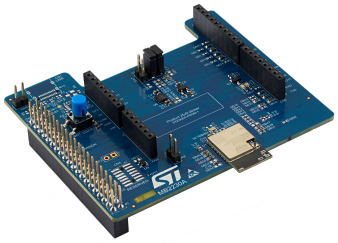
X-NUCLEO-67W61M1

Data brief

Wi-Fi®/Bluetooth® expansion board based on the ST67W611M1 module for STM32 Nucleo boards



X-NUCLEO-67W61M1 global view.
Picture is not contractual.

Product status link
X-NUCLEO-67W61M1

Features

- ST67W611M1 module, 32-pin, 4-side LGA 1.27-mm pitch (12.28 x 17.28 x 2.2 mm) package featuring:
  - 2.4 GHz Wi-Fi®/Bluetooth® combo all-in-one SoC
  - Wi-Fi® 6, coprocessor IEEE 802.11 b/g/n/ax
  - Single-band 2.4 GHz
  - Low-power Wi-Fi® with various sleep modes
  - PCB antenna and antenna connector
- User LED
- User push button
- Board connectors:
  - ARDUINO® Uno V3
  - Raspberry Pi® 40-pin GPIO header
- Scalable solution, capable of cascading multiple boards for larger systems
- Free comprehensive development firmware library and examples, compatible with the X-CUBE-ST67W61 expansion software package for STM32Cube

Description

The X-NUCLEO-67W61M1 expansion board provides an affordable and flexible way for users to try out new concepts and build prototypes with the ST67W series ST67W611M1 coprocessor module.

Interfacing with the host is possible through SPI via the ARDUINO® Uno V3 or expansion connectors. This expansion board is stackable on Nucleo-64, Nucleo-144, and Discovery boards. The main hosts are the STM32U5, STM32H5, STM32H7, and STM32N6 product families.

Powered by all-in-one 2.4 GHz Wi-Fi® 6/Bluetooth® combo SoC, the ST67W611M1 LGA module is purposely designed to pack the processing capabilities, Wi-Fi®/ Bluetooth® combo connectivity, and on-module memory into a single 32-pin LGA form factor.

For more details on the ST67W611M1 coprocessor module, refer to its datasheet at *www.st.com*.

1 Ordering information

To order the X-NUCLEO-67W61M1 expansion board, refer to Table 1. For a detailed description of each board, refer to its user manual on the product web page. Additional information is available from the datasheet and reference manual of the ST67W611M1 module at *www.st.com*.

Table 1. Ordering information

Order code	Board reference	User manual	Target ST67
X-NUCLEO-67W61M1	MB2230(1)	UM3449	ST67W611M1A6B

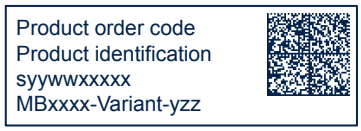
1. *Expansion board*

1.1 Product marking

The product and each board composing the product are identified with one or several stickers. The stickers, located on the top or bottom side of each PCB, provide product information:

- Main board featuring the target device: product order code, product identification, serial number, and board reference with revision.

  Single-sticker example:

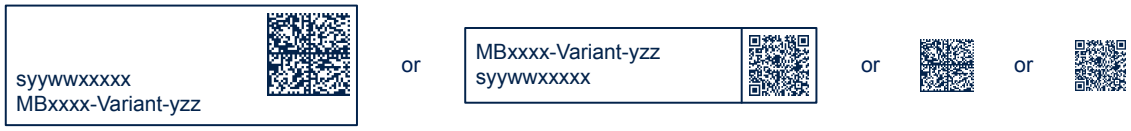
  

  Dual-sticker example:

- Other boards if any: board reference with revision and serial number.

  Examples:

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

On all board stickers, the line formatted as *"MBxxxx-Variant-yzz"* shows the board reference *"MBxxxx"*, the mounting variant *"Variant"* when several exist (optional), the PCB revision *"y"*, and the assembly revision *"zz"*, for example B01. The other line shows the board serial number used for traceability.

Products and parts labeled as *"ES"* or *"E"* are not yet qualified or feature devices that are not yet qualified. STMicroelectronics disclaims any responsibility for consequences arising from their use. Under no circumstances will STMicroelectronics be liable for the customer's use of these engineering samples. Before deciding to use these engineering samples for qualification activities, contact STMicroelectronics' quality department.

"ES" or *"E"* marking examples of location:

- On the targeted STM32 that is soldered on the board (for an illustration of STM32 marking, refer to the STM32 datasheet *Package information* paragraph at the *www.st.com* website).
- Next to the ordering part number of the evaluation tool that is stuck, or silk-screen printed on the board.

Some boards feature a specific STM32 device version, which allows the operation of any bundled commercial stack/library available. This STM32 device shows a *"U"* marking option at the end of the standard part number and is not available for sales.

To use the same commercial stack in their applications, the developers might need to purchase a part number specific to this stack/library. The price of those part numbers includes the stack/library royalties.

1.2 Codification

The meaning of the codification is explained in Table 2.

Table 2. Codification explanation

X-NUCLEO-XXWYZMT	Description	Example: X-NUCLEO-67W61M1
X-NUCLEO	Type of board	STM32 Nucleo expansion boards
XX	MCU series in coprocessor series	ST67W ST Wi-Fi® coprocessor series
W	Wireless technology	Wi-Fi®
Y	Protocol	Wi-Fi® protocol: Wi-Fi® 6
Z	Die version	Die version 1
M	Module	Module
T	Sequential number	First Wi-Fi® Nucleo expansion board

Revision history

Table 3. **Document revision history**

Date	Revision	Changes
27-Feb-2025	1	Initial release.
22-May-2025	2	Updated: • Cover image • Features • Description