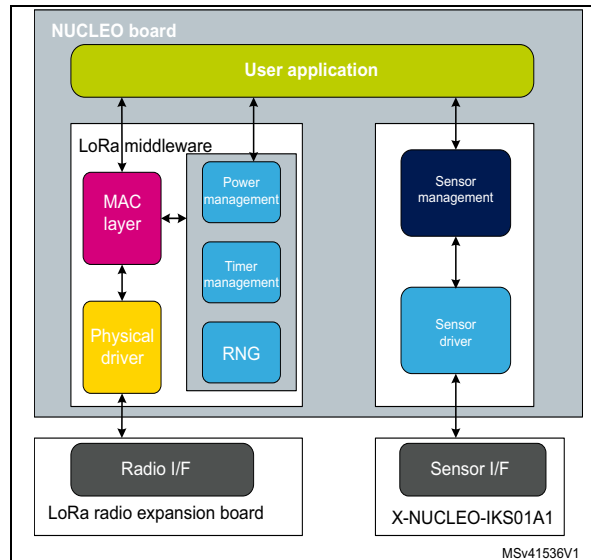


STM32 LoRa[®] software expansion for STM32Cube

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
- 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
- Compliant with the CMWX1ZZABZ-091 LoRa[®] module from Murata



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 Series 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, NUCLEO-L476RG and on B-L072Z-LRWAN1 Discovery kit embedding the CMWX1ZZABZ-091 LoRa[®] module from Murata. 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 in 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 : – Updated compliance of LoRaWAN version from V1.0 January 2015 to V1.0.1 February 2016 – Specified “V1.0” for class A certification.
10-Nov-2016	3	Updated Features and Description .
22-Dec-2016	4	Updated Features and Description : reference to the CMWX1ZZABZ-xxx LoRa module from Murata
7-Feb-2017	5	Updated Features and Description : reference to the CMWX1ZZABZ-091 LoRa module from Murata

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