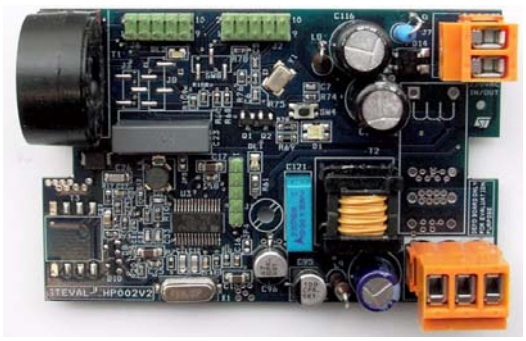
STEVAL-IHP002V2

Smartplug system to measure and control AC loads based on the STM32, ST7540 PLM and STPM01

Data brief

Features

- Energy measurement by the STPM01
- Power line communication by the ST7540 up to 4.8 kbps
- USART connectivity or expansion connector
- Output with two contacts (NO/NC) and common contact for generic load
- Designed to fit a standard "503" wall box
- RoHS compliant



STEVAL-IHP002V2

Description

The STEVAL-IHP002V2 demonstration board implements a PLM smartplug node which allows monitoring the energy consumption of a mains plug and controlling any kind of load in on/off mode through a relay.

The board is based on the STM32F103CB microcontroller, the ST7540 PLM module and the STPM01 mono-phase energy metering IC.

The board is designed to fit a standard "503" wall box.

The voltage, current, power, active energy and the output status can be sent to a PLM data concentrator through a power line communication network on request. Moreover, if the power consumption changes, it is sent asynchronously to the data concentrator.

For further information contact your local STMicroelectronics sales office. www.st.com

