RN0094
Release note

STM32CubeMX release 6.7.0

Introduction

This release note is updated periodically to keep abreast of STM32CubeMX evolution, problems, and limitations. Check STMicroelectronics website at www.st.com/stm32cubemx for the latest version. Refer to *Table 1* for the latest release summary.

Table 1. STM32CubeMX 6.7.0 release summary

Type	Summary
Major release	– Added the support for one new module in the STM32WL Series – Added the support for one new board based on the STM32WB Series – Added the support for one board based on the STM32F0 Series

Customer support

For more information or help concerning STM32CubeMX, contact the nearest STMicroelectronics sales office or use the ST community at community.st.com. For a complete list of STMicroelectronics offices and distributors, refer to the *www.st.com* webpage.

Software updates

Software updates and all the latest documentation can be downloaded from the STMicroelectronics product webpage at www.st.com/stm32cubemx.

Contents

1 General information 10

1.1 Overview 10

1.2 Host PC system requirements 10

1.3 Cross-selector data disclaimer 11

1.4 License 11

2 What is new in STM32CubeMX V6.7.0? 12

2.1 Known limitations 12

2.2 Recommendations 18

2.3 Main fixed issues 20

2.4 Firmware package versions 20

3 Release information 21

3.1 Microcontrollers and microprocessors supported by this release 21

3.2 STM32CubeMX V6.6.1 release information 29

3.2.1 Main fixed issues 29

3.2.2 Firmware package versions 30

3.3 STM32CubeMX V6.6.0 release information 30

3.3.1 Main fixed issues 31

3.3.2 Firmware package versions 31

3.4 STM32CubeMX V6.5.0 release information 32

3.4.1 Main fixed issues 33

3.4.2 Firmware package versions 33

3.5 STM32CubeMX V6.4.0 release information 34

3.5.1 Main fixed issues 34

3.5.2 Firmware package versions 35

3.6 STM32CubeMX V6.3.0 release information 35

3.6.1 Main fixed issues 36

3.6.2 Firmware package versions 37

3.7 STM32CubeMX V6.2.1 release information 37

3.7.1 Main fixed issues 37

3.7.2 Firmware package versions 38

3.8 STM32CubeMX V6.2.0 release information 38

3.8.1 Main fixed issues . . . 39
3.8.2 Firmware package versions . . . 40
3.9 STM32CubeMX V6.1.1 release information . . . 40
3.9.1 Main fixed issues . . . 40
3.9.2 Firmware package versions . . . 41
3.10 STM32CubeMX V6.1.0 release information . . . 41
3.10.1 Main fixed issues . . . 42
3.10.2 Firmware package versions . . . 43
3.11 STM32CubeMX V6.0.1 release information . . . 43
3.11.1 Fixed issues . . . 43
3.11.2 Firmware package versions . . . 44
3.12 STM32CubeMX V6.0.0 release information . . . 44
3.12.1 Fixed issues . . . 45
3.12.2 Firmware package versions . . . 46
3.13 STM32CubeMX V5.6.1 release information . . . 46
3.13.1 Fixed issues . . . 46
3.13.2 Firmware package versions . . . 46
3.14 STM32CubeMX V5.6.0 release information . . . 47
3.14.1 Fixed issues . . . 48
3.14.2 Firmware package versions . . . 48
3.15 STM32CubeMX V5.5.0 release information . . . 49
3.15.1 Fixed issues . . . 50
3.15.2 Firmware package versions . . . 50
3.16 STM32CubeMX V5.4.0 release information . . . 51
3.16.1 Fixed issues . . . 52
3.16.2 Firmware package versions . . . 53
3.17 STM32CubeMX V5.3.0 release information . . . 54
3.17.1 Fixed issues . . . 54
3.17.2 Firmware package versions . . . 55
3.18 STM32CubeMX V5.2.1 release information . . . 55
3.18.1 Fixed issues . . . 55
3.18.2 Firmware package versions . . . 56
3.19 STM32CubeMX V5.2.0 release information . . . 56
3.19.1 Fixed issues . . . 57
3.19.2 Firmware package versions . . . 57
3.20 STM32CubeMX V5.1.0 release information . . . 58

3.20.1 Fixed issues . . . 59
3.20.2 Firmware package versions . . . 59
3.21 STM32CubeMX V5.0.1 release information . . . 60
3.21.1 Fixed issues . . . 60
3.21.2 Firmware package versions . . . 60
3.22 STM32CubeMX V5.0.0 release information . . . 60
3.22.1 Fixed issues . . . 61
3.22.2 Firmware package versions . . . 61
3.23 STM32CubeMX V4.27.0 release information . . . 62
3.23.1 Fixed issues . . . 62
3.23.2 Firmware package versions . . . 62
3.24 STM32CubeMX V4.26.1 release information . . . 63
3.24.1 Fixed issues . . . 63
3.24.2 Firmware package versions . . . 63
3.25 STM32CubeMX V4.26.0 release information . . . 64
3.25.1 Fixed issues . . . 64
3.25.2 Firmware package versions . . . 64
3.26 STM32CubeMX V4.25.1 release information . . . 65
3.26.1 Fixed issue . . . 65
3.26.2 Firmware package versions . . . 65
3.27 STM32CubeMX V4.25.0 release information . . . 65
3.27.1 Fixed issues . . . 66
3.27.2 Firmware package versions . . . 66
3.28 STM32CubeMX V4.24.0 release information . . . 66
3.28.1 Fixed issues . . . 67
3.28.2 Firmware package versions . . . 68
3.29 STM32CubeMX V4.23.0 release information . . . 68
3.29.1 Fixed issues . . . 68
3.29.2 Firmware package versions . . . 68
3.30 STM32CubeMX V4.22.1 release information . . . 69
3.30.1 Fixed issues . . . 69
3.30.2 Firmware package versions . . . 69
3.31 STM32CubeMX V4.22.0 release information . . . 70
3.31.1 Fixed issues . . . 70
3.31.2 Firmware package versions . . . 71
3.32 STM32CubeMX V4.21.0 release information . . . 71

3.32.1 Fixed issues . . . 71
3.32.2 Firmware package versions . . . 72
3.33 STM32CubeMX V4.20.1 release information . . . 72
3.33.1 Fixed issue . . . 73
3.33.2 Firmware package versions . . . 73
3.34 STM32CubeMX V4.20.0 release information . . . 73
3.34.1 Fixed issues . . . 73
3.34.2 Firmware package versions . . . 75
3.35 STM32CubeMX V4.19.0 release information . . . 75
3.35.1 Fixed issues . . . 75
3.35.2 Firmware package versions . . . 76
3.36 STM32CubeMX V4.18.0 release information . . . 76
3.36.1 Fixed issues . . . 77
3.36.2 Firmware package versions . . . 78
3.37 STM32CubeMX V4.17.0 release information . . . 78
3.37.1 Fixed issues . . . 78
3.37.2 Firmware package versions . . . 79
3.38 STM32CubeMX V4.16.1 release information . . . 80
3.38.1 Fixed issues . . . 80
3.38.2 Firmware package versions . . . 80
3.39 STM32CubeMX V4.16.0 release information . . . 80
3.39.1 Fixed issues . . . 80
3.39.2 Firmware package versions . . . 81
3.40 STM32CubeMX V4.15.1 release information . . . 81
3.40.1 Fixed issues . . . 81
3.40.2 Firmware package versions . . . 82
3.41 STM32CubeMX V4.15.0 release information . . . 82
3.41.1 Enhancements . . . 82
3.41.2 Fixed issues . . . 82
3.41.3 Firmware package versions . . . 84
3.42 STM32CubeMX V4.14.0 release information . . . 84
3.42.1 Enhancements . . . 84
3.42.2 Fixed issues . . . 85
3.43 STM32CubeMX V4.13.1 release information . . . 86
3.43.1 Fixed issues . . . 86
3.44 STM32CubeMX V4.13.0 release information . . . 86

3.44.1 Enhancements . . . 86
3.44.2 Fixed issues . . . 86
3.45 STM32CubeMX V4.12.0 release information . . . 87
3.45.1 Enhancements . . . 87
3.45.2 Fixed issues . . . 87
3.46 STM32CubeMX V4.11.0 release information . . . 88
3.46.1 Enhancements . . . 88
3.46.2 Fixed issues . . . 88
3.47 STM32CubeMX V4.10.0 release information . . . 89
3.47.1 Enhancements . . . 89
3.47.2 Fixed issues . . . 89
3.48 STM32CubeMX V4.9.0 release information . . . 90
3.48.1 Enhancements . . . 90
3.48.2 Known problems and limitations . . . 90
3.48.3 Fixed issues . . . 90
3.49 STM32CubeMX V4.8.0 release information . . . 90
3.49.1 Enhancements . . . 90
3.49.2 Fixed issues . . . 91
3.50 STM32CubeMX V4.7.1 release information . . . 91
3.50.1 Enhancements . . . 91
3.50.2 Fixed issues . . . 91
3.51 STM32CubeMX V4.7.0 release information . . . 92
3.51.1 Enhancements . . . 92
3.51.2 Fixed issues . . . 92
3.52 STM32CubeMX V4.6.0 release information . . . 93
3.52.1 Enhancements . . . 93
3.52.2 Known problems and limitations . . . 93
3.52.3 Fixed issues . . . 93
3.53 STM32CubeMX V4.5.0 release information . . . 94
3.53.1 Enhancements . . . 94
3.53.2 Known problems and limitations . . . 94
3.53.3 Fixed issues . . . 95
3.54 STM32CubeMX V4.4.0 release information . . . 95
3.54.1 New features . . . 95
3.54.2 Enhancements . . . 95
3.54.3 Known problems and limitations . . . 95

3.55 STM32CubeMX V4.3 and 4.3.1 release information 96
3.55.1 Fixed issues 96
3.55.2 Enhancements 96
3.55.3 Known problems and limitations 96
3.56 STM32CubeMX V4.2 release information 97
3.56.1 New features 97
3.56.2 Enhancements 97
3.56.3 Known problems and limitations 97
3.57 STM32CubeMX V4.1 release information 97
3.57.1 New features 97
3.57.2 Enhancements 97
3.57.3 Known problems and limitations 97
3.58 STM32CubeMX V4.0 release information 98
3.58.1 New features 98
3.58.2 Enhancements 98
3.58.3 Known problems and limitations 98

4 Revision history 99

List of tables

Table 1. STM32CubeMX 6.7.0 release summary . . . 1
Table 2. Workaround for alternate function configuration code . . . 13
Table 3. Main fixed issues in V6.7.0 . . . 20
Table 4. Firmware package versions in V6.7.0 . . . 20
Table 5. Main fixed issues in V6.6.1 . . . 29
Table 6. Firmware package versions in V6.6.1 . . . 30
Table 7. Main fixed issues in V6.6.0 . . . 31
Table 8. Firmware package versions in V6.6.0 . . . 31
Table 9. Main fixed issues in V6.5.0 . . . 33
Table 10. Firmware package versions in V6.5.0 . . . 33
Table 11. Main fixed issues in V6.4.0 . . . 34
Table 12. Firmware package versions in V6.4.0 . . . 35
Table 13. Main fixed issues in V6.3.0 . . . 36
Table 14. Firmware package versions in V6.3.0 . . . 37
Table 15. Main fixed issues in V6.2.1 . . . 37
Table 16. Firmware package versions in V6.2.1 . . . 38
Table 17. Main fixed issues in V6.2.0 . . . 39
Table 18. Firmware package versions in V6.2.0 . . . 40
Table 19. Main fixed issues in V6.1.1 . . . 40
Table 20. Firmware package versions in V6.1.1 . . . 41
Table 21. Main fixed issues in V6.1.0 . . . 42
Table 22. Firmware package versions in V6.1.0 . . . 43
Table 23. Main fixed issues in V6.0.1 . . . 43
Table 24. Firmware package versions in V6.0.1 . . . 44
Table 25. Main fixed issues in V6.0.0 . . . 45
Table 26. Firmware package versions in V6.0.0 . . . 46
Table 27. Fixed issues in V5.6.1 . . . 46
Table 28. Firmware package versions in V5.6.1 . . . 46
Table 29. Main fixed issues in V5.6.0 . . . 48
Table 30. Firmware package versions in V5.6.0 . . . 48
Table 31. Main fixed issues in V5.5.0 . . . 50
Table 32. Firmware package versions in V5.5.0 . . . 50
Table 33. Main fixed issues in V5.4.0 . . . 52
Table 34. Firmware package versions in V5.4.0 . . . 53
Table 35. Main fixed issues in V5.3.0 . . . 54
Table 36. Firmware package versions in V5.3.0 . . . 55
Table 37. Main fixed issues in V5.2.1 . . . 55
Table 38. Firmware package versions in V5.2.1 . . . 56
Table 39. Main fixed issues in V5.2.0 . . . 57
Table 40. Firmware package versions in V5.2.0 . . . 57
Table 41. Main fixed issues in V5.1.0 . . . 59
Table 42. Firmware package versions in V5.1.0 . . . 59
Table 43. Main fixed issues in V5.0.1 . . . 60
Table 44. Firmware package versions in V5.0.1 . . . 60
Table 45. Main fixed issues in V5.0.0 . . . 61
Table 46. Firmware package versions in V5.0.0 . . . 61
Table 47. Main fixed issues in V4.27.0 . . . 62
Table 48. Firmware package versions in V4.27.0 . . . 62

Table 49. Main fixed issues in V4.26.1 . . . 63
Table 50. Firmware package versions in V4.26.1 . . . 63
Table 51. Main fixed issues in V4.26.0 . . . 64
Table 52. Firmware package versions in V4.26.0 . . . 64
Table 53. Fixed issue in V4.25.1 . . . 65
Table 54. Firmware package versions in V4.25.1 . . . 65
Table 55. Fixed issue in V4.25.0 . . . 66
Table 56. Firmware package versions in V4.25.0 . . . 66
Table 57. Fixed issue in V4.24.0 . . . 67
Table 58. Firmware package versions in V4.24.0 . . . 68
Table 59. Fixed issue in V4.23.0 . . . 68
Table 60. Firmware package versions in V4.23.0 . . . 69
Table 61. Fixed issue in V4.22.1 . . . 69
Table 62. Firmware package versions in V4.22.1 . . . 70
Table 63. Fixed issue in V4.22.0 . . . 70
Table 64. Firmware package versions in V4.22.0 . . . 71
Table 65. Fixed issue in V4.21.0 . . . 71
Table 66. Firmware package versions in V4.21.0 . . . 72
Table 67. Fixed issue in V4.20.1 . . . 73
Table 68. Firmware package versions in V4.20.1 . . . 73
Table 69. Fixed issues in V4.20.0 . . . 73
Table 70. Firmware package versions in V4.20.0 . . . 75
Table 71. Fixed issues in V4.19.0 . . . 75
Table 72. Firmware package versions in V4.19.0 . . . 76
Table 73. Fixed issues in V4.18.0 . . . 77
Table 74. Firmware package versions in V4.18.0 . . . 78
Table 75. Fixed issues in V4.17.0 . . . 78
Table 76. Firmware package versions in V4.17.0 . . . 79
Table 77. Fixed issues in V4.16.1 . . . 80
Table 78. Firmware package versions in V4.16.1 . . . 80
Table 79. Fixed issues in V4.16.0 . . . 80
Table 80. Firmware package versions in V4.16.0 . . . 81
Table 81. Fixed issues in V4.15.1 . . . 81
Table 82. Firmware package versions in V4.15.1 . . . 82
Table 83. Fixed issues in V4.15.0 . . . 82
Table 84. Firmware package versions in V4.15.0 . . . 84
Table 85. Fixed issues in V4.14.0 . . . 85
Table 86. Fixed issues in V4.13.1 . . . 86
Table 87. Fixed issues in V4.13.0 . . . 86
Table 88. Fixed issues in V4.12.0 . . . 87
Table 89. Fixed issues in V4.11.0 . . . 88
Table 90. Fixed issues in V4.10.0 . . . 89
Table 91. Fixed issues in V4.9.0 . . . 90
Table 92. Fixed issues in V4.8.0 . . . 91
Table 93. Fixed issues in V4.7.1 . . . 91
Table 94. Fixed issues in V4.7.0 . . . 92
Table 95. Fixed issues in V4.6.0 . . . 93
Table 96. Document revision history . . . 99

1 General information

STM32CubeMX supports the STM32 Arm®(a)-based microcontrollers and microprocessors.

1.1 Overview

STM32CubeMX is a tool provided to help designers to:

- Find an STM32 microcontroller or microprocessor most suitable for their application, by shortlisting products based on the user selection of peripherals.
- Configure the microcontroller or microprocessor I/Os, clock, peripherals, DMA, interrupts, middleware and generate the corresponding initialization code.
- Evaluate the power consumption.

Note: Check the latest version of the errata sheet for the STM32 microcontroller or microprocessor devices in use or planned to be used. These product limitations may not yet be implemented in the current version of STM32CubeMX. The errata sheets are available at www.st.com.

1.2 Host PC system requirements

Supported toolchains

STM32CubeMX generates project files for the following toolchains:

- STM32CubeIDE by STMicroelectronics
- IAR Embedded Workbench® for Arm® (EWARM) by IAR systems®
- Microcontroller Development kit for Arm® by Keil®: MDK-ARM V4 or V5 (minimum required version V4.73)

Supported operating systems and architectures

- Windows®(b) 8.1: 64-bit (x64)
- Windows®(b) 10: 64-bit (x64)
- Windows®(b) 11: 64-bit (x64)
- Linux®(c) (tested on Ubuntu®(d) LTS, and Fedora®(e) 64-bit (x64))
- macOS® (minimum version macOS® Catalina)(f)

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

b. Windows is a trademark of the Microsoft group of companies.

c. Linux® is a registered trademark of Linus Torvalds.

d. Ubuntu® is a registered trademark of Canonical Ltd.

e. Fedora® is a trademark of Red Hat, Inc.

f. macOS® is a trademark of Apple Inc., registered in the U.S. and other countries and regions.

Software requirements

Administrator rights are required to download the update package and, at the next launch, to complete the update process.

Java Runtime Environment: starting with version V6.2.0, STM32CubeMX embeds the Java Runtime Environment (JRE™) required for its execution and no longer uses the one installed on the user's machine.

Note: The bundled JRE™ is Adoptium™ Temurin™[a] 11.0.16 and JavaFX-11.0.2.

Earlier versions than STM32CubeMX V6.2.0 require a Java Runtime Environment (JRE™) to execute.

The JRE™ version constraints are:

- 64-bit version mandatory; 32-bit version not supported
- The STM32PackCreator companion tool requires JRE™ supporting JavaFX
- Minimum JRE™ version is 1.8_45 (known limitation with 1.8_251)
- Version 11 is supported
- Versions 7, 9, 10, 12 and upper are not supported

The macOS® software requirements are:

- Xcode must be installed on macOS® computers
- Both Xcode and Rosetta must be installed on macOS® computers embedding the Apple®[b] M1 processor

1.3 Cross-selector data disclaimer

The information presented in the cross-reference tool is intended to help the users narrow their search of STMicroelectronics products based on similarity to other available products. The information is based on data published by other semiconductor manufacturers and might contain errors. STMicroelectronics provides the information "as is" and does not make any representations or warranties as to its accuracy or suitability for any particular purpose. STMicroelectronics recommends that the users make their purchase decision based on their review of STMicroelectronics datasheets and other product documentation. Any pricing information is an estimate for budgetary purposes only.

1.4 License

STM32CubeMX is delivered under the SLA0048 software license agreement and its Additional License Terms.

a. Adoptium and Temurin are trademarks of the Eclipse foundation.

b. Apple® is a trademark of Apple Inc., registered in the U.S. and other countries and regions.

2 What is new in STM32CubeMX V6.7.0?

- Added the support for one new product in the STM32WL Series: STM32WL5MOC
- Added the support for one new board related to the STM32WB Series: STEVAL-PROTEUS1
- Added the support for one board related to the STM32F0 Series: STM320518-EVAL
- Added a menu in *Pack Creator* to generate the pack examples description file
- Added the support for the cohabitation between Azure® RTOS USBX or USB and USB-PD for the STM32L5 Series, making it possible to enable and disable the USB support from USB-PD middleware
- Added the download of MCU and board documents
- Added the support for AI filter parameters in the *Export to Excel* feature
- Added new features for LPBAM such as the possibility to order link queues
- Upgraded the JDK11 to Adoptium™ Termurin™ 11.0.16

2.1 Known limitations

- For a project with both AES and mbedTLS activated, if the option “Generate peripheral initialization as a pair of '.c/.h' files per peripheral” is checked in the *CodeGenerator* tab, an issue occurs when compiling under IAR Embedded Workbench®. It is advised to uncheck this option.
- After selecting “List Pinout Compatible MCUs”, import may not work properly (mainly for multi-core or Arm® TrustZone®[a] enabled projects).
- DMA handlers are not generated for DCMI and PSSI peripherals.
- In case of file access issue during compilation with some examples on partner IDEs (for instance with the “cannot open source input file” error message), consider to move either the full package manually or just the example using the “Example Selector” from STM32CubeMX, closer to the root of the disk (long path issue).
- The “CAD resources” feature may not be fully functional in the “Use System Proxy parameters” option of the [Updater Settings…]>[Connection Parameters] menu.
  In case of issue, consider selecting the “Manual Configuration of Proxy Server” option instead (or “No Proxy” if the computer running STM32CubeMX has a direct connection to the Internet).

When selecting microcontrollers in the STM32F4 Series and STM32F7 Series:

- IPv6 activation is not yet fully supported by the EWARM and MDK-ARM toolchains, causing compilation errors with MDK-ARM and compilation warnings with EWARM.

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

When selecting microcontrollers in the STM32G0 Series:

- Regarding the cohabitation between USB and USB-PD, the VID and PID of USB-PD and USB are not automatically aligned. VID/PID values must be aligned manually.
- When both the USB-PD and FreeRTOS™ CMSIS_V1 middleware are enabled at the same time, the FreeRTOS™ `eTaskGetState` parameter must be enabled in the *include parameters* tab.

When selecting microcontrollers in the STM32H7 Series:

- MDMA and HSEM are not supported in LL. Only HAL is supported.
- When activating any mode under SPDIFRX:
  - The alternate function configuration code is not generated in the `HAL_SPDIFRX_MspInit` function in the *stm32h7xx_hal_msp.c* file.
  - Add workaround code in the user section after "`GPIO_InitStruct.Speed = GPIO_SPEED_FREQ_LOW;`" as described in *Table 2* depending on the channel and selected pin.

Table 2. Workaround for alternate function configuration code

Channel	Selected pin	Workaround code

IN0	PD7	`/* USER CODE BEGIN alternate function configuration */`
		`GPIO_InitStruct.Alternate = GPIO_AF9_SPDIF;`
		`/* USER CODE END alternate function configuration */`

	PG11	`/* USER CODE BEGIN alternate function configuration */`
		`GPIO_InitStruct.Alternate = GPIO_AF8_SPDIF;`
		`/* USER CODE END alternate function configuration */`

IN1	PD8	`/* USER CODE BEGIN alternate function configuration */`
		`GPIO_InitStruct.Alternate = GPIO_AF9_SPDIF;`
		`/* USER CODE END alternate function configuration */`

	PG12	`/* USER CODE BEGIN alternate function configuration */`
		`GPIO_InitStruct.Alternate = GPIO_AF8_SPDIF;`
		`/* USER CODE END alternate function configuration */`

IN2	PC4	`/* USER CODE BEGIN alternate function configuration */`
		`GPIO_InitStruct.Alternate = GPIO_AF9_SPDIF;`
		`/* USER CODE END alternate function configuration */`

	PG8	`/* USER CODE BEGIN alternate function configuration */`
		`GPIO_InitStruct.Alternate = GPIO_AF8_SPDIF;`
		`/* USER CODE END alternate function configuration */`

IN3	PC5	`/* USER CODE BEGIN alternate function configuration */`
		`GPIO_InitStruct.Alternate = GPIO_AF9_SPDIF;`
		`/* USER CODE END alternate function configuration */`

	PG9	`/* USER CODE BEGIN alternate function configuration */`
		`GPIO_InitStruct.Alternate = GPIO_AF8_SPDIF;`
		`/* USER CODE END alternate function configuration */`

When selecting dual-core microcontrollers in the STM32H7 Series:

- Only Boot0 is supported: both cores boot at once.
- Import from and to dual-core STM32H7 is not supported.
- For memory-to-memory DMA or BDMA or MDMA configuration, the initialization code is generated for both cores.
- OpenAMP issue when compiling under EWARM and MDK-ARM when OpenAMP is activated under STM32CubeMX:
  - To avoid link errors in OpenAMP when compiling in EWARM IDE, add the next four lines of code in the linker files (*.icf*):
    ```
    /* Create region for OPENAMP */
    define symbol __OPENAMP_region_start__ = 0x38000400;
    define symbol __OPENAMP_region_size__   = 0xFC00;
    export symbol __OPENAMP_region_start__;
    export symbol __OPENAMP_region_size__;
    ```
  - To avoid link errors in OpenAMP when compiling in MDK-ARM IDE, add the next four lines of code in the linker files (*.sct*):
    ```
    ; *****   Create region for OPENAMP   *****
    .resource_table +0 ALIGN 4 { ; resource table
    *(.resource_table)
    }
    ; Shared Memory area used by OpenAMP
    __OpenAMP_SHMEM__ 0x38000400 EMPTY 0xFC00 {}
    ```
- OpenAMP under STM32CubeIDE need linker file update:
  - The following lines must be added under the *.ld* file:
    ```
    /* Specify the memory areas */
    MEMORY
    {
    ...
    m_ipc_shm    (RW)  : ORIGIN = 0x38000400, LENGTH = 63K
    }
    /* Symbols needed for OpenAMP to enable rpmsg */
    __OPENAMP_region_start__=ORIGIN(m_ipc_shm);
    __OPENAMP_region_end__=ORIGIN(m_ipc_shm)+LENGTH(m_ipc_shm);
    ```

When selecting microcontrollers in the STM32L5 Series:

- Arm® TrustZone® support:
  - Fixed default SAU is configured in application *partition_stm32l552xx.h* and *partition_stm32l562xx.h* files.
  - Import not working for TrustZone® projects (`TZEN=1`).
- In order to facilitate the peripheral privilege configuration, from STM32CubeMX V6.2.0, the GTZC peripheral is split into two domains: secure and nonsecure. The side effect is that, in the case of project migration from a release version before V6.2.0, if GTZC is configured in both the secure and nonsecure domains with previously configured privilege peripherals on a nonsecure peripheral, this configuration is lost during the migration: the GTZC_NS privileges must be configured again.
- Regarding the cohabitation between USB and USB-PD, the VID and PID of USB-PD and USB are not automatically aligned. VID/PID values must be aligned manually.

