STEVAL-STRKT01

Data brief

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 trasmitter 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.

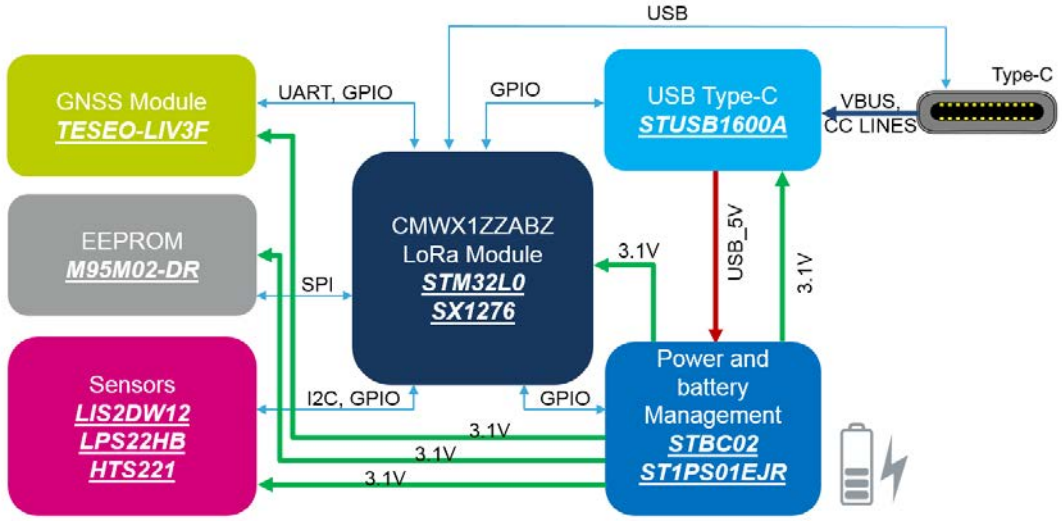
The board also transmits and receives data, configurations and events to and from the cloud over a LoRaWAN™ network, or stores data locally in the M95M02-DR EEPROM.

