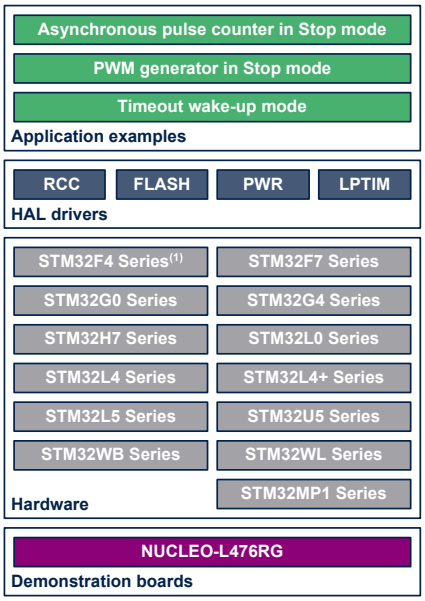
X-CUBE-LPTIMER

Data brief

Low-power timer (LPTIM) software expansion for STM32Cube



(1) For some product lines only.

Product status link
X-CUBE-LPTIMER

Features

- Three applicative examples covering most features of the STM32 low-power timer peripherals:
  - Asynchronous pulse counter in Stop mode
  - PWM generator in Stop mode
  - Timeout wake-up mode
- Source-code template generated by the STM32CubeMX software tool
- Tailored to run readily on the NUCLEO-L476RG board
- Easy tailoring for any toolchains compatible with the STM32 ecosystem

Description

The X-CUBE-LPTIMER is an STM32Cube Expansion Package. It provides applicative use-cases for the low-power timer (LPTIM) peripherals embedded in STM32 microcontrollers and microprocessors.

X-CUBE-LPTIMER applies to the STM32F7 Series, STM32G0 Series, STM32G4 Series, STM32H7 Series, STM32L0 Series, STM32L4 Series, STM32L4+ Series, STM32L5 Series, STM32U5 Series, STM32WB Series, STM32WL Series, and STM32MP1 Series. It applies also to the STM32F410 and STM32F413/423 product lines.

For more details on the low-power timer (LPTIM), refer to the *Low-power timer (LPTIM) applicative use cases on STM32 MCUs and MPUs* application note (AN4865), available at the *www.st.com* website.

1 General information

The X-CUBE-LPTIMER Expansion Package runs on STM32 microcontrollers based on Arm® cores.

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

1.1 Ordering information

X-CUBE-LPTIMER 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
  - 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 STM32CubeL4 for the STM32L4 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 RTOS, USB Host and Device, FAT file system, touch library, and graphics
  - 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

X-CUBE-LPTIMER is delivered under the SLA0048 software license agreement and its Additional License Terms.

Revision history

Table 1. **Document revision history**

Date	Revision	Changes
26-Sep-2016	1	Initial release.
16-Jun-2017	2	Updated *Description*.
22-Mar-2022	3	Extended the range of compatible products: • Added the simplified software architecture on the cover page • Updated the document title • Updated Features and Description Added License and What is STM32Cube?