Upcoming maintenance on Mbed sites: **Tuesdays 1000 - 1100 UTC** | Learn how this might affect you (https://os.mbed.com/blog/entry/Temporary-weekly-maintenance-window/)

NUCLEO-L073RZ

Affordable and flexible platform to ease prototyping using a STM32L073RZT6 microcontroller.

To compile a program for this board using Mbed CLI, use **nucleo_l073rz** as the target name.

Board Partner

(/teams/ST/)

ST (/teams/ST/

A world leader in providing the semiconductor solutions that make a positive contribution to people's lives, both today and in the future.

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Overview

The STM32 Nucleo board provides an affordable and flexible way for users to try out new ideas and build prototypes with any STM32 microcontroller line, choosing from the various combinations of performance, power consumption and features.

The Arduino™ connectivity support and ST Morpho headers make it easy to expand the functionality of the STM32 Nucleo open development platform with a wide choice of specialized shields.

The STM32 Nucleo board does not require any separate probe as it integrates the ST-LINK/V2-1 debugger/programmer.

Microcontroller features

- STM32L073RZT6 in LQFP64 package
- ARM®32-bit Cortex®-M0+ CPU
- 32 MHz max CPU frequency
- VDD from 1.65 V to 3.6 V
- 192 KB Flash
- 20 KB SRAM
- GPIO (51) with external interrupt capability
- General purpose Timers (4)
- Basic Timers (2)
- Low-power Timer
- SPI (2)
- I2S
- I2C (3)
- USART (4)
- Low-power UART
- USB 2.0 full-speed
- 12-bit ADC with 16 channels
- 12-bit DAC (2) with 1 channel each
- LCD
- Comparators (2)
- RTC
- Capacitive sensing channels (24)
- Random Generator (TRNG for HW entropy)

Nucleo features

- Two types of extension resources
  - Arduino Uno Revision 3 connectivity
  - STMicroelectronics Morpho extension pin headers for full access to all STM32 I/Os
- On-board ST-LINK/V2-1 debugger/programmer with SWD connector
  - Selection-mode switch to use the kit as a standalone ST-LINK/V2-1
- Flexible board power supply
  - USB VBUS or external source (3.3 V, 5 V, 7 - 12 V)
  - Power management access point
- User LED (LD2)
- [illegible] USER and RESET

Add to your Mbed Compiler (add/)

Buy Now (https://www.st.com/content/st_com/en/products/evaluation-tools/product-evaluation-tools/mcu-eval-tools/stm32-mcu-eval-tools/stm32-mcu-nucleo/nucleo-l073rz.html#samplel scroll)

Mbed Enabled

- Baseline

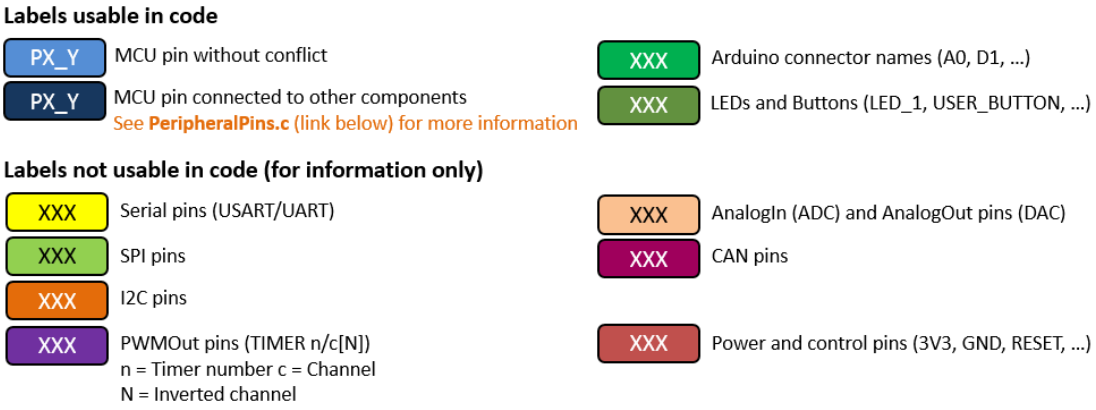
Mbed OS support

- Mbed OS 2
- Mbed OS 5.10
- Mbed OS 5.11
- Mbed OS 5.12
- Mbed OS 5.13
- Mbed OS 5.14
- Mbed OS 5.15
- Mbed OS 5.4
- Mbed OS 5.5
- Mbed OS 5.6
- Mbed OS 5.7
- Mbed OS 5.8
- Mbed OS 5.9
- Mbed OS 6.0
- Mbed OS 6.1
- Mbed OS 6.10

