
STM32 PerformanceStick interconnection board

1 Introduction

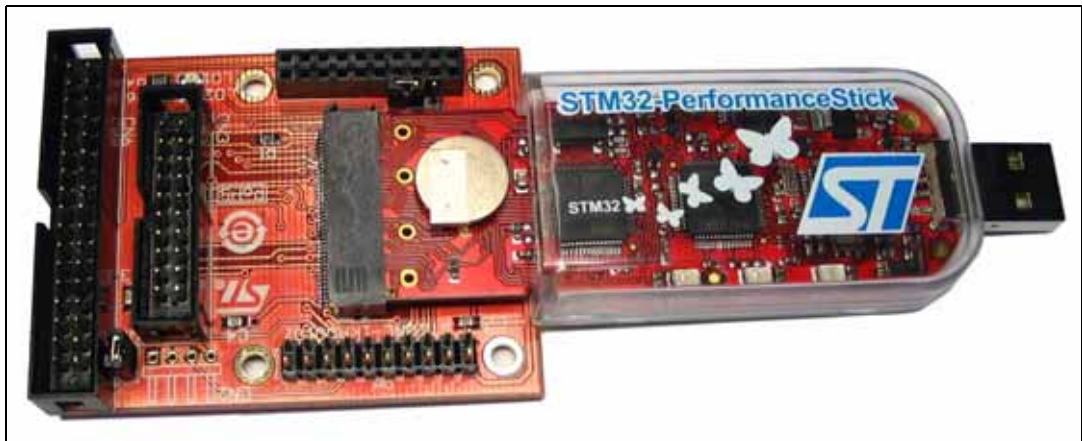
This document describes the hardware of the STMicroelectronics STM32 PerformanceStick interconnection board and associated STM32 firmware examples.

The purpose of this design is to adapt all existing and currently planned STR9 dongle extensions to the Hitex STM32-PerformanceStick based on the STM32F103R.

The STM32F103xx performance line family incorporates the high-performance ARM[®] Cortex[™]-M3 32-bit RISC core operating at a 72 MHz frequency, high-speed embedded memories (Flash memory up to 128 Kbytes and SRAM up to 20 Kbytes), and an extensive range of enhanced I/Os and peripherals connected to two APB buses. All devices offer two 12-bit ADCs, three general purpose 16-bit timers plus one PWM timer, as well as standard and advanced communication interfaces: up to two I²Cs and SPIs, three USARTs, an USB and a CAN.

The STM32F103xx performance line family operates in the –40 to +105 °C temperature range, from a 2.0 to 3.6 V power supply. A comprehensive set of power-saving modes allows the design of low-power applications.

Figure 1. STM32 PerformanceStick interconnection board and Hitex STM32-PerformanceStick hardware



2 Description

The STM32 PerformanceStick interconnection board is designed to demonstrate several STMicroelectronics products:

- Motion sensors (MEMS) - ST's low-g linear accelerometers are grouped in subfamilies according to the number of axes (2-axis and 3-axis), the package type (SO24, QFN or LGA) and the IC output (analog or digital). The MEMS sensor of a linear accelerometer is based on an inter-digitated, comb-like silicon structure composed of fixed and movable fingers. To sense the acceleration in different directions, these structures are packaged in orthogonal groups. The acceleration in each direction is sensed by measuring the displacements of the movable elements correlated to that axis. The motion measured by the sensor is then translated into an analog or digital signal.
- ZigBee[®], the leading wireless control and sensory network solution, stands apart from other RF solutions as the only standards-based technology that:
 - Addresses the unique needs of sensory network applications, remote monitoring and control.
 - Enables broad-based deployment of wireless mesh networks with low-cost, low-power solutions.
 - Provides the ability to run for years on inexpensive primary batteries for a typical monitoring application.

The kit consists of:

- Circuit board - STM32 PerformanceStick interconnection board.
- CD with related user manual, application notes and datasheets.

