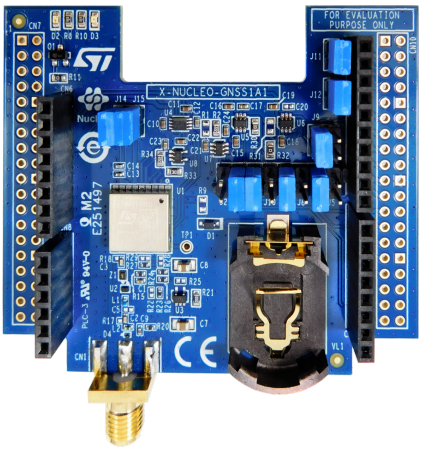
X-NUCLEO-GNSS1A1

Data brief

GNSS expansion board based on Teseo-LIV3F module for STM32 Nucleo



Features

- Operating supply voltage: 3.3 - 5 V
- Ambient temperature: -40/+85 °C
- Sensitivity: -162 dBm indoor (tracking mode)
- Interfaces:
  - a UART port
  - an I²C port
  - Configurable digital I/O timepulse
  - EXTINT input for wakeup
- NMEA protocol
- Assisted GNSS:
  - Predictive autonomous
  - Predictive server-based
  - Real-time server-based
- Compatible with STM32 Nucleo boards
- Compatible with the Arduino™ UNO R3 connector
- LNA and SAW filter on the RF path
- SMA female antenna connector
- Battery holder
- RoHS and WEEE compliant

Product summary	
GNSS expansion board based on Teseo-LIV3F module for STM32 Nucleo	X-NUCLEO-GNSS1A1
Tiny GNSS module	Teseo-LIV3F
Global navigation satellite system software expansion for STM32Cube	X-CUBE-GNSS1

Description

The X-NUCLEO-GNSS1A1 expansion board is based on the Teseo-LIV3F tiny GNSS module.

It represents an affordable, easy-to-use, global navigation satellite system (GNSS) module, embedding a TeseoIII single die standalone positioning receiver IC, usable in different configurations in your STM32 Nucleo project.

The Teseo-LIV3F is a compact (9.7x10.1 mm) module that provides superior accuracy thanks to the on-board 26 MHz temperature compensated crystal oscillator (TCXO) and a reduced time-to-first fix (TTFF) with its dedicated 32 KHz real-time clock (RTC) oscillator.

The Teseo-LIV3F module runs the GNSS firmware (X-CUBE-GNSS1) to perform all GNSS operations including acquisition, tracking, navigation and data output without external memory support.

The X-NUCLEO-GNSS1A1 expansion board is compatible with the Arduino™ UNO R3 connector and the ST morpho connector, so it can be plugged to the STM32 Nucleo development board and stacked with additional STM32 Nucleo expansion boards.

