

GNSS expansion board based on Teseo-LIV4F module for STM32 Nucleo



Features

- Operating supply voltage: 3.3 - 5 V
- Ambient temperature: +10/+50 °C
- Sensitivity: -162 dBm (tracking mode)
- Interfaces:
 - a UARTport
 - an I²Cport
 - Configurable digital I/O
 - EXTINT input for wakeup
- NMEA protocol
- Assisted GNSS:
 - Autonomous AGNSS
 - Real-timeserver-based
- Simultaneous multi constellation and multi band GNSS
 - GPS
 - Galileo
 - Glonass
 - BeiDou
 - QZSS
- Compatible with [STM32 Nucleo boards](#)
- Compatible with the Arduino™ UNO R3 connector
- SMA female antenna connector
- CE Certified
- RoHS and WEEE compliant

Description

The **X-NUCLEO-LIV4A1** expansion board is based on the [Teseo-LIV4F](#) tiny dual-band GNSS Low power and measurement engine modules.

It represents an affordable, easy-to-use, global navigation satellite system (GNSS) module, embedding TESEO IV single die GNSS receiver IC working simultaneously on multiple constellations GPS/Galileo/ Glonass/BeiDou/QZSS) able to provide positioning (Teseo-LIV4F) in your [STM32 Nucleo](#) project.

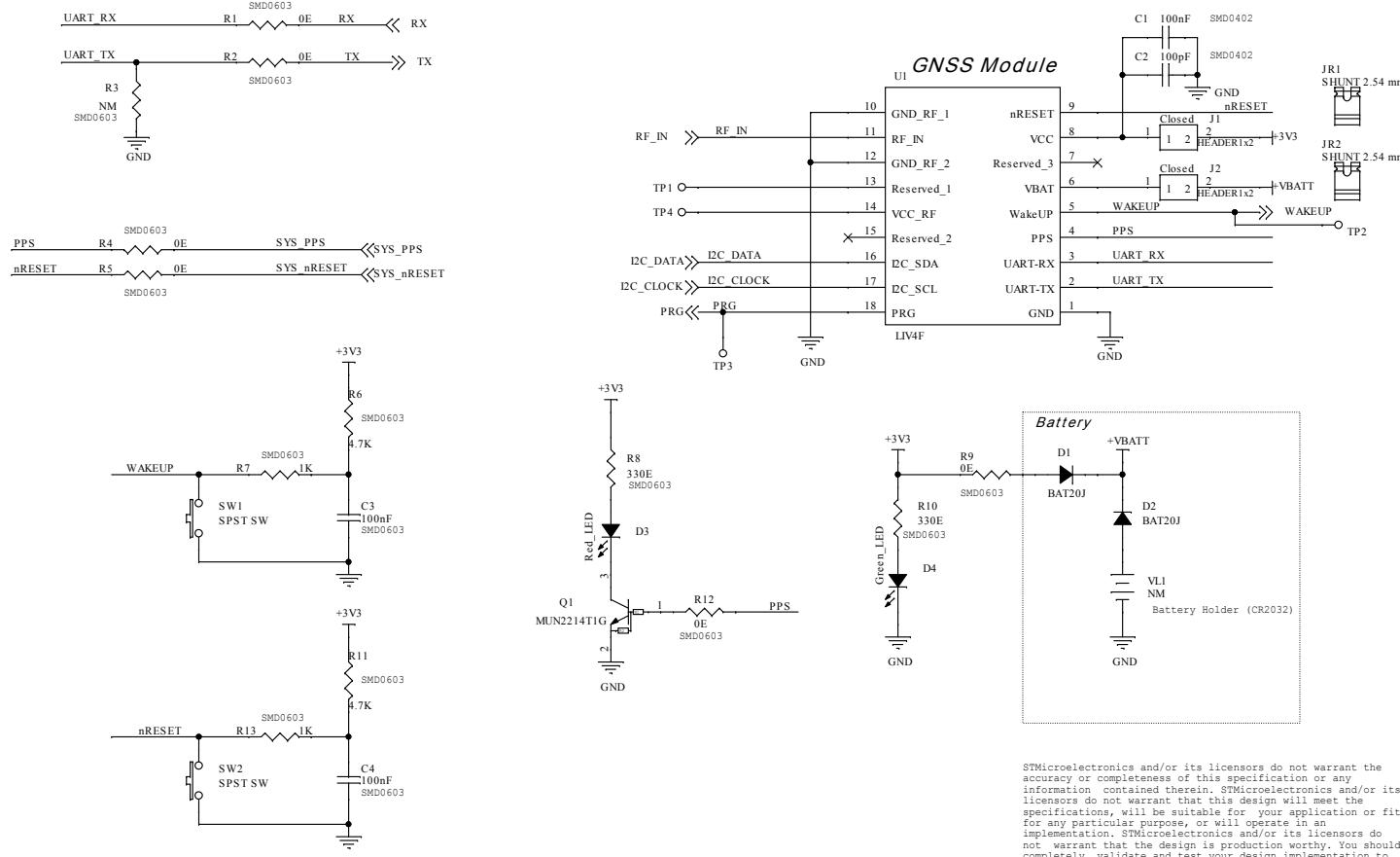
The Teseo-LIV4F is a compact (9.7 x 10.1 mm) module that provides superior accuracy thanks to the on-board temperature-compensated crystal oscillator (TCXO) and a reduced time-to-first fix (TTFF) with its dedicated real-time clock (RTC) oscillator.

