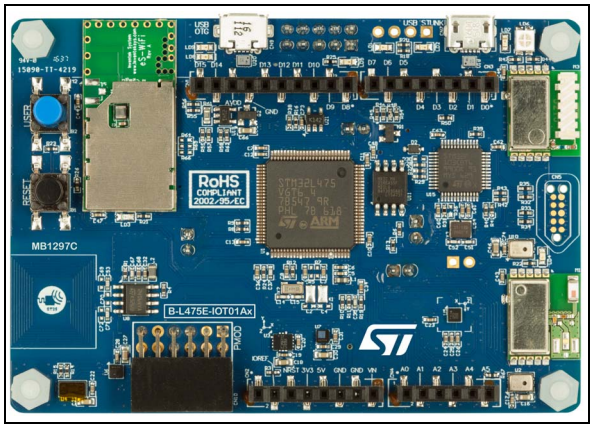
B-L475E-IOT01A

Discovery kit for IoT node, multi-channel communication with STM32L4

Data brief

Features

- Ultra-low-power STM32L4 Series MCUs based on ARM® Cortex®-M4 core with 1 Mbyte of Flash memory and 128 Kbytes of SRAM, in LQFP100 package
- 64-Mbit Quad-SPI (Macronix) Flash memory
- Bluetooth® V4.1 module (SPBTLE-RF)
- Sub-GHz (868 or 915 MHz) low-power-programmable RF module (SPSGRF-868 or SPSGRF-915)
- Wi-Fi® module Inventek ISM43362-M3G-L44 (802.11 b/g/n compliant)
- Dynamic NFC tag based on M24SR with its printed NFC antenna
- 2 digital omnidirectional microphones (MP34DT01)
- Capacitive digital sensor for relative humidity and temperature (HTS221)
- High-performance 3-axis magnetometer (LIS3MDL)
- 3D accelerometer and 3D gyroscope (LSM6DSL)
- 260-1260 hPa absolute digital output barometer (LPS22HB)
- Time-of-Flight and gesture-detection sensor (VL53L0X)
- 2 push-buttons (user and reset)
- USB OTG FS with Micro-AB connector
- Expansion connectors:
  - Arduino™ Uno V3
  - PMOD
- Flexible power-supply options:
  - ST LINK USB V_{BUS} or external sources
- On-board ST-LINK/V2-1 debugger/programmer with USB re-enumeration capability: mass storage, virtual COM port and debug port



1. Picture is not contractual.

- Comprehensive free software HAL library including a variety of examples, as part of the STM32Cube package
- Support of a wide choice of Integrated Development Environments (IDEs) including IAR™, Keil®, GCC-based IDEs, ARM® mbed Enabled™
- ARM® mbed Enabled™ (see http://mbed.org)

Description

The B-L475E-IOT01A Discovery kit for IoT node allows users to develop applications with direct connection to cloud servers.

The Discovery kit enables a wide diversity of applications by exploiting low-power communication, multiway sensing and ARM® Cortex® -M4 core-based STM32L4 Series features.

The support for Arduino Uno V3 and PMOD connectivity provides unlimited expansion capabilities with a large choice of specialized add-on boards.

System requirements

- Windows® OS (XP, 7, 8 and 10), Linux® or MacOS™
- USB Type-A to Micro-B cable

Development toolchains

- Keil® MDK-ARM(a)
- IAR™ EWARM(a)
- GCC-based IDEs including free SW4STM32 from AC6
- ARM® mbed Enabled™ online

Demonstration software

The demonstration software is preloaded in the STM32L475VG Flash memory for easy demonstration of the device peripherals in standalone mode. The latest versions of the demonstration source code and associated documentation can be downloaded from the www.st.com/x-cube-cloud webpage.

a. On Windows® only.

Laser consideration

The VL53L0X contains a laser emitter and corresponding drive circuitry. The laser output is designed to remain within Class 1 laser safety limits under all reasonably foreseeable conditions including single faults, in compliance with IEC 60825-1:2014 (third edition). The laser output will remain within Class 1 limits as long as STMicroelectronics recommended device settings are used and the operating conditions, specified in the STM32L4 datasheets, are respected. The laser output power must not be increased by any means and no optics should be used with the intention of focusing the laser beam. *Figure 1* shows the warning label for Class 1 laser products.

Figure 1. Label for Class 1 laser products

Ordering information

To order the B-L475E-IOT01A Discovery kit for IoT node, depending on the frequency of the Sub-GHz module, refer to *Table 1*.

Table 1. Ordering information

Order code	Sub-GHz operating frequency
B-L475E-IOT01A1	915 MHz
B-L475E-IOT01A2	868 MHz

Revision history

Table 2. Document revision history

Date	Revision	Changes
02-Feb-2017	1	Initial version.
27-Mar-2017	2	Updated *Features* and *Description* to add the PMOD connector.
24-Apr-2017	3	Added *Section : Laser consideration* to add Class 1 laser information.