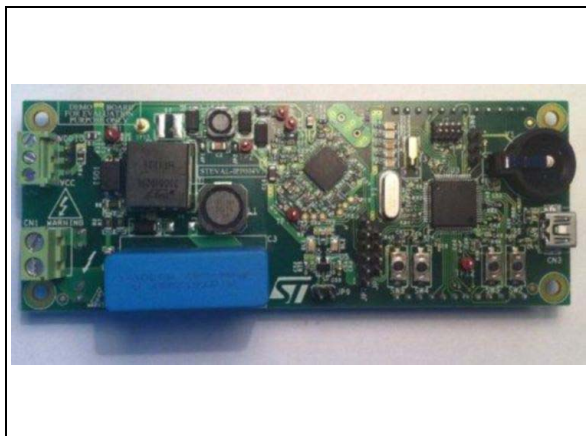

General purpose PRIME power line communication module

Data brief



Features

- Insulation from the high voltage mains
- Interfaces included:
 - USB interface
 - Dual DC power supply
 - Digital interface
 - DC or AC insulated bus interface
- OFDM PRIME compliant with 128 kbps bitrate
- RoHS compliant

Description

The STEVAL-IPP004V1 evaluation board is a PLM communication module that is especially suited for metering since it is designed to work in the CENELEC A band.

The module is based on the STM32F103RFT6 ARM Cortex-M3 microcontroller and an ST7590 PRIME narrow band power line modem with up to 128 kbps data rate. The assembled MCU can be easily replaced with an equivalent 64-pin MCU from the STM32F2 or STM32F4 families, with just a few assembly modifications. The module can be coupled to both AC and DC power line buses and also includes a USB interface for optional PC connection.

