

Evaluation boards with STM32H743XI and STM32H753XI MCUs



STM32H743I-EVAL and STM32H753I-EVAL top view. Picture is not contractual.

Features

- Common features
 - STM32H743XIH6 and STM32H753XIH6 Arm® Cortex® microcontrollers with 2 Mbytes of Flash memory and 1 Mbyte of RAM in TFBGA240+25 package
 - 5.7" 640×480 TFT color LCD with touchscreen
 - Ethernet compliant with IEEE-802.3-2002
 - USB OTG_HS and OTG_FS
 - I²C compatible serial interface
 - RTC with rechargeable backup battery
 - SAI audio DAC
 - ST-MEMS digital microphones
 - 8-Gbyte (or more) SDIO3.0 interface microSD™ card
 - 8 M×32bit SDRAM, 1 M×16bit SRAM and 8 M×16bit NOR Flash memory
 - 1-Gbit Twin Quad-SPI NOR Flash memory or two 512-Mbit Quad-SPI NOR Flash memories
 - Potentiometer
 - 4 color user LEDs
 - Reset, wakeup, tamper or key buttons
 - Joystick with 4-direction control and selector
 - Board connectors:
 - Power jack
 - 3 USB interfaces with Micro-AB connector
 - RS-232 communications
 - Ethernet RJ45
 - FDCAN compliant connection
 - Stereo headset jack including analog microphone input
 - 2 audio jacks for external speakers
 - microSD™ card
 - JTAG/SWD and ETM trace
 - Extension connectors and memory connectors for daughterboard or wire-wrap board
 - Flexible power-supply options: ST-LINK USB V_{BUS} or external sources
 - On-board ST-LINK 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®, GCC-based IDEs
- Board-specific feature
 - ST-LINK/V2-1 or STLINK-V3E version of the ST-LINK

Product status link

[STM32H743I-EVAL](#)

[STM32H753I-EVAL](#)

1 Description

The [STM32H743I-EVAL](#) and [STM32H753I-EVAL](#) Evaluation boards (STM32H7x3I-EVAL) are high-end development platforms for the Arm® Cortex®-M7-based [STM32H743XI](#) and [STM32H753XI](#) microcontrollers, respectively. The STM32H7x3I-EVAL Evaluation boards provide access to all the STM32 peripherals for user applications, and include an embedded ST-LINK debugger/programmer.

The full range of the STM32H7x3I-EVAL hardware features helps develop applications and evaluate all peripherals: USB OTG_HS and FS, Ethernet, FD-CAN, USART, Audio DAC and ADC, digital microphone, SRAM, SDRAM, NOR Flash memory, Twin Quad-SPI Flash memory, microSD™ 3.0 card, 5.7" 640×480 TFT color LCD with touchscreen, and cryptographic hardware accelerator (available only on [STM32H753XI](#) devices) .

The expansion connectors provide an easy way to add specialized features, while ETM trace is supported through external probes.

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



2 Ordering information

To order [STM32H743I-EVAL](#) and [STM32H753I-EVAL](#) 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. Ordering information

Order code	Board reference	User manual	Target STM32	Differentiating features
STM32H743I-EVAL	<ul style="list-style-type: none"> MB1246 RevB MB1063⁽¹⁾ 	UM2198	STM32H743XIH6U	<ul style="list-style-type: none"> ST-LINK/V2-1
STM32H753I-EVAL			<ul style="list-style-type: none"> ST-LINK/V2-1 Cryptography 	
STM32H743I-EVAL2	<ul style="list-style-type: none"> MB1246 RevE MB1063⁽¹⁾ 		STM32H743XIH6U	<ul style="list-style-type: none"> STLINK-V3E
STM32H753I-EVAL2			STM32H753XIH6U	<ul style="list-style-type: none"> STLINK-V3E Cryptography

1. LCD board.

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](#). The order code is mentioned on a sticker placed on the top side of the board.

Table 2. Codification explanation

STM32H7X3I-EVAL STM32H7X3I-EVAL2	Description	Example: STM32H753I-EVAL
H7	MCU series in STM32 Arm Cortex MCUs	STM32H7 Series
X3	MCU product line in the series	STM32H753
I	STM32 Flash memory size: <ul style="list-style-type: none"> I for 2 Mbytes 	2 Mbytes
EVAL / EVAL2	ST-LINK version: <ul style="list-style-type: none"> EVAL for the MB1246 RevB board EVAL2 for the MB1246 RevE board 	MB1246 RevB 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
07-Apr-2017	1	Initial release.
14-Dec-2018	2	Added STM32H753I-EVAL Evaluation board for STM32H753XI devices. Added STM32H7x3-EVAL2 order codes: added new board picture on cover page, added STLINK-V3E debugger/programmer, updated <i>Section 5 Ordering information</i> . Updated <i>Section 1 Description</i> to add Arm logo and notice. Updated <i>Section 2 System requirements</i> , <i>Section 3 Development toolchains</i> , and <i>Section 4 Demonstration software</i> .
4-June-2019	3	Reorganized the entire document: <ul style="list-style-type: none"> • Updated the cover page • Updated Ordering information • Added Product marking • Added Codification

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