



# STEVAL-ISB008V1

## Standalone USB Li-Ion battery charger demonstration board based on the STw4102 and STM32F103C6

Data brief

### Features

- The STw4102 Li-Ion battery charger IC:
  - supports battery charging by USB or external DC adaptor
  - includes an accurate gas gauge for monitoring battery capacity
- On-board STM32F103C6 microcontroller enumerates and controls the STw4102 for compliance with USB specifications
- Includes dual-color LEDs to indicate charging/discharging status
- Suitable as a standalone Li-Ion battery charger in various applications
- RoHS compliant

### Description

The STEVAL-ISB008V1 demonstration board is based on the STw4102 battery charger device and the STM32F103C6 microcontroller. The board is designed as a complete standalone battery charger, and includes a gas gauge to monitor battery capacity using five LEDs to represent different capacity levels. Two status LEDs indicate battery charging, discharging and some fault conditions.

By default, the firmware programmed in the demonstration board considers a battery capacity of 1200 mAh. This maximum capacity value is used to identify the percentage of available battery capacity, which is shown using the 5 LEDs.

The demonstration board firmware allows the user to vary the maximum capacity up to 2100 mAh, in steps of 300 mAh.

The STM32F103C6 microcontroller is used to control and monitor the STw4102 battery charger device.

All communication between the STw4102 and the STM32F103C6 is done through an I<sup>2</sup>C interface.



The STEVAL- ISB008V1 is equipped with both a USB and a DC adapter connector.

The board can supply a maximum battery charging current of 400 mA for a USB port, extending to 800 mA for a DC adapter.



## 2 Revision history

**Table 1. Document revision history**

| Date        | Revision | Changes          |
|-------------|----------|------------------|
| 10-Nov-2009 | 1        | Initial release. |

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