B-M2MEM-PACK1

Data brief

M.2 serial memory pack for Nucleo-144 boards

B-M2MEM-PACK1 global view. Picture is not contractual.

Product status
B-M2MEM-PACK1

Features

- Five different add-on boards
- Multiple memory vendors
- Different operating voltages and clock frequencies
- Multiple serial bus schemes and memory interfaces
- Each board offers:
  - One serial memory IC powered by an MCU-controlled LDO
  - I^2C identification EEPROM
  - One red and green LED
  - Empty sockets for customization in 8-pin SOP or 24-pin BGA device footprints
  - M.2 Key A serial memory connector

Description

B-M2MEM-PACK1 is a serial memory pack containing five different nonvolatile serial memory add-on boards. These boards can be connected to specific Nucleo-144 boards using the M.2 Key A serial memory connector and allow the development of applications requiring an external flash memory.

The boards contain serial flash memories from different memory vendors, covering a wide range of operating voltages and maximum clock frequencies. They offer multiple serial bus schemes and memory interfaces.

Each board offers a red and green LED light, an I^2C identification EEPROM for software detection, and one serial flash memory IC. The latter is powered by an LDO, controlled by the MCU of the connected Nucleo-144 board.

All boards contain empty sockets for customization in 8-pin SOP or 24-pin BGA device footprints.

1 Ordering information

To order the B-M2MEM-PACK1 M.2 serial memory pack, refer to Table 1.

Table 1. Ordering information

Order code	Board references	Compatible STM32 boards	Technical note
B-M2MEM-PACK1	• MB1927 • MB1928	• NUCLEO-H5E5ZJ • NUCLEO-U3C5ZI-Q • NUCLEO-C5A3ZG	TN1618

Warning: *Always verify electrical voltage compatibility before connecting a memory add-on board to an MCU board. Connecting memory and MCU boards with different voltages can damage the memory.*

Table 2 shows the default configuration of the B-M2MEM-PACK1 M.2 serial flash memory pack.

Table 2. Default B-M2MEM-PACK1 M.2 serial memory pack configuration

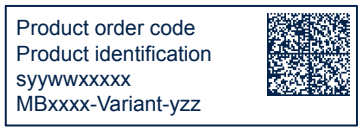
Board name	Memory vendor	Serial memory	Size (in Mbits)	Operating voltage range	Onboard voltage regulator	Max clock frequency	Serial bus schemes
MB1927-33BA	MACRONIX	MX25LM51245GXDI00	512	2.7 - 3.6 V	3.3 V	133 MHz	1 & 8 bit STR, DTR
MB1927-18BA	MACRONIX	MX25UW25645GXDI00	256	1.65 - 2.0 V	1.8 V	133 MHz (1 bit) 200 MHz (8 bit)	1 & 8 bit STR, DTR
MB1928-33LA	ISSI	IS25LP032DJNLE-TR	32	2.30 - 3.60 V	3.3 V	133 MHz	1, 2, 4 bit STR, DTR
MB1928-33LB	WINBOND	W25Q16JVSNIQ	16	2.7 - 3.6 V	3.3 V	133 MHz	1, 2, 4 bit STR
MB1928-18LA	STMICRO	M95P32-IXMNT/E	32	1.6 - 3.6 V	1.8 V	80 MHz	1, 2, 4 bit STR

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:

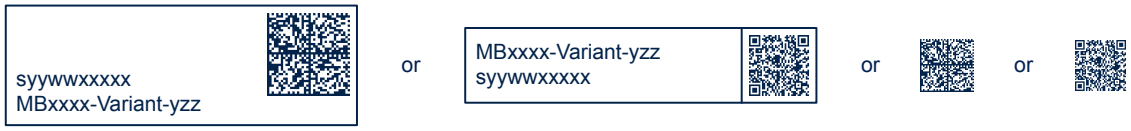
  

  Dual-sticker example:

- 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 3.

Table 3. Codification explanation

B-XXYYY-ZZZZZ	Description	Example: B-M2MEM-PACK1
B	Expansion board	Serial memory add-on board bundle
XX	Type of connector	M.2
YYY	Type of board	Memory
ZZZZZ	Type of product	PACK1: first pack of serial memory add-on boards

2 Development environment

The add-on boards in the B-M2MEM-PACK1 M.2 serial memory pack can be used with select Nucleo-144 boards, which run on STM32 microcontrollers based on Arm® Cortex® processors.

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2.1 EDA resources

All board design resources, including schematics, EDA databases, manufacturing files, and the bill of materials, are available from the B-M2MEM-PACK1 product page at *www.st.com*.

Revision history

Table 4. **Document revision history**

Date	Revision	Changes
06-Jan-2026	1	Initial release.

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