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STM32H747I-DISCO

Discovery kit with STM32H747XI MCU

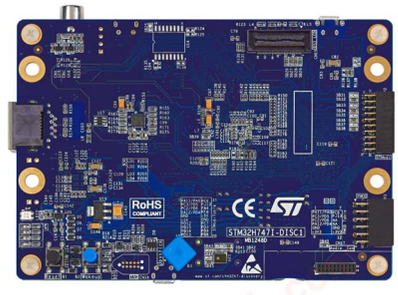
Data brief

Features

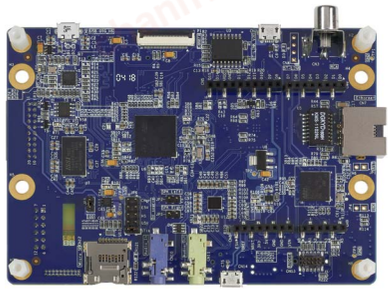
- STM32H747XIH6 Arm®-based microcontroller with 2 Mbytes of Flash memory and 1 Mbyte of RAM in TFBGA240 + 25 package
- 4” capacitive touch LCD display module with MIPI® DSI interface (STM32H747I-DISCO order code only)
- Ethernet compliant with IEEE802.3-2002
- USB OTG HS
- SAI audio codec
- ST-MEMS digital microphones
- 2 x 512-Mbit Quad-SPI NOR Flash memory
- 256-Mbit SDRAM
- 4 color user LEDs
- 1 user and reset push-button
- 4-direction joystick with selection button
- Fanout daughterboard
- Board connectors:
  - Camera (8-bit)
  - USB with Micro-AB
  - Ethernet RJ45
  - SPDIF RCA input and output
  - Stereo headset jack including analog microphone input
  - Audio jack for external speakers
  - microSD™ card
  - TAG-Connect 10-pin footprint
  - Arm® Cortex® 10-pin 1.27 mm-pitch debug connector over STDC14 footprint
- Board expansion connectors:
  - Arduino™ Uno V3
  - Pmod™ Type 2A and Type 4A
  - STMod+
  - Audio daughterboard
- Flexible power-supply options:
  - ST-LINK USB V_{BUS}, USB OTG HS connector, or external sources



STM32H747I-DISCO (top view)



STM32H747I-DISC1 (top view)



STM32H747I-DISCO (bottom view)

Pictures are not contractual. PCB colors may differ.

- 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

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Description

The STM32H747I-DISCO Discovery kit is a complete demonstration and development platform for STMicroelectronics STM32H747XIH6 microcontroller, designed to simplify user application development.

STM32H747I-DISC1 is the subset of STM32H747I-DISCO without the LCD display module.

The full range of hardware features available on the boards helps users improve application development by an evaluation of all the peripherals (USB OTG HS, Ethernet, microSD™ card, SAI Audio DAC stereo with audio jack input and output, MEMS digital microphone, SDRAM, Quad-SPI Flash, DCMI connector, MIPI® DSI interface, and others). Arduino™ Uno V3 and Pmod™/STMod+ connectors provide easy connection to extension shields or daughterboards for specific applications.

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

Ordering information

To order the STM32H747I-DISCO or STM32H747I-DISC1 Discovery kit, refer to *Table 1*.

Table 1. Ordering information

Order code	Board reference	User manual	Target STM32	Differentiating feature
STM32H747I-DISCO	– MB1248 – MB1166(1)	UM2411	STM32H747XIH6U	– With LCD module
STM32H747I-DISC1	– MB1248		STM32H747XIH6U	– No LCD module

1. LCD extension board.

Product marking

Evaluation tools marked as “ES” or “E” are not yet qualified and are therefore not ready to be used as reference design or in production. Any consequences arising from such usage will not be at STMicroelectronics’ charge. In no event will STMicroelectronics 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 section *Package information* in the STM32 datasheet at *www.st.com*).
- next to the evaluation tool ordering part number, that is stuck or silkscreen printed on the board

The 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.

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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.

Codification

The meaning of the codification is explained in *Table 2*.

Table 2. Codification explanation

STM32H7XXY-DISCZ	Description	Example: STM32H747I-DISCO
STM32H7	MCU series in STM32 High Performance MCUs	STM32H7 Series
XX	MCU line in the series	STM32H747 line
Y	Flash memory size: – I: 2 Mbytes	STM32H747XI MCU with 2 Mbytes of Flash memory
DISCZ	Discovery kit configuration: – DISCO: with LCD module – DISC1: no LCD module	With LCD module

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

Development environment

STM32H747I-DISCO and STM32H747I-DISC1 feature the STM32H747XIH6 Arm®(a) Cortex®-M7 and -M4 dual-core-based microcontroller.

Development toolchains

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

System requirements

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

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

b. On Windows® only.

c. macOS® is a trademark of Apple Inc., registered in the U.S. and other countries.

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Demonstration software

The demonstration software, included in the STM32Cube MCU Package corresponding to the on-board MCU, 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
23-Nov-2018	1	Initial version.
29-Mar-2019	2	Updated board views in the cover page. Reorganized *Ordering information* and *Development environment*. Updated *Table 1: Ordering information*. Added *Product marking* and *Codification*.

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