STEVAL-IPC002V1

Thermal printer-based parking ticket vending machine

Data brief

Features

- Based on the STM32 microcontroller
- Thermal printer is interfaced through SPI2.
- Stepper motor driver interfaced through SPI1 used to rotate the printer head while printing
- S-Touch™ based keypad available for user interface. S-Touch controller device is interfaced through I^2C2. Keypad used to enter vehicle number, setting date, time, etc.
- LED indicators for battery status
- On-board JTAG connector for firmware upgrade and changes
- Alphanumeric LCD displays the numbers or settings entered through the S-Touch keypad
- SPDT switch to turn unit on and off
- Push-button switch for system reset
- Rechargeable battery circuit available
- System can be powered by DC adaptor (9 V, 2.5 A) or batteries (two 3.7 V, 1.8 Ah rated batteries)
- Thermistor monitors the temperature of the thermal head.
- The STM32's built-in RTC (real-time clock) provides date and time of printing
- EEPROM interfaced through I^2C1 stores last 20 vehicle numbers
- RoHS compliant

STEVALI-IPC002V1

Description

The STEVAL-IPC002V1demonstration board is a battery-operated hand-held parking ticket vending machine system with a thermal printer interfaced with the STM32.

The objective of this demonstration is to generate and print parking tickets for different types of vehicles. The system can be easily modified for other applications that require paper printing directly from the microcontroller, such as PoS-based applications, railway/bus ticket printing and stand-alone printers.

