

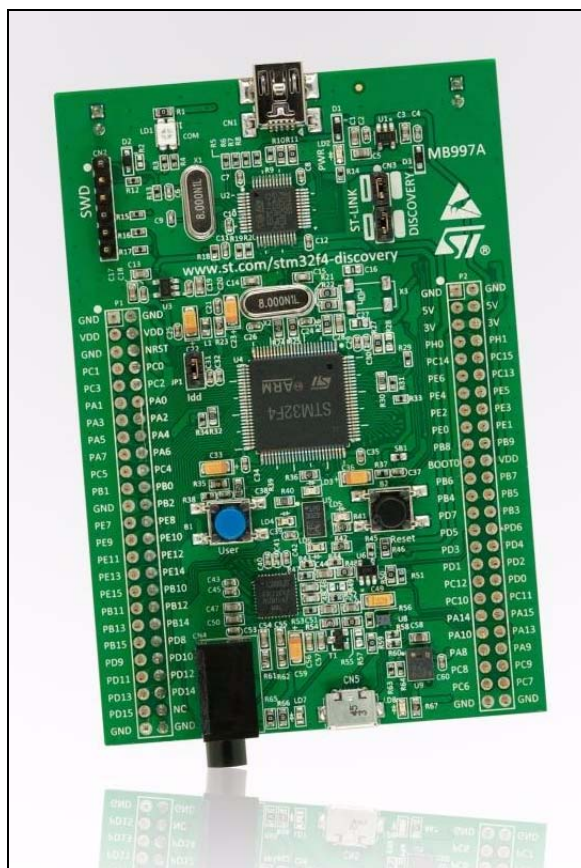


### Features

- 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](http://www.st.com/stm32f4-discovery) to support quick evaluation and development.

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

# 1 Ordering information

Table 1. Device summary

| Order code       | Reference                                |
|------------------|--|
| STM32F4DISCOVERY | STM32F4 high-performance discovery board |

# 2 System requirements

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

# 3 Development toolchains

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

# 4 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](http://www.st.com/stm32f4-discovery).

# 5 Revision history

Table 2. Document revision history

| Date         | Revision | Changes  |
|--------------|----------|--|
| 15-Sept-2011 | 1        | Initial version.   |
| 28-Jan-2013  | 2        | Added URL for expanding functionality in <a href="#">Description</a> . |

**Please Read Carefully:**

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

**UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.**

**UNLESS EXPRESSLY APPROVED IN WRITING BY TWO AUTHORIZED ST REPRESENTATIVES, ST PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE. ST PRODUCTS WHICH ARE NOT SPECIFIED AS "AUTOMOTIVE GRADE" MAY ONLY BE USED IN AUTOMOTIVE APPLICATIONS AT USER'S OWN RISK.**

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2013 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

[www.st.com](http://www.st.com)

