

LoRa® IoT tracker



Features

- Optimized IoT tracker solution over LoRaWAN™ network with simultaneous multi-constellation GNSS positioning and geofencing support
- Battery operated solution with smart power management architecture
- First IoT ST reference embedding a USB Type-C connector and a port controller
- Environmental and motion sensors
- Data logging
- [STM32Cube](#) function pack ([FP-ATR-LORA1](#))
- High flexibility to cover different application profiles:
 - asset tracker
 - people and animal tracker
 - fleet management
- WEEE and RoHS compliant
- 2006/66/EC Directive compliant
- Contains transmitter module FCC ID: VPYCMABZ and IC ID: 772C-CMABZ
- CE certified

Description

The [STEVAL-STRKT01](#) LoRa® IoT tracker is designed and optimized to implement the latest technologies in IoT tracker applications such as asset, people and animal tracking as well as fleet management.

The evaluation board simplifies prototyping, evaluation and development of tracker innovative solutions. It comes with comprehensive software, firmware libraries, tools, battery, cables and plastic case.

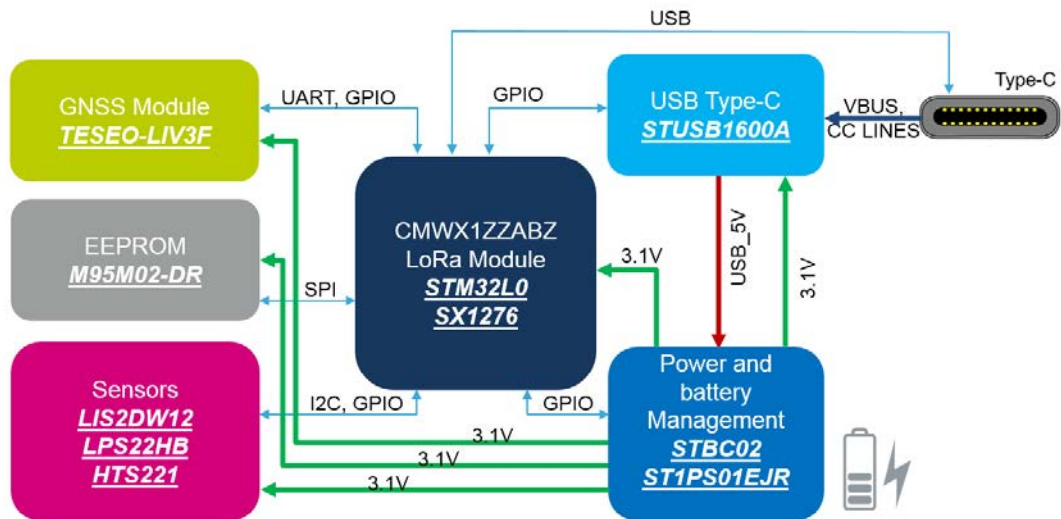
Thanks to the [STM32L072CZ](#) embedded in the [CMWX1ZZABZ-091](#) LoRa® module (by Murata), the [STEVAL-STRKT01](#) allows acquiring position, managing geofence and data logging from [Teseo-LIV3F](#) GNSS module and monitoring motion ([LIS2DW12](#)) and environmental ([HTS221](#) and [LPS22HB](#)) sensors.

The board also transmits and receives data, configurations and events to and from the cloud over a LoRaWAN™ network, or stores data locally in the [M95M02-DR](#) EEPROM.

The [STEVAL-STRKT01](#) is a LiPo battery operated solution and implements low power strategies thanks to an enhanced power/battery management design, based on the [STBC02](#) battery charger and the [ST1PS01](#) step-down converter, to ensure long battery autonomy. The [STUSB1600A](#) addresses 5 V USB Type-C port management and offers high voltage protection against short circuits.

