

---

## STM32CubeProgrammer release v2.2.1

### Introduction

This release note is updated periodically to keep abreast of the STM32CubeProgrammer (STM32CubeProg) evolution, problems and limitations. Check the STMicroelectronics support website at [www.st.com/stm32softwaretools](http://www.st.com/stm32softwaretools) for the latest version. For the latest release summary, refer to [Table 1](#).

**Table 1. STM32CubeProgrammer v2.2.1 release summary**

Type	Summary
Minor release	<ul style="list-style-type: none"><li>Bug fix: issue programming STM32H7 Rev V via DFU</li></ul>

### Customer support

For more information or help concerning STM32CubeProgrammer, contact the nearest STMicroelectronics sales office. For a complete list of STMicroelectronics offices and distributors, refer to the [www.st.com](http://www.st.com) webpage.

### Software updates

Software updates and all the latest documentation can be downloaded from the STMicroelectronics support webpage at [www.st.com/stm32softwaretools](http://www.st.com/stm32softwaretools).



# 1 General information

## 1.1 Overview

STM32CubeProgrammer is a tool that allows STM32 device programming through debug interfaces (JTAG and SWD) and bootloader interfaces (UART and USB).

The tool offers a wide range of features to program STM32 internal memories (Flash, RAM, OTP and others) and external memories, verify the programming content (checksum, verify during and after programming, compare with file), and automate STM32 programming.

The STM32CubeProgrammer package also offers the optional installation of the STM32 Trusted Package Creator tool, which is used to create secure firmware files for secure firmware install and update. For more information, refer to the *STM32 Trusted Package Creator tool software description* user manual (UM2238).

STM32CubeProgrammer supports STM32 32-bit microcontrollers and microprocessors based on the Arm<sup>®</sup> Cortex<sup>®</sup> processor.

*Note:* Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.



## 1.2 Host PC system requirements

### Supported operating systems and architectures

- Windows<sup>®</sup> 7, 8, and 10: 32 bits (x86) and 64 bits (x64)
- Linux<sup>®</sup> 64 bits (tested on Ubuntu<sup>®</sup> 64 bits)
- macOS<sup>®</sup> (minimum version OS X<sup>®</sup> Yosemite)

*Note:* Ubuntu<sup>®</sup> is a registered trademark of Canonical Ltd.

macOS<sup>®</sup> is a trademark of Apple Inc. registered in the U.S. and other countries.

### Software requirements

The Java<sup>™</sup> SE Run Time Environment 1.8 (version 1.8.0\_121 or newer) by Oracle<sup>®</sup> must be installed (it is available for download from the [www.oracle.com](http://www.oracle.com) website).

*Note:* Oracle and Java are registered trademarks of Oracle and/or its affiliates.

All other trademarks are the property of their respective owners.

## 1.3 Setup procedure

Refer to the *STM32CubeProgrammer software description* user manual (UM2237) available at [www.st.com](http://www.st.com).

## 1.4 Licensing

STM32CubeProg is delivered under the *Mix Ultimate Liberty+OSS+3rd-party V1* software license agreement (SLA0048).

The software components used in the development of STM32CubeProgrammer and their licenses are listed in Table 2.

**Table 2. List of software components licenses**

Name	Version	License type	Details
Java™ SE	1.8	Oracle® Binary Code License Agreement	<a href="http://www.oracle.com">www.oracle.com</a> <sup>(1)</sup>
Java™ Native Access	4.5.0	Apache® License, Version 2.0	<a href="http://mvnrepository.com">mvnrepository.com</a> <sup>(2)</sup>
Izpack	5.1.2		
QT framework	5.4	LGPLv3	<a href="http://www.qt.io">www.qt.io</a> <sup>(3)</sup>
LibUSB	1.0.20	LGPLv2	<a href="https://github.com/libusb/libusb">github.com/libusb/libusb</a> <sup>(4)</sup>

1. Search for Java SE 1.8.0\_121 in the Oracle repository.
2. Search for the proper version of the component in the MVN repository.
3. Search for the proper version in the QT web site.
4. Search for the component in the Git repository.

## 2 STM32CubeProgrammer v2.2.1 release information

### 2.1 New features

No new feature is reported for this release. Minor release v2.2.1 is dedicated to issue correction (refer to [Fixed issues](#)).

