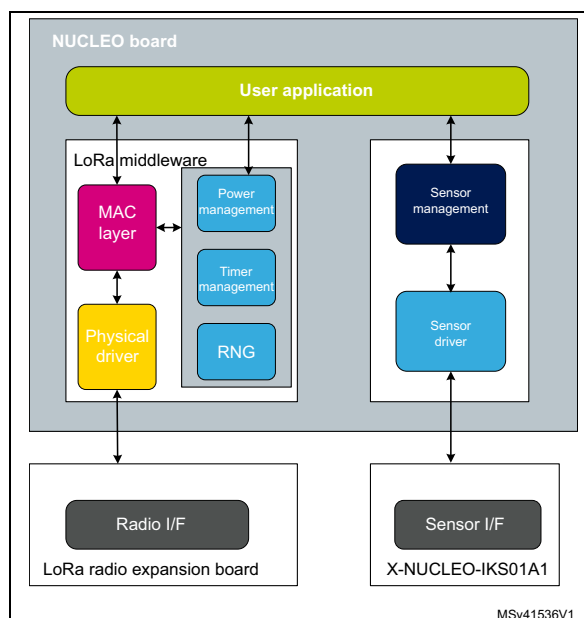


STM32 LoRa™ software expansion for STM32Cube

Data brief

Features

- Compliant with the LoRa™ Alliance specification protocol named LoRaWAN™ version V1.0.1 February 2016
- Bidirectional end-devices with class A and class C protocol support
- Class A certified (V1.0) and class C functional
- EU 868 MHz ISM band ETSI (European telecommunications standards institute) compliant
- EU 433 MHz ISM band ETSI compliant
- US 915 MHz ISM band FCC (federal communications commission) compliant
- End-device activation either via OTAA (over-the-air activation) or via ABP (activation-by-personalization)
- Adaptive data rate support
- LoRaWAN™ test application for certification tests included
- Low-power optimized
- Full STM32 portfolio compatible



Description

LoRa™ is a long range wireless area network allowing low-power sensors to report over a dozen kilometers' range.

The I-CUBE-LRWAN software expansion package consists of a set of libraries and application examples for STM32L0, STM32L1 and STM32L4 devices acting as end devices.

This package supports the SX1276MB1MAS, SX1276MB1LAS and SX1272MB2DAS LoRa™ radio expansion boards provided by SEMTECH.

This package includes an application running on NUCLEO-L053R8, NUCLEO-L152RE and NUCLEO-L476RG.

The application reads sensor data from the X-NUCLEO-IKS01A1 expansion board and sends the sensor data to the LoRa™ network in class A.

For more details on all the components of the LoRa-Middleware library, refer to the I-CUBE-LRWAN user manual (UM2073).

Ordering information

I-CUBE-LRWAN is available for free download from the www.st.com website.

License

The software components provided within this package come with different license schemes as shown in [Table 1](#).

For more details, refer to the license agreement of each component.

Table 1. Software component license agreements

| Software component | Owner | License |
|--------------------|---------|-----------------------------------|
| Cortex®-M CMSIS | ARM® | Open source BSD |
| HAL STM32 L0/L1/L4 | ST | Open source BSD |
| LoRaWAN™ stack | SEMTECH | Open source BSD |
| Project examples | ST | Ultimate Liberty (Source release) |

Revision history

Table 2. Document revision history

| Date | Revision | Changes |
|-------------|----------|--|
| 28-Jun-2016 | 1 | Initial release. |
| 29-Aug-2016 | 2 | Updated Features : <ul style="list-style-type: none">– Updated compliance of LoRaWAN™ version from V1.0 January 2015 to V1.0.1 February 2016– Specified “V1.0” for Class A certification. |

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