Product summary	
LoRa IoT tracker	STEVAL-STRKT01
STM32Cube function pack for IoT tracker node with LoRa connectivity, GNSS and sensors	FP-ATR-LORA1
Ultra-low-power ARM Cortex-M0+ MCU	STM32L072CZ
Tiny GNSS module	Teseo-LIV3F
Li-Ion linear battery charger	STBC02
USB Type-C controller	STUSB1600A
2 Mbit serial SPI bus EEPROM	M95M02-DR
400 mA nano-quiescent synchronous step-down converter	ST1PS01

1 Block diagram

Figure 1. STEVAL-STRKT01 block diagram


2 Schematic diagrams

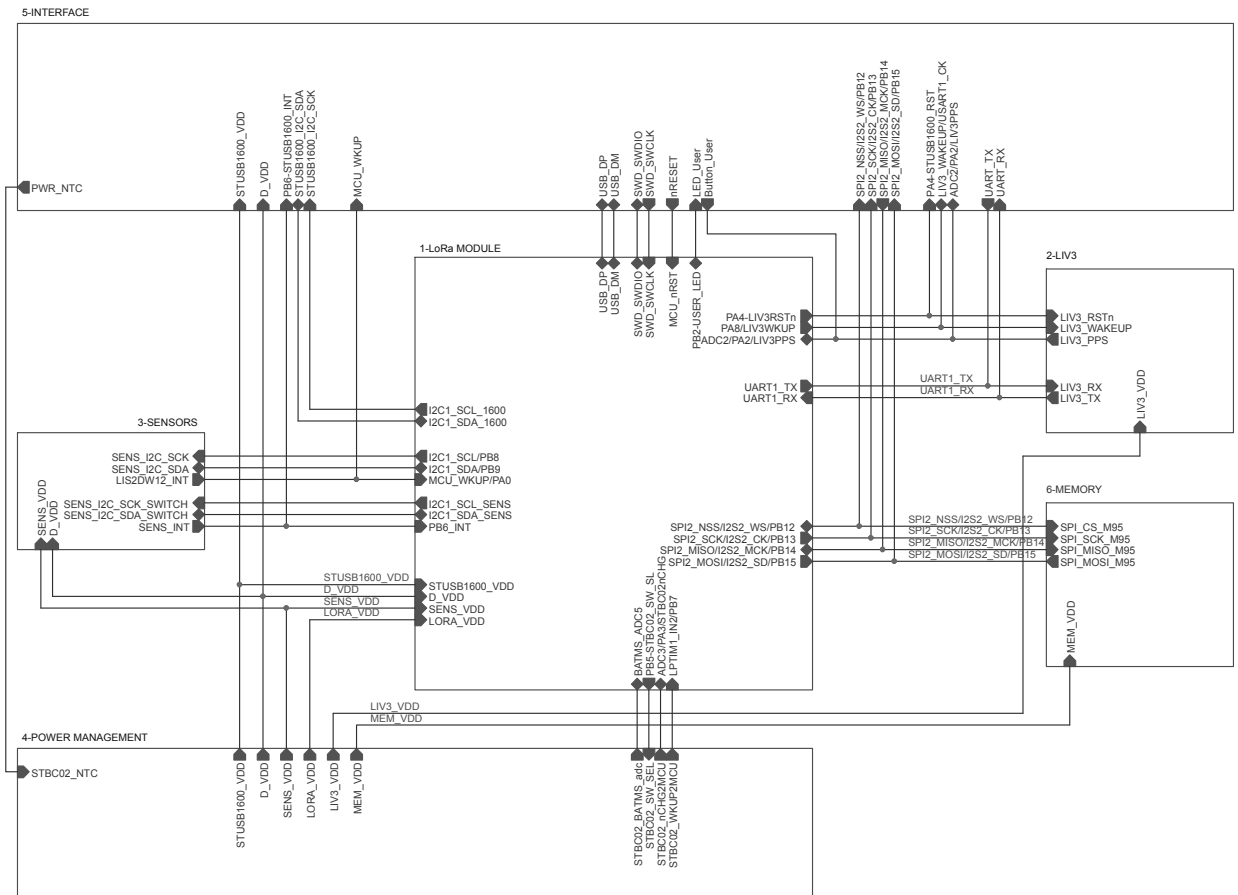
Figure 2. STEVAL-STRKT01 circuit schematic (1 of 7)


