



STEVAL-IAS001V1

Security keypad demonstration board
based on ST7Lite39F2 and STM1403

Data Brief

Features

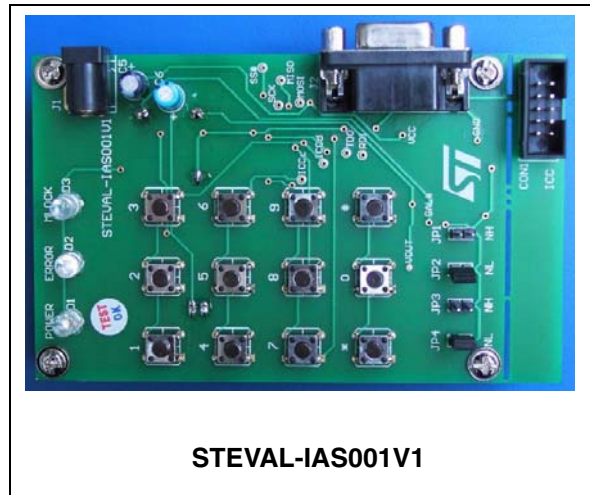
- 4 x 3 key matrix
- 3 LEDs (green for power, red for error and yellow for magnetic lock)
- 4 jumpers for physical intrusion detection with battery back-up and buzzer
- On-board SPI EEPROM for event logging
- On-board RS232 driver to interface with the PC
- Power supply adaptor (3.4 V - 19 V)
- Embedded in-circuit programming capability

Description

This demonstration boards offers the functionality of a keypad controller in security door applications. The aim of this board is to assist in the development of a keypad decoding system and to display associated information through LEDs for all necessary actions such as power on, door open and error. The entire system has been developed to target low-end and low-cost application areas and has been realized with the help of the ST7LITE39F2 microcontroller. A useful additional feature is the support of system protection from physical intrusion, using the STM1403. STEVAL-IAS001V1 aims to display the capabilities of ST's general purpose microcontroller to fit the market segment of home automation and security, keeping the system cost as low as possible. The board can operate in 2 modes:

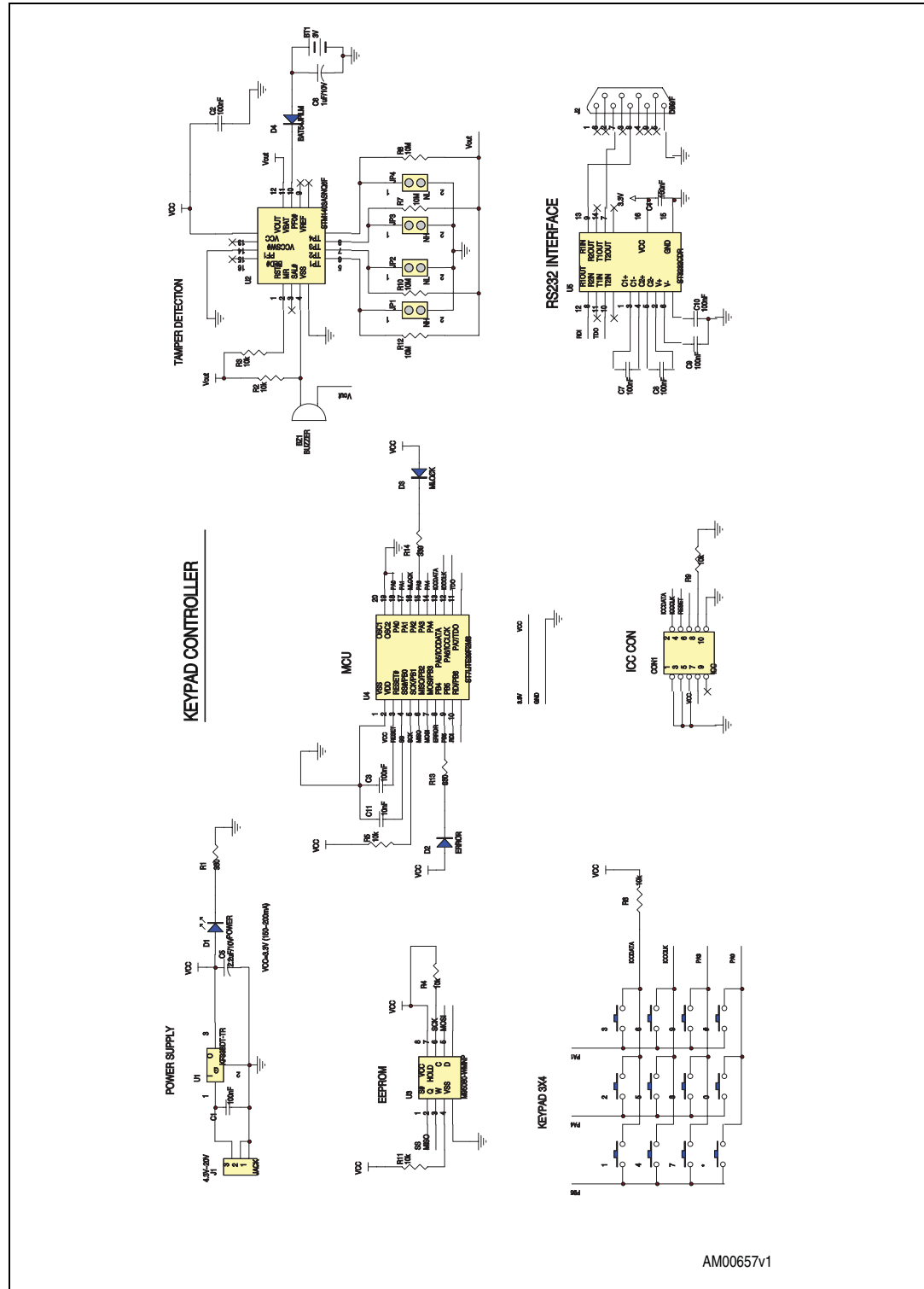
- User (stand-alone) mode
- Administrator mode
 - through the board
 - through PC graphical user interface

When the board is connected to the power supply the system enters the user configuration mode. Administrator mode can be accessed through the use of a PC, where SCI communication is set up and used between the PC and the board through



the RS232. At the time of manufacturing an additional board has been connected to allow in-circuit programming of the microcontroller. The two boards can be easily disconnected so that the keypad controller for the security door evaluation board can be used independently.

Figure 1. Schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
02-Jul-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