STLINK-V3SET debugger/programmer for STM8 and STM32

STLINK-V3SET global view. Picture is not contractual.

Product status link
STLINK-V3SET

Features

- Standalone probe with modular extensions
- Self-powered through a USB connector (Micro-B)
- USB 2.0 high-speed compatible interface
- Direct firmware update support (DFU)
- JTAG/Serial Wire Debug (SWD) specific features:
  – 3 to 3.6 V application voltage support and 5 V tolerant inputs
  – Flat cables STDC14 to MIPI10/STDC14/MIPI20 (connectors with 1.27 mm pitch)
  – JTAG communication support
  – SWD and Serial Wire Viewer (SWV) communication support
- SWIM-specific features (only available with adapter board MB1440):
  – 1.65 to 5.5 V application voltage support
  – SWIM header (2.54 mm pitch)
  – SWIM low-speed and high-speed modes support
- Virtual COM port (VCP) specific features:
  – 3 to 3.6 V application voltage support on the UART interface and 5 V tolerant inputs
  – VCP frequency up to 15 MHz
  – Available on STDC14 debug connector (not available on MIPI10)
- Multipath bridge USB to SPI/UART/I^{2}C/CAN/GPIOs specific features:
  – 3 to 3.6 V application voltage support and 5 V tolerant inputs
  – Signals available on adapter board only (MB1440)
- Drag-and-drop flash programming of binary files
- Two-color LEDs: communication and power

Description

STLINK-V3SET is a modular standalone debugging and programming probe for the STM8 and STM32 microcontrollers. It is composed of a main module and a complementary adapter board.

The SWIM and JTAG/SWD interfaces are used to communicate with any STM8 or STM32 microcontroller located on an application board.

STLINK-V3SET also provides a Virtual COM port interface allowing the host PC to communicate with the target microcontroller through one UART, and bridge interfaces (SPI, I^{2}C, CAN, GPIOs) allowing, for instance, the programming of the target through the bootloader.

STLINK-V3SET can provide a second Virtual COM port interface allowing the host PC to communicate with the target microcontroller through another UART (called bridge UART). Bridge UART signals, including optional RTS and CTS, are available on the adapter board only (MB1440). The second Virtual COM port activation is done through a reversible firmware update, which also disables the mass storage interface (used for drag-and-drop flash programming).

The modular architecture of STLINK-V3SET enables it to extend its main features through additional modules such as the adapter board.

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For further information contact your local STMicroelectronics sales office.

www.st.com

1 Ordering information

To order STLINK-V3SET, refer to Table 1. For a detailed description of the product, refer to its user manual.

Table 1. Ordering information

| Order code	Board reference	User manual	Description
STLINK-V3SET	• MB1441[1] • MB1440[2]	UM2448	STLINK-V3 modular stand-alone debugger and programmer for STM8 and STM32 microcontrollers

1. *Main module.*
2. *Adapter board.*

1.1 Product marking

The stickers located on the top or bottom side of all PCBs provide product information:

- First sticker: product order code and product identification, generally placed on the main board featuring the target device.
  Example:

> Product order code
> Product identification
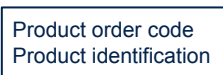
- Second sticker: board reference with revision and serial number, available on each PCB.
  Example:

> MBxxxx-Variant-yzz
> syywwxxxxx
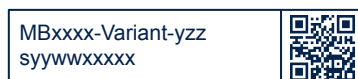
On the first sticker, the first line provides the product order code, and the second line the product identification.

On the second sticker, the first line has the following format: *"MBxxxx-Variant-yzz"*, where *"MBxxxx"* is the board reference, *"Variant"* (optional) identifies the mounting variant when several exist, *"y"* is the PCB revision, and *"zz"* is the assembly revision, for example B01. The second line shows the board serial number used for traceability.

Parts marked as *"ES"* or *"E"* are not yet qualified and therefore not approved for use in production. ST is not responsible for any consequences resulting from such use. In no event will ST be liable for the customer using any of these engineering samples in production. ST's Quality department must be contacted prior to any decision to use these engineering samples to run a qualification activity.

"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 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.

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 Development environment

STLINK-V3SET embeds an STM32 32-bit microcontroller based on the Arm® Cortex®-M core.

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

arm

2.1 System requirements

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

2.2 Development toolchains

- IAR Systems® - IAR Embedded Workbench®[1]
- Keil® - MDK-ARM[1]
- GCC-based IDEs

1. *On Windows® only.*

Revision history

Table 2. Document revision history

Date	Revision	Changes
06-Sep-2018	1	Initial release.
14-Nov-2019	2	Added second Virtual COM port to *Description*.
09-Jul-2024	3	Updated Table 1. Ordering information.

IMPORTANT NOTICE – READ CAREFULLY