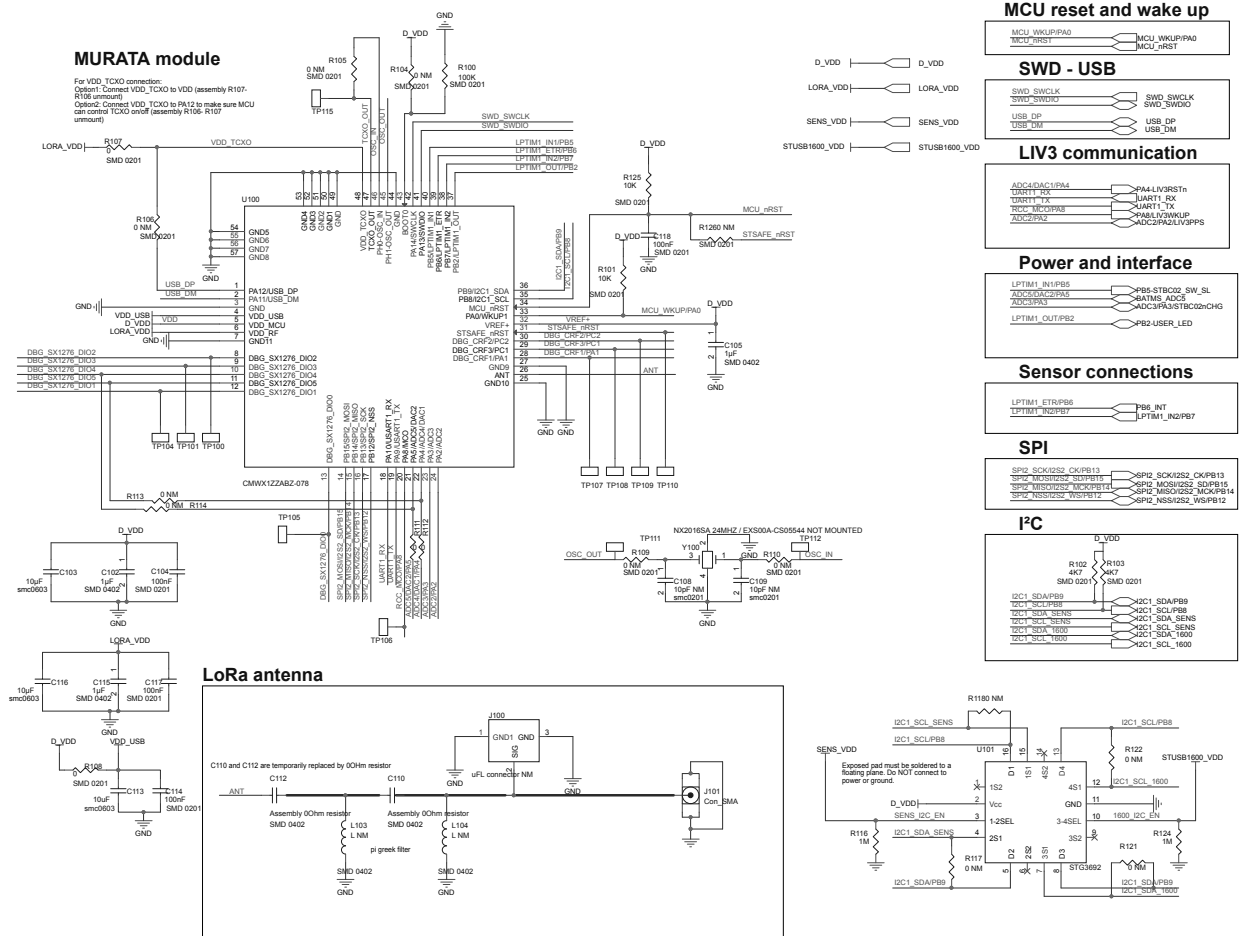
Figure 3. STEVAL-STRKT01 circuit schematic (2 of 7)


