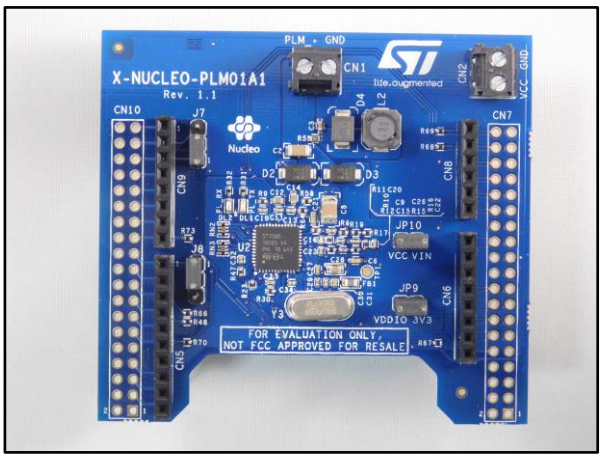
X-NUCLEO-PLM01A1

Power line communication expansion board based on ST7580 for STM32 Nucleo

Data brief



Features

- STM32 Nucleo expansion board based on the ST7580 power line networking system-on-chip
- ST7580 main characteristics:
  - FSK, PSK modem for robust wireline communication up to 28.8 kbps
  - 8-18 V analog supply voltage
  - 3.3 V digital supply
  - Output transmitted signal capability up to 14 V_{p-p}, 1 A_{rms}
  - Frequency range 9-250 kHz
- TX and RX filters on board optimized for the CENELEC B (95-125 kHz) frequency band, suitable for IoT / Smart Home / Smart City applications
- Compatible with STM32 Nucleo boards
- Equipped with Arduino UNO R3 connectors
- Example firmware available for point-to-point communication, compatible with STM32Cube firmware
- RoHS compliant

Description

The X-NUCLEO-PLM01A1 expansion board for STM32 Nucleo is based on the ST7580 FSK, PSK multi-mode power line networking system-on-chip. It provides an affordable and easy-to-use solution for the development of connectivity applications based on power line communication. It lets you easily evaluate the communication features of the ST7580 based on a DC two-wire link between two boards.

You can also perform evaluation on an AC power line by connecting the X-NUCLEO-PLM01A1 to an STEVAL-XPLM01CPL board providing effective AC coupling and isolation. The X-NUCLEO-PLM01A1 is interfaced with the STM32 controller via UART and GPIO pins and is compatible with the Arduino UNO R3 (default configuration) and ST morpho (optional, not mounted) connectors.

1 Schematic diagrams

Figure 1: X-NUCLEO-PLM01A1 schematic (1 of 3)