When selecting microcontrollers in the STM32U5 Series:

- Regarding the cohabitation between Azure® RTOS USBX and USB-PD, the VID and PID of USB-PD and USBX are not automatically aligned. VID/PID values must be aligned manually.
- To avoid linking issues with Keil® MDK-ARM when USBX Core System is enabled, "Device CoreStack FS" or "Host CoreStack FS" must be enabled according to the USB_OTG_FS selected mode.
- To avoid compilation issues when one DMA channel request is activated for one TIMx peripheral, replace *htim_xx* by *htim_base*. For example, replace:
  `__HAL_LINKDMA(htim_oc, hdma[TIM_DMA_ID_CC1], handle_GPDMA1_Channel11);`
  by
  `__HAL_LINKDMA(htim_base, hdma[TIM_DMA_ID_CC1], handle_GPDMA1_Channel11);`

When selecting microcontrollers in the STM32WB Series:

- THREAD is not supported in Power Consumption Calculator (PCC) for the STM32WB Series.
- The value of the CFG_BLE_MAX_CONN_EVENT_LENGTH parameter in file *app_conf.h* is wrongly formatted: uint16_t is used instead of uint32_t. This impacts the *Data Throughput* of the application since the max value is 0xFFFF while it should be 0xFFFF FFFF. The defined value must be changed manually in the generated code.

When selecting microcontrollers in the STM32WL Series:

- If LoRaWAN®, SubGHZ_Phy or Sigfox™ middleware is used with the option *Generate peripheral initialization as a pair of '.c/.h' files per peripheral* disabled, it is advised to untick the visibility of the SUBGHZ and IPCC peripherals in [Project Manager]> [Advanced Settings] *Generated Function Calls* panel to avoid an issue when compiling.
- Import from and to dual-core is not working for the STM32WL Series.
- For dual-core products, IPCC LL + RF middleware (LoRaWAN®, Sigfox™ and SubGHZ_Phy) is not supported.
- If a Sigfox™ project is generated with MDK-ARM, the following option must be set in the project *Options C/C++(AC6)* panel: *Misc Controls*: `-fshort-enums`
- The SubGHZ peripheral is forced on the Cortex®-M0+.
- In case of a project migration from a release version before V6.2.0, in order to facilitate the GTZC configuration, some previously default configuration ("enabled"/"disabled") have been moved to "default" configuration. This new state provides the default configuration of the MCU without code generation. Users specifically needing this code generation mus modify this state.
- When compiling under IAR Embedded Workbench®, in case of dual-core products, the user must activate the share mode in both CM4 and CM0PLUS ST-LINK project options.
- The "Time base: System tick timer" value selected in the *NVIC* configuration panel is not used for the code generation. This value must be updated by the end user in the generated code.
- KMS and STM32Cube Azure® RTOS ThreadX cannot be enabled in the same core.

When selecting microprocessors in the STM32MP1 Series:

- DMA nodes are generated in the device tree but the DMA properties in the IP clients nodes are not generated.
- Import from and to MPU projects does not work properly.
- Dual-core project structure compatibility break : the action to import (migrate or continue) projects created with versions earlier than STM32CubeMX V5.3.0 is supported but requires the manual copy of `USER SECTIONS` for the Device Tree and Cortex®-M4 firmware from the former folder structure (*DeviceTree/Inc/Src*) to the new one (*CA7/DeviceTree* - *CM4/Src* - *CM4/Inc*).
- Additional software is not supported.
- RCC generation in *Production* mode not supported on co-processor side; Only the *Engineering* mode is supported.
  By default, the STM32CubeMX-generated code is compliant with the *Engineering* mode.Therefore, the call of the following clock functions must be removed in the *Production* mode since these clocks are then managed by Linux®:
  `SystemClock_Config()`, `PeriphCommonClock_Config()`, and `HAL_RCCEx_PeriphCLKConfig()`.
  The system part (`SystemClock_Config()` and `PeriphCommonClock_Config()`) can be removed in STM32CubeMX by selecting *[Not Generate function call]* for RCC in the *Project Manager*, then *Advanced Settings* tabs.
  `HAL_RCCEx_PeriphCLKConfig()` must be removed manually from file *stm32mp1xx_hal_msp.c* (STM32CubeMX-generated code).
  To make the user code compatible with both the engineering and production modes, the above RCC functions can be put under dynamic condition `if(IS_ENGINEERING_BOOT_MODE()).`
- On macOS®, installation issues may result from the fact that the install is not signed. Use the following procedure:
  a) Download STM32CubeMX on a Window® OS personal computer
  b) Copy the downloaded install into the macOS® personal computer
  c) Launch the install
- OpenAMP warning when compiling under MDK-ARM if OpenAMP is not activated under STM32CubeMX:
  – Remove the next four lines of code from the linker files (*.sct*) to avoid warning “No section matches pattern *(.resource_table)”:

```
; ***** Comment these 4 lines if OPENAMP is not used *****
.resource_table +0 ALIGN 4 { ; resource table
*(.resource_table)
}
; Shared Memory area used by OpenAMP
__OpenAMP_SHMEM__ 0x10040000 EMPTY 0x8000 {}
```

- Device tree generation: the "pwr" user section name is changed to "pwr_regulators".
  – Existing code in the "pwr" user section must be backed up and reported manually into the new "pwr_regulators" user section after code generation.
- About the HRTIM peripheral: for the "Set Source Selection" & "Reset Source Selection" parameters, the "No source is selected" must be manually set for any unused source before decreasing the number of sources.

Example Selector:

- The *ioc* file of the FMC_SRAM_TrustZone example in STM32CubeL5 is broken (*STM32Cube_FW_L5_V1.4.0\Projects\STM32L552E-EV\Examples\FMC\FMC_SRAM_TrustZone*). To fix it, proceed as follows:
  a) Open the example in STM32CubeMX 6.3.0 or later
  b) Go to the GTZC_S configuration panel
  c) Select the "TrustZone Security Controller - Memory Protection Controller WaterMark" tab
  d) In MPCWM2(FMC_NOR) section, Set "0x60080000" in "Non Secure Area 1 Start Address"
  e) Generate code
- When starting an example from the *Example Selector* and regenerating the code, some files can be duplicated leading to potential compilation issues. In this case, remove the duplicated files

Software Packs:

- When a pack is disabled, generated files are not removed from the project
  – Workaround: remove these files manually
- Possible issue with component dependencies in the *Additional Software components selection* window
  – Workaround: click on the *Refresh* button from the *Embedded Software Packages Manager*
- When using the GNSS pack, users must not migrate their project from 3.x to 4.0.0
- Functionalities not supported:
  – `maxInstances`, `isDefaultVariant`, `generator` attributes of the `component` element
  – `Dtz`, `Ddsp`, `Dsecure` attributes of the condition element
  – `repository` element
  – `tag` and `url` attributes of a `release` element
  – `dominate` element
  – `public` attributes for the `file` element
  – `preIncludeLocal` and `preIncludeGlobal file category` attributes
  – `Pre_Include_Local_h` element
  – `Pre_Include_Global_h` element
  – Pack components where attribute values come with a "." character
- Compilation issues when using both X-CUBE-AZRTOS-H7 v1.1.0 and OpenAMP middleware in the same project with minimum version MDK-ARM v5.32: X-CUBE-AZRTOS-H7 v1.1.0 requires Arm C compiler version 6 while OpenAMP is not compatible with this version (only Arm C compiler version 5 is supported). The workaround consists in using X-CUBE-AZRTOS-H7 v1.0.0 instead, which is compatible with Arm C compiler version 5.

STM32CubeIDE toolchain:

- It is functional only with a Java 8 64-bit Java Virtual Machine with versions earlier than STM32CubeMX V5.6.1.

DDR test suite:

- STM32CubeProgrammer (STM32CubeProg) is not supported from v2.10.0 onwards.

User manual:

- Some chapters in the user manual *STM32CubeMX for STM32 configuration and initialization C code generation* (UM1718) are not fully up to date.

2.2 Recommendations

DDR binaries for the STM32MP1 boards

The DDR binaries needed to connect to the STM32MP1 boards are available from the GitHub website at https://github.com/ with the keyword STMicroelectronics/STM32DDRFW-UTIL.

List pinout-compatible microcontrollers

The loading of microcontrollers can take a long time if all series and all packages are selected. If the loading takes too long, stop it, refine the microcontroller filters on a dedicated series or package, and restart the loading.

How to improve the wake-up from Stop sequences without relying on the global `SystemClock_Config()`

The `SystemClock_Config` provided in the HAL examples is intended to be used to configure the system clock at startup. It is not recommended to use it to restore the clock settings after a Stop mode.

To keep the wake-up as quick as possible, it is highly recommended to restore only what has been changed by the hardware to enter the low-power mode. This is typically the case for the oscillators and system clock sources. The RCC configuration registers are unchanged and there is no need to restore them.

Typically, after a Stop mode, it is recommended to call a separate `SystemClockConfig_STOP` after the wake-up that enables the LSE, PLL and selects PLL as system clock source (LSE and PLL are disabled in Stop mode). Find below an example of `SystemClockConfig_STOP` (provided in the HID_Standalone_LPM application):

```
static void SystemClockConfig_STOP(void)
{
#if defined (USB_USE_LSE_MSI_CLOCK)

  /* Configures system clock after wake-up from STOP: enable LSE,
     PLL and select PLL as system clock source (LSE and PLL are
     disabled in Stop mode) */
  __HAL_RCC_LSE_CONFIG(RCC_LSE_ON);
  /* Wait till HSE is ready */
  while(__HAL_RCC_GET_FLAG(RCC_FLAG_LSERDY) == RESET)
  {}
```

```
  /* Enable the main PLL. */
  __HAL_RCC_PLL_ENABLE();
  /* Wait till PLL is ready */
  while(__HAL_RCC_GET_FLAG(RCC_FLAG_PLLRDY) == RESET)
  {}
  /* Select PLL as SYSCLK */
  MODIFY_REG(RCC->CFGR, RCC_CFGR_SW, RCC_SYSCLKSOURCE_PLLCLK);
  /* Wait till system clock switch to PLL */
  while (__HAL_RCC_GET_SYSCLK_SOURCE() != RCC_CFGR_SWS_PLL)
  {}
#elif defined (USB_USE_HSE_CLOCK)
  /* Configures system clock after wake-up from STOP: enable HSE,
PLL and select
  PLL as system clock source (HSE and PLL are disabled in Stop mode)
*/
 __HAL_RCC_HSE_CONFIG(RCC_HSE_ON);
  /* Wait till HSE is ready */
  while(__HAL_RCC_GET_FLAG(RCC_FLAG_HSERDY) == RESET)
  {}
  /* Enable the main PLL. */
  __HAL_RCC_PLL_ENABLE();
  /* Wait till PLL is ready */
  while(__HAL_RCC_GET_FLAG(RCC_FLAG_PLLRDY) == RESET)
  {}
  /* Select PLL as SYSCLK */
  MODIFY_REG(RCC->CFGR, RCC_CFGR_SW, RCC_SYSCLKSOURCE_PLLCLK);
  /* Wait till system clock switch to PLL */
  while (__HAL_RCC_GET_SYSCLK_SOURCE() != RCC_CFGR_SWS_PLL)
  {}
#endif /* USB_USE_LSE_MSI_CLOCK */
}
```

2.3 Main fixed issues

Table 3. Main fixed issues in V6.7.0

ID	Summary
112719	[New database] Erroneous data for the "Total" fields for some MCUs.
116750	[New database] Missing overview image for many boards.
118967	[New database] Contextual documentation to be enabled for many peripherals.
122221	[STM32CubeMX-GUI] Add the possibility to download selected MCU and board documents.
124473	[GUI][MCU-Selector] The ADC total number is set to 0 instead of 3 in the “ANALOG” section.
128899	Bad “ADC-Total” value in selector for STM32MP13xx MPUs.

2.4 Firmware package versions

Table 4 shows the firmware package versions.

Table 4. Firmware package versions in V6.7.0

STM32Cube firmware and updated middleware	Version
STM32C0	V1.0.0
STM32F0	V1.11.3
STM32F1	V1.8.4
STM32F2	V1.9.3
STM32F3	V1.11.3
STM32F4	V1.27.1
STM32F7	V1.17.0
STM32G0	V1.6.1
STM32G4	V1.5.1
STM32H7	V1.11.0
STM32L0	V1.12.1
STM32L1	V1.10.3
STM32L4/L4+	V1.17.2
STM32L5	V1.5.0
STM32MP1	V1.6.0
STM32U5	V1.1.1
STM32WB	V1.15.0
STM32WL	V1.3.0

3 Release information

3.1 Microcontrollers and microprocessors supported by this release

- STM32C011D6Yx, STM32C011F(4-6)Px, STM32C011F(4-6)Ux, STM32C011J(4-6)Mx
- STM32C031C(4-6)Tx, STM32C031C(4-6)Ux, STM32C031F(4-6)Px, STM32C031G(4-6)Ux, STM32C031K(4-6)Tx, STM32C031K(4-6)Ux
- STM32F030C(6-8-C)Tx, STM32F030F4Px, STM32F030K6Tx, STM32F030R(8-C)Tx
- STM32F031C(4-6)Tx, STM32F031E6Yx, STM32F031F(4-6)Px, STM32F031G(4-6)Ux, STM32F031K6Tx, STM32F031K(4-6)Ux
- STM32F038C6Tx, STM32F038E6Yx, STM32F038F6Px, STM32F038G6Ux, STM32F038K6Ux
- STM32F042C(4-6)Tx, STM32F042C(4-6)Ux, STM32F042F(4-6)Px, STM32F042G(4-6)Ux, STM32F042K(4-6)Tx, STM32F042K(4-6)Ux, STM32F042T6Yx
- STM32F048C6Ux, STM32F048G6Ux, STM32F048T6Yx
- STM32F051C(4-6-8)Tx, STM32F051C(4-6-8)Ux, STM32F051K(4-6-8)Tx, STM32F051K(4-6-8)Ux, STM32F051R8Hx, STM32F051R(4-6-8)Tx, STM32F051T8Yx
- STM32F058C8Ux, STM32F058R8Hx, STM32F058R8Tx, STM32F058T8Yx
- STM32F070C(6-B)Tx, STM32F070F6Px, STM32F070RBTx
- STM32F071C(8-B)Tx, STM32F071C(8-B)Ux, STM32F071CBYx, STM32F071RBTx, STM32F071V(8-B)Hx, STM32F071V(8-B)Tx
- STM32F072C(8-B)Tx, STM32F072C(8-B)Ux, STM32F072CBYx, STM32F072RBHx, STM32F072R(8-B)Tx, STM32F072V(8-B)Hx, STM32F072V(8-B)Tx
- STM32F078CBTx, STM32F078CBUx, STM32F078CBYx, STM32F078RBHx, STM32F078RBTx, STM32F078VBHx, STM32F078VBTx
- STM32F091C(B-C)Tx, STM32F091C(B-C)Ux, STM32F091RCHx, STM32F091R(B-C)Tx, STM32F091RCYx, STM32F091VCHx, STM32F091V(B-C)Tx
- STM32F098CCTx, STM32F098CCUx, STM32F098RCHx, STM32F098RCTx, STM32F098RCYx, STM32F098VCHx, STM32F098VCTx
- STM32F100C(4-6-8-B)Tx, STM32F100R(4-6-8-B)Hx, STM32F100R(4-6-8-B-C-D-E)Tx, STM32F100V(8-B-C-D-E)Tx, STM32F100Z(C-D-E)Tx
- STM32F101C(4-6-8-B)Tx, STM32F101C(8-B)Ux, STM32F101RBHx, STM32F101R(4-6-8-B-C-D-E-F-G)Tx, STM32F101T(4-6-8-B)Ux, STM32F101V(8-B-C-D-E-F-G)Tx, STM32F101Z(C-D-E-F-G)Tx
- STM32F102C(4-6-8-B)Tx, STM32F102R(4-6-8-B)Tx
- STM32F103C(4-6-8-B)Tx, STM32F103C(6-B)Ux, STM32F103R(4-6-8-B)Hx, STM32F103R(4-6-8-B-C-D-E-F-G)Tx, STM32F103R(C-D-E)Yx, STM32F103T(4-6-8-B)Ux, STM32F103V(8-B-C-D-E)Hx, STM32F103VBIx, STM32F103V(8-B-C-D-E-F-G)Tx, STM32F103Z(C-D-E-F-G)Hx, STM32F103Z(C-D-E-F-G)Tx
- STM32F105R(8-B-C)Tx, STM32F105V(8-B)Hx, STM32F105V(8-B-C)Tx
- STM32F107R(B-C)Tx, STM32F107VCHx, STM32F107V(B-C)Tx

- STM32F205R(B-C-E-F-G)Tx, STM32F205R(E-G)Yx, STM32F205V(B-C-E-F-G)Tx, STM32F205Z(C-E-F-G)Tx
- STM32F207I(C-E-F-G)Hx, STM32F207I(C-E-F-G)Tx, STM32F207V(C-E-F-G)Tx, STM32F207Z(C-E-F-G)Tx
- STM32F215R(E-G)Tx, STM32F215V(E-G)Tx, STM32F215Z(E-G)Tx
- STM32F217I(E-G)Hx, STM32F217I(E-G)Tx, STM32F217V(E-G)Tx, STM32F217Z(E-G)Tx
- STM32F301C(6-8)Tx, STM32F301C8Yx, STM32F301K(6-8)Tx, STM32F301K(6-8)Ux, STM32F301R(6-8)Tx
- STM32F302C(6-8-B-C)Tx, STM32F302C8Yx, STM32F302K(6-8)Ux, STM32F302R(6-8-B-C-D-E)Tx, STM32F302V(D-E)Hx, STM32F302V(B-C-D-E)Tx, STM32F302VCYx, STM32F302Z(D-E)Tx
- STM32F303C(6-8-B-C)Tx, STM32F303C8Yx, STM32F303K(6-8)Tx, STM32F303R(6-8-B-C-D-E)Tx, STM32F303V(D-E)Hx, STM32F303V(B-C-D-E)Tx, STM32F303V(C-E)Yx, STM32F303Z(D-E)Tx
- STM32F318C8Tx, STM32F318C8Yx, STM32F318K8Ux
- STM32F328C8Tx
- STM32F334C(4-6-8)Tx, STM32F334C8Yx, STM32F334K(4-6-8)Tx, STM32F334K(4-8)Ux, STM32F334R(6-8)Tx
- STM32F358CCTx, STM32F358RCTx, STM32F358VCTx
- STM32F373C(8-B-C)Tx, STM32F373R(8-B-C)Tx, STM32F373V(8-B-C)Hx, STM32F373V(8-B-C)Tx
- STM32F378CCTx, STM32F378RCTx, STM32F378RCYx, STM32F378VCHx, STM32F378VCTx
- STM32F398VETx
- STM32F401CCFx, STM32F401C(B-C-D-E)Ux, STM32F401C(C-D)Yx, STM32F401R(B-C-D-E)Tx, STM32F401V(B-C-D-E)Hx, STM32F401V(B-C-D-E)Tx
- STM32F405O(E-G)Yx, STM32F405RGTx, STM32F405VGTx, STM32F405ZGTx
- STM32F407I(E-G)Hx, STM32F407I(E-G)Tx, STM32F407V(E-G)Tx, STM32F407Z(E-G)Tx
- STM32F410CBTx, STM32F410C(8-B)Ux, STM32F410RBIx, STM32F410R(8-B)Tx, STM32F410T(8-B)Yx
- STM32F411C(C-E)Ux, STM32F411C(C-E)Yx, STM32F411R(C-E)Tx, STM32F411VEHx, STM32F411V(C-E)Tx
- STM32F412C(E-G)Ux, STM32F412R(E-G)Tx, STM32F412R(E-G)Yx, STM32F412RGYxP, STM32F412V(E-G)Hx, STM32F412V(E-G)Tx, STM32F412Z(E-G)Jx, STM32F412Z(E-G)Tx
- STM32F413C(G-H)Ux, STM32F413M(G-H)Yx, STM32F413R(G-H)Tx, STM32F413V(G-H)Hx, STM32F413V(G-H)Tx, STM32F413Z(G-H)Jx, STM32F413Z(G-H)Tx
- STM32F415OGYx, STM32F415RGTx, STM32F415VGTx, STM32F415ZGTx
- STM32F417I(E-G)Hx, STM32F417I(E-G)Tx, STM32F417V(E-G)Tx, STM32F417Z(E-G)Tx
- STM32F423CHUx, STM32F423MHYx, STM32F423RHTx, STM32F423VHHx, STM32F423VHTx, STM32F423ZHJx, STM32F423ZHTx

- STM32F427A(G-I)Hx, STM32F427I(G-I)Hx, STM32F427I(G-I)Tx, STM32F427V(G-I)Tx, STM32F427Z(G-I)Tx
- STM32F429A(G-I)Hx, STM32F429B(E-G-I)Tx, STM32F429I(E-G-I)Hx, STM32F429I(E-G-I)Tx, STM32F429N(E-G-I)Hx, STM32F429V(E-G-I)Tx, STM32F429Z(E-G-I)Tx, STM32F429Z(G-I)Yx
- STM32F437AIHx, STM32F437I(G-I)Hx, STM32F437I(G-I)Tx, STM32F437V(G-I)Tx, STM32F437Z(G-I)Tx
- STM32F439AIHx, STM32F439B(G-I)Tx, STM32F439I(G-I)Hx, STM32F439I(G-I)Tx, STM32F439N(G-I)Hx, STM32F439V(G-I)Tx, STM32F439Z(G-I)Tx, STM32F439Z(G-I)Yx
- STM32F446M(C-E)Yx, STM32F446R(C-E)Tx, STM32F446V(C-E)Tx, STM32F446Z(C-E)Hx, STM32F446Z(C-E)Jx, STM32F446Z(C-E)Tx
- STM32F469A(E-G-I)Hx, STM32F469A(G-I)Yx, STM32F469B(E-G-I)Tx, STM32F469I(E-G-I)Hx, STM32F469I(G-I)Tx, STM32F469N(E-G-I)Hx, STM32F469V(E-G-I)Tx, STM32F469Z(E-G-I)Tx
- STM32F479A(G-I)Hx, STM32F479AIYx, STM32F479B(G-I)Tx, STM32F479I(G-I)Hx, STM32F479IITx, STM32F479N(G-I)Hx, STM32F479V(G-I)Tx, STM32F479Z(G-I)Tx
- STM32F722I(C-E)Kx, STM32F722I(C-E)Tx, STM32F722R(C-E)Tx, STM32F722V(C-E)Tx, STM32F722Z(C-E)Tx
- STM32F723I(C-E)Kx, STM32F723I(C-E)Tx, STM32F723V(C-E)Tx, STM32F723V(C-E)Yx, STM32F723Z(C-E)Ix, STM32F723Z(C-E)Tx
- STM32F730I8Kx, STM32F730R8Tx, STM32F730V8Tx, STM32F730Z8Tx
- STM32F732IEKx, STM32F732IETx, STM32F732RETx, STM32F732VETx, STM32F732ZETx
- STM32F733IEKx, STM32F733IETx, STM32F733VETx, STM32F733VEYx, STM32F733ZEIx, STM32F733ZETx
- STM32F745I(E-G)Kx, STM32F745I(E-G)Tx, STM32F745V(E-G)Hx, STM32F745V(E-G)Tx, STM32F745Z(E-G)Tx
- STM32F746B(E-G)Tx, STM32F746I(E-G)Kx, STM32F746I(E-G)Tx, STM32F746N(E-G)Hx, STM32F746V(E-G)Hx, STM32F746V(E-G)Tx, STM32F746Z(E-G)Tx, STM32F746Z(E-G)Yx
- STM32F750N8Hx, STM32F750V8Tx, STM32F750Z8Tx
- STM32F756BGTx, STM32F756IGKx, STM32F756IGTx, STM32F756NGHx, STM32F756VGHx, STM32F756VGTx, STM32F756ZGTx, STM32F756ZGYx
- STM32F765B(G-I)Tx, STM32F765I(G-I)Kx, STM32F765I(G-I)Tx, STM32F765N(G-I)Hx, STM32F765V(G-I)Hx, STM32F765V(G-I)Tx, STM32F765Z(G-I)Tx
- STM32F767B(G-I)Tx, STM32F767I(G-I)Kx, STM32F767I(G-I)Tx, STM32F767N(G-I)Hx, STM32F767V(G-I)Hx, STM32F767V(G-I)Tx, STM32F767Z(G-I)Tx
- STM32F769AIYx, STM32F769B(G-I)Tx, STM32F769I(G-I)Tx, STM32F769N(G-I)Hx
- STM32F777BITx, STM32F777IIKx, STM32F777IITx, STM32F777NIHx, STM32F777VIHx, STM32F777VITx, STM32F777ZITx
- STM32F778AIYx
- STM32F779AIYx, STM32F779BITx, STM32F779IITx, STM32F779NIHx
- STM32G030C(6-8)Tx, STM32G030F6Px, STM32G030J6Mx, STM32G030K(6-8)Tx

