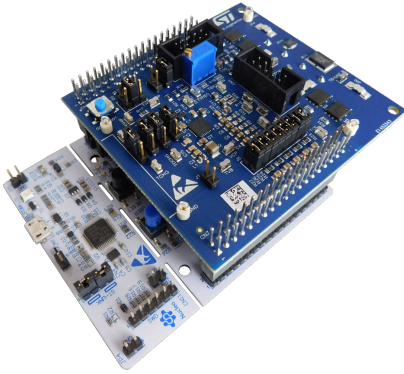


Up to 5 cells BMS for industrial applications based on L9961



Features

- Measures up to 5 cells in series, with no desynchronization delay between samples
- Coulomb counter supporting pack overcurrent detection
- Fully synchronized current and voltage samples
- Analog input for NTC sensing
- Embedded battery simulator
- Onboard fuse emulator
- Onboard charge and discharge MOSFET
- NUCLEO-G071RB development board with downloaded firmware

Description

The **STEVAL-L99615C** is an evaluation kit composed of an expansion board containing the **L9961** IC device for battery pack monitoring solution, and the **NUCLEO-G071RB** STM32 Nucleo-64 development board.

The evaluation kit demonstrates the performance and the ease of integration of ST technology for BMS applications.

The **STEVAL-L99615C** exploits the characteristics of the **L9961** able to monitor up to five Li-ion battery cells in series configuration, communicating with the **STM32G071RB** microcontroller, through an I²C interface.

The expansion board has been specifically developed to be stacked on the **NUCLEO-G071RB** development board through the morpho connectors. It embeds a power connector for the connection to a 5-cell battery pack or, alternatively to an external power supply to emulate the battery pack.

A dedicated software package containing firmware program for the **STM32G071RB** microcontroller and a GUI for the PC (**STSW-L99615C**), has been released to permit the users to take benefit from the demonstration.

Major characteristics described by **STSW-L99615C** are: cell voltage and stack voltage monitoring, stack current monitoring, temperature conversion via external NTC, OV, and UV thresholds management.

Product summary	
Up to 5 cells BMS for industrial applications based on L9961	STEVAL-L99615C
Software GUI for L9961 evaluation board	STSW-L99615C
Chip for industrial battery management applications up to 5 cells	L9961
Mainstream Arm Cortex-M0+ MCU with 128 Kbytes of Flash memory	STM32G071RBT6
Applications	Power Tools

1 Board schematics

Figure 1. STEVAL-L99615C board schematic (1/5)

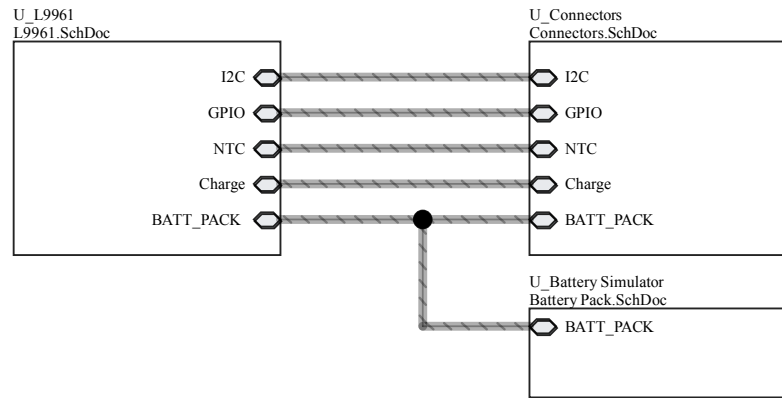


Figure 2. STEVAL-L99615C board schematic (2/5)

