STEVAL-ISQ006V1

USB to PMBus bridge demonstration board based on the ST72F651

Data Brief

Features

- USB to PMBus bridge
- Packaged hardware board (mechanical size: 79 mm x 39 mm x 20 mm) with a USB connector
- User friendly graphical user interface (GUI) to
  - identify the connected PMBus slaves (up to four)
  - configure, control and monitor the connected slaves
  - write/ read different PMBus commands
  - poll the alert response



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Description

The power management bus (PMBus) is a variant of the system management bus (SMBus) which is targeted at digital management of power supplies. Like SMBus, it is a relatively slow speed two wire communications protocol based on I²C. The PMBus protocol helps to establish the first truly open communications standard for the digital control of power systems facilitating the programming, control and real-time monitoring of compliant power conversion products.

The objective of this demonstration board is to show to the user the features and capabilities of PMBus using ST7 I2C peripheral, to support the standard PMBus commands.

This demonstration board has ST72651AR6 Microcontroller (MCU) that has an I2C peripheral. This microcontroller acts as the PMBus master. This demonstration board works with PC GUI and controls one or more PMBus compatible slaves connected on the shared bus. Even though its main purpose is to interface with ST PMBus devices (PM881x), it could be used to interface with other devices making use of the supported set of command.

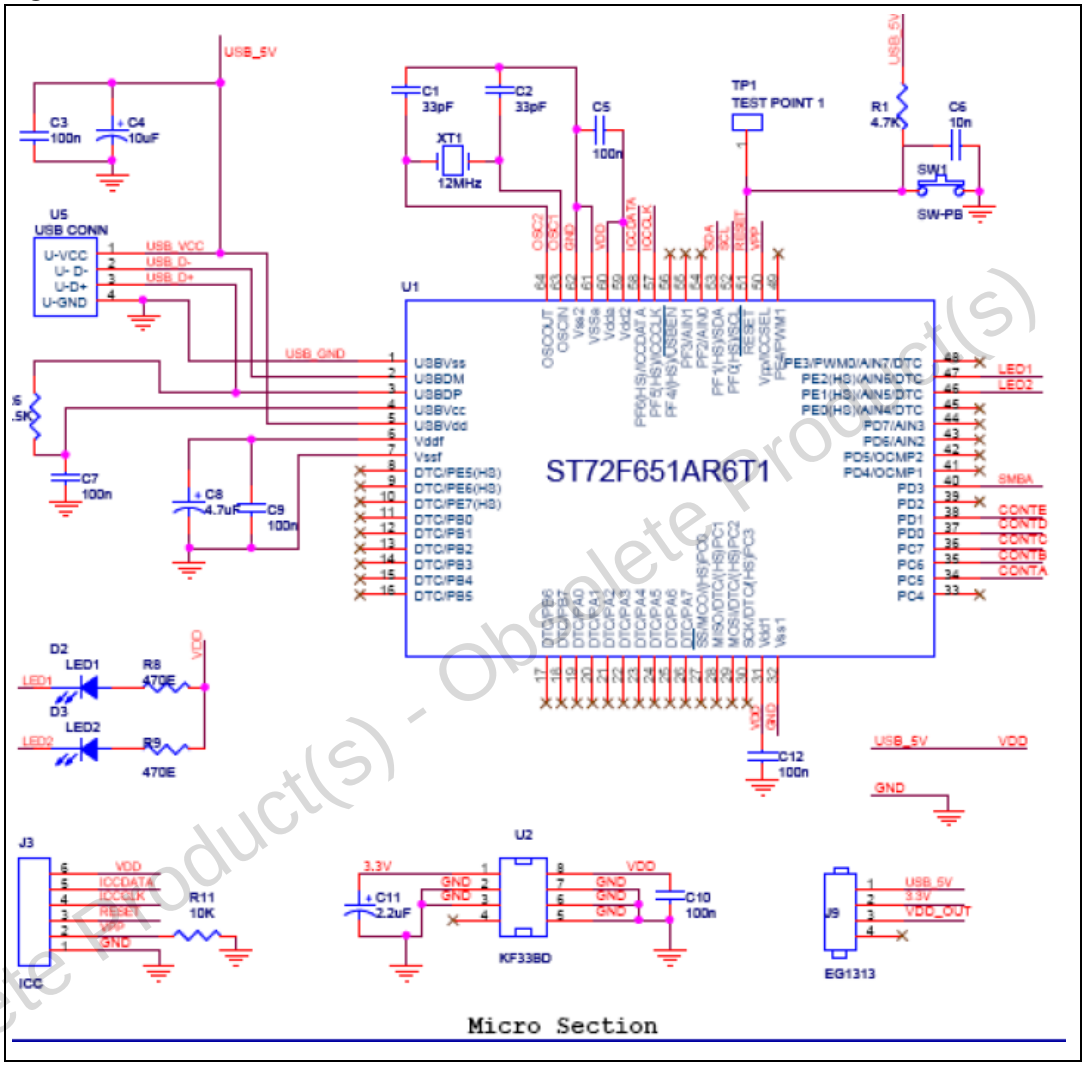
The firmware of this application performs the PMBus bus protocols mentioned in PMBus™ power system management protocol specification v1.1. The firmware is in C language.