1

Figure 1. Power supply connector and power indication

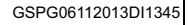


Figure 2. ST7590 control connections

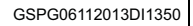


Figure 3. ST7590 section

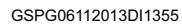


Figure 4. Optional isolated zero crossing detection circuit

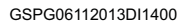


Figure 5. Power line coupling section

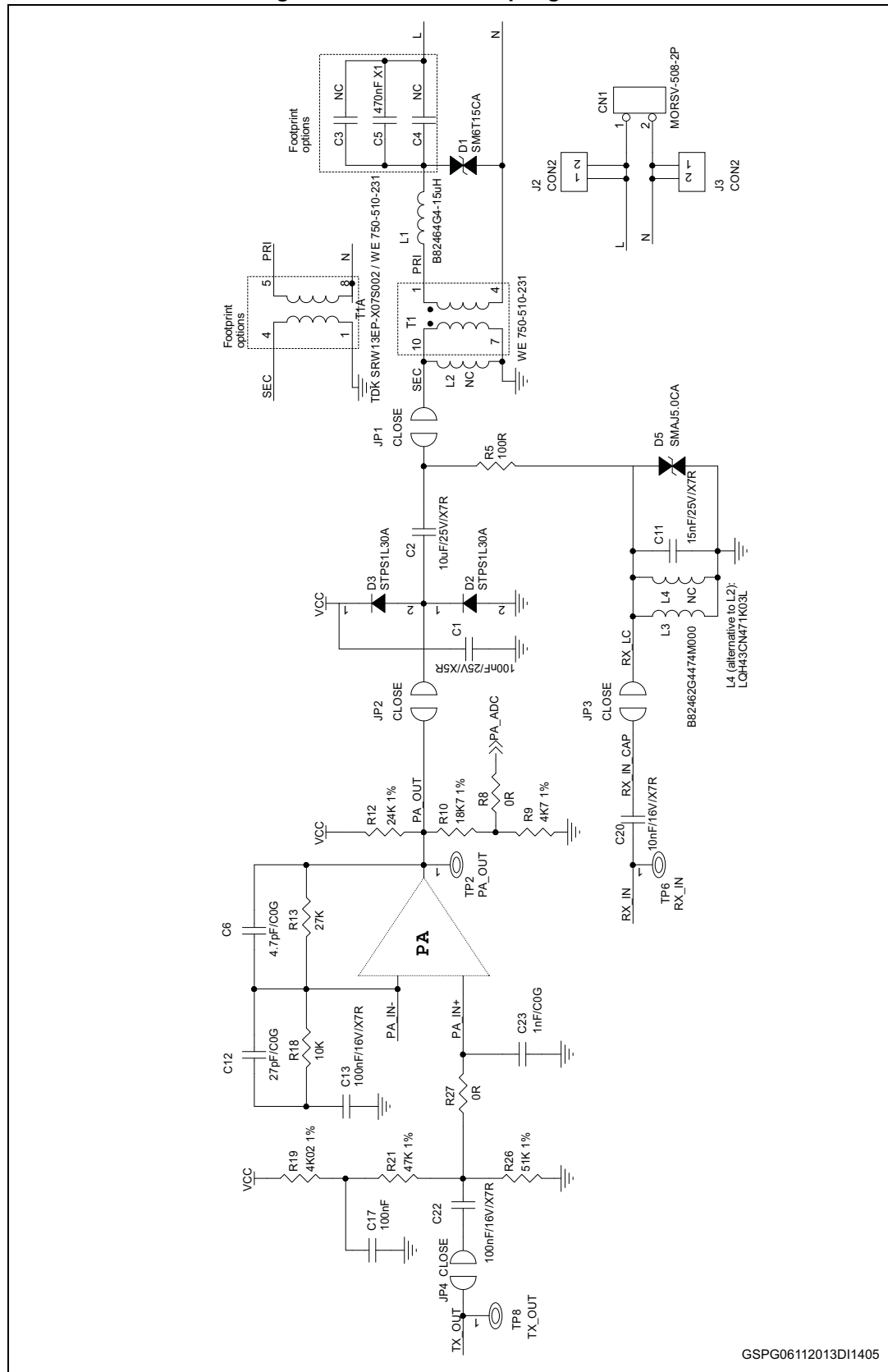
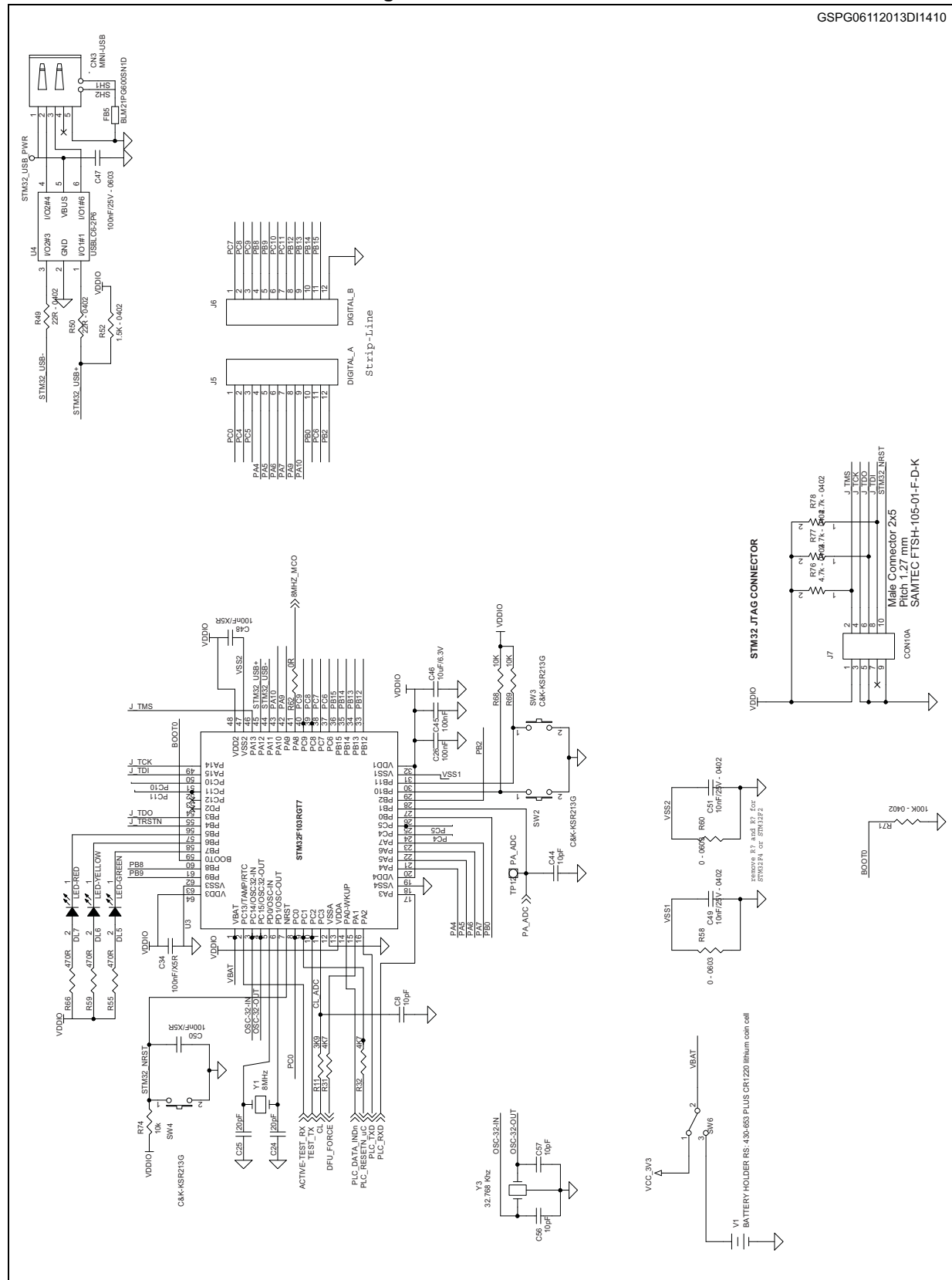


Figure 6. STM32 section



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
30-May-2014	1	Initial release.

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