NUCLEO-XXXXZX

STM32 Nucleo-144 board

Features

- STM32 microcontroller in LQFP144 package
- Two types of extension resources:
  - ST Zio connector including: support for Arduino™ Uno V3 connectivity (A0 to A5, D0 to D15) and additional signals exposing a wide range of peripherals
  - ST morpho extension pin header footprints for full access to all STM32 I/Os
- ARM® mbed™ -enabled (see http://mbed.org)
- 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
  - USB re-enumeration capability. Three different interfaces supported on USB: virtual COM port, mass storage, debug port
- Flexible board power supply:
  - 5 V from ST-LINK/V2-1 USB VBUS
  - External power sources: 3.3 V and 7 - 12 V on ST Zio or ST morpho connectors, 5 V on ST morpho connector
- USB OTG or full-speed device with Micro-AB connector (depending on STM32 support)
- IEEE-802.3-2002 compliant Ethernet connector (depending on STM32 support)
- Three user LEDs
- Two push-buttons: USER and RESET
- LSE crystal:
  - 32.768 KHz crystal oscillator
- Comprehensive free software HAL library including a variety of software examples
- Support of wide choice of Integrated Development Environments (IDEs) including IAR™, Keil®, GCC-based IDEs, ARM® mbed™
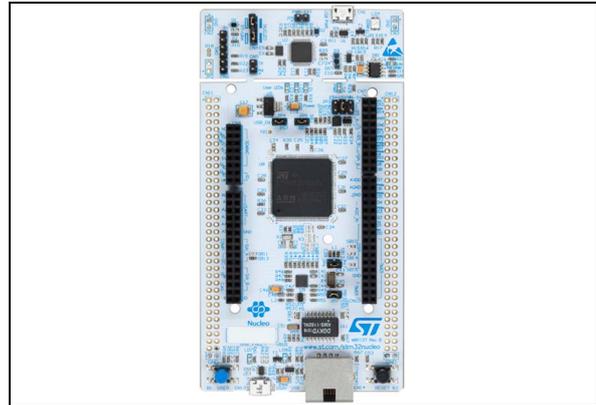
1. Picture not contractual.

Description

The STM32 Nucleo-144 board provides an affordable and flexible way for users to try out new concepts and build prototypes with the STM32 microcontroller, choosing from the various combinations of performance, power consumption and features. The ST Zio connector, which is an extension of Arduino™ Uno V3, provides access to more peripherals and ST morpho headers make it easy to expand the functionality of the Nucleo open development platform with a wide choice of specialized shields. The STM32 Nucleo-144 board does not require any separate probe, as it integrates the ST-LINK/V2-1 debugger/programmer and it comes with the STM32 comprehensive software HAL library, together with various packaged software examples, as well as a direct access to the ARM® mbed™ online resources at http://mbed.org.

Table 1. Device summary

Reference	Part number
NUCLEO-XXXXZX	NUCLEO-F207ZG, NUCLEO-F303ZE, NUCLEO-F412ZG, NUCLEO-F429ZI, NUCLEO-F446ZE, NUCLEO-F746ZG, NUCLEO-F767ZI.

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1 Ordering information

Table 2 lists the order codes and the respective targeted STM32.

Table 2. Ordering information

Target STM32	Order code
STM32F207ZGT6	NUCLEO-F207ZG
STM32F303ZET6	NUCLEO-F303ZE
STM32F412ZGT6	NUCLEO-F412ZG
STM32F429ZIT6	NUCLEO-F429ZI
STM32F446ZET6	NUCLEO-F446ZE
STM32F746ZGT6	NUCLEO-F746ZG
STM32F767ZIT6	NUCLEO-F767ZI

Meaning of the order code codification for NUCLEO-TXXXZY:

- T describes the STM32 family (F or L)
- XXX describes the silicon special features
- Z describes the pin count (Z for 144 pins)
- Y describes the Flash memory size (E for 512 Kbyte, G for 1 Mbyte, I for 2 Mbyte)

This order code is mentioned on a sticker placed on top side of the board.

2   Revision history

Table 3. Document revision history

Date	Revision	Changes
21-Dec-2015	1	Initial version.
27-Apr-2016	2	Updated: *Features*, *Table 1: Device summary*, *Ordering information* to add NUCLEO-F767ZI.
29-Jun-2016	3	Updated *Table 1: Device summary*, *Ordering information* to add NUCLEO-F412ZG.

IMPORTANT NOTICE – PLEASE READ CAREFULLY