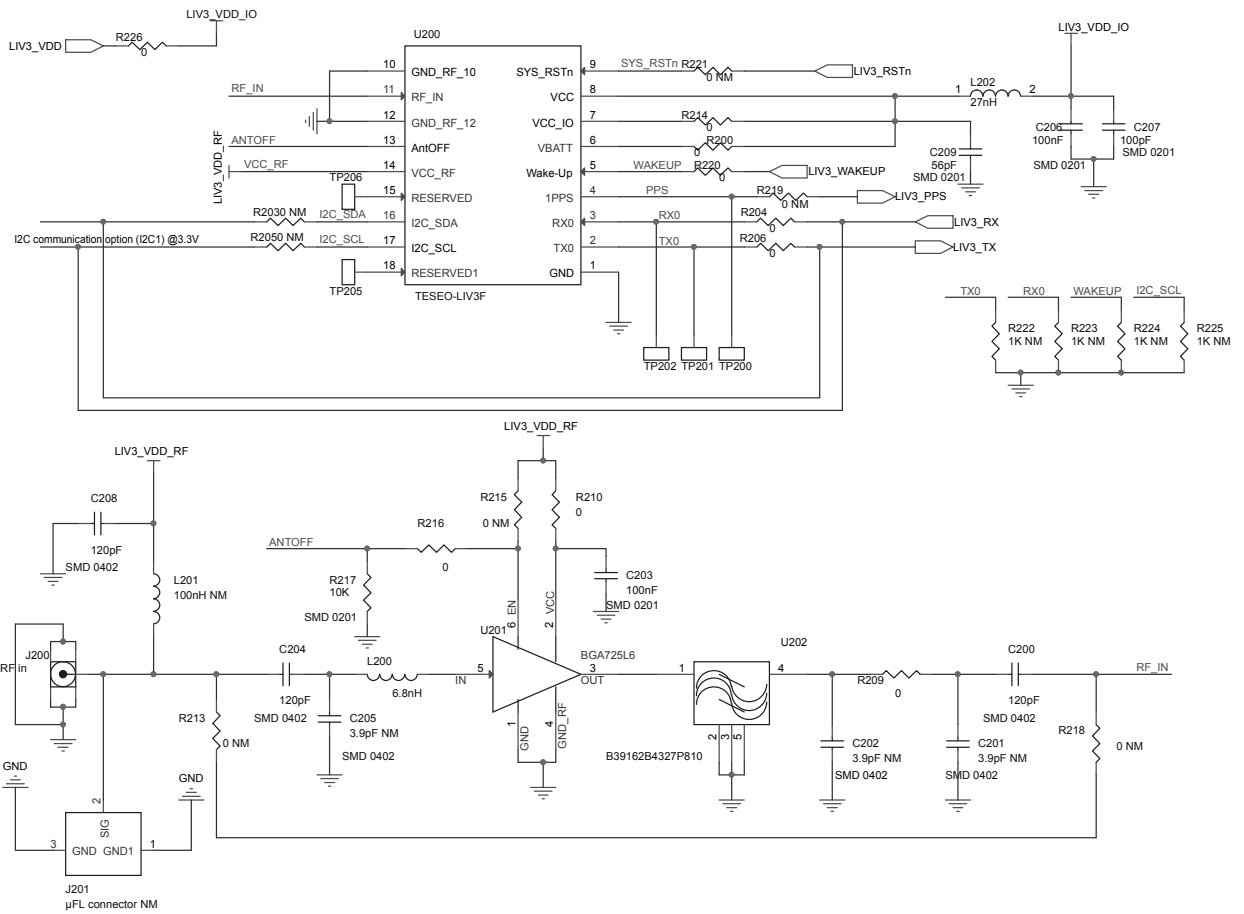
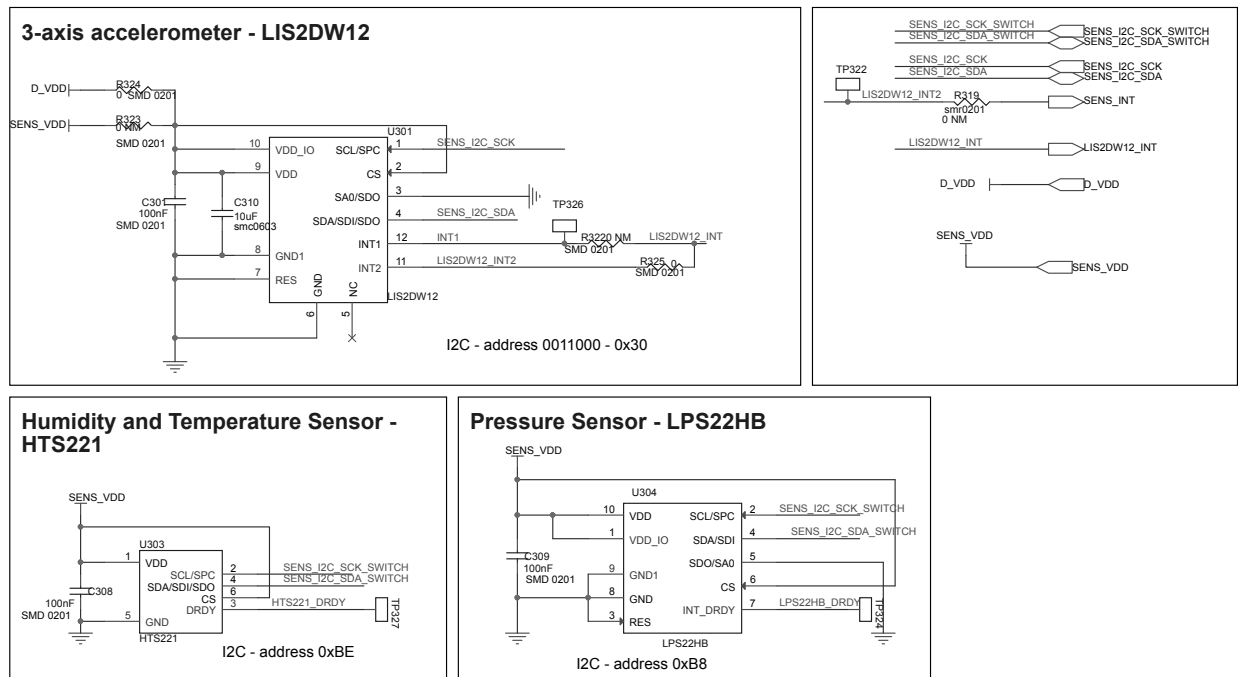
Figure 4. STEVAL-STRKT01 circuit schematic (3 of 7)**Figure 5. STEVAL-STRKT01 circuit schematic (4 of 7)**

