RN0094
Release note

STM32CubeMX release 4.15.1

Introduction

This release note is updated periodically to keep abreast of the STM32CubeMX evolutions, problems and limitations, found in this release. Check ST support website at www.st.com/stm32cube for its latest version.

STM32CubeMX 4.15.1 release summary

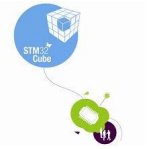
Minor release content	To support the latest available firmware libraries for the STM32F0, STM32L0 and STM32L4 Series.

Customer support

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

Software updates

Software updates and all the latest documentation can be downloaded from the ST microcontroller support www.st.com/stm32cube webpage.



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1 General information

1.1 Overview

STM32CubeMX is a tool provided to help designers to:

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

1.2 Host PC system requirements

Supported toolchains

STM32CubeMX can generate project files for the following toolchains:

- 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)
- TrueSTUDIO® by Atollic®
- System Workbench for STM32 (SW4STM32) by AC6

Supported operating systems and architectures

- Windows® XP: 32-bit (x86)
- Windows® 7: 32-bit (x86), 64-bit (x64)
- Windows® 8: 32-bit (x86), 64-bit (x64)
- Linux (tested on RedHat, Fedora and Ubuntu, 32 and 64 bits)
- Mac OS® (minimum version OS X® Yosemite)

Software requirements

The Java Run Time Environment 1.7 (version 1.7_45 or newer) must be installed. More information on installation requirements and procedure can be found in the *STM32CubeMX* User manual (UM1718).

For Eclipse plug-in installation only, install one of the following IDE (on Windows OS):

- Eclipse IDE Juno (4.2)
- Eclipse IDE Luna (4.4)
- Eclipse IDE Kepler (4.3)
- Eclipse IDE Mars (4.5)

2 What’s new in STM32CubeMX V4.15.1?

2.1 Fixed issues

Table 1. Fixed issues

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.

2.2 Firmware package versions

Table 2 shows the firmware package versions. New package revisions for STM32F0, STM32L4 and STM32L0 Series are now available.

Table 2. Firmware package versions

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 Release information

3.1 Microcontrollers supported by this release

- 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, STM32F042C6Ux, STM32F042F(4-6)Px, STM32F042G(4-6)Ux, STM32F042K6Tx, 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
- STM32F071CBTx, STM32F071CBUx, STM32F071CBYx, STM32F071RBTx, STM32F071V(8-B)Hx, STM32F071V(8-B)Tx
- STM32F072C(8-B)Tx, STM32F072C(8-B)Ux, STM32F072CBYx, STM32F072RBHx, STM32F072RBIx, 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, 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(6-8-B)Tx, STM32F101CBUx, 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, STM32F105VBHx, STM32F105V(8-B-C)Tx
- STM32F107R(B-C)Tx, STM32F107VCHx, STM32F107V(B-C)Tx
- STM32F205RGEx, 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)Ux, STM32F301R(6-8)TxSTM32F1, STM32F2, STM32F3, STM32F4, STM32F7, STM32L0 and STM32L4 series new part numbers.
- 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, STM32F302Z(D-E)Tx
- STM32F303C(6-8-B-C)Tx, 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, STM32F334K(4-6-8)Tx, 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, STM32F378VCTx
- STM32F398VETx
- STM32F401C(B-C-D-E)Ux, STM32F401C(B-C-D-E)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
- STM32F410C(8-B)Ux, STM32F410R(8-B)Tx, STM32F410T(8-B)Yx
- STM32F411C(C-E)Ux, STM32F411C(C-E)Yx, STM32F411R(C-E)Tx, STM32F411V(C-E)Hx, STM32F411V(C-E)Tx
- STM32F412C(E-G)Ux, STM32F412R(E-G)Tx, STM32F412R(E-G)Yx, STM32F412V(E-G)Hx, STM32F412V(E-G)Tx, STM32F412Z(E-G)Jx, STM32F412Z(E-G)Tx
- STM32F415OGYx, STM32F415RGTx, STM32F415VGTx, STM32F415ZGTx
- STM32F417I(E-G)Hx, STM32F417I(E-G)Tx, STM32F417V(E-G)Tx, STM32F417Z(E-G)Tx
- 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, STM32F429ZIYx
- 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, STM32F439ZIYx
- STM32F446M(C-E)Yx, STM32F446R(C-E)Tx, STM32F446V(C-E)Tx, STM32F446Z(C-E)Hx, STM32F446ZEJx, STM32F446Z(C-E)Tx
- STM32F469A(E-G-I)Hx, STM32F469A(E-G-I)Yx, STM32F469B(E-G-I)Tx, STM32F469I(E-G-I)Hx, STM32F469I(E-G-I)Tx, STM32F469N(E-G-I)Hx, STM32F469V(E-G-I)Tx, STM32F469Z(E-G-I)Tx
- STM32F479A(G-I)Hx, STM32F479A(G-I)Yx, STM32F479B(G-I)Tx, STM32F479I(G-

