

## Evaluation board with STM32L552ZE MCU



STM32L552E-EV top view. Picture is not contractual.

Product status link

STM32L552E-EV

## Features

- STM32L552ZET6QU microcontroller featuring 512 Kbytes of Flash memory and 256 Kbytes of SRAM in LQFP144 package
- 2.8" 240 × 320 pixel-262K color TFT LCD module with parallel interface and touch panel
- USB Type-C™ Sink device FS
- On-board current measurement
- SAI Audio CODEC
- ST-MEMS digital microphones
- 512-Mbit Octal-SPI Flash, 64-Mbit Octal HyperRAM, 16-Mbit SRAM, 128-Kbit I<sup>2</sup>C EEPROM
- Four user LEDs
- User, Tamper and Reset push-buttons
- 4-direction joystick with a selection button
- Touch sensing button
- Light-dependent resistor (LDR)
- Potentiometer
- Coin-battery cell holder for power backup
- Power-metering demonstration with dual-channel, sigma-delta modulator
- Board connectors:
  - Power jack
  - USB Type-C™
  - microSD™ card
  - Smartcard socket
  - Stereo headset jack including analog microphone input
  - Audio jack for external speakers
  - Two DB9 for external RS-232 port and CAN FD
  - JTAG and ETM trace debugger
  - Connectors for ADC input and DAC output
  - I/O expansion connectors
  - STMod+ expansion connector
  - Pmod™ expansion connector
  - Audio daughterboard expansion connector
  - Motor-control interface expansion connector
  - I<sup>2</sup>C expansion connector
- Flexible power-supply options: ST-LINK, USB V<sub>BUS</sub> or external sources
- On-board ST-LINK/V2-1 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™, Keil®, and STM32CubeIDE

## Description

The STM32L552E-EV Evaluation board is designed as a complete demonstration and development platform for STMicroelectronics Arm® Cortex®-M33 core with Arm® TrustZone® and the ARMv8-M mainline security extension.

The STM32L552E-EV Evaluation board is based on an ultra-low-power STM32L552ZET6QU microcontroller with 512 Kbytes of Flash memory and 256 Kbytes of SRAM, one external memory interface supporting an LCD interface, one Octo-SPI memory interface, one USB Type-C™ FS with Power Delivery controller, two SAI ports, four I<sup>2</sup>C buses, six USART ports, three SPI interfaces, one CAN-FD controller, one SDMMC interface, two 12-bit ADC, two 12-bit DAC, two operational amplifiers, two ultra-low comparators, four digital filters for sigma-delta modulator, up to 16 timers, touch-sensing capability, and debugging supported by SWD, JTAG and ETM interface.

The full range of hardware features on the board helps the user to evaluate all the peripherals (USB FS, USART, digital microphones, ADC and DAC, dot-matrix TFT LCD, LDR, SRAM, octal Flash memory device, microSD™ card, sigma-delta modulators, smartcard, CAN-FD transceiver, I<sup>2</sup>C, EEPROM), and to develop applications. Extension headers allow easy connection of a daughterboard or wrapping board for a specific application.

An ST-LINK/V2-1 is integrated on the board, as embedded in-circuit debugger and programmer for the STM32 MCU and the USB Virtual COM port bridge.

# 1 Ordering information

To order the STM32L552E-EV Evaluation board, 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. List of available products**

Order code	Board references	User manual	Target STM32
STM32L552E-EV	<ul style="list-style-type: none"> <li>MB1372</li> <li>MB989<sup>(1)</sup></li> </ul>	UM2597	STM32L552ZET6QU

1. LCD board.

## 1.1 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 designs or in production.

“E” or “ES” 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](http://www.st.com) website).
- Next to the evaluation tool ordering part number that is stuck or silk-screen printed on the board.

This board features 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.

## 1.2 Codification

The meaning of the codification is explained in [Table 2](#). The order code is mentioned on a sticker placed on the top or bottom side of the board.

**Table 2. Codification explanation**

STM32TXXY-EV	Description	Example: STM32L552E-EV
STM32TT	MCU series in STM32 32-bit Arm Cortex MCUs	STM32L5 Series
XX	MCU product line in the series	STM32L552
Y	STM32 Flash memory size: <ul style="list-style-type: none"> <li>E for 512 Kbytes</li> </ul>	512 Kbytes

## 2 Development environment

The STM32L552E-EV Evaluation board runs with the STM32L552ZET6QU 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.



### 2.1 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.  
All other trademarks are the property of their respective owners.

### 2.2 Development toolchains

- IAR™ - EWARM (see [note](#))
- Keil® - MDK-ARM (see [note](#))
- STMicroelectronics - STM32CubeIDE

*Note:* 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](http://www.st.com).

## Revision history

**Table 3. Document revision history**

Date	Version	Changes
30-Sep-2019	1	Initial release
6-Mar-2020	2	Added the support of STMicroelectronics STM32CubeIDE integrated development environment in <a href="#">Features</a> and <a href="#">Development toolchains</a> .

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