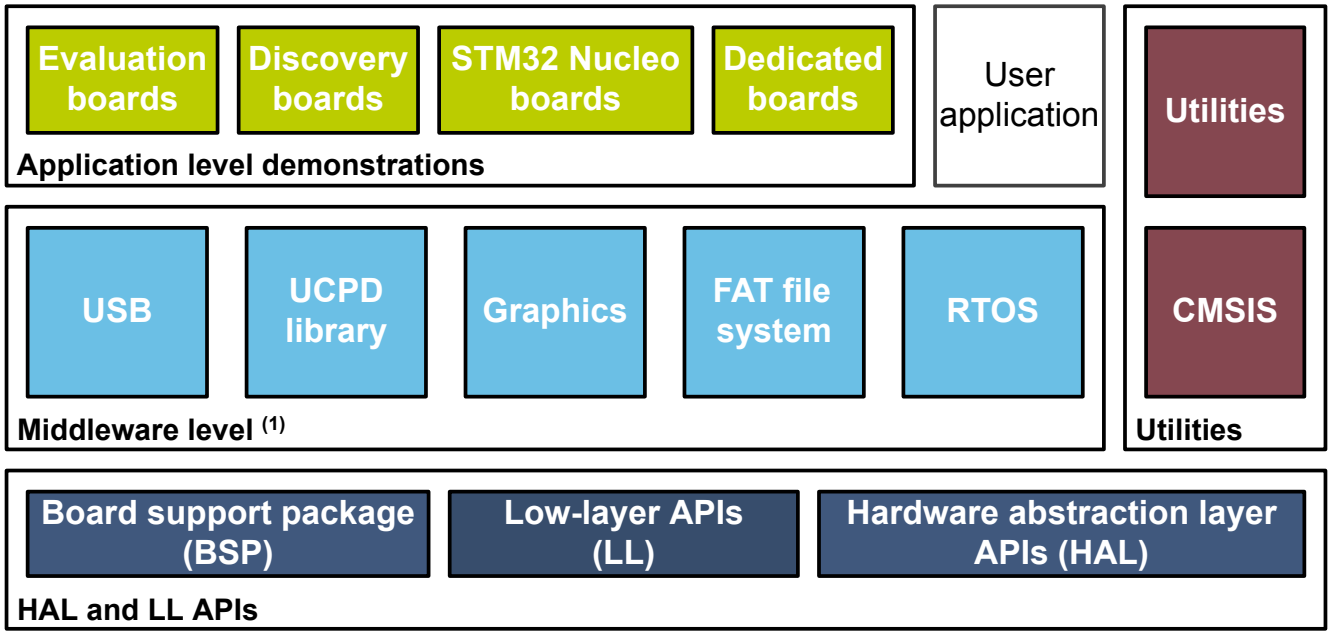
# STM32Cube MCU Package for STM32G0 Series with HAL, low-layer drivers and dedicated middleware




(1) The set of middleware components depends on the product Series.

| Product status link |
| --- |
| STM32CubeG0 |

## Features

- Consistent and complete embedded software offer that frees the user from dependency issues
- Maximized portability between all STM32 Series supported by STM32Cube
- More than 130 examples for easy understanding
- High quality HAL and low-layer API drivers using CodeSonar® static analysis tool
- High quality low-layer APIs (LL) using CodeSonar® static analysis tool
- STM32G0-dedicated middleware including USB Device, FatFS, RTOS and UCPD library
- Free user-friendly license terms
- Update mechanism that can be enabled by the user to be notified of new releases

# 1 Description

STM32Cube™ is an STMicroelectronics original initiative to improve developers' productivity 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 STM32CubeG0 MCU Package composed of the STM32Cube™ hardware abstraction layer (HAL) and the low-layer (LL) APIs, plus a consistent set of middleware components (RTOS, USB, FAT file system and UCPD power delivery).

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 MISRA-C®:2012 guidelines with some documented exceptions (reports available on demand) and ISO/TS 16949. Furthermore, ST-specific validation processes add a deeper-level qualification.

The STM32CubeG0 gathers in one single package all the generic embedded software components required to develop an application on STM32G0 microcontrollers. Following STM32Cube™ initiative, this set of components is highly portable, not only within the STM32G0 Series but also to other STM32 Series. In addition, the low-layer APIs provide an alternative, high-performance, low-footprint solution to the STM32CubeG0 HAL at the cost of portability and simplicity.

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

# 2 STM32CubeG0 MCU Package

The STM32CubeG0 runs on STM32 32-bit microcontrollers based on the Arm® Cortex®-M0+ processor.

The package contains a set of middleware components with the corresponding examples. They are delivered in very permissive license terms:

- CMSIS-RTOS implementation with FreeRTOS™ open source solution
- FAT file system based on open source FatFS solution supporting NAND Flash memory accesses
- UCPD power delivery solution
- USB Device stack supporting many classes

A set of application projects implementing all these middleware components is also provided in the STM32CubeG0 MCU Package.

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

# 3 Ordering information

The STM32CubeG0 is available for free download from http://www.st.com/stm32cubefw.

# Revision history

Table 1. **Document revision history**

| Date | Version | Changes |
|---|---|---|
| 03-Dec-2018 | 1 | Initial release. |