1 Schematic diagram

Figure 1. **X-NUCLEO-GNSS1A1 circuit schematic (1 of 3)**

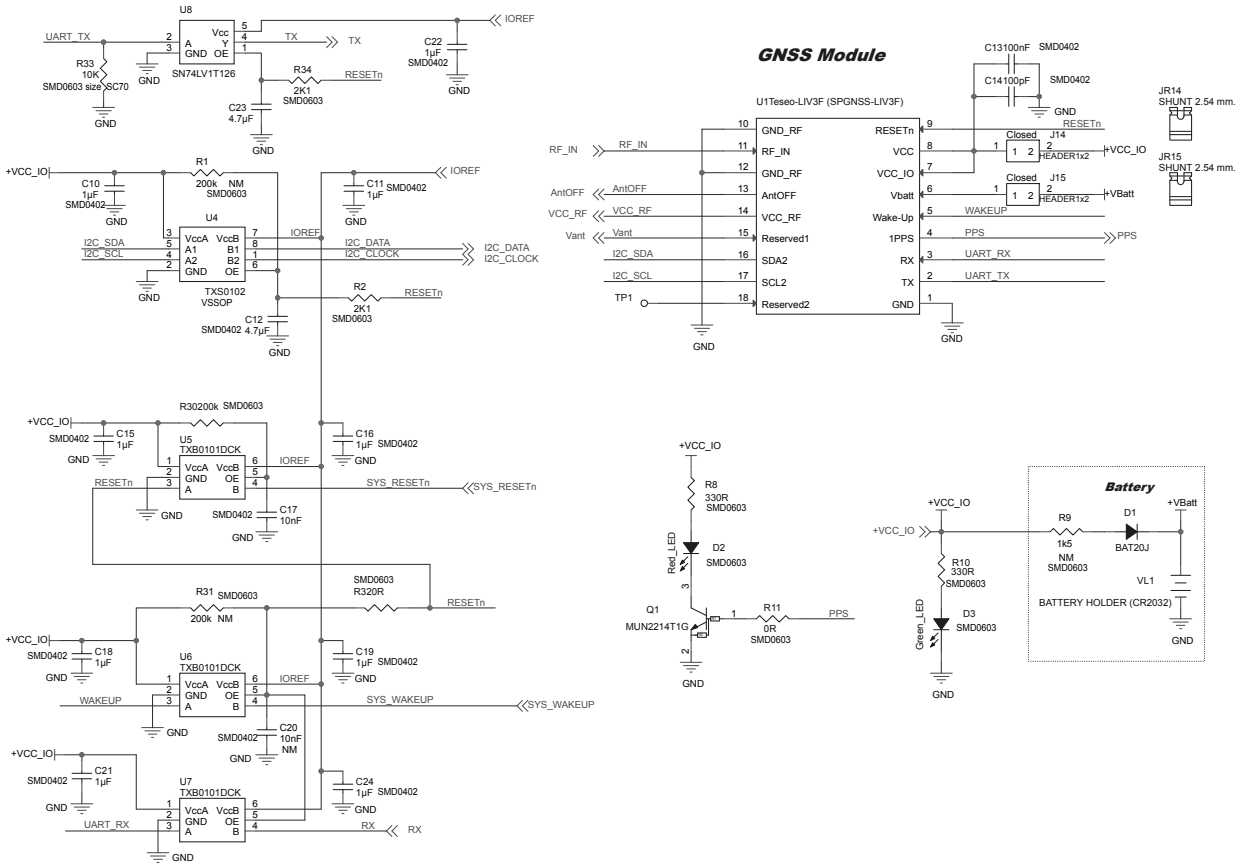


Figure 2. X-NUCLEO-GNSS1A1 circuit schematic (2 of 3)

