X-NUCLEO-GFX01M1 X-NUCLEO-GFX01M2

Data brief

SPI display expansion boards for STM32 Nucleo-64



X-NUCLEO-GFX01Mx top view.
Picture is not contractual.

Product status link
X-NUCLEO-GFX01M1 X-NUCLEO-GFX01M2

Features

- 2.2" SPI QVGA TFT LCD
- 64-Mbit SPI NOR Flash memory
- Joystick for easy menu navigation
- Compatible with selected STM32 Nucleo-64 boards using the ST morpho interface

Description

The X-NUCLEO-GFX01M1 and X-NUCLEO-GFX01M2 expansion boards (X-NUCLEO-GFX01Mx) add graphic user interface (GUI) capability to STM32 Nucleo-64 boards.

They feature a 2.2" SPI QVGA TFT display as well as a 64-Mbit SPI NOR Flash memory for storing graphic images, texts and texture. The expansion boards also offer a joystick for GUI navigation.

X-NUCLEO-GFX01M1 uses the ST morpho connector and supports only one SPI. It is compatible with the following Nucleo-64 boards: NUCLEO-F030R8, NUCLEO-F070RB, NUCLEO-F072RB, NUCLEO-F091RC, NUCLEO-F401RE, NUCLEO-F410RB, NUCLEO-F411RE, NUCLEO-F446RE, NUCLEO-G071RB, NUCLEO-L053R8, NUCLEO-L073RZ, NUCLEO-L412RB-P, NUCLEO-L433RC-P, NUCLEO-L452RE, NUCLEO-L452RE-P, and NUCLEO-L476RG.

X-NUCLEO-GFX01M2 uses the ST morpho connector and suppports up to two SPIs. It is compatible with the following Nucleo-64 boards, which include the X-NUCLEO-GFX01M1-compatible boards: NUCLEO-F030R8, NUCLEO-F070RB, NUCLEO-F072RB, NUCLEO-F091RC, NUCLEO-F103RB, NUCLEO-F302R8, NUCLEO-F303RE, NUCLEO-F334R8, NUCLEO-F401RE, NUCLEO-F410RB, NUCLEO-F411RE, NUCLEO-F446RE, NUCLEO-G070RB, NUCLEO-G071RB, NUCLEO-G0B1RE, NUCLEO-G431RB, NUCLEO-G474RE, NUCLEO-G491RE, NUCLEO-L010RB, NUCLEO-L053R8, NUCLEO-L073RZ, NUCLEO-L152RE, NUCLEO-L412RB-P, NUCLEO-L433RC-P, NUCLEO-L452RE, NUCLEO-L452RE-P, NUCLEO-L476RG, NUCLEO-WB15CC, NUCLEO-WB55RG, and NUCLEO-WL55JC.

1 Ordering information

To order the X-NUCLEO-GFX01Mx SPI display expansion boards for STM32 Nucleo-64, refer to Table 1.

Table 1. Ordering information

Order code	Board reference	User manual	Differentiating features
X-NUCLEO-GFX01M1	MB1642(1)	UM2750	First-generation product compatible with a limited set of STM32 Nucleo-64 boards.
X-NUCLEO-GFX01M2			Second-generation product compatible with a broader set of STM32 Nucleo-64 boards.

1. *MB1642B for X-NUCLEO-GFX01M1, MB1642D for X-NUCLEO-GFX01M2.*

The STM32 Nucleo-64 boards feature STM32 32-bit microcontrollers based on the Arm® Cortex®-M processor.

Note: Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.

1.1 Product marking

The stickers located on the top or bottom side of the PCB provide product information:

- Product order code and product identification for the first sticker
- Board reference with revision, and serial number for the second sticker

On the first sticker, the first line provides the product order code, and the second line the product identification.

On the second sticker, the first line has the following format: “MBxxxx-Variant-yzz”, where “MBxxxx” is the board reference, “Variant” (optional) identifies the mounting variant when several exist, "y" is the PCB revision and "zz" is the assembly revision, for example B01. The second line shows the board serial number used for traceability.

Evaluation tools marked as “ES” or “E” are not yet qualified and therefore not ready to be used as reference design or in production. Any consequences deriving from such usage will not be at ST charge. In no event, ST will be liable for any customer usage of these engineering sample tools as reference designs or in production.

“E” or “ES” marking location is next to the evaluation tool ordering part number that is stuck or silk-screen printed on the board.

1.2 Codification

The meaning of the codification is explained in Table 2.

Table 2. Codification explanation

X-NUCLEO-XXXYYTZ	Description	X-NUCLEO-GFX01M2
X-NUCLEO	STM32 Nucleo expansion boards	STM32 Nucleo expansion board
XXX	Target application	Display expansion board
YY	Sequential number	First type of display expansion board
T	Connector type: • A for ARDUINO® • M for ST morpho • Z for Zio connector	ST morpho connector
Z	Sequential index	Second-generation display expansion board for STM32 Nucleo-64 boards

2 Development environment

2.1 Demonstration software

The demonstration software supporting the X-NUCLEO-GFX01M1 and X-NUCLEO-GFX01M2 expansion boards is available from the X-CUBE-DISPLAY STM32Cube Expansion Package and must be programmed into the corresponding Nucleo board. The latest versions of the demonstration source code and associated documentation can be downloaded from *www.st.com*.

Revision history

Table 3. **Document revision history**

Date	Revision	Changes
14-Aug-2020	1	Initial release.
20-Oct-2021	2	Extended to X-NUCLEO-GFX01M2: • Updated document title and cover page • Updated Description with the Nucleo-64 boards compatible with X-NUCLEO-GFX01M2 • Updated Ordering information and Demonstration software • Added Codification

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