The Teseo-LIV4F 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-LIV4A1** 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

Product summary	
GNSS expansion board based on Teseo-LIV4F module for STM32 Nucleo	X-NUCLEO-LIV4A1
Tiny GNSS dual-bands low power module	Teseo-LIV4F
Global navigation satellite system software expansion for STM32Cube	X-CUBE-GNSS1
Applications	Navigation Tracking Industrial

Figure 1. X-NUCLEO-LIV4A1 circuit schematic (1 of 3)



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Figure 2. X-NUCLEO-LIV4A1 circuit schematic (2 of 3)

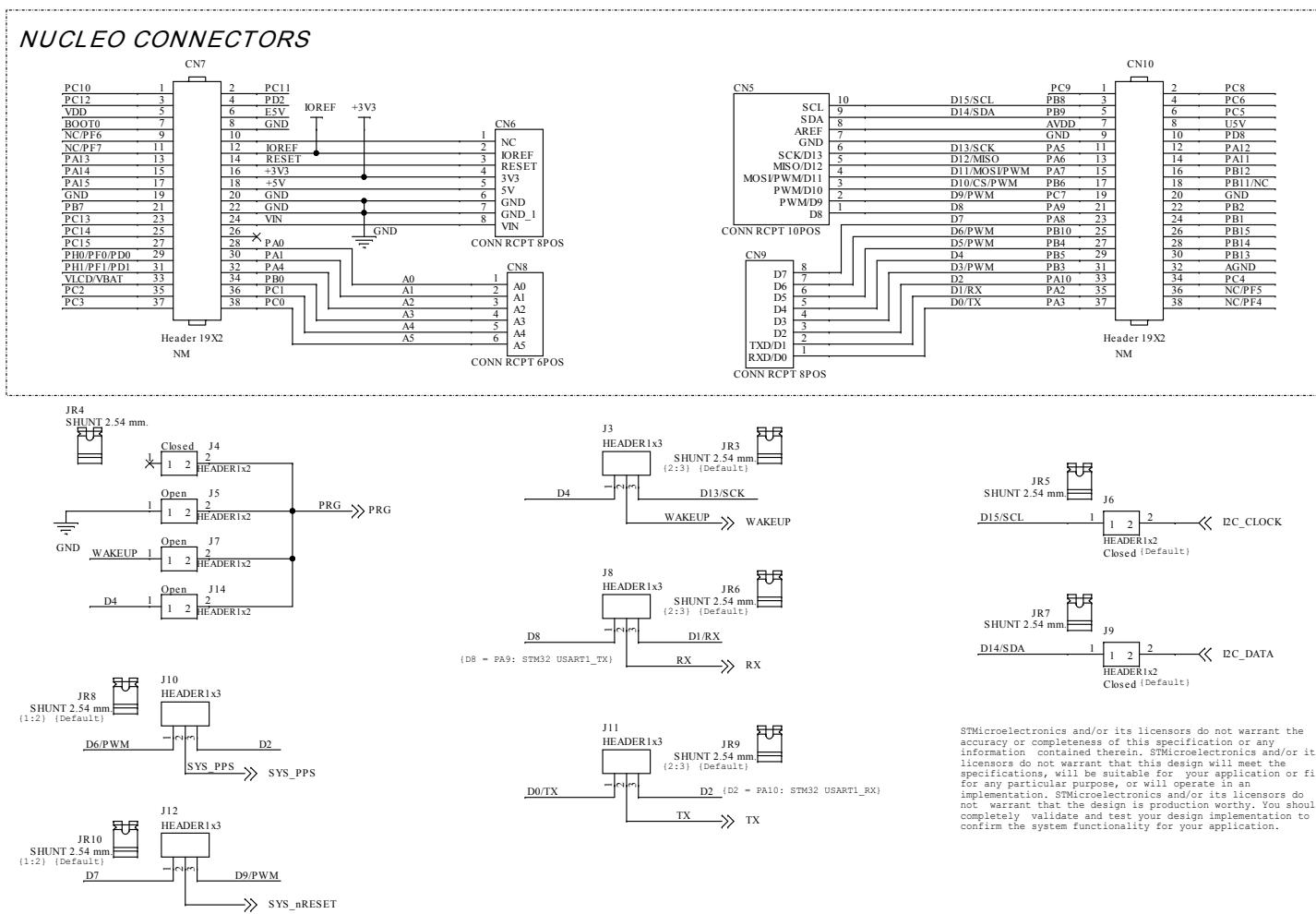