I)Hx, STM32F479I(G-I)Tx, STM32F479N(G-I)Hx, STM32F479V(G-I)Tx, STM32F479Z(G-I)Tx

- 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
- 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)Tx, STM32F765Z(G-I)Tx
- STM32F767B(G-I)Tx, STM32F767I(G-I)Kx, STM32F767I(G-I)Tx, STM32F767N(G-I)Hx, STM32F767V(G-I)Tx, STM32F767Z(G-I)Tx
- STM32F768AIYx
- STM32F769A(G-I)Yx, STM32F769B(G-I)Tx, STM32F769I(G-I)Tx, STM32F769N(G-I)Hx
- STM32F777BITx, STM32F777IIKx, STM32F777IITx, STM32F777NIHx, STM32F777VITx, STM32F777ZITx
- STM32F778AIYx
- STM32F779AIYx, STM32F779BITx, STM32F779IITx, STM32F779NIHx
- STM32L011D(3-4)Px, STM32L011E(3-4)Yx, STM32L011F(3-4)Px, STM32L011F(3-4)Ux, STM32L011G(3-4)Ux, STM32L011K(3-4)Tx, STM32L011K(3-4)Ux
- STM32L021D4Px, STM32L021F4Px, STM32L021F4Ux, STM32L021G4Ux, STM32L021K4Tx, STM32L021K4Ux
- STM32L031C(4-6)Tx, STM32L031E(4-6Picked up _JAVA_OPTIONS: -Xmx1g -XX:MaxPermSize=256m
-)Yx, STM32L031F(4-6)Px, STM32L031G(4-6)Ux, STM32L031G6UxS, STM32L031K(4-6)Tx, STM32L031K(4-6)Ux
- STM32L041C(4-6)Tx, STM32L041F6Px, STM32L041G6Ux, STM32L041K6Tx, STM32L041K6Ux
- STM32L051C(6-8)Tx, STM32L051K(6-8)Tx, STM32L051K(6-8)Ux, STM32L051R(6-8)Hx, STM32L051R(6-8)Tx, STM32L051T(6-8)Yx
- STM32L052C(6-8)Tx, STM32L052K(6-8)Tx, STM32L052K(6-8)Ux, STM32L052R(6-8)Hx, STM32L052R(6-8)Tx, STM32L052T(6-8)Yx
- STM32L053C(6-8)Tx, STM32L053R(6-8)Hx, STM32L053R(6-8)Tx
- STM32L062K8Tx, STM32L062K8Ux
- STM32L063C8Tx, STM32L063R8Tx
- STM32L071C(8-B-Z)Tx, 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)Ix, STM32L071V(8-B-Z)Tx
- STM32L072CZEx, STM32L072C(B-Z)Tx, STM32L072C(B-Z)Yx, STM32L072K(B-Z)Tx, 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, STM32L073R(B-Z)Hx, STM32L073R(B-Z)Tx, STM32L073V(8-B-Z)Ix, STM32L073V(8-B-Z)Tx
- STM32L081CZTx, STM32L081KZTx, STM32L081KZUx

- STM32L082K(B-Z)Tx, STM32L082K(B-Z)Ux
- STM32L083C(B-Z)Tx, STM32L083R(B-Z)Hx, STM32L083R(B-Z)Tx, STM32L083V(8-B-Z)Ix, 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, 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, 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
- STM32L162QDHx, STM32L162R(C-D-E)Tx, STM32L162RCTxA, STM32L162RDYx, STM32L162VCHx, STM32L162V(C-D-E)Tx, STM32L162VCTxA, STM32L162VEYx, STM32L162VDYxX, STM32L162Z(D-E)Tx
- 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, STM32L433R(B-C)Yx, STM32L433VCIx, STM32L433VCTx
- STM32L442KCUx
- STM32L443CCTx, STM32L443CCUx, STM32L443CCYx, STM32L443RCIx, STM32L443RCTx, STM32L443RCYx, STM32L443VCIx, STM32L443VCTx
- STM32L471Q(E-G)Ix, STM32L471R(E-G)Tx, STM32L471V(E-G)Tx, STM32L471Z(E-G)Tx
- STM32L475R(C-E-G)Tx, STM32L475V(C-E-G)Tx
- STM32L476J(E-G)Yx, STM32L476M(E-G)Yx, STM32L476Q(E-G)Ix, STM32L476R(C-E-G)Tx, STM32L476V(C-E-G)Tx, STM32L476Z(E-G)Tx
- STM32L485J(C-E)Yx
- STM32L486JGYx, STM32L486QGIx, STM32L486RGTx, STM32L486VGTx, STM32L486ZGTx

3.2 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.

