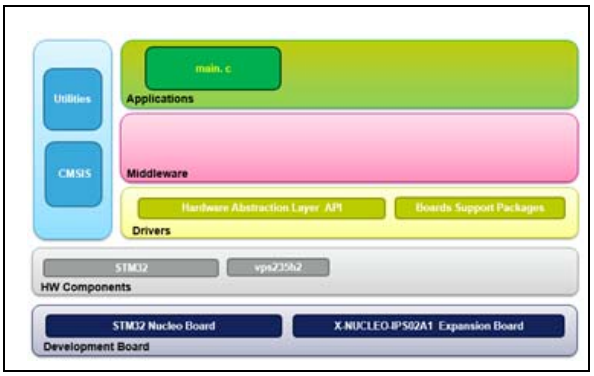
X-CUBE-IPS02A1

Intelligent Power Switch software for STM32, expansion for STM32Cube

Data brief



Features

- Complete middleware to build applications using Intelligent Power Switch (VPS2535H)
- Easy portability across different MCU families thanks to STM32Cube
- Sample application to transmit real time current data measurement to a PC
- PC-based application (Microsoft Windows) to print on terminal current in several conditions
- Free user-friendly license terms
- Examples implementation available on board X-NUCLEO-IPS02A1 plugged on top of one NUCLEO-F401RE or NUCLEO-L053R8.

Description

This software is to manage Intelligent Power Switch based on VPS2535H allowing to control the 2 channels output and measure currents on connected load. It is built on top of STM32Cube software technology, to ease portable across different STM32 microcontrollers.

The software comes with examples of implementation of such drivers, running on X-NUCLEO-IPS02A1 plugged on top of NUCLEO-F401RE or NUCLEO-L053R8.

What is STM32Cube?

STMCubeTM 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?

The proposed software is based on the STM32CubeHAL, the hardware abstraction layer for the STM32 microcontroller. The package extends STM32Cube by providing a Board Support Package (BSP) for the sensors expansion board and some middleware components for serial communication with a PC equipped with Microsoft Windows OS.

The drivers abstract low-level details of the hardware and allow the middleware components and applications to intelligent power switch in a hardware independent fashion.

The package also includes a sample application that the developer can use to start experimenting with the code. The sample application enables outputs alternatively and measure currents on different channels. For this purpose *printf* library over *uart i*s also made available to print on terminal measured values.

The overall software architecture of the package is depicted in the cover page.

1 Revision history

Table 1. Document revision history

Date	Revision	Changes
11-Jul-2016	1	Initial release.