life.augmented

STSW-STUSB002
Quick Start Guide

Customizing the STUSB4500
using the Graphical User Interface (GUI)

Introduction

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 ARM 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
OR	
EVAL-SCS001V1	STUSB4500 reference design board
Operating System	Windows OS

life.augmented

Supported Hardware

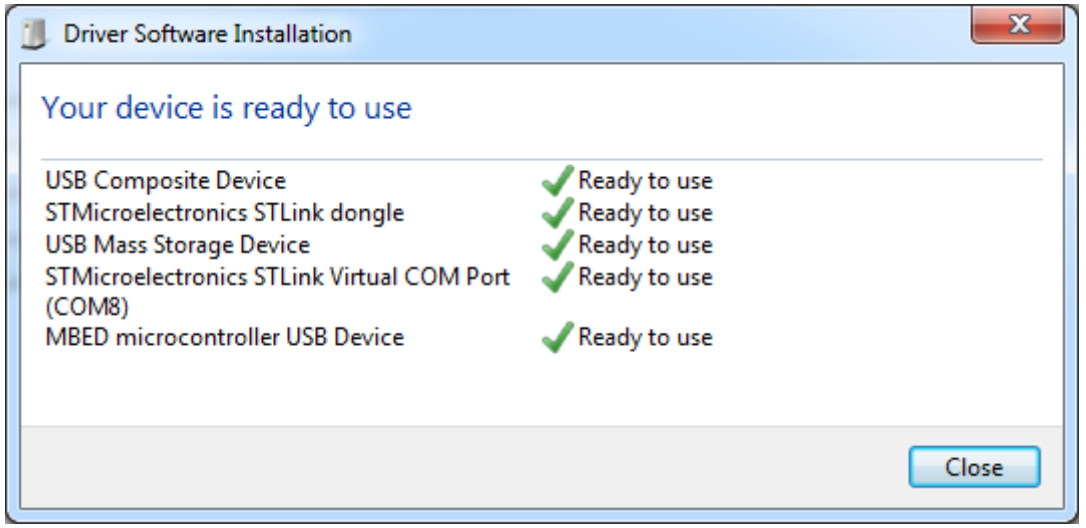
STEVAL-ISC005V1
Evaluation Board

EVAL-SCS001V1
Reference Design

Hardware Configuration (1/8)

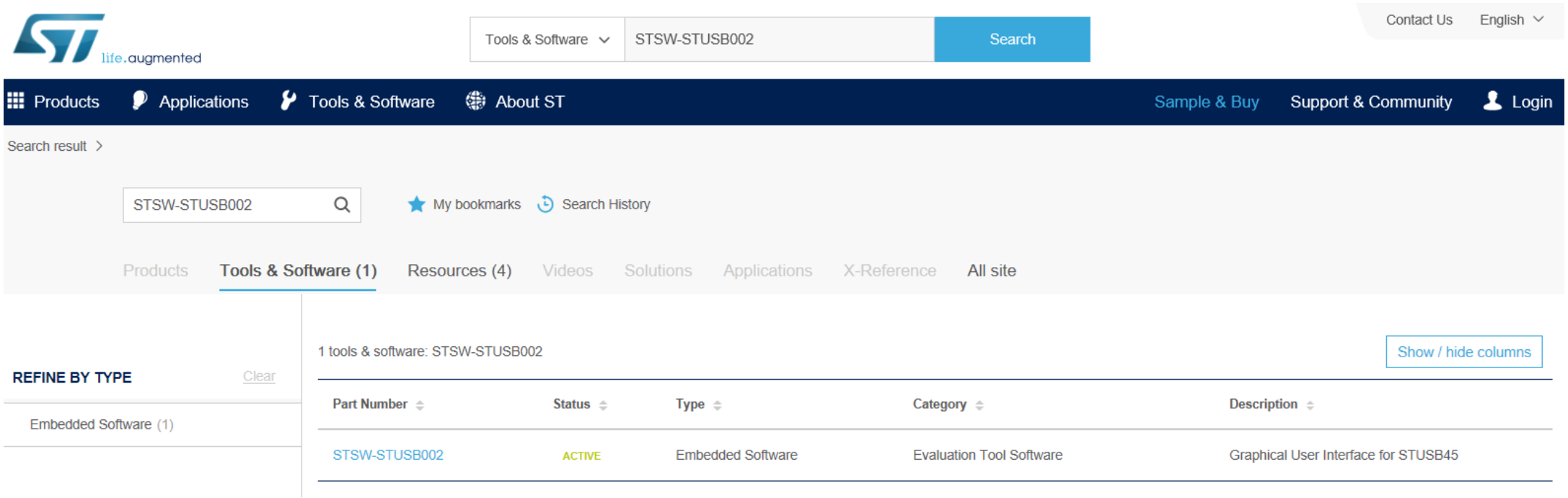
1. Connect the NUCLEO-F072RB to the Laptop using mini-B USB cable

2. Please make sure the device drivers are installed successfully:



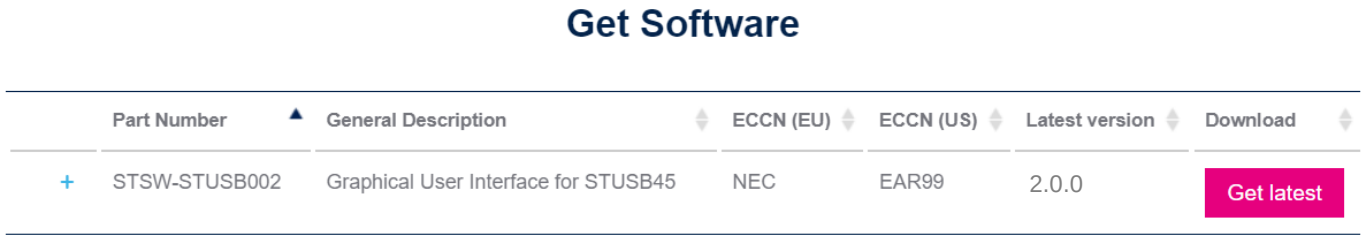
Hardware Configuration (2/8)

