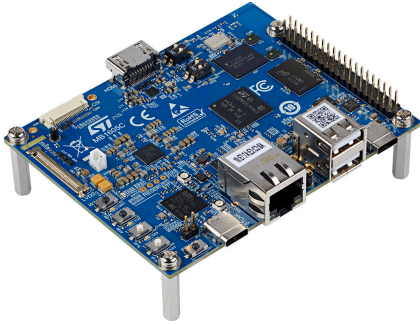


Discovery kit with STM32MP257F MPU



STM32MP257F-DK global view. Picture is not contractual.

Product status link

[STM32MP257F-DK](#)

Features

- STM32MP257FAK3 microprocessor based on the Arm[®] dual-core Cortex[®]-A35 at 1.5 GHz and Cortex[®]-M33 at 400 MHz in a VFBGA424 package
- STMicroelectronics power management [STPMIC25](#)
- 32-Gbit LPDDR4 DRAM
- 64-Gbit eMMC v5.1
- 1-Gbit/s Ethernet (RGMII)
- Two USB 2.0 high speed
- USB 3.0 SuperSpeed PD (DRP/DRD)
- Wi-Fi[®] 802.11b/g/n
- Bluetooth[®] Low Energy v4.1
- Four user LEDs
- Two user, one tamper, and one reset push-buttons
- Wake-up button
- Four boot pin switches
- Board connectors:
 - Ethernet RJ45
 - Two stacked USB 2.0 HS Type-A
 - USB 3.0 USB Type-C[®] PD
 - microSD[™] card holder
 - Dual-lane MIPI CSI-2[®] camera module expansion connector
 - HDMI[®]
 - LVDS
 - GPIO expansion connector
 - VBAT for power backup
- On-board STLINK-V3EC:
 - Debugger with USB re-enumeration capability: Virtual COM port and debug port
 - Board power source through USB Type-C[®] (recommended to connect to 5 V/3 A USB host port)
- Mainlined open-source Linux[®] STM32 MPU OpenSTLinux Distribution and STM32CubeMP2 software with examples
- Linux[®] Yocto Project[®], Buildroot, and STM32CubeIDE as development environments

1 Description

The STM32MP257F-DK Discovery kit is designed as a complete demonstration and development platform for the STMicroelectronics STM32MP257FAK3 based on the Arm® Cortex® A35 and M33.

The product leverages the capabilities of STM32MP2 series microprocessors to allow users to develop applications using STM32 MPU OpenSTLinux Distribution software for the main processor (Arm® dual core Cortex®-A35) and STM32CubeMP2 software for the coprocessor (Arm® Cortex®-M33).

The product includes an ST-LINK embedded debug tool, LEDs, push-buttons, 1 Gbit/s Ethernet, one USB3 USB Type-C® PD, two stacked USB 2.0 HS Type-A, one LCD LVDS display connector, one HDMI connector, one camera connector, microSD™ card, Wi-Fi® 802.11b/g/n, Bluetooth® Low Energy v4.1, and eMMC. To expand the functionality of STM32MP257F-DK, one GPIO expansion connector is also available for Raspberry Pi® shields.

2 Ordering information

To order the STM32MP257F-DK Discovery kit, refer to Table 1. For a detailed description, refer to its user manual on the product web page. Additional information is available from the datasheet and reference manual of the target STM32.

Table 1. List of available products

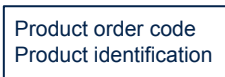
Order code	Board references	User manual	Target STM32
STM32MP257F-DK	• MB1605 ⁽¹⁾	UM3385	STM32MP257FAK3

1. Subsequently called main board in the rest of the documentation.

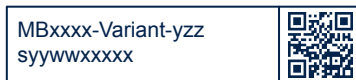
2.1 Product marking

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

- First sticker: product order code and product identification, generally placed on the main board featuring the target device.
Example:



- Second sticker: board reference with revision and serial number, available on each PCB.
Example:



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.

Parts marked as “*ES*” or “*E*” are not yet qualified and therefore not approved for use in production. ST is not responsible for any consequences resulting from such use. In no event will ST be liable for the customer using any of these engineering samples in production. ST’s Quality department must be contacted prior to any decision to use these engineering samples to run a qualification activity.

“*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 evaluation tool ordering part number 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.

2.2 Codification

The meaning of the codification is explained in Table 2.

Table 2. Codification explanation

STM32MP2XXY-DK	Description	Example: STM32MP257F-DK
STM32MP2	MPU series in STM32 Arm Cortex MPUs	STM32MP2 series
XX	MPU product line in the series	STM32MP257 product line
Y	Option: <ul style="list-style-type: none"> F: Secure boot, cryptography hardware, maximal frequency 	Secure boot, cryptography hardware, 1.5 GHz
DK	Discovery kit	Discovery kit

3 Development environment

The STM32MP257F-DK board runs with the STM32MP257FAK3 microprocessor based on the Arm® dual-core Cortex®-A35 at 1.5 GHz and Cortex®-M33 at 400 MHz.

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



3.1 System requirements

- Multi-OS support: Linux® 64-bit
- USB Type-A or USB Type-C® to USB Type-C® cable for USB3.0 USB Type-C® connector
- USB Type-C® to USB Type-C® cable for STLINK-V3EC

Note: Linux® is a registered trademark of Linus Torvalds.

3.2 Development tools

- Linux® Yocto Project®
- Buildroot
- STMicroelectronics - STM32CubeIDE

3.3 Demonstration software

The STM32 MPU OpenSTLinux Distribution and STM32CubeMP2 base demonstration software are preloaded in the microSD™ to demonstrate the device peripherals in standalone mode easily. 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
24-Jul-2024	1	Initial release.
18-Oct-2024	2	Updated cover image. Added Wi-Fi® and Bluetooth® Low Energy to Features and Description .

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