- Two push buttons: USER and RESET
- USB re-enumeration capability: three different interfaces supported on USB
  - Virtual Com port
  - Mass storage (USB Disk drive) for drag'n'drop programming
  - Debug port

Board pinout

Pins Legend



You can find more details on the available pins and labels in the **PeripheralPins.c** and **PinNames.h** files.

These files can be found in:

- ARMmbed/mbed-os repository on GitHub (**up-to-date** version, used with **mbed CLI commands**)

https://github.com/ARMmbed/mbed-os/blob/master/targets/TARGET_STM/TARGET_STM32L0/TARGET_NUCLEO_L073RZ/ (https://github.com/ARMmbed/mbed-os/blob/master/targets/TARGET_STM/TARGET_STM32L0/TARGET_NUCLEO_L073RZ/)

- mbed-dev library in developer.mbed.org (source files of the mbed library used on **mbed compiler IDE**)

https://developer.mbed.org/users/mbed_official/code/mbed-dev/file/default/targets/TARGET_STM/TARGET_STM32L0/TARGET_NUCLEO_L073RZ/ (https://developer.mbed.org/users/mbed_official/code/mbed-dev/file/default/targets/TARGET_STM/TARGET_STM32L0/TARGET_NUCLEO_L073RZ/)

- Mbed OS 6.11
- Mbed OS 6.12
- Mbed OS 6.13
- Mbed OS 6.14
- Mbed OS 6.15
- Mbed OS 6.2
- Mbed OS 6.3
- Mbed OS 6.4
- Mbed OS 6.5
- Mbed OS 6.6
- Mbed OS 6.7
- Mbed OS 6.8
- Mbed OS 6.9

Example programs

Mbed 2 deprecated

IDW01M1_Cl... (/teams/ST/code/IDW01M1_Cl...)

25 (/teams/ST/code/IDW01M1_Cloud_IBM/shortlog)

10511 (/teams/ST/code/IDW01M1_Cloud_IBM/

Connect through Wifi to IBM MQTT cloud https://quickstart.in

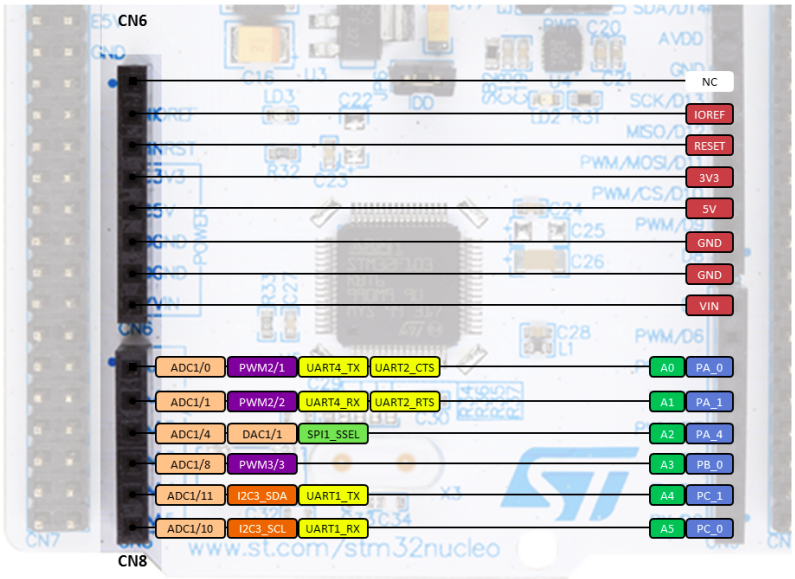
Last updated: 24 Nov 2016 (24 Nov 2016)

