



# STEVAL-IPE006V2

## High end meter Demonstration board

Data Brief

### Features

- Active, reactive, apparent, fundamental active energy,  $V_{RMS}$ ,  $I_{RMS}$  and frequency measurements
- Anti-tampering on neutral wire
- Tamper detection on meter box, time stamp even during power-down
- PFI/PFO: power management, data backup
- LCD display
- Power line communication
- Automatic meter reading demonstration
- SMPS power supply
- RS232 IAP
- PC interface control
- Class 1



### Applications

The STEVAL-IPE006V2 is a first modular metering solution integrating all features for single multifunction energy meter. The measured values can be observed on the board's LCD or through the serial interface on a PC screen. All the parameter settings are changeable using a user friendly GUI. For safety reasons, the power supply and metering parts are galvanically isolated from the rest of the board. Application engineers can use this board to evaluate the components or quickly start with their own power meter product development project. All software and firmware source codes, as well as Gerber files and the bill of material are provided to help you get started easily and allow you to focus on the specific requirements of your application.

# 1 Board schematic

Figure 1. Energy meter section schematic

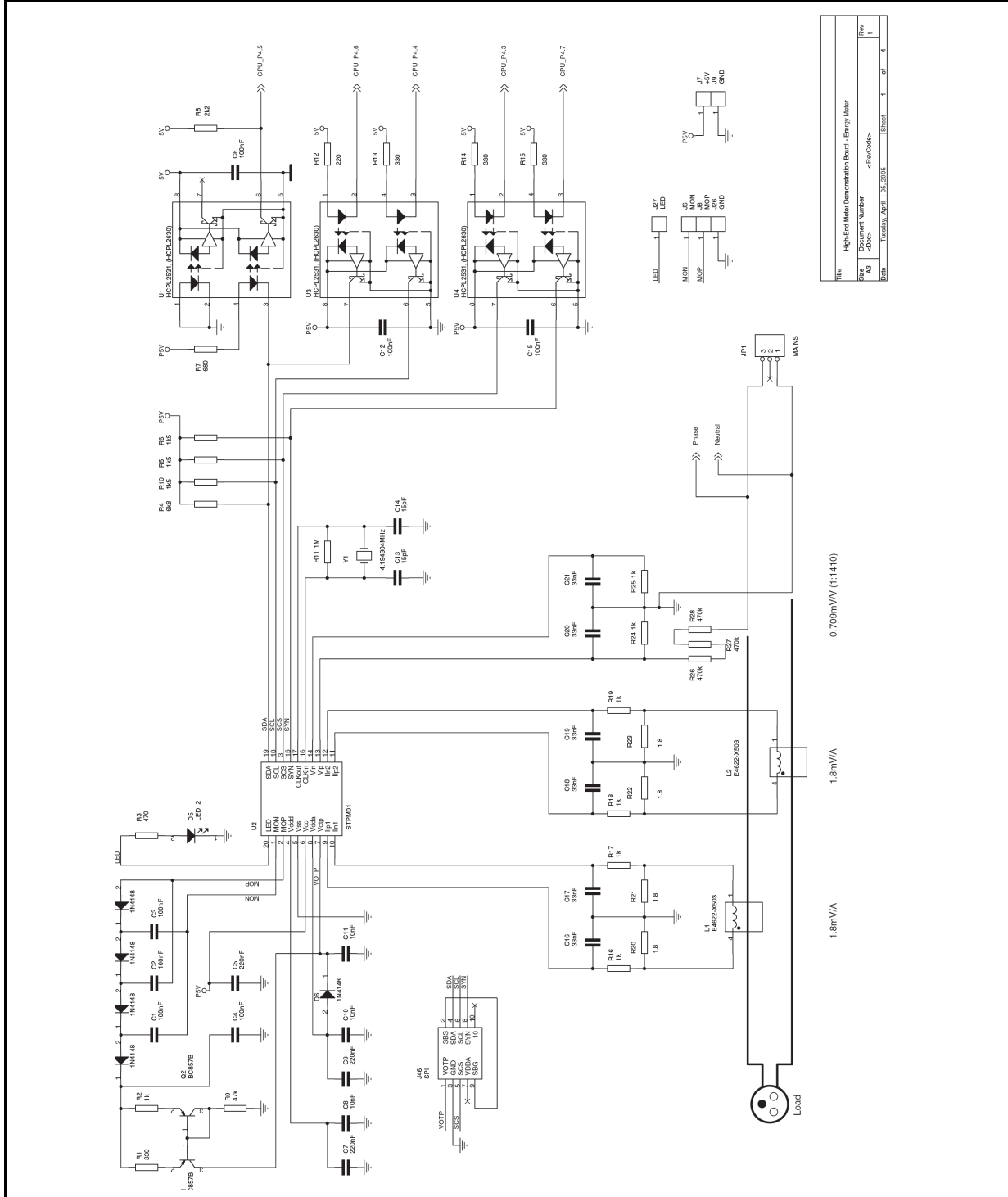
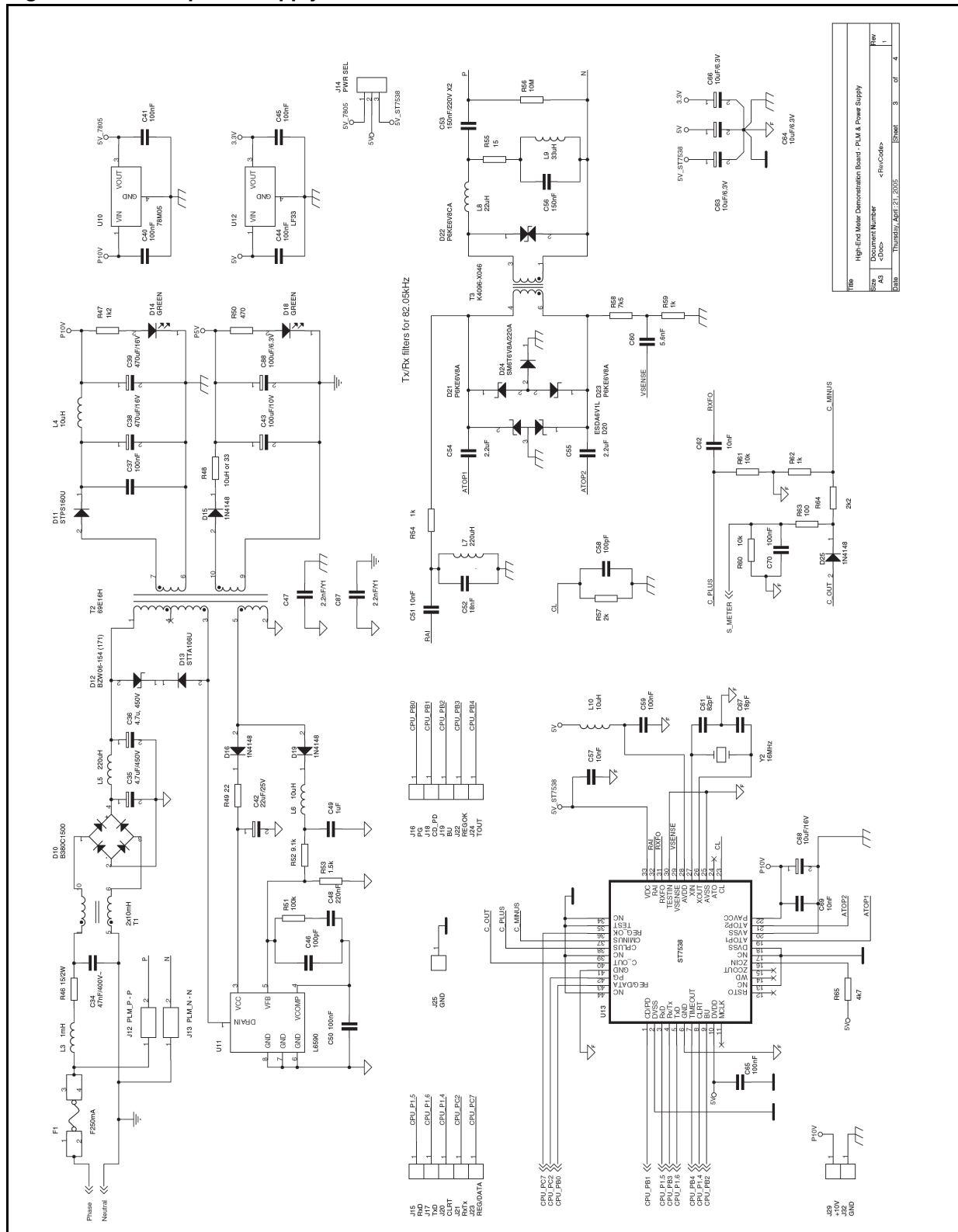


