

Discovery kits with increased-frequency 800 MHz STM32MP157 MPUs



STM32MP157F-DK2 top view with display removed. Picture is not contractual.

Product status link

[STM32MP157D-DK1](#)

[STM32MP157F-DK2](#)

Features

- Common features:
 - STM32MP157 Arm[®]-based dual Cortex[®]-A7 800 MHz 32 bits + Cortex[®]-M4 32 bits MPU in a TFBGA361 package
 - ST PMIC [STPMIC1](#)
 - 4-Gbit DDR3L, 16 bits, 533 MHz
 - 1-Gbit/s Ethernet (RGMII) compliant with IEEE-802.3ab
 - USB OTG HS
 - Audio codec
 - 4 user LEDs
 - 2 user and reset push-buttons, 1 wake-up button
 - 5 V / 3 A USB Type-C[®] power supply input (not provided)
 - Board connectors:
 - Ethernet RJ45
 - 4 × USB Host Type-A
 - USB Type-C[®] DRP
 - MIPI DSI[®]
 - HDMI[®]
 - Stereo headset jack including analog microphone input
 - microSD[™] card
 - GPIO expansion connector (Raspberry Pi[®] shield capability)
 - ARDUINO[®] Uno V3 expansion connectors
 - On-board ST-LINK/V2-1 debugger/programmer with USB re-enumeration capability: Virtual COM port and debug port
 - [STM32CubeMP1](#) and full mainline open-source Linux[®] STM32 MPU OpenSTLinux Distribution (such as [STM32MP1Starter](#)) software and examples
 - Support of a wide choice of Integrated Development Environments (IDEs) including IAR Embedded Workbench[®], MDK-ARM, and STM32CubeIDE
- Board-specific features:
 - 4" TFT 480×800 pixels with LED backlight, MIPI DSI[®] interface, and capacitive touch panel
 - Wi-Fi[®] 802.11b/g/n
 - Bluetooth[®] Low Energy 4.1

1 Description

The [STM32MP157D-DK1](#) and [STM32MP157F-DK2](#) Discovery kits leverage the capabilities of the increased-frequency 800 MHz microprocessors in the STM32MP157 product line to allow users to develop applications easily using STM32 MPU OpenSTLinux Distribution software for the main processor and STM32CubeMP1 software for the coprocessor.

They include an ST-LINK embedded debug tool, LEDs, push-buttons, one Ethernet 1-Gbit/s connector, one USB Type-C® OTG connector, four USB Host Type-A connectors, one HDMI® transceiver, one stereo headset jack with analog microphone, and one microSD™ connector.

To expand the functionality of the [STM32MP157D-DK1](#) and [STM32MP157F-DK2](#) Discovery kits, two GPIO expansion connectors are also available for ARDUINO® and Raspberry Pi® shields.

Additionally, the [STM32MP157F-DK2](#) Discovery kit features an LCD display with a touch panel, and Wi-Fi® and Bluetooth® Low Energy capability.

2 Ordering information

To order an STM32MP157 Discovery kit, 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 target STM32.

Table 1. List of available products

Order code	Board reference	User manual	Target STM32	Differentiating feature
STM32MP157D-DK1	• MB1272 ⁽¹⁾	UM2637	STM32MP157DAC1	• Basic security
STM32MP157F-DK2	• MB1272 ⁽¹⁾ • MB1407 ⁽²⁾		STM32MP157FAC1	• Secure Boot and cryptography • LCD • Wi-Fi® • Bluetooth® Low Energy

1. Main board.

2. LCD extension 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-yyz 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-yyz*”, 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

STM32MP1XXY-DKZ	Description	Example: STM32MP157F-DK2
STM32MP1	MPU series in STM32 Arm Cortex MPUs	STM32MP1 Series
XX	MPU product line in the series	STM32MP157
Y	Options: <ul style="list-style-type: none"> D: basic security, 800 MHz increased frequency F: Secure Boot, cryptography hardware, 800 MHz increased frequency 	Secure Boot, cryptography hardware, 800 MHz increased frequency
DKZ	Toolkit configuration: <ul style="list-style-type: none"> DK1: basic DK2: LCD, Wi-Fi®, and Bluetooth® Low Energy 	LCD, Wi-Fi®, and Bluetooth® Low Energy

3 Development environment

The STM32MP157 microprocessors are based on the Arm® Cortex®-A7 and Arm® Cortex®-M4 processors.

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-C® to Type-A 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

- IAR Systems® - IAR Embedded Workbench®⁽¹⁾
- Keil® - MDK-ARM⁽¹⁾
- STMicroelectronics - STM32CubeIDE
- GCC

1. On Windows® only.

3.3 Demonstration software

The STM32 MPU OpenSTLinux Distribution and STM32CubeMP1 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.

Revision history

Table 3. Document revision history

Date	Revision	Changes
27-Oct-2020	1	Initial release.
20-Dec-2022	2	Updated Description , Ordering information , and Development environment .



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