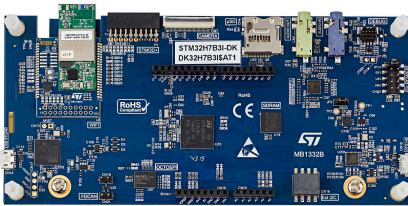


Discovery kit with STM32H7B3LI MCU



STM32H7B3I-DK board top and bottom views. The fanout board is not shown. Pictures are not contractual.

Product status link

[STM32H7B3I-DK](#)

Features

- STM32H7B3LIH6Q Arm®-based microcontroller featuring 2 Mbytes of flash memory and 1.4 Mbytes of RAM in a BGA225 package
- 4.3" (480x272 pixels) TFT color LCD module including a capacitive touch panel with RGB interface
- Wi-Fi® module compliant with 802.11 b/g/n
- USB OTG HS
- Audio codec
- 512-Mbit Octo-SPI NOR flash memory
- 128-Mbit SDRAM
- Two user LEDs
- User and reset push-buttons
- Fanout daughterboard
- CAN FD
- Board connectors:
 - 8-bit camera
 - USB with Micro-AB
 - Stereo headset jack including analog microphone input
 - Audio jack for external speakers
 - microSD™ card
 - Tag-Connect™ 10-pin footprint
 - Arm® Cortex® 10-pin 1.27mm-pitch debug connector over STDC14 footprint
 - ARDUINO® Uno V3 expansion connector
 - STMod+ expansion connector
 - Audio daughterboard expansion connector
 - External I²C expansion connector
- Flexible power-supply options: ST-LINK USB V_{BUS}, USB connector, or external sources
- On-board STLINK-V3E debugger/programmer with USB re-enumeration capability: mass storage, Virtual COM port, and debug port
- Comprehensive free software libraries and examples available with the STM32Cube MCU Package
- Support of a wide choice of Integrated Development Environments (IDEs) including IAR Embedded Workbench®, MDK-ARM, and STM32CubeIDE

Description

The STM32H7B3I-DK Discovery kit is a complete demonstration and development platform for the STMicroelectronics Arm® Cortex®-M7 core-based STM32H7B3LIH6Q microcontroller.

The STM32H7B3I-DK Discovery kit is used as a reference design for user application development before porting to the final product, thus simplifying the application development.

The full range of hardware features available on the board helps users enhance their application development by an evaluation of almost all peripherals (such as USB OTG_HS, microSD™, USART, CAN FD, audio DAC stereo with audio jack input and output, camera, SDRAM, Octo-SPI flash memory, and RGB interfaced LCD with capacitive touch panel). ARDUINO® Uno V3 connectors provide easy connection to extension shields or daughterboards for specific applications.

STLINK-V3E is integrated into the board, as an embedded in-circuit debugger and programmer for the STM32 MCU and the USB Virtual COM port bridge.

The STM32H7B3I-DK board comes with the STM32CubeH7 MCU Package, which provides an STM32 comprehensive software HAL library as well as various software examples.

1 Ordering information

To order the STM32H7B3I-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
STM32H7B3I-DK	<ul style="list-style-type: none"> • MB1332⁽¹⁾ • MB1315⁽²⁾ • MB1280⁽³⁾ • MB1486⁽⁴⁾ 	UM2569	STM32H7B3LIH6Q

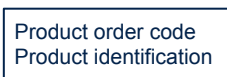
1. Main board
2. LCD board
3. Fanout board
4. Wi-Fi[®] module

1.1 Product marking

The stickers located on the top or bottom side of all PCBs provide product information:

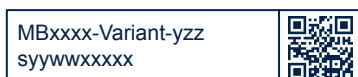
- First sticker: product order code and product identification, generally placed on the main board featuring the target device.

Example:



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

Example:



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 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.

1.2 Codification

The meaning of the codification is explained in [Table 2](#). The order code is mentioned on a sticker placed on the top or bottom side of the board.

Table 2. Codification explanation

STM32XXYYZ-DK	Description	Example: STM32H7B3I-DK
XX	MCU series in STM32 32-bit Arm Cortex MCUs	STM32H7 series
YY	MCU product line in the series	STM32H7A3/7B3
Z	STM32 flash memory size: • I for 2 Mbytes	2 Mbytes
-DK	Discovery kit	Discovery kit

2 Development environment

The STM32H7B3I-DK board runs with the STM32H7B3LIH6Q 32-bit microcontroller based on the Arm® Cortex®-M7 core.

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, Linux® 64-bit, or macOS®
- 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.

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.

Revision history

Table 3. Document revision history

Date	Revision	Changes
06-Dec-2019	1	Initial release.
04-Jun-2024	2	Updated Development environment .

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