1 Circuits schematic

Figure 1. Top-level schematic

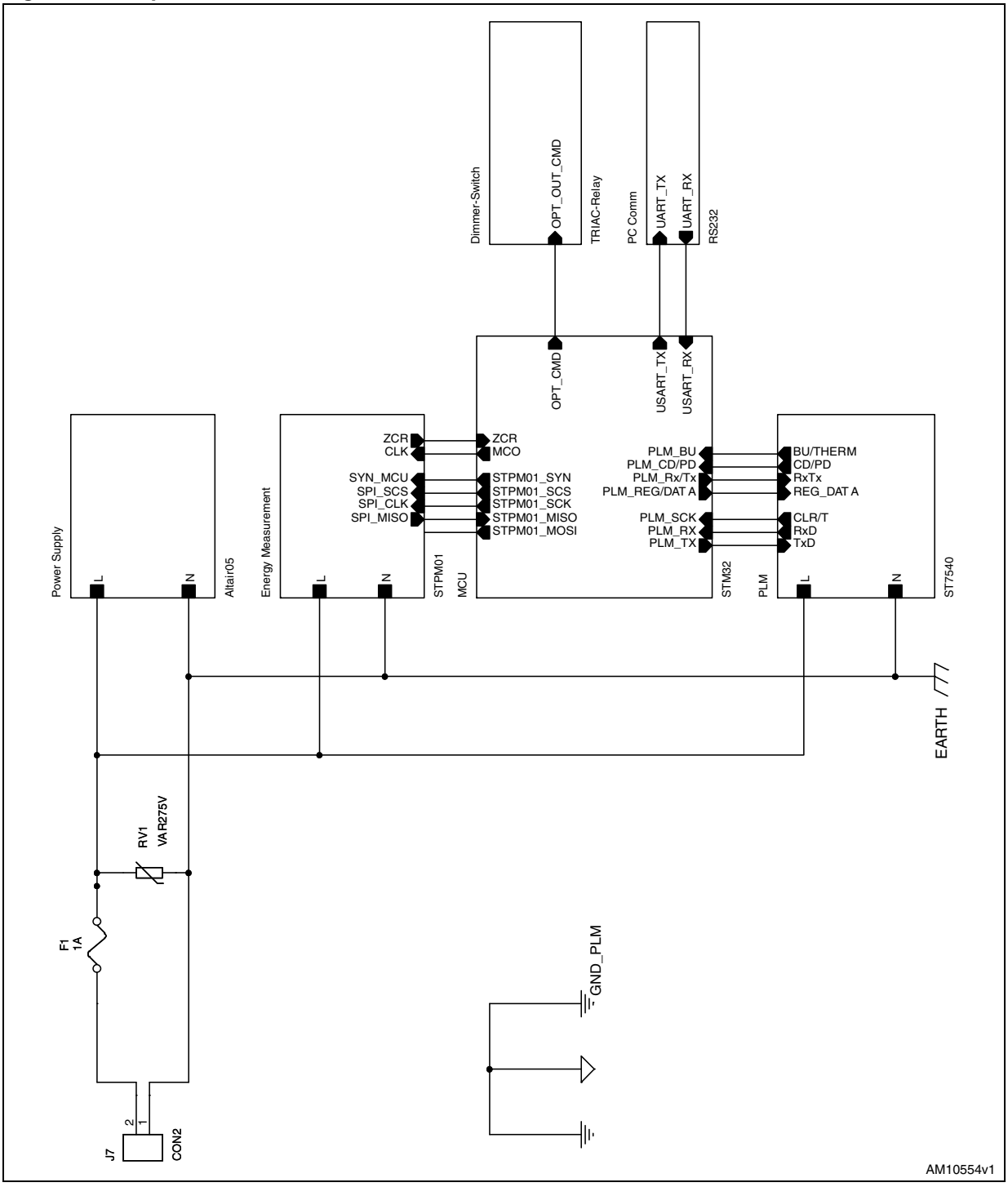


Figure 2. Power supply section