- STM32G031C(4-6-8)Tx, STM32G031C(4-6-8)Ux, STM32G031F(4-6-8)Px, STM32G031G(4-6-8)Ux, STM32G031J(4-6)Mx, STM32G031K(4-6-8)Tx, STM32G031K(4-6-8)Ux, STM32G031Y8Yx
- STM32G041C(6-8)Tx, STM32G041C8Ux, STM32G041F(6-8)Px, STM32G041G(6-8)Ux, STM32G041J6Mx, STM32G041K(6-8)Tx, STM32G041K8Ux, STM32G041Y8Yx
- STM32G050C(6-8)Tx, STM32G050F6Px, STM32G050K(6-8)Tx
- STM32G051C(6-8)Tx, STM32G051C(6-8)Ux, STM32G051F(6-8)Px, STM32G051F8Yx, STM32G051G(6-8)Ux, STM32G051K(6-8)Tx, STM32G051K(6-8)Ux
- STM32G061C(6-8)Tx, STM32G061C(6-8)Ux, STM32G061F(6-8)Px, STM32G061F8Yx, STM32G061G(6-8)Ux, STM32G061K(6-8)Tx, STM32G061K(6-8)Ux
- STM32G070CBTx, STM32G070KBTx, STM32G070RBTx
- STM32G071C(8-B)Tx, STM32G071C(8-B)Ux, STM32G071EBYx, STM32G071G(8-B)Ux, STM32G071G(8-B)UxN, STM32G071K(8-B)Tx, STM32G071K(8-B)TxN, STM32G071K(8-B)Ux, STM32G071K(8-B)UxN, STM32G071RBIx, STM32G071R(8-B)Tx
- STM32G071C(6-8-B)Tx, STM32G071C(6-8-B)Ux, STM32G071EBYx, STM32G071G(6-8-B)Ux, STM32G071G(8-B)UxN, STM32G071K(6-8-B)Tx, STM32G071K(8-B)TxN, STM32G071K(6-8-B)Ux, STM32G071K(8-B)UxN, STM32G071RBIx, STM32G071R(6-8-B)Tx
- STM32G081CBTx, STM32G081CBUx, STM32G081EBYx, STM32G081GBUx, STM32G081GBUxN, STM32G081KBTx, STM32G081KBTxN, STM32G081KBUx, STM32G081KBUxN, STM32G081RBIx, STM32G081RBTx
- STM32G0B0CETx, STM32G0B0KETx, STM32G0B0RETx, STM32G0B0VETx
- STM32G0B1C(B-C-E)Tx, STM32G0B1C(B-C-E)TxN, STM32G0B1C(B-C-E)Ux, STM32G0B1C(B-C-E)UxN, STM32G0B1K(B-C-E)Tx, STM32G0B1K(B-C-E)TxN, STM32G0B1K(B-C-E)Ux, STM32G0B1K(B-C-E)UxN, STM32G0B1M(B-C-E)Tx, STM32G0B1NEYx, STM32G0B1R(B-C-E)IxN, STM32G0B1R(B-C-E)Tx, STM32G0B1R(B-C-E)TxN, STM32G0B1V(B-C-E)Ix, STM32G0B1V(B-C-E)Tx
- STM32G0B1C(C-E)Tx, STM32G0B1C(C-E)Ux, STM32G0B1K(C-E)Tx, STM32G0B1K(C-E)TxN, STM32G0B1K(C-E)Ux, STM32G0B1K(C-E)UxN, STM32G0B1M(C-E)Tx, STM32G0B1R(C-E)Ix, STM32G0B1R(C-E)Tx, STM32G0B1V(C-E)Ix, STM32G0B1V(C-E)Tx
- STM32G0C1C(C-E)Tx, STM32G0C1C(C-E)Ux, STM32G0C1K(C-E)Tx, STM32G0C1K(C-E)TxN, STM32G0C1K(C-E)Ux, STM32G0C1K(C-E)UxN, STM32G0C1M(C-E)Tx, STM32G0C1R(C-E)Ix, STM32G0C1R(C-E)Tx, STM32G0C1V(C-E)Ix, STM32G0C1V(C-E)Tx
- STM32G431C(6-8-B)Tx, STM32G431C(6-8-B)Ux, STM32G431CBYx, STM32G431K(6-8-B)Tx, STM32G431K(6-8-B)Ux, STM32G431M(6-8-B)Tx, STM32G431R(6-8-B)Ix, STM32G431R(6-8-B)Tx, STM32G431V(6-8-B)Tx
- STM32G441CBTx, STM32G441CBUx, STM32G441CBYx, STM32G441KBTx, STM32G441KBUx, STM32G441MBTx, STM32G441RBIx, STM32G441RBTx, STM32G441VBTx
- STM32G471C(C-E)Tx, STM32G471C(C-E)Ux, STM32G471M(C-E)Tx, STM32G471MEYx, STM32G471Q(C-E)Tx, STM32G471R(C-E)Tx, STM32G471V(C-E)Hx, STM32G471V(C-E)Ix, STM32G471V(C-E)Tx

- STM32G473C(B-C-E)Tx, STM32G473C(B-C-E)Ux, STM32G473M(B-C-E)Tx, STM32G473MEYx, STM32G473P(B-C-E)Ix, STM32G473Q(B-C-E)Tx, STM32G473R(B-C-E)Tx, STM32G473V(B-C-E)Hx, STM32G473V(B-C-E)Tx
- STM32G474C(B-C-E)Tx, STM32G474C(B-C-E)Ux, STM32G474M(B-C-E)Tx, STM32G474MEYx, STM32G474P(B-C-E)Ix, STM32G474Q(B-C-E)Tx, STM32G474R(B-C-E)Tx, STM32G474V(B-C-E)Hx, STM32G474V(B-C-E)Tx
- STM32G483CETx, STM32G483CEUx, STM32G483METx, STM32G483MEYx, STM32G483PEIx, STM32G483QETx, STM32G483RETx, STM32G483VEHx, STM32G483VETx
- STM32G484CETx, STM32G484CEUx, STM32G484METx, STM32G484MEYx, STM32G484PEIx, STM32G484QETx, STM32G484RETx, STM32G484VEHx, STM32G484VETx
- STM32G491C(C-E)Tx, STM32G491C(C-E)Ux, STM32G491K(C-E)Ux, STM32G491M(C-E)Sx, STM32G491M(C-E)Tx, STM32G491R(C-E)Ix, STM32G491R(C-E)Tx, STM32G491REYx, STM32G491V(C-E)Tx
- STM32G4A1CETx, STM32G4A1CEUx, STM32G4A1KEUx, STM32G4A1MESx, STM32G4A1METx, STM32G4A1REIx, STM32G4A1RETx, STM32G4A1REYx, STM32G4A1VETx
- STM32H723V(E-G)Hx, STM32H723V(E-G)Tx, STM32H723Z(E-G)Ix, STM32H723Z(E-G)Tx
- STM32H725A(E-G)Ix, STM32H725I(E-G)Kx, STM32H725I(E-G)Tx, STM32H725R(E-G)Vx, STM32H725V(E-G)Hx, STM32H725V(E-G)Tx, STM32H725VGYx, STM32H725Z(E-G)Tx
- STM32H730ABIxQ, STM32H730IBKxQ, STM32H730IBTxQ, STM32H730VBHx, STM32H730VBTx, STM32H730ZBIx, STM32H730ZBTx
- STM32H733VGHx, STM32H733VGTx, STM32H733ZGIx, STM32H733ZGTx
- STM32H735AGIx, STM32H735IGKx, STM32H735IGTx, STM32H735RGVx, STM32H735VGTx, STM32H735VGYx, STM32H735ZGTx
- STM32H742A(G-I)Ix, STM32H742B(G-I)Tx, STM32H742I(G-I)Kx, STM32H742I(G-I)Tx, STM32H742V(G-I)Hx, STM32H742V(G-I)Tx, STM32H742X(G-I)Hx, STM32H742Z(G-I)Tx
- STM32H743A(G-I)Ix, STM32H743B(G-I)Tx, STM32H743I(G-I)Kx, STM32H743I(G-I)Tx, STM32H743V(G-I)Hx, STM32H743V(G-I)Tx, STM32H743X(G-I)Hx, STM32H743Z(G-I)Tx
- STM32H745B(G-I)Tx, STM32H745I(G-I)Kx, STM32H745I(G-I)Tx, STM32H745X(G-I)Hx, STM32H745Z(G-I)Tx
- STM32H747A(G-I)Ix, STM32H747B(G-I)Tx, STM32H747I(G-I)Tx, STM32H747X(G-I)Hx, STM32H747ZIYx
- STM32H750IBKx, STM32H750IBTx, STM32H750VBTx, STM32H750XBHx, STM32H750ZBTx
- STM32H753AIIx, STM32H753BITx, STM32H753IIKx, STM32H753IITx, STM32H753VIHx, STM32H753VITx, STM32H753XIHx, STM32H753ZITx
- STM32H755BITx, STM32H755IIKx, STM32H755IITx, STM32H755XIHx, STM32H755ZITx
- STM32H757AIIx, STM32H757BITx, STM32H757IITx, STM32H757XIHx, STM32H757ZIYx

- STM32H7A3A(G-I)IxQ, STM32H7A3I(G-I)Kx, STM32H7A3I(G-I)KxQ, STM32H7A3I(G-I)Tx, STM32H7A3I(G-I)TxQ, STM32H7A3L(G-I)HxQ, STM32H7A3N(G-I)Hx, STM32H7A3QIYxQ, STM32H7A3R(G-I)Tx, STM32H7A3V(G-I)Hx, STM32H7A3V(G-I)HxQ, STM32H7A3V(G-I)Tx, STM32H7A3V(G-I)TxQ, STM32H7A3Z(G-I)Tx, STM32H7A3Z(G-I)TxQ
- STM32H7B0ABIxQ, STM32H7B0IBKxQ, STM32H7B0IBTx, STM32H7B0RBTx, STM32H7B0VBTx, STM32H7B0ZBTx
- STM32H7B3AIIxQ, STM32H7B3IIKx, STM32H7B3IIKxQ, STM32H7B3IITx, STM32H7B3IITxQ, STM32H7B3LIHxQ, STM32H7B3NIHx, STM32H7B3QIYxQ, STM32H7B3RITx, STM32H7B3VIHx, STM32H7B3VIHxQ, STM32H7B3VITx, STM32H7B3VITxQ, STM32H7B3ZITx, STM32H7B3ZITxQ
- STM32L010C6Tx, STM32L010F4Px, STM32L010K(4-8)Tx, STM32L010R(8-B)Tx
- STM32L011D(3-4)Px, STM32L011E(3-4)Yx, STM32L011F(3-4)Px, STM32L011F(3-4)Ux, STM32L011G(3-4)Ux, STM32L011K4Tx, STM32L011K(3-4)Ux
- STM32L021D4Px, STM32L021F4Ux, STM32L021G4Ux, STM32L021K4Tx
- STM32L031C(4-6)Tx, STM32L031C(4-6)Ux, STM32L031E(4-6)Yx, STM32L031F(4-6)Px, STM32L031G(4-6)Ux, STM32L031G6UxS, STM32L031K6Tx, STM32L031K(4-6)Ux
- STM32L041C6Tx, STM32L041C6Ux, STM32L041E6Yx, STM32L041F6Px, STM32L041G6Ux, STM32L041G6UxS, STM32L041K6Tx, STM32L041K6Ux
- STM32L051C(6-8)Tx, STM32L051C(6-8)Ux, STM32L051K(6-8)Tx, STM32L051K(6-8)Ux, STM32L051R(6-8)Hx, STM32L051R(6-8)Tx, STM32L051T(6-8)Yx
- STM32L052C(6-8)Tx, STM32L052C(6-8)Ux, STM32L052K(6-8)Tx, STM32L052K(6-8)Ux, STM32L052R(6-8)Hx, STM32L052R(6-8)Tx, STM32L052T8Fx, STM32L052T(6-8)Yx
- STM32L053C(6-8)Tx, STM32L053C(6-8)Ux, STM32L053R(6-8)Hx, STM32L053R(6-8)Tx
- STM32L062C8Ux, STM32L062K8Tx, STM32L062K8Ux
- STM32L063C8Tx, STM32L063C8Ux, STM32L063R8Tx
- STM32L071C(8-B-Z)Tx, STM32L071C(8-B-Z)Ux, STM32L071C(B-Z)Yx, STM32L071K(B-Z)Tx, STM32L071K(8-B-Z)Ux, STM32L071R(B-Z)Hx, STM32L071R(B-Z)Tx, STM32L071V(8-B-Z)Tx
- STM32L072CZEx, STM32L072C(B-Z)Tx, STM32L072C(B-Z)Ux, STM32L072C(B-Z)Yx, STM32L072KZTx, STM32L072K(B-Z)Ux, STM32L072R(B-Z)Hx, STM32L072R(B-Z)Ix, STM32L072R(B-Z)Tx, STM32L072V(8-B-Z)Ix, STM32L072V(8-B-Z)Tx
- STM32L073C(B-Z)Tx, STM32L073C(B-Z)Ux, STM32L073CZYx, STM32L073R(B-Z)Hx, STM32L073RZIx, STM32L073R(B-Z)Tx, STM32L073VZIx, STM32L073V(8-B-Z)Tx
- STM32L081C(B-Z)Tx, STM32L081CZUx, STM32L081KZTx, STM32L081KZUx
- STM32L082CZUx, STM32L082CZYx, STM32L082KZTx, STM32L082K(B-Z)Ux
- STM32L083C(B-Z)Tx, STM32L083CZUx, STM32L083R(B-Z)Hx, STM32L083R(B-Z)Tx, STM32L083VZIx, STM32L083V(8-B-Z)Tx
- STM32L100C6Ux, STM32L100C6UxA, STM32L100R(8-B-C)Tx, STM32L100R(8-B)TxA

- STM32L151C(6-8-B-C)Tx, STM32L151C(6-8-B)TxA, STM32L151C(6-8-B-C)Ux, STM32L151C(6-8-B)UxA, STM32L151Q(C-D-E)Hx, STM32L151R(6-8-B)Hx, STM32L151R(6-8-B)HxA, STM32L151R(6-8-B-C-D-E)Tx, STM32L151R(6-8-B-C)TxA, STM32L151R(C-D)Yx, STM32L151UCYx, STM32L151V(8-B-C)Hx, STM32L151V(8-B)HxA, STM32L151V(8-B-C-D-E)Tx, STM32L151V(8-B-C)TxA, STM32L151VDTxX, STM32L151VEYx, STM32L151VDYxX, STM32L151Z(C-D-E)Tx
- STM32L152C(6-8-B-C)Tx, STM32L152C(6-8-B)TxA, STM32L152C(6-8-B-C)Ux, STM32L152C(6-8-B)UxA, STM32L152Q(C-D-E)Hx, STM32L152R(6-8-B)Hx, STM32L152R(6-8-B)HxA, STM32L152R(6-8-B-C-D-E)Tx, STM32L152R(6-8-B-C)TxA, STM32L152RDYx, STM32L152UCYx, STM32L152V(8-B-C)Hx, STM32L152V(8-B)HxA, STM32L152V(8-B-C-D-E)Tx, STM32L152V(8-B-C)TxA, STM32L152VDTxX, STM32L152VEYx, STM32L152Z(C-D-E)Tx
- STM32L162Q(C-D)Hx, STM32L162R(C-D-E)Tx, STM32L162RCTxA, STM32L162RDYx, STM32L162VCHx, STM32L162V(C-D-E)Tx, STM32L162VCTxA, STM32L162VEYx, STM32L162VDYxX, STM32L162Z(C-D-E)Tx
- STM32L412C(8-B)Tx, STM32L412CBTxP, STM32L412C(8-B)Ux, STM32L412CBUxP, STM32L412K(8-B)Tx, STM32L412K(8-B)Ux, STM32L412R(8-B)Ix, STM32L412RBIxP, STM32L412R(8-B)Tx, STM32L412RBTxP, STM32L412T(8-B)Yx, STM32L412TBYxP
- STM32L422CBTx, STM32L422CBUx, STM32L422KBTx, STM32L422KBUx, STM32L422RBIx, STM32L422TBYx
- STM32L431C(B-C)Tx, STM32L431C(B-C)Ux, STM32L431C(B-C)Yx, STM32L431K(B-C)Ux, STM32L431R(B-C)Ix, STM32L431R(B-C)Tx, STM32L431R(B-C)Yx, STM32L431VCIx, STM32L431VCTx
- STM32L432K(B-C)Ux
- STM32L433C(B-C)Tx, STM32L433C(B-C)Ux, STM32L433C(B-C)Yx, STM32L433R(B-C)Ix, STM32L433R(B-C)Tx, STM32L433RCTxP, STM32L433R(B-C)Yx, STM32L433VCIx, STM32L433VCTx
- STM32L442KCUx
- STM32L443CCFx, STM32L443CCTx, STM32L443CCUx, STM32L443CCYx, STM32L443RCIx, STM32L443RCTx, STM32L443RCYx, STM32L443VCIx, STM32L443VCTx
- STM32L451CETx, STM32L451C(C-E)Ux, STM32L451R(C-E)Ix, STM32L451R(C-E)Tx, STM32L451REYx, STM32L451V(C-E)Ix, STM32L451V(C-E)Tx
- STM32L452CETx, STM32L452CETxP, STM32L452C(C-E)Ux, STM32L452R(C-E)Ix, STM32L452R(C-E)Tx, STM32L452RETxP, STM32L452REYx, STM32L452REYxP, STM32L452V(C-E)Ix, STM32L452V(C-E)Tx
- STM32L462CETx, STM32L462CEUx, STM32L462REIx, STM32L462RETx, STM32L462REYx, STM32L462VEIx, STM32L462VETx
- STM32L471Q(E-G)Ix, STM32L471R(E-G)Tx, STM32L471V(E-G)Tx, STM32L471Z(E-G)Jx, STM32L471Z(E-G)Tx
- STM32L475R(C-E-G)Tx, STM32L475V(C-E-G)Tx
- STM32L476J(E-G)Yx, STM32L476JGYxP, STM32L476M(E-G)Yx, STM32L476Q(E-G)Ix, STM32L476QGIxP, STM32L476R(C-E-G)Tx, STM32L476V(C-E-G)Tx, STM32L476VGYxP, STM32L476ZGJx, STM32L476Z(E-G)Tx
- STM32L486JGYx, STM32L486QGIx, STM32L486RGTx, STM32L486VGTx, STM32L486ZGTx

- STM32L496A(E-G)Ix, STM32L496AGIxP, STM32L496Q(E-G)Ix, STM32L496QGIxP, STM32L496QGIxS, STM32L496R(E-G)Tx, STM32L496RGTxP, STM32L496V(E-G)Tx, STM32L496VGTxP, STM32L496VGYx, STM32L496VGYxP, STM32L496WGYxP, STM32L496Z(E-G)Tx, STM32L496ZGTxP
- STM32L4A6AGIx, STM32L4A6AGIxP, STM32L4A6QGIx, STM32L4A6QGIxP, STM32L4A6RGTx, STM32L4A6RGTxP, STM32L4A6VGTx, STM32L4A6VGTxP, STM32L4A6VGYx, STM32L4A6VGYxP, STM32L4A6ZGTx, STM32L4A6ZGTxP
- STM32L4P5A(E-G)Ix, STM32L4P5AGIxP, STM32L4P5C(E-G)Tx, STM32L4P5CGTxP, STM32L4P5C(E-G)Ux, STM32L4P5CGUxP, STM32L4P5Q(E-G)Ix, STM32L4P5QGIxP, STM32L4P5QGIxS, STM32L4P5R(E-G)Tx, STM32L4P5RGTxP, STM32L4P5V(E-G)Tx, STM32L4P5VGTxP, STM32L4P5V(E-G)Yx, STM32L4P5VGYxP, STM32L4P5Z(E-G)Tx, STM32L4P5ZGTxP
- STM32L4Q5AGIx, STM32L4Q5AGIxP, STM32L4Q5CGTx, STM32L4Q5CGTxP, STM32L4Q5CGUx, STM32L4Q5CGUxP, STM32L4Q5QGIx, STM32L4Q5QGIxP, STM32L4Q5RGTx, STM32L4Q5RGTxP, STM32L4Q5VGTx, STM32L4Q5VGTxP, STM32L4Q5VGYx, STM32L4Q5VGYxP, STM32L4Q5ZGTx, STM32L4Q5ZGTxP
- STM32L4Q5AGIx, STM32L4Q5CGTx, STM32L4Q5CGUx, STM32L4Q5QGIx, STM32L4Q5RGTx, STM32L4Q5VGTx, STM32L4Q5VGYx, STM32L4Q5ZGTx
- STM32L4R5A(G-I)Ix, STM32L4R5AIIxP, STM32L4R5Q(G-I)Ix, STM32L4R5QIIxP, STM32L4R5QGIxS, STM32L4R5V(G-I)Tx, STM32L4R5Z(G-I)Tx, STM32L4R5ZITxP, STM32L4R5Z(G-I)Yx
- STM32L4R7AIIx, STM32L4R7VITx, STM32L4R7ZITx
- STM32L4R9A(G-I)Ix, STM32L4R9V(G-I)Tx, STM32L4R9Z(G-I)Jx, STM32L4R9Z(G-I)Tx, STM32L4R9Z(G-I)Yx, STM32L4R9ZIYxP
- STM32L4S5AIIx, STM32L4S5QIIx, STM32L4S5VITx, STM32L4S5ZITx, STM32L4S5ZIYx
- STM32L4S7AIIx, STM32L4S7VITx, STM32L4S7ZITx
- STM32L4S9AIIx, STM32L4S9VITx, STM32L4S9ZIJx, STM32L4S9ZITx, STM32L4S9ZIYx
- STM32L552C(C-E)Tx, STM32L552CETxP, STM32L552C(C-E)Ux, STM32L552CEUxP, STM32L552MEYxP, STM32L552MEYxQ, STM32L552QEIx, STM32L552Q(C-E)IxQ, STM32L552R(C-E)Tx, STM32L552RETxP, STM32L552RETxQ, STM32L552VETx, STM32L552V(C-E)TxQ, STM32L552ZETx, STM32L552Z(C-E)TxQ
- STM32L562CETx, STM32L562CETxP, STM32L562CEUx, STM32L562CEUxP, STM32L562MEYxP, STM32L562MEYxQ, STM32L562QEIx, STM32L562QEIxQ, STM32L562RETx, STM32L562RETxP, STM32L562RETxQ, STM32L562VETx, STM32L562VETxQ, STM32L562ZETx, STM32L562ZETxQ
- STM32MP131(A-C-D-F)AEx, STM32MP131(A-C-D-F)AFx, STM32MP131(A-C-D-F)AGx, STM32MP133(A-C-D-F)AEx, STM32MP133(A-C-D-F)AFx, STM32MP133(A-C-D-F)AGx, STM32MP135(A-C-D-F)AEx, STM32MP135(A-C-D-F)AFx, STM32MP135(A-C-D-F)AGx
- STM32MP151(A-C-D-F)AAx, STM32MP151(A-C-D-F)ABx, STM32MP151(A-C-D-F)ACx, STM32MP151(A-C-D-F)ADx, STM32MP153(A-C-D-F)AAx, STM32MP153(A-C-D-F)ABx, STM32MP153(A-C-D-F)ACx, STM32MP153(A-C-D-F)ADx, STM32MP157(A-C-D-F)AAx, STM32MP157(A-C-D-F)ABx, STM32MP157(A-C-D-F)ACx, STM32MP157(A-C-D-F)ADx

- STM32U575A(G-I)Ix, STM32U575A(G-I)IxQ, STM32U575C(G-I)Tx, STM32U575C(G-I)TxQ, STM32U575C(G-I)Ux, STM32U575C(G-I)UxQ, STM32U575O(G-I)YxQ, STM32U575Q(G-I)Ix, STM32U575Q(G-I)IxQ, STM32U575R(G-I)Tx, STM32U575R(G-I)TxQ, STM32U575V(G-I)Tx, STM32U575V(G-I)TxQ, STM32U575Z(G-I)Tx, STM32U575Z(G-I)TxQ
- STM32U585AIIx, STM32U585AIIxQ, STM32U585CITx, STM32U585CITxQ, STM32U585CIUx, STM32U585CIUxQ, STM32U585OIYxQ, STM32U585QIIx, STM32U585QIIxQ, STM32U585RITx, STM32U585RITxQ, STM32U585VITx, STM32U585VITxQ, STM32U585ZITx, STM32U585ZITxQ
- STM32U595ZJTxQ
- STM32U599BJYxQ, STM32U599N(I-J)HxQ
- STM32U5A5ZJTxQ
- STM32U5A9BJYxQ, STM32U5A9NJHxQ
- STM32WB10CCUx
- STM32WB15CCUx, STM32WB15CCUxE, STM32WB15CCYx
- STM32WB1MMCHx
- STM32WB30CEUxA
- STM32WB35C(C-E)UxA
- STM32WB50CGUx
- STM32WB55C(C-E-G)Ux, STM32WB55R(C-E-G)Vx, STM32WB55V(C-E-G)Qx, STM32WB55V(C-E-G-Y)Yx
- STM32WB5MMGHx
- STM32WL54CCUx, STM32WL54JCIx
- STM32WL55CCUx, STM32WL55JCIx
- STM32WL5MOCHx
- STM32WLE4C(8-B-C)Ux, STM32WLE4J(8-B-C)Ix
- STM32WLE5C(8-B-C)Ux, STM32WLE5J(8-B-C)Ix

3.2 STM32CubeMX V6.6.1 release information

- Patch release to fix a major issue found in version V6.6.0 (refer to *Table 5*).
  After project migration to V6.6.0, some files may be deleted from the STM32CubeMX project.
  This patch release addresses these problems by fixing them.

Important: Users with version V6.6.0 installed are strongly advised moving to version V6.6.1.

3.2.1 Main fixed issues

Table 5. Main fixed issues in V6.6.1

ID	Summary
131271	[ProjectManager] The *system_stm32f4xx.c*, *sysmem.c*, and *syscalls.c* source files are removed after project migration.

3.2.2 Firmware package versions

Table 6 shows the firmware package versions.