1 Schematic diagrams

Figure 1. Microcontroller circuit schematic

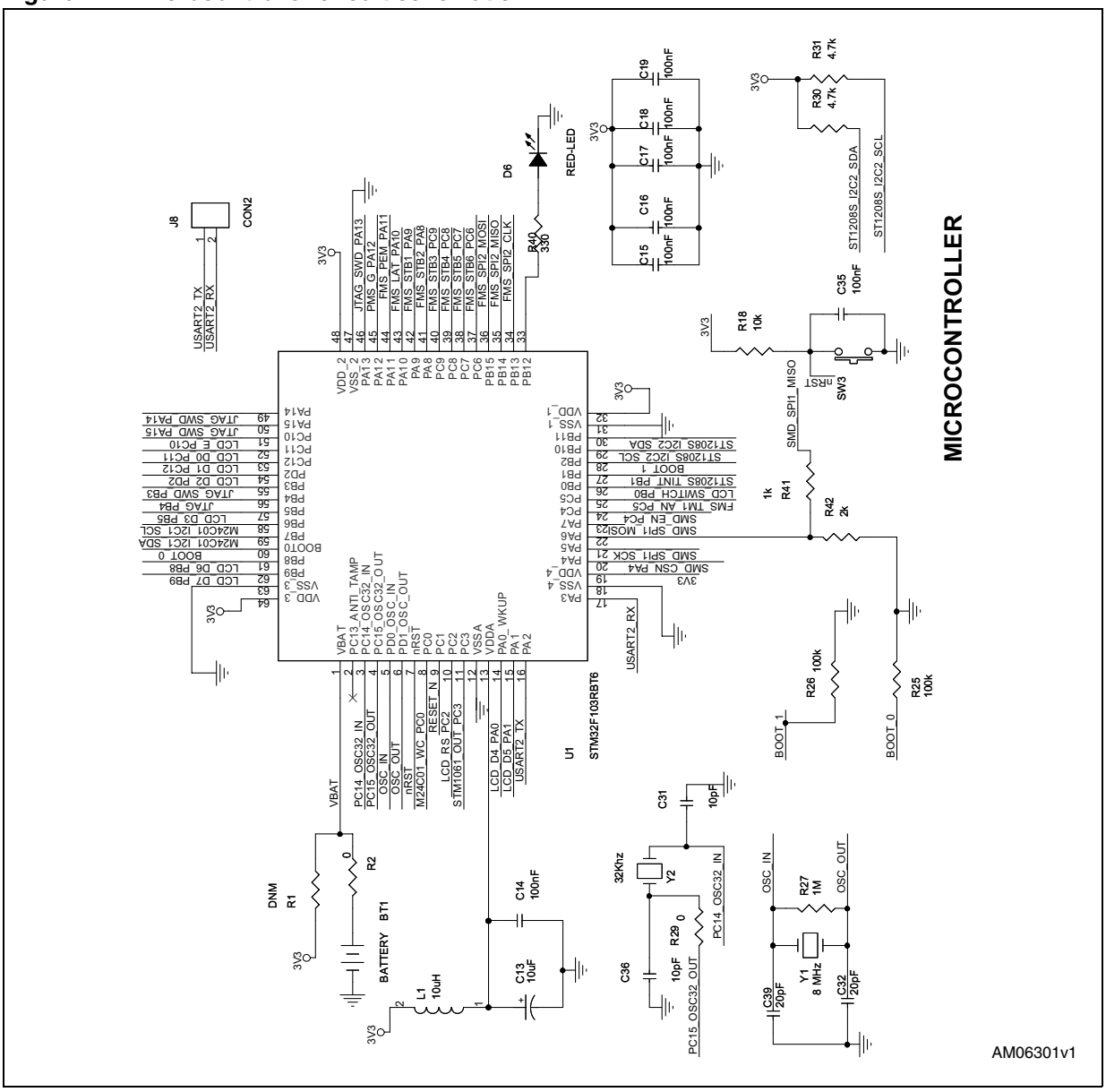


Figure 2. Motor driver circuit schematic

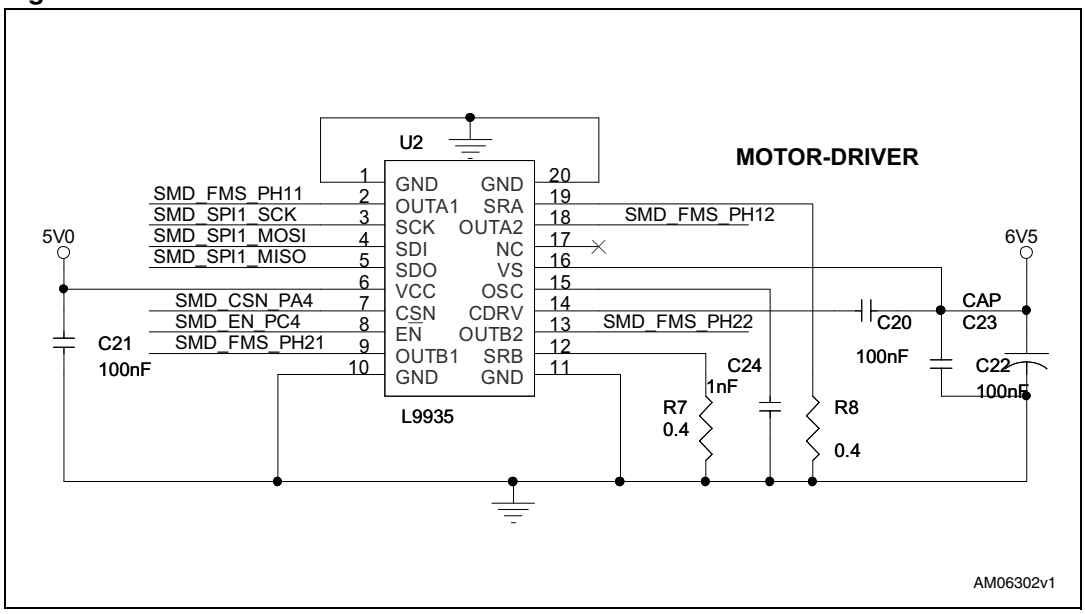