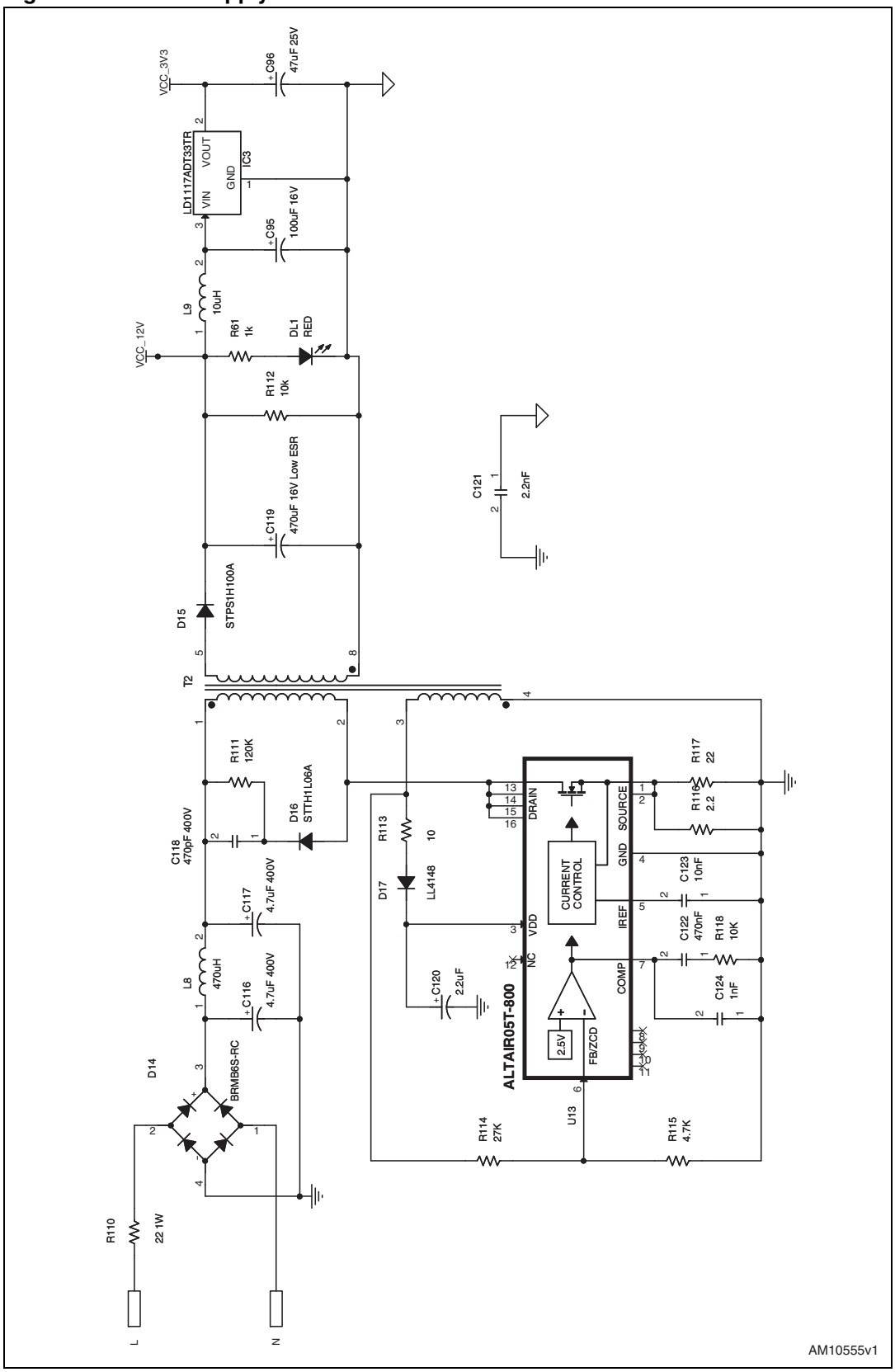


Figure 3. USART expansion connector section

