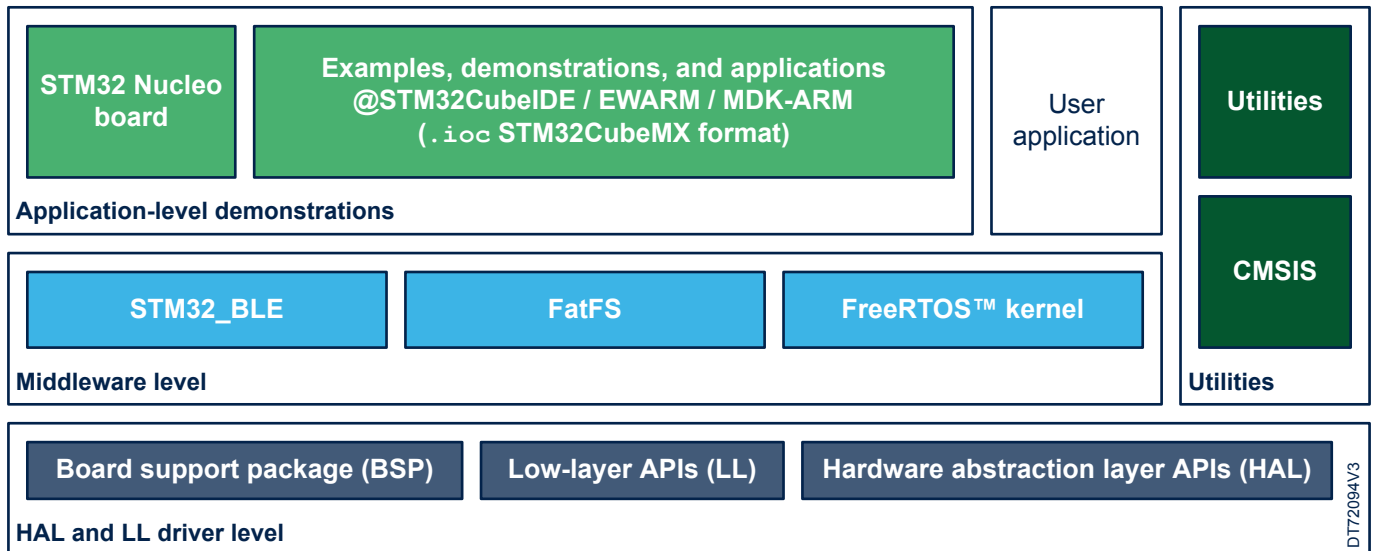


## STM32Cube embedded software for STM32WB0 series including LL/HAL drivers and Bluetooth® Low Energy



Product status link

[STM32CubeWB0](#)



## Features

- Consistent and complete embedded software offer that frees the user from dependency issues
- STM32WB0 series support
- STM32WB0 series middleware: FreeRTOS™ kernel, FatFS generic file system module
- STM32WB0 specific middleware: STM32\_BLE, including Bluetooth® Low Energy 5.4 stack, certified with Bluetooth® SIG
- STM32\_BLE, Bluetooth® Low Energy applications
- 2.4 GHz radio proprietary driver
- 2.4 GHz radio proprietary driver examples
- 2.4 GHz radio proprietary driver demonstrations
- CMSIS files
- Low-layer and hardware abstraction layer peripheral drivers and related examples
- Support for the Nucleo board
- Free user-friendly license terms
- Update mechanism with new-release notification capability

## Description

STM32Cube is an STMicroelectronics original initiative to improve designer productivity significantly by reducing development effort, time, and cost. STM32Cube covers the whole STM32 portfolio.

STM32Cube includes [STM32CubeMX](#), a graphical software configuration tool that allows the generation of C initialization code using graphical wizards.

It also comprises the [STM32CubeWB0](#) MCU Package, composed of the STM32Cube hardware abstraction layer (HAL) and the low-layer (LL) APIs, a consistent set of middleware components such as STM32\_BLE (Bluetooth® Low Energy 5.4), FreeRTOS™ kernel, and FatFS generic file system module.

The STM32CubeWB0 gathers in one single package all generic embedded software components required to develop an application on [STM32WB0 series](#) microcontrollers.

Additional 2.4 GHz radio demonstrations are also provided to show more complex and advanced scenarios (such as low-power manager integration, and over-the-air firmware upgrade capability).

## 1 General information

### 1.1 Ordering information

STM32CubeWB0 is available for free download from the [www.st.com](http://www.st.com) website.

### 1.2 What is STM32Cube?

STM32Cube is an STMicroelectronics original initiative to improve designer productivity significantly by reducing development effort, time, and cost. STM32Cube covers the whole STM32 portfolio.

STM32Cube includes:

- A set of user-friendly software development tools to cover project development from conception to realization, among which are:
  - [STM32CubeMX](#), a graphical software configuration tool that allows the automatic generation of C initialization code using graphical wizards
  - [STM32CubeIDE](#), an all-in-one development tool with peripheral configuration, code generation, code compilation, and debug features
  - [STM32CubeCLT](#), an all-in-one command-line development toolset with code compilation, board programming, and debug features
  - STM32CubeProgrammer ([STM32CubeProg](#)), a programming tool available in graphical and command-line versions
  - STM32CubeMonitor ([STM32CubeMonitor](#), [STM32CubeMonPwr](#), [STM32CubeMonRF](#), [STM32CubeMonUCPD](#)), powerful monitoring tools to fine-tune the behavior and performance of STM32 applications in real time
- [STM32Cube MCU and MPU Packages](#), comprehensive embedded-software platforms specific to each microcontroller and microprocessor series (such as STM32CubeWB0 for the STM32WB0 series), which include:
  - STM32Cube hardware abstraction layer (HAL), ensuring maximized portability across the STM32 portfolio
  - STM32Cube low-layer APIs, ensuring the best performance and footprints with a high degree of user control over hardware
  - A consistent set of middleware components such as FreeRTOS™, FAT file system, and STM32\_BLE (Bluetooth® Low Energy)
  - All embedded software utilities with full sets of peripheral and applicative examples
- [STM32Cube Expansion Packages](#), which contain embedded software components that complement the functionalities of the STM32Cube MCU and MPU Packages with:
  - Middleware extensions and applicative layers
  - Examples running on some specific STMicroelectronics development boards

## 2 License

STM32CubeWB0 is delivered under the SLA0048 software license agreement and its Additional License Terms. STM32CubeWB0 runs the Bluetooth® Low Energy stack on STM32WB0 series microcontrollers based on the Arm® Cortex®-M0+ processor.

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



## Revision history

**Table 1. Document revision history**

Date	Revision	Changes
07-Jun-2024	1	Initial release.

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