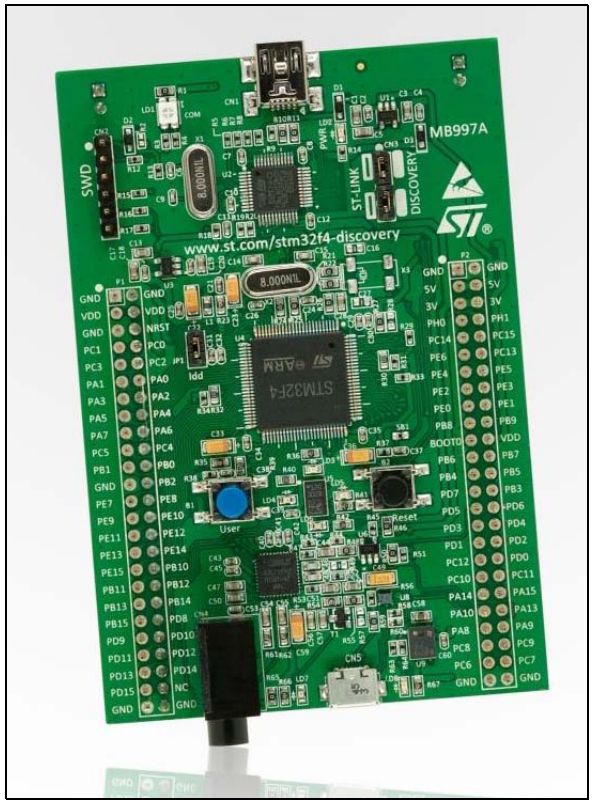
STM32F4DISCOVERY

Discovery kit for STM32F407/417 line

Data brief

Features

- STM32F407VGT6 microcontroller featuring 32-bit ARM Cortex®-M4 with FPU core, 1 MB Flash memory, 192 KB RAM in an LQFP100 package
- On-board ST-LINK/V2 with selection mode switch to use the kit as a standalone ST-LINK/V2 (with SWD connector for programming and debugging)
- Board power supply: through USB bus or from an external 5 V supply voltage
- External application power supply: 3 V and 5 V
- LIS302DL or LIS3DSH ST MEMS 3-axis accelerometer
- MP45DT02 ST MEMS audio sensor omni-directional digital microphone
- CS43L22 audio DAC with integrated class D speaker driver
- Eight LEDs:
  - LD1 (red/green) for USB communication
  - LD2 (red) for 3.3 V power on
  - Four user LEDs, LD3 (orange), LD4 (green), LD5 (red) and LD6 (blue)
  - 2 USB OTG LEDs LD7 (green) VBus and LD8 (red) over-current
- Two push buttons (user and reset)
- USB OTG FS with micro-AB connector
- Extension header for all LQFP100 I/Os for quick connection to prototyping board and easy probing
- Comprehensive free software including a variety of examples, part of STM32CubeF4 package or STSW-STM32068 for legacy standard libraries usage



Description

The STM32F4DISCOVERY helps you to discover the STM32F407/417 line features and to develop your applications easily. It includes everything required for beginners and experienced users to get started quickly.

Based on the STM32F407VGT6, it includes an ST-LINK/V2 embedded debug tool, two ST MEMS digital accelerometer and digital microphone, one audio DAC with integrated class D speaker driver, LEDs and push buttons and an USB OTG micro-AB connector.

To expand the functionality of the STM32F4 Discovery kit with Ethernet connectivity, LCD display and more, visit www.st.com/stm32f4dis-expansion.

Ordering information

To order the STM32F407/417 line discovery board, use the order code STM32F4DISCOVERY.

System requirements

- Windows PC (XP, 7, 8)
- USB type A to Mini-B cable.

Development toolchains

- IAR EWARW (IAR Embedded Workbench®)
- Keil® MDK-ARM™
- GCC-based IDE (ARM® Atollic® TrueSTUDIO®,...).

Demonstration software

The demonstration software is preloaded in the board's Flash memory. It uses the MEMS motion sensor to blink the four LEDs according to the motion direction and speed. Connecting the board to a PC with a second USB 'type A to micro-B' cable converts it into a standard mouse, and board motion controls the PC cursor.

The latest versions of the demonstration source code and associated documentation can be downloaded from www.st.com/stm32f4-discovery.

Revision history

Table 1. Document revision history

Date	Revision	Changes
15-Sep-2011	1	Initial version.
28-Jan-2013	2	Added URL for expanding functionality in *Description*.
15-Jul-2013	3	Modified to apply to STM32F407/417. Added LIS3DSH accelerometer.
29-Sep-2014	4	Updated *Section : Features* and *Section : Description* to introduce STM32CubeF4 and STSW-STM32078. Updated *Section : System requirements* and *Section : Development toolchains*.

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