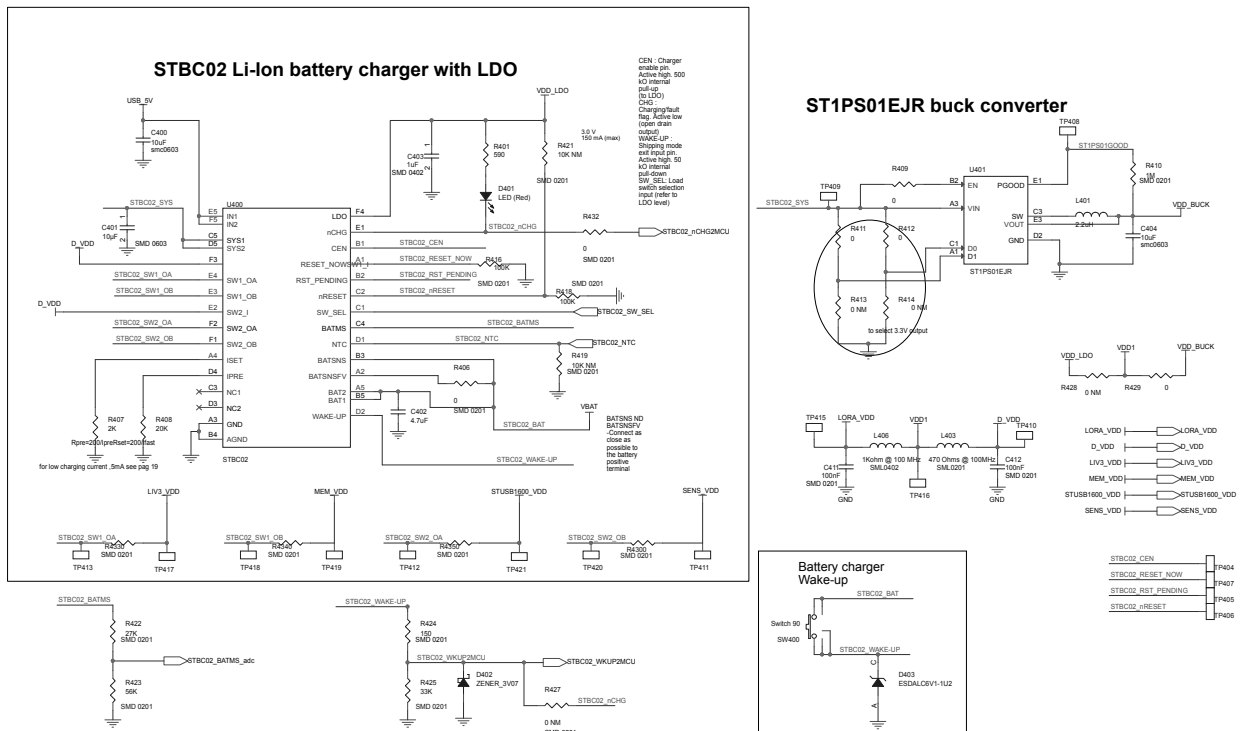
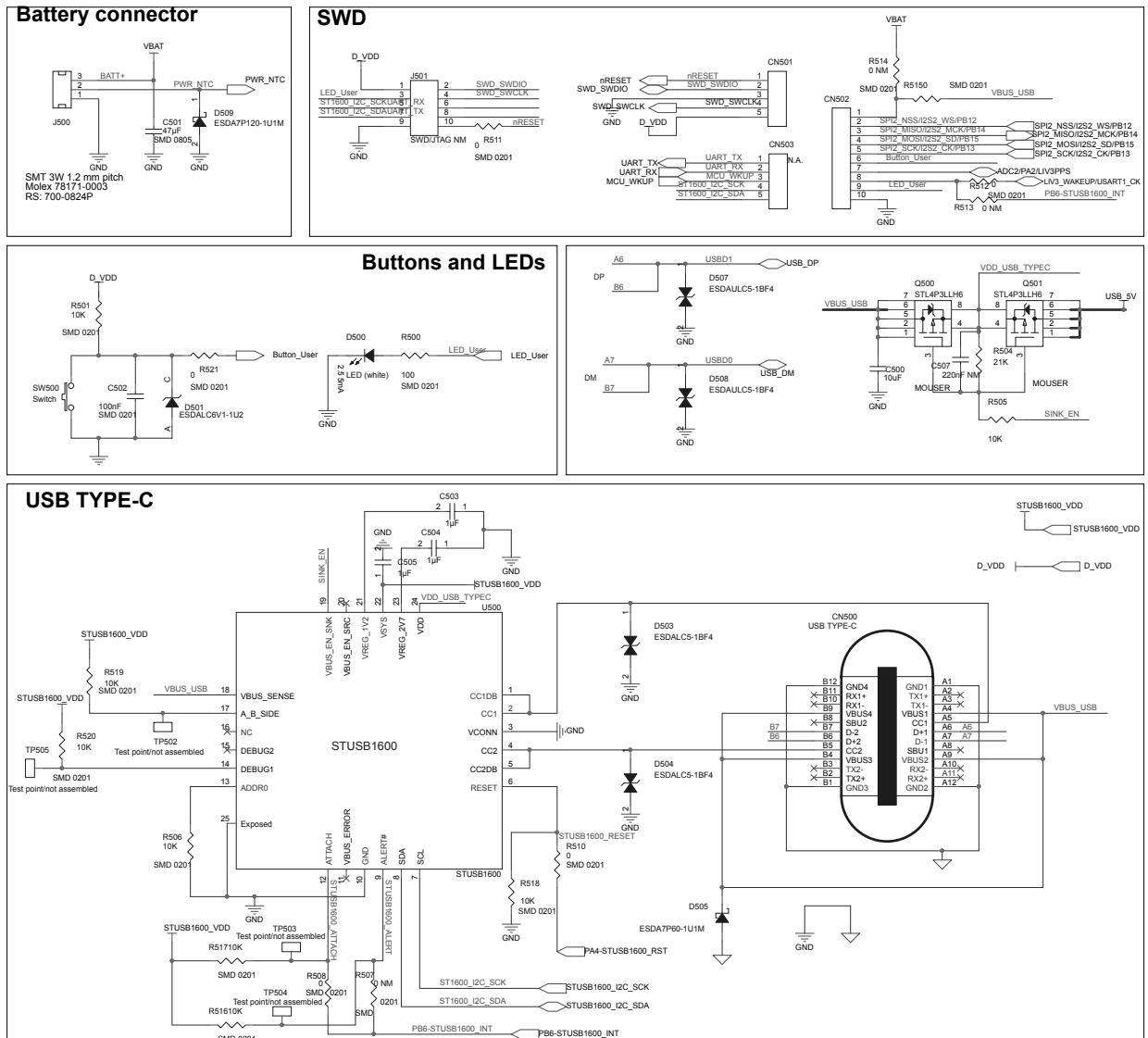
