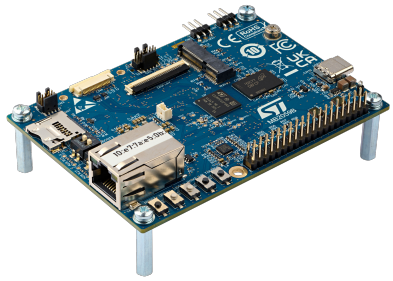
STM32MP215F-DK

Data brief

Discovery kit with STM32MP215F MPU



STM32MP215F-DK global view. Picture is not contractual.

Product status link
STM32MP215F-DK

Features

- STM32MP215FAN3 microprocessor based on the Arm® Cortex®-A35 up to 1.5 GHz and Cortex®-M33 at 300 MHz in a VFBGA273 package
- STMicroelectronics power management STPMIC2L
- 16-Gbit LPDDR4 DRAM
- 100-Mbit/s Ethernet (RMII)
- USB 2.0 Bus Powered
- Four user LEDs
- Two user, one tamper, and one reset push-buttons
- Wake-up button
- Four boot pin switches
- Board connectors:
  - Ethernet RJ45
  - USB 2.0 USB Type-C®
  - microSD™ card holder
  - Dual-lane MIPI CSI-2® camera module expansion connector
  - LTDC display connector
  - M.2 E-Key connector to support Wi-Fi® and Bluetooth® SDIO modules
  - GPIO expansion connector
  - VBAT for power backup
  - MIPI10 JTAG connector
  - STDC14 connector for debug
- Mainlined open-source Linux® STM32 MPU OpenSTLinux Distribution and STM32CubeMP2 software with examples
- Linux® Yocto Project®, Buildroot, and STM32CubeIDE as development environments

Description

The STM32MP215F-DK Discovery kit is designed as a complete demonstration and development platform for the STMicroelectronics STM32MP215FAN3 microprocessor, based on the Arm® Cortex®-A35 and Cortex®-M33 processors.

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

It includes LEDs, push-buttons, 100-Mbit/s Ethernet, one USB 2.0 USB Type-C® Bus Powered, one MIPI10 and one STDC14 debug connector, an LCD LTDC display connector, one camera module connector, a microSD™ card holder, and an M.2 E-Key connector to support Wi-Fi® and Bluetooth® SDIO modules. To expand the functionality of the STM32MP215F-DK Discovery kit, a GPIO expansion connector is also available for Raspberry Pi® shields.

1 Ordering information

To order the STM32MP215F-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
STM32MP215F-DK	• MB2059(1)	UM3571	STM32MP215FAN3

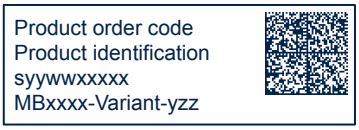
1. *Subsequently called main board in the rest of the documentation.*

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:

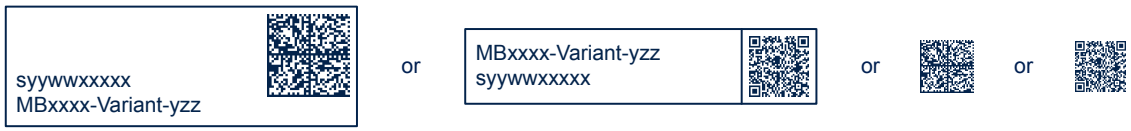
  

  Dual-sticker example:

- 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

STM32MP2XXY-DK	Description	Example: STM32MP215F-DK
STM32MP2	MPU series in STM32 Arm Cortex MPUs	STM32MP2 series
XX	MPU product line in the series	STM32MP215 product line
Y	Option: • F: Secure boot, cryptography hardware, maximal frequency	Secure boot, cryptography hardware, 1.5 GHz
DK	Toolkit type: • DK: Discovery kit	Discovery kit

2 Development environment

The STM32MP215F-DK board runs with the STM32MP215FAN3 32-bit microcontroller based on the Arm® Cortex®-A35 up to 1.5 GHz and Cortex®-M33 at 300 MHz processors.

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

2.1 System requirements

- Multi-OS support: Windows® 10 or 11, Linux® 64-bit, or macOS®
- USB Type-A or USB Type-C® to USB Type-C® cable

Note: macOS® is a trademark of Apple Inc., registered in the U.S. and other countries and regions.

Linux® is a registered trademark of Linus Torvalds.

Windows is a trademark of the Microsoft group of companies.

2.2 Development tools

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

2.3 Demonstration software

The STM32 MPU OpenSTLinux Distribution and STM32CubeMP2 base demonstration software demonstrates the device peripherals in standalone mode. The latest versions of the demonstration source code and associated documentation can be downloaded from *www.st.com*.

2.4 EDA resources

All board design resources, including schematics, EDA databases, manufacturing files, and the bill of materials, are available from the STM32MP215F-DK product page at *www.st.com*.

Revision history

Table 3. **Document revision history**

Date	Revision	Changes
06-Oct-2025	1	Initial release.

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