X-NUCLEO-PLM01A1

Power line communication expansion board based on ST7580 for STM32 Nucleo

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 Vpp, 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.

For further information contact your local STMicroelectronics sales office
1 Schematic diagrams

Figure 1: X-NUCLEO-PLM01A1 schematic (1 of 3)
Figure 2: X-NUCLEO-PLM01A1 schematic (2 of 3)

CN9 pin 1 and 2 to be used for UART if X-NUCLEO-IDS01A4/5 SPIRIT1 board is used as well.
## Revision history

Table 1: Document revision history

<table>
<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Changes</th>
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<tbody>
<tr>
<td>14-Jun-2017</td>
<td>1</td>
<td>Initial release.</td>
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