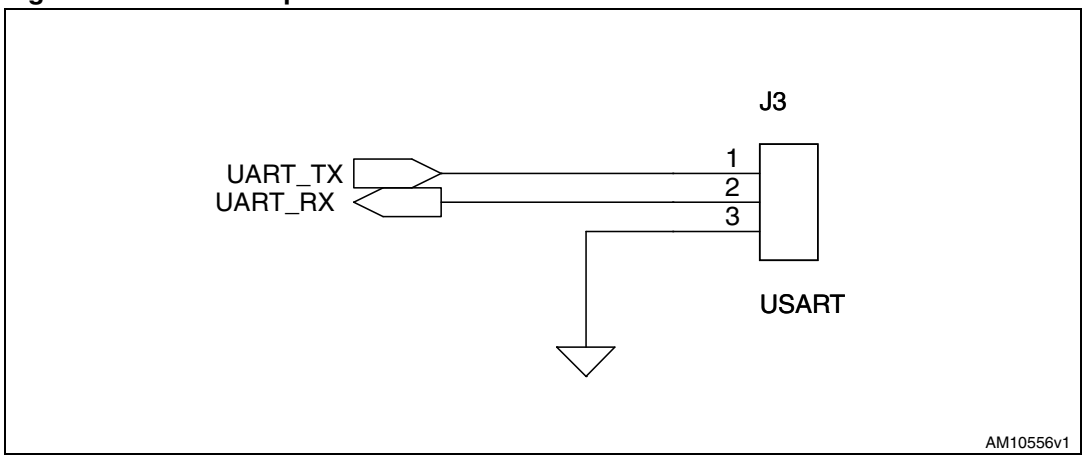


Figure 4. Power line modem section

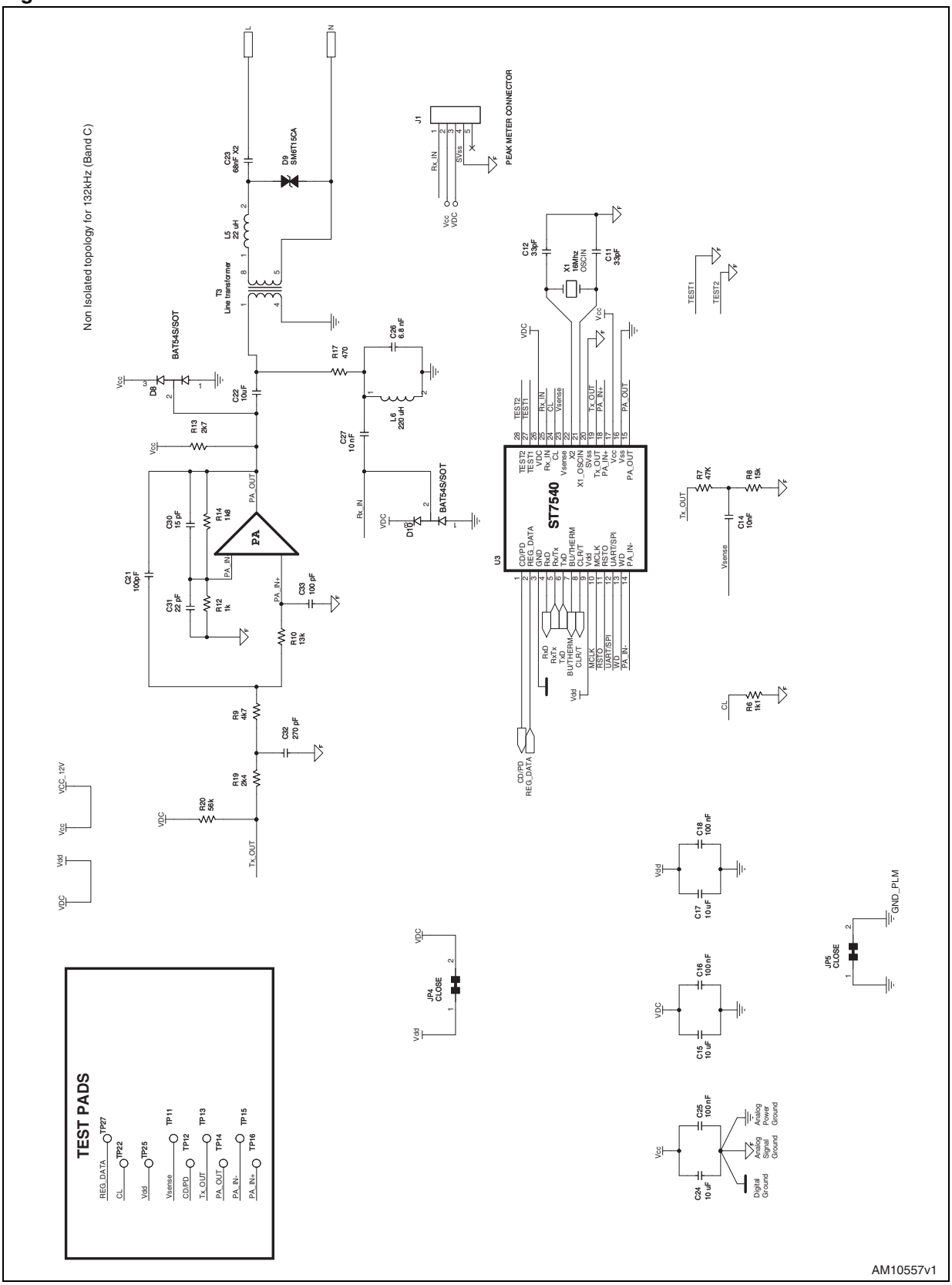