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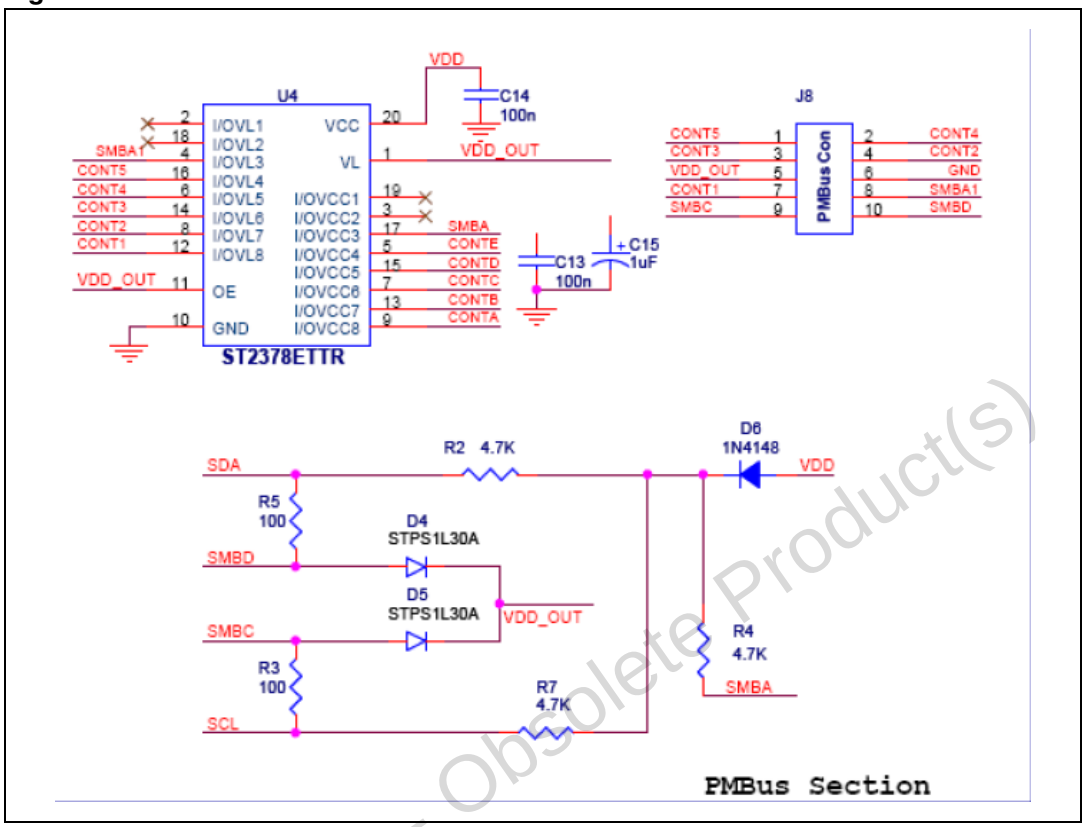
1 Circuit schematics

Figure 1. Microcontroller section



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Figure 2. PMBus section



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2 Revision history

Table 1. Document revision history

Date	Revision	Changes
28-Nov-2008	1	Initial release.

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