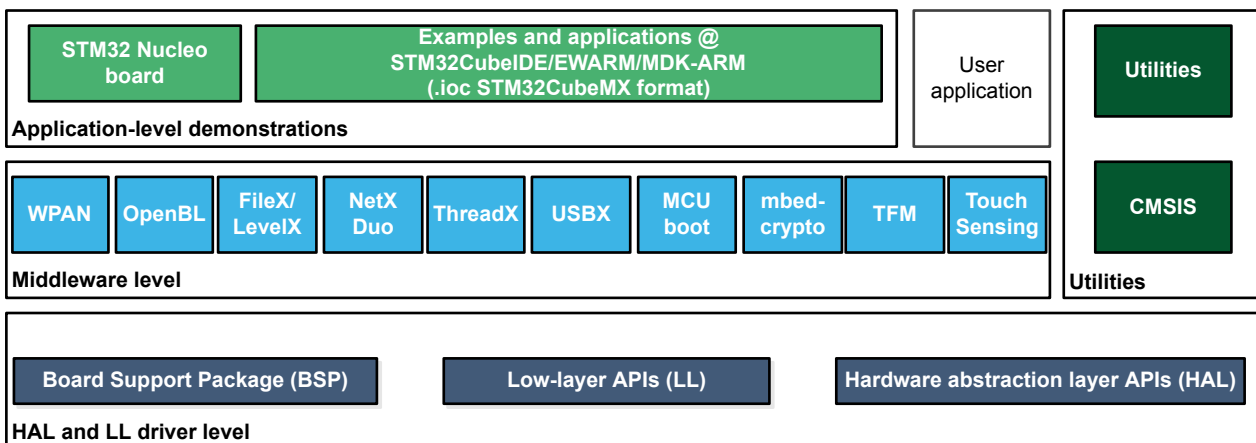


## STM32Cube embedded software for STM32WBA series including LL/HAL drivers, Bluetooth® 5.3, RTOS, and touch sensing



DT71823

Product status link

[STM32CubeWBA](#)


## Features

- Consistent and complete embedded software offer that frees the user from dependency issues
- Maximized portability between all STM32 series supported by STM32Cube
- Hundreds of examples for easy understanding
- High quality HAL using CodeSonar® static analysis tool
- High quality low-layer APIs (LL) using CodeSonar® static analysis tool
- STM32WBA series middleware: STMTouch™ (STM32 touch sensing library) and Azure® RTOS kernel, OpenBootloader, mbedTLS, TFM, MCUboot
- STM32WBA-specific middleware: STM32\_WPAN, including Bluetooth® Low Energy 5.3 profiles, services and stack, certified with Bluetooth® SIG
- Free user-friendly license terms. Update mechanism with new-release notification capability
- Published on GitHub in addition to [www.st.com](http://www.st.com) to propagate bug fixes and improvements faster, open for pull requests and issues to facilitate user contributions and direct feedback

## 1 Description

STM32Cube is an STMicroelectronics original initiative to make the life of the developer easier 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 [STM32CubeWBA](#) MCU Package, composed of the STM32Cube hardware abstraction layer (HAL) and the low-layer (LL) APIs, a consistent set of middleware components such as STMTouch™, STM32\_WPAN (Bluetooth® 5.3 profiles and services), Azure® RTOS kernel, OpenBootloader, mbedTLS, TFM, MCUboot, and HCI connectivity services. All embedded software utilities are delivered with a full set of examples running on STMicroelectronics boards.

The STM32Cube HAL is an STM32 embedded software layer that ensures maximized portability across the STM32 portfolio, while the LL APIs make up a fast, light-weight, expert-oriented layer, which is closer to the hardware than the HAL. HAL and LL APIs can be used simultaneously with a few restrictions.

Both the HAL and LL APIs are production-ready and have been developed in compliance with CodeSonar®, MISRA C®:2012 guidelines and ISO/TS 16949. Furthermore, STMicroelectronics specific validation processes add a deeper-level qualification.

The STM32CubeWBA gathers in one single package all generic embedded software components required to develop an application on [STM32WBA series](#) microcontrollers. Following STM32Cube initiative, this set of components is highly portable, not only within the STM32WBA series, but also to other STM32 series. In addition, the low-layer APIs provide an alternative, high-performance, low-footprint solution to the STM32CubeWBA HAL at the cost of portability and simplicity.

HAL and LL APIs are available in open-source BSD license for user convenience.

## 2 License

STM32CubeWBA runs on STM32 microcontrollers based on the Arm® Cortex®-M processor, and Bluetooth® stacks.

STM32CubeWBA is delivered under the [SLA0048](#) software license agreement and its Additional License Terms.

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



arm



### **3**      **Ordering information**

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The STM32CubeWBA is available for free download from [www.st.com](http://www.st.com).

## Revision history

**Table 1. Document revision history**

Date	Version	Changes
02-Mar-2023	1	Initial release.

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