STSW-STUSB015 Quick Start Guide

STUSB1602 software

library for STM32L4R5

life.augmented

ST**USB**

This document provides an overview of the STUSB1602 software package enabling USB PD stack with **NUCLEO-L4R5ZI** and **MB1303 shield**

SOFTWARE	
STSW-STUSB015	STUSB1602 software library for STM32L4R5
IAR 8.x	C-code compiler
HARDWARE	
NUCLEO-L4R5ZI	STM32 Nucleo-144 development board
P-NUCLEO-USB002	STUSB1602 Nucleo Pack containing **MB1303** shield (Nucleo expansion board to be plugged on NUCLEO-L4R5ZI)

1 Download the STUSB1602 software package by searching <u>STSW-STUSB015</u> from <u>www.st.com</u> home page:

2 Then click on "Get Software" from either the bottom or top of the page

Get Software

Part Number ▲	Software Version	Marketing Status	Supplier	Download
STSW-STUSB015	1.0.0	Active	ST	Get Software

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

License Agreement

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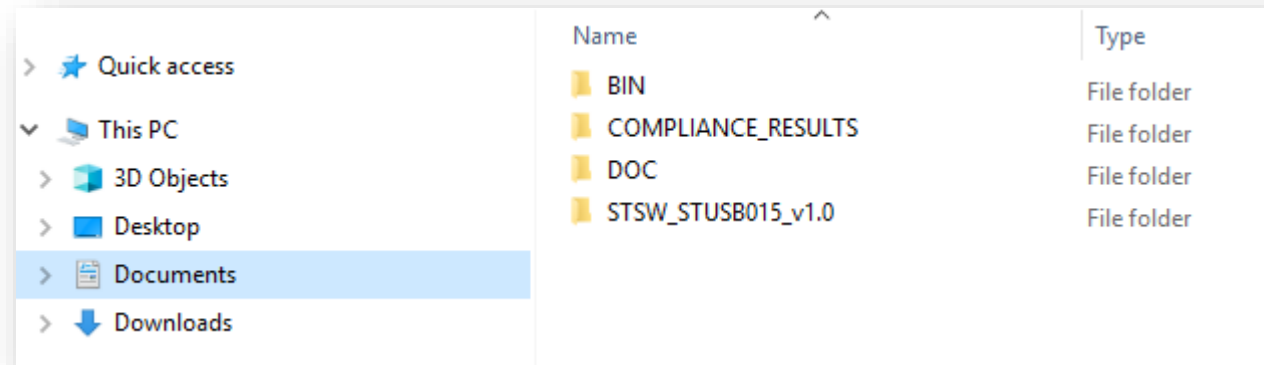
4 Save the file **en.STSW-STUSB015.zip** on your laptop

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and unzip:

Name	Type
📁 BIN	File folder
📁 COMPLIANCE_RESULTS	File folder
📁 DOC	File folder
📁 STSW_STUSB015_v1.0	File folder

Quick access
This PC
3D Objects
Desktop
Documents
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5 The package contains a DOC directory, ready-to-use binary files, associated projects and compliance reports
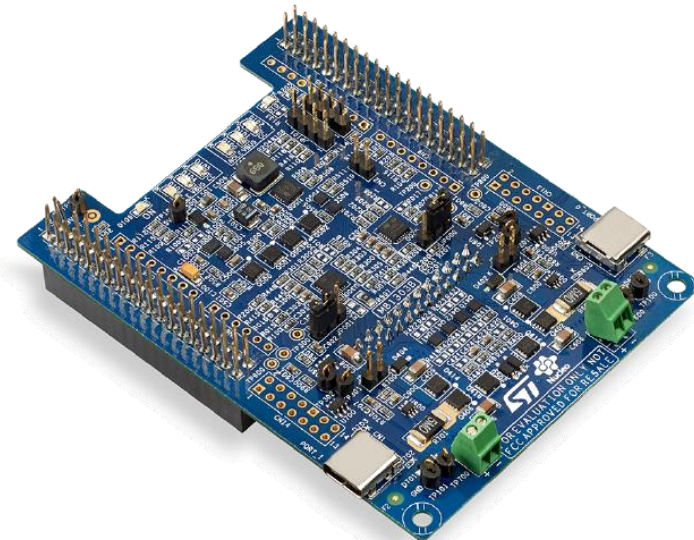
Suggested Hardware requirements

The software library has been optimized to quickly compile on the NUCLEO-L4R5ZI development board stacked with MB1303 expansion board (from P-NUCLEO-USB002 package).