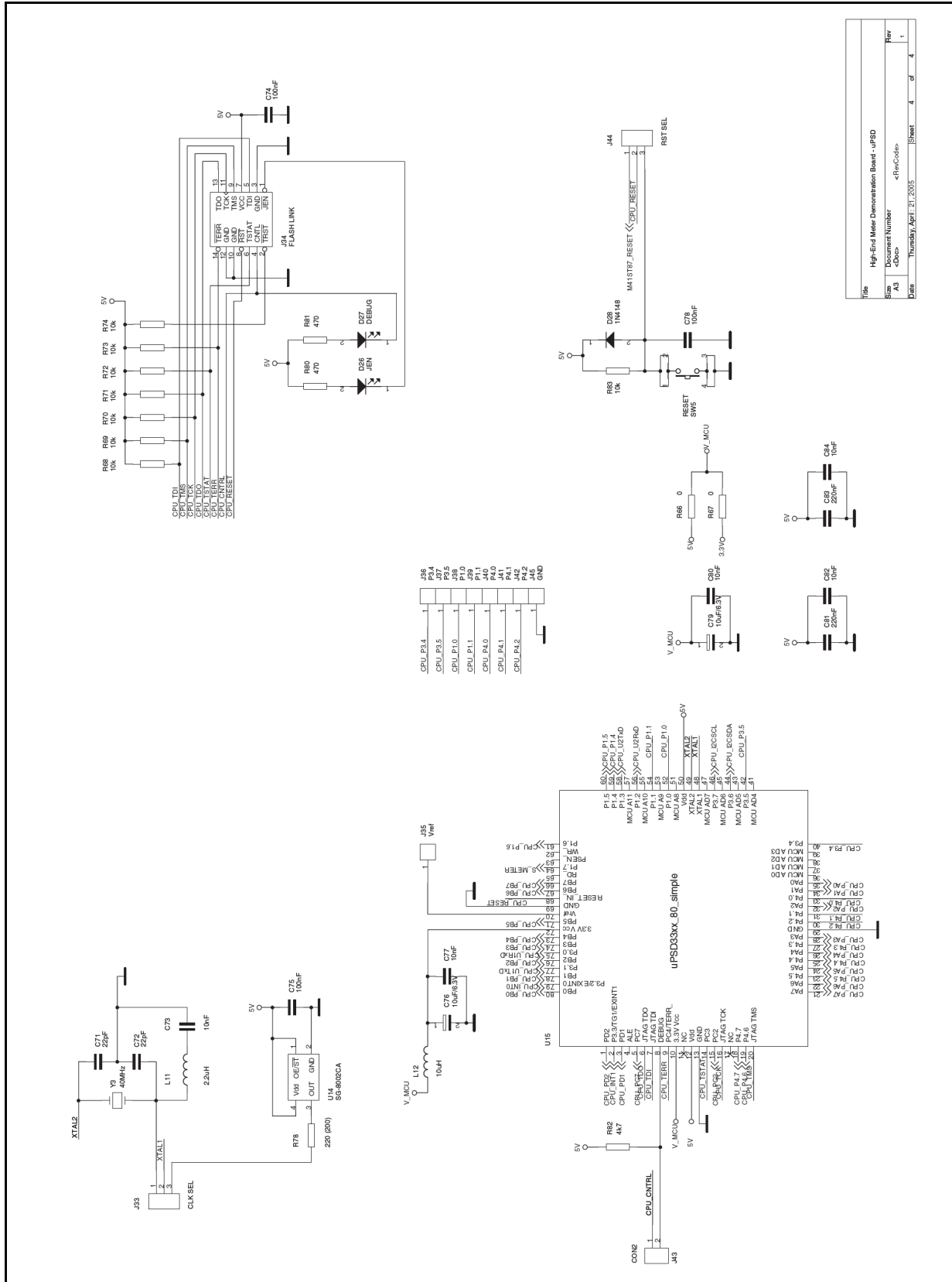
Figure 2. PLM & power supply section schematic



File	High-End Meter Demonstration Board - PLM & Power Supply
Size	Document Number
AB	<RevCode>
Date	Thursday, April 21, 2005
Sheet	3 of 4



