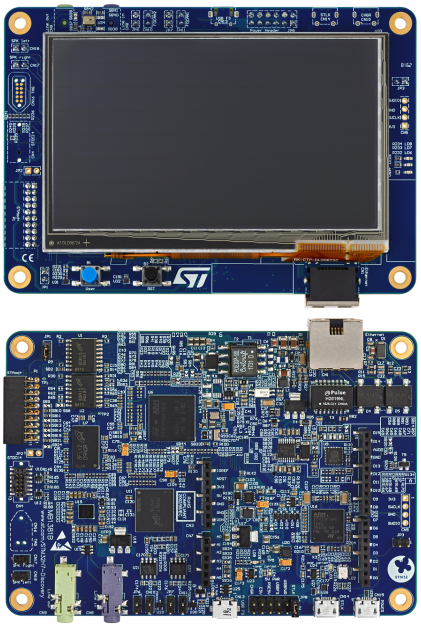
STM32H745I-DISCO STM32H750B-DK

Data brief

Discovery kits with STM32H745XI and STM32H750XB MCUs



Board top and bottom views. Pictures are not contractual. PCB colors may differ.

Product status link
STM32H745I-DISCO
STM32H750B-DK

Features

- Arm® Cortex® core-based microcontroller with 2 Mbytes (STM32H745XIH6) or 128 Kbytes (STM32H750XBH6) of Flash memory and 1 Mbyte of RAM, in TFBGA240+25 package
- 4.3” RGB interface LCD with touch panel connector
- Ethernet compliant with IEEE-802.3-2002, and POE
- USB OTG FS with Micro-AB connector
- SAI audio codec
- One ST-MEMS digital microphone
- 2 x 512-Mbit Quad-SPI NOR Flash memory
- 128-Mbit SDRAM
- 4-Gbyte on-board eMMC
- 1 user and reset push-button
- Fanout daughterboard
- 2 x FDCANs
- Board connectors:
  - USB FS Micro-AB connectors
  - ST-LINK Micro-B USB connector
  - USB power Micro-B connector
  - Ethernet RJ45
  - Stereo headset jack including analog microphone input
  - Audio header for external speakers
  - TAG-Connect 10-pin footprint
  - Arm® Cortex® 10-pin 1.27 mm pitch debug connector over STDC14 footprint
  - Arduino™ Uno V3 expansion connectors
  - STMod+
- Flexible power-supply options:
  - STLINK-V3 USB connector, USB FS connector
  - 5 V delivered by RJ45 (Power Over Ethernet)
  - 5 V delivered by Arduino™ or external connector
  - USB charger
  - USB power
- On-board STLINK-V3E debugger/programmer with USB re-enumeration capability: mass storage, Virtual COM port, and debug port
- Support of a wide choice of Integrated Development Environments (IDEs) including IAR™, Keil®, GCC-based IDEs

1 Description

The STM32H745I-DISCO and STM32H750B-DK Discovery kits are complete demonstration and development platforms for STMicroelectronics Arm® Cortex®-M7 and -M4 dual-core-based STM32H745XI (STM32H745XIH6 order code) and STM32H750XB (STM32H750XBH6 order code) microcontrollers, respectively.

The STM32H745I-DISCO and STM32H750B-DK Discovery kits are used as reference designs 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_FS, Ethernet 10/100Mb, eMMC, USART, SAI Audio DAC stereo with audio jack input and output, MEMS digital microphone, SDRAM, Quad-SPI Flash memory, and RGB interface LCD with capacitive multi-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 STM32H745I-DISCO and STM32H750B-DK boards come with the STM32CubeH7 MCU package, which provides an STM32 comprehensive software HAL library as well as various software examples.

Note: Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.

2 Ordering information

To order the STM32H745I-DISCO and STM32H750B-DK Discovery kits, 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
STM32H745I-DISCO	MB1381	UM2488	STM32H745XIH6U
STM32H750B-DK			STM32H750XBH6U

2.1 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 design 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.

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.

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.

2.2 Codification

The meaning of the codification is explained in Table 2.

Table 2. Codification explanation

STM32H7XXY-DISCO STM32H7XXY-DK	Description	Example: STM32H745I-DISCO
STM32H7	MCU series in STM32 Arm Cortex MCUs	STM32H7 Series
XX	MCU product line in the series	STM32H745
Y	STM32 Flash memory size: • B for 128 Kbytes • I for 2 Mbytes	2 Mbytes
DISCO / DK	Discovery kit	Discovery kit

The order code is mentioned on a sticker placed on the top side of the board.

3 Development environment

3.1 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.

3.2 Development toolchains

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

Note: On Windows® only.

3.3 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
9-Janv-2019	1	Initial release.
1-Apr-2019	2	Updated pictures on the cover page and reorganized the entire document: • Updated Features • Updated Ordering information • Added Product marking • Added Codification • Added Development environment

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