

Discovery kit with STM32H7B3LI MCU



STM32H7B3I-DK board top and bottom views. Fanout board not shown. Pictures are not contractual.

Features

- STM32H7B3LIH6QU Arm®-based microcontroller featuring 2 Mbytes of Flash memory and 1.4 Mbyte of RAM in 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
- 2 user LEDs
- User and Reset push-buttons
- Fanout daughterboard
- 1x FDCAN
- Board connectors:
 - Camera (8 bit)
 - 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 OTG HS 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™, Keil®, and GCC-based IDEs

Product status link

[STM32H7B3I-DK](#)

Description

The [STM32H7B3I-DK](#) Discovery kit is a complete demonstration and development platform for STMicroelectronics Arm® Cortex®-M7 core-based STM32H7B3LIH6QU 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, FDCAN, audio DAC stereo with audio jack input and output, camera, SDRAM, Octo-SPI Flash memory and RGB interface 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 • MB1315⁽¹⁾ • MB1280⁽²⁾ • MB1486⁽³⁾ 	UM2569	STM32H7B3LIH6QU

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

1.1 Product marking

Evaluation tools marked as “ES” or “E” are not yet qualified and therefore not ready to be used as reference design or in production. Any consequences deriving from such usage will not be at ST charge. In no event, ST will be liable for any customer usage of these engineering sample tools as reference designs or in production.

“E” or “ES” marking examples of location:

- On the targeted STM32 that is soldered on the board (for 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.

This board features 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.

In order to use the same commercial stack in his application, a developer may 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 side of the board.

Table 2. Codification explanation

STM32TXXY-DK	Description	Example: STM32H7B3I-DK
STM32TT	MCU series in STM32 Arm Cortex MCUs	STM32H7 Series
XX	MCU product line in the series	STM32H7B3
Y	STM32 Flash memory size: <ul style="list-style-type: none"> • I for 2 Mbytes 	2 Mbytes

2 Development environment

STM32H7B3I-DK runs with the STM32H7B3LIH6QU 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

- Windows® OS (7, 8 and 10), Linux® 64-bit, or macOS®
- USB Type-A to Micro-B cable

Note: macOS® is a trademark of Apple Inc. registered in the U.S. and other countries.
All other trademarks are the property of their respective owners.

2.2 Development toolchains

- Keil® MDK-ARM (see [note](#))
- IAR™ EWARM (see [note](#))
- GCC-based IDEs

Note: 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	Version	Changes
6-Dec-2019	1	Initial release

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