Mbed 2 deprecated

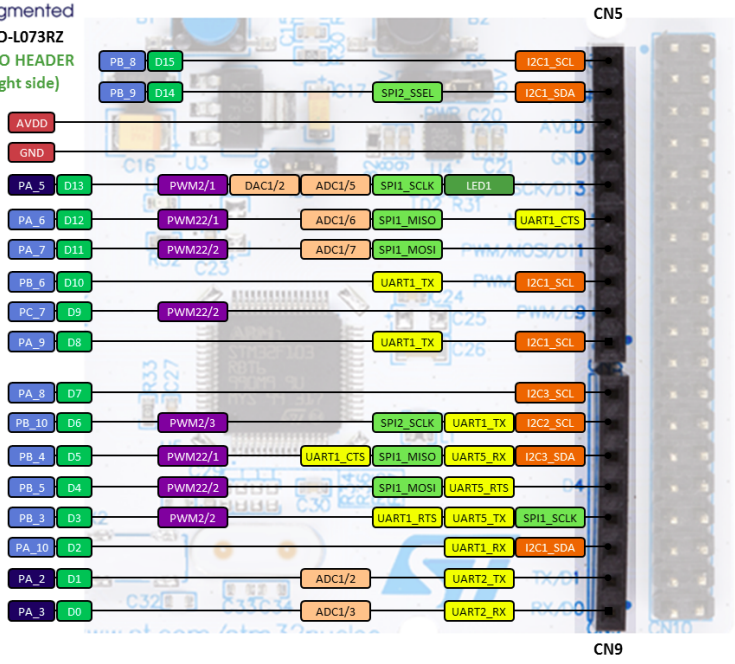
HelloWorld_I... (/teams/ST/code/

Arduino-compatible headers

life.augmented
NUCLEO-L073RZ
ARDUINO HEADER
(top left side)



life.augmented
NUCLEO-L073RZ
ARDUINO HEADER
(top right side)



Morpho headers

These headers give access to all STM32 pins.

/HelloWorld_I...
13 (/teams/ST/code/HelloWorld_IDW01M1/shortlog)
9142 (/teams/ST/code/HelloWorld_IDW01M1/

Simple test application for the STMicroelectronics X-NUCLEO-IDW01M1 Wi-Fi expansion board.

Nucleo (/search/?q=Nucleo), stm32 (/search/?q=stm32), Wi-Fi (/search/?q=Wi-Fi), X-NUCLEO-IDW01M1 (/search/?q=X-NUCLEO-IDW01M1)

Last updated: 16 Jan 2017 (16 Jan 2017)

Mbed 2 deprecated

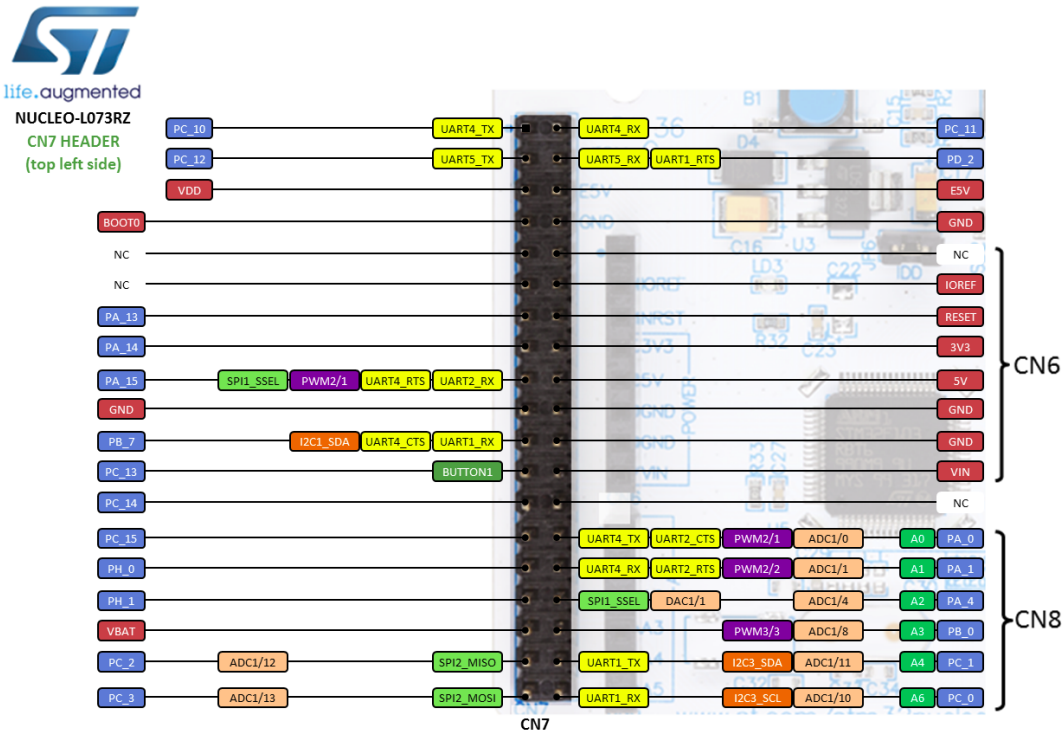
STM32_ADC_I... (/teams/ST/code/STM32_ADC_...
9 (/teams/ST/code/STM32_ADC_InternalCh/shortlog)
44706 (/teams/ST/cod/STM32_ADC_InternalCh