### 2.2 Fixed issues

**Table 3. Main issue fixed in STM32CubeProgrammer v2.2.1**

ID	Summary
74031	STM32CubeProgrammer issue programming STM32H7 Rev V via DFU.

### 2.3 Known problems and limitations

- For the STM32L5 Series, the connection via the ST-LINK protocol is allowed only when mode is set to *hotplug*.
- For the STM32L5 Series, the Option Byte programming GUI is not intuitive enough. Refer to the *STM32L552xx and STM32L562xx advanced Arm®-based 32-bit MCUs* reference manual (RM0438) for permitted accesses.
- For the STM32L5 Series, Option Byte programming via bootloader interfaces presents some limitations.
- STM32CubeProgrammer does not work under Ubuntu® 18.04.
- With some small-screen resolutions, the graphical interface of STM32CubeProgrammer presents anomalies such as inaccessible buttons.
- Display issues depending on the monitor used can occur with Linux®.

## 3 Previous release information

### 3.1 STM32CubeProgrammer v2.2.0 release information

#### 3.1.1 New features

- Added the support of the STM32L5 Series
- Added the support of HSMv2
- Added the support of IAP for the USB-DFU interface
- STM32WB firmware upgrade via the ST-LINK interface
- Added the support of OTP for the STM32L5 Series
- Added the support of SSP for the STM32MP1 Series

#### 3.1.2 Fixed issues

**Table 4. Main issues fixed in STM32CubeProgrammer v2.2.0**

ID	Summary
58587	STM32CubeProgrammer does not support STM32L433RC-P and STM32L433RB.
61375	STM32L073 - How to erase the Data EEPROM?
61731	CLI Device not supported but programmed. RDP not programmed.
68802	USB DFU for STM32L452 and STM32L476 device IDs is unknown while connecting with the USB.
68916	STM32CubeProgrammer does not recognize STM32F413 USB DFU.
69927	IAP DFU is not working with STM32CubeProgrammer: <code>Error Unknown or unsupported device (DevID = 0x0000)</code> .
71074	STM32CubeProgrammer v2.1.0 defect - DFU mode sector erase fails on STM32H743 2MB Rev V.

#### 3.1.3 Known problems and limitations

- For the STM32L5 Series, the connection via the ST-LINK protocol is allowed only when mode is set to *hotplug*.
- For the STM32L5 Series, the Option Byte programming GUI is not intuitive enough. Refer to the *STM32L552xx and STM32L562xx advanced Arm®-based 32-bit MCUs* reference manual (RM0438) for permitted accesses.
- For the STM32L5 Series, Option Byte programming via bootloader interfaces presents some limitations.
- STM32CubeProgrammer does not work under Ubuntu® 18.04.
- With some small-screen resolutions, the graphical interface of STM32CubeProgrammer presents anomalies such as inaccessible buttons.

### 3.2 STM32CubeProgrammer v2.1.0 release information

#### 3.2.1 New features

- Added support of STM32G4 Series
- Added support of STM32G03x/STM32G04x microcontrollers
- Added support of dual-core microcontrollers in the STM32H7 Series
- Added support of secure firmware install (SFI)

### 3.2.2 Fixed issues

**Table 5. Main issues fixed in STM32CubeProgrammer v2.1.0**

ID	Summary
62057	Download file is always executed after simple download with ST-LINK/V2 and STLINK-V3.
64155	Impossible to erase sector 128 and upper on STM32L476RG with STM32CubeProgrammer.

### 3.2.3 Known problems and limitations

- The use of the UART bootloader prevents from increasing the RDP level and programming the second bank of Option Bytes, or from enabling the two user secure areas simultaneously on STM32H7 microcontrollers.
- Programming over USB bootloader is not reliable with USB2.0 for some devices.
- External memory programming is only available with ST-LINK.
- Installing multiple instances of the same version of the tool in the same directory under Windows® leads to issues when uninstalling.
- UART flashing of devices in the STM32MP1 Series may fail with big partitions.
- Programming issues are observed with the STM32H7 Series when the STLINK-V3 I<sup>2</sup>C interface is used.
- GUI issues are sometimes observed with the OTA programming of devices in the STM32WB Series.
- Linux® 32 bits is not supported.
- STM32 Trusted Package Creator: only the CLI version is supported on macOS®.
- Mass Erase is not working with the SPI bootloader interface on the STM32WB Series.
- Mass Erase is not working with the I<sup>2</sup>C bootloader interface on the STM32G4 Series; errors can occur when writing via the SPI interface.
- Shared mode: board detection failure is observed after multiple refresh operations.
- Writing 8-bit data in RAM on STM32L496G devices is not possible.