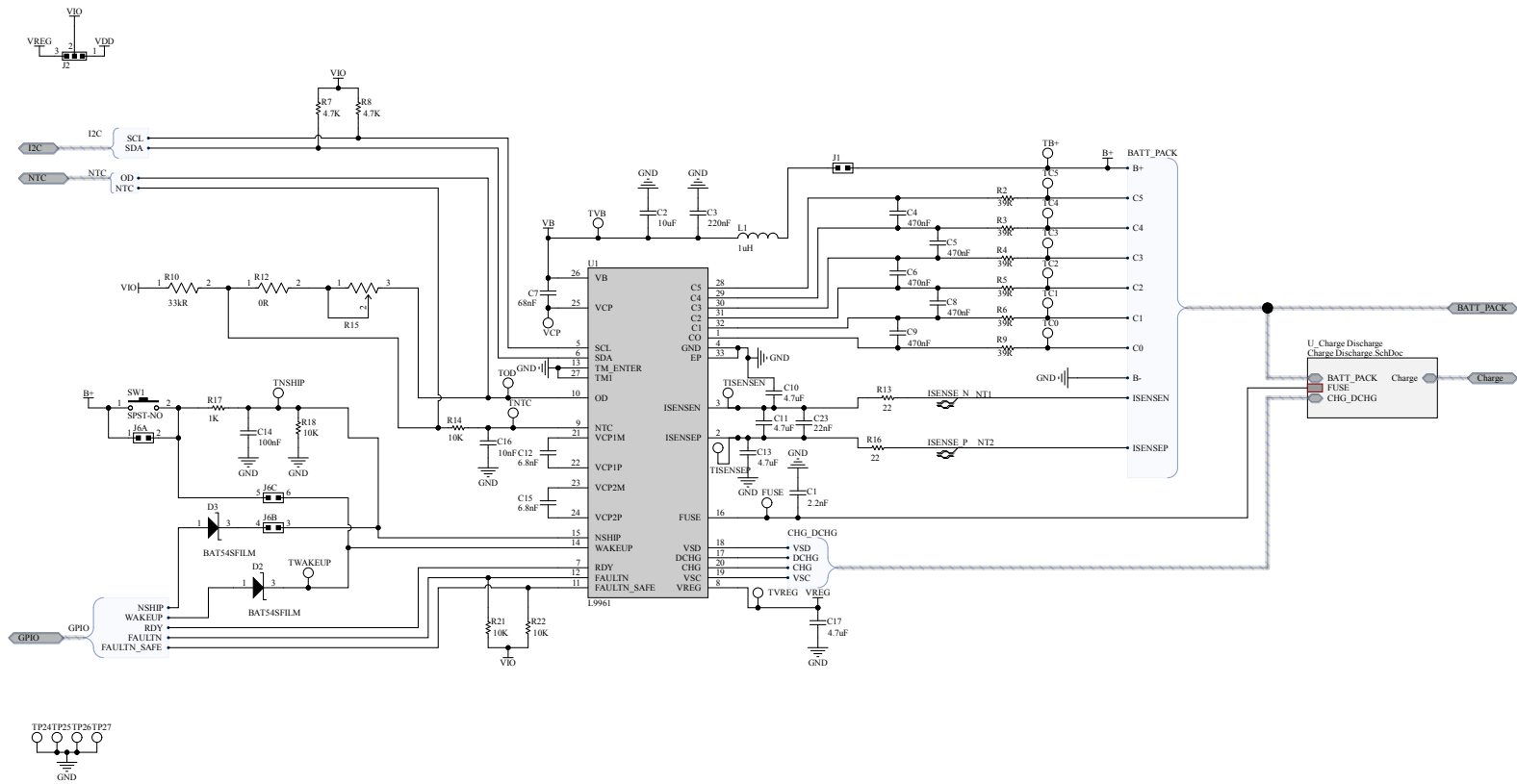


Figure 3. STEVAL-L99615C board schematic (3/5)