3 **Getting started**

- Connect the Hitex STM32-PerformanceStick and the STM32 PerformanceStick interconnection board.
- Connect the kit to a PC/laptop using the supplied USB cable and allow Windows to recognize the device (no user action needed).
- To start evaluation of the enclosed STM32 interface, please ensure that you have the appropriate sensor/interface extension (ZigBee, MEMS, etc.) and that it is connected, then follow the common development procedure described in the Hitex HiTOP user manual.

Appendix A Interconnection board schematics

Figure 2. STM32 PerformanceStick interconnection board schematics

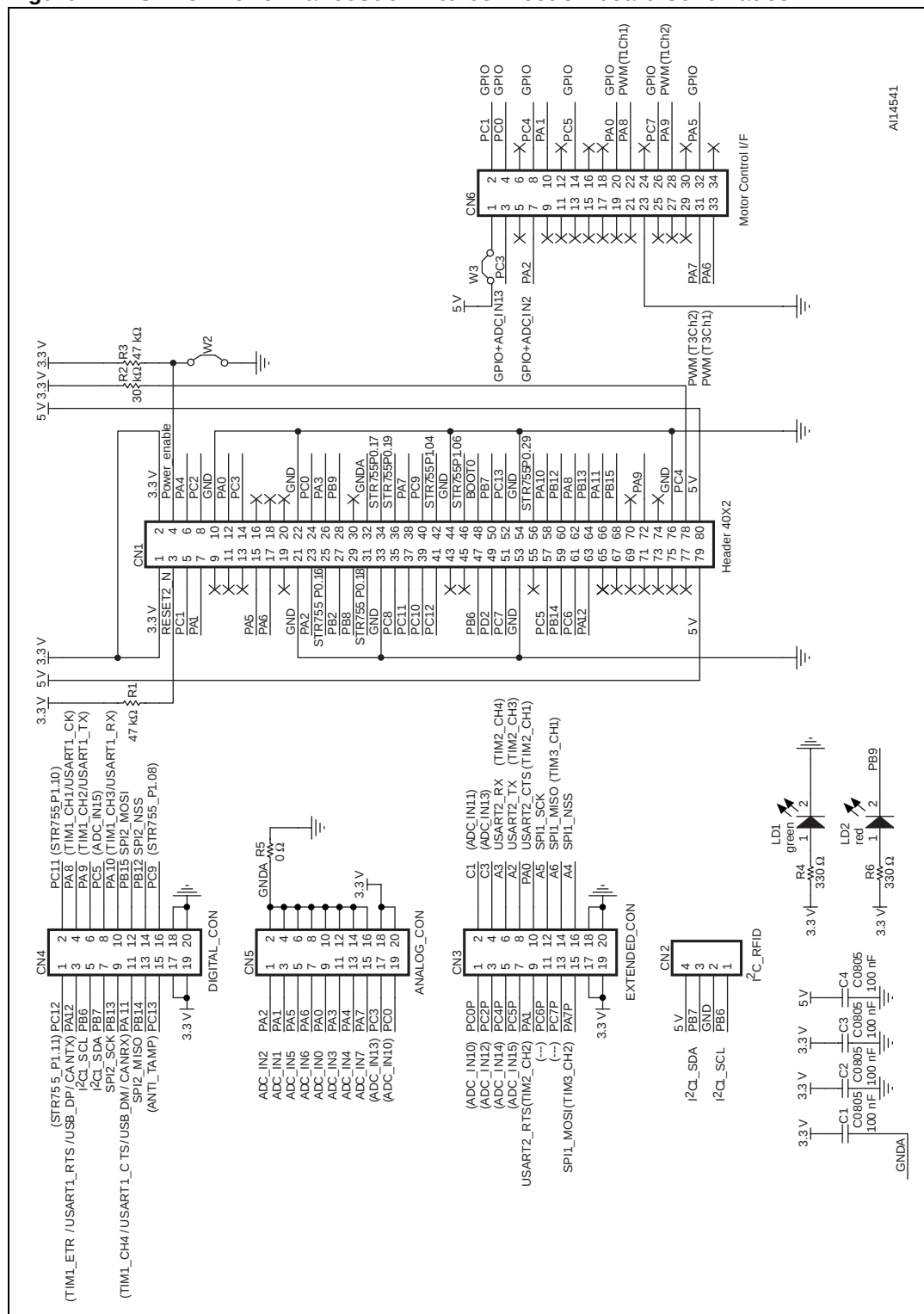
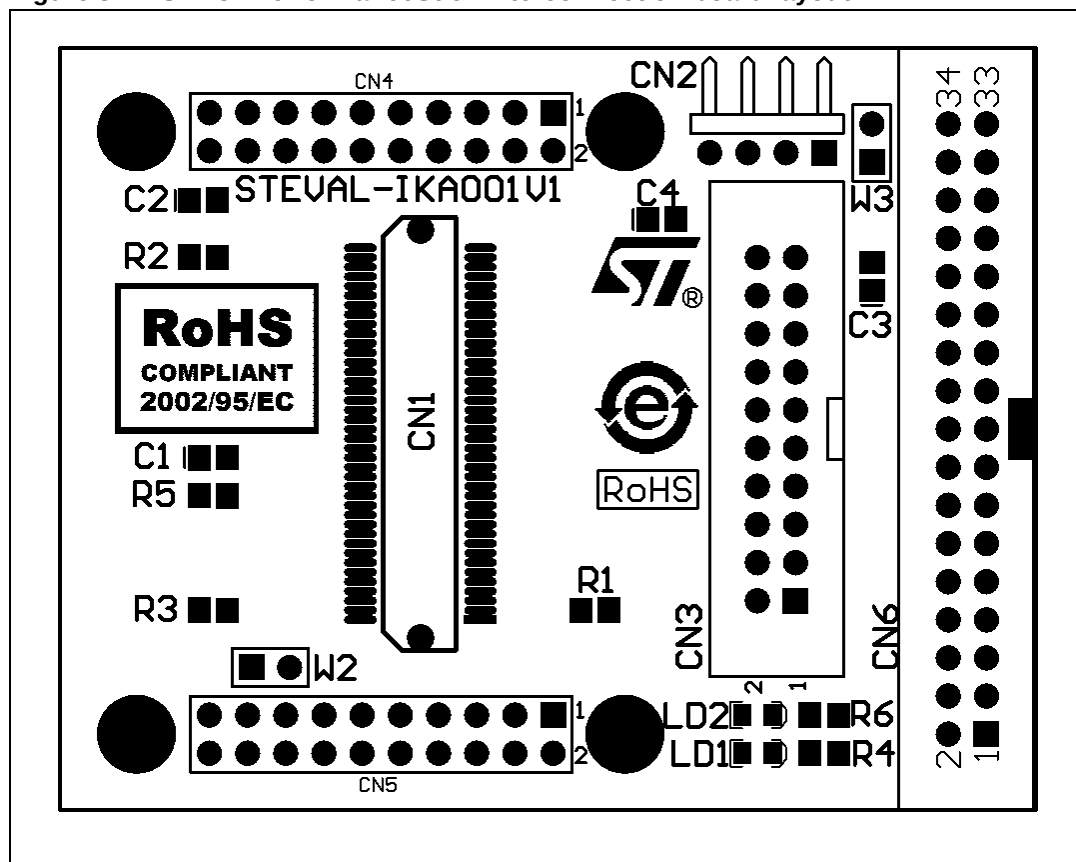


Figure 3. STM32 PerformanceStick interconnection board layout



4 Revision history

Table 1. Document revision history

Date	Revision	Changes
08-Jan-2008	1	Initial release.

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 AN AUTHORIZED ST REPRESENTATIVE, 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.

© 2008 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 - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com