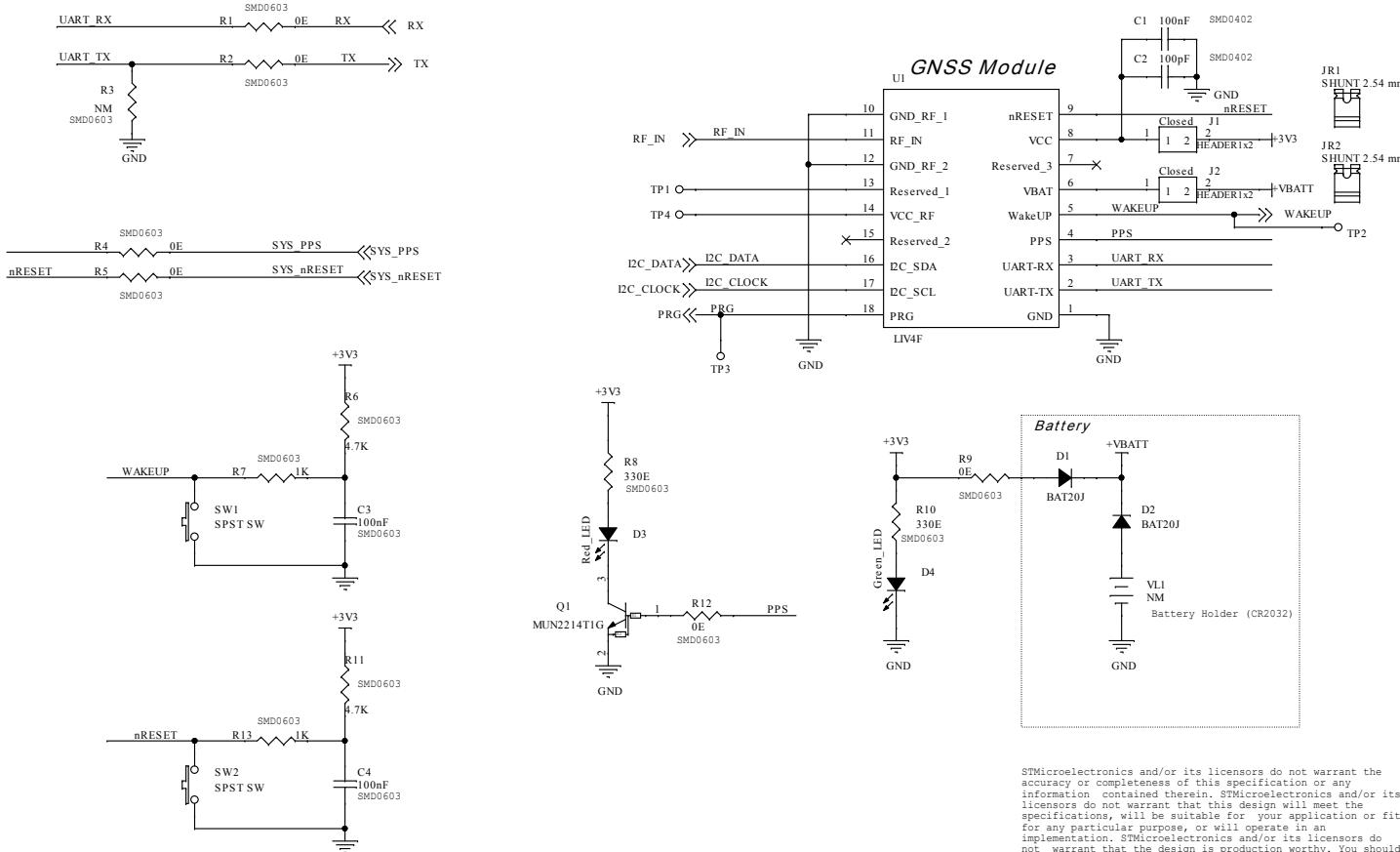


Figure 3. X-NUCLEO-LIV4A1 circuit schematic (3 of 3)



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2 Board versions

Table 1. X-NUCLEO-LIV4A1 versions

Finished good	Schematic diagrams	Bill of materials
X\$NUCLEO-LIV4A1A ⁽¹⁾	X\$NUCLEO-LIV4A1A schematic diagrams	X\$NUCLEO-LIV4A1A bill of materials

1. This code identifies the X-NUCLEO-LIV4A1 evaluation board first version.

Revision history

Table 2. Document revision history

Date	Revision	Changes
29-Jan-2024	1	Initial release.

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