Table 6. Firmware package versions in V6.6.1

STM32Cube firmware and updated middleware	Version
STM32C0	V1.0.0
STM32F0	V1.11.3
STM32F1	V1.8.4
STM32F2	V1.9.3
STM32F3	V1.11.3
STM32F4	V1.27.0
STM32F7	V1.17.0
STM32G0	V1.6.0
STM32G4	V1.5.0
STM32H7	V1.10.0
STM32L0	V1.12.1
STM32L1	V1.10.3
STM32L4/L4+	V1.17.2
STM32L5	V1.4.0
STM32MP1	V1.6.0
STM32U5	V1.1.1
STM32WB	V1.14.0
STM32WL	V1.2.0

3.3 STM32CubeMX V6.6.0 release information

- Added the support for the new STM32MP131, STM32MP133, and STM32MP135 microprocessors: STM32MP131(A-C-D-F)AEx, STM32MP131(A-C-D-F)AFx, STM32MP131(A-C-D-F)AGx, STM32MP133(A-C-D-F)AEx, STM32MP133(A-C-D-F)AFx, STM32MP133(A-C-D-F)AGx, STM32MP135(A-C-D-F)AEx, STM32MP135(A-C-D-F)AFx, and STM32MP135(A-C-D-F)AGx.
- Added the support for one new board related to the STM32MP1 Series: STM32MP135F-DK.
- Added the support for one new part number in the STM32L4 Series: STM32L476VGYxP.
- Added a search feature to help setting the MCUs, MPUs, boards, and examples selector filters
- Added the support for CAD resources in the *MCU and MPU Selector* and the ST Tools tab. Provides access to the EDA symbols, footprints, and 3D models for the user's application.

- Added the support for LPBAM firmware for the projects with Arm® TrustZone® (TZEN=1) in the STM32U575/585 product line.
- Added the support for two new boards related to the STM32WB Series: STEVAL-ASTRA1B and B-WB1M-WPAN1.
- Added the support for one new board related to the STM32U5 Series: STEVAL-STWINBX1.
- Removed TrueSTUDIO, System Workbench for STM32 (SW4STM32), and the GPDSC option from the list of supported IDEs in STM32CubeMX.

3.3.1 Main fixed issues

Table 7. Main fixed issues in V6.6.0

ID	Summary
102080	[STM32CubeMX-CodeGen][Pack application w/ CMSIS-RTOS v1/v2] Wrong startup sequence generated in *main.c.*
120047	[STM32CubeMX-FDCAN][STM32G0] Display time quantum, time for one bit, and daud rate in FDCAN configuration panel.
120375	[LL][RCC][Code-Generation] Waiting for LSE call generated when ETR1 is used in TIMx while LSE is not used.
121604	[STM32CubeMX-BLE][Code-Generation] CFG BLE options does not reflect the changes made in UI.
123427	[STM32H7][STM32CubeMX-RCC] Missing RCC_PERIPHCLK_OSPI in `PeriphCommonClock_Config()` when OCTOSPI2 is used.
123452	[STM32CubeMX-QUADSPI][STM32CubeMX-context][BootROM] The Q-SPI mode turns red when BootROM is checked.
124991	[STM32L4+][STM32CubeMX-OSPI][Code-Generation] Wrong generated *Delay Block Bypass* value.
126105	[STM32H7 2-Mbyte flash memory][STM32CubeMX-LwIP] Cannot enable LwIP when MbedTLS is enabled.
126115	[ADC][LL][STM32G4] Wrong LL code for ADC1 and ADC5 if temperature sensor, Vbat, and Vref channels are selected.
126386	[STM32MP15x][LL] GPIO mode not set to input when configuring an EXTI pin.
126570	[STM32CubeMX-RTC] RTC enable wake-up is missing when RTC wake-up interrupt through EXTI line is enabled.

3.3.2 Firmware package versions

Table 8 shows the firmware package versions.

Table 8. Firmware package versions in V6.6.0

STM32Cube firmware and updated middleware	Version
STM32C0	V1.0.0
STM32F0	V1.11.3
STM32F1	V1.8.4

Table 8. Firmware package versions in V6.6.0 (continued)

STM32Cube firmware and updated middleware	Version
STM32F2	V1.9.3
STM32F3	V1.11.3
STM32F4	V1.27.0
STM32F7	V1.17.0
STM32G0	V1.6.0
STM32G4	V1.5.0
STM32H7	V1.10.0
STM32L0	V1.12.1
STM32L1	V1.10.3
STM32L4/L4+	V1.17.2
STM32L5	V1.4.0
STM32MP1	V1.6.0
STM32U5	V1.1.1
STM32WB	V1.14.0
STM32WL	V1.2.0

3.4 STM32CubeMX V6.5.0 release information

- Added the support for new part numbers in the STM32U5 Series: STM32U599NJHxQ, STM32U599BJYxQ, STM32U595ZJTxQ, STM32U5A9NJHxQ, STM32U5A9BJYxQ, STM32U5A5ZJTxQ and STM32U599NIHxQ.
- Added the support for new part numbers in the STM32C0 Series: STM32C011D6Yx, STM32C011F(4-6)Px, STM32C011F(4-6)Ux, STM32C011J(4-6)Mx, STM32C031C(4-6)Tx, STM32C031C(4-6)Ux, STM32C031K(4-6)Tx, STM32C031K(4-6)Ux, STM32C031G(4-6)Ux and STM32C031F(4-6)Px.
- Added the support for 2 new part numbers in the STM32F7 Series: STM32F723VCYxTR and STM32F723VEYxTR.
- Added the support for the P-L496G-CELL01 and P-L496G-CELL02 Discovery kits.
- Added enhancements of search criteria organized into categories, with more accurate commercial product information and with more specific documentation.
- Added the support for LPBAM firmware for the projects without Arm® TrustZone® (TZEN=0) in the STM32U575/585 product line. This new feature allows the easy design of low-power projects based on the powerful LPBAM firmware.
- Added the support for a default MPU configuration for the STM32H7 Series.
- Added the support for “Low Power Optimization configuration”, including SMPS support, for the STM32U5 Series.
- Added the support of the EWARM compiler version v8.50. This version becomes the default proposed EWARM toolchain version for the STM32F7 Series, STM32F4 Series, STM32G0 Series, STM32G4 Series, STM32H7 Series, STM32U5 Series, and STM32C0 Series.

- Added the support for Azure® RTOS middleware bare-metal mode:
  - Azure® RTOS FileX for the STM32C0 Series and STM32U5 Series
  - Azure® RTOS LevelX for the STM32U5 Series

3.4.1 Main fixed issues

Table 9. Main fixed issues in V6.5.0

ID	Summary
79064	[OPENAMP] Proxy feature.
79780	[UX] Source location path invalid in X-CUBE-MEMS1.
91324	[STM32CubeMX-ALL][Project Manager] Wrong firmware package when importing project.
109796	[STM32CubeMX-ALL][Makefile] Change the first assignment of variable CFLAGS from "=" to "+=".
117135	[STM32CubeMX-ALL][SAI] Give user the ability to always set the audio frequency.
118459	[STM32CubeMX-ALL][LTDC] Change the naming of the parameter “Not Data Enable Polarity”.
119012	[STM32H7][STM32CubeMX-ADC][AWD1] “Analog watchdog Channel” is automatically set to Channel 0 and cannot be modified.
119463	[STM32U575/585][MX-GPDMA] Wrong FIFO size for GPDMA1 channels from 0 to 3 in STM32CubeMX.
119999	[STM32CubeMX-MBEDTLS][STM32F4] The *md5.c* file is not copied into the project directory after defining the MBEDTLS_MD5_C module.
120035	[LL][STM32CubeMX-UART][STM32CubeMX-Code generation] Wrong attribute in `LL_USART_SetRXPinLevel()`.

3.4.2 Firmware package versions

Table 10 shows the firmware package versions.

Table 10. Firmware package versions in V6.5.0

STM32Cube firmware and updated middleware	Version
STM32C0	V1.0.0
STM32F0	V1.11.3
STM32F1	V1.8.4
STM32F2	V1.9.3
STM32F3	V1.11.3
STM32F4	V1.27.0
STM32F7	V1.16.2
STM32G0	V1.5.0
STM32G4	V1.5.0
STM32H7	V1.10.0

Table 10. Firmware package versions in V6.5.0 (continued)

STM32Cube firmware and updated middleware	Version
STM32L0	V1.12.1
STM32L1	V1.10.3
STM32L4/L4+	V1.17.1
STM32L5	V1.4.0
STM32MP1	V1.5.0
STM32U5	V1.1.0
STM32WB	V1.13.1
STM32WL	V1.2.0

3.5 STM32CubeMX V6.4.0 release information

- Added the support for new part numbers in the STM32L4 Series and STM32L4+ Series: STM32L443CCFx, STM32L452CETxP, STM32L452REYxP, STM32L476QGIxP, STM32L496QGIxS, STM32L4R5AIIxP, STM32L4R5QGIxS, STM32L4R5QIIxP, and STM32L4P5QGIxS
- Enhanced the support of the cohabitation between Azure® RTOS USBX or USB and USB-PD for the STM32U5 Series and STM32G0 Series, making it possible to enable and disable the USB support from USB-PD middleware

3.5.1 Main fixed issues

Table 11. Main fixed issues in V6.4.0

ID	Summary
107294	[STM32CubeMX-FreeRTOS] Heap usage estimation seems to be incorrect (using a static timer with CMSIS-RTOS v2).
107991	[STM32H7][Single core] NC balls F1 and G2 for TFBGA240+25 to be defined as VSS.
108330	[STM32CubeMX-STM32H7][FMC] SDRAM1/2 cannot be enabled.
109086	[STM32CubeMX-RCC] Wrong maximum allowed frequency for FMC.
109427	MCO2 PLL clock issue in STM32CubeMX V6.2.1.
109542	[STM32CubeMX-SAI][STM32H7] Faulty number of microphone pairs displayed by STM32CubeMX.
111387	[STM32CubeMX-I2S][STM32H7] DMA requests can be added for I2S peripheral.
112201	[STM32CubeMX-STM32F7][USB][RCC] Wrong code generated using the internal FS for USB OTG HS.
112202	Add user tag in custom *rng* file for mbedTLS.
113634	[STM32CubeMX-CodeGenerator][Pack] Some user files are not generated using the**.ftl* templates.

3.5.2 Firmware package versions

Table 12 shows the firmware package versions.

Table 12. Firmware package versions in V6.4.0

STM32Cube firmware and updated middleware	Version
STM32F0	V1.11.3
STM32F1	V1.8.4
STM32F2	V1.9.3
STM32F3	V1.11.3
STM32F4	V1.26.2
STM32F7	V1.16.1
STM32G0	V1.5.0
STM32G4	V1.5.0
STM32H7	V1.9.0
STM32L0	V1.12.1
STM32L1	V1.10.3
STM32L4	V1.17.0
STM32L5	V1.4.0
STM32MP1	V1.5.0
STM32U5	V1.0.2
STM32WB	V1.13.0
STM32WL	V1.1.0

3.6 STM32CubeMX V6.3.0 release information

- Added the support for new part numbers in the STM32U5 Series: STM32U575A(G-I)Ix, STM32U575A(G-I)IxQ, STM32U575C(G-I)Tx, STM32U575C(G-I)TxQ, STM32U575C(G-I)Ux, STM32U575C(G-I)UxQ, STM32U575O(G-I)YxQ, STM32U575Q(G-I)Ix, STM32U575Q(G-I)IxQ, STM32U575R(G-I)Tx, STM32U575R(G-I)TxQ, STM32U575V(G-I)Tx, STM32U575V(G-I)TxQ, STM32U575Z(G-I)Tx, STM32U575Z(G-I)TxQ, STM32U585AIIx, STM32U585AIIxQ, STM32U585CITx, STM32U585CITxQ, STM32U585CIUx, STM32U585CIUxQ, STM32U585OIYxQ, STM32U585QIIx, STM32U585QEIxQ, STM32U585RITx, STM32U585RITxQ, STM32U585VITx, STM32U585VITxQ, STM32U585ZITx and STM32U585ZETxQ
- Added the support for three new boards related to the STM32U5 Series: B-U585I-IOT02A, NUCLEO-U575ZI-Q and STM32U575I-EV
- Added the support for two new boards related to the STM32MP1 Series: STM32MP157D-DK1 and STM32MP157D-EV1
- Added the support for 1 new board related to the STM32L4 Series: STEVAL-STWINKT1B

- Added the support for SMBUS Fast mode plus and SMBUS fast mode for the STM32G0 Series, the STM32WL Series and the STM32WB Series
- Added the support for RAMECC in the STM32H7 Series
- Added the support for PWR secure configuration for the STM32L5 Series in Arm® TrustZone®-activated projects (TZEN=1)
- Added updates for the installation procedure with the JRE™ bundling support. The bundled JRE™ is updated to AdoptOpenJDK-11.0.10+9 and JavaFX-11.0.2
- Added the support for STM32CubeMX updates with the https protocol
- Added license click-through: the user can accept the firmware package license terms before any download
- Added thread-safe locking support. It can be enabled or disabled in [Project manager]>[Project] *Thread-safe Settings*
- Added the support of the cohabitation between Azure® RTOS USBX or USB and USB-PD for the STM32U5 Series and STM32G0 Series, making it possible to enable and disable the USB support from USB-PD middleware

3.6.1 Main fixed issues

Table 13. Main fixed issues in V6.3.0

ID	Summary
87553	Code generation for STM32H745xx using STM32CubeMX 5.6.1 inside of STM32CubeIDE 1.3.1.
88481	[STM32CubeMX][STM32MP15] PA10 assigned to USB_OTG_HS_ID when configuring USB OTG with device-only controller.
98727	[STM32CubeMX-ADC] ADC clock prescaler /1 and /2 are not available.
101247	Request to optimize *Sigfox_sgfx_app_c.ftl* and *Sigfox_mcu_api_c.ftl* for less LED use cases.
101368	[STM32CubeMX-UART][STM32F4] "Open Drain" cannot be selected for UART Alternate Function pin.
101426	[STM32CubeMX-RCC] `LL_RCC_SetFDCANClockSource` is missing in the generated STM32CubeMX code.
102389	[STM32CubeMX-USB] `APP_RX_DATA_SIZE` and `APP_TX_DATA_SIZE` defines remain unchanged.
103320	[STM32CubeMX-STM32F4][I2C-SMBUS] Missed clock speed parameter.
103602	[STM32CubeMX-Pinout] Support for USART2 on STM32G031xx SO8 package.
106965	[STM32CubeMX-STM32G474][HRTIM] "The timer counter is reset upon Timer E Compare 1 event" cannot be selected with Timer F.

3.6.2 Firmware package versions

Table 14 shows the firmware package versions.

Table 14. Firmware package versions in V6.3.0

STM32Cube firmware and updated middleware	Version
STM32F0	V1.11.2
STM32F1	V1.8.4
STM32F2	V1.9.3
STM32F3	V1.11.2
STM32F4	V1.26.1
STM32F7	V1.16.1
STM32G0	V1.5.0
STM32G4	V1.4.0
STM32H7	V1.9.0
STM32L0	V1.12.0
STM32L1	V1.10.3
STM32L4	V1.17.0
STM32L5	V1.4.0
STM32MP1	V1.4.0
STM32U5	V1.0.0
STM32WB	V1.12.0
STM32WL	V1.1.0

3.7 STM32CubeMX V6.2.1 release information

Added the support for new firmware and manifest version in the STM32MP1 Series:

- Linux Kernel 5.10 LTS
- openstlinux-5.10-dunfell-mp1-21-03-31

3.7.1 Main fixed issues

Table 15. Main fixed issues in V6.2.1

ID	Summary
88481	[STM32CubeMX][STM32MP15] PA10 assigned to USB_OTG_HS_ID when configuring USB OTG with device-only controller.
96553	[MBOX_IPCC] Unexpected `rproc_virtio_notified` call.

3.7.2 Firmware package versions

Table 16 shows the firmware package versions.

Table 16. Firmware package versions in V6.2.1

STM32Cube firmware and updated middleware	Version
STM32F0	V1.11.2
STM32F1	V1.8.3
STM32F2	V1.9.2
STM32F3	V1.11.2
STM32F4	V1.26.0
STM32F7	V1.16.1
STM32G0	V1.4.1
STM32G4	V1.4.0
STM32H7	V1.9.0
STM32L0	V1.12.0
STM32L1	V1.10.2
STM32L4	V1.17.0
STM32L5	V1.4.0
STM32MP1	V1.4.0
STM32WB	V1.11.0
STM32WL	V1.0.0

3.8 STM32CubeMX V6.2.0 release information

- Enhanced the Software Packs feature with secure context support and others
- Added new videos accessible to residents in mainland China
- Added the support for new part numbers in the STM32G0 Series:
  STM32G050C(6-8)Tx, STM32G050F6Px, STM32G050K(6-8)Tx, STM32G051C(6-8)Tx, STM32G051C(6-8)Ux, STM32G051F(6-8)Px, STM32G051F8Yx, STM32G051G(6-8)Ux, STM32G051K(6-8)Tx, STM32G051K(6-8)Ux, STM32G061C(6-8)Tx, STM32G061C(6-8)Ux, STM32G061F(6-8)Px, STM32G061F8Yx, STM32G061G(6-8)Ux, STM32G061K(6-8)Tx, STM32G061K(6-8)Ux, STM32G0B1C(B-C-E)Tx, STM32G0B1C(B-C-E)TxN, STM32G0B1C(B-C)Ux, STM32G0B1C(B-C-E)UxN, STM32G0B1KBTx, STM32G0B1KBTxN, STM32G0B1KBUx, STM32G0B1KBUxN, STM32G0B1MBTx, STM32G0B1NEYx, STM32G0B1R(B-C-E)IxN, STM32G0B1R(B-C-E)Tx, STM32G0B1R(B-C-E)TxN, STM32G0B1VBIx, STM32G0B1VBTx, STM32G0C1C(C-E)TxN, STM32G0C1C(C-E)UxN, STM32G0C1NEYx, STM32G0C1R(C-E)IxN, STM32G0C1R(C-E)Tx, STM32G0C1R(C-E)TxN

- Added the support for new part numbers in the STM32L4+ Series: STM32L4Q5AGIxP, STM32L4Q5CGTx, STM32L4Q5CGTxP, STM32L4Q5CGUx, STM32L4Q5CGUxP, STM32L4Q5QGIx, STM32L4Q5QGIxP, STM32L4Q5RGTxP, STM32L4Q5VGTxP, STM32L4Q5VGYxP, STM32L4Q5ZGTxP
- Added the support for new part numbers in the STM32WB Series: STM32WB10CCUx, STM32WB15CCUx, STM32WB15CCUxE, STM32WB15CCYx, STM32WB30CEUxA, STM32WB35C(C-E)UxA
- Added the support for Q-SPI in the STM32G471xxxx part number.
- Added the support for two new boards related to the STMWB Series: STM32WB5MM-DK and NUCLEO-WB15CC
- Added the support for new features in the STM32F4 Series:
  – SMBUS support
  – Fast mode and Fast mode plus support
- Added the support for SMBUS Fast mode plus for the STM32L4 Series, STM32F4 Series, STM32L0 Series and STM32L5 Series
- Added the support for ICACHE LL in the STM32L5 Series
- Added features improvements for ZigBee® in the STM32WB Series such as cluster callbacks selection and specific parameters configuration for cluster allocation
- Added the STM32Cube Expansion Packages support to the *Example Selector*
- Added enhancements for the installation procedure with the JRE™ bundling support
- Added clickable news regarding new feature support on the STM32CubeMX main page
- Added the support for CMSIS Packs in the STM32L5 Series

3.8.1 Main fixed issues

Table 17. Main fixed issues in V6.2.0

ID	Summary
83838	[STM32CubeMX-H7][Power Domain] Wrong power domain for the Cortex®-M4.
85707	[STM32CubeMX-All][SAI] Make the MCKDIV accessible when NOMCK.
91240	[STM32CubeMX-Motorcontrol] Import feature incomplete and misleading report message.
92895	[MotorControl] Additional middleware include required when using "Generate peripheral initialization as a pair of '.c/.h' files per peripheral".
94134	[STM32CubeMX-ALL][FATFS] Remove the dependency FS_REENTRANT - FreeRTOS®.
95646	[STM32CubeMX-All][Keil file] The <FileOption> and <GroupOption> sections should be kept after regenerating the project.
95857	[GitHub][BLE] Update comment for RSSI in the *app_ble.c* file.
96078	[STM32CubeMX-L4][RCC] Wrong flash memory latency value - WS must be automatically updated.
96267	[STM32CubeMX][ETH] Ethernet peripheral not available in STM32H725REVx MCUs.
97276	[STM32CubeMX-F1][RTC] Wrong asynchronous predivider value.
97418	[STM32CubeMX-H7][FreeRTOS] Change code in the *FreeRTOSConfig.h* and *FreeRTOSConfig_template.h* files.

3.8.2 Firmware package versions

Table 18 shows the firmware package versions.

Table 18. Firmware package versions in V6.2.0

STM32Cube firmware and updated middleware	Version
STM32F0	V1.11.2
STM32F1	V1.8.3
STM32F2	V1.9.2
STM32F3	V1.11.2
STM32F4	V1.26.0
STM32F7	V1.16.0
STM32G0	V1.4.0
STM32G4	V1.4.0
STM32H7	V1.9.0
STM32L0	V1.12.0
STM32L1	V1.10.2
STM32L4	V1.17.0
STM32L5	V1.4.0
STM32MP1	V1.3.0
STM32WB	V1.11.0
STM32WL	V1.0.0

3.9 STM32CubeMX V6.1.1 release information

Minor release fixing the issues reported in *Table 19*.

3.9.1 Main fixed issues

Table 19. Main fixed issues in V6.1.1

ID	Summary
96899	EWARM project generation broken for X-CUBE-TOUCHFX.
97133	Baud rate calculator issue.

3.9.2 Firmware package versions

Table 20 shows the firmware package versions.

Table 20. Firmware package versions in V6.1.1

STM32Cube firmware and updated middleware	Version
STM32F0	V1.11.2
STM32F1	V1.8.3
STM32F2	V1.9.2
STM32F3	V1.11.2
STM32F4	V1.25.2
STM32F7	V1.16.0
STM32G0	V1.4.0
STM32G4	V1.3.0
STM32H7	V1.8.0
STM32L0	V1.12.0
STM32L1	V1.10.2
STM32L4	V1.16.0
STM32L5	V1.3.1
STM32MP1	V1.3.0
STM32WB	V1.10.0
STM32WL	V1.0.0

3.10 STM32CubeMX V6.1.0 release information

- Added the support for new part numbers in the STM32G0 Series: STM32G0B0CETx, STM32G0B0KETx, STM32G0B0RETx, STM32G0B0VETx, STM32G0B1C(C-E)Tx, STM32G0B1C(C-E)Ux, STM32G0B1K(C-E)Tx, STM32G0B1K(C-E)TxN, STM32G0B1K(C-E)Ux, STM32G0B1K(C-E)UxN, STM32G0B1M(C-E)Tx, STM32G0B1R(C-E)Ix, STM32G0B1R(C-E)Tx, STM32G0B1V(C-E)Ix, STM32G0B1V(C-E)Tx, STM32G0C1C(C-E)Tx, STM32G0C1C(C-E)Ux, STM32G0C1K(C-E)Tx, STM32G0C1K(C-E)TxN, STM32G0C1K(C-E)Ux, STM32G0C1K(C-E)UxN, STM32G0C1M(C-E)Tx, STM32G0C1R(C-E)Ix, STM32G0C1R(C-E)Tx, STM32G0C1V(C-E)Ix, STM32G0C1V(C-E)Tx
- Added the support for two new STM32G0 boards: NUCLEO-G0B1RE and STM32G0C1E-EV
- Added the support for new part numbers in the STM32H7 Series: STM32H735VGHx, STM32H725V(E-G)Hx
- Added the support for new part numbers in the STM32L4 Series: STM32L451CETx, STM32L452CETx, and STM32L462CETx
- Added the support for new part numbers in the STM32L0 Series: STM32L073CZYx.

- Added the support for the STM32WL Series:
  - Added the support for new part numbers in the STM32WL Series: STM32WL54CCUx, STM32WL54JCIx, STM32WL55CCUx, STM32WL55JCIx, STM32WL55UCYx, STM32WLE4C(8-B-C)Ux, STM32WLE4J(8-B-C)Ix, STM32WLE5C(8-B-C)Ux, STM32WLE5J(8-B-C)Ix, STM32WLE5U(8-B)Yx
  - Added the support for two boards: NUCLEO-WL55JC1 and NUCLEO-WL55JC2
  - Possibility to create a single or dual-core project. For dual-core projects, possibility to assign peripherals to the Cortex®-M0+ or Cortex®-M4 core
- Added LL support for I^2S peripheral for the STM32G0 Series, STM32G4 Series, STM32WB Series and STM32WL Series
- Added the support for new features in the STM32MP1 Series:
  - USART Smartcard mode
  - UART RS-485 mode
  - FMC PSRAM support
- Added the support for one new STM32MP1 board: STM32MP157F-DK2
- Added Zigbee® support for the STM32WB Series:
  Channel selection, Endpoint selection, Cluster selection and allocation, and Cluster callback management
- Added the possibility for users in Mainland China to access to the video tutorials at stmcu.com.cn
- Added some search enhancements for the video tutorials feature
- Added the support of software packs for the dual-core STM32H7 Series and for the Cortex®-M4 of the STM32WL Series
- Added some enhancements in *Example Selector* feature.
- Added the support for one new STM32L4 board: NUCLEO-L4A6ZG
- New access to *External Tools* on STM32CubeMX home page

3.10.1 Main fixed issues

Table 21. Main fixed issues in V6.1.0

ID	Summary
73285	[MX-MP] [USART] Missing modes.
74932	ADC on STM32G0 and STM32WL must have restricted channel list and sequencer configured first.
84914	[MX-CodeGen] STM32CubeMX `tpl_main_c.ftl` (*main.c* template) does not trap `Error_Handler`.
89910	[MX-G0] [Pinout] Remove ADC1_IN11 from PB7.
90913	[MX-L4+] [LPUART] Wrong code generated
90919	[MX] [SAI] *Synchronous Slave* mode always grayed and not available.
91032	[MX-H7] [LWIP] Generation errors with *ethernetif.c*.
91276	[MX-WB] [RCC] WS grayed and stuck on 3.
91939	[MX-F1] [ADC3] Missed code related to regular conversion parameter.