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)**

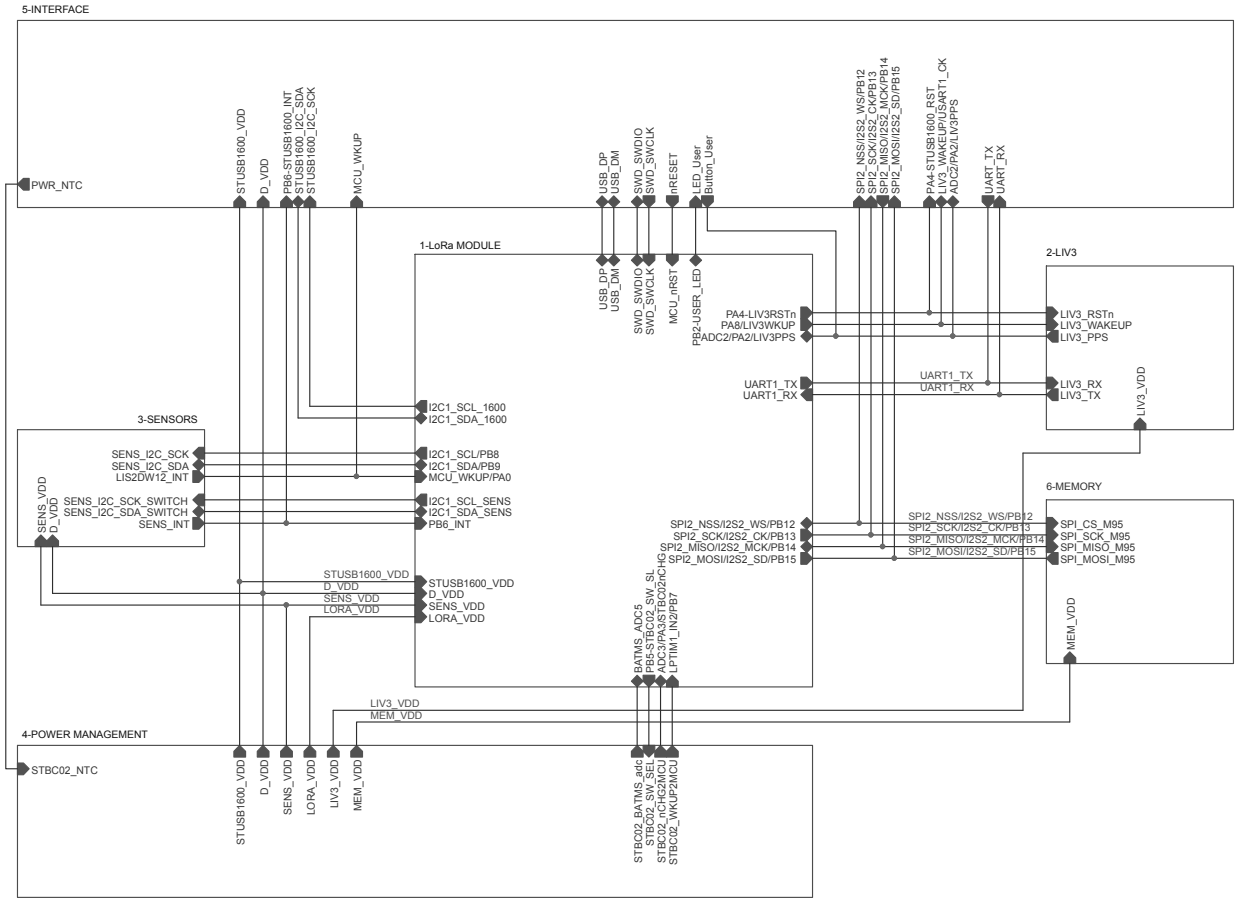


Figure 3. STEVAL-STRKT01 circuit schematic (2 of 7)

