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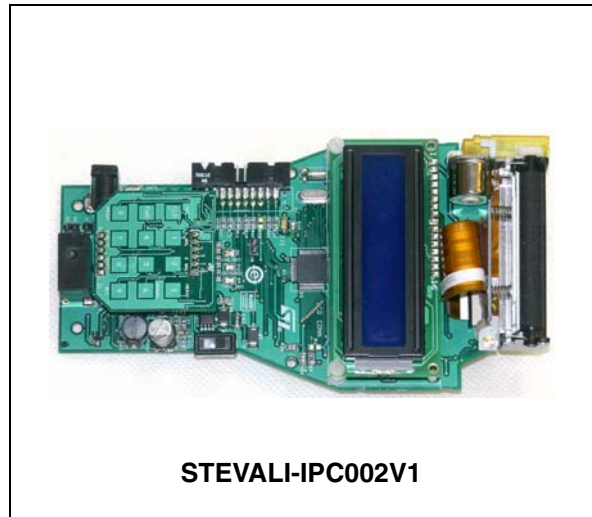


## Thermal printer-based parking ticket vending machine

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<sup>2</sup>C2. 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<sup>2</sup>C1 stores last 20 vehicle numbers
- RoHS compliant



### Description

The STEVAL-IPC002V1 demonstration 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.