Table 21. Main fixed issues in V6.1.0 (continued)

ID	Summary
92551	[MX-G4] [TIM] Code generation for TIMx encoder mode with remap issue.
92818	[MX-NVIC] All IRQ priorities must be set automatically.

3.10.2 Firmware package versions

Table 22 shows the firmware package versions.

Table 22. Firmware package versions in V6.1.0

STM32Cube firmware and updated middleware	Version
STM32F0	V1.11.1
STM32F1	V1.8.3
STM32F2	V1.9.2
STM32F3	V1.11.1
STM32F4	V1.25.2
STM32F7	V1.16.0
STM32G0	V1.4.0
STM32G4	V1.3.0
STM32H7	V1.8.0
STM32L0	V1.12.0
STM32L1	V1.10.2
STM32L4	V1.16.0
STM32L5	V1.3.1
STM32MP1	V1.3.0
STM32WB	V1.10.0
STM32WL	V1.0.0

3.11 STM32CubeMX V6.0.1 release information

Minor release fixing the issues reported in *Table 23*.

3.11.1 Fixed issues

Table 23. Main fixed issues in V6.0.1

ID	Summary
90615	Unexpected project data deletion when some utilities are used.
90636	IRQ priorities for some "Non-System" IPs are set to minimal values after project migration.
90934	Some boards do not boot after enabling FreeRTOS™.

3.11.2 Firmware package versions

Table 24 shows the firmware package versions.

Table 24. Firmware package versions in V6.0.1

STM32Cube firmware and updated middleware	Version
STM32F0	V1.11.0
STM32F1	V1.8.0
STM32F2	V1.9.0
STM32F3	V1.11.0
STM32F4	V1.25.0
STM32F7	V1.16.0
STM32G0	V1.3.0
STM32G4	V1.3.0
STM32H7	V1.8.0
STM32L0	V1.11.2
STM32L1	V1.10.0
STM32L4	V1.16.0
STM32L5	V1.3.0
STM32MP1	V1.2.0
STM32WB	V1.8.0

3.12 STM32CubeMX V6.0.0 release information

- Added the support of new part numbers in the STM32G4 Series: STM32G491K(C-E)Ux, STM32G491C(C-E)Ux, STM32G491C(C-E)Tx, STM32G491REYx, STM32G491R(C-E)Tx, STM32G491R(C-E)Ix, STM32G491M(C-E)Sx, STM32G491M(C-E)Tx, STM32G491V(C-E)Tx, STM32G4A1KEUx, STM32G4A1CEUx, STM32G4A1CETx, STM32G4A1REYx, STM32G4A1RETx, STM32G4A1REIx, STM32G4A1MESx, STM32G4A1METx, and STM32G4A1VETx
- Added the support of new part numbers in the STM32H7 Series: STM32H723x, STM32H725x, STM32H730x, STM32H733x, and STM32H735x
- Added the support of one new part number in the STM32F4 Series: STM32F479IIHx
- Added the support of three new part numbers in the STM32F7 Series: STM32F723V(C-E)Tx and STM32F733VETx
- Added the support of new part numbers in the STM32L0 Series: STM32L031C4Ux, STM32L041C6Ux, STM32L051C(6-8)Ux, STM32L052C(6-8)Ux, STM32L053C(6-8)Ux, STM32L062C8Ux, STM32L063C8Ux, STM32L071C8Ux, STM32L082KBUx, and STM32L083RBTx
- Added the support of new part numbers in the STM32L1 Series: STM32L162QCHx, STM32L162VDYxX, and STM32L162ZCTx

- Added the support of new part numbers in the STM32L4 Series: STM32L496VGTxP, STM32L496VGYxP, and STM32L4A6VGTxP
- Added the support of one new part number in the STM32WB Series: STM32WB55VYYx
- Added the support of new boards: NUCLEO-G491RE, STM32H735G-DK, NUCLEO-H723ZG, NUCLEO-WB55RG, B-L462E-CELL1, B-L4S5I-IOT01, and STM32MP157F-EV1
- Added the video tutorials feature to access video tutorials on various STM32CubeMX features
- Added the support of an *Example Selector* that enables example filtering among several parameters
- Added the support of PCC for the STM32L5xQ part numbers with SMPS
- Software Packs:
  - User interface enhancements with simplified access to Software Pack installation and component selection from the *Pinout&Configuration* view and to Software Pack documentation from the *Component Selector* window
  - Implementation aligned with Arm® CMSIS-Pack 1.6.3 revision
- Added a graphical tool, named STM32PackCreator and installed with STM32CubeMX in the *Utilities* folder. It allows pack developers to create Software Packs and STM32Cube Expansion packages enhanced for STM32CubeMX. It can be launched from the *ST Tools* tab found in the STM32CubeMX *Tools* view.

3.12.1 Fixed issues

Table 25. Main fixed issues in V6.0.0

ID	Summary
69745	[MX-L4][Pinout] Wrong pinout name.
70599	[MX-L0][MCU] Add STM32L082KB in STM32CubeMX.
71585	[MX-I2C] Split I^2C DeInit pins: SCL and SDA.
75137	[MX-OPAMP] Add new PGA mode.
79013	[MX-ALL] changing call order in *Advanced Settings* tab cannot be saved.
79732	[MX-ALL][LPUART/UART/USART] Missing 7-bit wake-up address.
80139	[MX-HSEM] HSEM LL driver not selectable in *Driver Selector.*
81178	[MX-H7][DEBUG][MBEDTLS] Multiple tools write to the same file *debug.c*.
84813	[MX-F4][CLOCK] PLLI2SQ is missing from PLLI2S initialization.
85919	[MX-G4][IWDG] Missed window option and wrong code generated.

3.12.2 Firmware package versions

Table 26 shows the firmware package versions.

Table 26. Firmware package versions in V6.0.0

STM32Cube firmware and updated middleware	Version
STM32F0	V1.11.0
STM32F1	V1.8.0
STM32F2	V1.9.0
STM32F3	V1.11.0
STM32F4	V1.25.0
STM32F7	V1.16.0
STM32G0	V1.3.0
STM32G4	V1.3.0
STM32H7	V1.8.0
STM32L0	V1.11.2
STM32L1	V1.10.0
STM32L4	V1.16.0
STM32L5	V1.3.0
STM32MP1	V1.2.0
STM32WB	V1.8.0

3.13 STM32CubeMX V5.6.1 release information

Minor release fixing the issues reported in *Table 27*.

3.13.1 Fixed issues

Table 27. Fixed issues in V5.6.1

ID	Summary
79013	[MX-ALL] Changing the call order in the *Advanced Settings* tab cannot be saved.
81455	[STM32MP1] Not possible to save DDR tuning configuration.

3.13.2 Firmware package versions

Table 28 shows the firmware package versions.

Table 28. Firmware package versions in V5.6.1

STM32Cube firmware and updated middleware	Version
STM32F0	V1.11.0
STM32F1	V1.8.0

Table 28. Firmware package versions in V5.6.1 (continued)

STM32Cube firmware and updated middleware	Version
STM32F2	V1.9.0
STM32F3	V1.11.0
STM32F4	V1.25.0
STM32F7	V1.16.0
STM32G0	V1.3.0
STM32G4	V1.2.0
STM32H7	V1.7.0
STM32L0	V1.11.2
STM32L1	V1.9.0
STM32L4	V1.15.1
STM32L5	V1.2.0
STM32MP1	V1.2.0
STM32WB	V1.5.0

3.14 STM32CubeMX V5.6.0 release information

- Added the support of new part numbers in the STM32L0 Series: STM32L071C(B-Z)Ux, STM32L081CZUx, STM32L072C(B-Z)Ux, STM32L082CZUx, STM32L073C(B-Z)Ux, STM32L083CZUx, and STM32L073CZUx
- Added the support of the new 800 MHz capable part numbers in the STM32MP1 Series: STM32MP151DAD, STM32MP151FAD, STM32MP151DAC, STM32MP151FAC, STM3MP151DAB, STM32MP151FAB, STM32MP151DAA, STM32MP151FAA, STM32MP153DAD, STM32MP153FAD, STM32MP153DAC, STM32MP153FAC, STM32MP153DAB, STM32MP153FAB, STM32MP153DAA, STM32MP153FAA, STM32MP157DAD, STM32MP157FAD, STM32MP157DAC, STM32MP157FAC, STM32MP157DAB, STM32MP157FAB, STM32MP157DAA, and STM32MP157FAA
- Added the support of new part numbers in the STM32WB Series: STM32WB30CEUx, STM32WB35CCUx, STM32WB35CCYx, STM32WB35CEUx and STM32WB35CEYx
- Added the support of OCTOSPI muxed mode for the STM32H7 Series and STM32L4+ Series
- Added the support of linker files for 1-Mbyte flash part numbers for STM32H7Axxxxx microcontrollers
- Added the support of DTS for STM32H7Axxxxx and STM32H7Bxxxxx part numbers
- Added the support of LL for PWR for the STM32H7 Series
- PCC: added the support of a new *Sequence Generator* feature to quickly generate two steps in high- and low-power modes. A default sequence is proposed in Run and Stop modes

- Added the support of Additional Software (Software Packs) for the STM32L5 Series, only for Non-TrustZone® activated projects (`TZEN=0`)
- Added the support of two new STM32Cube Expansion Packages: X-CUBE-SUBG2 and X-CUBE-ALGOBUILD
- Updated some STM32Cube Expansion Packages: X-CUBE-BLE1, X-CUBE-GNSS1, X-CUBE-MEMS1, and X-CUBE-NFC4

3.14.1 Fixed issues

Table 29. Main fixed issues in V5.6.0

ID	Summary
62299	STM32CubeMX cannot select the STM32L4R9ZIY6PTR MCU.
74936	[MX-WB][RF] Clarification configuration.
76533	[MX-G0] Missing LD4 in the NUCLEO-G070RB template of the *Device Configuration*.
77709	[MX-MP][CLOCK] DDRPREFM clock shows error for 533 MHz.
78818	[MX-ALL][Fatfs] Wrong `ff_free` define.
78859	[MX-G0][I2C] No SDA signal.
79013	[MX-ALL] Changing call order in *Advanced Settings* tab cannot be saved.
79596	[MX-RCC] Wrong exported RCC configuration with LL drivers.
79866	[MX-H7][CLOCK_FDCAN] Frequency limitation.
80015	[MX-H7][USB] USBH_USE_OS always disabled.
80234	[MX-RCC] Backup domain enable not added before LSE drive configuration for STM32WB.

3.14.2 Firmware package versions

Table 30 shows the firmware package versions.

Table 30. Firmware package versions in V5.6.0

STM32Cube firmware and updated middleware	Version
STM32F0	V1.11.0
STM32F1	V1.8.0
STM32F2	V1.9.0
STM32F3	V1.11.0
STM32F4	V1.25.0
STM32F7	V1.16.0
STM32G0	V1.3.0
STM32G4	V1.2.0
STM32H7	V1.7.0
STM32L0	V1.11.2
STM32L1	V1.9.0

Table 30. Firmware package versions in V5.6.0 (continued)

STM32Cube firmware and updated middleware	Version
STM32L4	V1.15.1
STM32L5	V1.2.0
STM32MP1	V1.2.0
STM32WB	V1.5.0

3.15 STM32CubeMX V5.5.0 release information

- Removed TouchGFX, STemWin, Graphics Selector and Simulator supports.
  The new solution based on Expansion Pack X-CUBE-TOUCHGFX is available.
- Added the support of new part numbers in the STM32H7 Series:
  STM32H7A3x, STM32H7B3x, STM32H750IBTx, STM32H750ZBTx and STM32H7B0xx.
- Added the support of new part numbers in the STM32L4+ Series:
  STM32L4P5x and STM32L4Q5x.
- Added the support of LL code generation for the STM32H7 Series.
- Added the support of the STM32L5 Series:
  - Added the support of STM32L5 Series devices: STM32L55xx, STM32L56xx.
  - Added the support of boards based on devices in the STM32L5 Series:
    NUCLEO-L552ZE-Q, STM32L552E-EV and STM32L562E-DK.
  - Possibility to create projects with no TrustZone® security (user Option Bit `TZEN=0` with legacy project structure) or with TrustZone® security (user Option Bit `TZEN=1` with new project structure for secure and nonsecure images).
  - For TrustZone® projects (`TZEN=1`), in order to match the default IDAU/SAU and secure and nonsecure linker files, ensure these Option Bytes are set with STM32CubeProgrammer (STM32CubeProg) prior to download and execution:
    - `TZEN = 1`: system with TrustZone®-M enabled.
    - `DBANK = 1`: dual-bank mode.
    - `SECWM1_PSTRT=0x0` and `SECWM1_PEND=0x7F`
      All 128 pages of internal flash memory Bank1 set as secure.
    - `SECWM2_PSTRT=0x1` and `SECWM2_PEND=0x0`
      No page of internal flash memory Bank2 set as secure, hence Bank2 nonsecure.
  - Possibility to assign peripheral or middleware to secure (CM33S) or nonsecure (CM33NS) context.
  - Possibility to secure RCC resources in the *Clock Configuration* tab. Securable resources are highlighted with a key-shaped icon:
    - Right click on securable resource to activate or deactivate the security.
    - The lock icon locks all secure resources: no more possible to change the configuration even with the automatic clock issues solver.
- Added the support of new boards:
  STEVAL-IDP005V1, STEVAL-IDP005V2 and STEVAL-STWINKT1.

- User Interface updates:
  - Added filters and preconfigured views in system view: by context execution (secure/nonsecure, core 1/core 2), context initialization, or power domain.
  - Add an option in the GPIO configuration panel to have an overview of all configured I/Os in the same table.

3.15.1 Fixed issues

Table 31. Main fixed issues in V5.5.0

ID	Summary
67598	[MX-F4][USART] Add Open Drain under GPIO mode.
70790	[MX-Code Generation] Incorrect OPAMP number assigned.
73041	[MX-L1][I2S] Wrong `HAL_RCC_SPIx_CLK_Enable` call.
73371	[MX-MP][USART] Hardware flow control (RS485) not available.
73653	Moving a project from v5.2.0 to v5.3.0 without migrating leads to corrupted dts.
73741	[MX-H7][GPIO] User label not generated.
73888	[MX-G4][ADC_LL] Wrong line of code generated *TriggerSource*.
74309	[MX-FreeRTOS] `configCPU_CLOCK_HZ` is incorrect for Cortex®-M4.
75131	[MX-G0][USART] Missed configuration pin in the code generation and not able to configure pins.
75262	[MX-G4/G0][UCPD] The dead-battery signals configuration is not saved.

3.15.2 Firmware package versions

Table 32 shows the firmware package versions.

Table 32. Firmware package versions in V5.5.0

STM32Cube firmware and updated middleware	Version
STM32F0	V1.11.0
STM32F1	V1.8.0
STM32F2	V1.8.0
STM32F3	V1.11.0
STM32F4	V1.24.2
STM32F7	V1.15.0
STM32G0	V1.3.0
STM32G4	V1.1.0
STM32H7	V1.6.0
STM32L0	V1.11.2
STM32L1	V1.9.0

Table 32. Firmware package versions in V5.5.0 (continued)

STM32Cube firmware and updated middleware	Version
STM32L4	V1.15.0
STM32L5	V1.0.0
STM32MP1	V1.1.1
STM32WB	V1.4.0

3.16 STM32CubeMX V5.4.0 release information

- Added the support of the STM32L5 Series (beta support)[a]:
  - Possibility to create projects with no TrustZone® security (user Option Byte `TZEN = 0` with legacy project structure) or with TrustZone® security (`TZEN = 1` with new project structure for secure and nonsecure images).
    For TrustZone® projects (`TZEN=1`), in order to match default IDAU/SAU and secure and nonsecure linker files, special Option Bytes setting is required.
  - Possibility to assign peripheral or middleware to secure (CM33S) or nonsecure (CM33NS) context.
  - Possibility to secure RCC resources via the *Clock Configuration* tab.
    Securable resources are highlighted with a "key" icon.
  - Support of microcontrollers in the STM32L5 Series: STM32L552CCTx, STM32L552CETx, STM32L552CETxP, STM32L552CCUx, STM32L552CEUx, STM32L552CEUxP, STM32L552MEYxP, STM32L552MEYxQ, STM32L552QEIx, STM32L552QEIxP, STM32L552QCIxQ, STM32L552QEIxQ, STM32L552RCTx, STM32L552RETx, STM32L552RETxP, STM32L552RETxQ, STM32L552VETx, STM32L552VCTxQ, STM32L552VETxQ, STM32L552ZETx, STM32L552ZCTxQ, STM32L552ZETxQ, STM32L562CETx, STM32L562CETxP, STM32L562CEUx, STM32L562CEUxP, STM32L562MEYxP, STM32L562MEYxQ, STM32L562QEIxP, STM32L562QEIxQ, STM32L562RETx, STM32L562RETxP, STM32L562VETx, STM32L562VETxQ, STM32L562ZETx, STM32L562ZETxQ.
  - Added the support of boards based on devices in the STM32L5 Series: NUCLEO-L552ZE-Q, STM32L552E-EV and STM32L562E-DK.

a. Beta support only. Contact the local STMicroelectronics sales office or distributor (refer to https://www.st.com/content/st_com/en/contact-us.html) to get STM32CubeL5 MCU Package V0.7.0.

- STM32MP1 updates:
  - Support of the new project structure aligned with dual-core constraints with no backwards compatibility (refer to *Section 2.1: Known limitations* for information about the compatibility break).
  - Added IAR™ EWARM to the list of supported IDEs for the STM32MP1 Series.
  - Added Keil® to the list of supported IDEs for the STM32MP1 Series.
  - Added STM32CubeIDE to the list of supported IDEs for STM32MP1 series.
  - Added the support of LL code generation for the STM32MP1 Series for some peripherals: ADC, GPIO, RCC, USART, SYS, DMA, LPTIM, TIM, SPI, WWDG, PWR, and I^2C.
- STM32CubeIDE updates
  - Added the support of the STM32MP1 Series.
  - Added the support of the STM32H7 Series.
  - Added the support of the STM32L5 Series.
  - Non-under-root projects can be imported.
- Additional software updates:
  - CLI for pack install.
  - Project migration.
- Code generation:
  - Split between system clock and peripheral clock code generation: deployment done for the STM32MP1 Series and STM32L5 Series.
- User Interface updates:
  - Split between IDE list and version list for easier selection.
- Install updates:
  - *Install* and *Uninstall* are signed for the Windows® operating system.
- Added the support of the STM32WBx0 Value Line: STM32WB50CGUx.
- Added the support of new devices in the STM32WB Series: STM32WB55VCYx, STM32WB55VEYx, STM32WB55VGYx.
- Added the support of new devices for the STM32L4 Series: STM32L471ZEJx, STM32L471ZGJx, STM32L4A6AGIxP, STM32L4A6QGIxP, STM32L4A6RGTxP, STM32L4A6VGTx, STM32L4A6ZGTxP and STM32L4A6VGYxP.

3.16.1 Fixed issues

Table 33. Main fixed issues in V5.4.0

ID	Summary
33799	Enable/disable `ARPE` and `OCxPE` bits from STM32CubeMX interface.
52366	STM32F412 FSMC PB7 functionality: STM32CubeMX vs. datasheet discrepancy.
55016	DISCO L475 IOT (B-L475E-IOT01A): WI-FI® pins in board description.
66665	[MX-MP][PINOUT] Pinout changes not updated.
67080	STM32CubeMX sometimes displays wrong pin number when creating PWM timer on Timer 1 channel 3N.
68063	[MX-L4][TIM2-GPIO] Line missed in code generation.

Table 33. Main fixed issues in V5.4.0 (continued)

ID	Summary
69542	[MX-USB]: USB pins set wrongly as alternate functions.
69941	[MX-SAI]: Synchronous slave option is grayed out (in SAI_B) when SAI_A is configured as asynchronous slave.
70244	[MX-USB]: USB_OTG_HS PHY options.
70459	[MX-F4][ADC] Cannot enable “DMA Continuous Requests”.
70965	[MX-L4][CLOCK] Wrong minimum frequency for ADC.

3.16.2 Firmware package versions

Table 34 shows the firmware package versions.

Table 34. Firmware package versions in V5.4.0

STM32Cube firmware and updated middleware	Version
STM32F0	V1.11.0
STM32F1	V1.8.0
STM32F2	V1.8.0
STM32F3	V1.11.0
STM32F4	V1.24.1
STM32F7	V1.15.0
STM32G0	V1.3.0
STM32G4	V1.1.0
STM32H7	V1.5.0
STM32L0	V1.11.2
STM32L1	V1.9.0
STM32L4	V1.14.0
STM32L5	V0.7.0(1)
STM32MP1	V1.1.0
STM32WB	V1.3.0

1. Beta support only. Contact the local STMicroelectronics sales office or distributor (refer to https://www.st.com/content/st_com/en/contact-us.html) to get STM32CubeL5 MCU Package V0.7.0.

3.17 STM32CubeMX V5.3.0 release information

- Added the support of mbedTLS in the STM32H7 Series
- Added the support of CMSIS RTOS v2 in the STM32H7, STM32F4, STM32F7, STM32G0, STM32G4, STM32L0, STM32L1, STM32L4, STM32L4+, and STM32WB Series
- Added the support of the B-G474E-DPOW1 board for the STM32G4 Series
- Added the support of the STM32MP157A-DK1 board for the STM32MP1 Series
- Added the support of the STEVAL-MKSBOX1V1 board for the STM32L4+ Series
- Added the support of new devices for the STM32G4 Series: STM32G441MBTx, STM32G483CETx, STM32G483CEUx, STM32G483METx, STM32G483MEYx, STM32G483QETx, STM32G483RETx, STM32G483VEHx, STM32G483VEIx, and STM32G483VETx
- *MCU and MPU Selector*: keep all filters displayed even if not available to avoid UI refresh
- *Additional Software* new user interface
  - 4 sections: *Filters*, *Components dependencies*, *Details and warnings*, and *Packs*
  - Pack versions are shown in one element
    (one version is displayed for each pack, user can switch from a version to another)
  - New filters implemented:
    - Show only favorite packs
    - Show only selected components
    - See only installed packs
    - See only compatible packs
  - Pack migration: *Details and Warnings* section
    Users can migrate pack version if possible
- New firmware package versions supported mainly for middleware updates and new examples for the STM32G4 Series and STM32WB Series

3.17.1 Fixed issues

Table 35. Main fixed issues in V5.3.0

ID	Summary
65156	[MX-DFSDM]: DFSDM clock in STM32H743 clock tree too limited.
65808	[MX-G0][ADC]: ADC configuration can not be done with customer file.
65919	[MX-F7][USB]: *Speed setting* for *USB_OTG_HS Device* missed.
66037	[MX-Graphics]: Fuchsia cross appears when we choose *Number of Layers: 2 layers.*
66183	[MX-F7][QSPI]: Add *disabled* mode to dual-flash parameter.
66502	[MX-L4+][SYSTICK] [LL]: `SysTick` is disabled after calling `SystemClock_Config()`.
66639	[MX-G4][ADC]: Incorrect number of ADC.
66652	[MX-F3][ADC-LL]: Wrong code gen in the configuration for ADC LL.
66835	[MX-I2S-C.GEN]: Full-duplex mode missed in the code gen.
67680	[MX-G0][UCPD]: Add function for disabling *Dead battery support*.

3.17.2 Firmware package versions

Table 36 shows the firmware package versions.

Table 36. Firmware package versions in V5.3.0

STM32Cube firmware and updated middleware	Version
STM32F0	V1.10.0
STM32F1	V1.8.0
STM32F2	V1.8.0
STM32F3	V1.10.0
STM32F4	V1.24.1
STM32F7	V1.15.0
STM32G0	V1.3.0
STM32G4	V1.1.0
STM32H7	V1.5.0
STM32L0	V1.11.2
STM32L1	V1.9.0
STM32L4	V1.14.0
STM32MP1	V1.0.1
STM32WB	V1.2.0

3.18 STM32CubeMX V5.2.1 release information

- Added the support of PDM2PCM middleware for the STM32H7 Series
- For the STM32H7 Series, one SYS time base per core is available

3.18.1 Fixed issues

Table 37. Main fixed issues in V5.2.1

ID	Summary
43174	[STM32H7 Nucleo USB CDC]: Missing call to `HAL_PWREx_EnableUSBVoltageDetector()`.
45095	IAR™ compile warnings for *cmsis_iar.h* STM32H7 dual-core cube-generated project.
63794	[STM32CubeMX]: Missing DSP *arm_bitreversal2.S* file in project generation.
64226	[STM32CubeMX-FMC]: Suggest to add warning tips in case of memory access conflict.
64293	[SDIO] [STM32H7]: Overwriting `USE_SD_TRANSCEIVER` macro.
66418	[STM32CubeMX-STM32H7]: Clock frequency cannot be set to 480 MHz.
66704	[STM32CubeMX-PDM2PCM]: Wrong library included in generated project, wrong stub.

3.18.2 Firmware package versions

Table 38 shows the firmware package versions.

