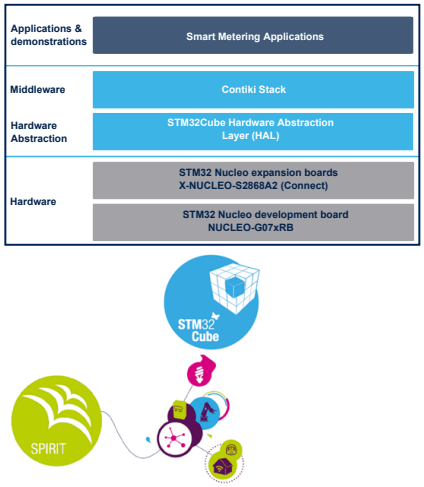
STSW-6LPAN-METER

Data brief

6LoWPAN solution for smart metering applications using the X-NUCLEO-S2868A2 expansion board and the NUCLEO-G070RB or NUCLEO-G071RB development board



Product summary	
6LoWPAN solution for smart metering applications using the X-NUCLEO-S2868A2 expansion board and the NUCLEO-G070RB or NUCLEO-G071RB development board	STSW-6LPAN-METER
STM32 Nucleo-64 development board with STM32G071RB MCU, Arduino, and ST morpho connectivity	NUCLEO-G071RB
STM32 Nucleo-64 development board with STM32G070RB MCU, Arduino, and ST morpho connectivity	NUCLEO-G070RB
Applications	Metering

Features

- Support for beacon request, ping request, and response packet
- UART and RF commissioning protocol
- Multiple UDP ports and Hop-by-Hop protocol support for data communication
- The application is based on the contiki3x operating system. MAC and PHY layers are compliant with the IEEE 802.15.4g standard
- Packets are encrypted/decrypted with AES-128-bit encryption/decryption. They can be changed through the root using a commissioning command
- All the devices can be either a node or a root. They can be set during the provisioning
- AT command sets to configure device and radio parameters
- Support for mesh networking technology through the standard RPL protocol
- Middleware library with Contiki OS and Contiki 6LoWPAN protocol stack 3.x
- Interoperable with other competitor modules
- RF and network parameters saved in the flash memory of the MCU
- Restore of the last network parameters from the MCU flash memory in case of power failure
- Joining process interoperable as per RPL standards
- RF and network parameters configurable either through the RF commissioning protocol or through AT command sets

Description

The STSW-6LPAN-METER is an expansion software package for smart metering applications.

We built a smart metering application on top of the X-CUBE-SUBG1 software package. This application follows the Maharashtra state electricity distribution co. Ltd (MSEDCL) 6LoWPAN specification.

The solution is interoperable with other competitor modules. The software runs on the STM32 and includes drivers that recognize the Sub-1 GHz RF communication for the S2-LP radio chip.

The software comes with examples of the 6LoWPAN application, which allows you to transmit/receive the raw data to the connected meters/nodes by using the S2-LP chip expansion board (X-NUCLEO-S2868A2) when connected to a NUCLEO-G07xRB.

Revision history

Table 1. **Document revision history**

Date	Revision	Changes
05-May-2022	1	Initial release.