MB1303 is composed of 2 Dual Role Ports (DRP) USB PD capable receptacles (form factor not optimized)
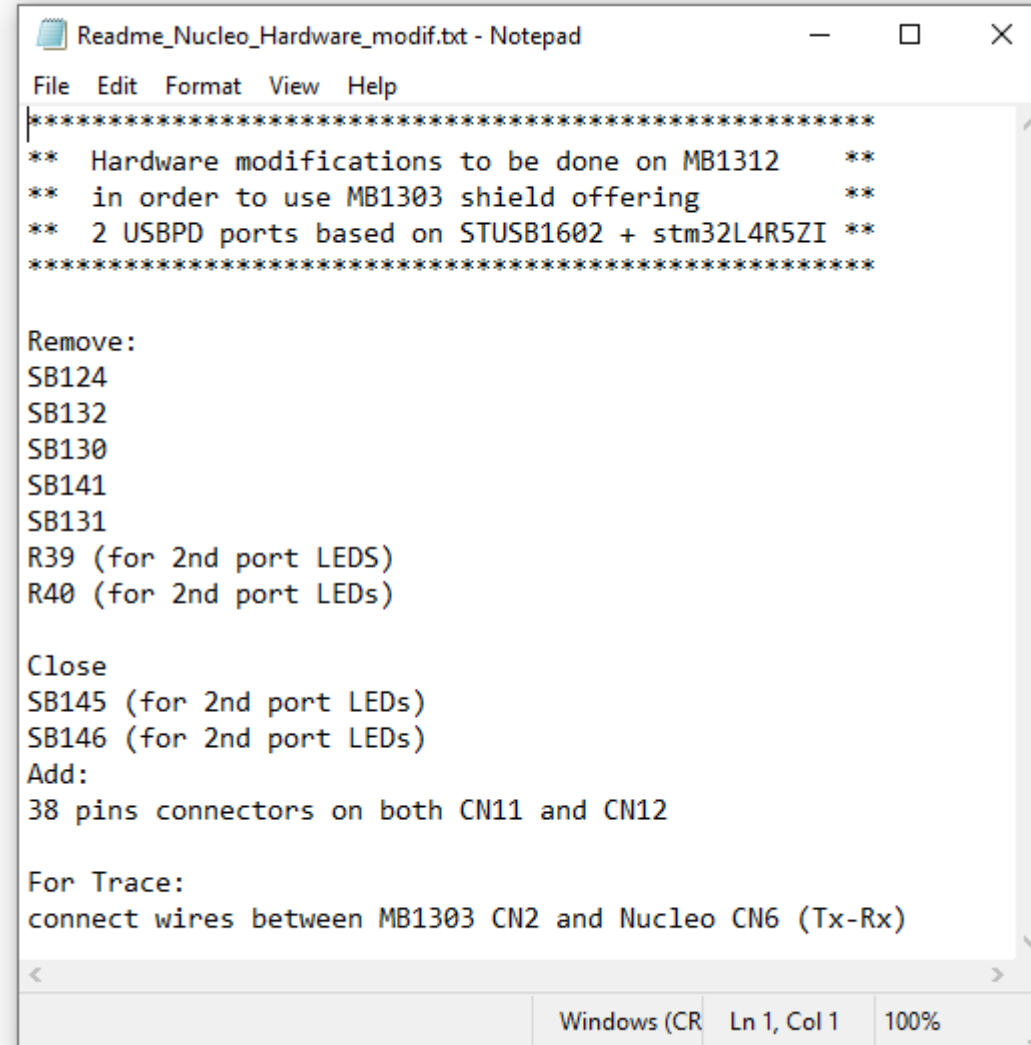

NUCLEO-L4R5ZI

MB1303

(Board contained in
P-NUCLEO-USB002 orderable package)

NUCLEO-L4R5ZI
Hardware set-up

Readme_Nucleo_Hardware_modif.txt - Notepad

File Edit Format View Help

```
********************************************************
**   Hardware modifications to be done on MB1312     **
**   in order to use MB1303 shield offering          **
**   2 USBPD ports based on STUSB1602 + stm32L4R5ZI  **
********************************************************

Remove:
SB124
SB132
SB130
SB141
SB131
R39 (for 2nd port LEDS)
R40 (for 2nd port LEDs)

Close
SB145 (for 2nd port LEDs)
SB146 (for 2nd port LEDs)
Add:
38 pins connectors on both CN11 and CN12

For Trace:
connect wires between MB1303 CN2 and Nucleo CN6 (Tx-Rx)
```

Windows (CR   Ln 1, Col 1   100%

Software package Overview

The software library includes 8 different software frameworks (+ 3 without RTOS) already optimized to address most common application scenario:

	Project	Typical Application
#1	STM32L4R5_MB1303_SRC_ONLY(*)	Provider / SOURCE (power management)
#2	STM32L4R5_MB1303_SRC_VDM	Provider / SOURCE (power management) + extended message support
#3	STM32L4R5_MB1303_SNK_ONLY(*)	Consumer / SINK (power management)
#4	STM32L4R5_MB1303_SNK_VDM	Consumer / SINK (power management) + extended message support + UFP support
#5	STM32L4R5_MB1303_DRP_ONLY (*)	Dual Role Port (power management) + dead battery mode
#6	STM32L4R5_MB1303_DRP_VDM	Dual Role Port (power management) + dead battery mode + extended message support + UFP support
#7	STM32L4R5_MB1303_DRP_2PORTS	2 x Dual Role Port (power management) + dead battery mode + extended message support + UFP support
#8	STM32L4R5_MB1303_DRP_SRCING_DEVICE	Dual Role Port requesting PR_swap when attached in Sink or DR_swap when attached in Source

- by default, all projects are packaged with RTOS support
- project annotated with a (*) are available with and without RTOS support

For more details, please check Firmware Package documentation: