSB4500.
- 10) Before opening the GUI, please make sure SDA and SCL signals from the STUSB evaluation board are properly connected to their counterpart from NUCLEO-F072B (see below connection).



GUI SET-UP (1/2)











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11) install the Microsoft MFC software package:

en_visual_cpp_redistributable_for_visual_studio_2012_update_4_x64_3161523.exe

or

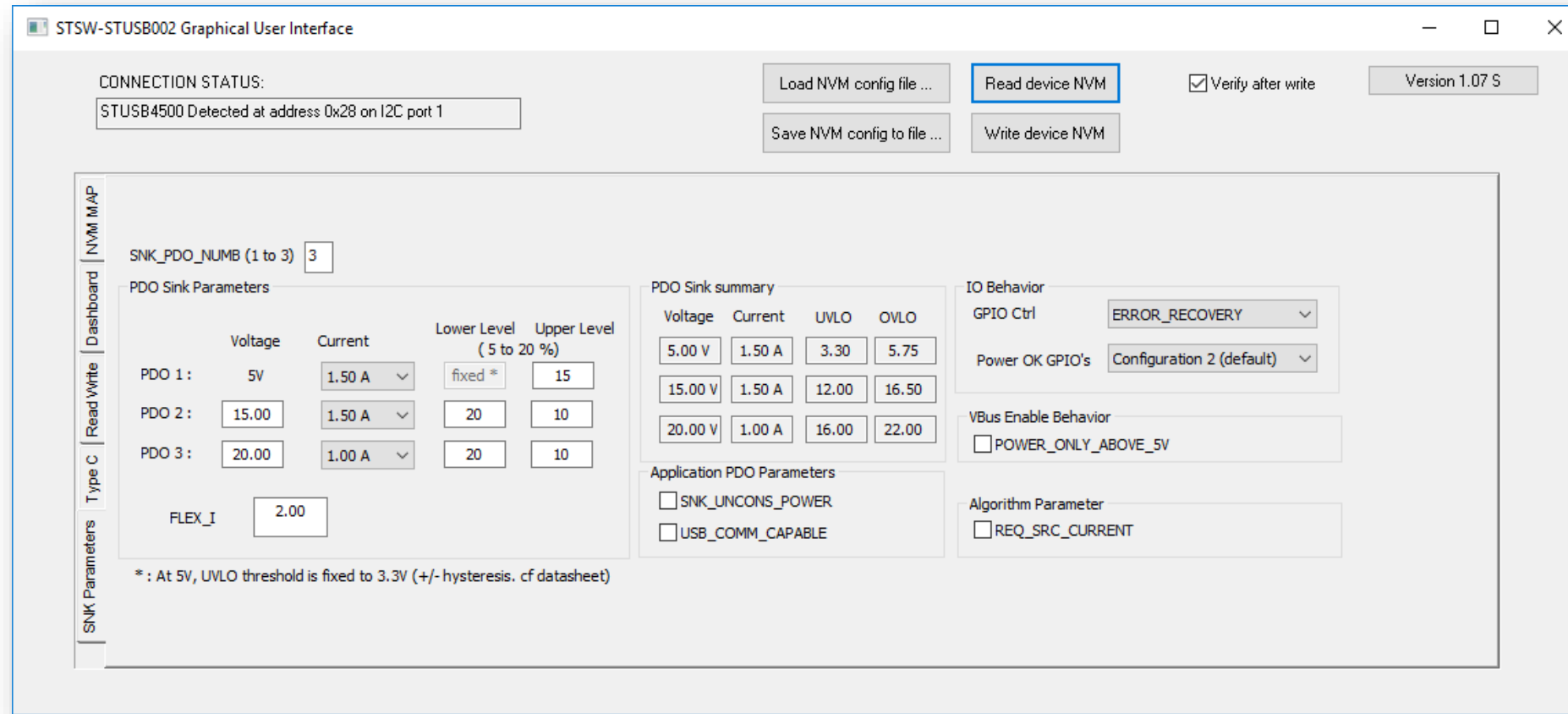
copy the back-up dll into the local directory:

 en_visual_cpp_redistributable_for_visual_studio_2012_update_4_x64_3161523.exe	Application	7,019 KB
 mfc110u.dll	Application extension	4,353 KB
 msvcpr110.dll	Application extension	523 KB
 msvcr110.dll	Application extension	855 KB
 Nucleo_F072RB_STUSB_HID_NVM_config_1.6.bin	BIN File	52 KB
 Nucleo_F072RB_STUSB_UART_NVM_config_1.04.bin	BIN File	13 KB
 serialg168.dll	Application extension	130 KB
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GUI SET-UP (2/2)

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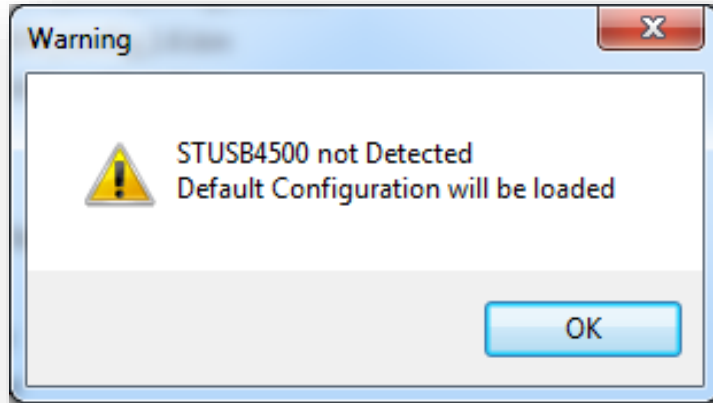
12) Please click on the [STUSB4500_GUI_S_1.07.exe](#) file to open the GUI. The following window must appear.



