X-CUBE-PLM1

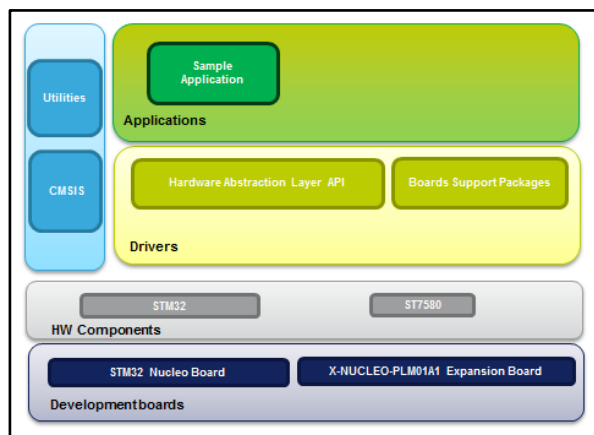## Power line communication expansion software based on ST7580 for STM32Cube
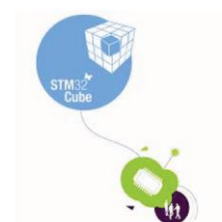
Description

The X-CUBE-PLM1 expansion software package for STM32Cube runs on STM32 and includes drivers that allow interfacing a ST7580 power line networking system-on-chip.

The expansion is built on STM32Cube software technology to ease portability across different STM32 microcontrollers.

The software comes with all the drivers needed to communicate with the ST7580 power line device on the X-NUCLEO-PLM01A1 expansion board. After downloading the drivers to a NUCLEO-F401RE or NUCLEO-L053R8 development board, you can start evaluating the communication features of the ST7580 using a DC two-wire link between two boards.

Features

- Complete software to drive the ST7580 power line device hosted by X-NUCLEO-PLM01A1 expansion board
- Example firmware available for point-to-point communication, compatible with STM32Cube firmware
- Easy portability across different MCU families, thanks to STM32Cube
- Sample application to transmit real-time communication data to a PC
- Free, user-friendly license terms
- Sample implementation available on XNUCLEO- PLM01A1 board connected to a NUCLEO-F401RE or NUCLEO-L053R8 development board

1 Detailed description

What is STM32Cube?

STMCube™ represents an STMicroelectronics' initiative to make developers' lives easier by reducing development effort, time and cost. STM32Cube covers STM32 portfolio.

STM32Cube includes:

- The STM32CubeMX, a graphical software configuration tool that allows the generation of C initialization code using graphical wizards
- A comprehensive embedded software platform specific to each series (such as STM32CubeF4 for the STM32F4 series), which includes:
    - the STM32Cube HAL embedded abstraction-layer software, ensuring maximized portability across the STM32 portfolio
    - a consistent set of middleware components such as RTOS, USB, TCP/IP and graphics
    - all embedded software utilities 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. The package extends STM32Cube by providing a board support package (BSP) for the sensor expansion board. The drivers abstract low-level details of the hardware and allow the applications to access sensor data in a hardware-independent manner.

The package includes a sample application you can use to start experimenting with the code. As the sample application is designed to enable sensor data logging on a PC, a Windows PC utility is also included. You can use it to choose between various sensors on the expansion board and set the appropriate delays or intervals between consecutive data points. Sensor data can be logged in a user file.

2 Revision history

Table 1: Document revision history

Date	Version	Changes
14-Jun-2017	1	Initial release.

IMPORTANT NOTICE – PLEASE READ CAREFULLY