Figure 2. Motor driver circuit schematic

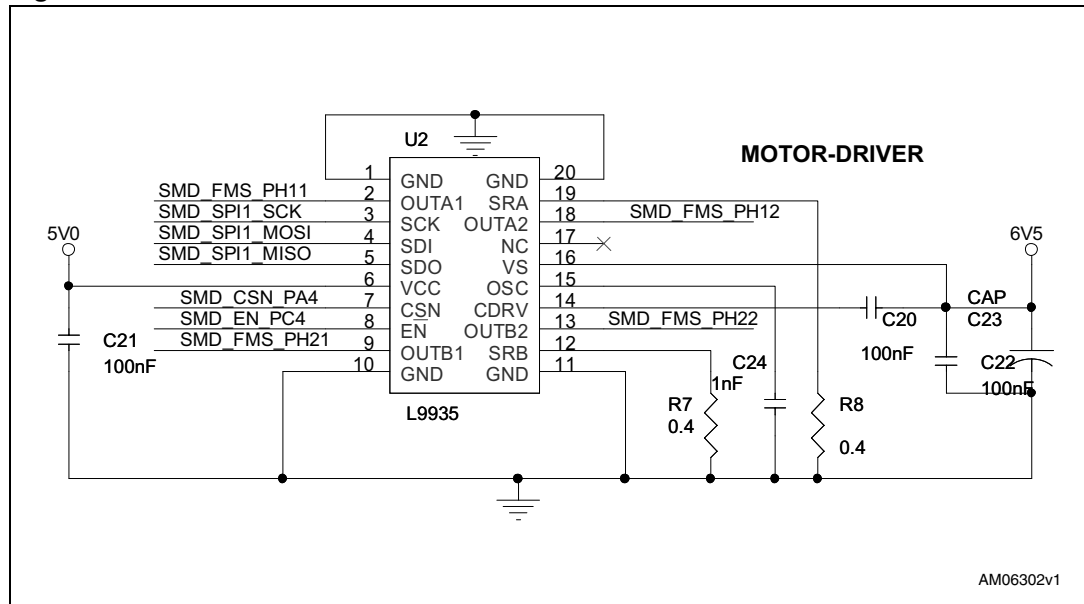


Figure 3. Printer, LCD and JTAG connector schematic

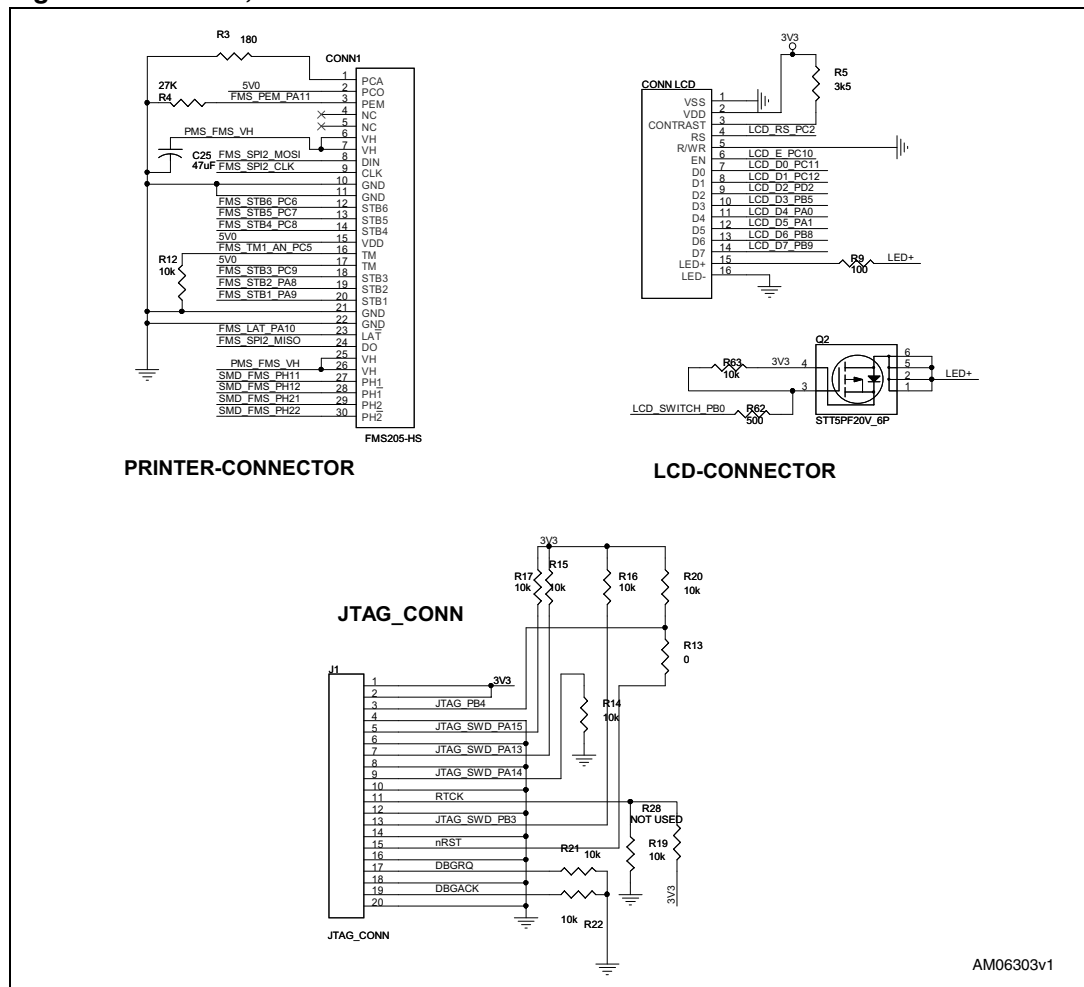
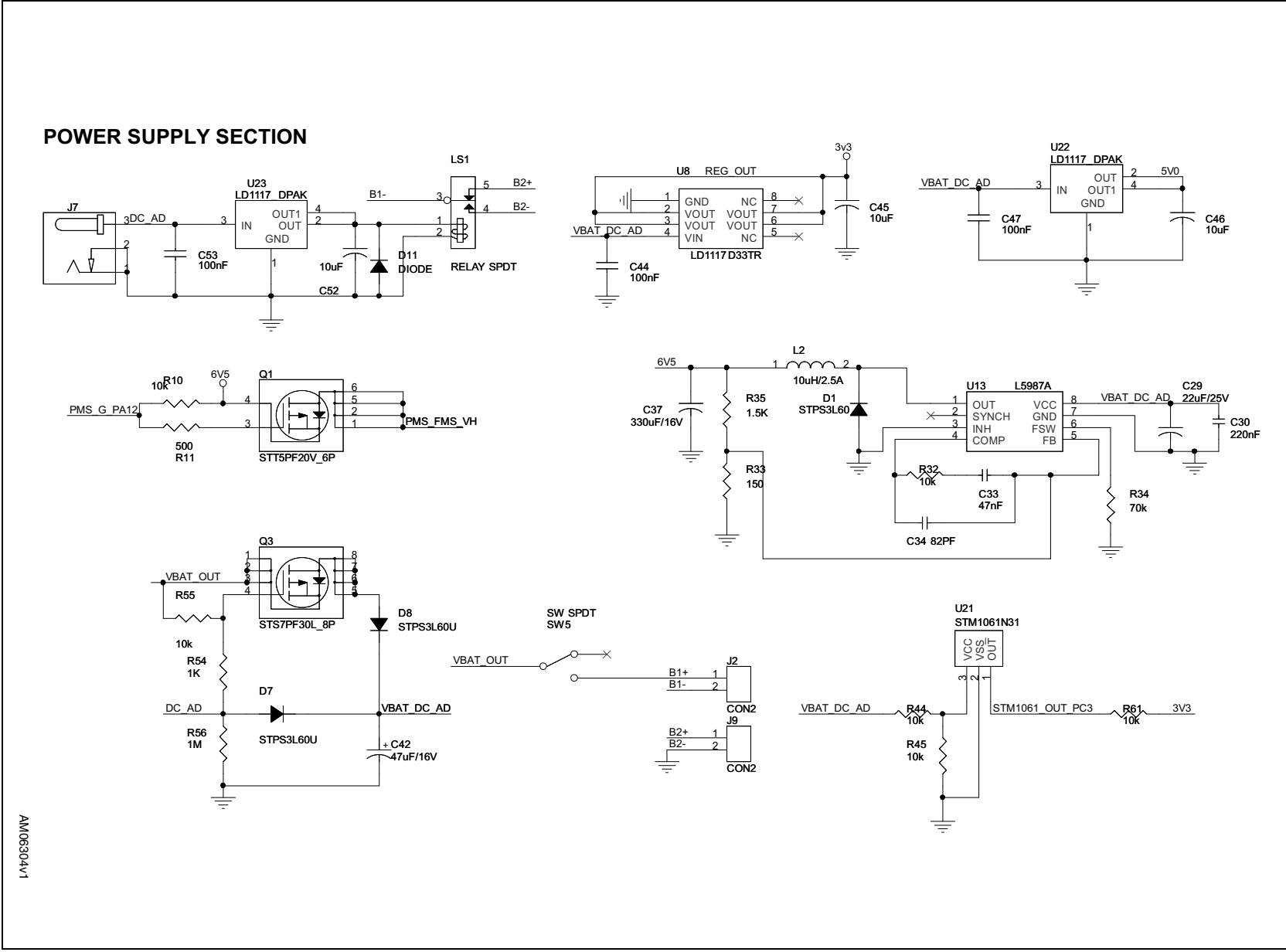