3 Download the STUSB45 GUI package (STSW-STUSB002) by searching from www.st.com home page:

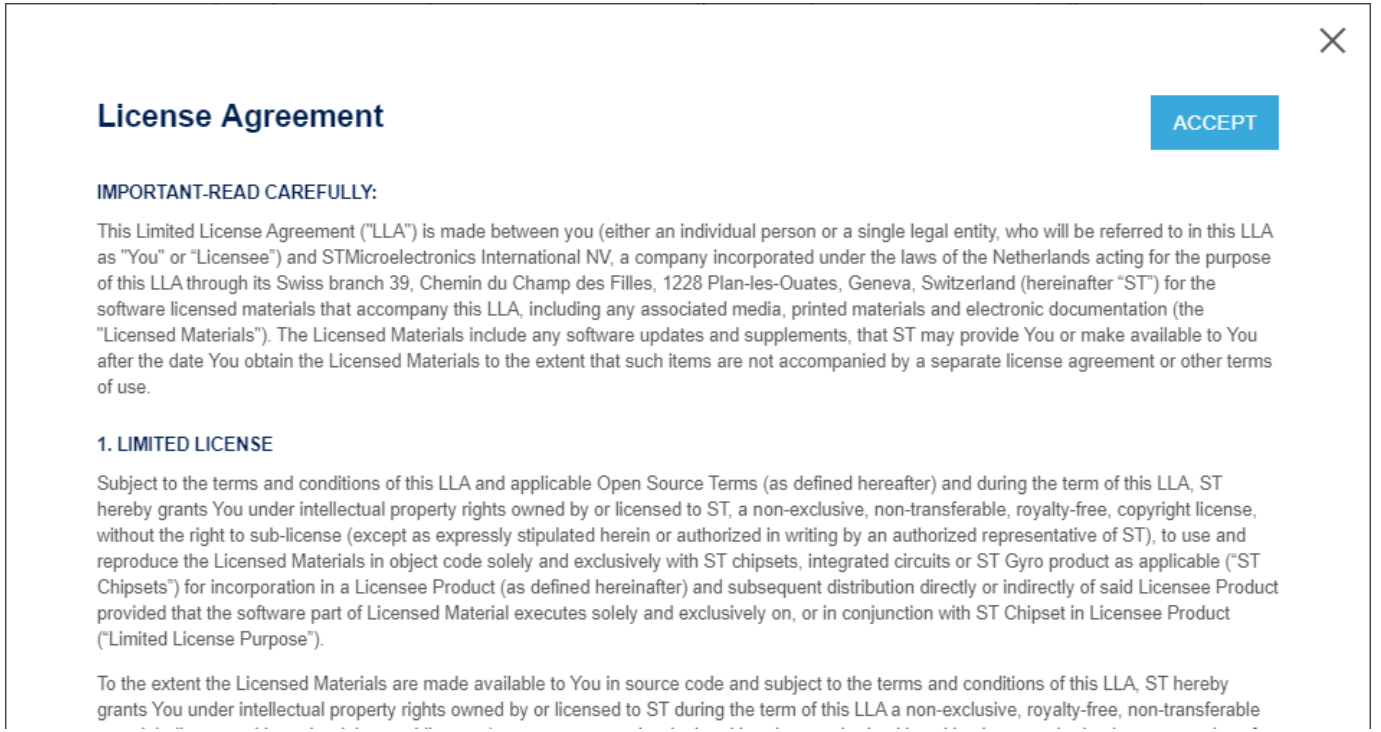


Hardware Configuration (3/8)

4 Click on **Get Software** button



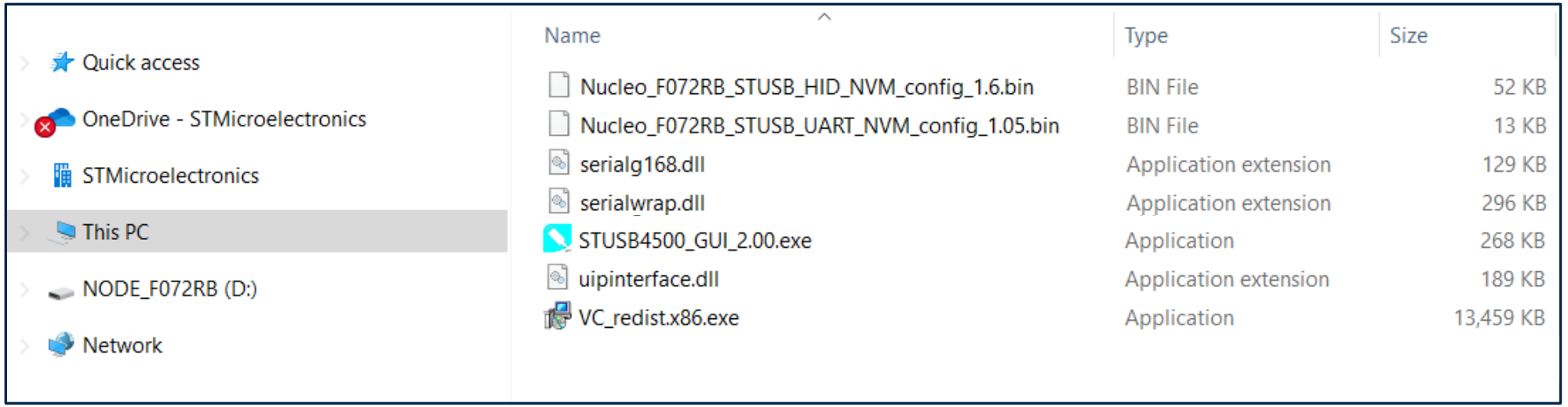
5 Download will start after accepting the License Agreement, and filling contact information.