Figure 5. MCU section

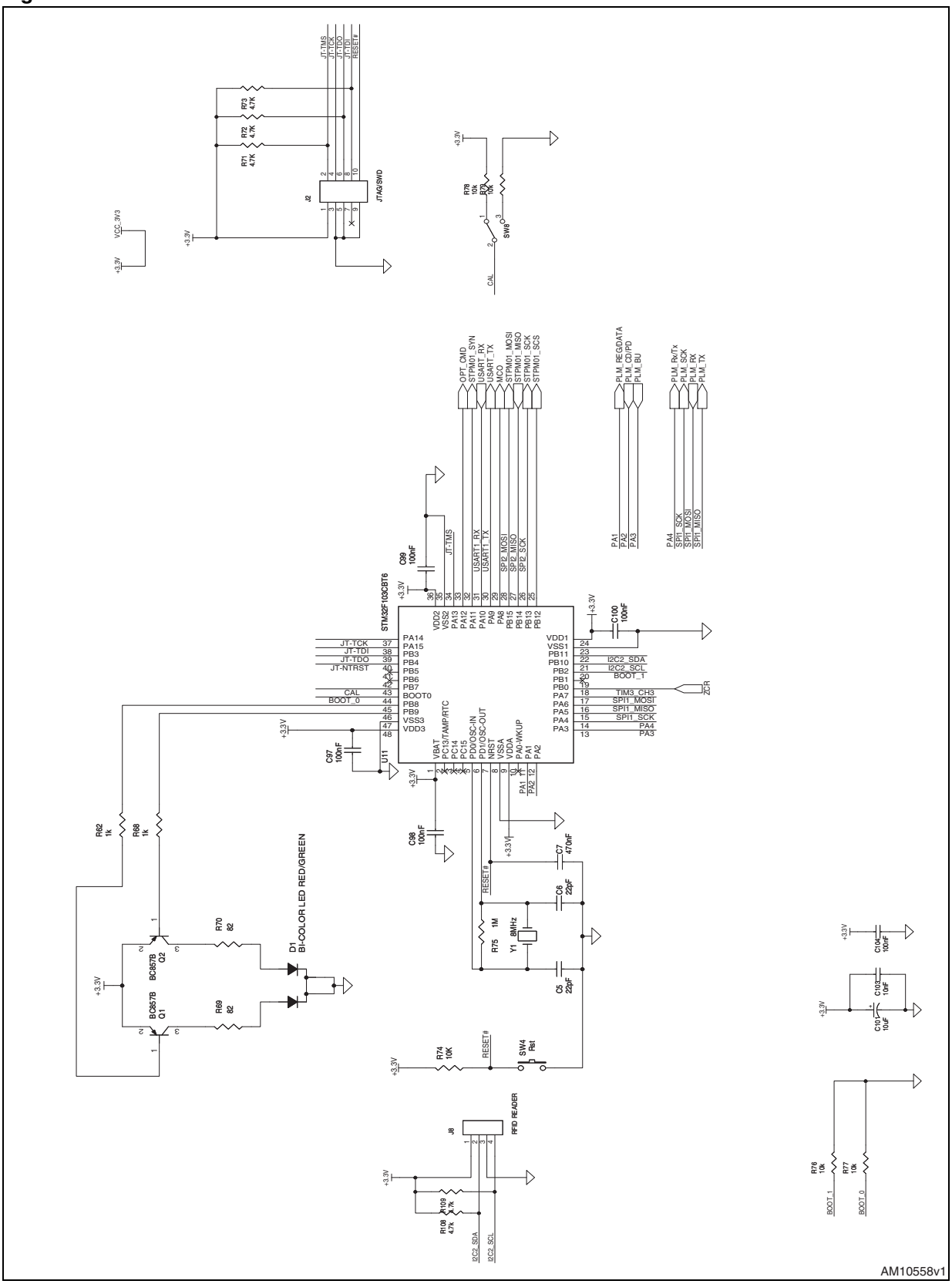


Figure 6. STPM01

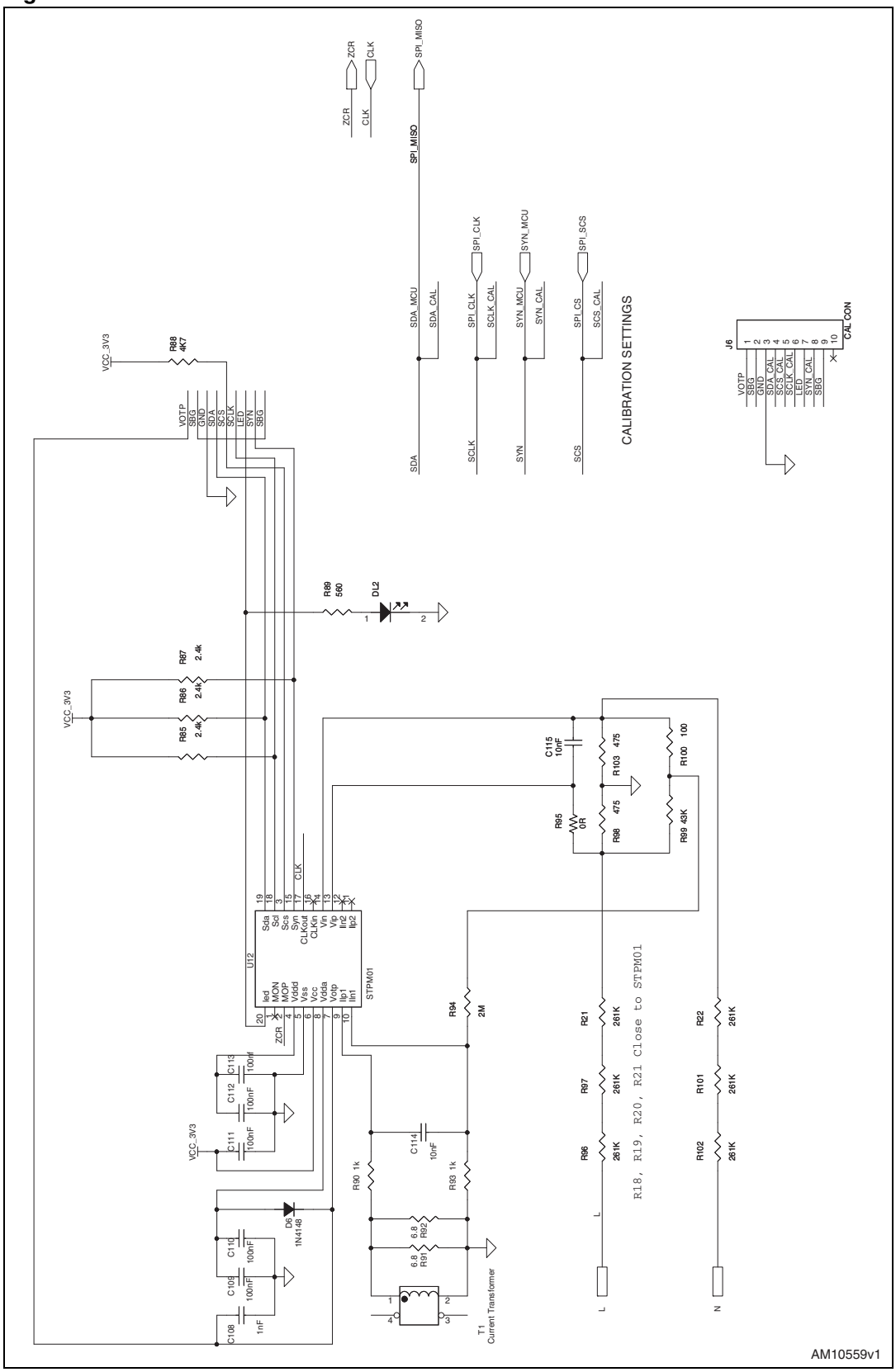