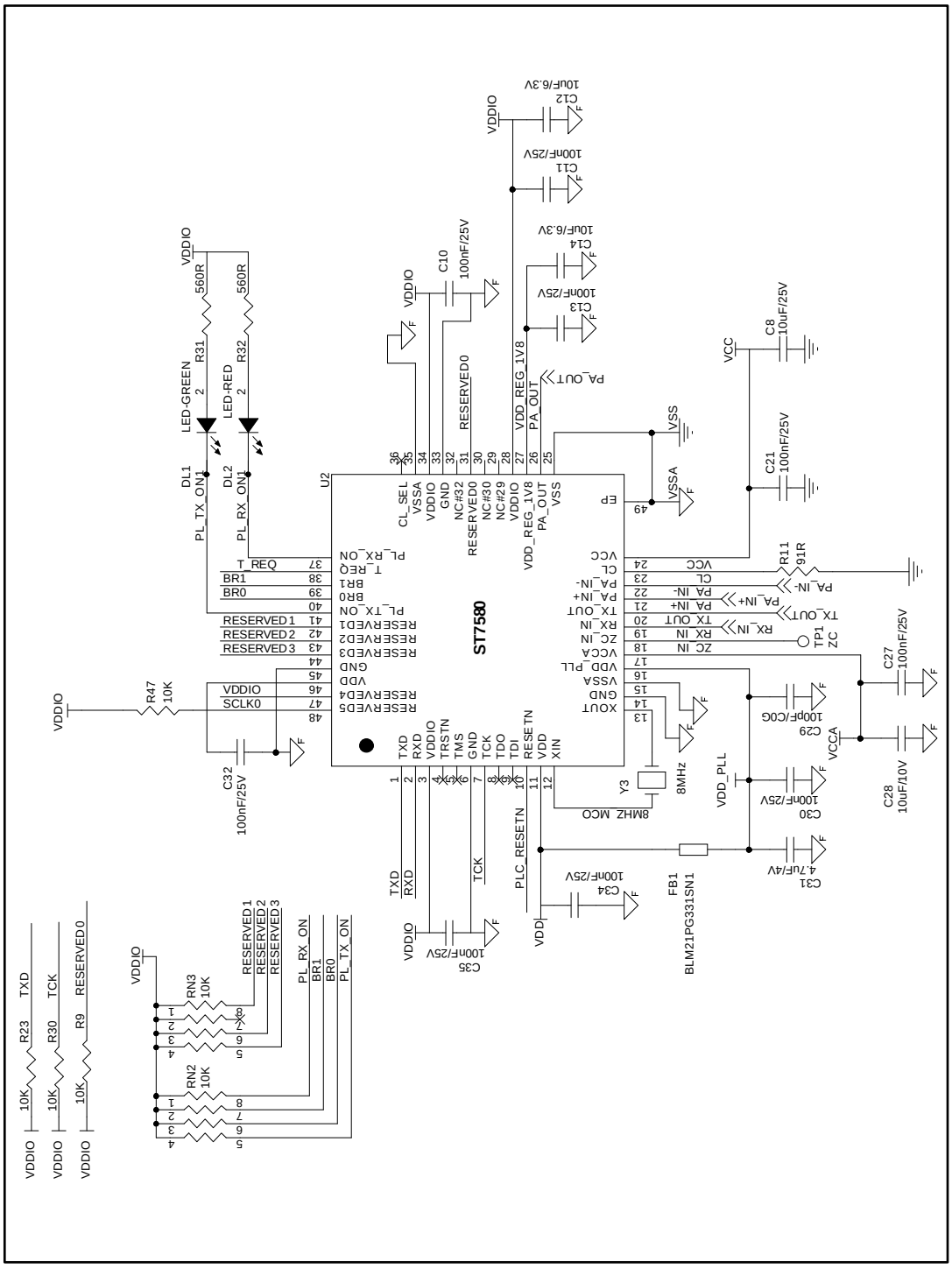


Figure 2: X-NUCLEO-PLM01A1 schematic (2 of 3)