Table 38. Firmware package versions in V5.2.1

STM32Cube firmware and updated middleware	Version
STM32F0	V1.10.0
STM32F1	V1.7.0
STM32F2	V1.7.0
STM32F3	V1.10.0
STM32F4	V1.24.1
STM32F7	V1.15.0
STM32G0	V1.2.0
STM32G4	V1.0.0
STM32H7	V1.4.0
STM32L0	V1.11.2
STM32L1	V1.9.0
STM32L4	V1.14.0
STM32MP1	V1.0.1
STM32WB	V1.1.0

3.19 STM32CubeMX V5.2.0 release information

- Added the support of new dual-core part numbers in the STM32H7 Series:
  - Added the support of dual-core configuration, code, and project generation: context assignment (CM4, CM7, both CM4 and CM7 with initializer), Boot0 mode support (both CPUs booting at once), resource manager, and power domains (D1, D2 and D3).
  - Added the support of new part numbers: STM32H74x and STM32H75x.
  - Added the support of the PCC feature, examples, and T_j versus T_a calculation for the dual-core devices in the STM32H7 Series.
  - Added the support of new boards: STM32H747I-DISCO, STM32H747I-DISC1, STM32H745I-DISCO, NUCLEO-H745ZI-Q, NUCLEO-H755ZI-Q, NUCLEO-H743ZI2, NUCLEO-H753ZI, STM32H743I-EVAL2, STM32H753I-EVAL2, STM32H747I-EVAL, and STM32H757I-EVAL.
- Added the support of new single-core part numbers in the STM32H7 Series: STM32H742x.
- Added the support of a new board for the STM32H7 Value Line: STM32H750B-DK.

- Added the support of new devices with 64 Kbytes of flash memory in the STM32G0 Series with examples in STM32CubeMX format available in the *STM32Cube_FW_G0_1.2.0* STM32CubeG0 MCU Package.
  - Added the support of new part numbers: STM32G030x, STM32G031x and STM32G041x.
  - Added the support of the extended-mode feature for SO8, TSSOP20 and WLCSP18 packages. This feature allows multiple configurations of parallel IOs.
- Added the support of the STM32G4 Series with first examples in STM32CubeMX format available in the *STM32Cube_FW_G4_1.4.0* STM32CubeG4 MCU Package.
  - Added the support of devices in the STM32G4 Series: STM32G431x, STM32G441x, STM32G471x, STM32G473x, STM32G474x, STM32G484x, and STM32GBK1CBT.
  - Added the support of boards based on devices in the STM32G4 Series: STM32G474E-EVAL, STM32G484E-EVAL, STM32G474E-EVAL1, NUCLEO-G474RE, NUCLEO-G431RB and NUCLEO-G431KB.
- New toolchain support: STM32CubeIDE.
- Added the support of PCC examples for the STM32MP1 Series.
- Integration of the Cross Selector tool with both STMicroelectronics and competitors data.

3.19.1 Fixed issues

Table 39. Main fixed issues in V5.2.0

ID	Summary
57095	Calling `HAL_PWR_EnableBkUpAccess()` is only done for the STM32F1 Series.
57986	Bug in STM32CubeMX / STM32F0 LL Library internal ADC channel.
58265	[MX-Code Generation]: Release build not defining compiler.
62052	[MX-GUI] STM32CubeMX reset after dragging the chip in pinout view with Chinese translator activated.
62446	[MX-F7][SAI] Internal synchronization does not work.
63612	[MX-Graphics]: GFXSimulator warning is displayed
63747	[MX-TIM] TIM14 for STM32G0 does not support the input clearing source.
63762	[MX-CAN] CAN1 clock enable to be generated if only CAN2 is enabled.
63768	[MX-SPI] Cannot configure CRC poly.

3.19.2 Firmware package versions

Table 40 shows the firmware package versions.

Table 40. Firmware package versions in V5.2.0

STM32Cube firmware and updated middleware	Version
STM32F0	V1.10.0
STM32F1	V1.7.0

Table 40. Firmware package versions in V5.2.0 (continued)

STM32Cube firmware and updated middleware	Version
STM32F2	V1.7.0
STM32F3	V1.10.0
STM32F4	V1.24.1
STM32F7	V1.15.0
STM32G0	V1.2.0
STM32G4	V1.0.0
STM32H7	V1.4.0
STM32L0	V1.11.2
STM32L1	V1.9.0
STM32L4	V1.14.0
STM32MP1	V1.0.1
STM32WB	V1.1.0

3.20 STM32CubeMX V5.1.0 release information

Added the support of the STM32WB Series with first examples in MX format available in the *STM32Cube_FW_WB_1.0.0* STM32CubeWB MCU Package.

Added the support of the STM32WB boards based on the STM32WB55xx devices.

Added the support of the PCC Bluetooth® Low Energy feature for the STM32WB Series.

Renamed USB middleware to *USB_Device* for the STM32WB Series only.

Added the support of the STM32MP1 Series: STM32MP151xx, STM32MP153xx, and STM32MP157xx.

Added the support of some STM32MP157 boards: STM32MP157A-EV1, STM32MP157C-EV1, and STM32MP157C-DK2.

Added the support of the PCC feature for the STM32MP1 Series, and Tj versus Ta calculation.

Added the support of the DDR Test Suite Tool for the STM32MP1 Series.

Performance enhancements for improved user experience.

User interface updates, especially regarding fonts, breadcrumb, progress bars, and hourglass.

Added the support of USBPD middleware for the STM32G0 Series.

Added the support of new middleware versions for the STM32F4 Series and STM32F7 Series.

Added the support of a new board for the STM32H750 Value line: STM32H750B-DK Discovery kit.

Graphics updates: TrueSTUDIO is supported by TouchGFX Designer.

New EXTI driver is included when available in the MCU Package.

3.20.1 Fixed issues

Table 41. Main fixed issues in V5.1.0

ID	Summary
46874	[MX-Clock] include frac formulas in frequency calculation when PLL frac is enabled.
51206	[MX-TIM] Break filter to be removed for TIM15, 16 and 17.
53264	[MX-Pinout][STM32H750IBKx] G10 must be VSS and not VDD.
55690	[MX-Board] Wrong configuration of special PHY reg for STM32F746 Discovery.
56760	RCC for LTDC clock of STM32L4R9.
56828	[MX-ETH]PHY DP83848 should support also RMII mode.
56999	FreeRTOS™ initialization sequence.
57348	[MX-LWIP] Exception generated due to undefined parameter in the ftl.
57520	[MX-SPI] Missing *Alternate Function Open Drain* in SPI configuration mode.
58043	[MX-TouchSensing] Missing user label in function `MyTKeys_ErrorStateProcess()`.

3.20.2 Firmware package versions

Table 42 shows the firmware package versions.

Table 42. Firmware package versions in V5.1.0

STM32Cube firmware and updated middleware	Version
STM32F0	V1.9.0
STM32F1	V1.7.0
STM32F2	V1.7.0
STM32F3	V1.10.0
STM32F4	V1.24.0
STM32F7	V1.15.0
STM32G0	V1.1.0
STM32H7	V1.3.2
STM32L0	V1.11.1
STM32L1	V1.8.1
STM32L4	V1.13.0
STM32MP1	V1.0.0
STM32WB	V1.0.0

3.21 STM32CubeMX V5.0.1 release information

Bug fixes.

Performance enhancements when loading *ioc* file and creating new project.

3.21.1 Fixed issues

Table 43. Main fixed issues in V5.0.1

ID	Summary
56930	Custom optimization level lost.
57218	[PCC][L0/L1/L4] Impossible to disable Transition Checker.
58072	Import of an STM32F401 *ioc* into an STM32F446 project generates a project for STM32F401.

3.21.2 Firmware package versions

Table 44 shows the firmware package versions.

Table 44. Firmware package versions in V5.0.1

STM32Cube firmware and updated middleware	Version
STM32H7	V1.3.0
STM32F7	V1.13.0
STM32F4	V1.22.0
STM32F3	V1.10.0
STM32F2	V1.7.0
STM32F1	V1.7.0
STM32F0	V1.9.0
STM32L4	V1.13.0
STM32L1	V1.8.1
STM32L0	V1.11.0
STM32G0	V1.0.0

3.22 STM32CubeMX V5.0.0 release information

New user interface and new look and feel.

Code generation updates and enhancements for better alignment with STM32Cube™ firmware.

Added the support of STM32G0 Series with first examples in MX format available in the STM32Cube_FW_G0_1.0.0 STM32CubeG0 MCU Package.

Added the support of STM32L0 Value Line devices.

Added the support of TouchGFX for STM32F4 Series and STM32F7 Series.

Added the support of new middleware versions for STM32F4 Series, STM32F7 Series, and STM32L0 Series.

Added user behavior reporting feature.

3.22.1 Fixed issues

Table 45. Main fixed issues in V5.0.0

ID	Summary
30612	411788-[CodeGen] STM32CubeMX and *syscalls.c.*
42544	[MX-RCC] Wrong flash memory latency for STM32L48x and STM32L47x.
48678	[MX-GUI] Only compatible *ioc* must be displayed in the recent menu.
50032	[MX-RCC] Missing code gen of LSE drive capability.
52706	Pull up should not be enabled on TS sampling channels.
52714	[MX-IWDG] Code reorganization in LL mode.
54409	[MX-RTC] Wrong code generated when selecting PB2 for RTC_OUT.
55082	[MX-Clock] RTC clock value is MHz while the unit is kHz.
55132	[MX-CAN] The activation of CAN2 requires the activation of CAN1 clock.
55692	[MX-GPIO] [CodeGen] Wrong alternate mode for I2S3 clock pin and I2S3 extSD pin.
55700	[MX-Boards] wrong default pin assignment for Nucleo-32 boards: NUCLEO-F042K6 and NUCLEO-F303K8.

3.22.2 Firmware package versions

Table 46 shows the firmware package versions.

Table 46. Firmware package versions in V5.0.0

STM32Cube firmware and updated middleware	Version
STM32H7	V1.3.0
STM32F7	V1.13.0
STM32F4	V1.22.0
STM32F3	V1.10.0
STM32F2	V1.7.0
STM32F1	V1.7.0
STM32F0	V1.9.0
STM32L4	V1.13.0
STM32L1	V1.8.1
STM32L0	V1.11.0
STM32G0	V1.0.0

3.23 STM32CubeMX V4.27.0 release information

Added the support of new STM32L4 Series part numbers: STM32L412xx and STM32L422xx.

Added the support of STemWin library v5.44 for STM32L4+ Series.

Added FreeRTOS™ v10 integration for STM32L4 Series and STM32L4+ Series.

Added USB Host 3.3 integration for STM32L4 Series and STM32L4+ Series.

Added IAR™ EWARM v8.x to the list of supported IDEs.

3.23.1 Fixed issues

Table 47. Main fixed issues in V4.27.0

ID	Summary
48565	[MX-UART] "Hardware Flow Control" must be available only when asynchronous mode is selected for UART4/UART5.
49525	[MX-RTC] RTC_OUT on PC13 (or PB2) requires to configure PC13 (or PB2) GPIO registers as alternate function.
48277	[MX-DMA] "*DMA.h*" in *Sai.c* written in capital letters causes compilation error under Linux.
48955	Bug in the BSP bus creation when more than one SPI and I^2C instances are used.
49087	STM32CubeMx duplicates the Middleware files in an IDE when regenerating the project.
49941	*nucleo_l152re_bus.c* does not compile when I^2C bus is used.
47485	STemWin wrapper does not handle 90° rotation.
50198	Missing `LCD_LL_Reset()` call in generated code since STM32CubeMX V4.26.0.
51210	[MX-ProjectManager] *stm32f3xx_ll_exti.c* added to C_SOURCES twice in *makefile*.
51963	STM32CubeMx V4.26.1 not working for the STM3220G-EVAL board

3.23.2 Firmware package versions

Table 48 shows the firmware package versions.

Table 48. Firmware package versions in V4.27.0

STM32Cube firmware and updated middleware	Version
STM32H7	V1.4.0
STM32F7	V1.12.0
STM32F4	V1.21.0
STM32F3	V1.10.0
STM32F2	V1.7.0
STM32F1	V1.7.0
STM32F0	V1.9.0
STM32L4	V1.13.0

Table 48. Firmware package versions in V4.27.0 (continued)

STM32Cube firmware and updated middleware	Version
STM32L1	V1.9.0
STM32L0	V1.11.0

3.24 STM32CubeMX V4.26.1 release information

Added support of STM32F7 Series and STM32H7 Series part numbers with configuration, and HAL and LL code generation.

3.24.1 Fixed issues

Table 49. Main fixed issues in V4.26.1

ID	Summary
44784	[MX-SYS] Maximum number of MPU regions must be 16 for STM32H7.
46866	[MX-ADC][LL] CubeMX code generation, ADC injected, wrong rank/channel.
47061	[MX-Updater][F3] Fail to Install STM32CubeF3 packages "From Local".
48180	[MX-LWIP] LWIP_TCP must be generated in *lwipopts.h* when TCP is disabled.
48204	[MX-RCC] Wrong code generation when using HSE instead.
49968	[MX-Graphics] `OS_TimeMS++` to be removed if FreeRTOS™ is enabled.

3.24.2 Firmware package versions

Table 50 shows the firmware package versions.

Table 50. Firmware package versions in V4.26.1

STM32Cube firmware and updated middleware	Version
STM32H7	V1.3.0
STM32F7	V1.12.0
STM32F4	V1.21.0
STM32F3	V1.10.0
STM32F2	V1.7.0
STM32F1	V1.6.1
STM32F0	V1.9.0
STM32L4	V1.12.0
STM32L1	V1.8.1
STM32L0	V1.10.0

3.25 STM32CubeMX V4.26.0 release information

Added support for STMicroelectronics BlueNRG-MS pack.

Added contextual documentation of a selected MCU in *MCU Selector* and Peripheral tree.

Added STM32L4+ Series and completed STM32F4 and STM32F7 Series support in the Graphics Selector, Graphics Simulator, and STemWin library.

Added TrueSTUDIO support for graphics projects.

3.25.1 Fixed issues

Table 51. Main fixed issues in V4.26.0

ID	Summary
42586	[MX-MCU] STM32H743IIKx is not usable in STM32CubeMX.
42620	[MX-USB] The `USBD_SUPPORT_USER_STRING` must be set to 0 except for DFU class.
42737	[ADC/OPAMP] Wrong regular channel configuration generated when setting ADC1_IN8 or ADC1_IN15 to OPAMP x output differential.
43350	[MX-TIM] ETR is requesting the HSI48 from clock without using it.
43537	[MX-ProjectManager] Generated projects are no more compatible with new Keil® packs.
43643	[MX-CodeGen] PWR must be enabled in `LL_Init()` for all Series.
45279	[MX-Pinout] G10 pin must be VSS.
45879	[MX-USART] Wrong default value for word length.
46302	[MX-GPIO] The pull status is not generated for USART3.
46635	STM32CubeMX TouchSensing `TSL_OBJ_TOUCHKEY` generated instead of `TSL_OBJ_TOUCHKEY_B`.
46862	[MX-SDMMC] Wrong max SD div.
46864	[MX-NVIC] Timebase interrupt lost.
46997	[MX-TIM] Remove master mode configuration from TIM7 in STM32F412.

3.25.2 Firmware package versions

Table 52 shows the firmware package versions.

Table 52. Firmware package versions in V4.26.0

STM32Cube firmware and updated middleware	Version
STM32H7	V1.2.0
STM32F7	V1.11.0
STM32F4	V1.21.0
STM32F3	V1.9.1
STM32F2	V1.7.0
STM32F1	V1.6.1

Table 52. Firmware package versions in V4.26.0 (continued)

STM32Cube firmware and updated middleware	Version
STM32F0	V1.9.0
STM32L4	V1.12.0
STM32L1	V1.8.1
STM32L0	V1.10.0

3.26 STM32CubeMX V4.25.1 release information

Minor release fixing an issue related to PLLM code generation for STM32L4 Series.

3.26.1 Fixed issue

Table 53. Fixed issue in V4.25.1

ID	Summary
45399	[MX-Clock] PLLM is not generated for STM32L4.

3.26.2 Firmware package versions

Table 54 shows the firmware package versions.

Table 54. Firmware package versions in V4.25.1

STM32Cube firmware and updated middleware	Version
STM32H7	V1.2.0
STM32F7	V1.11.0
STM32F4	V1.21.0
STM32F3	V1.9.0
STM32F2	V1.7.0
STM32F1	V1.6.1
STM32F0	V1.9.0
STM32L4	V1.11.0
STM32L1	V1.8.1
STM32L0	V1.10.0

3.27 STM32CubeMX V4.25.0 release information

Added support for STemWin v5.40 graphics middleware.

Added graphics criteria in the *MCU Selector*: 16 part numbers supported in the STM32F4 Series and STM32F7 Series.

Added a graphics simulator for performance evaluation based on specific parameter configuration.

3.27.1 Fixed issues

Table 55. Fixed issue in V4.25.0

ID	Summary
42936	[SPI Code gen] include file stm32f1xx_hal_spi_ex.h in gpdsc file does not exist. Do not mention it.
43135	[MX-Clock] Add the backup domain enable before LSE drive configuration.
43142	[MX-Clock] PLLM is no more generated for L4+.
43046	Code generation fails when RTC is enabled.
43144	[MX-CAN][F4] From 4.23 to 4.24: compatibility issue for CAN.
43317	[Project Generation] Broken for TrueSTUDIO using STM32CubeMX 4.24.
43318	[Project Generation for TrueStudio] Invalid symbol definition for MBEDTLS_CONFIG_FILE.
43379	[MX-USART][F3] Incorrect maximum baudrate value for USART2.
43581	[MX-Project Manager] Missing stm32f0xx_ll_rcc.c file in generated project.

3.27.2 Firmware package versions

Table 56 shows the firmware package versions.

Table 56. Firmware package versions in V4.25.0

STM32Cube firmware and updated middleware	Version
STM32H7	V1.2.0
STM32F7	V1.11.0
STM32F4	V1.21.0
STM32F3	V1.9.0
STM32F2	V1.7.0
STM32F1	V1.6.0
STM32F0	V1.9.0
STM32L4	V1.11.0
STM32L1	V1.8.1
STM32L0	V1.10.0

3.28 STM32CubeMX V4.24.0 release information

Added support for the STM32F0 Series, STM32F3 Series, STM32F4 Series, STM32F7 Series, STM32L0 Series, STM32L1 Series, and STM32L4+ Series new part numbers.

Added support for STM32F1 code generation using the low-level libraries (LL).

Added support for the TouchSensing and PDM2PCM middleware

Added framework to add additional software components to the project.

3.28.1 Fixed issues

Table 57. Fixed issue in V4.24.0

ID	Summary
41450	[MX-MDMA] MDMA blocked after adding a QSPI request.
41131	[MX-GUI] Project manager window must fit in a resolution with 600-pixel height.
39814	Project that contains "ac6" on the project name generates an error.
25745	301525-[MX-ProjectManager] ICF files must not be overwritten.
39269	[MX-HRTIM] TIMD DMA turned to TIME DMA after switching from TD2 to TD1 output.
41799	[MX-Load] ioc is not loaded without full path.
39931	[FATFS SD-CARD] sd_diskio.c missing some code and call to BSP_SD_init().
30723	414377-[MX-Project Manager] Improve the error message when generation fails.
30724	414384-[MX-CodeGen] Move the bracket of while(1) in the second user tag.
40166	[STM32L1 Makefile] RCC LL driver missing from generated project.
40525	[MX-Clock LL] Flash memory 64-bit access must be enabled over 16 MHz.
41269	[MX-ADC] InjectedNbrOfConversion is not generated.
41466	[MX-SPI] H7 SPI must be able to go up to 150 Mbit/s.
36245	[MX-RTC] Move the test on the calendar reeinit.
40086	[MX-ADC] Rank register corrupted due to the non-usage of the dedicated defines.
39933	[Nucleo144 H7] Ethernet IP missing.
33868	MCUFinder in CubeMX: Add missing datasheets for STM32F301xx devices.
35008	[MX-USART/GPIO] USART having level inversion should be able to have a pulldown configuration on their IOs.
41270	[MX-Clock] PLL3R is not enabled when using the LTDC.
34325	[TIMx] The description in the TRGO menu does not reflect the right function.

3.28.2 Firmware package versions

Table 58 shows the firmware package versions.

Table 58. Firmware package versions in V4.24.0

STM32Cube firmware and updated middleware	Version
STM32H7	V1.2.0
STM32F7	V1.9.0
STM32F4	V1.19.0
STM32F3	V1.9.0
STM32F2	V1.7.0
STM32F1	V1.6.0
STM32F0	V1.9.0
STM32L4	V1.11.0
STM32L1	V1.8.0
STM32L0	V1.10.0

3.29 STM32CubeMX V4.23.0 release information

Added code generation support using the low-level libraries (LL) for the STM32F2 Series, STM32F4 Series, and STM32F7 Series.

Added support for the new part numbers in the STM32F7 Series and STM32H7 Series.

Added support for the mbedTLS middleware.

3.29.1 Fixed issues

Table 59. Fixed issue in V4.23.0

ID	Summary
36160	Rename FDCAN modes from slave/master to classic and from full duplex to FD
37072	[MX-ADC] ADC maximum frequency must be 36 MHz
37531	[Mx-GPIO] GPIO output level configuration is missing
38047	[MX-Clock] PLLM is no more generated
35083	[MX-clock] Periph clock config is not generated when the PLLSAI is used for LTDC
26700	[Project Manager]} A Debug folder should be removed from project tree under SW4STM32
27635	[UI] Loading of project shows project as modified

3.29.2 Firmware package versions

Table 60 shows the firmware package versions.

Table 60. Firmware package versions in V4.23.0

STM32Cube firmware and updated middleware	Version
STM32H7	V1.1.0
STM32F7	V1.8.0
STM32F4	V1.17.0 – FatFS R0.12c
STM32F3	V1.9.0
STM32F2	V1.6.0
STM32F1	V1.6.0
STM32F0	V1.9.0
STM32L4	V1.10.0
STM32L1	V1.8.0
STM32L0	V1.10.0

3.30 STM32CubeMX V4.22.1 release information

Added support for STM32L4+ Series and for new part numbers of STM32F0 Series, STM32F3 Series, STM32F4 Series, STM32F7 Series, and STM32L1 Series.

3.30.1 Fixed issues

Table 61. Fixed issue in V4.22.1

ID	Summary
25102	[USB] Issue with the Device_Only parameter “Use dedicated endpoint 1 interrupt”
36182	[ADC] Wrong defines used for two sampling delay in dual mode
37066	[I2S] Wrong Alternate Function for I2S_CK on PB12
36143	[GUI] Wording fix
26262	[DMA] An issue with DFSDM DMA requests / interrupts after disabling DMA mode parameter.
28946	[FATFS] Dependencies issue when using no check for some FatFS parameters
36247	[ADC] DMA access mode is disabled by MX after hitting cancel button
36184	[ADC] multi mode configuration must not be generated for slave ADCs

3.30.2 Firmware package versions

Table 62 shows the firmware package versions.

Table 62. Firmware package versions in V4.22.1

STM32Cube firmware and updated middleware	Version
STM32H7	V1.1.0
STM32F7	V1.8.0 – FatFS R0.12c – FreeRTOS™ V9.0.0
STM32F4	V1.16.0
STM32F3	V1.9.0
STM32F2	V1.6.0
STM32F1	V1.6.0
STM32F0	V1.9.0
STM32L4	V1.9.0 – FatFS R0.12c
STM32L1	V1.8.0
STM32L0	V1.10.0

3.31 STM32CubeMX V4.22.0 release information

Added support for code generation using the low-layer libraries for the STM32L1 Series.

The chip view of the pinout tab can be rotated and flipped.

In the *MCU Selector* and if there are less than 50 MCUs matching the search criteria, a search can be run on approaching MCUs.

In the pinout view, the user can define several signals on a pin but use them at different time in his code.

3.31.1 Fixed issues

Table 63. Fixed issue in V4.22.0

ID	Summary
33855	[MX-HRTIM] Wrong argument generated for HRTIM Fault level
34310	DSI color mode not correctly generated
30832	[MX-LwIP] With GCC + LwIP + FreeRTOS™, redefined struct timeval causes compilation error
34938	[LwIP/H7] Compilation error in lwip.c with LwIP + LWIP_NETIF_LINK_CALLBACK and without RTOS
29403	[GUI] STM32CubeMX pin user label problem
34383	[MX-RCC] Set the default LSE drive to "LSE High Level Drive"
34641	[MX-Clock] Please add the handling of the DFSDM ACLK in the clock tree
34642	[MX-Clock] The auto resolver does not refresh the AHB and APBs dividers

Table 63. Fixed issue in V4.22.0 (continued)

ID	Summary
35137	[MX-Clock] Min frequency of ADC for L433 must be set to 0.14 MHz
34380	[STM32H7] Alternate functions in PA0, PA1, PC2 and PC3 are not available in PA0_C, PA1_C, PC2_C and PC3_C GPIOs

3.31.2 Firmware package versions

Table 64 shows the firmware package versions.

Table 64. Firmware package versions in V4.22.0

STM32Cube firmware and updated middleware	Version
STM32H7	V1.0.0
STM32F7	V1.7.0
STM32F4	V.1.16.0
STM32F3	V1.9.0
STM32F2	V1.6.0
STM32F1	V1.6.0
STM32F0	V1.8.0
STM32L4	V1.8.1
STM32L1	V1.7.0
STM32L0	V1.9.0

3.32 STM32CubeMX V4.21.0 release information

Support of code generation, clock and power consumption calculation for STM32F1, STM32F4, STM32H7, STM32L0, STM32L1, and STM32L4 Series new part numbers is added. Support for code generation using the low-layer libraries for the STM32L0 and STM32F0 Series is added. Project can be generated as a general purpose makefile. It is possible to generate the code using the HAL library or the LL library for each peripheral instance. The MCU selection for a new project is using the same interface as STMCUFinder.