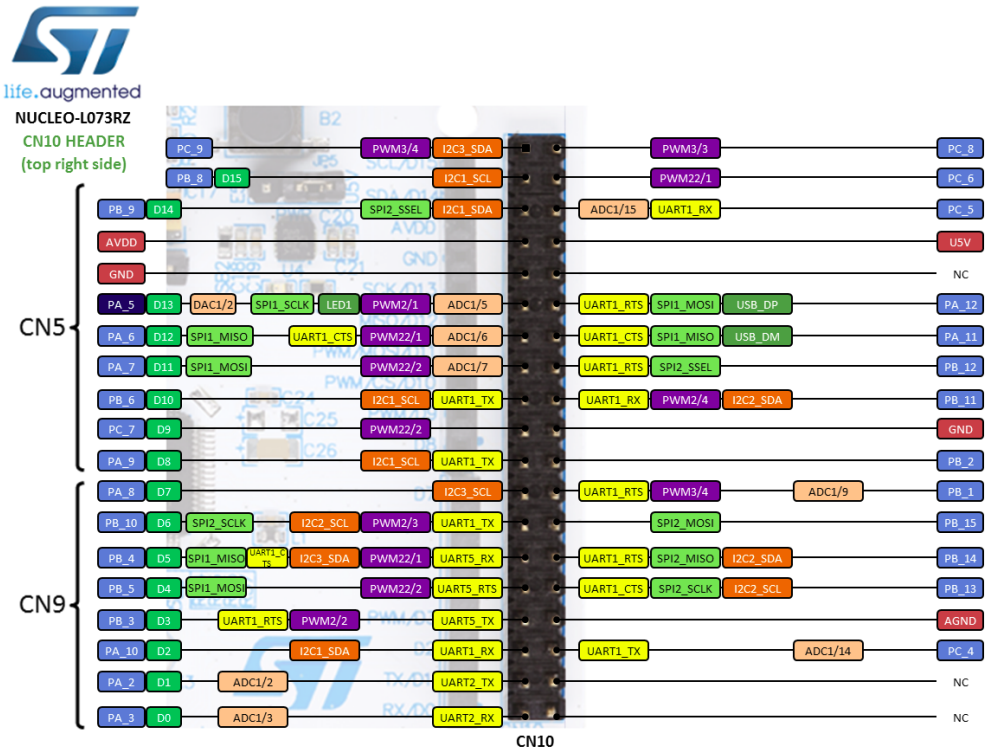
ADC internal channels read example.

Internal Channels (/search/?q=Internal Channels), stm32 (/search/?q=stm32), temperature sensor (/search/?q=temperature sensor), VBAT

(/search/?q=VBAT)

Last updated: 17 Aug 2017 (17 Aug 2017)





Supported shields

ST X-NUCLEO boards

See Matrix of tested boards (https://developer.mbed.org/teams/ST/wiki/Matrix-of-tested-boards).

Other Non-ST boards

See here (https://developer.mbed.org/teams/ST/wiki/Supported-shields).

