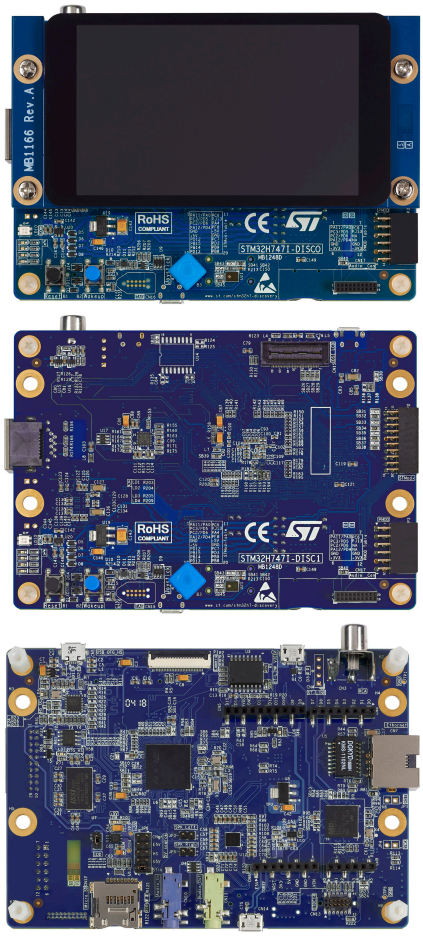
STM32H747I-DISCO

Data brief

Discovery kit with STM32H747XI MCU



STM32H747I-DISCO top view, STM32H747I-DISC1 top view, and common bottom view. Pictures are not contractual. PCB colors may differ.

Product status link
STM32H747I-DISCO

Features

- STM32H747XIH6 microcontroller based on the Arm® Cortex®-M7 and Cortex®-M4 processors with 2 Mbytes of flash memory and 1 Mbyte of RAM in a TFBGA 240+25 package
- 4" LCD module with capacitive touch panel and MIPI DSI® (STM32H747I-DISCO order code only)
- Ethernet 10/100 Mbit/s, compliant with IEEE-802.3-2002
- USB OTG HS
- SAI audio codec
- ST-MEMS digital microphones
- 2 × 512-Mbit Quad-SPI NOR flash memory
- 256-Mbit SDRAM
- 4 color user LEDs
- User and reset push-buttons
- 4-direction joystick with selection button
- STMod+ fan-out expansion board
- Board connectors:
  - Camera module (8-bit)
  - USB Micro-AB
  - Ethernet RJ45
  - SPDIF RCA input
  - 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
  - ARDUINO® Uno V3 expansion
  - Pmod™ Type-2A and Type-4A expansion
  - STMod+ expansion
  - Audio daughterboard expansion
- 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 STM32CubeH7 MCU Package
- Support of a wide choice of Integrated Development Environments (IDEs) including IAR Embedded Workbench®, MDK-ARM, and STM32CubeIDE

1 Description

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

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

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

The STM32H747I-DISCO Discovery kit integrates an STLINK-V3E embedded in-circuit debugger and programmer for the STM32 microcontroller with a USB Virtual COM port bridge.

2 Ordering information

To order the STM32H747I-DISCO Discovery kit, 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	Differentiating feature
STM32H747I-DISCO	• MB1166(1) • MB1248(2) • MB1280(3)	UM2411	STM32H747XIH6	• With LCD module
STM32H747I-DISC1	• MB1248(2) • MB1280(3)			• Without LCD module

1. *LCD module daughterboard*
2. *Main board*
3. *STMod+ fan-out expansion board*

2.1 Product marking

The product and each board composing the product are identified with one or several stickers. The stickers, located on the top or bottom side of each PCB, provide product information:

- Main board featuring the target device: product order code, product identification, serial number, and board reference with revision.

  Single-sticker example:

  Product order code
  Product identification
  syywwxxxxx
  MBxxxx-Variant-yzz

  Dual-sticker example:

  Product order code
  Product identification

  and

  MBxxxx-Variant-yzz
  syywwxxxxx

- Other boards if any: board reference with revision and serial number.

  Examples:

  syywwxxxxx
  MBxxxx-Variant-yzz

  or

  MBxxxx-Variant-yzz
  syywwxxxxx

  or

  or

On the main board sticker, the first line provides the product order code, and the second line the product identification.

On all board stickers, the line formatted as *"MBxxxx-Variant-yzz"* shows the board reference *"MBxxxx"*, the mounting variant *"Variant"* when several exist (optional), the PCB revision *"y"*, and the assembly revision *"zz"*, for example B01. The other line shows the board serial number used for traceability.

Products and parts labeled as *"ES"* or *"E"* are not yet qualified or feature devices that are not yet qualified. STMicroelectronics disclaims any responsibility for consequences arising from their use. Under no circumstances will STMicroelectronics be liable for the customer's use of these engineering samples. Before deciding to use these engineering samples for qualification activities, contact STMicroelectronics' quality department.

"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 ordering part number of the evaluation tool 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.

2.2 Codification

The meaning of the codification is explained in Table 2.

Table 2. Codification explanation

STM32TTXXY-DISCZ	Description	Example: STM32H747I-DISCO
STM32TT	MCU series in STM32 32-bit Arm Cortex MCUs	STM32H7 series
XX	MCU product line in the series	STM32H747/757 product line
Y	STM32 flash memory size: • I for 2 Mbytes	2 Mbytes
DISCZ	Toolkit configuration: • DISCO: Discovery kit with LCD module • DISC1: Discovery kit without LCD module	Discovery kit with LCD module

3 Development environment

The STM32H747I-DISCO and STM32H747I-DISC1 Discovery kits feature the STM32H747XIH6 32-bit microcontroller based on the Arm® Cortex®-M7 and Cortex®-M4 processors.

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

3.1 System requirements

- Multi-OS support: Windows® 10 or 11, 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.

3.2 Development toolchains

- IAR Systems® - IAR Embedded Workbench®(1)
- Keil® - MDK-ARM(1)
- STMicroelectronics - STM32CubeIDE

1. *On Windows® only.*

3.3 EDA resources

All board design resources, including schematics, EDA databases, manufacturing files, and the bill of materials, are available from the STM32H747I-DISCO product page at *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*.
04-Aug-2025	3	Updated the SPDIF RCA connector description in Features. Updated Table 1. List of available products and Product marking. Updated Development environment.

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