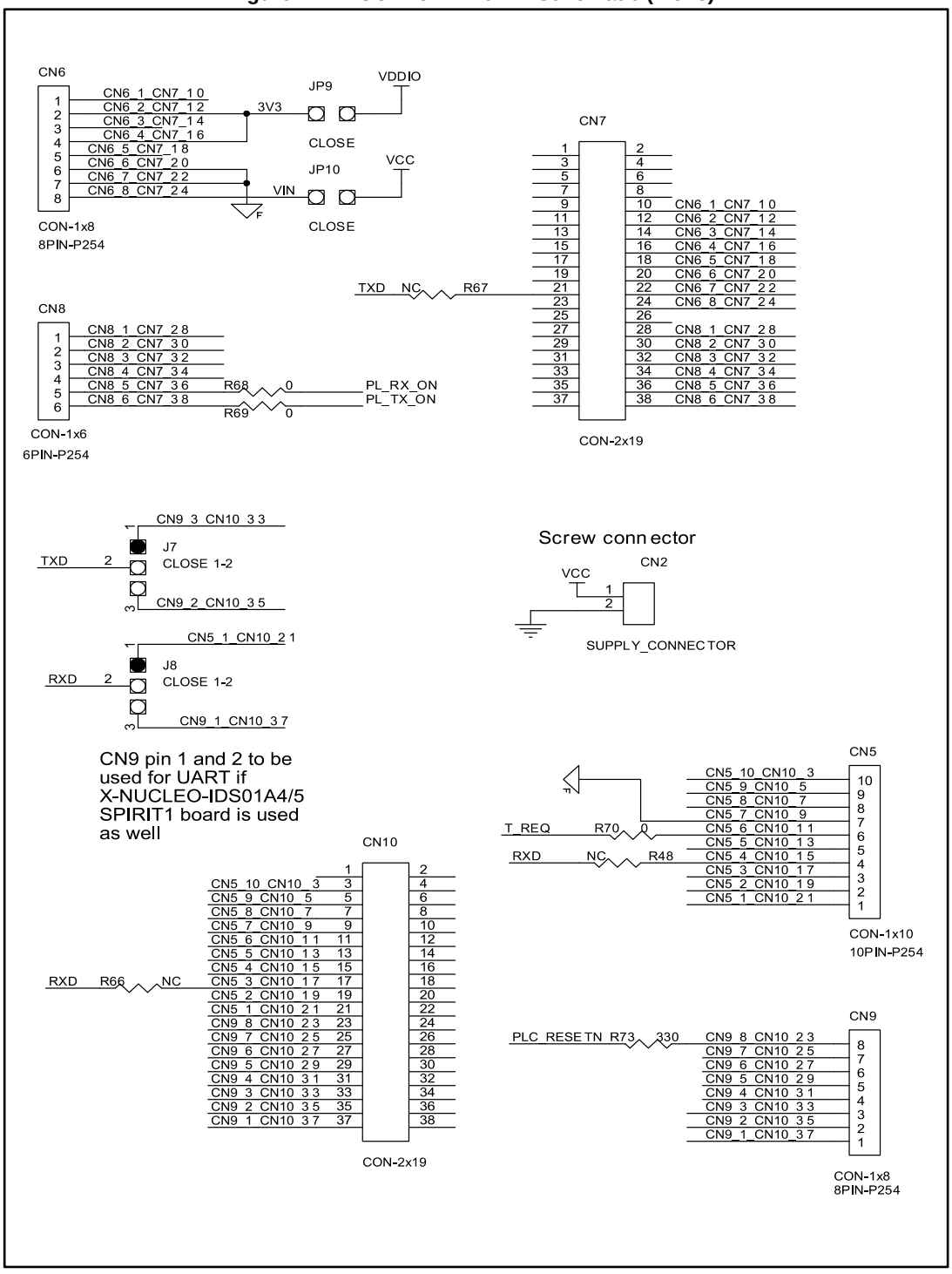
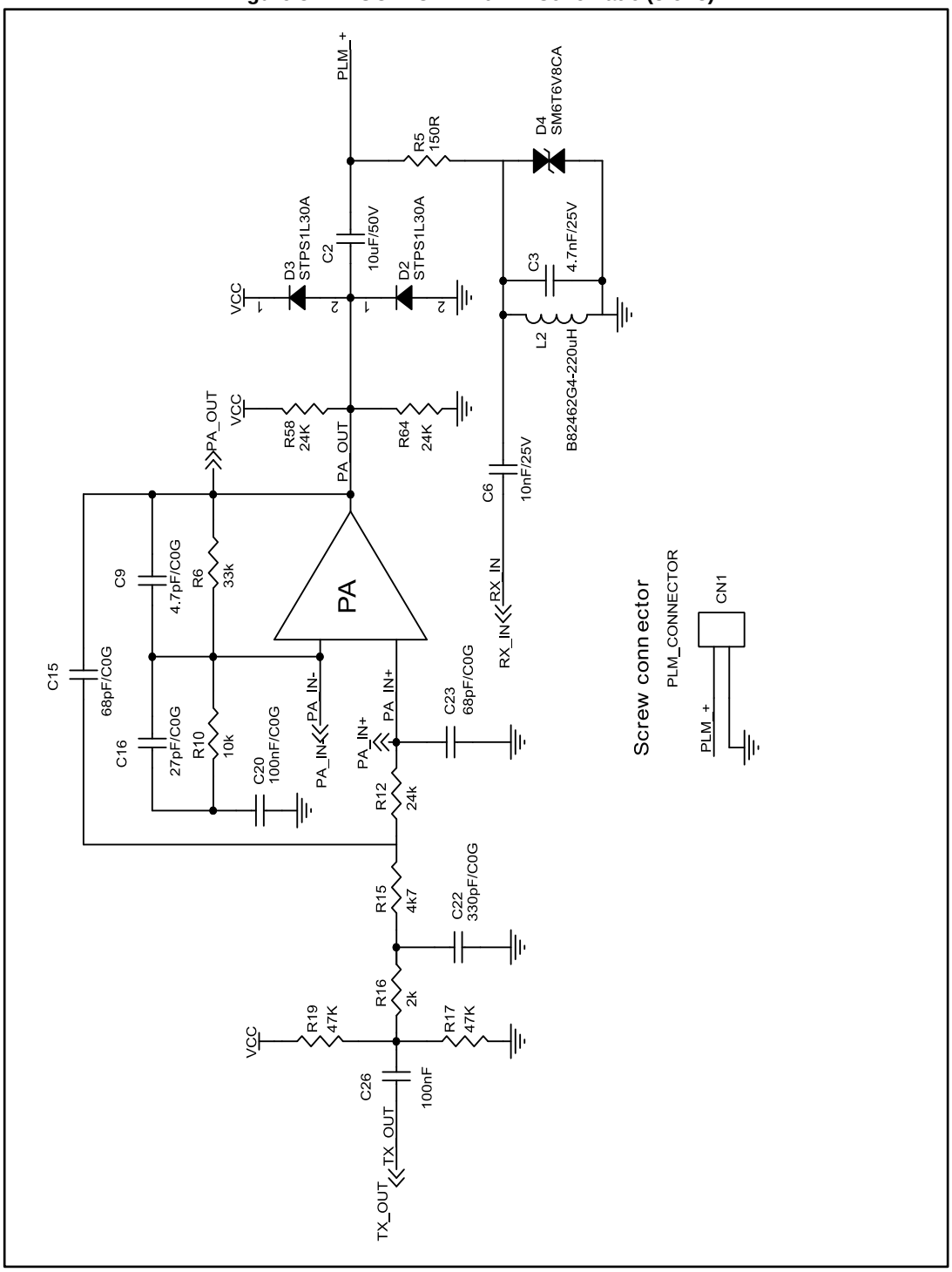


Figure 3: X-NUCLEO-PLM01A1 schematic (3 of 3)



2 Revision history

Table 1: Document revision history

Date	Version	Changes
14-Jun-2017	1	Initial release.