Evaluation board with STM32G4xxQE MCU
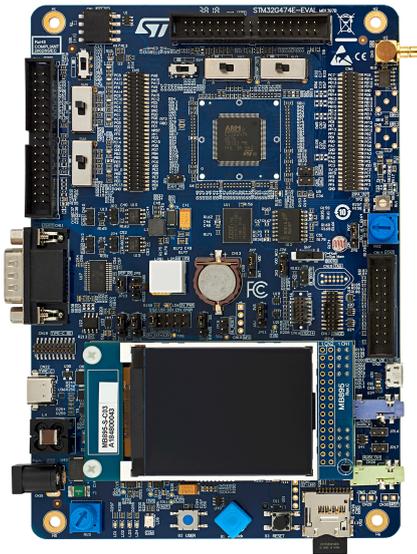
STM32G474E-EVAL top view.

Picture is not contractual.

Product status link
STM32G474E-EVAL
STM32G484E-EVAL

Features

- Common features
    - 240x320 TFT color LCD display 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 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
    - Board expansion connectors:
        - Two sets of motor control expansion connectors
        - Board expansion extension connectors
    - Flexible power-supply options:
        - ST-LINK USB V_{BUS}, external sources, USB Type-C™ connector, or daughterboard
    - On-board STLINK-V3E debugger/programmer with USB re-enumeration capability: mass storage, Virtual COM port, and debug port

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For further information contact your local STMicroelectronics sales office.

www.st.com

– Microcontroller supply voltage: fixed 3.3 V or adjustable range from 1.62 V to 3.6 V

– Comprehensive free software libraries and examples available with the STM32CubeG4 MCU Package

– Support of a wide choice of integrated development environments (IDEs) including IAR™, Keil®, GCC-based IDEs

• Board-specific features

– STM32G474QET6U microcontroller with 512 Kbytes of Flash memory and 96 Kbytes of RAM in LQFP128 package (STM32G474E-EVAL and STM32G474E-EVAL1)

– STM32G474E-EVAL1 is the board to use for motor control application with solder bridge and resistor configuration

– STM32G484QET6U with cryptography (STM32G484E-EVAL)

• Fully compatible with all microcontrollers of the STM32G4x1 and STM32G4x3 lines with "QET6" part number suffix

Description

The STM32G474E-EVAL board is a complete demonstration and development platform for the STMicroelectronics Arm® Cortex®-M4 core-based STM32G474QET6U microcontroller, designed to make user application development easier.

STM32G484E-EVAL features the STM32G484QET6U MCU with cryptography.

STM32G474E-EVAL1 features a motor-control configuration board.

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, FDCAN transceiver, High Brightness LED, motor-control connectors, temperature sensor, and others). Extension headers provide easy connection to daughterboard, 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 General information

The STM32G474E-EVAL and STM32G484E-EVAL run with the 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.*

1.1 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.*

1.2 Development toolchains

- STM32CubeIDE
- Keil® **free** MDK-ARM (see note)
- IAR™ EWARM (see note)

Note: *On Windows® only.*

1.3 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*.

2 Ordering information

2.1 STM32G474E-EVAL and STM32G484E-EVAL products

To order an STM32G474E-EVAL or STM32G484E-EVAL 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	UM2514	STM32G474QET6U	-
STM32G474E-EVAL1				Motor-control configuration board
STM32G484E-EVAL			STM32G484QET6U	Cryptography

2.2 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 design or in production.

"E" or "ES" marking examples of location:

• On the targeted STM32 that is soldered on the board (for 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.

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.

2.3 Codification

The meaning of the codification is explained in Table 2.

Table 2. Codification explanation

STM32TTXXY-EVAL(Z)	Description	Example: STM32G484E-EVAL
TTXX	STM32 product line: • G474: basic security • G484: cryptography	STM32G484
Y	STM32 Flash memory size, E for 512 Kbytes	512 Kbytes
Z	Evaluation board configuration: • EVAL: basic • EVAL1: with motor-control configuration board	No motor-control configuration board

The order code is mentioned on a sticker placed on the top side of the board.

Revision history

Table 3. Document revision history

Date	Version	Changes
29-Jan-2019	1	Initial release.

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