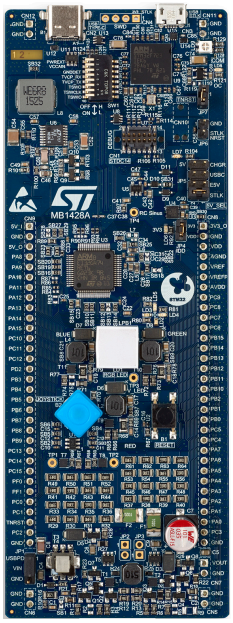
B-G474E-DPOW1

Data brief

Discovery kit with STM32G474RE MCU



B-G474E-DPOW1 top view. Picture is not contractual.

Product status link
B-G474E-DPOW1

Features

- STM32G474RET6 Arm® Cortex®-M4 core-based microcontroller, featuring 512 Kbytes of Flash memory and 128 Kbytes of SRAM, in LQFP64 package
- USB Type-C™ with USB 2.0 FS interface compatible with USB PD3.0
- RGB power LED for a bright lighting
- Digital power buck-boost converter with internal or external Input voltage and with on-board resistor loads
- Audio class-D amplifier capable
- 4 user LEDs
- 3 LEDs for power and ST-LINK communication
- 4-direction joystick with a selection button
- Reset push-button
- Board connectors:
  - USB Type-C™
  - USB micro-B
  - 2 x 32-pin header, 2.54 mm pitch, daughterboard extension connector for breadboard connection
- Flexible power-supply options: ST-LINK USB V_{BUS} or USB Type-C™ V_{BUS} or external source
- 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™, Keil®, and GCC-based IDEs
- Handled by STM32CubeMonitor-UCPD software tool

Description

The B-G474E-DPOW1 Discovery kit is a digital power solution and a complete demonstration and development platform for the STMicroelectronics STM32G474RET6 microcontroller. Leveraging the new HRTimer-oriented features, 96 Kbytes of embedded RAM, math accelerator functions and USBPD 3.0 offered by STM32G474RET6, the B-G474E-DPOW1 Discovery kit, based on the USB 2.0 FS Type-C™ connector interface, helps the user to prototype applications with digital power such as a buck-boost converter, RGB power LED lighting or a class-D audio amplifier. The B-G474E-DPOW1 Discovery kit does not require any separate probe, as it integrates the STLINK-V3E debugger and programmer. The B-G474E-DPOW1 Discovery kit comes with the comprehensive software HAL library together with various packaged software examples.

1 Ordering information

To order the B-G474E-DPOW1 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. List of available products

Order code	Board reference	User manual	Target STM32
B-G474E-DPOW1	MB1428	UM2577	STM32G474RET6U

1.1 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.

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.

2 Development environment

The B-G474E-DPOW1 Discovery kit runs with the STM32G474RET6U 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

- Windows® OS (7, 8 and 10), Linux® 64-bit, or macOS®
- USB Type-A to Micro-B cable (not included)
- USB Type-C™ to Type-C™ cable (included)

Note: macOS® is a trademark of Apple Inc. registered in the U.S. and other countries.

2.2 Development toolchains

- Keil® MDK-ARM (see note)
- IAR™ EWARM (see note)
- GCC-based IDEs

Note: On Windows® only.

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*.

3 Technology partners

- Wurth Electronics:
  - Current sense transformer, 1:125 ratio, 6 to 6.5 mΩ, 3 mH, 10 A, part number 749251125

Revision history

Table 2. **Document revision history**

Date	Version	Changes
12-Jul-2019	1	Initial release.