3.32.1 Fixed issues

Table 65. Fixed issue in V4.21.0

ID	Summary
30838	[FATFS] Generated project no longer compiles after migration
33343	[MX-LWIP] MII arguments used in RMII mode
30938	[NVIC] STM32CubeMX ignores "Uses FreeRTOS™ functions" checkbox
29321	[DMA] DMA Wrong FIFO configuration in MEMTOMEM case

Table 65. Fixed issue in V4.21.0 (continued)

ID	Summary
30923	Project compatibility: from 4.16 to 4.20, load issue / code gen clock issue / runtime issue
30829	[MX-Clock] Remove the PCLK constraint when the I^2C is activated
30854	[MX-Clock] Move the LSE drive configuration in the generated code
30790	[TIM] Wrong Remap for TIM16 on TI1
30833	[MX-LTDC] Missing some pixel format in 16-bit mode

3.32.2 Firmware package versions

Table 66 shows the firmware package versions.

Table 66. Firmware package versions in V4.21.0

STM32Cube firmware and updated middleware	Version
STM32H7 – LwIP – FreeRTOS™ – FatFS – LibJPEG	V1.0.0 – V2.0.0 – V9.0.0 – R0.12c – V8d
STM32F7	V1.7.0
STM32F4	V.1.16.0
STM32F3	V1.8.0
STM32F2 – LwIP – FreeRTOS™ – LibJPEG	V1.6.0 – V2.0.0 – V9.0.0 – V8d
STM32F1	V1.4.0
STM32F0 – FreeRTOS™	V1.8.0 – V9.0.0
STM32L4	V1.8.0
STM32L1	V1.7.0
STM32L0 – FreeRTOS™	V1.9.0 – V9.0.0

3.33 STM32CubeMX V4.20.1 release information

Regression is fixed in the management of peripherals parameters default value.

3.33.1 Fixed issue

Table 67. Fixed issue in V4.20.1

ID	Summary
-	Regression in the management of peripherals parameters default value.

3.33.2 Firmware package versions

Table 68 shows the firmware package versions.

Table 68. Firmware package versions in V4.20.1

STM32Cube firmware and updated middleware	Version
STM32F7	V1.6.0
STM32F4 – LwIP – FreeRTOS™ – LibJPEG	V.1.15.0 – V2.0.0 – V9.0.0 – V8d
STM32F3	V1.7.0
STM32F2	V1.4.0
STM32F1	V1.4.0
STM32F0	V1.7.0
STM32L4 – FreeRTOS™	V1.7.0 – V9.0.0
STM32L1	V1.6.0
STM32L0	V1.8.0

3.34 STM32CubeMX V4.20.0 release information

Configuration and code generation for the libjpeg middleware on the STM32F4 Series is added. Support for security IPs: Crypt, AES and HASH is added. Support for hardware JPEG on STM32F7 is added. Code generation on the low-layer Libraries for the STM32F3 Series is added. The user can assign several analog signals on the same pin. This allows to use the output of an analog peripheral as input of another analog peripheral.

3.34.1 Fixed issues

Table 69. Fixed issues in V4.20.0

ID	Summary
407521	mxconstants.h user section not migrated to main.h (4.15 to 4.19 migration)
407571	ADC config migration 4.15 to 4.19
411761	[IMPORT] DAC parameteres are not imported (regression first apprears in 4.19-A.5)
411058	[MX-HRTIM] event fast mode arguments are inverted

Table 69. Fixed issues in V4.20.0 (continued)

ID	Summary
409934	[L082CZ] WLCSP49 part numbers are missing
409316	[USB]: Remove Class for HS IP from USB_Device and Host from Series that do not support USB HS
409781	[STM32 Eval board names] remove F from board name for F0,F1,F2 and F4 eval board partnumbers
409983	[USB Host All classes]: FatFS USB Disk must be available when selecting USB Host All Classes
413906	[FreeRTOS v9] USE_TICKLESS_IDLE missing in configuration panel
398593	[MX-LCD] Active width and height update
408240	[MX-ADC] ADC2 is locked with ADC1 configuration even if dual mode is disabled
408680	[MX-RTC LL] The sync and async prescalers are not generated in LL mode
409825	[MX-DSI] video null packet size must be in byte
409826	[MX-DSI] The color coding must be defined by the LCD one
413430	[MX-CRS] Reload value must be divided in accordance with the selected CRS divisor
413434	[DMA] SPI1_RX_DMA request not loaded
410719	[MX-Board]HSI is set to 8 MHz for Nucleo 144 F412
413407	[MX-RCC]remove cache option in RCC configuration TAB for F0 family
413804	[MX-NVIC] Wrong Time base priority after reload with FreeRTOS™ activated
380815	[MX-Clock] the clock selection of I2C4 is missing from the clock tree
411164	CPU is significanctly increasing under Clock Configuration tab
409435	[USB/NVIC]: USB interrupts and their remaps will be checked after clicking the button Cancel or Close [X]
403271	[Installer] startuninstaller.desktop file missing when using an automatic install under Linux.
411181	[Boards] no Nucleo-F767ZI anymore
403293	[Project generation GPDSC option]: system.c file not copied with Src files
409298	[MX-Clock] unable to resolve clock configuration conflit between USB and SDMMC requirement in STM32F7
410415	[MX-GUI] error ioc version message to be improved
414004	[MX-GUI] Show the MX ioc version in the migration dialog
345588	[MX-RTC] IT will be nice to avoid the calendar reconfiguration after wake-up from low-power mode
408018	[Project Manager] Remove duplicated startup file.

3.34.2 Firmware package versions

Table 70 shows the firmware package versions.

Table 70. Firmware package versions in V4.20.0

STM32Cube firmware and updated middleware	Version
STM32F7	V1.6.0
STM32F4 – LwIP – FreeRTOS™ – LibJPEG	V.1.15.0 – V2.0.0 – V9.0.0 – V8d
STM32F3	V1.7.0
STM32F2	V1.4.0
STM32F1	V1.4.0
STM32F0	V1.7.0
STM32L4 – FreeRTOS™	V1.7.0 – V9.0.0
STM32L1	V1.6.0
STM32L0	V1.8.0

3.35 STM32CubeMX V4.19.0 release information

Support of code generation, clock and power consumption calculation for the new part numbers of the STM32F4 and STM32F7 Series is added. Configuration and code generation for the libjpeg middleware for the STM32F7 Series is added.

3.35.1 Fixed issues

Table 71. Fixed issues in V4.19.0

ID	Summary
379904	[L0 ADC] wrong Sampling time literals
402731	[MX-] All boards user button must be configured in external iBoardnterrupt mode
402997	[Project Manager] Wrong generated Ram size. for F103 with CSP package.
403090	[Project Manager-TrueStudio] Missing Device parameter for STM32L031G6UxS MCU
403192	[IDE] Empty DMA section in MX_Device.h
403508	[Project migration issue] Build error, system file duplicated
404470	[MX Project Generation] Source files are generated twice in USER group of the IDE tree when generating a code for a copied IOC in other directory
406121	[CSV Pinout generation]: An exception is occurred when try to overwrite an opened csv file
406644	MX-Clock HSI is accepted as USB clock source

Table 71. Fixed issues in V4.19.0 (continued)

ID	Summary
406662	Errors due to __weak and __packed symbols for Mac and Linux
408464	[MX-Clock] Wrong generated argument for MCO at PB13
406365	[Code_Gen] STM32CubeMX generating bad code for TIM3
287957	[MX-I2S] Allow to enter any I2S audio frequency
351190	[Generation under root for SW4STM32] startup file location
376940	[MX-GPIO] GPIO level set should be done before init to avoid glitches
381211	[MX-RCC] Add the configuration of LSE drive capability
401467	[STM32F446] Misleading or Issue for I2S clocks in clock tree
402068	[True studio project generation] copy startup file to project

3.35.2 Firmware package versions

Table 72 shows the firmware package versions.

Table 72. Firmware package versions in V4.19.0

MCU	Version
STM32F7	V1.6.0
STM32F4	V.1.14.0
STM32F3	V1.7.0
STM32F2	V1.4.0
STM32F1	V1.4.0
STM32F0	V1.7.0
STM32L4	V1.6.0
STM32L1	V1.6.0
STM32L0	V1.8.0

3.36 STM32CubeMX V4.18.0 release information

New option to find all the MCUs that are compatible with the current configuration, either strict pinout compatibility or ignoring power pins or allowing the remap of signals on other pins. A list of compatible MCUs is provided with a percentage of matching. The developer can then select an MCU and import the current configuration on that MCU.

In the configuration window of the peripherals or middleware, a new restore default button has been added to restore the configuration parameters to their default value.

3.36.1 Fixed issues

Table 73. Fixed issues in V4.18.0

ID	Summary
397057	repository path error when the repository is on a secondary drive
398447	IDE Project settings lost at re-generation
398665	IAR generated projects contain duplicated entries for STM32Cube files
396444	Labels are not generated if equal to the active signal
397972	Prescaler generated two times with different values with no_check options.
399163	DMA remap must not be checked with HAL_OK in F0 series
396790	Remove the call of function HAL_COMPEx_EnableVREFINT(); as now it is managed by the HAL_COMP_Init
315052	Red cross appears when changing from LIN mode to Synchronous mode
382182	The USB NOE mode is missing
382181	USB Sof activation is missing in the configuration UI
401442	Wrong default EXTI signals configuration on Nucleo Boards, it must be Interrupt instead of event
398907	STM32F4 ADC Vref and Temperature channels no longer accessible
401889	STM32CubeMX incorrect clock configuration for Nucleo-F446ZE
401998	LSI Clock is not activated when used for the RTC in L0
383523	Wrong GPIOSpeed values
397936	Init of (EXTI_InitStruct->LineCommand) should be added
398069	STM32F7 SPIwrong max baud rate value
398871	RTC MSP is empty for L0x1 series (tiny Nemo)
401007	Warning due to __weak symbol
398461	Import: invalid configuration in the clock after import
400583	Wrong limits for RTC Clock coming from the HSE
398011	STM32F7 USART: request to support RS485 mode
396422	Timers PWM without output mode is missing
292012	STM32F0 USART: Issue with hardware flow control in USART5-8
401441	Blue push button is missing on STM32F407G-DISC1
396449	Wrong diagnostic for wake-up pin
356333	ADC DMAAccessMode and TwoSamplingDelay are causing the assert fail if multi mode is set to independent in L4
400709	FreeRTOS™ callbacks are not generated as weak functions
357218	Switch between PA9 PA10 and PA11 PA12 in TSSOP20 packages not trivial
315538	System file should be copied in the src folder

3.36.2 Firmware package versions

Table 74 shows the firmware package versions.

Table 74. Firmware package versions in V4.18.0

MCU	Version
STM32F7	V1.5.1
STM32F4	V.1.14.0
STM32F3	V1.6.0
STM32F2	V1.4.0
STM32F1	V1.4.0
STM32F0	V1.7.0
STM32L4	V1.6.0
STM32L1	V1.6.0
STM32L0	V1.7.0

3.37 STM32CubeMX V4.17.0 release information

3.37.1 Fixed issues

Table 75. Fixed issues in V4.17.0

ID	Summary
317162	[Project Manager SW4STM32] : Wrong RAM size/Name of flash memory file for all series
347913	[SW4STM32 generation] RAM size issue in ld script
351598	[Project Manager]: Wrong management of non-contiguous flash memories for some L1 devices in Keil, SW4STM32 and True Studio IDEs
357067	[MX-ProjectManager] .elf.launch cannot be found while generating and the generation ends with an error
373627	RTC masks management in CubeMX does not allow a 60s wake-up time
373912	[Project Manager]: double startup files and system_xxx.c in IAR project tree when migrate an old IOC from Project settings window
374901	[MX-ETH] Extended PHY parameters must dependent of the selected PHY
375914	[ADC] "Scan Conversion Mode" and "Continous Conversion Mode" present a red cross when loading an old ioc
375940	[Project Manager] Duplicated While and missing "}" when loading an old IOC
378297	[MX-Project Manager] System file is duplicated after migration to the FW patch
378306	[MX-RTC] date corrupted after regeneration
380193	update stm32f4xx_hal_conf.h with new PHY parameters
380745	[MX-I2C/Board] Wrong generated timing with L4 64 Nucleo

Table 75. Fixed issues in V4.17.0 (continued)

ID	Summary
382220	[MX-Timers] Pulse must be 16 bit for TIM2
382305	[MX-FMC] The row bit number must be equal to the address value
391941	[USB/GPIO] The Vbus pin must be configured in input mode for all L4 PNs
393960	[MX-USART] The USART2 and USART3 max baudrate is not updated with the PCLK frequency
395447	[MX-Clock]Hal alignment fro PLLI2S define when generated only as MCO source
396004	[MX-NVIC] some flags are missing for I2C in smbus mode
396583	[MX-Project Manager] IRAM1 is empty with L4 and Keil
357744	[MX-Project Manager] unused headers are causing error red cross display on SW4STM32
377019	[MX-Timers] OSSR must be generated to avoid struct corruption
379917	[F303 Clock tree] empty mux picture
291227	[MX-RTC] It would be nice to add a Calendar mode in the RTC
349907	[I2S for F0] Default CubeMX valid value for Audio frequency leads to invalid I2S configuration
379309	[MX-Clock]I2S1/2 clock source renaming
379527	[MX-Clock]naming update in F412 Clock
395034	[STM32F1 USART] The minimum baudrate is wrongly calculated
381511	[MX-Project Manager] MX keeps generated files locked after generation

3.37.2 Firmware package versions

Table 76 shows the firmware package versions.

Table 76. Firmware package versions in V4.17.0

MCU	Version
STM32F7	V1.5.0
STM32F4	V.1.13.1
STM32F3	V1.6.0
STM32F2	V1.4.0
STM32F1	V1.4.0
STM32F0	V1.6.0
STM32L4	V1.5.2
STM32L1	V1.6.0
STM32L0	V1.7.0

3.38 STM32CubeMX V4.16.1 release information

3.38.1 Fixed issues

Table 77. Fixed issues in V4.16.1

ID	Summary
376010	[MX-CodeGen] Generation corruption when project is under source control
381627	[MX-GPIO] The output level configuration is missing
382171	[MX-LWIP] SNMP MIB2 constraints (regression)
382264	[MX-Clock] Clock reload corrupts the HSI value
382506	[MX-ADC] NbrOfDiscConversion should be generated to 1 by default
372193	[Pinout user labels] forbid labels starting with numbers

3.38.2 Firmware package versions

Table 78 shows the firmware package versions.

Table 78. Firmware package versions in V4.16.1

MCU	Version
STM32F7	V1.4.1
STM32F4	V.1.13.0
STM32F3	V1.6.0
STM32F2	V1.4.0
STM32F1	V1.4.0
STM32F0	V1.6.0
STM32L4	V1.5.1
STM32L1	V1.6.0
STM32L0	V1.7.0

3.39 STM32CubeMX V4.16.0 release information

3.39.1 Fixed issues

Table 79. Fixed issues in V4.16.0

ID	Summary
374760	[MX-LCD] Wrong description of LCD_VLCD.
375315	[Projectgenerator-FPU] Within IAR, FPU value should be VFPv5 double precision.
375609	[Compatibility-FatFS]: Some FatFS functions have changed when migrated from 4.7 to 4.15.1.

Table 79. Fixed issues in V4.16.0 (continued)

ID	Summary
376318	[MX-FreeRTOS] FreeRTOS™ accepts a maximum number of 16 for tasks and queues.
378424	[MX-Clock] Wrong clock source for I^2S in F103.
378655	[MX-DMA] Data size corrupted after regeneration.
378703	[User constants] Remove restrictions on hex values.
378771	[MX-Clock] Update the SDMMC maximum limit to 50 MHz.
379958	[USB Device] USBD_static_free function bug.
338480	[Ethernet] Add user section for overwriting default MAC address.

3.39.2 Firmware package versions

Table 80 shows the firmware package versions. New package revisions for STM32F2, STM32F3, STM32F4 and STM32L1 Series are now available.

Table 80. Firmware package versions in V4.16.0

MCU	Version
STM32F7	V1.4.1
STM32F4	V.1.13.0
STM32F3	V1.6.0
STM32F2	V1.4.0
STM32F1	V1.4.0
STM32F0	V1.6.0
STM32L4	V1.5.1
STM32L1	V1.6.0
STM32L0	V1.7.0

3.40 STM32CubeMX V4.15.1 release information

This release is a minor release, fixing bugs shown in *Table 81*.

3.40.1 Fixed issues

Table 81. Fixed issues in V4.15.1

ID	Summary
374212	[Nucleo 144 F429ZI] HSI frequency need to be fixed to 16 MHz.
374542	[HAL timebase] Revisit generated stm32xxxx_hal_timebase_TIM.c file.
375253	[Mx-Board] Compatibility fails when loading L4 board with ADC.

3.40.2 Firmware package versions

Table 82 shows the firmware package versions. New package revisions for STM32F0, STM32L4 and STM32L0 Series are now available.

Table 82. Firmware package versions in V4.15.1

MCU	Version
STM32F7	V1.4.0
STM32F4	V1.12.0
STM32F3	V1.5.0
STM32F2	V1.3.1
STM32F1	V1.4.0
STM32F0	V1.6.0
STM32L4	V1.5.1
STM32L1	V1.5.0
STM32L0	V1.7.0

3.41 STM32CubeMX V4.15.0 release information

Added support of code generation, clock and power consumption calculation for STM32F1, STM32F2, STM32F3, STM32F4, STM32F7, STM32L0 and STM32L4 Series new part numbers.

3.41.1 Enhancements

- An STM32CubeMX configuration are imported into an empty MCU belonging to a different Series
- In the generated code, the return code of the HAL functions is checked
- In FreeRTOS™ it is now possible to create objects according to the available heap size

3.41.2 Fixed issues

Table 83. Fixed issues in V4.15.0

ID	Summary
351196	[Clock tree F7] Regression infinite search
343804	[MX-NVIC] Not all interrupts priority must be modified when activating FreeRTOS™
348024	[MX-Timers] Combined trigger + reset slave mode is missing
348472	[PCC][MacOS] Invisible Combobox elements Under "Optional settings" in "Step" Window
349010	[Wrong warning on exit] Requesting the user to save a project that has not been modified
353005	[4.14 Project Generation for TrueStudio] 4.13 projects no longer compile
353069	[MX-OPAMP] Wrong IO number for the OPAMP4 non inverting input on PB11

Table 83. Fixed issues in V4.15.0 (continued)

ID	Summary
353229	[MX-SYS] The disable value must be removed from F1 debug and no debug value must be set by default
356250	[MX-Board] Wrong Ethernet PHY address and name for Nucleo 144 boards
356275	[Custom Code Generation]:Generate template files using command line doesn't work
356387	[MX-ADC] Illegal frequency allowed for ADC in F401
356440	[MX-SAI] The active slot value is shifted
356454	[MX-USB] dedicated ep1 interrupt couldn't be enabled
356521	[MX-Board] Wrong HSI in Birdie/bigbirdie 144 Nucleo
356556	[MX-Project Manager] Project generation always fail with any IDE
356566	[USB Host] usbh_conf.h missing closing braket for extern "C"
356879	[MX-Clock] APB1 timer clock and TIM2 clock selection not well synchronized
357148	[MX-ProjectManager] link processing issue in TrueSTUDIO when generating with under root unchecked
357191	[MX-RTC] RTC ALARMA date corrupted after regeneration
357287	[F4 HAL conf] wrong value for PHY_MICR_INT_OE Define
357558	[CAN F1 evalboard] CAN1_RX GPIO configuration regression
332701	[FatFS] : Wrong EVAL name in the comment in bsp_driver_sd files (.c and .h)
345444	[Project Manager IAR]: Wrong selected device of STM32L031G6UxS PN
347778	[NVIC]: Select for init ordering and generate IRQ handler checkboxs should be same as the last saved modification
348606	[SPI] CRC define always there whatever the setting CRC (enabled or disabled)
348677	[SYS]: To be coherent with all MCU, SYS synchronous traces PINs should not be configured
350080	[Installer-MacOS] Displayed uninstaller Path is truncated under Mac OS
349741	[NVIC]: System service call and Pendable request for system service interrupts are missing in the NVIC UI
349219	[MX-ProjectManager] Unable to regenerate project after project settings modification (convert C project into C++)
356587	[MX-USB] dev_endpoints is always generated equal to 7
357448	[MX-ADC] Issue with internal channel Load for L4 MCUs
370934	[MX-PCC] DMA streams consumption is multiplied by 1000 for STM32F411xx
372077	[MX-Clock] APB1 timer multiplier is not well set with a manual modification and after a search for STM32F411xx

3.41.3 Firmware package versions

Table 84 shows the firmware package versions.

STM32F7 and STM32F4 Series firmware packages include a major new version of the LWIP middleware (v1.5.0_RC0_20160211). When migrating an old LWIP project to this new version, it is recommended to check the name of the advanced parameters or their default value, since they may have changed.

Table 84. Firmware package versions in V4.15.0

MCU	Version
STM32F7	V1.4.0
STM32F4	V1.12.0
STM32F3	V1.5.0
STM32F2	V1.3.1
STM32F1	V1.4.0
STM32F0	V1.5.0
STM32L4	V1.5.0
STM32L1	V1.5.0
STM32L0	V1.6.0

3.42 STM32CubeMX V4.14.0 release information

Added support of code generation, clock and power consumption calculation to support STM32L4 new part numbers.

3.42.1 Enhancements

- Added an option in the updater to request user proxy password at each session
- Project files are now generated at the root of the project for SW4STM32 and TrueSTUDIO. The path of the files in the project corresponds to the physical path on the disk.
- NVIC interrupts activation can be done either in the IP init function or at the end of the initialization sequence. Activation can also be sorted to make sure the first interrupt is received in the right order.
- Generated code uses the latest HAL define and does not require anymore in most cases the inclusion of the stm32_hal_legacy.h file. When generating again an old project migrated to this release, the generated code is updated to use the latest HAL defined.

3.42.2 Fixed issues

Table 85. Fixed issues in V4.14.0

ID	Summary
348002	[User Constants] are lost when clicking cancel
315023	[MX-Import] Import must display an error when the IP exists but not the functional mode
315035	[MX-Import] Import sets an invalid value when parameters exists but not the selected value
315868	[MX-Import] The FW version must be imported only if the FW version is available and import is done for the same family
341927	[MX-Project Manager] Generated project with new IPs is not well cleaned from the previously enabled IPs
344253	[MX-ProjectGenerator] Wrong RAM size for F3 in Keil
344431	[Project manager] Wrong generated Ram Size with TrueSTUDIO and SW4STM32
344919	[MX-ProjectGenerator] Project generation issue with Keil in F1
345460	[Project manager] Wrong Ram Size with TrueSTUDIO
345912	[Installer] Enable to create automatic script from command line under Linux
346066	[SPI] with STM32F410xx CRC polynome should be odd
346135	[MX-Clock] Wrong I2S clock selection for F446
346180	[NVIC] wrong name for Hard Fault Handler
346378	[USART] Baudrate min/max values computation issue
346887	[DMA] Add tooltip for "Use Fifo" option checkbox
347860	[Installer Linux] does not detect 1.8 java version as more recent than 1.7 pre-requisite
348048	[Code generator]: Compatibility issue detected when using DB 4.12 after loading an old IOC from 4.14 and created with 4.12 and choose to not migrate
348609	[SPI for STM32F0] NSS not seen as alternate signal
348875	[MX-Linux] Startup files are not generated under linux with GPDSC
349127	[MX-Board] Flash memory latency is always set to 2 in F446 Nucleo
349487	[MX-Clock] TIMPRE is missing for STM32F411/410/401
314820	[MX-Import] A warning must be displayed if some IP parameters cannot be imported
315021	[MX-Import] Cannot import USB Device FS to USB OTG FS
315058	[MX-Import] Warning message for unloaded DMA streams should be improved
315169	[MX-Import] Can't import SDIO to SDMMC
315190	[MX-Import] A DMA request must be imported even if the stream is different
327441	Do not enable IRQ in the MX_xxx_Init()
343879	[IOC] Detect ioc file is read-only and warn the user
345088	[GPIO UI]: GPIO Pin state parameter renaming
347769	[MX-USB] CDC_Transmit could fall in a blocking state

3.43 STM32CubeMX V4.13.1 release information

This release is a minor release, fixing the bugs reported in *Table 86*.

3.43.1 Fixed issues

Table 86. Fixed issues in V4.13.1

ID	Summary
346989	command line arguments -tpl_path and -dest_path are ignored
347429	middleware Init function is being called in the main function and again in the default task of FreeRTOS™

3.44 STM32CubeMX V4.13.0 release information

- Added support of code generation, clock and power consumption calculation for the for new part numbers of the STM32F0, STM32F3, STM32F4, STM32F7 and STM32L0 Series.
- Added over-order control of initialization functions in generated code.

In the project settings, the user chooses to generate a CMSIS-Pack description file (gpdsc) to integrate with other IDEs.

3.44.1 Enhancements

- The clock automatic resolution proposes now the nearest possible value when no solution for an entered value is found.
- A user interface has been added to configure the generation of the user's customized files based on templates.
- Added the choice of time-base source for the HAL library, since choosing another time-base source is highly recommended in a configuration with RTOS.
- Added a user interface to configure the amount of heap and stack required for the application.
- Added the support of GPIO output level in GPIO configuration window.
- Added search feature in peripheral and middleware configuration windows.

3.44.2 Fixed issues

Table 87. Fixed issues in V4.13.0

ID	Summary
322128	[MX on Linux] Error when configuring a GPIO
326364	[MX-Import] Not saved parameters in the ioc are not imported
335703	[SPI] wrong GPIO settings for NSS hardware mode
336475	[Project Generation MDK v5] duplicate startup.s
339006	project using DAC F334 saved with MX 4.11 improperly loaded in MX 4.12
339116	[FreeRTOS] incompatibility between code generator V4.6 and code generator V4.11

Table 87. Fixed issues in V4.13.0 (continued)

ID	Summary
339199	Subseconds parameter must appear in the configuration UI for all families
339309	[MX-Timers] All sClockSourceConfig parameters should be generated to avoid asserts stuck when internal clock is used for the TIM
339359	[MX-Import] Import from Timers with different mode presentation is not possible
339625	[MX-ADC] The GPIO mode compatibility between 4.11 and older is not managed
340574	[MX-ADC] ADC channels configuration is not generated
343224	[USB CDC] usb_cdc_if.c receive function needs update to detect received packets
343267	[Custom code generation]: Wrong default location for source Folder
343837	[I2S] Init code missing a parameter
307099	[GPIO L4]: With multi selection of several GPIO parameters rows the GPIO Mode parameter disappears even when it the same for all selected rows
337239	[FreeRTOS] Support same entry function for different tasks
330999	[MX-FreeRTOS] Add the possibility to generate the FreeRTOS™ callbacks as weak functions
338262	[Project Manager]: Some Devices newly supported by IAR last version are generated as 'None'

3.45 STM32CubeMX V4.12.0 release information

- Added support of code generation, clock and power consumption calculation for the new part numbers of the STM32L0 Series.
- When importing an existing project the user selects now the instance of the peripheral to be used.