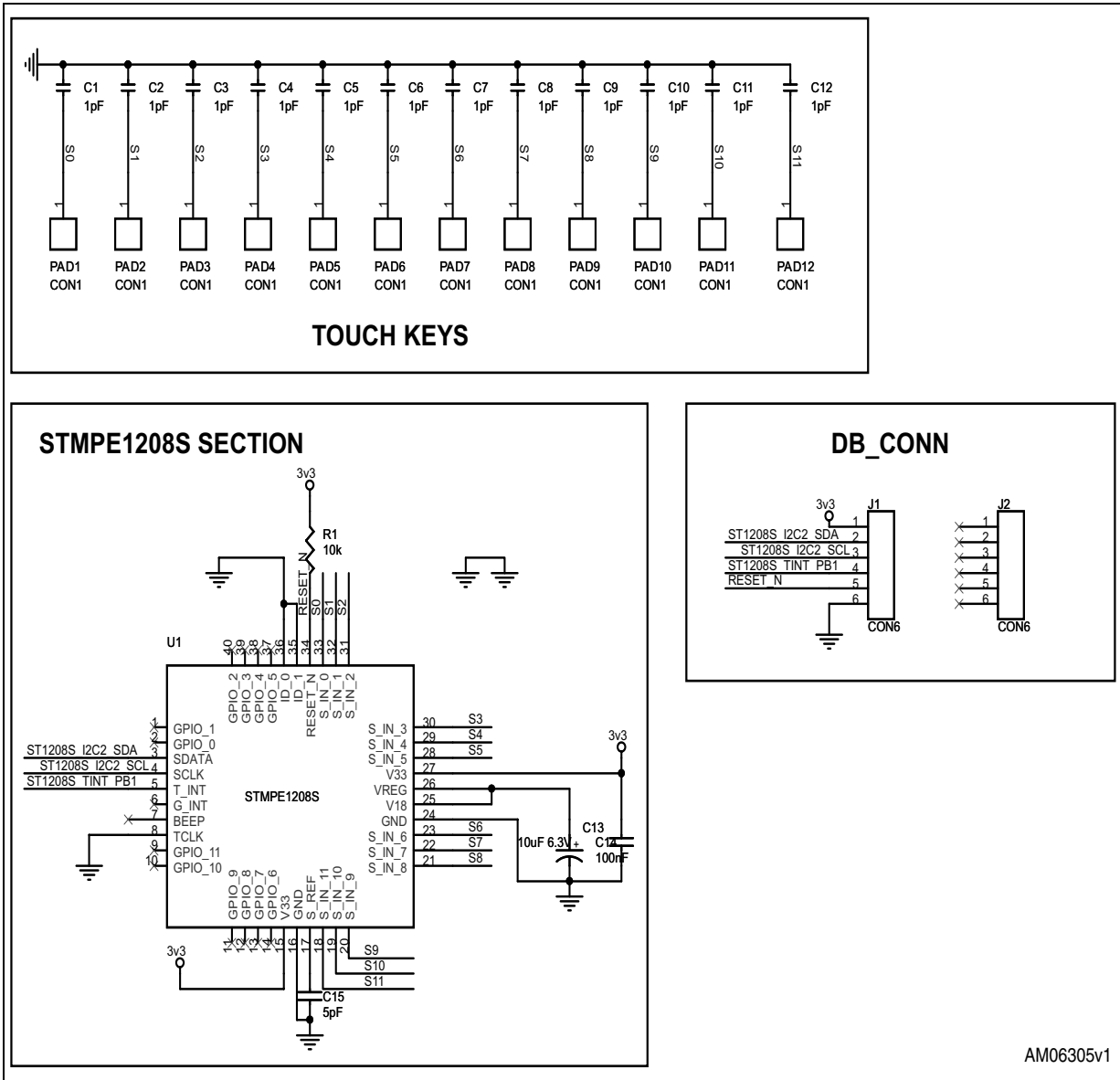
Figure 4. Power management section schematic



AM06304v1



Figure 5. S-Touch™ keypad section schematic



AM06305v1

## 2 Revision history

**Table 1. Document revision history**

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

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