Figure 3. Printer, LCD and JTAG connector schematic

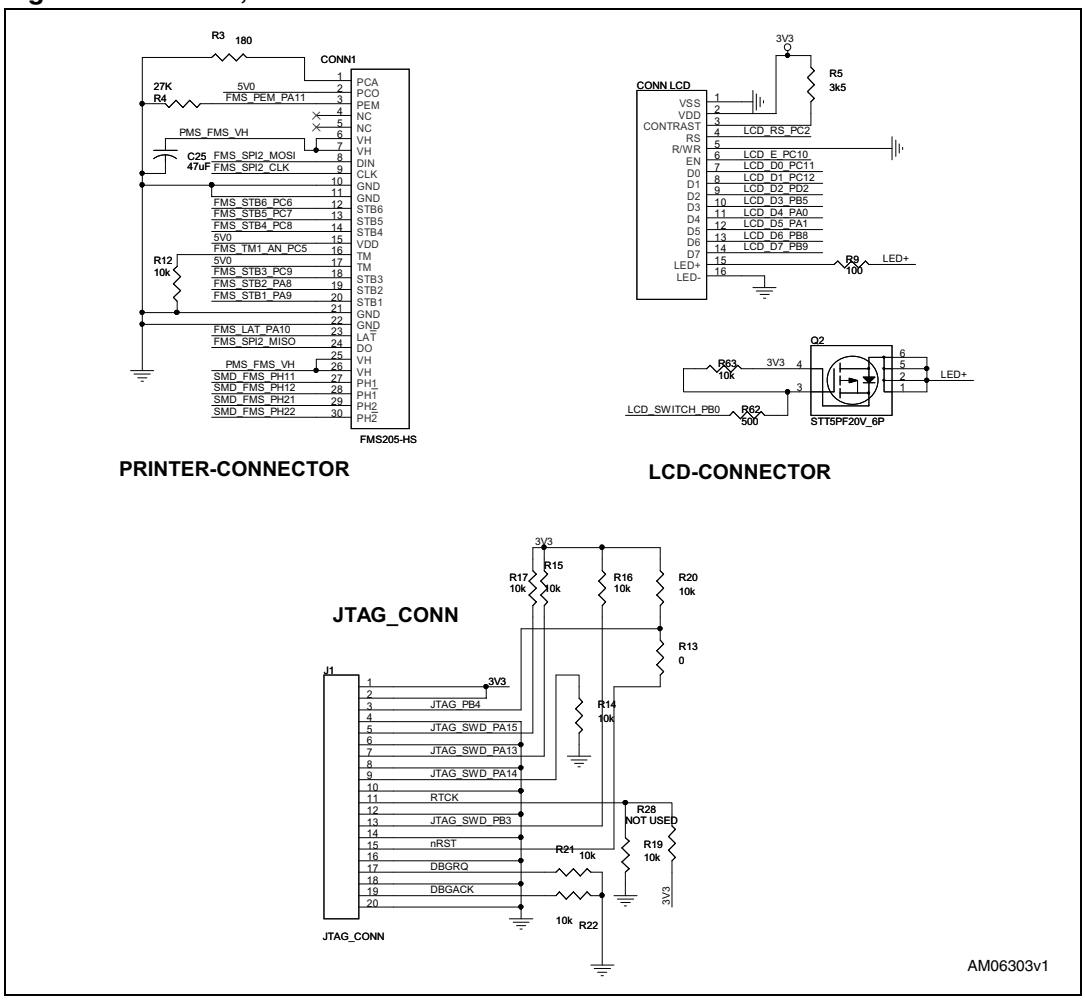


Figure 4. Power management section schematic

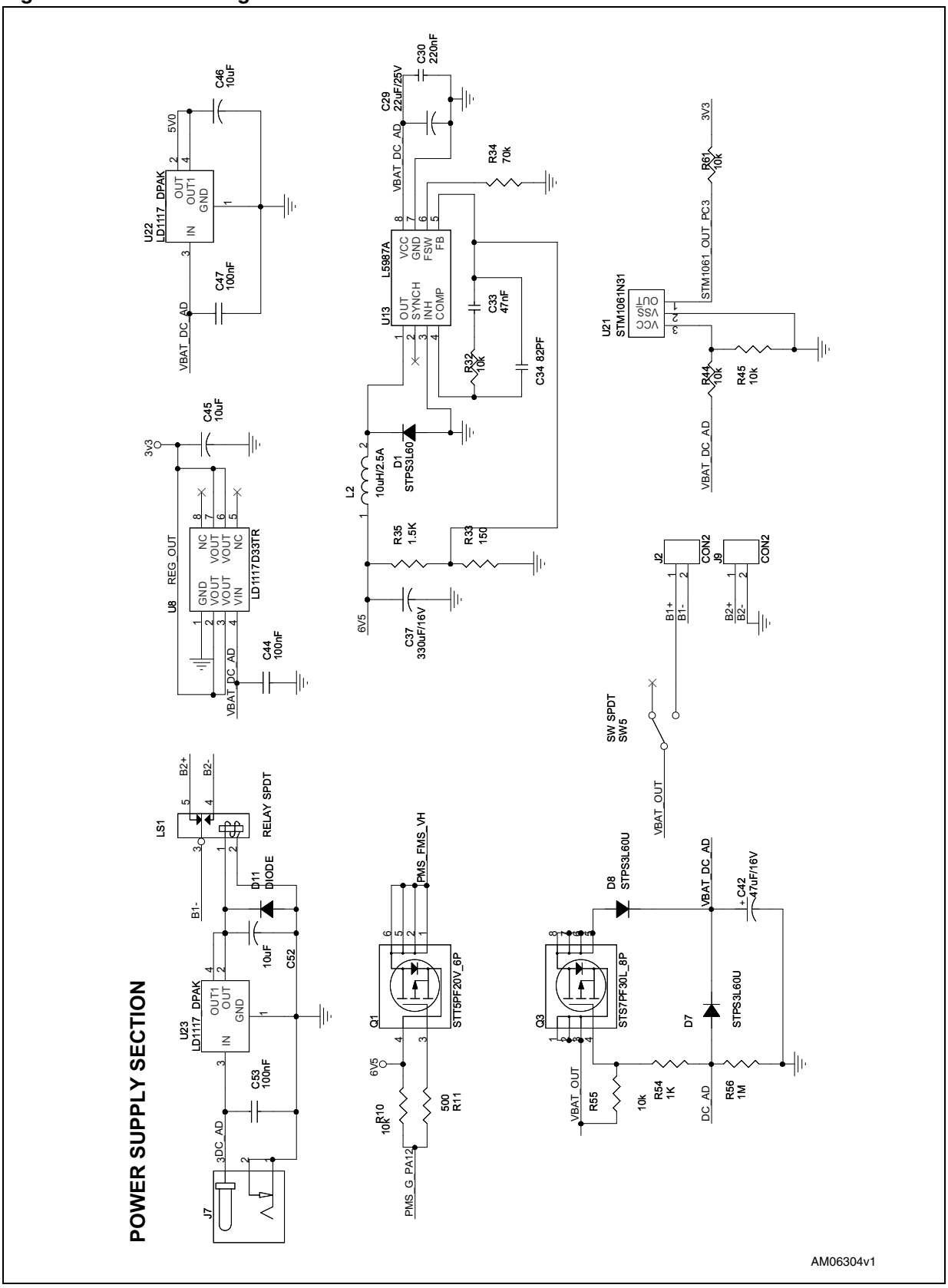