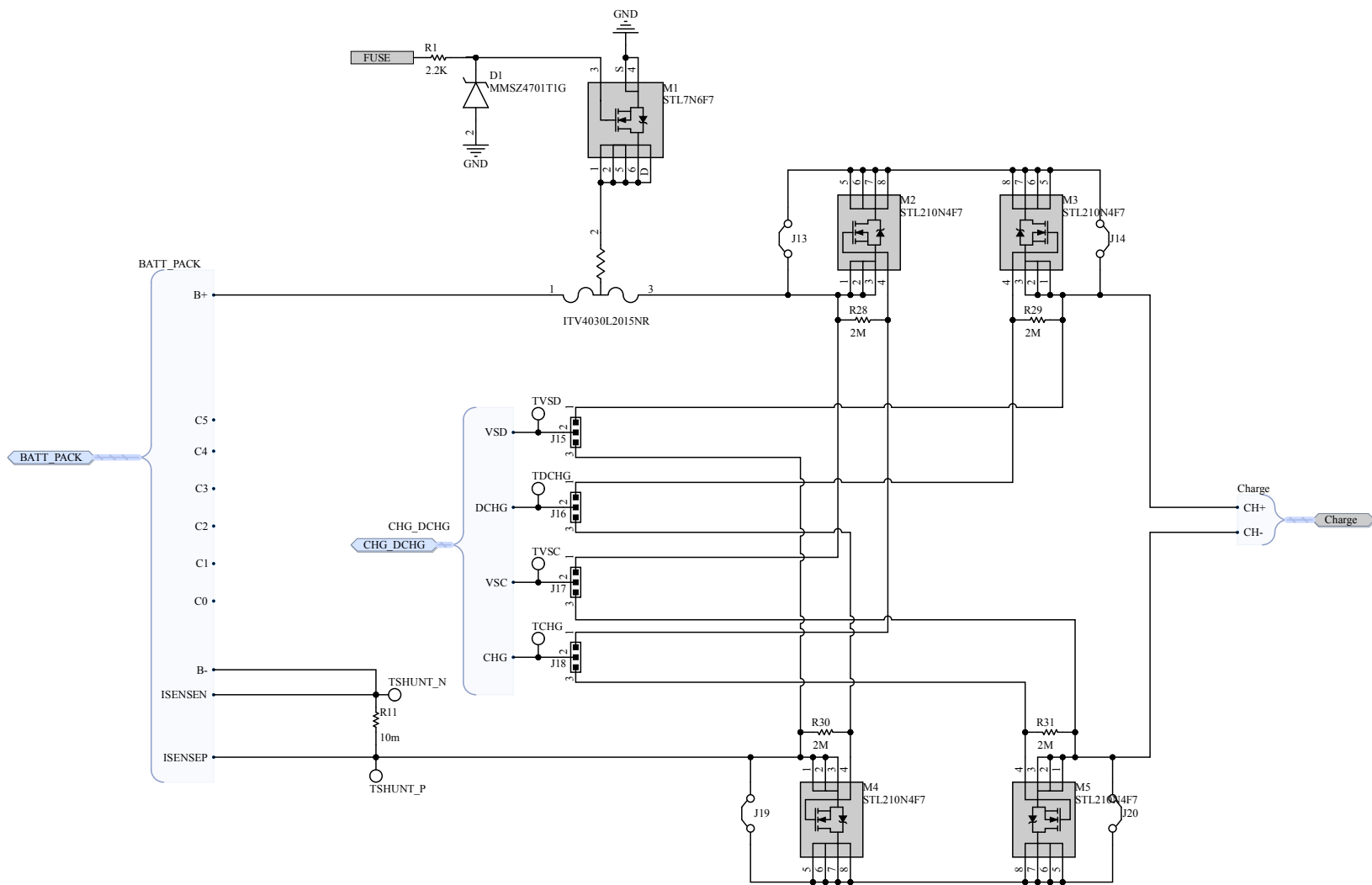


Figure 4. STEVAL-L99615C board schematic (4/5)