## 3.3 STM32CubeProgrammer v2.0.0 release information

### 3.3.1 New features

- Added support of STM32MP1 Series
- Added support of STM32WB Series
- Added support of *Automatic Mode* for programming devices in a loop
- Added support of OTA programming for the STM32WB Series

### 3.3.2 Fixed issues

**Table 6. Main issues fixed in STM32CubeProgrammer v2.0.0**

ID	Summary
58879	Internal Flash programming issue with <a href="#">STM32L433RC</a> (SMPS version) and <a href="#">STM32L433RB</a> .
60257	<code>stlinkv3.rules</code> is missing in the <code>drivers\rules\</code> folder.

### 3.3.3 Known problems and limitations

- The use of the UART bootloader prevents from increasing the RDP level and programming the second bank of Option Bytes, or from enabling the two user secure areas simultaneously on STM32H7 microcontrollers.
- Programming over USB bootloader is not reliable with USB2.0 for some devices.
- External memory programming is only available with ST-LINK.
- Installing multiple instances of the same version of the tool in the same directory under Windows® leads to issues when uninstalling.
- UART flashing of devices in the STM32MP1 Series may fail with big partitions.
- Programming issues are observed with the STM32H7 Series when the STLINK-V3 I<sup>2</sup>C interface is used.
- GUI issues are sometimes observed with STM32WB Series OTA programming.
- Linux® 32 bits is not covered.
- STM32 Trusted Package Creator: only the CLI version is supported on macOS®.

## 3.4 STM32CubeProgrammer v1.4.0 release information

### 3.4.1 New features

- Added STM32CubeProgrammer C++ API
- Added support of secure firmware install on [STM32L462CEU6F](#)

### 3.4.2 Fixed issues

**Table 7. Main issues fixed in STM32CubeProgrammer v1.4.0**

ID	Summary
55454	Programming a STM32F765NIH6 via USART1 can be done.
56817	Cannot program internal Flash of STM32F722ZE and STM32F730R8 via USB.

### 3.4.3 Known problems and limitations

- Read/write operations fail with the CAN interface.
- The use of the UART bootloader prevents from increasing the RDP level and programming the second bank of Option Bytes, or from enabling the two user secure areas simultaneously on STM32H7 microcontrollers.
- Programming over USB bootloader is not reliable with USB2.0 for some devices.
- External memory programming is only available with ST-LINK.
- Installing multiple instances of the same version of the tool in the same directory under Windows® leads to issues when uninstalling.
- The STLinkV3-I2C bridge may not work correctly with STM32F4 Series, STM32F7 Series, and STM32H7 Series.

## 3.5 STM32CubeProgrammer v1.3.0 release information

### 3.5.1 New features

- Added support of STM32G07x and STM32G08x microcontrollers
- Added support of STM32L010 microcontrollers
- Flash size displayed with debug interface

- Extended ST-LINK server interface support to Linux® and macOS®
- User interface enhancements
- Added contextual menu in main panel for programming, verification, and saving
- Added support of *.binary* files
- Added support of Unicode® file path
- New panel for external loaders; possibility to search and filter with the loader or board name

### 3.5.2 Fixed issues

**Table 8. Main issues fixed in STM32CubeProgrammer v1.3.0**

ID	Summary
54212	STM32CubeProg could not display complete MCU list.
54700	Issue with file path including Chinese characters (double-byte characters).
55156	Error with hex file programming with option "run after programming".

### 3.5.3 Known problems and limitations

- Read/write operations fail with the CAN interface.
- The use of the UART bootloader prevents from increasing the RDP level and programming the second bank of Option Bytes, or from enabling the two user secure areas simultaneously on STM32H7 microcontrollers.
- Programming over USB bootloader is not reliable with USB2.0 for some devices.
- External memory programming is only available with ST-LINK.
- Installing multiple instances of the same version of the tool in the same directory under Windows® leads to issues when uninstalling.
- The STLinkV3-I2C bridge may not work correctly with STM32F4 Series, STM32F7 Series, and STM32H7 Series.