Hardware Configuration (4/8)

6 Save the file **en.STSW-STUSB002.zip** on your laptop

and unzip:



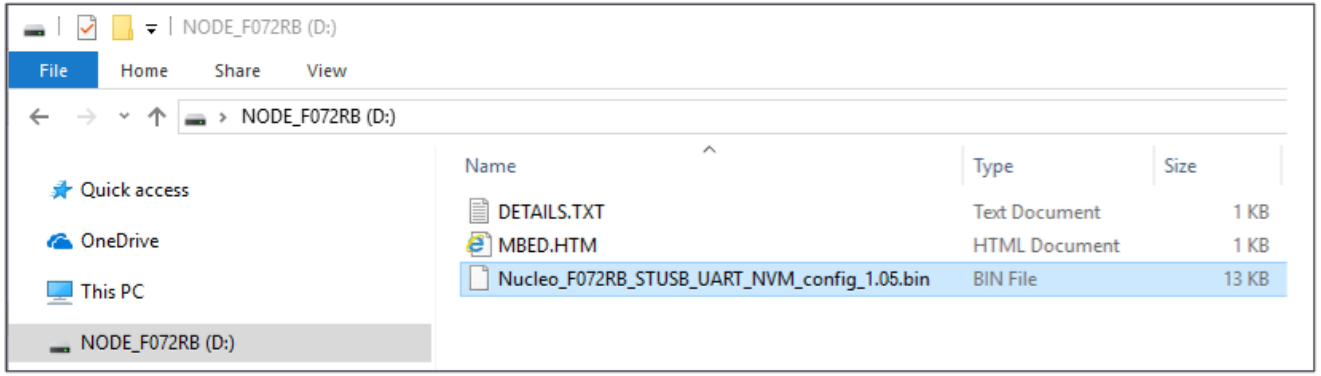
Hardware Configuration (5/8)

7 Upload the binary into the STM32 Nucleo board

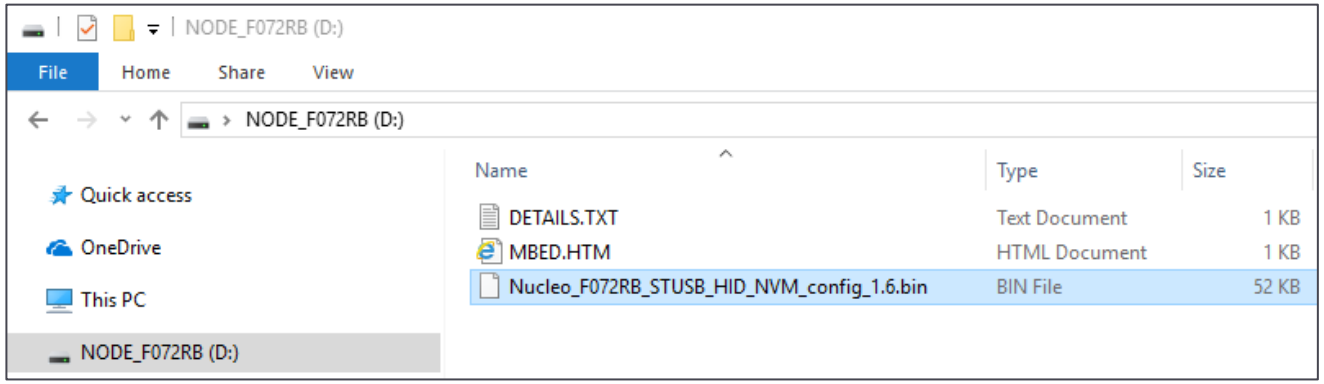
Connect the Nucleo board to the PC using a USB mini-B cable

Drag and drop the BIN file to the Nucleo board (NODE_F072RB)

- If you access the **GUI through the USB Mini-B cable**, use the BIN file called: **NUCLEO_F072RB_STUSB_UART_NVM_config_1.05.bin**



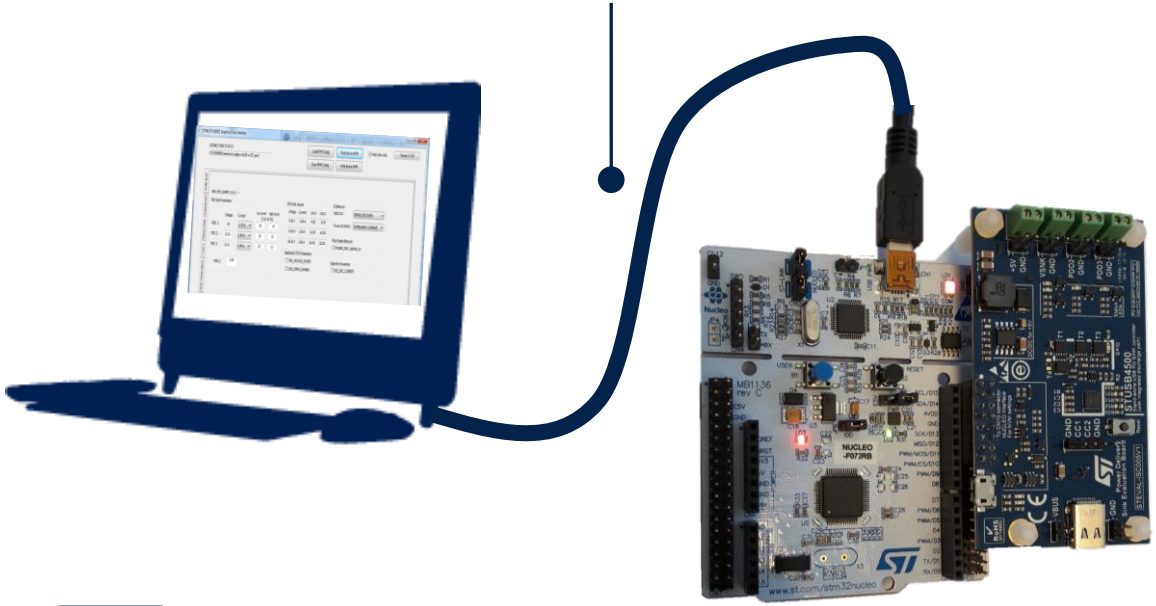
- If you access the **GUI through the USB Type-C cable**, use the BIN file called: **NUCLEO_F072RB_STUSB_HID_NVM_config_1.6.bin**



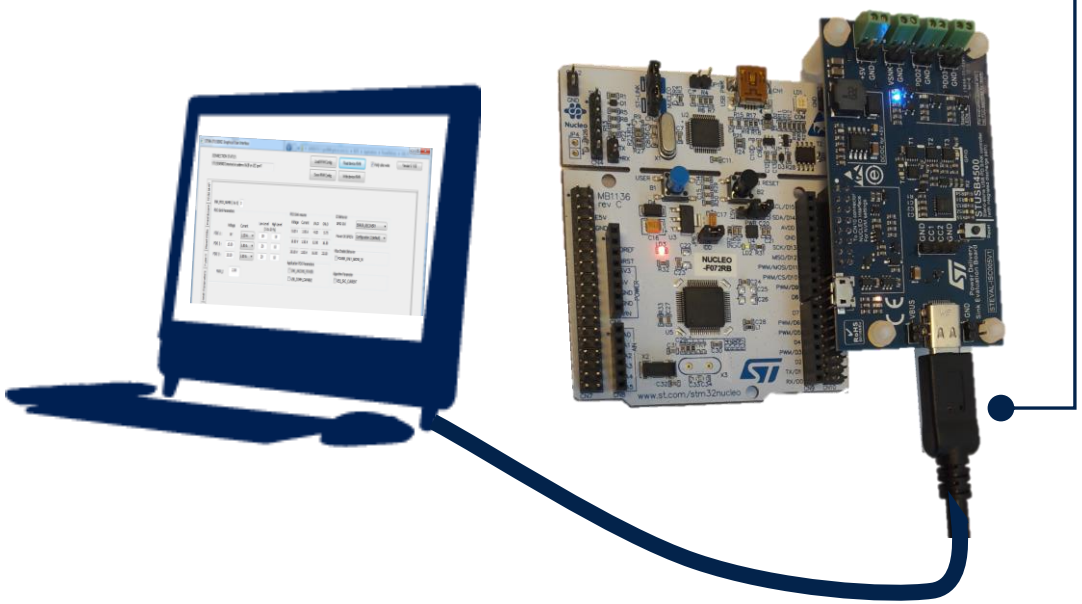
Hardware Configuration (6/8)

8 Connect the boards to the PC. **Case 1**: Using STEVAL-ISC005V1

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



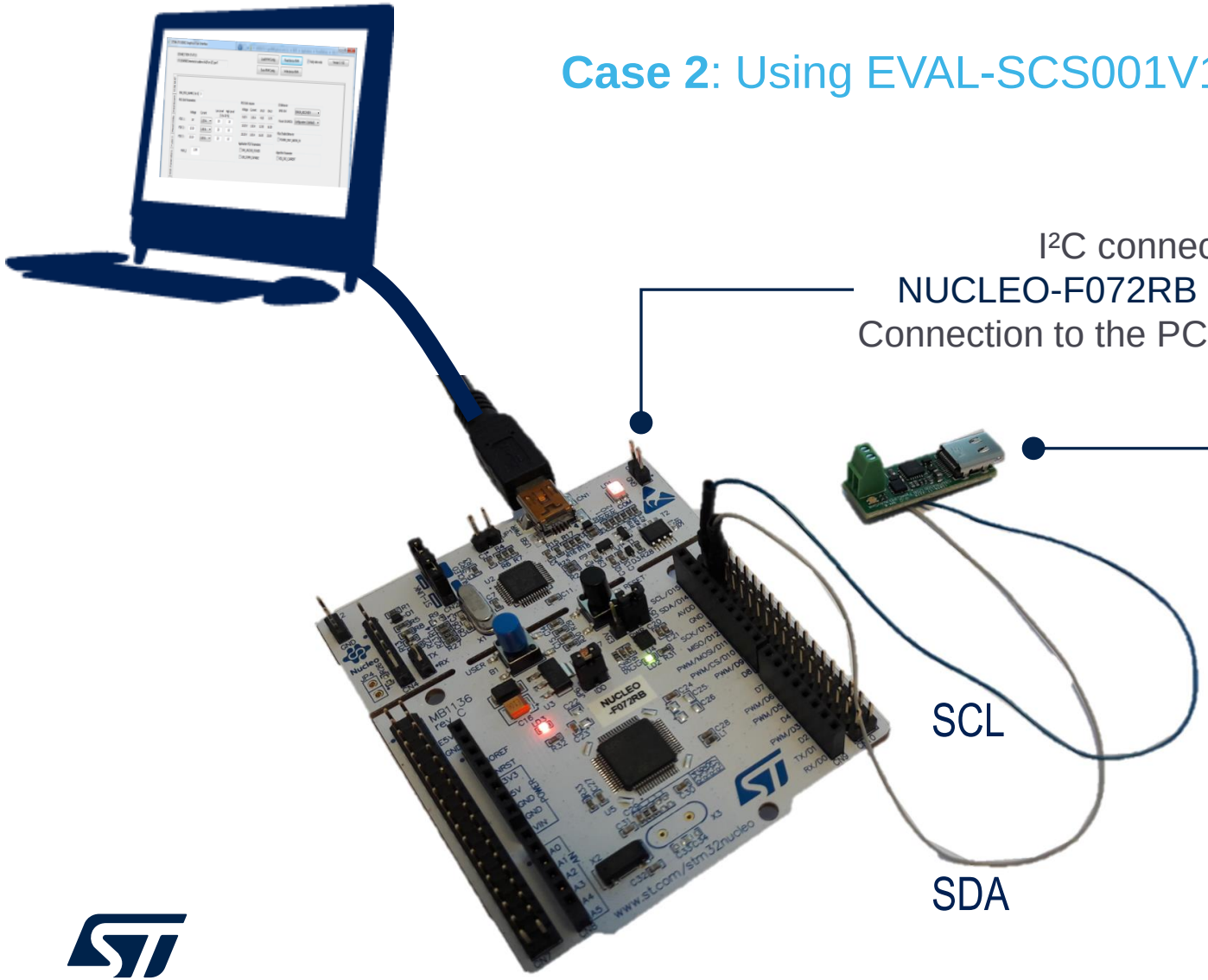
Connection between the GUI
NUCLEO-F072RB and STEVAL-ISC005V1
with **USB type-C cable**



life.augmented

Hardware Configuration (7/8)

Case 2: Using EVAL-SCS001V1



NB:
EVAL-SCS001V1 must be supplied through USB connector

Additional GND connection to the NUCLEO is recommended

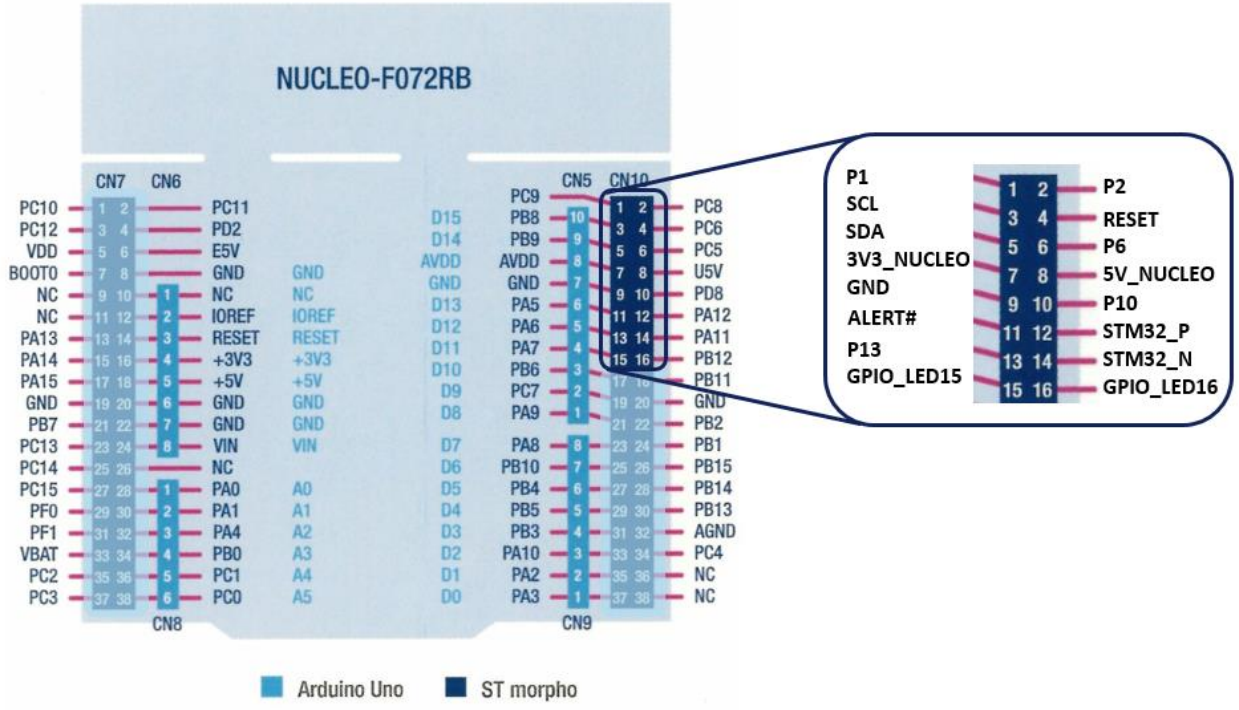
Hardware Configuration (8/8)

9 Press the NUCLEO-F072RB “RESET” button (B2 – Black push button).

10 The board is now configured to act as a USB to I²C bridge between the STUSB Graphical User Interface (GUI) and STUSB4500.