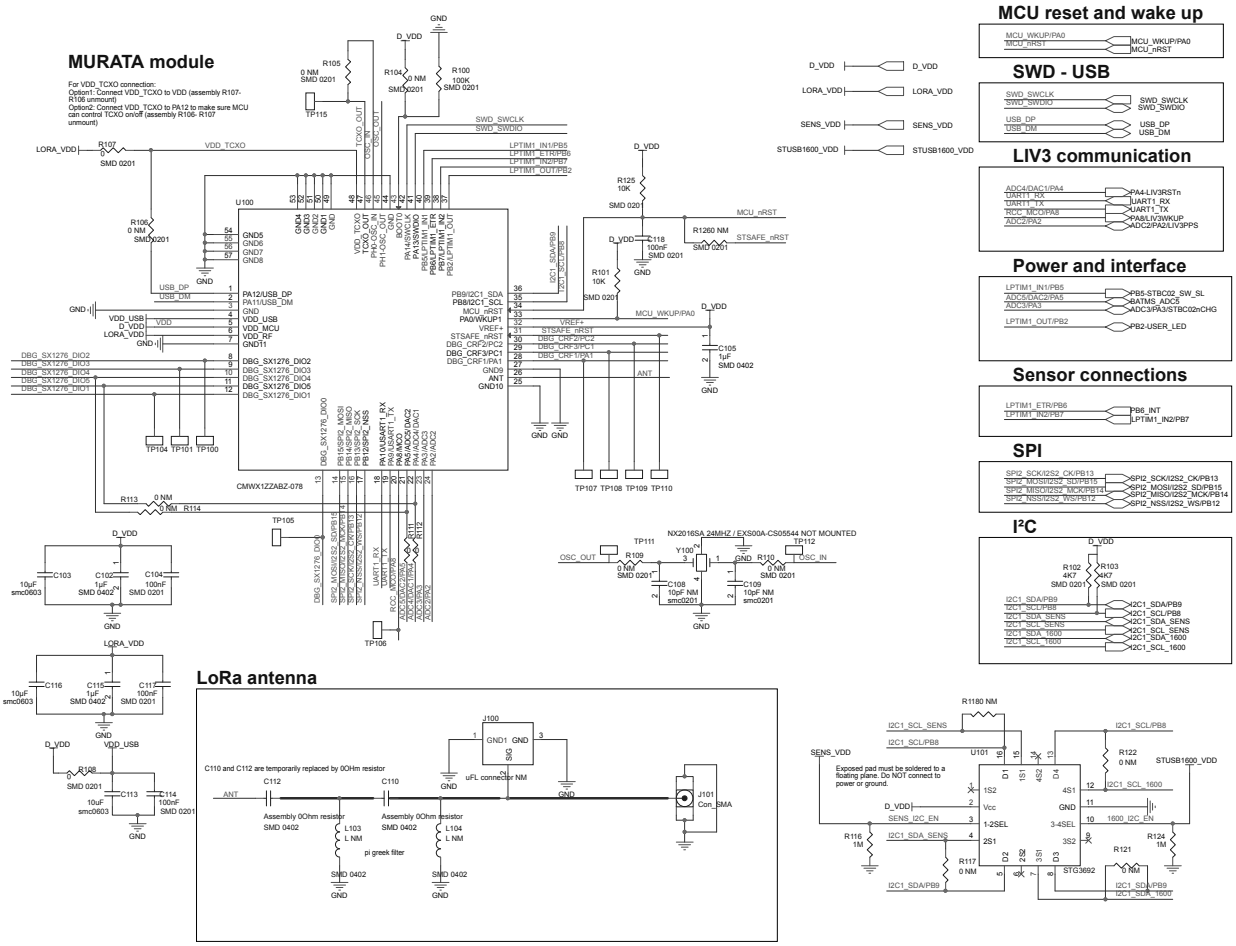


Figure 4. **STEVAL-STRKT01 circuit schematic (3 of 7)**

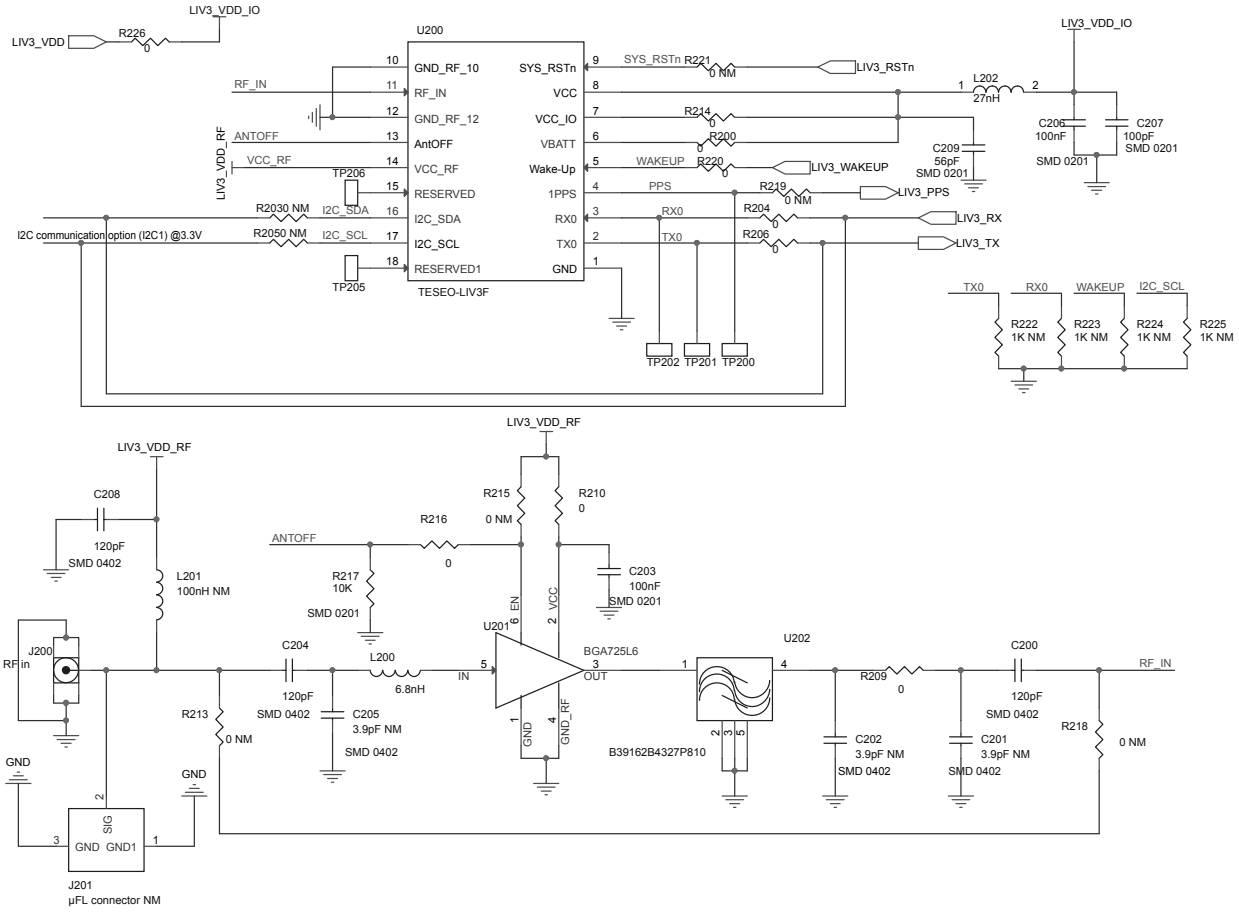


Figure 5. **STEVAL-STRKT01 circuit schematic (4 of 7)**