## 3.6 STM32CubeProgrammer v1.2.1 release information

### 3.6.1 New features

- Full-chip erase enabled for STM32L0 Series and STM32L1 Series
- Enhanced connection to STM32L0 Series and STM32L1 with STLINK-V3
- Added support of Quad-SPI Flash loaders:
  - N25Q128A\_STM32F7508-DISCO
  - MX25L512G\_STM32F7308-DISCO
  - MT25TL01G\_STM32H743I-EVAL
  - MT25TL01G\_STM32H747-EVAL

### 3.6.2 Fixed issues

**Table 9. Main issues fixed in STM32CubeProgrammer v1.2.1**

ID	Summary
53000	[GUI-memory edition] UART memory editions do not work
53496	[Launcher-java10] The tool is not launched in Windows10 64 bits with Java10
54292	[USB] Connection time increases after every disconnect/connect with DFU interface



### 3.6.3 Known problems and limitations

- Read/write operations fail with the CAN interface.
- The use of the UART bootloader prevents from increasing the RDP level and from programming the second bank of Option Bytes, or from enabling the two user secure areas simultaneously on STM32H7 microcontrollers.
- Programming over USB bootloader is not reliable with USB2.0 for some devices.
- External memory programming is only available with ST-LINK.
- Installing multiple instances of the same version of the tool in the same directory under Windows® leads to issues when uninstalling.
- STLinkV3-I2C bridge may not work correctly with STM32F4 Series, STM32F7 Series, and STM32H7 Series.

## 3.7 STM32CubeProgrammer v1.2.0 release information

### 3.7.1 New features

- Add support of STLINK-V3
- Add support of STM32L41x microcontrollers
- Listing of the connected ST-LINK probes using the `--list` command
- Digitally signed USB DFU driver for STM32 bootloader
- Add support of ST-LINK server interface

### 3.7.2 Known problems and limitations

- Read/write operations fail with the CAN interface.
- The use of the UART bootloader prevents from increasing the RDP level and from programming the second bank of Option Bytes, or from enabling the two user secure areas simultaneously on STM32H7 microcontrollers.
- Programming over USB bootloader is not reliable with USB2.0 for some devices.
- External memory programming is only available with ST-LINK.
- Installing multiple instances of the same version of the tool in the same directory under Windows® leads to issues when uninstalling.
- STLinkV3-I2C bridge may not work correctly with STM32F4 Series, STM32F7 Series, and STM32H7 Series.

## 3.8 STM32CubeProgrammer v1.1.0 release information

### 3.8.1 New features

- Add support of STM32F7x0 Value line and STM32H750 Value line
- Add support of M29W128GL external Flash memory programming on STM32H743I-EVAL
- Dump device memory into an hex/srec/bin file
- Add Core debug commands in command-line interface
- Add support of data EEPROM programming on STM32L0 Series and STM32L1 Series

### 3.8.2 Known problems and limitations

- The use of the UART bootloader prevents from increasing the RDP level and from programming the second bank of option bytes, or from enabling the two user secure areas simultaneously on STM32H7 microcontrollers.
- Programming over USB bootloader is not reliable with USB2.0 for some devices.
- External memory programming is only available with ST-LINK.

- Installing multiple instances of the same version of the tool in the same directory under Windows® leads to issues when uninstalling.

## 3.9 STM32CubeProgrammer v1.0.0 release information

### 3.9.1 New features

- STM32 Flash programming and erasing over ST-LINK debug probe (JTAG/SWD) and over bootloader interfaces UART and USB DFU
- STM32 option bytes detailed display with description of each bit field
- Option bytes programming over ST-LINK debug probe (JTAG/SWD) and over bootloader interfaces UART and USB DFU
- External memories programming over ST-LINK debug probe (JTAG/SWD) for STM32 microcontroller evaluation and discovery boards
- Read, display and programming of binary files, ELF files, Intel hex files and Motorola Srecord files
- Read and display of STM32 microcontroller memory content
- Command line and graphical user interface
- Generation of secure firmware using the STM32 Trusted Package Creator tool

### 3.9.2 Known problems and limitations

- The use of the UART bootloader prevents from increasing the RDP level and from programming the second bank of option bytes, or from enabling the two user secure areas simultaneously on STM32H7 microcontrollers.
- Programming over USB bootloader is not reliable with USB2.0 for some devices.
- The erase command is not supported with data EEPROM on STM32L0 and STM32L1.
- External memory programming is only available with ST-LINK.
- Installing multiple instances of the same version of the tool in the same directory under Windows® leads to issues when uninstalling.

