STM32F4DISCOVERY

## STM32F4 high-performance discovery board

Data brief

Features

- STM32F407VGT6 microcontroller featuring 32-bit ARM Cortex-M4F core, 1 MB Flash, 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, ST MEMS motion sensor, 3-axis digital output 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

Description

The STM32F4DISCOVERY helps you to discover the STM32F4 high-performance features and to develop your applications easily. It includes everything required for beginners and experienced users to get started quickly.
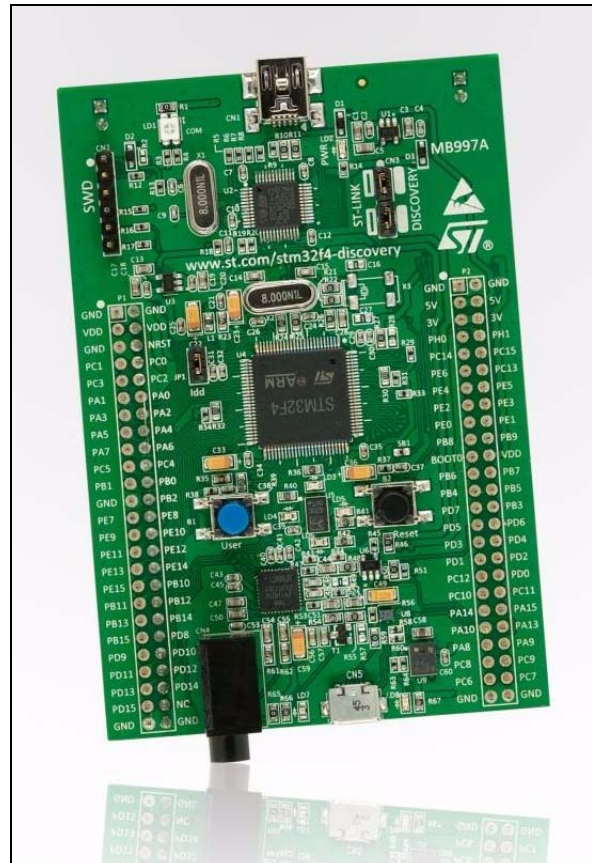
Based on the STM32F407VGT6, it includes an ST-LINK/V2 embedded debug tool, two ST MEMS, digital accelerometer and digital microphone, one audio DAC with integrated class D speaker driver, LEDs and push buttons and an USB OTG micro-AB connector.

A large number of free ready-to-run application firmware examples are available on www.st.com/stm32f4-discovery to support quick evaluation and development.

Table 1.   Device summary

Order code	Reference
STM32F4DISCOVERY	STM32F4 high-performance discovery board

For further information contact your local STMicroelectronics sales office.

www.st.com

1 System requirements

- Windows PC (2000, XP, Vista, 7)
- USB type A to Mini-B cable

2 Development toolchains

- Altium TASKING™ VX-Toolset
- Atollic TrueSTUDIO®
- IAR, Embedded Workbench® for ARM
- Keil, MDK-ARM^{TM}

3 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.

4 Revision history

Table 2.   Document revision history

Date	Revision	Changes
15-Sept-2011	1	Initial version.

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