STM32G474E-EVAL STM32G474E-EVAL1 STM32G484E-EVAL

Data brief

Evaluation board with STM32G4xxQE MCU
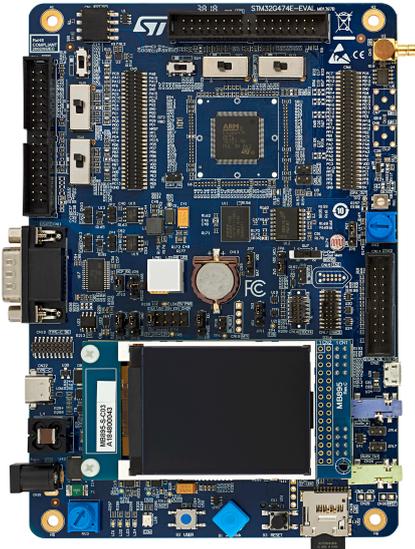
STM32G474E-EVAL top view. Picture is not contractual.

Product status link
STM32G474E-EVAL
STM32G474E-EVAL1
STM32G484E-EVAL

Features

- STM32G474QET6 (STM32G474E-EVAL and STM32G474E-EVAL1) or STM32G484QET6 (STM32G484E-EVAL) Arm® Cortex®-M4 core-based microcontroller with 512 Kbytes of flash memory and 96 Kbytes of RAM in an LQFP128 package
- 240x320 TFT color LCD module with SPI interface
- 16-Gbyte microSD™ card bundled
- On-board current measurement
- SAI audio codec
- Temperature sensor
- 8-Mbit (512 K x 16-bit) SRAM
- Two 512-Mbit Quad-SPI NOR Flash memories
- Four color user LEDs
- One high-brightness LED
- Reset and wake-up/tamper buttons
- 4-direction joystick with selection button
- Light-dependent resistor (LDR)
- Potentiometer
- Access to a comparator and operational amplifier
- Board connectors:
    - Analog line input jack
    - Stereo headset jack
    - Two connectors for external speakers
    - microSD™ card
    - EXT_I2C connector supporting I²C bus
    - RS-232 port configurable for communication or MCU flashing
    - RS-485 port
    - USB Type-C® port supporting USB FS Device
    - Two CAN 2.0A/B-compliant ports
    - Connector for DAC output
    - JTAG/SWD connector
    - ETM trace debug connector
    - User interface through USB virtual COM port
    - Embedded STLINK-V3E debug and flashing facility
    - TAG connector 10-pin footprint
    - Arm® Cortex® 10-pin 1.27 mm-pitch debug connector over STDC14 footprint
    - Coin cell battery holder
    - Two sets of motor control expansion connectors
    - Board expansion extension connectors
- Flexible power-supply options: ST-LINK USB V$_{BUS}$, USB connector, or external sources
- Microcontroller supply voltage: fixed 3.3 V or adjustable range from 1.62 to 3.60 V

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www.st.com

- 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 STM32CubeG4 MCU Package
- Support of a wide choice of Integrated Development Environments (IDEs) including IAR Embedded Workbench®, MDK-ARM, and STM32CubeIDE

Description

The STM32G474E-EVAL board is a complete demonstration and development platform for the STMicroelectronics Arm® Cortex®-M4 core-based STM32G474QET6 microcontroller, designed to make user application development easier.

STM32G474E-EVAL1 features a motor-control configuration board.

STM32G484E-EVAL features the STM32G484QET6 microcontroller with cryptography.

The full range of hardware features available on the board helps the users to improve application development to evaluate all the peripherals (USB FS, UCPD, USART, Audio, ADC and DAC, differential ADC, TFT LCD, Potentiometer/LDR, SRAM, Quad-SPI flash memory device, microSD™ card, smartcard, CAN-FD transceiver, High Brightness LED, motor-control connectors, temperature sensor, and others). Extension headers provide an easy connection to daughterboards for specific applications.

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

1   Ordering information

To order the STM32G474E-EVAL, STM32G474E-EVAL1, or STM32G484E-EVAL Evaluation board, 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 in the datasheet and reference manual of the targeted STM32.

Table 1. List of available products

| Order code	Board reference	User manual	Target STM32	Differentiating feature
STM32G474E-EVAL	• MB1397[(1)] • MB895[(2)]	UM2514	STM32G474QET6	Basic security
STM32G474E-EVAL1				Motor-control configuration board
STM32G484E-EVAL			STM32G484QET6	Cryptography

1. *Main board*
2. *LCD daughterboard*

1.1   Product marking

The stickers located on the top or bottom side of all PCBs provide product information:
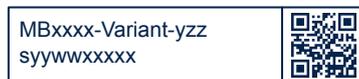
• First sticker: product order code and product identification, generally placed on the main board featuring the target device.
  Example:

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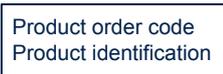
• Second sticker: board reference with revision and serial number, available on each PCB.
  Example:

> 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

STM32TTXXY-EVAL(Z)	Description	Example: STM32G484E-EVAL
STM32TT	MCU series in STM32 Arm Cortex MCUs	STM32G4 Series
XX	MCU line in the series: • G474: basic security • G484: cryptography	STM32G484
Y	STM32 flash memory size: • E for 512 Kbytes	512 Kbytes
-EVAL(Z)	Evaluation board configuration: • EVAL: basic • EVAL1: with motor-control configuration board	Basic

2 General information

The STM32G474E-EVAL, STM32G474E-EVAL1, and STM32G484E-EVAL run with the STM32G4xxQE 32-bit microcontroller based on the Arm® Cortex®-M4 core.

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

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.*

Revision history

Table 3. Document revision history

Date	Version	Changes
29-Jan-2019	1	Initial release.
14-Dec-2022	2	Added STM32G474E-EVAL1 product.

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