STM32WB5MM-DK

Discovery kit with STM32WB5MMG module
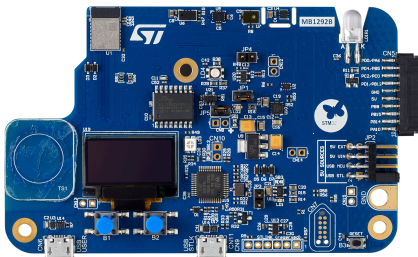
STM32WB5MM-DK top view. Picture is not contractual.

Product status link
STM32WB5MM-DK

Features

- STM32WB5MMG (1-Mbyte Flash memory, 256-Kbyte SRAM, in Module RF package)
  - Dual-core 32-bit (Arm® Cortex®-M4 and dedicated M0+ CPU for real-time radio layer)
  - 2.4 GHz RF transceiver supporting Bluetooth® specification V5.2, 802.15.4 with Zigbee®, Thread®, and proprietary protocols
- 0.96-inch 128x64 OLED display
- 128-Mbit Quad-SPI NOR Flash Memory
- Temperature sensor
- Accelerometer/gyroscope sensor
- Time-of-Flight and gesture-detection sensor
- Digital microphone
- RGB LED
- Infrared LED
- 3 push-buttons (2 users and 1 reset) and 1 touch key button
- Board connectors:
  - STMod+
  - ARDUINO® Uno V3 expansion connector
  - USB user with Micro-B connector
  - TAG10 10-pin footprint
- Flexible power-supply options: ST-LINK/V2-1 USB connector, 5 V delivered by ARDUINO® or external connector, USB charger, or USB power
- 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 STM32CubeWB MCU Package
- Support of a wide choice of Integrated Development Environments (IDEs) including IAR Embedded Workbench®, MDK-ARM, and STM32CubeIDE

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For further information contact your local STMicroelectronics sales office.

www.st.com

1 Description

The STM32WB5MM-DK Discovery kit is designed as a complete demonstration and development platform for the STMicroelectronics STM32W5MMG module based on the Arm® Cortex®-M4 and Arm® Cortex®-M0+ cores.

The STM32 device is a multi-protocol wireless and ultra-low-power device embedding a powerful and ultra-low-power radio compliant with the Bluetooth® Low Energy (BLE) SIG specification v5.2 and with IEEE 802.15.4-2011.

The hardware features of the Discovery kits are available for users to develop their applications: Audio, USB, user buttons, and Bluetooth® Low Energy. Extension connectors allow easy connection of an ARDUINO® board for a specific application.

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

2 Ordering information

To order the STM32WB5MM-DK Discovery kit, 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. Ordering information

Order code	Board reference	User manual	Target STM32
STM32WB5MM-DK	MB1292	UM2825	STM32WB5MMGH6

2.1 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 identification 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 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.

2.2 Codification

The meaning of the codification is explained in Table 2.

Table 2. Codification explanation

STM32WBXXY-DK	Description	Example: STM32WB5MMG-DK
STM32WB	MCU series in STM32 32-bit Arm Cortex MCUs	STM32WB Series
XX	MCU product line in the series	STM32WB5M line (WB55 module version)
Y	Package version	Module LGA 86L
DK	Board type	Discovery kit

3   Development environment

STM32WB5MM-DK runs with the STM32W5MMG 32-bit microcontroller based on the Arm® Cortex®-M core.

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

3.1   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.

3.2   Development toolchains

- IAR Systems® - IAR Embedded Workbench®[1]
- Keil® - MDK-ARM[1]
- STMicroelectronics - STM32CubeIDE

1. On Windows® only.

3.3   Demonstration software

The demonstration software 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
22-Jan-2021	1	Initial release.

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