ERROR MESSAGE

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ISSUE: The STUSB evaluation board is not detected by the GUI

RESOLUTION:

Please check I²C signals (SDA, SCL) connection to MCU (see section 10). Also double check that the STUSB4500 is properly powered (through VDD or VSYS pins) as well as the GROUND. In case the LD2 green LED from the NUCLEO is not blinking, please check the NUCLEO board has been properly configured (see section 7).

Then re-start the GUI.

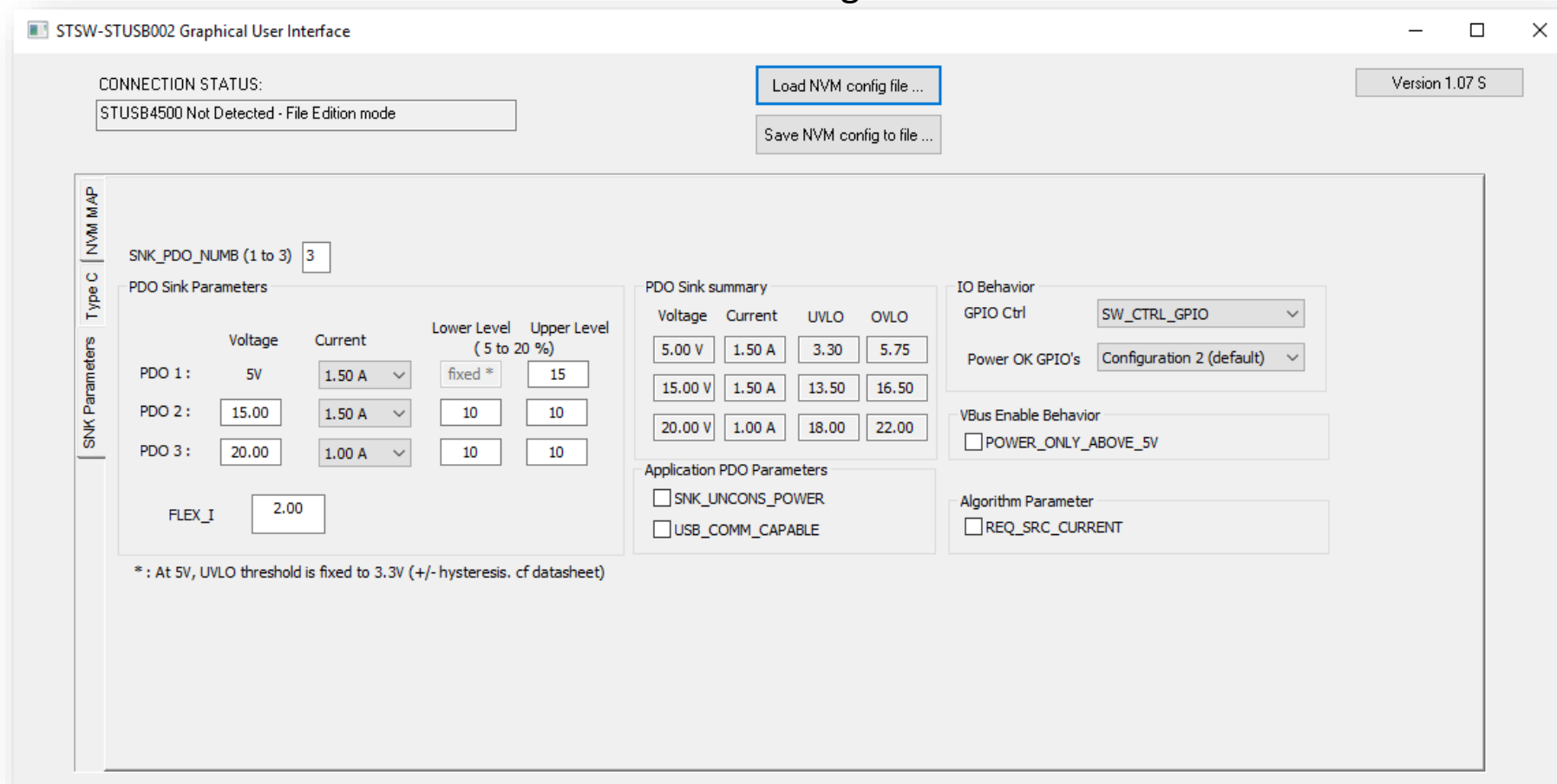
ERROR MESSAGE

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NB:

It is possible to use the GUI without STUSB4500 connected to it. In this case, STUSB4500 default configuration (as per the Datasheet) is loaded. This mode (File edition mode) is generally used to IMPORT or EXPORT a STUSB4500 custom configuration into a file.



more information at:
www.st.com/stusb4500-pr

