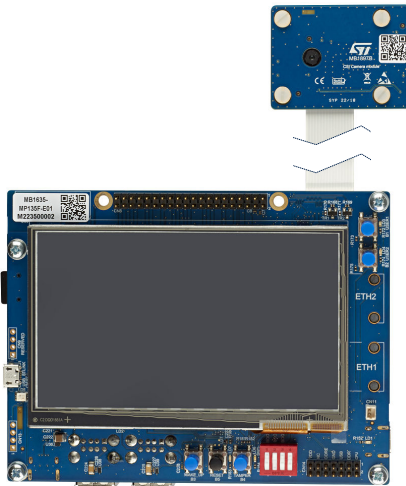


## Discovery kit with 1 GHz STM32MP135FA MPU



STM32MP135F-DK top view.  
Picture is not contractual.

Product status link

[STM32MP135F-DK](#)

### Features

- STM32MP135FAF7 MPU with an Arm® Cortex®-A7 32-bit processor at 1 GHz, in a TFBGA320 package
- ST PMIC [STPMIC1](#)
- 4-Gbit DDR3L, 16 bits, 533 MHz
- 4.3" 480×272 pixels LCD display module with capacitive touch panel and RGB interface
- UXGA 2-megapixel CMOS camera module (included) with MIPI CSI-2® / SMIA CCP2 deserializer
- Wi-Fi® 802.11b/g/n
- Bluetooth® Low Energy 4.1
- Dual 10/100 Mbit/s Ethernet (RMII) compliant with IEEE-802.3u, one with Wake on LAN (WoL) support
- USB Host 4-port hub
- USB Type-C® DRP based on an STM32G0 device
- 4 user LEDs
- 4 push-buttons (2× user, tamper, and reset)
- 1 wake-up button
- Board connectors:
  - Dual-lane MIPI CSI-2® camera module expansion
  - 2× Ethernet RJ45
  - 4× USB Type-A
  - USB Micro-B
  - USB Type-C®
  - microSD™ card holder
  - GPIO expansion
  - 5 V / 3 A USB Type-C® power supply input (charger not provided)
  - VBAT for power backup
- On-board current measurement
- On-board STLINK-V3E debugger/programmer with USB re-enumeration capability: mass storage, Virtual COM port, and debug port
- Full mainline open-source Linux® STM32 MPU OpenSTLinux Distribution (such as [STM32MP1Starter](#)) software and examples
- Support of several Integrated Development Environments (IDEs) including STM32CubeIDE
- Bare metal support for RTOS (Microsoft® Azure®)

## 1 Description

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The STM32MP135 Discovery kit (STM32MP135F-DK) leverages the capabilities of the 1 GHz STM32MP135 microprocessors to allow users to develop easily applications using STM32 MPU OpenSTLinux Distribution software.

It includes an ST-LINK embedded debug tool, LEDs, push-buttons, two 10/100 Mbit/s Ethernet (RMII) connectors, one USB Type-C® connector, four USB Host Type-A connectors, and one microSD™ connector.

To expand the functionality of the STM32MP135 Discovery kit, one GPIO expansion connector is also available for third-party shields.

Additionally, the STM32MP135 Discovery kit features an LCD display with a touch panel, Wi-Fi® and Bluetooth® Low Energy capability, and a 2-megapixel CMOS camera module.

It also provides secure boot and cryptography features.

## 2 Ordering information

To order the STM32MP135 Discovery kit, refer to [Table 1](#). For a detailed description of the Discovery kit, 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 reference	User manual	Target STM32
STM32MP135F-DK	<ul style="list-style-type: none"> <li>MB1635<sup>(1)</sup></li> <li>MB1897<sup>(2)</sup></li> </ul>	UM2993	STM32MP135FAF7

1. Main board.
2. Camera module board.

### 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:

Product order code Product identification
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- Second sticker: board reference with revision and serial number, available on each PCB.

Example:

MBxxxx-Variant-yzz syywwxxxxx	
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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](http://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**

STM32TTTXXY-ZZ	Description	Example: STM32MP135F-DK
STM32TTT	MPU series in STM32 Arm Cortex MPUs	STM32MP1 Series
XX	MPU product line in the series	STM32MP135
Y	Options: <ul style="list-style-type: none"> <li>F: Secure boot, cryptography hardware, 1 GHz frequency</li> </ul>	Secure boot, cryptography hardware, 1 GHz frequency
ZZ	Toolkit configuration: <ul style="list-style-type: none"> <li>DK: Discovery kit with LCD, Wi-Fi®, and Bluetooth® Low Energy</li> </ul>	LCD, Wi-Fi®, and Bluetooth® Low Energy

## 3 Development environment

The STM32MP135 microprocessors are based on the Arm® Cortex®-A7 processor.

*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: Windows® 10, Linux® 64-bit, or macOS®
- USB Type-C® to USB Type-C® charger 5 V / 3 A
- USB Type-A or USB Type-C® to USB Type-C® cable
- USB Type-A or USB Type-C® to Micro-B 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.

### 3.2 Development toolchains

- STMicroelectronics - [STM32CubeIDE](#)
- GCC-based IDEs

### 3.3 Demonstration software

The STM32 MPU OpenSTLinux Distribution base demonstration software is preloaded in the microSD™ for easy demonstration of the device peripherals in standalone mode. The latest versions of the demonstration source code and associated documentation can be downloaded from [www.st.com](http://www.st.com).

## Revision history

**Table 3. Document revision history**

Date	Revision	Changes
7-Feb-2023	1	Initial release.