3.2.1 Enhancements

- An STM32CubeMX configuration can be 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

3.2.2 Fixed issues

Table 3. Fixed issues

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
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

Table 3. Fixed issues (continued)

ID	Summary
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

3.2.3 Firmware package versions

Table 4 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 4. Firmware package versions

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

3.3 STM32CubeMX V4.14.0 release information

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

3.3.1 Enhancements

- Added an option in the updater to request user proxy password at each session
- Project files can now be 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.

3.3.2 Fixed issues

Table 5. Fixed issues in the 4.14.0 version

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

Table 5. Fixed issues in the 4.14.0 version (continued)

ID	Summary
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 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

3.4 STM32CubeMX V4.13.1 release information

This release is a minor release, fixing the bugs reported in *Table 6*.

3.4.1 Fixed issues

Table 6. Fixed issues in the 4.13.1 version

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

3.5 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 can choose to generate a CMSIS-Pack description file (gpdsc) to integrate with other IDEs.

3.5.1 Enhancements

- The clock automatic resolution can now propose 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.

3.5.2 Fixed issues

Table 7. Fixed issues in the 4.13.0 version

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
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'

3.6 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 can now select the instance of the peripheral to be used.

3.6.1 Enhancements

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

3.6.2 Fixed issues

Table 8. Fixed issues in the 4.12.0 version

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
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

3.7 STM32CubeMX V4.11.0 release information

This release is a minor release, fixing four important bugs (see *Table 9*).

3.7.1 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 can now interpolate 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 can now load 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

3.7.2 Fixed issues

Table 9. Fixed issues in the 4.11.0 version

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
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

3.8 STM32CubeMX V4.10.0 release information

3.8.1 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).

3.8.2 Fixed issues

Table 10. Fixed issues in the 4.10.0 version

ID	Summary
323581	[USB STM32L1] USB device conf.c file error
323958	[I4 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

3.9 STM32CubeMX V4.9.0 release information

3.9.1 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 can be 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.

3.9.2 Known problems and limitations

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

3.9.3 Fixed issues

Table 11. Fixed issues in the 4.9.0 version

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

3.10 STM32CubeMX V4.8.0 release information

3.10.1 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 can now execute a script of commands without user interface and be launched in background by another application, like for example Matlab.

3.10.2 Fixed issues

Table 12. Fixed issues in the 4.8.0 version

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

Table 12. Fixed issues in the 4.8.0 version (continued)

ID	Summary
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

3.11 STM32CubeMX V4.7.1 release information

3.11.1 Enhancements

None

3.11.2 Fixed issues

Table 13. Fixed issues in the 4.9.0 version

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
313807	[MX-CodeGen] User tags have been removed from the systick handler
311839	[Project Manager] wrong RAM size
314799	Keil STM32F072RB: Flash 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

3.12 STM32CubeMX V4.7.0 release information

3.12.1 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, wakeup 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 can now generate a project for the System Workbench for STM32 (SW4STM32) IDE.

3.12.2 Fixed issues

Table 14. Fixed issues in the 4.7.0 version

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

3.13 STM32CubeMX V4.6.0 release information

3.13.1 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 will be automatically calculated.

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

3.13.2 Known problems and limitations

PPP and SLIPIF can be configured in the LWIP library, but the generated code will not have all the required links to the hardware interface.

3.13.3 Fixed issues

Table 15. Fixed issues in the 4.6.0 version

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
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

3.14 STM32CubeMX V4.5.0 release information

3.14.1 Enhancements

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

3.14.2 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 will not have all the required links to the hardware interface

3.14.3 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

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

3.15 STM32CubeMX V4.4.0 release information

3.15.1 New features

STM32CubeMX now fully supports STM32L1 Series.

3.15.2 Enhancements

The MCU selector window has been improved to allow filtering on Flash, 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.

3.15.3 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 will not have all the required links to the hardware interface

3.16 STM32CubeMX V4.3 and 4.3.1 release information

3.16.1 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

3.16.2 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

3.16.3 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 will not 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

3.17 STM32CubeMX V4.2 release information

3.17.1 New features

STM32CubeMX now fully supports the STM32L0 Series.

3.17.2 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

3.17.3 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 will not 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

3.18 STM32CubeMX V4.1 release information

3.18.1 New features

STM32CubeMX now fully supports the STM32F2 family.

3.18.2 Enhancements

None.

3.18.3 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 will not 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

3.19 STM32CubeMX V4.0 release information

3.19.1 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

3.19.2 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.

3.19.3 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 can be configured in the LWIP library but the generated code won’t have all the required link to the hardware interface

4 Revision history

Table 16. Document revision history

Date	Revision	Changes
17-Feb-2014	1	Initial release.
27-Mar-2014	2	Release for STM32CubeMX 4.1 Added *Section 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 3.16.3: Known problems and limitations* and *Section 3.17: STM32CubeMX V4.2 release information*.
05-Aug-2014	5	Added information related to STM32CubeMX 4.3.1 as well as *Section 3.16: 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.