Getting started

Nucleo ST-LINK/V2 driver installation and firmware upgrade

- Install the ST-LINK/V2 driver before connecting the Nucleo board to your PC the first time. Follow this **LINK (/teams/ST/wiki/ST-Link-Driver)** for all details.
- For optimum performances, ensure that the Nucleo ST-LINK/V2 firmware is upgraded to the latest version. Follow this **LINK (/teams/ST/wiki/Nucleo-Firmware)** for all details.

Technical references

For more information, please refer to:

- STM32L073RZ microcontroller (http://www.st.com/web/catalog/mmc/FM141/SC1169/SS1817/LN1845/PF260642?s_searchtype=partnumber)
- Nucleo board (https://www.st.com/content/st_com/en/products/evaluation-tools/product-evaluation-tools/mcu-eval-tools/stm32-mcu-eval-tools/stm32-mcu-nucleo/nucleo-l073rz.html)
- SDK changes log (/teams/ST/wiki/SDK-changes-log)

Known limitations

The following section describes known limitations of the platform. Note that general issues are tracked into the mbed repository (https://github.com/mbedmicro/mbed) available on GitHub.

- On Nucleo 64-pins boards, the D0 and D1 pins are not available per default as they are used by the STLink Virtual Comm Port. More information HERE (https://os.mbed.com/teams/ST/wiki/Use-of-D0D1-Arduino-pins)

Tips and Tricks

Find more information in ST WIKI pages (https://os.mbed.com/teams/ST/wiki/Special:Allpages).

Buy Now (https://www.st.com/content/st_com/en/products/evaluation-tools/product-evaluation-tools/mcu-eval-tools/stm32-mcu-eval-tools/stm32-mcu-nucleo/nucleo-l073rz.html#samplebuy-scroll)

You need to log in (/account/login/?next=/platforms/ST-Nucleo-L073RZ/) to post a discussion

Questions

0 answers (/questions/82440/gettinr-problem-transmitting-gps-data-th/) gettinr problem transmitting gps data through sx1272mb2das lora (/questions/82440/gettinr-problem-transmitting-gps-data-th/) (/users/Ashok410/) Ashok Chowdary (/users/Ashok410/)
3 years, 8 months ago (Wed 19 Sep 2018 14:34)

NUCLEO-L073RZ (/questions/tag/NUCLEO-L073RZ)

0 answers (/questions/80107/NUCLE0-L073RZ-board-heating-up/) NUCLE0 L073RZ board heating up (/questions/80107/NUCLE0-L073RZ-board-heating-up/) (/users/hemanth_v1016/) hemant venkatesh (/users/hemanth_v1016/)
4 years, 3 months ago (Tue 06 Feb 2018 17:06)

NUCLEO-L073RZ (/questions/tag/NUCLEO-L073RZ)

2 answers
(/questions/78611/Can-I-use-USBDevice-Library/) Can I use USBDevice Library? (/questions/78611/Can-I-use-USBDevice-Library/) (/users/TakahitoNiino/) Takahito Niino (/users/TakahitoNiino/)
4 years, 10 months ago (Tue 25 Jul 2017 14:27)

NUCLEO-L073RZ (/questions/tag/NUCLEO-L073RZ)

0 answers
(/questions/76097/Mbed-library-on-Nucleo-L073RZ/) Mbed library on Nucleo-L073RZ (/questions/76097/Mbed-library-on-Nucleo-L073RZ/) (/users/sadistefano/) Salvatore Di Stefano (/users/sadistefano/)
5 years, 5 months ago (Mon 28 Nov 2016 14:18)

NUCLEO-L073RZ (/questions/tag/NUCLEO-L073RZ)

0 answers
(/questions/69347/Hard-Fault-Error-at-NUCLEO-L073RZ/) Hard Fault Error at NUCLEO L073RZ (/questions/69347/Hard-Fault-Error-at-NUCLEO-L073RZ/) (/users/wany311/) Chulwan Park (/users/wany311/)
5 years, 11 months ago (Tue 28 Jun 2016 14:17)

NUCLEO-L073RZ (/questions/tag/NUCLEO-L073RZ)

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(http://forums.mbed.com/) (http://blog.mbed.com/)

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