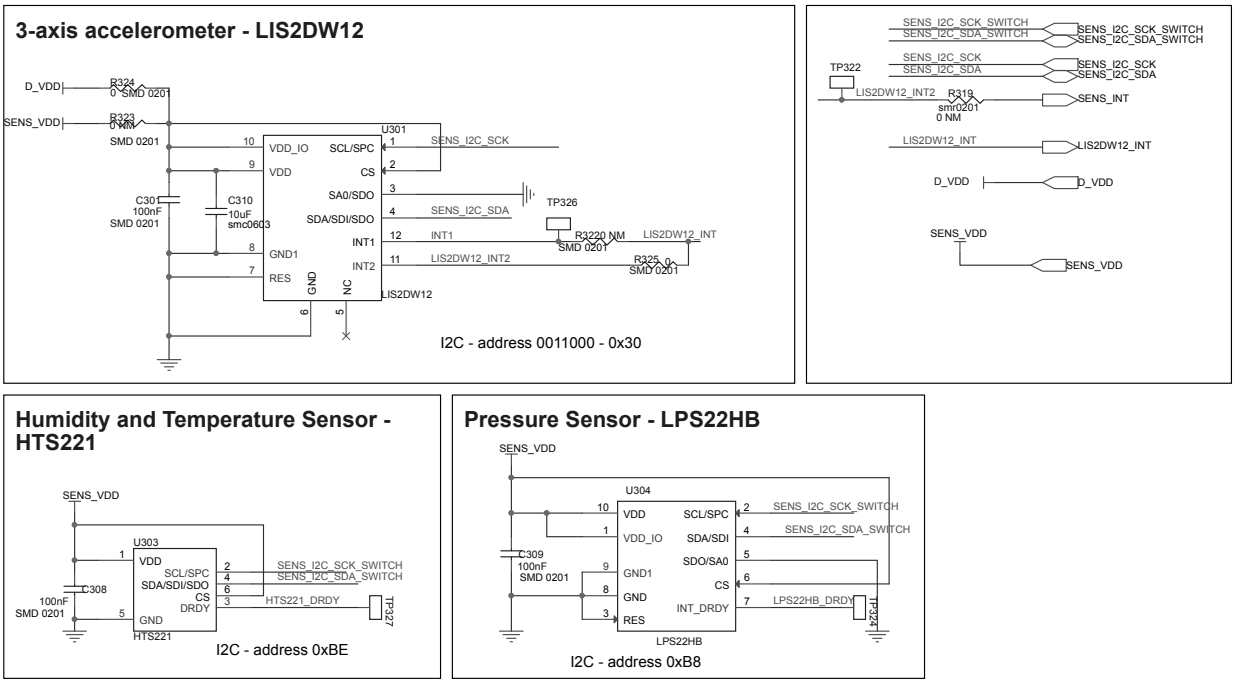


Figure 6. **STEVAL-STRKT01 circuit schematic (5 of 7)**

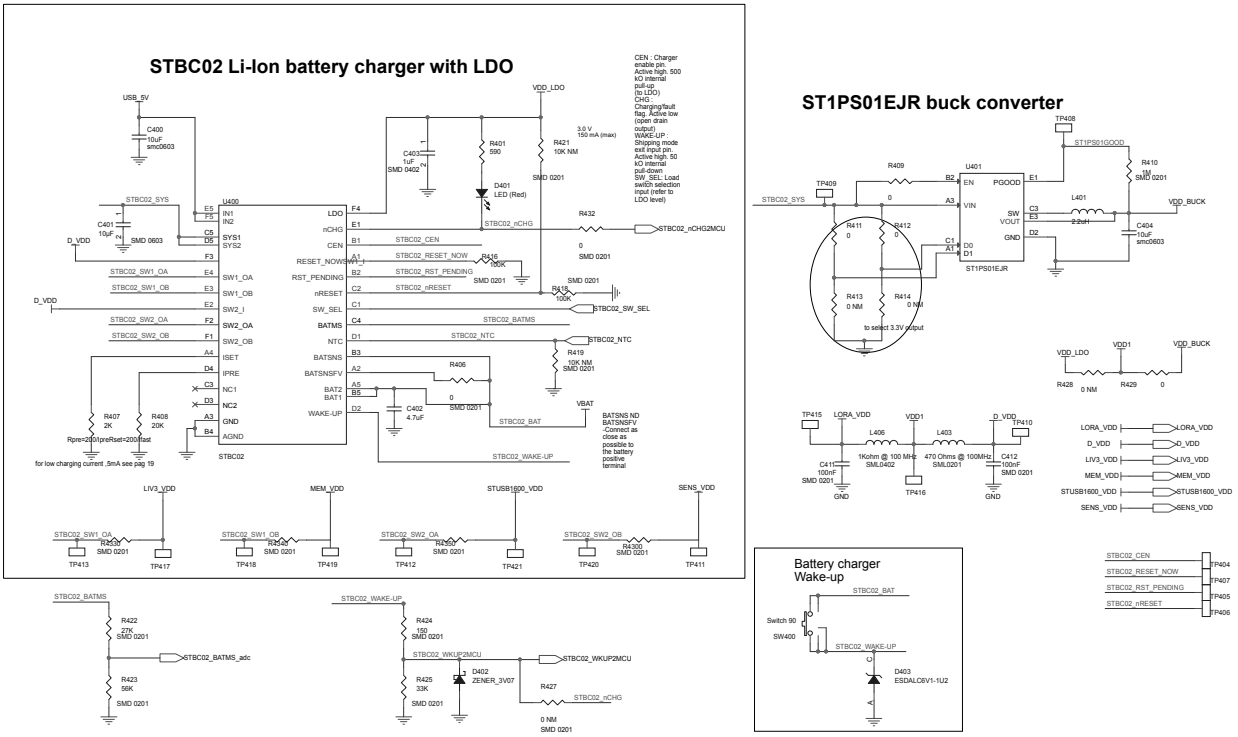