## Revision history

**Table 10. Document revision history**

Date	Version	Changes
24-Nov-2017	1	Initial release.
12-Apr-2018	2	Part number changed to STM32CubeProg.
19-Jul-2018	3	Added information related to STM32CubeProg 1.1.0.
7-Sep-2018	4	Added information related to STM32CubeProg 1.2.0.
15-Oct-2018	5	Added information related to STM32CubeProg 1.2.1.
15-Nov-2018	6	Added information related to STM32CubeProg 1.3.0.
20-Dec-2018	7	Added information related to STM32CubeProg 1.4.0.
25-Feb-2019	8	Added information related to STM32CubeProg 2.0.0.
23-Apr-2019	9	Added information related to STM32CubeProg 2.1.0.
11-Oct-2019	10	Added information related to STM32CubeProg 2.2.0.
8-Nov-2019	11	Added information related to STM32CubeProg 2.2.1.

## Contents

<b>1</b>	<b>General information</b>	<b>2</b>
1.1	Overview	2
1.2	Host PC system requirements	2
1.3	Setup procedure	2
1.4	Licensing	3
<b>2</b>	<b>STM32CubeProgrammer v2.2.1 release information</b>	<b>4</b>
2.1	New features	4
2.2	Fixed issues	4
2.3	Known problems and limitations	4
<b>3</b>	<b>Previous release information</b>	<b>5</b>
3.1	STM32CubeProgrammer v2.2.0 release information	5
3.1.1	New features	5
3.1.2	Fixed issues	5
3.1.3	Known problems and limitations	5
3.2	STM32CubeProgrammer v2.1.0 release information	5
3.2.1	New features	5
3.2.2	Fixed issues	5
3.2.3	Known problems and limitations	6
3.3	STM32CubeProgrammer v2.0.0 release information	6
3.3.1	New features	6
3.3.2	Fixed issues	6
3.3.3	Known problems and limitations	6
3.4	STM32CubeProgrammer v1.4.0 release information	7
3.4.1	New features	7
3.4.2	Fixed issues	7
3.4.3	Known problems and limitations	7
3.5	STM32CubeProgrammer v1.3.0 release information	7
3.5.1	New features	7
3.5.2	Fixed issues	8
3.5.3	Known problems and limitations	8

---

<b>3.6</b>	STM32CubeProgrammer v1.2.1 release information .....	8
<b>3.6.1</b>	New features .....	8
<b>3.6.2</b>	Fixed issues .....	8
<b>3.6.3</b>	Known problems and limitations .....	9
<b>3.7</b>	STM32CubeProgrammer v1.2.0 release information .....	9
<b>3.7.1</b>	New features .....	9
<b>3.7.2</b>	Known problems and limitations .....	9
<b>3.8</b>	STM32CubeProgrammer v1.1.0 release information .....	9
<b>3.8.1</b>	New features .....	9
<b>3.8.2</b>	Known problems and limitations .....	9
<b>3.9</b>	STM32CubeProgrammer v1.0.0 release information .....	10
<b>3.9.1</b>	New features .....	10
<b>3.9.2</b>	Known problems and limitations .....	10
	<b>Revision history .....</b>	<b>11</b>

## List of tables

<b>Table 1.</b>	STM32CubeProgrammer v2.2.1 release summary . . . . .	1
<b>Table 2.</b>	List of software components licenses . . . . .	3
<b>Table 3.</b>	Main issue fixed in STM32CubeProgrammer v2.2.1 . . . . .	4
<b>Table 4.</b>	Main issues fixed in STM32CubeProgrammer v2.2.0 . . . . .	5
<b>Table 5.</b>	Main issues fixed in STM32CubeProgrammer v2.1.0 . . . . .	6
<b>Table 6.</b>	Main issues fixed in STM32CubeProgrammer v2.0.0 . . . . .	6
<b>Table 7.</b>	Main issues fixed in STM32CubeProgrammer v1.4.0 . . . . .	7
<b>Table 8.</b>	Main issues fixed in STM32CubeProgrammer v1.3.0 . . . . .	8
<b>Table 9.</b>	Main issues fixed in STM32CubeProgrammer v1.2.1 . . . . .	8
<b>Table 10.</b>	Document revision history . . . . .	11

**IMPORTANT NOTICE – PLEASE READ CAREFULLY**

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, please refer to [www.st.com/trademarks](http://www.st.com/trademarks). All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2019 STMicroelectronics – All rights reserved