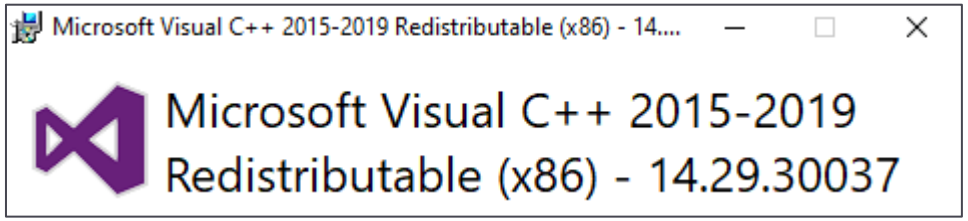
11 Before opening the GUI, please make sure SDA and SCL signals from the STUSB4500 application board are properly connected to their counterpart from NUCLEO-F072B.

NB: in case of custom boards, please do not forget 4.7 kOhms pull-up resistors on SDA/SCL



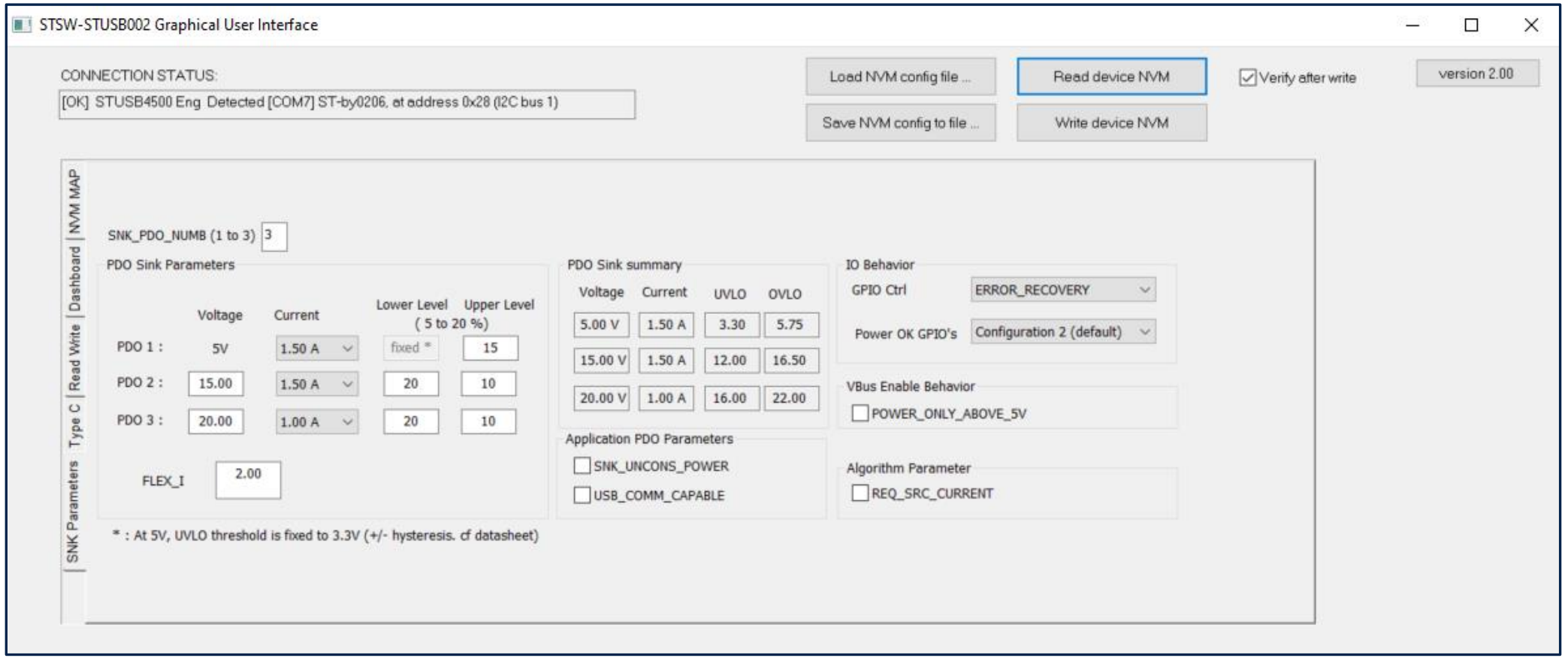
GUI Set-up (1/2)

12 Install the Microsoft MFC software package: vcredist_x86.exe



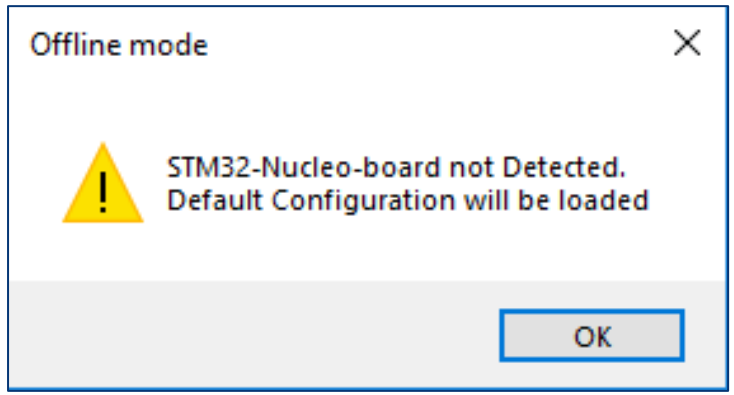
GUI Set-up (2/2)

13 Click on the STUSB4500_GUI_2.00.exe file to open the GUI.
The following window must appear.



The GUI is now ready to use.

Error Message (1/2)



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

RESOLUTION:

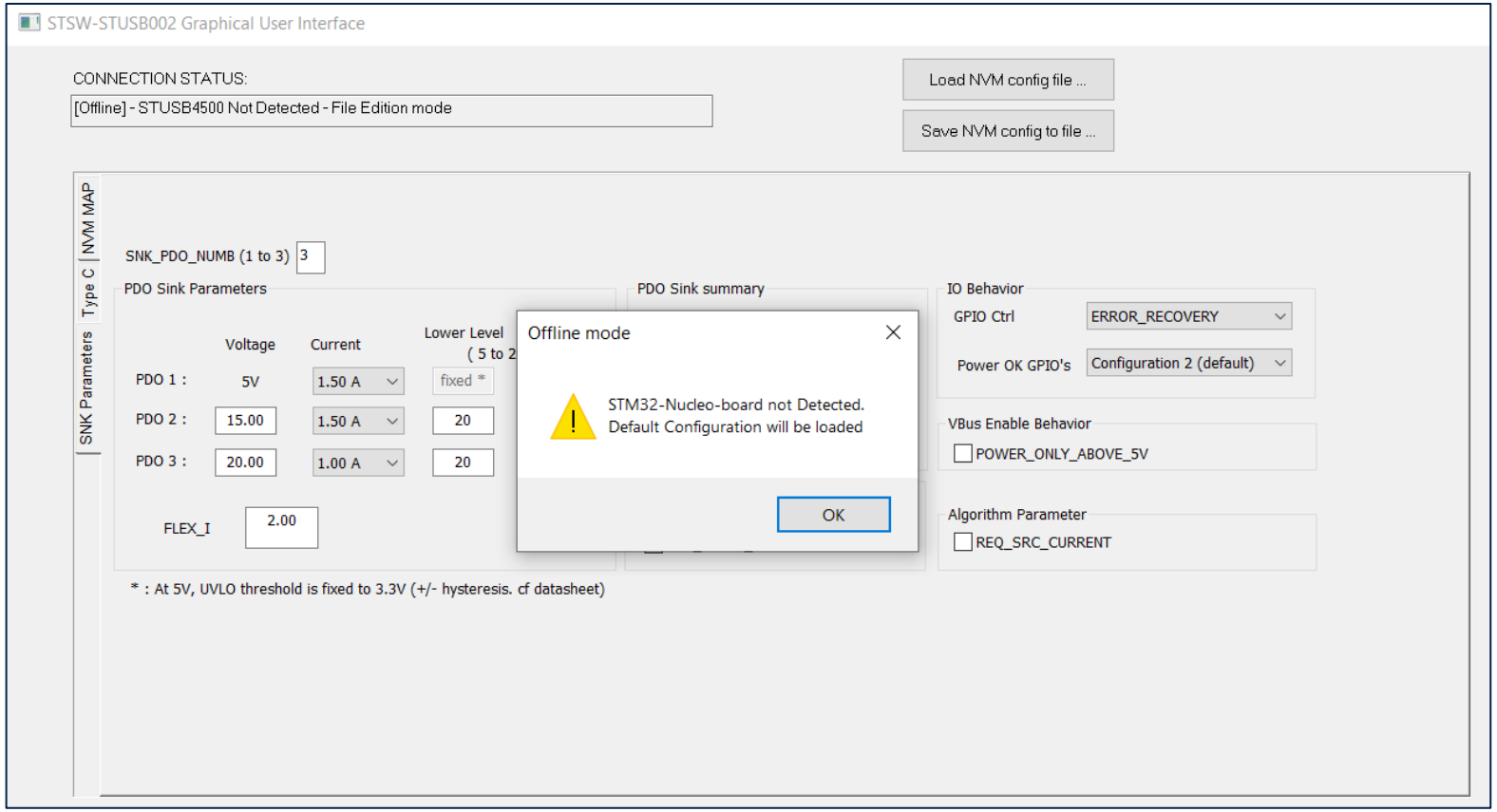
Please check I²C signals (SDA, SCL) connection to MCU (see section 10). Also double check that the STUSB4500 is properly powered (through VDD or VSYS pins) as well as the GROUND.

Then re-start the GUI.

Error Message (2/2)

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.



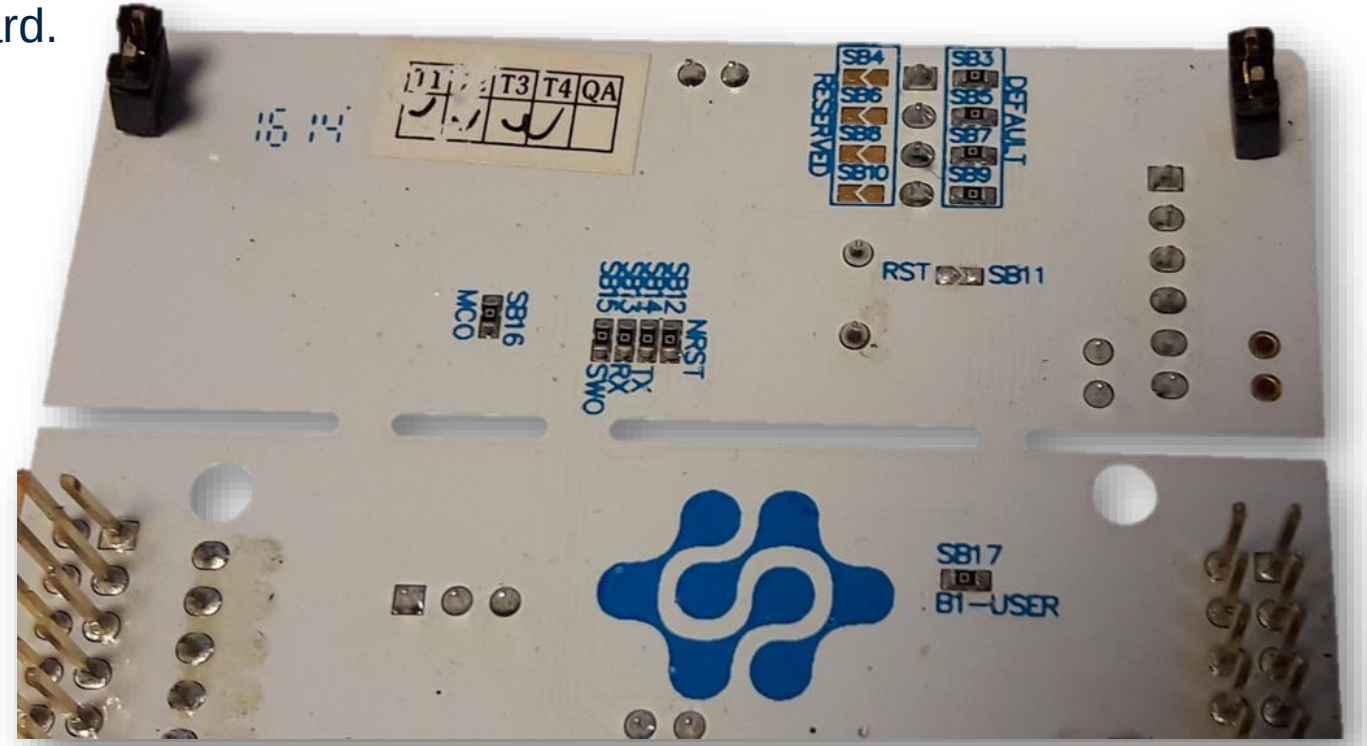
STUSB4500 not responding / not detected

when using NUCLEO-F072RB + STEVAL-ISC005V1

ISSUE: I²C access to STUSB4500 looks to be failing

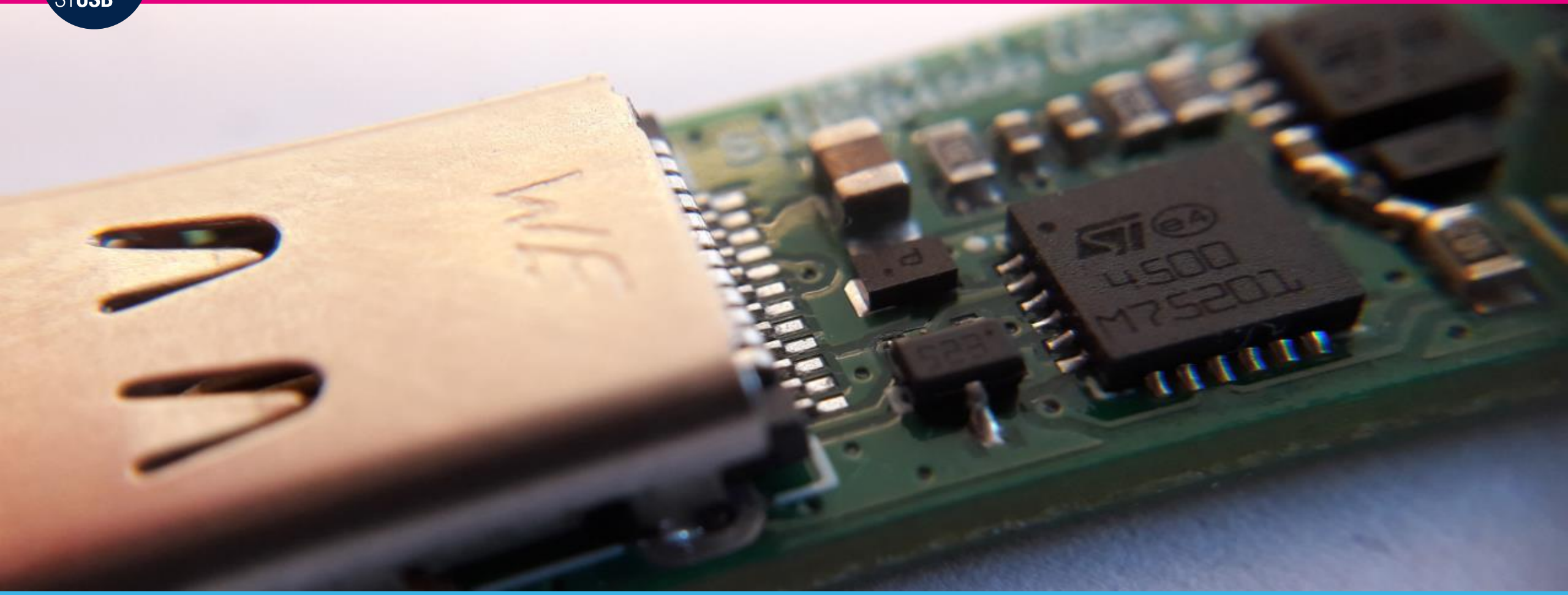
RESOLUTION:

NUCLEO board might not power properly the STEVAL-ISC005V1. Please check SB connections on the back of the NUCLEO board.
Especially SB13 and SB14 must be closed
for UART communication



For More Information

www.st.com/stusb4500-pr



life.augmented