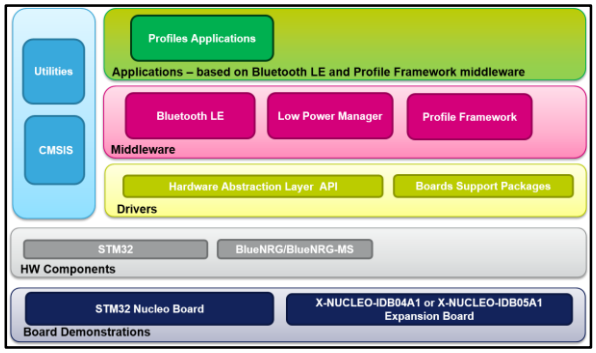
# OSXSmartConnPS

## Bluetooth low energy profiles for the X-CUBE-BLE1 expansion for STM32Cube

Data brief

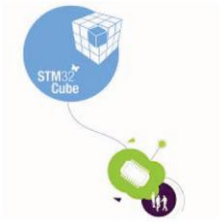



## Features

- Support for Bluetooth low energy slave profiles using ST's BlueNRG device:
  - Alert notification client
  - Blood pressure sensor
  - Find me locator
  - Find me Target
  - Glucose sensor
  - Health thermometer
  - Heart rate
  - Phone alert client
  - Proximity monitor
  - Proximity reporter
  - Time client
  - Time server
- Support for Bluetooth Low Energy master profiles using ST's BlueNRG device:
  - HEART_RATE_COLLECTOR
  - TIME_CLIENT
  - FIND_ME_LOCATOR
  - BLOOD_PRESSURE_COLLECTOR
  - HEALTH_THERMOMETER_COLLECTOR
  - ALERT_NOTIFICATION_CLIENT
  - GLUCOSE_COLLECTOR
- Low power optimization
- Easy portability across different MCU families, thanks to STM32Cube
- Numerous examples for easier comprehension

## Description

OSXSmartConnPS software is an add-on for X-CUBE-BLE1 and provides an implementation for Bluetooth low energy slave profiles running on the STM32 for ST's BlueNRG Bluetooth Low Energy device. The expansion is built on STM32Cube software technology to ease portability across different STM32 microcontrollers. The software comes with sample implementations of the drivers running on the X-NUCLEO-IDB04A1, when connected to a NUCLEO-L053R8, NUCLEO-L476RG, NUCLEO-F401RE or NUCLEO-F411RE board.



## What is STM32Cube?

STMCube™ represents an original initiative by STMicroelectronics to ease developers' life by reducing development effort, time and cost. STM32Cube covers the STM32 portfolio.

Version 1.x of STM32Cube includes:

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

**How does this software complement STM32Cube and X-CUBE-BLE1?**

The proposed software is based on the STM32Cube and X-CUBE-BLE1. STM32CubeHAL is the hardware abstraction layer for the STM32 microcontroller, while X-CUBE-BLE1 extends STM32Cube by providing a board support package (BSP) for the BlueNRG expansion board and some middleware components for communication with other Bluetooth LE devices.

This package adds support for the following slave profiles (peripheral role):

- Alert notification client
- Alert notification server
- Blood pressure sensor
- Find me locator
- Find me target
- Glucose sensor
- Health thermometer
- Heart rate
- Phone alert client
- Proximity monitor
- Proximity reporter
- Time client
- Time server

This package also adds support for the following master profiles (central role):

- HEART_RATE_COLLECTOR
- TIME_CLIENT
- FIND_ME_LOCATOR
- BLOOD_PRESSURE_COLLECTOR

- HEALTH_THERMOMETER_COLLECTOR
- ALERT_NOTIFICATION_CLIENT
- GLUCOSE_COLLECTOR

BlueNRG/BlueNRG-MS is a very low power Bluetooth Low Energy (BLE) single-mode network processor, compliant with Bluetooth specifications core 4.0/4.1.

The software implements low power optimizations to allow system power consumption of a few micro-amps.

# Revision history

**Table 1: Document revision history**

| Date | Rev | Changes |
|---|---|---|
| 19-Dec-2014 | 1 | First release. |
| 13-Apr-2015 | 2 | Updated figure in cover page. |
| 16-Nov-2015 | 3 | Updated cover page image<br>Updated cover page Description<br>Minor text edits |
| 16-Dec-2015 | 4 | Updated cover page image |
| 15-Apr-2016 | 5 | Updated cover page Features |

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