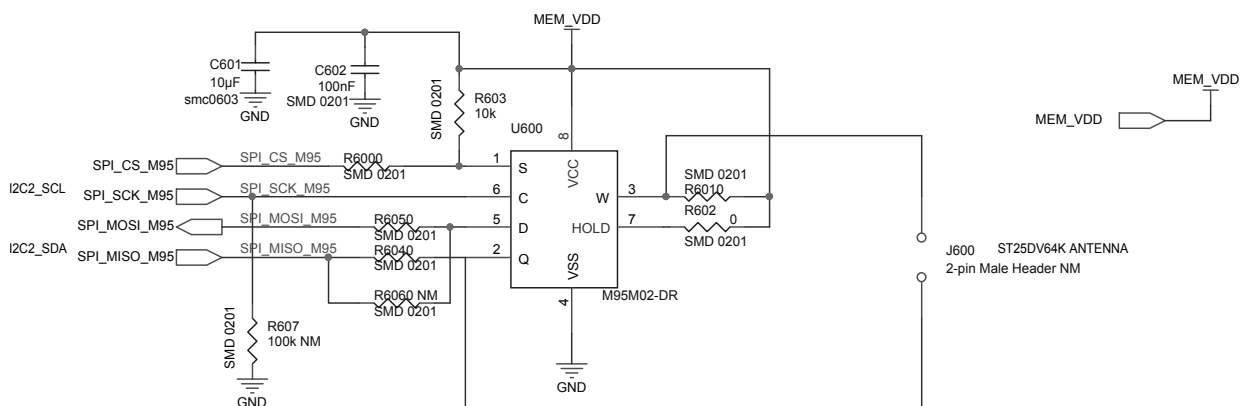
Figure 6. STEVAL-STRKT01 circuit schematic (5 of 7)