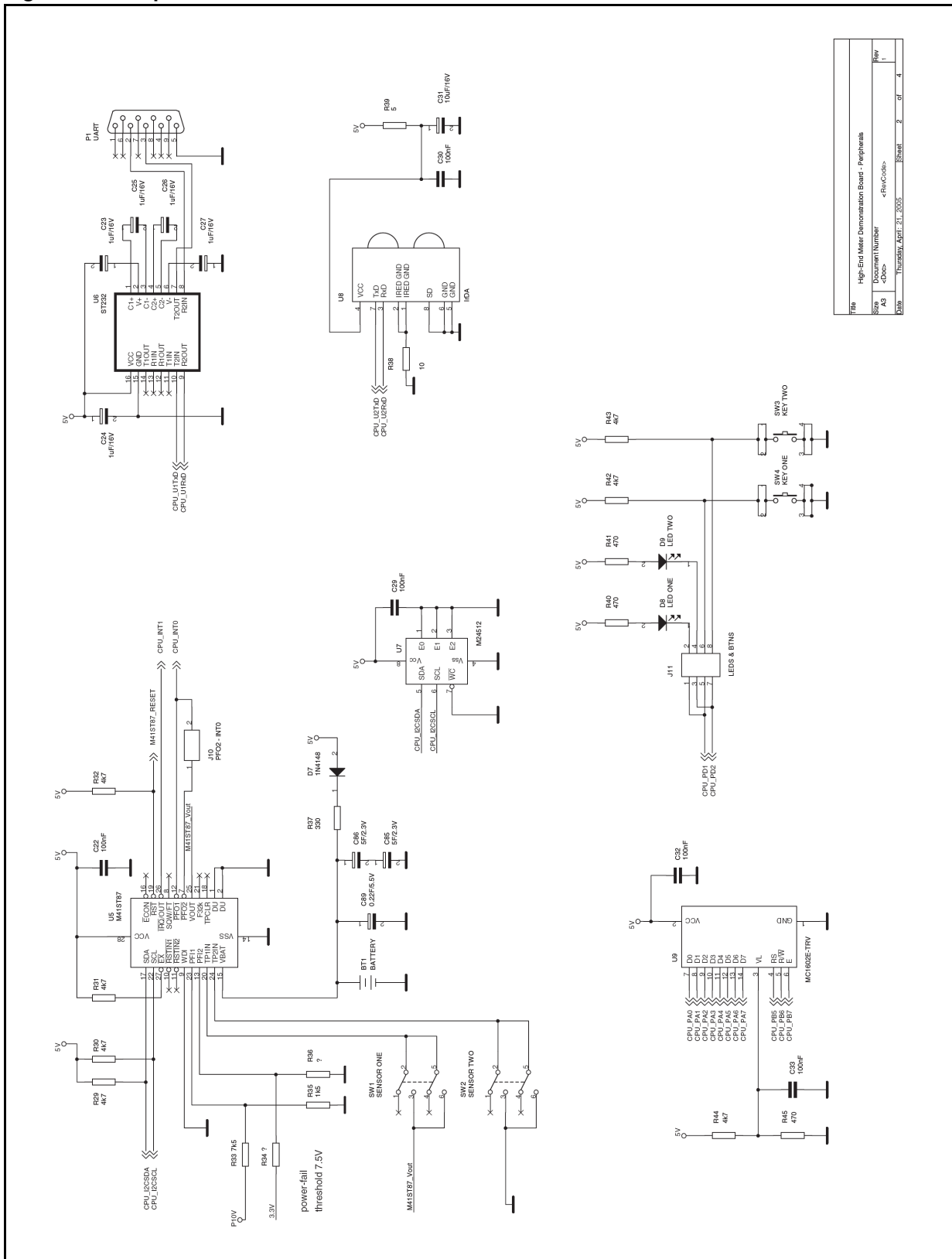
Figure 3. Microcontroller section schematic



Title	High-End Meter Demonstration Board - uPSD
Size	Document Number
AD	4RevC06
Date	Thursday, April 21, 2005
Sheet	4 of 4
Rev	1



Figure 4. Peripheral section schematic



Title	High-End Meter Demonstration Board - Peripherals
Drawn	Ab
Docu. Number	<RevCode>
Date	Thursday, April 21, 2005
Sheet	2 of 4

## 2 Revision history

**Table 1. Revision history**

Date	Revision	Changes
13-Jul-2006	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.

© 2006 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](http://www.st.com)