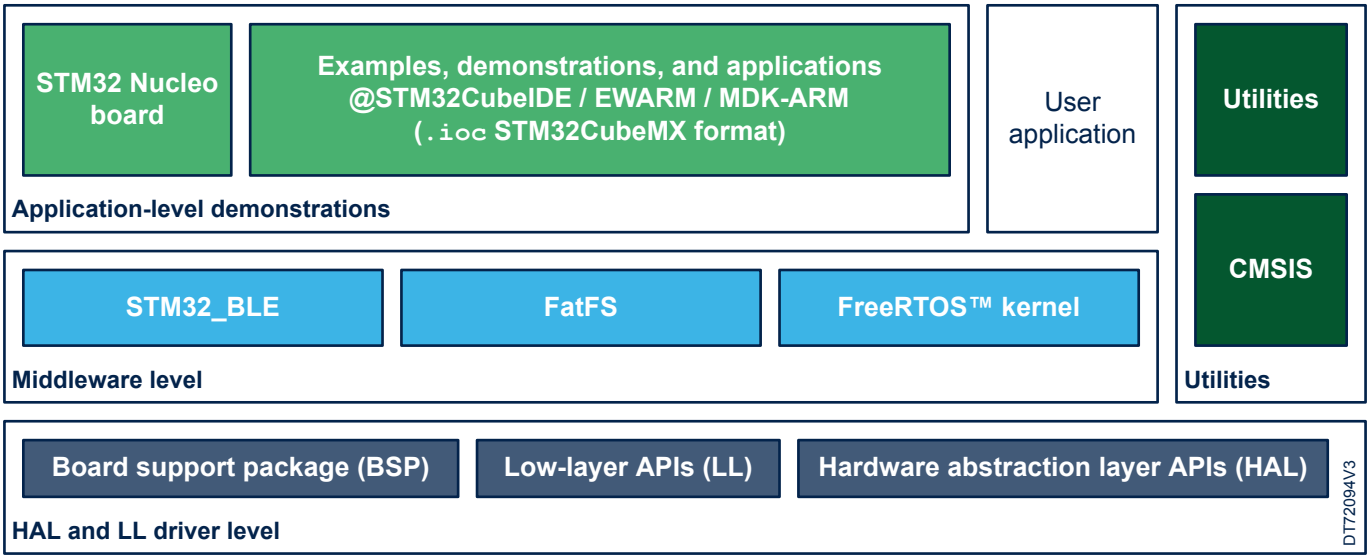
STM32CubeWB0

Data brief

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* 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.