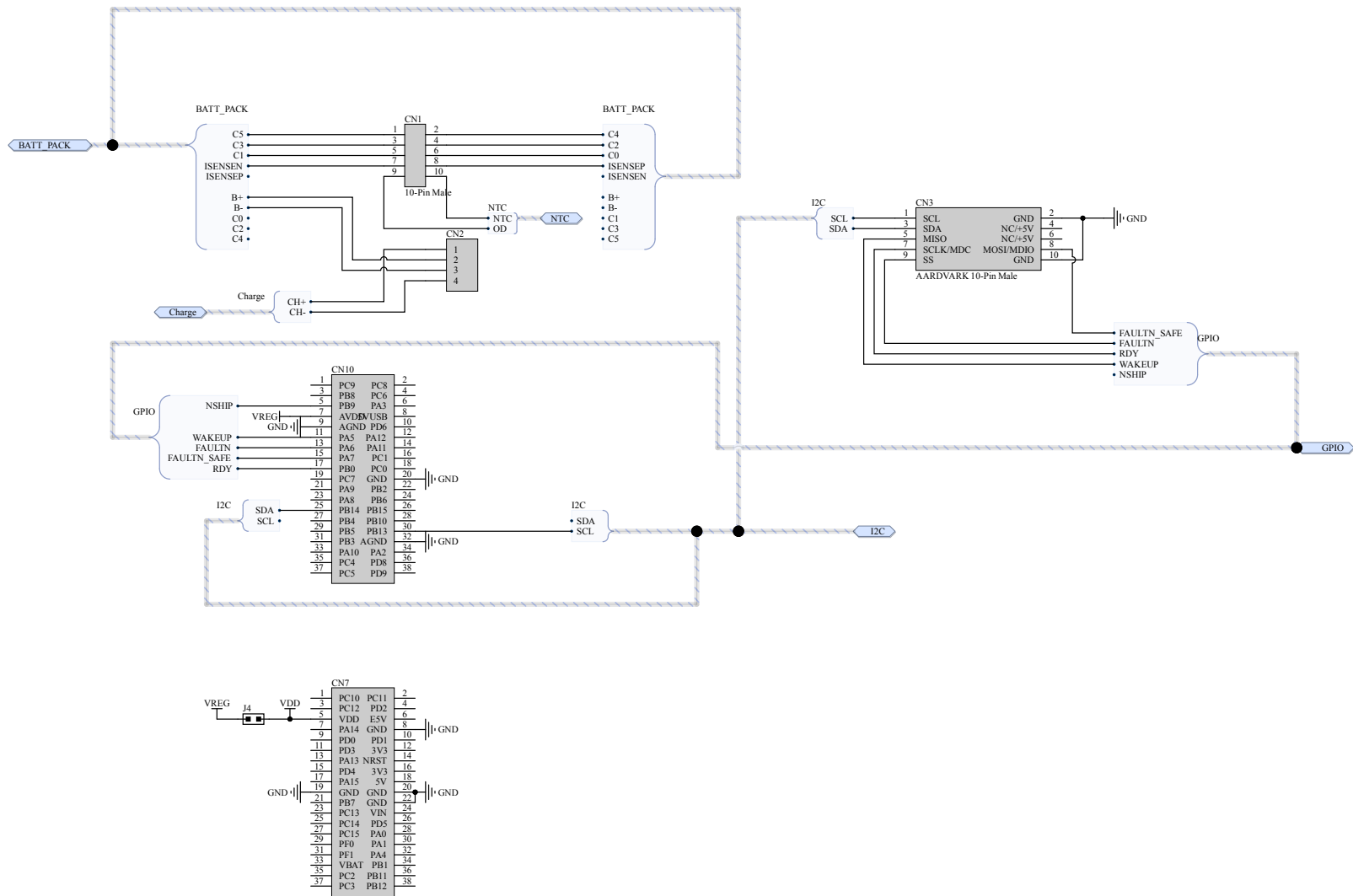
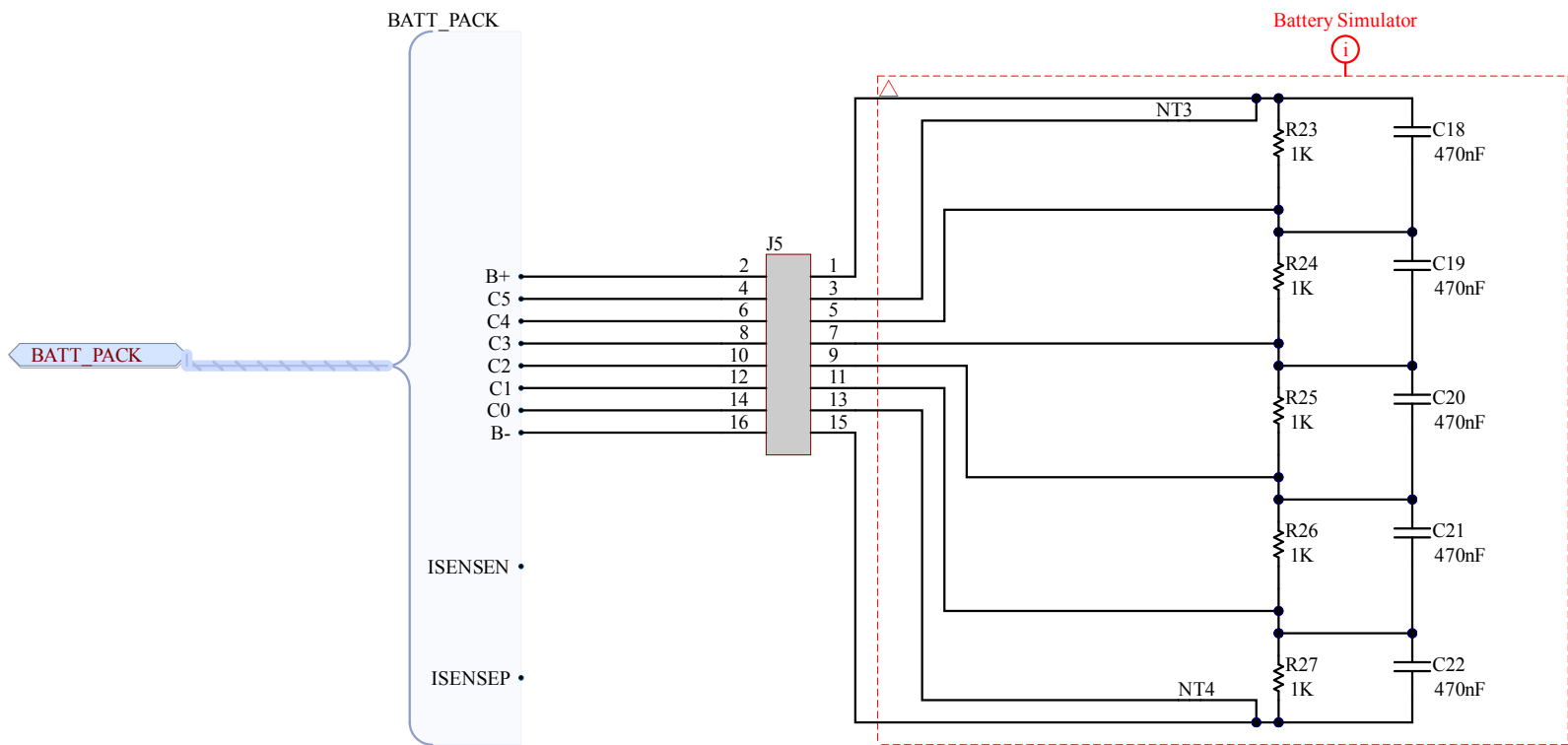


Figure 5. STEVAL-L99615C board schematic (5/5)



2 Board versions

Table 1. STEVAL-L99615C versions

Finished good	Schematic diagrams	Bill of materials
STEVAL-L99615CA ⁽¹⁾	STEVAL-L99615CA schematic diagrams	STEVAL-L99615CA bill of materials

1. This code identifies the STEVAL-L99615C evaluation board first version.

Revision history

Table 2. Document revision history

Date	Revision	Changes
27-Mar-2023	1	Initial release.