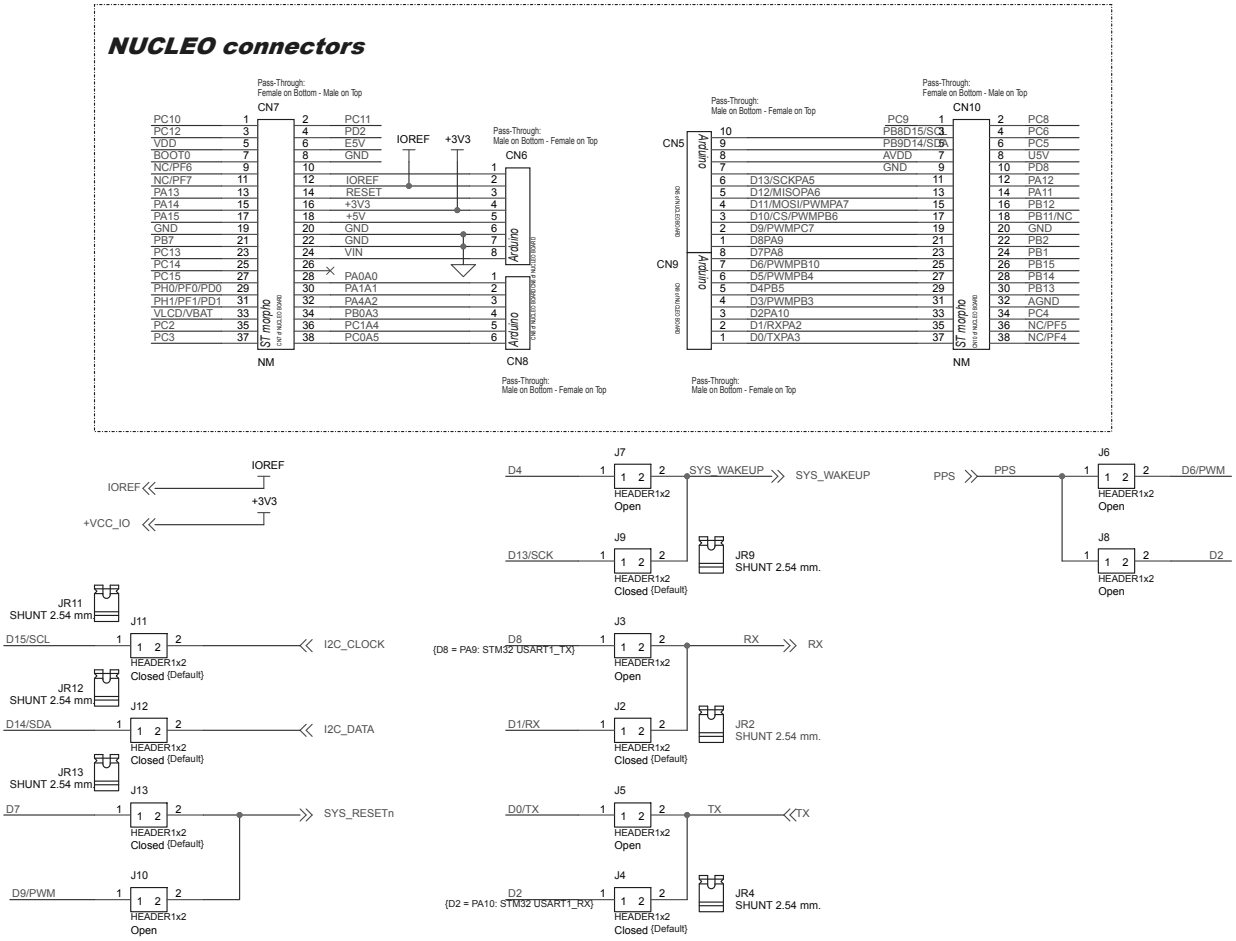
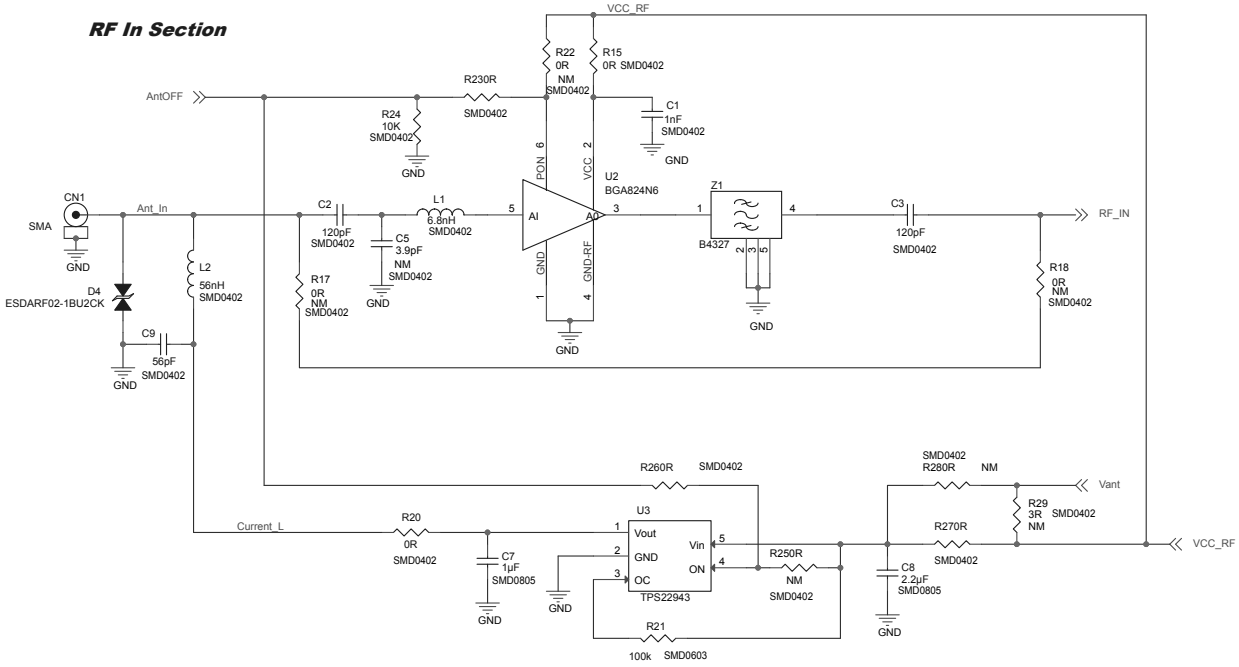


Figure 3. X-NUCLEO-GNSS1A1 circuit schematic (3 of 3)



Revision history

Table 1. Document revision history

Date	Version	Changes
05-Dec-2017	1	Initial release.
12-Oct-2018	2	Updated cover page image and Section 1 Schematic diagram.