Figure 7. **STEVAL-STRKT01 circuit schematic (6 of 7)**

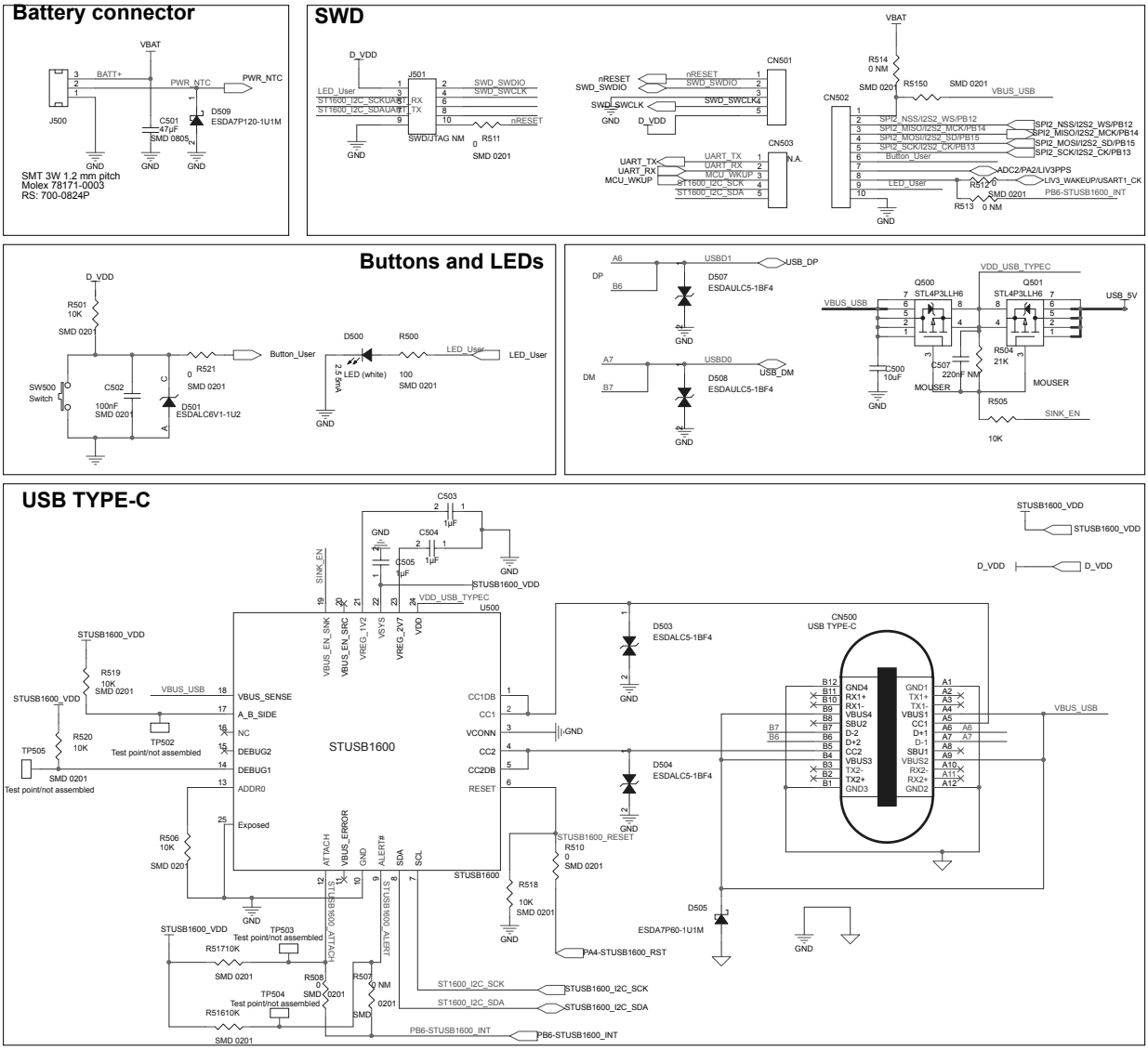
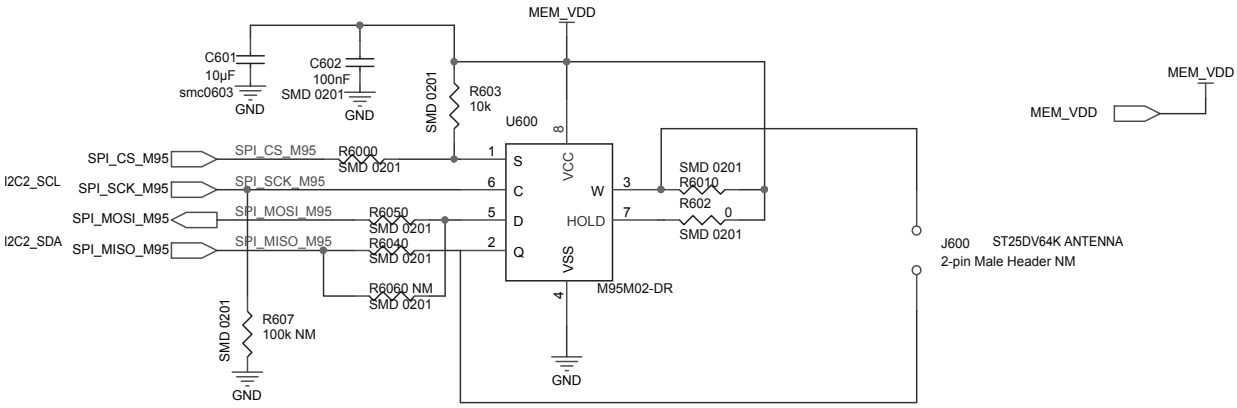


Figure 8. **STEVAL-STRKT01 circuit schematic (7 of 7)**



Revision history

Table 1. **Document revision history**

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

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