

## Discovery kit with STM32H5F5LJ MCU



STM32H5F5J-DK global view. Picture is not contractual.

### Product status

STM32H5F5J-DK

### Features

- [STM32H5F5LJH7Q](#) microcontroller based on the Arm® Cortex®-M33 core with Arm® TrustZone®, featuring 4 Mbytes of flash memory and 1.5 Mbytes of SRAM, in a TFBGA225 package
- 512-Mbit Octo-SPI flash memory
- 64-Mbit Octo-SPI SRAM
- 4.3", 480 x 272-pixel, color TFT LCD module with parallel interface and touch panel
- USB Type-C® Sink Device
- Ethernet compliant with IEEE-802.3-2002
- microSD™ card holder
- Accelerometer/gyroscope module
- 4 user LEDs
- 3 push-buttons (USER, RESET, and BOOT)
- Board connectors:
  - M.2 Key E connectRF connector for connectivity extension
  - SWD/JTAG and TRACE debug connector
  - I3C camera connector
  - ARDUINO® Uno V3 expansion connector
- On-board STLINK-V3EC debugger/programmer with USB re-enumeration capability: mass storage, Virtual COM port, and debug port
- Comprehensive free software libraries and examples available with the [STM32CubeH5 MCU Package](#)
- Support of a wide choice of Integrated Development Environments (IDEs) including IAR Embedded Workbench®, MDK-ARM, and STM32CubeIDE

### Description

The [STM32H5F5J-DK](#) Discovery kit is a complete demonstration and development platform for the [STM32H5F5LJH7Q](#) microcontroller, featuring an Arm® Cortex®-M33 core with Arm® TrustZone® and Armv8-M mainline security extension, 4 Mbytes of flash memory, and 1.5 Mbytes of SRAM.

The board contains a 4.3", 480 x 272-pixel, color TFT LCD module with parallel interface and touch panel and an M.2 Key E connectRF connector for connectivity extension. For even more user-friendliness, the on-board STLINK-V3EC debugger provides out-of-the-box loading and debugging capabilities, as well as a USB Virtual COM port bridge. The [STM32H5F5J-DK](#) Discovery kit comes with the [STM32CubeH5 MCU Package](#), which gathers in one single package all generic software components required to develop an application using STM32H5 MCUs. The package provides several examples and applications to facilitate understanding.

# 1 Ordering information

To order the STM32H5F5J-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   |
|---------------|--|-------------|----------------|
| STM32H5F5J-DK | <ul style="list-style-type: none"> <li>MB2114<sup>(1)</sup></li> <li>MB2274<sup>(2)</sup></li> </ul> | UM3612      | STM32H5F5LJH7Q |

1. Main board

2. LCD board

## 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-yyz*” 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](http://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**

| STM32H5XXY-DK | Description  | Example: STM32H5F5J-DK         |
|---------------|--|--------------------------------|
| STM32H5       | MCU series in STM32 32-bit Arm Cortex MCUs   | <a href="#">STM32H5 series</a> |
| XX            | MCU product line in the series   | STM32H5F5 product line         |
| Y             | STM32 flash memory size:<br><ul style="list-style-type: none"> <li>J for 4 Mbytes</li> </ul> | 4 Mbytes                       |
| DK            | Toolkit type:<br><ul style="list-style-type: none"> <li>DK: Discovery kit</li> </ul>         | Discovery kit                  |

## 2 Development environment

The STM32H5F5J-DK Discovery kit runs with the 32-bit STM32H5F5LJ microcontroller based on the Arm<sup>®</sup> Cortex<sup>®</sup>-M33 core with Arm<sup>®</sup> TrustZone<sup>®</sup> and the Armv8-M mainline security extension.



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### 2.1 System requirements

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

*Note:* macOS<sup>®</sup> is a trademark of Apple Inc., registered in the U.S. and other countries and regions.  
Linux<sup>®</sup> is a registered trademark of Linus Torvalds.  
Windows is a trademark of the Microsoft group of companies.

### 2.2 Development toolchains

- IAR Systems<sup>®</sup> - IAR Embedded Workbench<sup>®(1)</sup>
- Keil<sup>®</sup> - MDK-ARM<sup>(1)</sup>
- STMicroelectronics - STM32CubeIDE

1. On Windows<sup>®</sup> only.

### 2.3 Demonstration software

The demonstration software, included in the STM32Cube MCU Package corresponding to the on-board microcontroller, is preloaded in the STM32 flash memory 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).

### 2.4 EDA resources

All board design resources, including schematics, EDA databases, manufacturing files, and the bill of materials, are available from the STM32H5F5J-DK product page at [www.st.com](http://www.st.com).

## Revision history

**Table 3. Document revision history**

| Date        | Revision | Changes          |
|-------------|----------|------------------|
| 18-Feb-2026 | 1        | Initial release. |

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