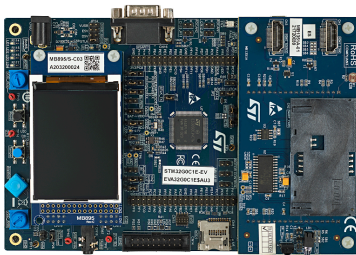
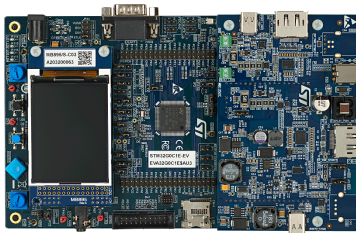


Evaluation board with STM32G0C1E MCU



STM32G0C1E-EV Evaluation board with legacy peripheral daughterboard



STM32G0C1E-EV Evaluation board with USB-C[®] and Power Delivery daughterboard

Pictures are not contractual.

Product status link

[STM32G0C1E-EV](#)

Features

Mother board

- STM32G0C1VET6 Arm[®] Cortex[®]-M0+ core-based microcontroller with 512 Kbytes of Flash memory and 144 Kbytes of RAM in LQFP100 package
- MCU voltage choice fixed at 3.3 V or adjustable from 1.65 V to 3.5 V
- I²C compatible serial interface
- RTC with backup battery
- 8-Gbyte or more SPI interface microSD[™] card
- Potentiometer
- 4 color user LEDs and one LED as MCU low-power alarm
- Reset, Tamper, and User buttons
- 4-direction joystick with selection button
- Board connectors:
 - 5 V power jack
 - RS-232 and RS485 communications
 - CAN FD
 - Stereo audio jack including analog microphone input
 - microSD[™] card
 - Extension I²C connector
 - Motor-control connector
 - Daughterboard connectors for legacy peripheral daughterboard or USB-C[®] and Power Delivery daughterboard
 - Extension connectors for daughterboard or wire-wrap board
- Flexible power-supply options:
 - 5 V power jack
 - ST-LINK/V2-1 USB connector
 - Daughterboard
- On-board ST-LINK/V2-1 debugger/programmer with USB re-enumeration capability: Virtual COM port and debug port
- Comprehensive free software libraries and examples available with the [STM32CubeG0](#) MCU Package
- Support of a wide choice of Integrated Development Environments (IDEs) including IAR Embedded Workbench[®], MDK-ARM, and STM32CubeIDE

Legacy peripheral daughterboard

- IrDA transceiver
- IR LED and IR receiver
- Light-dependent resistor (LDR)
- Temperature Sensor
- Board connectors:
 - Two HDMI connectors with DDC and CEC
 - Smartcard slot

USB-C® and Power Delivery daughterboard

- Multiplexor for first generation USB 3.1 Type-B receptacle / DisplayPort™ input and USB Type-C® port 1 output
- Multiplexor for USB Type-C® port 2 input and DisplayPort™ output / USB 2.0 Type-A receptacle
- VCONN on USB Type-C® port 1
- USB PD on USB Type-C® port 1
- Board connectors:
 - USB Type-C® port 1 DRP (dual-role port) and USB 2.0 FS data
 - USB Type-C® port 2 sink
 - DisplayPort™ input
 - DisplayPort™ output
 - First generation USB 3.1 Type-B receptacle, not installed by default
 - USB 2.0 Type-A receptacle, not installed by default
 - 19 V power jack for USB PD

Description

The **STM32G0C1E-EV** Evaluation board is a high-end development platform for the **STM32G0C1VET6** microcontroller operating at up to 64 MHz frequency with internal 512-Kbyte Flash memory, 144-Kbyte RAM, USB 2.0 FS device and host, two CAN FDs, USB Type-C®, and Power Delivery controller interfaces (UCPD) compliant with USB Type-C® r1.2 and USB PD specification r3.0, three I²Cs, three SPIs, six USARTs, two low-power UARTs, one 12-bit ADC, two 12-bit DACs, three general-purpose comparators, seven general-purpose timers, two low-power timers, HDMI CEC, and SWD debugging support.

The full range of hardware features on the **STM32G0C1E-EV** Evaluation board includes the mother board, the legacy peripheral daughterboard, and the USB-C® and Power Delivery daughterboard, which help to develop applications, and evaluate all peripherals, such as USB Type-C® connector with USB PD, motor control connector, CAN FD, USB 2.0 FS, RS-232, RS-485, audio DAC, microphone ADC, TFT LCD, IrDA, IR LED, IR receiver, LDR, microSD™ card, CEC on two HDMI connectors, Smartcard slot, RF EEPROM, and temperature sensor.

The board integrates an ST-LINK/V2-1 as an embedded in-circuit debugger and programmer for the STM32 MCU.

The daughterboard and extension connectors provide an easy way to connect a daughterboard or wrapping board for the user's specific application.

The USB-C® and Power Delivery daughterboard features two independent USB-C® ports controlled by STM32G0. USB-C® port 1 is dual role power (DRP) and can provide up to 45 W of power. USB-C® port 2 is sink only. Both support the USB PD protocol and the alternate mode functionality.

Application firmware examples are provided to evaluate USB-C® technology through various use cases.

1 Ordering information

To order the STM32G0C1E-EV Evaluation board, refer to [Table 1](#). For a detailed description of the board, 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 reference	User manual	Target STM32
STM32G0C1E-EV	<ul style="list-style-type: none"> MB1581: mother board MB1351: legacy peripheral daughterboard MB1352: USB-C® and Power Delivery daughterboard MB895/S: LCD daughterboard 	UM2783	STM32G0C1VET6U

1.1 Product marking

The sticker located on the top or bottom side of the PCB board shows the information about product identification such as board reference, revision, and serial number.

The first identification line has the following format: “MBxxx-Variant-yyz”, where “MBxxx” 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 identification line is the board serial number used for traceability.

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 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](#).

Table 2. Codification explanation

STM32XXYYT-EV	Description	Example: STM32G0C1E-EV
XX	MCU series in STM32 32-bit Arm Cortex MCUs	STM32G0 Series
YY	MCU product line in the series	STM32G0C1
T	STM32 Flash memory size <ul style="list-style-type: none"> E for 512 Kbytes 	512 Kbytes
EV	Evaluation board	Evaluation board

2 Development environment

The STM32G0C1E-EV Evaluation board runs with the STM32G0C1VET6 32-bit microcontroller based on the Arm® Cortex®-M0+ core.

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



2.1 System requirements

- Windows® OS (7, 8, or 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.
All other trademarks are the property of their respective owners.

2.2 Development toolchains

- IAR Systems - IAR Embedded Workbench®(1)
- Keil® - MDK-ARM(1) (2)
- STMicroelectronics - STM32CubeIDE

1. On Windows® only.
2. Free MDK-ARM for Arm® Cortex®-M0/M0+ cores.

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	Version	Changes
12-Oct-2020	1	Initial release.

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