Discovery kit with STM32L562QE MCU

STM32L562E-DK top view. Picture is not contractual.

Product status link
STM32L562E-DK

Features

- STM32L562QEI6Q microcontroller featuring 512 Kbytes of flash memory and 256 Kbytes of SRAM in a BGA132 package
- 1.54" 240 × 240 pixel-262K color TFT LCD module with a parallel interface and touch-control panel
- USB Type-C® Sink device FS
- On-board energy meter: 300 nA to 150 mA measurement range with a dedicated USB interface
- SAI audio codec
- MEMS digital microphones
- 512-Mbit Octo-SPI flash memory
- Bluetooth® Low Energy V4.1 module
- iNEMO 3D accelerometer and 3D gyroscope
- Two user LEDs
- User and reset push-buttons
- Board connectors:
    - USB Type-C®
    - microSD™ card
    - Stereo headset jack including analog microphone input
    - JTAG debugger
    - DPM dynamic-power measurement interface for external device
    - STMod+ expansion connector with fanout expansion board for Wi-Fi®, Grove, and mikroBUS™ compatible connectors
    - Pmod™ expansion connector
    - Audio MEMS daughterboard expansion connector
    - ARDUINO® Uno V3 expansion connector
- 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 STM32CubeL5 MCU Package
- Support of a wide choice of Integrated Development Environments (IDEs) including IAR Embedded Workbench®, MDK-ARM, and STM32CubeIDE

DB3937 - Rev 3 - October 2023
For further information contact your local STMicroelectronics sales office.

www.st.com

Description

The STM32L562E-DK Discovery kit is a complete demonstration and development platform for Arm® Cortex®-M33 with Arm® TrustZone® and ARMv8-M mainline security extension core-based STM32L562QEI6Q microcontroller, with 512 Kbytes of flash memory and 256 Kbytes of SRAM.

The STM32L562E-DK Discovery kit uses the STM32L562QEI6Q innovative ultra-low-power oriented features to enable prototyping for many wearable or sensor applications, with state-of-the-art energy efficiency, secure boot, and TrustZone®-based software isolation.

For even more user-friendliness, the on-board STLINK-V3E debugger provides out-of-the-box loading and debugging capabilities, as well as a USB Virtual COM port bridge.

1 Ordering information

To order the STM32L562E-DK Discovery kit, refer to Table 1. For a detailed description, 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

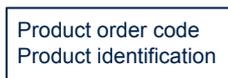| Order code	Board references	User manual	Target STM32
STM32L562E-DK	• MB1373[1] • MB1280[2]	• UM2617 • UM2695	STM32L562QEI6Q

1. *Main board.*
2. *Fanout 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.

1.2 Codification

The meaning of the codification is explained in Table 2.

Table 2. Codification explanation

STM32XXYYZ-DK	Description	Example: STM32L562E-DK
XX	MCU series in STM32 32-bit Arm Cortex MCUs	STM32L5 series
YY	MCU product line in the series	STM32L562
Z	STM32 flash memory size: • E for 512 Kbytes	512 Kbytes
DK	Discovery kit	Discovery kit

2 Development environment

The STM32L562E-DK Discovery kit runs with the STM32L562QEI6Q 32-bit microcontroller based on the Arm® Cortex®-M33 core with Arm® TrustZone® and the Armv8-M mainline security extension.

Note: *Arm and TrustZone are registered trademarks of Arm Limited (or its subsidiaries) in the US and/or elsewhere.*

arm

2.1 System requirements

- Multi-OS support: Windows® 10, 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]
- STMicroelectronics - STM32CubeIDE

1.   *On Windows® only.*

2.3 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	Revision	Changes
30-Sep-2018	1	Initial release.
6-Mar-2020	2	Added the support of STMicroelectronics STM32CubeIDE integrated development environment in *Features* and *Development toolchains*.
05-Oct-2023	3	Updated Product marking.

IMPORTANT NOTICE – READ CAREFULLY

STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST's terms and conditions of sale in place at the time of order acknowledgment.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of purchasers' products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, refer to www.st.com/trademarks. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.