Figure 7. STEVAL-STRKT01 circuit schematic (6 of 7)

Figure 8. STEVAL-STRKT01 circuit schematic (7 of 7)


Revision history

Table 1. Document revision history

Date	Version	Changes
13-Nov-2018	1	Initial release.

IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2018 STMicroelectronics – All rights reserved

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [GPS Development Tools](#) category:

Click to view products by [STMicroelectronics](#) manufacturer:

Other Similar products are found below :

[MAX2769EVKIT](#) [A9G](#) [SKY65725-11EK1](#) [SKY65728-11EK1](#) [TAU1201-EVK-A00](#) [1059](#) [1090](#) [MIKROE-2045](#) [1272](#) [MDEV-GNSS-TM](#)
[TEL0051](#) [M20050-EVB-1](#) [GPS-14414](#) [SIM808](#) [EVK-M8BZOE-0](#) [EVK-M8N-0](#) [EVK-M8U](#) [SIM868](#) [746](#) [2324](#) [4279](#) [4415](#) [M10578-A2-U1](#)
[ASX00017](#) [AS-RTK2B-F9P-L1L2-NH-02](#) [AS-RTK2B-LIT-L1L2-SMA-00](#) [AS-STARTKIT-BASIC-L1L2-NH-02](#) [AS-STARTKIT-LITE-](#)
[L1L2-HS-00](#) [AS-STARTKIT-LR-L1L2-EUNH-00](#) [AS-STARTKIT-LR-L1L2-NANH-00](#) [AS-STARTKIT-MCPIE-L1L2-0-00](#) [AS-](#)
[STARTKIT-MR-L1L2-NH-00](#) [A2235HB04](#) [M5310A-MBR](#) [M5312](#) [EVA2035-H](#) [EVA2100-A](#) [EVA2200-A](#) [MAX2659EVKIT+](#)
[MAX2669EVKIT+](#) [MIKROE-3660](#) [MIKROE-4673](#) [MIKROE-1032](#) [MIKROE-1714](#) [MIKROE-1850](#) [MIKROE-1887](#) [MIKROE-1895](#)
[MIKROE-1912](#) [MIKROE-2382](#) [ML302](#)