STEVAL-IPR002V2

Data logger & event logger evaluation system based on the M24LR64E-R EEPROM

Data brief

Features

- Demonstrates the dual communication interfaces (RF & I^2C) of the M24LR64E-R EEPROM
- Records temperature, motion (MEMS), humidity and light (photo diode) parameters in a dual EEPROM
- Two operation modes:
  - RFID mode for reading and writing the EEPROM using an RFID kit (starter kit RFID reader)
  - I^2C read and write using an STM8L microcontroller
- Utilizes a 20 mm x 40 mm inductive antenna for RF communication with starter kit RFID reader
- Includes a graphical user interface to evaluate the logged information from EEPROM
- RoHS compliant

Description

The STEVAL-IPR002V2 product evaluation board is based on the M24LR64E-R dual interface EEPROM which targets a wide range of applications such as industrial and medical equipment, and consumer electronics.

RFID (13.56 MHz) and I^2C serial communication are the two interfaces available with EEPROM. This evaluation platform offers an autonomous battery-powered RFID tag with logging capability for recording and storing data from several sensors that measure temperature, humidity, vibration, free-fall, tamper and light.

The value from the various sensors is stored within the EEPROM, and then at later stages the logged values can be retrieved through an RFID interface for evaluation. This data logger can be attached to any transported article, allowing it to be tracked throughout the supply chain, and the data can be scanned at any point using an RFID reader.

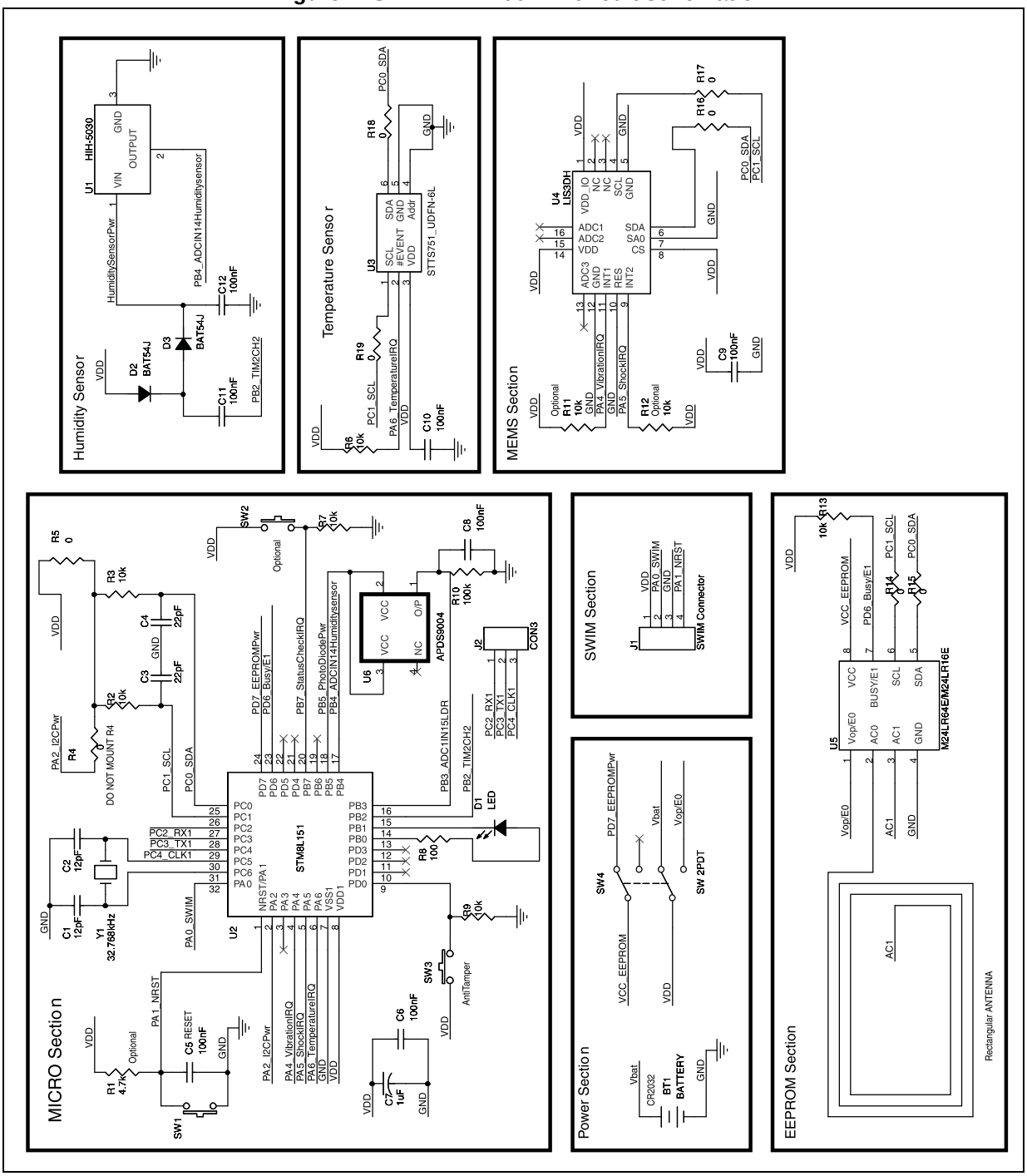
This system can operate in two modes: data logger mode and event logger mode.

In data logger mode, the system reads all sensor values once per second, and stores it in the EEPROM. The system stops logging the data when the allocated memory for a particular sensor is full.

In event logger mode, the system configures the threshold limits for each sensor. When the sense value is outside the set threshold limits, it is stored in the EEPROM.

1 Schematic diagram

Figure 1. STEVAL-IPR002V2 circuit schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
12-Mar-2014	1	Initial release.

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