3.45.1 Enhancements

- Hard fault interrupt handler is now generated.
- Only inputs pins are managed.
- Added support for Nucleo 144 boards.

3.45.2 Fixed issues

Table 88. Fixed issues in V4.12.0

ID	Summary
244833	[MX-ETH] Multicast MAC addresses shouldn't be accepted
332587	With ETH on F1, Clock Constraint solver cannot solve HCLK default value setting
333131	[MX-CRC] CRC is missing in LQFP100 packages for bigManta
333234	[MX-Comp] Comp2 inp must be shorted to comp1 inp when the window mode is selected
333309	[STM32F107 Eval Board] GPIO pin PA8 requires high speed

Table 88. Fixed issues in V4.12.0 (continued)

ID	Summary
333755	[MX-FreeRTOS/NVIC] HAL_IncTick must be removed and systick prio must be the lowest when FreeRTOS™ is activated
333931	[MX-Comp] wrong generated argument for non inverting input
333982	[MX-Timers] The mode config is missing for TIM13 and 14 output compare
335369	[Code Gen] GPIO Labels defines not generated for projects done with former version of CubeMX
321698	[NVIC]: Suggestion to add HardFault handler
329785	[MX-FMC] Some FMC parameters must be added for FMC NAND
336263	[F4 SDIO DMA] Mode is DMA_Normal instead of DMA_PFCTRL
335414	[MX-HRTIM F3] Event source 1 is configured for HRTIM event 2 even if not selected
336803	[MX-GPIO L4] OSC and OSC32 pins do not keep the user configuration in GPIO mode
336207	[MX-STM32F7 - Clock] Update of Birdie clock max frequencies

3.46 STM32CubeMX V4.11.0 release information

This release is a minor release, fixing four important bugs (see *Table 89*).

3.46.1 Enhancements

- Added support of code generation, clock and power consumption calculation for support for STM32L0 Series new part numbers
- About the power consumption calculator:
  - It interpolates now consumption data based on user defined frequency
  - The L4 consumption data now supports voltage from 1.8V to 3.6V
  - It computes max ambient temperature
  - The load sequence mechanism loads sequences from different low-power Series (STM32Lxxx)
- User defined labels are now generated in the code
- In the clock configuration a new button has been added, to trigger automatic clock issue resolution
- DMA parameters are now dependent on the DMA request
- User constants can be defined for string values

3.46.2 Fixed issues

Table 89. Fixed issues in V4.11.0

ID	Summary
326911	[SPI] CRC Polynomial even coefficients not allowed
327107	[MX-SPI] Wrong baudrate max value
327389	[TSC] Generated code misses to initialize some fields of the init structure
327641	[MX-Exception] Exception generated when loading a project from 4.9 to 4.10

Table 89. Fixed issues in V4.11.0 (continued)

ID	Summary
330371	[MX-HRTIM]Dead time insertion is done only for timer A and B
330539	[MX-CodeGen] the generated HSI_VALUE value should be kept to 16MHz
330954	[MX-Boards] LED2 must be on PB13 instead of PA5 NUCLEO F302 64 pin
331425	[ADC L4] gpio mode for ADC signals should be GPIO_MODE_ANALOG_ADC_CONTROL instead of GPIO_MODE_ANALOG
331615	[L0 Clock] wrong HSI value

3.47 STM32CubeMX V4.10.0 release information

3.47.1 Enhancements

- Support of code generation, clock and power consumption calculation for STM32F4 Series new part numbers.
- Added new tab “User Constants” in the peripheral configuration window to allow the user to add and manage needed constants.
- Import of an existing configuration into a MCU of the same Series, now imports FreeRTOS™ configuration and the power consumption calculator data.
- Default mode for GPIO EXTI is now interrupt mode with a rising edge. Existing projects are unchanged.
- Added more parameters in RTC configuration window to allow time and alarm initialization (Hours, Minutes, Seconds and Sub-Seconds).

3.47.2 Fixed issues

Table 90. Fixed issues in V4.10.0

ID	Summary
323581	[USB STM32L1] USB device conf.c file error
323958	[l4 RAM size] wrong RAM size shown on *MCU Selector*
324839	[MX -TSC] Add default IOMode for TSC signals to be used with single mapped pins
324503	[FreeRTOS] possible failure when loading a Mx 4.8 project with Mx 4.9 or later
324514	[Project Loading] ADC configuration has an issue
324931	[ETH] wrong generated code when auto-negotiation enabled
325149	[STM32F7] wrong generated parameter value PeriphClkInitStruct.PLLSAIP
325603	[MX-COMP] wrong COMP status even if input [-] DAC1/2 OUT1/2 mode is selected

3.48 STM32CubeMX V4.9.0 release information

3.48.1 Enhancements

- Support of code generation, clock and power consumption calculation for STM32L4 Series new part numbers.
- Changing MCU is easier than before, since now an existing configuration can be imported into another selected MCU of the same Series.
- Recursive mutexes are created in FreeRTOS™ configuration UI.
- Configuration report now contains the clock tree and active IP, NIVC, GPIO and DMA configuration.
- Clock tree can be reset to its default value with a button or a menu.
- FIFO threshold and burst size constraints are managed in the DMA configuration.

3.48.2 Known problems and limitations

When importing a configuration into another MCU, FreeRTOS™ configuration is not imported.

3.48.3 Fixed issues

Table 91. Fixed issues in V4.9.0

ID	Summary
319419	[STM32F407/417VETx] wrong #21 pin set
320275	[MX self-update] issue when MX UI open
306064	[Project Manager] issue copying DSP example files to the project

3.49 STM32CubeMX V4.8.0 release information

3.49.1 Enhancements

Support of code generation, clock and power consumption calculation is available for the new part numbers of the STM32F7 Series.

Management of the dependency and configuration of external I/O, when required by a peripheral. For example it is now possible to configure how to drive the V_{BUS} in the USB peripheral.

STM32CubeMX can be installed using 3 methods:

- Installation with a graphical user interface
- Installation on a console with questions asked on the console
- Silent installation allowing to replay a previous installation

To facilitate its integration with other tools, STM32CubeMX provides a command-line mode: STM32CubeMX executes a script of commands without user interface and be launched in background by another application, like for example Matlab.

3.49.2 Fixed issues

Table 92. Fixed issues in V4.8.0

ID	Summary
311828	[Code Gen] user code corrupted at next code generation
293193	[ADC] MX must manage ADC max frequency value
310698	[USB-DFU]: Issues with DFU generated code
311839	[Project Manager] wrong RAM size
311850	[ADC code gen] issue initializing Rank 1
311951	[DMA]: DMA requests must be managed according to I2S mode (Master Transmit or
313498	[F103] HAL_AFIO_REMAP_SWJ_NOJTAG() macro call misplaced
313845	[LTDC] wrong max for active width & height
314365	[LTDC] calculated values not updated (left to default) on project load
314366	[I2C fast mode] max speed of 400 kHz can not be reached
251735	[Installer]:Incorrect message displayed when JVM missing
308956	Assertion issue with not initialized parameters
316076	[FreeRTOS] heap/stack issue with Timers enabled on STM32F1
317882	[MX-CodeGen] __SYSCFG_CLK_ENABLE(); must be moved to HAL MSP Init
315631	[SDIO] GPIO settings to adjust to Pull-Up High-Speed

3.50 STM32CubeMX V4.7.1 release information

3.50.1 Enhancements

None

3.50.2 Fixed issues

Table 93. Fixed issues in V4.7.1

Issue Number	Description
314366	[I2C fast mode] max speed of 400 kHz can not be reached
313849	Core Engine / DMA / HRTIM]: Incorrect loading of HRTIMER ioc file with DMA request
313437	[MX-CodeGen] a different handle must be declared for UART, USART and LPUART
311828	Code Gen] user code corrupted at next code generation
311850	[ADC code gen] issue initializing Rank 1
313498	[F103] __HAL_AFIO_REMAP_SWJ_NOJTAG() macro call misplaced

Table 93. Fixed issues in V4.7.1 (continued)

Issue Number	Description
313807	[MX-CodeGen] User tags have been removed from the systick handler
311839	[Project Manager] wrong RAM size
314799	Keil STM32F072RB: flash memory programming algorithm is not set
311803	CpuCode entry in the generated uvoptx file is causing a build error (with Free M0/M0+ license of Keil)
312256	[Keil L0] STLINK settings are missing

3.51 STM32CubeMX V4.7.0 release information

3.51.1 Enhancements

Support of code generation, clock and power consumption calculation for support for STM32L1, STM32F0, STM32F3, and STM32F4 Series new part numbers.

In the power consumption calculator and for STM32L0&L1 Series only, wake-up times, as specified in the products datasheets, have been introduced as well as a new option, to allow only possible transitions and to check a sequence for impossible transitions.

Code generation generates a project for the System Workbench for STM32 (SW4STM32) IDE.

3.51.2 Fixed issues

Table 94. Fixed issues in V4.7.0

Issue Number	Description
306025	[ADC]: Wrong reloaded value of the injected conversion number after save and close CubeMX
309387	[I2C]: Issue with I2C initialization code
308872	[SDADC]: wrong generated code for injected channels configuration
306991	[NVIC]: Wrong generated code in stm32f4xx_it.c
305962	[L0] ADC multi-config channel generated code is wrong
307425	[I2C Clock no stretch mode] reverse enabled/disabled mapping
310404	[PCC] [L1] "Load sequence" doesn't correctly update the step consumptions (when vdd is different)
302889	[USB NVIC]: incorrect USB wake-up IRQ handler
306065	[NVIC for F334] missing global interrupt for TIM3
306675	[NVIC]: code generation error for EXTI2 IRQ handler of F1 devices
309993	[F2 Series] CRC IP missing
308890	[MX-Clock]: wrong default HSI calibration value

3.52 STM32CubeMX V4.6.0 release information

3.52.1 Enhancements

Support of code generation, clock and power consumption calculation for the STM32F1 Series, STM32F0 and STM32F4 new part numbers.

When entering a frequency value for the CPU clock, buses or peripheral clocks, the rest of the clock tree is automatically calculated.

Custom third party code can be generated, allowing smooth integration with third party applications.

3.52.2 Known problems and limitations

PPP and SLIPIF are configured in the LWIP library, but the generated code doesn't have all the required links to the hardware interface.

3.52.3 Fixed issues

Table 95. Fixed issues in V4.6.0

Issue number	Description
292320	Code generation blocking issue when the SAI peripheral AND an SAI signal not associated to any peripheral mode are selected.
294780	Wrong AF number for few LTDC IOs.
244269	[Project Generation] ToolChain ST-Link configuration does not match the selected debug type in CubeMX.
272065	[Config with RTC] missing macro __HAL_RCC_RTC_ENABLE()
276519	[Clock]: Refresh issue for clock parameters values.
285899	[Generated project] Compilation issue with Atollic IDE when MX Code Generation option was set to "Add necessary library ..." in project settings menu.
286984	[MX-Installer] All CubeMX instances should be displayed in the add or remove program window
290893	[CAN]: Possible value for prescaler parameter should be updated after each modification on APB1 clock frequency
291867	[MX-Clock] Wrong loaded config when constraints are applied on radio buttons
291968	[GPIO]: Fast mode still enabled after remapping the used pin to another which does not use Fast mode feature.
292022	[Clock]: SDADC Prescaler should be considered in the clock reverse path
292535	[ADC]: When disabling Injected Conversion, Scan Conversion Mode should be Disabled.
294771	[RTC] synchronous pre-divider max is wrong
294997	[FreeRTOS] configMAX_CO_ROUTINE_PRIORITIES must be greater than or equal to 1
295830	[DAC2 F3] should not support wave generation possibility
298516	[MX-FreeRTOS] configTICK_RATE_HZ must not be higher than 1000

Table 95. Fixed issues in V4.6.0 (continued)

Issue number	Description
298741	[MX-FreeRTOS] TIMER_TASK_PRIORITY max value must be equal to configMAX_PRIORITIES-1
300761	[MX-Database] Wrong SD and SD_ext pin assignment for I2S3 (F302K8U6)
301118	[GPIO Configuration] Labels not saved issue
302133	DMA handle for SAI declared as static local variable
238614	[MX-FreeRTOS] Some parameters are missing in the UI

3.53 STM32CubeMX V4.5.0 release information

3.53.1 Enhancements

Support of code generation, clock and power consumption calculation for new MCUs in the STM32F0 and STM32F3 Series (STM32F09xx, STM32F303xE, STM32F302xE).

3.53.2 Known problems and limitations

- The Clock and peripheral configuration and the associated code generation are only supported for STM32F4, STM32F3, STM32F2, STM32F0, STM32L0 and STM32L1 Series, using the STM32Cube Firmware library[(a)]
- Power consumption calculation is only supported for STM32F4, STM32F3, STM32F2, STM32F0, STM32L0 and STM32L1 Series[(a)]
- PPP and SLIPIF can be configured in the LWIP library, but the generated code doesn't have all the required links to the hardware interface

a. Full support for other Series is planned for future releases.

3.53.3 Fixed issues

- 242270 [USART] Incorrect setting for smartcard on STM32F2
- 265903 [Pinout STM32L0] UFQFPN32 doesn't show the exposed pad
- 269308 N/A wording not understood correctly in some countries
- 280107 [Code Generation] NVIC pending IRQ flag clearing is useless
- 284134 [MX-Clock] The MSI values are not accepted by the HCLK solution finder 284622 [MX-FreeRTOS] Wrong total heap size max value (L1 family)
- 285000 [MX-Clock] The PLL entry divider for MCO is missing
- 285099 [MX-Clock] I2S clock source configuration should be generated only when I2S is activated
- 285111 [MX-Clock] The I2S clock source configuration is not generated when the external audio input is selected
- 285114 [MX-Clock] Wrong generated sysclock when the Timers PLL constraint for clock source is applied
- 285117 [MX-Clock] The PLL activation is not generated when the TIM4 source clock is the PLL
- 286648 [ADC] Issue of INxb channels available for Bank A when they should be for Bank B only
- 287594 [MX-DMA] The burst size should be available even if the address increments is disabled 287797 [PCC] Wrong battery life estimation with all steps on "vbus"
- 288325 [PCC] Project not modified after a change of battery

3.54 STM32CubeMX V4.4.0 release information

3.54.1 New features

STM32CubeMX now fully supports STM32L1 Series.

3.54.2 Enhancements

The *MCU Selector* window has been improved to allow filtering on flash memory, RAM, EEPROM and number of I/Os.

STM32L052TxY WLCSP package is now supported.

The clock tree now automatically proposes a solution based on the frequencies entered: it either suggests a solution based on the selected path or a new path if no solution is found.

3.54.3 Known problems and limitations

- The clock and peripheral configuration and the associated code generation are only supported for STM32F4, STM32F3, STM32F2, STM32F0, STM32L0 and STM32L1 Series, using the STM32Cube Firmware library
- Power consumption calculation is only supported for STM32F4, STM32F3, STM32F2, STM32F0, STM32L0 and STM32L1 Series
- PPP and SLIPIF can be configured in the LWIP library, but the generated code doesn’t have all the required links to the hardware interface

3.55 STM32CubeMX V4.3 and 4.3.1 release information

3.55.1 Fixed issues

- STM32F0 MCUs
  - Wrong CEC alternate function
  - Invalid presence of TIM6 and TIM7
- STM32F2 MCUs
  - Activation of CAN1 clock is missing when only CAN2 is used
- STM32F3 MCUs
  - Wrong management of PLL constraint
  - GPIOs in output mode are not correctly initialized
  - Invalid presence of TIM6 and TIM7 on some MCUs
  - Missing IRTIM on STM32F318xx
- STM32F4 MCUs
  - Missing ETM options on some STM32F4 MCUs
  - Missing files when generating code for USB
  - Wrong clock constraints and flash memory latency on STM32F401/411 lines
  - Invalid presence of TIM6 and TIM7 on some MCUs.
- All Series
  - Timers: missing initialization field for Dead Time register

3.55.2 Enhancements

In the pinout view:

- signals can be individually locked on a pin
- the Find feature is now case insensitive

In the Power Consumption Calculator view:

- A new battery model can now be defined by the user
- The result of a simulation can now be displayed in different graphical formats, that can be compared with the simulations previously saved

3.55.3 Known problems and limitations

- Clock and peripheral configuration and the associated code generation is only supported for the STM32F4, STM32F3, STM32F2, STM32F0 and STM32L0 Series, using the STM32Cube Firmware library
- Power consumption calculation is only supported for the STM32F4, STM32F3, STM32F2, STM32F0, STM32L0 and STM32L1 Series
- PPP and SLIPIF can be configured in the LWIP library, but the generated code doesn’t have all the required links to the hardware interface
- When generating code using middleware and IAR EWARM, an issue may occur during the build phase due to a missing path. To avoid such behavior, save the IAR project after each project generation. This problem does not happen when IAR EWARM is closed

3.56 STM32CubeMX V4.2 release information

3.56.1 New features

STM32CubeMX now fully supports the STM32L0 Series.

3.56.2 Enhancements

- A label can be assigned to a signal mapped on a pin
- In the pinout view, a search box allows one to search for a pin, a signal or a label

3.56.3 Known problems and limitations

- Clock and peripheral configuration and the associated code generation is only supported for the STM32F4, STM32F2 and STM32L0 Series, using the STM32Cube Firmware library
- Power consumption calculation is only supported for the STM32F4, STM32F2, STM32L0 and STM32L1 Series
- PPP and SLIPIF can be configured in the LWIP library, but the generated code doesn’t have all the required links to the hardware interface
- When generating code using middleware and IAR EWARM, one may face issues during the build phase due to a missing path. To avoid such behavior the IAR project should be saved after each project generation. This problem doesn't happen when IAR EWARM is closed

3.57 STM32CubeMX V4.1 release information

3.57.1 New features

STM32CubeMX now fully supports the STM32F2 family.

3.57.2 Enhancements

None.

3.57.3 Known problems and limitations

- Clock and peripheral configuration and the associated code generation is only supported for the STM32F4 and STM32F2 Series, using the STM32Cube Firmware library
- Power consumption calculation is only supported for the STM32F4, STM32F2 and the STM32L1 Series
- PPP and SLIPIF can be configured in the LWIP library but the generated code doesn’t have all the required links to the hardware interface
- The list of files to compile in the project, may not be correctly updated after a second code generation, with less peripherals or middleware. Although the files are removed in the project folder, they still appear in the project list. These files have to be manually removed from the list in the IDE

3.58 STM32CubeMX V4.0 release information

3.58.1 New features

STM32CubeMX has the following key features:

- **Easy microcontroller selection** covering whole STM32 portfolio
- **Easy microcontroller configuration** (pins, clock tree, peripherals, DMA, interrupts, middleware) and generation of the corresponding initialization code
- **Generation of configuration reports**
- **Generation of IDE ready projects** for a selection of integrated development environment tool chains
  STM32CubeMX projects include the generated initialization code, STM32 HAL drivers, the middleware stacks required for the user configuration, and all the relevant files needed to open and build the project in the selected IDE
- **Power consumption calculation** for a user-defined application sequence
- **Self-updates** allowing the user to keep the STM32CubeMX up-to-date
- **Downloading and updating STM32Cube firmware packages** allowing the download from *www.st.com* of the MCU firmware package required for the development of the user application

3.58.2 Enhancements

STM32CubeMX 4.0 is a major new release of MicroXplorer 3.2 adding the full generation of code for STM32F4 Series and integration into the STM32Cube ecosystem.

3.58.3 Known problems and limitations

- Clock and peripheral configuration and the associated code generation is only supported for the STM32F4 Series using the STM32Cube Firmware library
- Power consumption calculation is only supported for the F4 and the L1 Series
- PPP and SLIPIF are configured in the LWIP library but the generated code won’t have all the required link to the hardware interface

4 Revision history

Table 96. Document revision history

Date	Revision	Changes
17-Feb-2014	1	Initial release.
27-Mar-2014	2	Release for STM32CubeMX 4.1 Added *Release information for previous releases* to trace content from the previous releases. Added Cube logo
24-Apr-2014	3	Added information related to STM32CubeMX 4.2
19-Jun-2014	4	Added information related to STM32CubeMX 4.3. Added Eclipse plug-in in *Section 1.2: Host PC system requirements* Updated *Section 3.24.3: Known problems and limitations* and *Section 3.25: STM32CubeMX V4.2 release information*.
05-Aug-2014	5	Added information related to STM32CubeMX 4.3.1 as well as *Section 3.24: STM32CubeMX V4.3 and 4.3.1 release information*.
16-Sep-2014	6	Added information related to STM32CubeMX 4.4.0.
21-Oct-2014	7	Added information related to STM32CubeMX 4.5.0.
15-Jan-2015	8	Added information related to STM32CubeMX 4.6.0.
20-March-2015	9	Added information related to STM32CubeMX 4.7.0.
27-Apr-2015	10	Added information related to STM32CubeMX 4.7.1.
28-May-2015	11	Added information related to STM32CubeMX 4.8.0.
07-Jul-2015	12	Added information related to STM32CubeMX 4.9.0.
25-Aug-2015	13	Added information related to STM32CubeMX 4.10.0.
24-Sep-2015	14	Added information related to STM32CubeMX 4.10.1 minor release.
15-Oct-2015	15	Added information related to STM32CubeMX 4.11.0
27-Nov-2015	16	Added information related to STM32CubeMX 4.12.0.
03-Feb-2016	17	Added information related to STM32CubeMX 4.13.0.
03-Mar-2016	18	Added information related to STM32CubeMX 4.13.1.
16-Mar-2016	19	Added information related to STM32CubeMX 4.14.0.
19-May-2016	20	Added information related to STM32CubeMX 4.15.0.
08-Jun-2016	21	Added information related to STM32CubeMX 4.15.1.
12-Jul-2016	22	Added information related to STM32CubeMX 4.16.0.
22-Jul-2016	23	Added Table 1: STM32CubeMX 4.16.0 release summary.
30-Aug-2016	24	Added information related to STM32CubeMX 4.16.1.
06-Oct-2016	25	Added support for code generation using the HAL low-layer (LL) library.

Table 96. Document revision history (continued)

Date	Revision	Changes
21-Nov-2016	26	Added information related to STM32CubeMX 4.18.0. Updated the supported operating systems list in *Chapter 1.2: Host PC system requirements*.
10-Jan-2017	27	Added information related to STM32CubeMX 4.19.0.
27-Feb-2017	28	Added information related to STM32CubeMX 4.20.0.
24-Mar-2017	29	Added information related to STM32CubeMX 4.20.1.
05-May-2017	30	Added information related to STM32CubeMX 4.21.0.
06-Jul-2017	31	Added information related to STM32CubeMX 4.22.0.
04-Sep-2017	32	Added information related to STM32CubeMX 4.22.1.
17-Oct-2017	33	Added information related to STM32CubeMX 4.23.0.
12-Jan-2018	34	Added information related to STM32CubeMX 4.24.0.
6-Mar-2018	35	Added information related to STM32CubeMX 4.25.0.
3-May-2018	36	Added information related to STM32CubeMX 4.25.1.
31-May-2018	37	Added information related to STM32CubeMX 4.26.0.
16-Jul-2018	38	Added information related to STM32CubeMX 4.26.1.
6-Sep-2018	39	Added information related to STM32CubeMX 4.27.0.
12-Nov-2018	40	Added information related to STM32CubeMX 5.0.0.
15-Nov-2018	41	Updated *Table 4: Firmware package versions in V5.0.0*.
20-Dec-2018	42	Added information related to STM32CubeMX 5.0.1.
21-Feb-2019	43	Added information related to STM32CubeMX 5.1.0.
16-Apr-2019	44	Added information related to STM32CubeMX 5.2.0.
24-May-2019	45	Added information related to STM32CubeMX 5.2.1.
11-Jul-2019	46	Added information related to STM32CubeMX 5.3.0. Added *Section 1.3: Cross-selector data disclaimer*.
9-Oct-2019	47	Added information related to STM32CubeMX 5.4.0.
27-Dec-2019	48	Added information related to STM32CubeMX 5.5.0.
20-Feb-2020	49	Added information related to STM32CubeMX 5.6.0.
10-Apr-2020	50	Added information related to STM32CubeMX 5.6.1.
24-Jul-2020	51	Added information related to STM32CubeMX 6.0.0.
11-Aug-2020	52	Added information related to STM32CubeMX 6.0.1.
13-Nov-2020	53	Added information related to STM32CubeMX 6.1.0.
15-Dec-2020	54	Added information related to STM32CubeMX 6.1.1.
23-Feb-2021	55	Added information related to STM32CubeMX 6.2.0.
26-Mar-2021	56	Added information related to STM32CubeMX 6.2.1.
16-Jul-2021	57	Added information related to STM32CubeMX 6.3.0. Updated *Section 1.4: License*.

Table 96. Document revision history (continued)

Date	Revision	Changes
23-Nov-2021	58	Added information related to STM32CubeMX 6.4.0.
3-Mar-2022	59	Added information related to STM32CubeMX 6.5.0. Added *Section 2.2: Recommendations*.
29-Jun-2022	60	Added information related to STM32CubeMX 6.6.0.
6-Jul-2022	61	Added information related to STM32CubeMX 6.6.1.
25-Nov-2022	62	Added information related to STM32CubeMX 6.7.0.

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