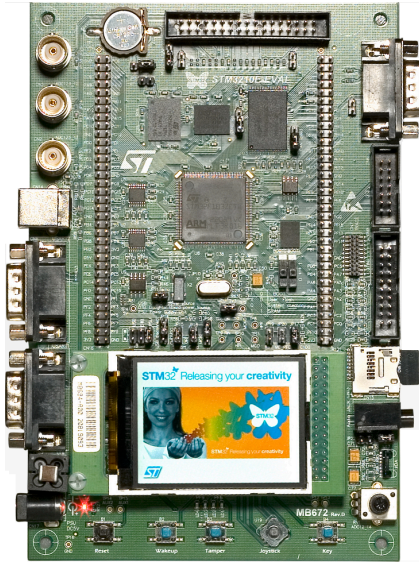## Evaluation board with STM32F103Zx MCU

STM3210E-EVAL top view. Picture is not contractual.

Product status link
STM3210E-EVAL

Features

- STM32F103ZGT6 Arm® Cortex®-M3 core-based microcontroller with 1 Mbyte of flash memory and 96 Kbytes of SRAM, in a 144-pin TQFP package
- 240 x 320-pixel TFT color LCD
- I^{2}S audio DAC, with stereo output
- Both A- and B-type smartcard support
- IrDA transceiver
- 512 Kx16 SRAM, 64- or 128-Mbit serial, 512-Mbit or 1-Gbit NAND, and 128-Mbit NOR flash memories
- I^{2}C/SMBus compatible serial interface with temperature sensor
- RTC with backup battery
- 4 color LEDs
- Reset, wakeup, tamper, and user push-buttons
- 4-way joystick with selection
- Board connectors:
    - 5V power jack
    - USB 2.0 FS Type-B
    - Two RS-232 channels with RTS/CTS handshake support on one channel
    - Stereo audio jack
    - Three ADC inputs
    - CAN 2.0 A/B compliant
    - Smartcard socket
    - microSD™ card holder with 128-Mbyte card
    - Coin-battery cell holder for power backup
    - JTAG and ETM trace debugger connector
    - Motor-control interface
    - Extension headers for daughterboard or wire-wrap board
- Three 5 V power supply options: power jack, USB connector, or daughterboard

Description

The STM3210E-EVAL Evaluation board is a complete development platform for STMicroelectronics Arm® Cortex®-M3 core-based STM32F103ZGT6 microcontroller with full-speed USB 2.0, CAN 2.0 A/B compliant interface, two I^{2}S channels, two I^{2}C channels, five USART channels with smartcard support, three SPI channels, two DAC channels, FSMC interface, SDIO, internal 96-Kbyte SRAM and 1-Mbyte flash memory, and JTAG and SWD debug support.

The STM3210E-EVAL products delivered with the MB672 board version D-03 or older are based on the STM32F103ZET6 instead of the STM32F103ZGT6 and include 64-Kbyte internal SRAM and 512-Kbyte flash memory. The board number and version are on a label on the bottom side of the board.

The full range of hardware features on the board helps the user to evaluate all peripherals (USB, motor control, CAN, microSD™ card, smartcard, USART, NOR and NAND flash memories, SRAM) and develop his applications. Extension headers make it easy to connect a daughterboard or wire-wrap board for his specific application.

1 Ordering information

To order the STM3210E-EVAL 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 microcontroller.

Table 1. Ordering information

Order code	Board reference	User manual	Target STM32
STM3210E-EVAL	• MB672[1] • MB895[2]	UM0488	STM32F103ZET6[3]
			STM32F103ZGT6[4]

1. Mother board
2. LCD daughterboard
3. For MB672 mother board version D-03 and older.
4. For MB672 mother board newer than version D-03.

1.1 Product marking

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

•   Product order code and product identification for the first sticker
•   Board reference with revision, and serial number for the second sticker

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.

"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* 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 may 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

The STM3210E-EVAL board runs with the STM32F103ZGT6 32-bit microcontroller based on the Arm® Cortex®-M3 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, Linux® 64-bit, or macOS®
- USB Type-A or USB Type-C® to Type-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 2. Document revision history

Date	Revision	Changes
6-Aug-2010	1	Initial release.
29-Oct-2010	2	Modified microcontroller.
23-Sep-2011	3	Added reference STM32F103ZGT6.
13-Apr-2022	4	Reshuffled document to the latest format, including the removal of *STM3210E-EVAL hardware block diagram* and *Demonstration software*.
20-Apr-2022	5	Aligned with user manual in *System requirements*.
6-Sep-2022	6	Updated Product marking section and board denomination in Ordering information.

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