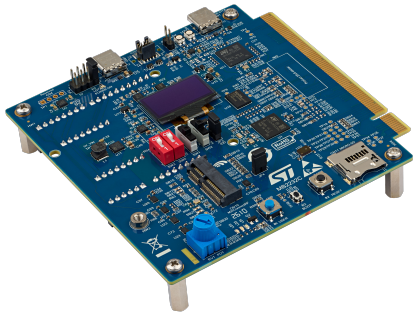
STM32H7P5I-DK

Data brief

Discovery kit with STM32H7P5II MCU



STM32H7P5I-DK global view
Picture is not contractual.

Product status
STM32H7P5I-DK

Features

- STM32H7P5IIK6Q microcontroller based on the Arm® Cortex®-M7 core at 520 MHz, featuring 2 Mbytes of dual-bank flash memory and 736 Kbytes of SRAM, in an UFBGA176+25 package
- 0.96", 128 x 64-pixel OLED display
- USB Type-C® Sink device FS
- One MEMS digital microphone
- 512 Mbits Octo-SPI NOR flash memory
- Three user LEDs
- Three push-buttons (user, reset, and boot mode)
- One potentiometer for ADC
- Board connectors:
  - M.2 Key E connectivity connector
  - ST-LINK USB Type-C® connector
  - User USB Type-C® connector
  - microSD™ card holder
  - MIPI10 debug in connector (Arm® Cortex® 10-pin 1.27 mm-pitch debug connector over STDC14 footprint)
  - ARDUINO® Uno V3 expansion connector
  - Motor control V2 connector
  - mikroBUS™ connector
- Flexible power-supply options: ST-LINK USB V_{BUS}, user USB connector, or external sources
- 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 STM32CubeH7 MCU Package
- Support of a wide choice of Integrated Development Environments (IDEs) including IAR Embedded Workbench®, MDK-ARM, and STM32CubeIDE

Description

The STM32H7P5I-DK Discovery kit is a complete demonstration and development platform for the STM32H7P5IIK6Q microcontroller based on the Arm® Cortex®-M7 core at 520 MHz featuring 2 Mbytes of dual-bank flash memory and 736 Kbytes of SRAM, in an UFBGA176+25 package.

The full range of hardware features on the board helps the user to evaluate all the peripherals (Octo-SPI flash memory, USB FS Device, microSD™ card, OLED display, MEMS microphone, potentiometer, and user LEDs) and develop applications.

The embedded motor control V2 connector works together with a power board such as STEVAL-LVLP01, an optional adaptor board such as B-ZEST-ADAPT1, and an accessories package such as B-MOTOR-PMSMA1. The ARDUINO® Uno V3, mikroBUS™, and M.2 Key E connectors provide easy connection to extension shields or daughterboards for specific applications.

The STM32H7P5I-DK Discovery kit integrates an STLINK-V3EC embedded in-circuit debugger and programmer for the STM32 MCU, with a USB Virtual COM port bridge, and comes with the comprehensive STM32CubeH7 MCU Package.

1 Ordering information

To order the STM32H7P5I-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 reference	User manual	Target STM32
STM32H7P5I-DK	MB2232[1]	UM3702	STM32H7P5IIK6Q

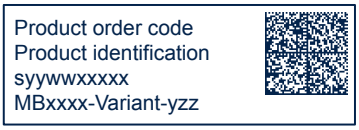
1. *Main board.*

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:

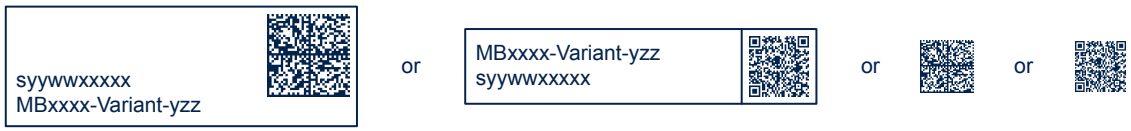
  

  Dual-sticker example:

- 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-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

STM32XXYYZ-DK	Description	Example: STM32H7P5I-DK
XX	MCU series in STM32 32-bit Arm Cortex MCUs	STM32H7 series
YY	MCU product line in the series	STM32H7P4/P5 product line
Z	STM32 flash memory size: • I for 2 Mbytes	2 Mbytes
DK	Toolkit type: • DK: Discovery kit	Discovery kit

2 Development environment

The STM32H7P5I-DK Discovery kit runs with the 32-bit STM32H7P5IIK6Q microcontroller based on the Arm® Cortex®-M7 core at 520 MHz.

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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 toolchains

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

1. *On Windows® 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*.

2.4 EDA resources

All board design resources, including schematics, EDA databases, manufacturing files, and the bill of materials, are available from the STM32H7P5I-DK product page at *www.st.com*.

Revision history

Table 3. **Document revision history**

Date	Revision	Changes
15-Sep-2026	1	Initial release.

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