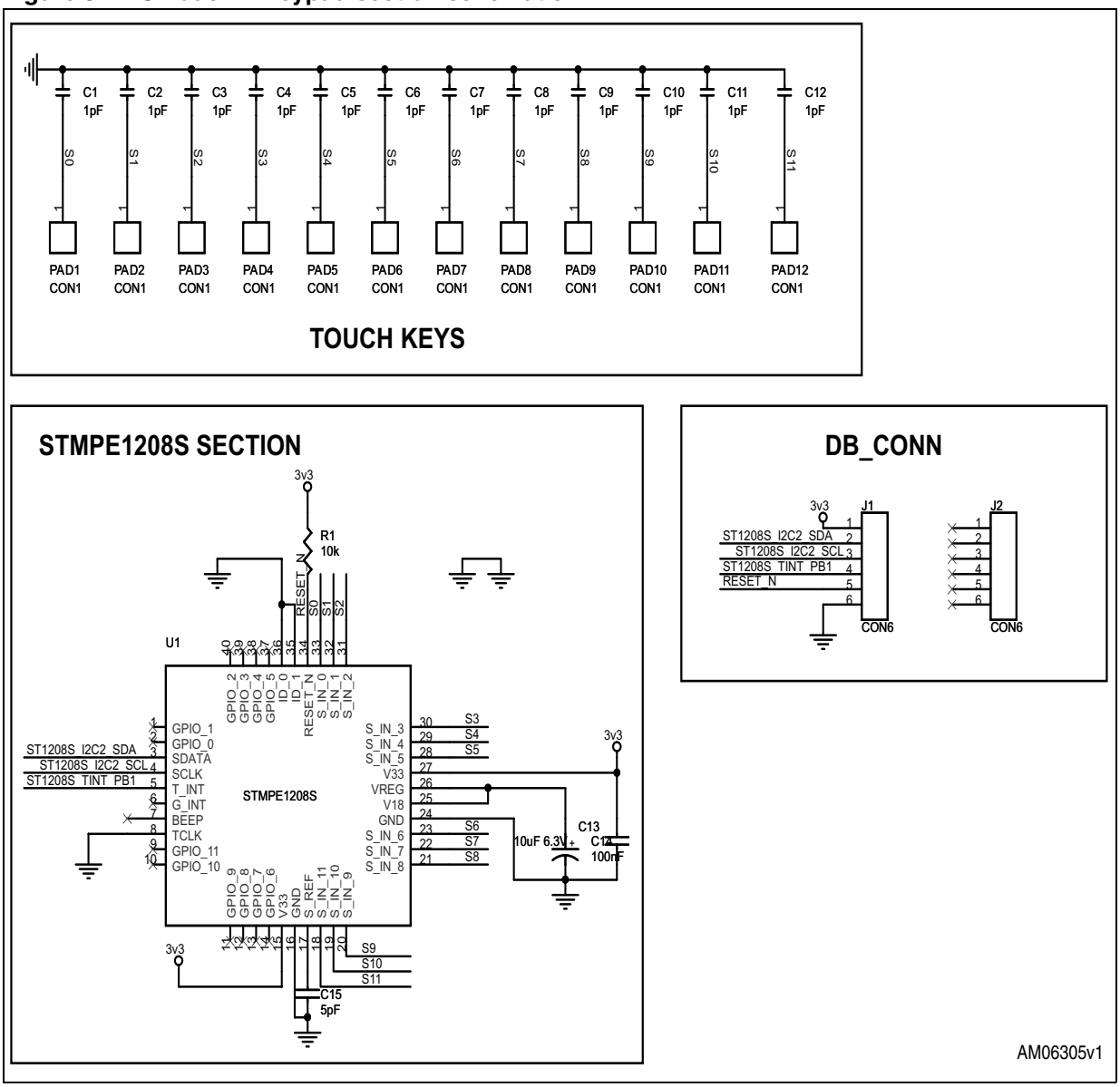


Figure 5. S-Touch™ keypad section schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
08-Mar-2010	1	Initial release.

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