



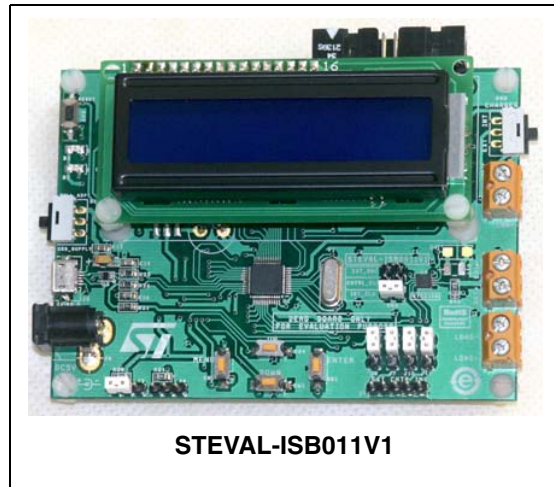
STEVAL-ISB011V1

Li-ion battery monitoring system demonstration board based on the STC3100 and STM32

Data brief

Features

- STC3100 uses Coulomb counter/gas gauge to track the remaining charge in the battery, and can read the charging current, temperature and voltage of the battery
- On-board STM32 microcontroller is interfaced with USB, STC3100, LCD, switches. Battery parameters are sent to PC via virtual COM port
- Charging and discharging status displayed on LCD.
- Gas gauge: battery capacity up to +7300 mAh can be monitored (programmable by user)
- Supports external or internal battery charger allowing evaluation of the STC3100 with the user's own charging system
- On-board charger (STC4054) available to charge the battery
- Four switches for menu scrolling
- Micro-USB B type connector can:
 - communicate battery parameters to the PC
 - provide power to the board
 - charge the battery using internal charger
- Option to interface external microcontroller using jumpers
- STC3100 clock source can be selected from external oscillator, the device's internal clock or from clock generated by an internal/external microcontroller
- RoHS compliant



Battery charging is performed using the USB port, or using a DC adaptor.

Description

The STEVAL-ISB011V1 demonstration board is based on the STC3100 battery monitoring device and the STM32 microcontroller.

The STM32 microcontroller provides a simple, compact solution to monitor the voltage, temperature, current and capacity of single cell Li-ion batteries utilizing the highly-efficient gas gauge capability of the STC3100.

March 2010

Doc ID 17197 Rev 1

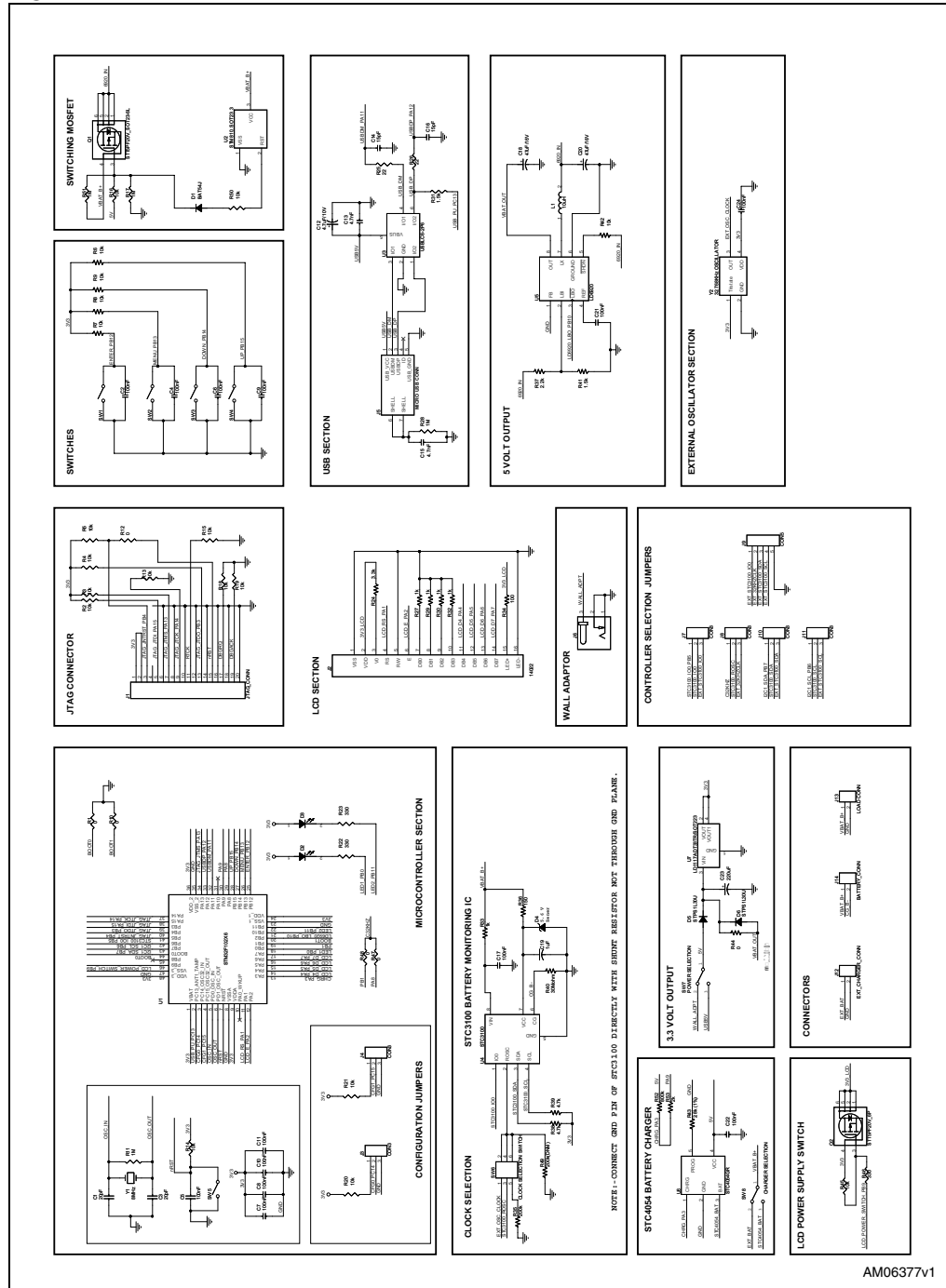
1/4

For further information contact your local STMicroelectronics sales office.

www.st.com

1 Schematic diagrams

Figure 1. STEVAL-ISB011V1 circuit schematics



AM06377v1

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
15-Mar-2010	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.

© 2010 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