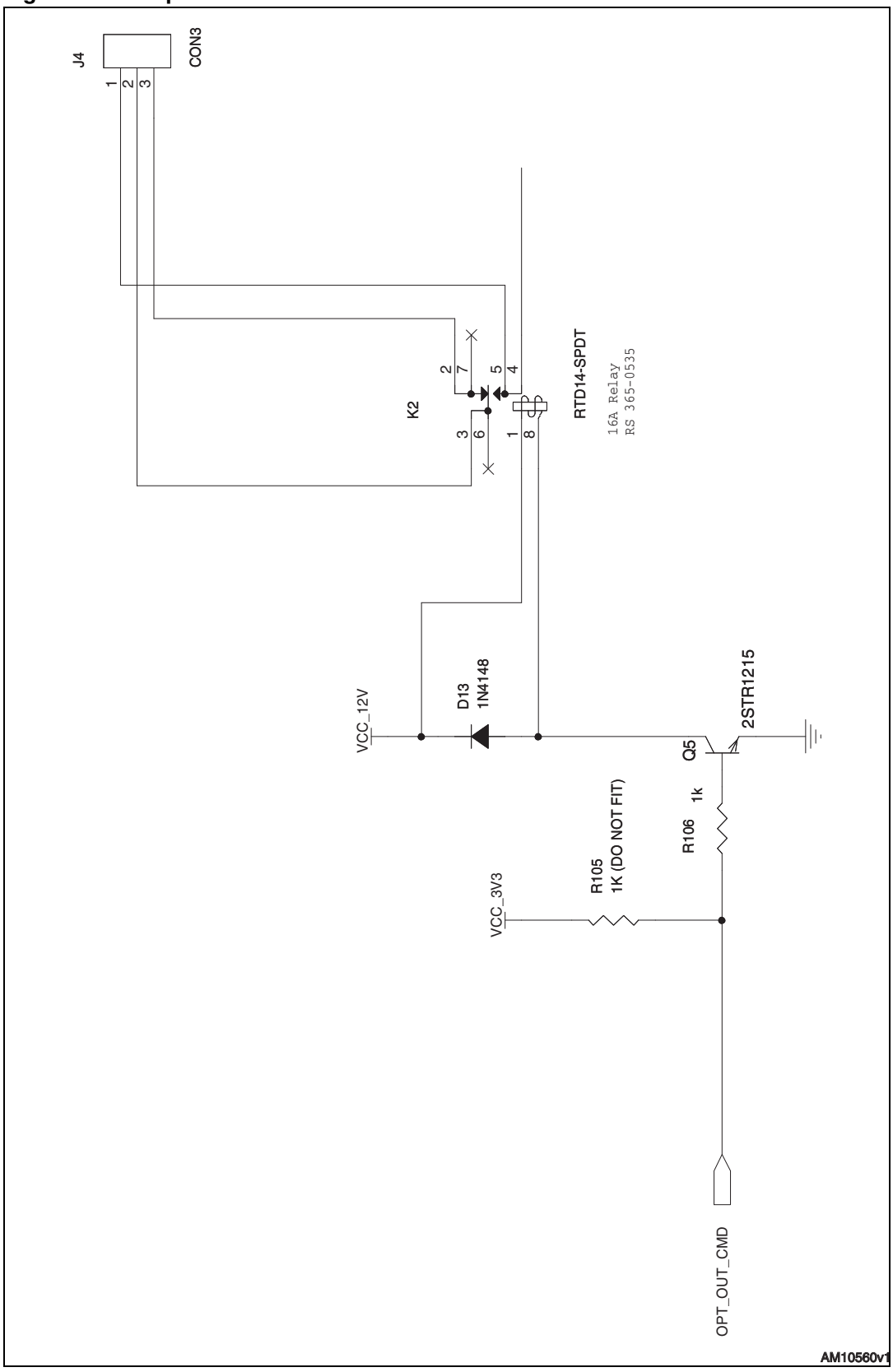


Figure 7. Output drivers



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
13-Mar-2012	1	Initial release.

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