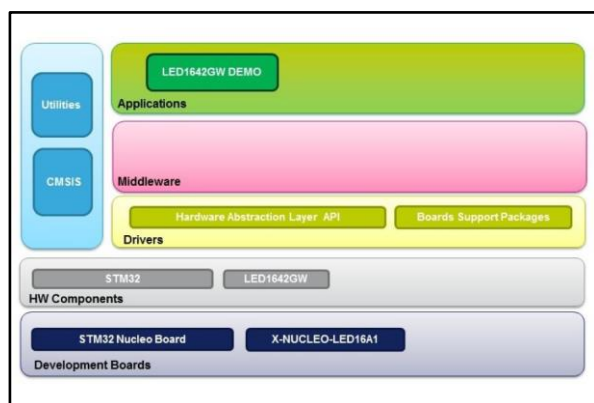


16 channel LED driver software expansion for STM32Cube

Data brief



Description

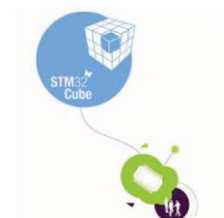
The X-CUBE-LED16A1 expansion software package for STM32Cube runs on the STM32 microcontroller with drivers and sample applications for the LED1642GW LED driver.

An SPI interface facilitates communication between the STM32 Nucleo board and the X-NUCLEO-LED16A1 expansion board. It is built on top of STM32Cube software technology that ease portability across different STM32 microcontrollers.

The software includes sample driver implementations for the X-NUCLEO-LED16A1 expansion board on a NUCLEO-F401RE or NUCLEO-L053R8 development board.

Features

- Complete middleware package to build applications using the LED1642GW LED driver on the X-NUCLEO-LED16A1 expansion board for STM32 Nucleo
- SPI interface between STM32 Nucleo and X-NUCLEO-LED16A1 expansion board
- Multiple stacking of X-NUCLEO-LED16A1 expansion boards allowed
- Easy portability across different MCU families, thanks to STM32Cube
- Free user-friendly license terms
- Sample implementations for X-NUCLEO-LED16A1 expansion board(s) plugged on a NUCLEO-F401RE or NUCLEO-L053R8 development board



1 Detailed description

What is STM32Cube?

STM32Cube™ initiative was originated by STMicroelectronics to ease developers' life by reducing development efforts, time and cost. STM32Cube covers STM32 portfolio.

STM32Cube Version 1.x includes:

- The STM32CubeMX, a graphical software configuration tool that allows to generate C initialization code using graphical wizards
- A comprehensive embedded software platform, delivered per series (such as STM32CubeF4 for STM32F4 series)
 - The STM32Cube HAL, an STM32 abstraction layer embedded software, ensuring maximized portability across STM32 portfolio
 - A consistent set of middleware components such as RTOS, USB, TCP/IP, Graphics
 - All embedded software utilities coming with a full set of examples

How does this software complement STM32Cube?

This software is based on the STM32CubeHAL hardware abstraction layer for the STM32 microcontroller and extends STM32Cube by providing a board support package (BSP) for the X-NUCLEO-LED16A1 expansion board.

The package includes a sample application that the developer can use to start experimenting with the code and explore the various features of the LED1642GW driver. It includes application functions like error detection, LED patterns and sequences, and brightness adjustment on any of the 16 channels.

The X-NUCLEO-LED16A1 expansion board has jumpers to readily configure multiple boards in daisy chain configuration and the software includes the functionality to check that the jumpers are set correctly.

2 Revision history

Table 1: Document revision history

Date	Version	Changes
23-Nov-2016	1	Initial release.

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