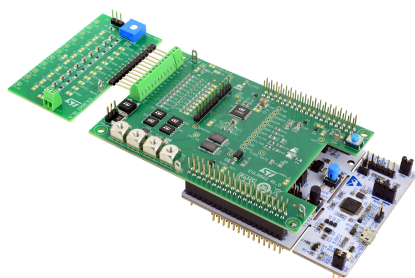


EVL9962 board based on L9962 device for battery managements system

Features



- 2 μA SHIPMENT - DEEP_SLEEP mode current and 2.5 μA standby consumption (with VREG LDO active)
- Integrated 3.3 V VREG LDO for supplying MCU and LEDs
- Measures cell voltage (4 to 10 cells), with over/undervoltage detection as well as balance undervoltage protection
- 12-bit voltage measurement with maximum error of ± 7.5 mV in the [1.5 – 4.5] V range, for $-40^\circ\text{C} < T_J < 105^\circ\text{C}$
- Measures stack voltage, with over/under voltage detection and plausibility check vs. sum of cells
- Measures pack temperature via NTC, with over/under temperature detection
- Ratiometric temperature measurement with $\pm 0.8\%$ max. gain error in the [0.2 – VREG] V range, for $-40^\circ\text{C} < T_J < 105^\circ\text{C}$
- Measures battery current, with Coulomb counting, overcurrent (both directions) and short-circuit in discharge protection.
- 16-bit signed current measurement with a maximum error of 0.25%, for $-40^\circ\text{C} < T_J < 120^\circ\text{C}$ after customer end of line calibration with a single point
- I²C peripheral for device programming and data transfers over the I²C bus
- Cell balancing supporting up to 70 mA per cell
- Dual configurable HS/LS predriver for pack relay management
- Pack fuse management
- Embedded NVM for configuration parameters storage with lock functionality
- High hot-plug robustness

Product summary

Order code	EVL9962
Reference	EVL9962 board

Application

- Cordless power tools
- Backup energy storage systems and UPS
- Light electric vehicles (e-bike, scooters, etc.)
- Portable and semiportable equipment
- Medical equipment

Description

The IC board integrates the L9962 BMS device, a complete battery pack monitoring, balancing, and protection system for Li-Ion and Li-Polymer cells in 4-10 series configurations. The L9962 evaluation kit consists of an expansion board containing the L9962 IC for battery pack monitoring solutions, along with an emulation board and the NUCLEO-G071RB STM32 Nucleo-64 development board. The expansion board is specifically designed to stack on the NUCLEO-G071RB development board using ST morpho connectors. Equipped with a high-precision ADC, the device continuously measures individual cell voltages, total stack voltage, and temperature via an external NTC sensor. These voltage measurements are performed cyclically with a configurable timing loop. Current sensing is handled by a highly accurate current sense amplifier (CSA), which operates continuously and supports Coulomb counting for precise tracking of battery charge and discharge. Cell balancing functionality is included, allowing a maximum balancing current of 70 mA

1 Board schematic

Note: The schematic diagrams below refer to the expansion board included in the EVL9962 evaluation kit.
 For the schematic diagrams of the NUCLEO-G071RB development board, see the related web page.

Figure 1. EVL9962 expansion board - TOP

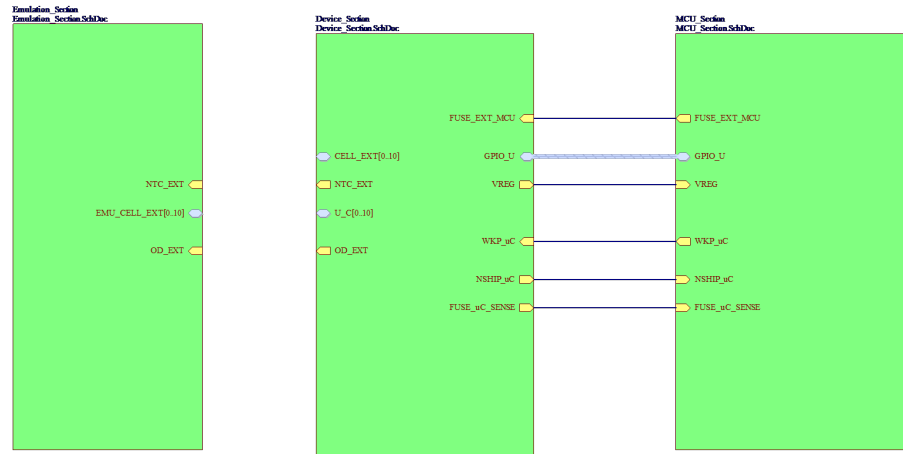


Figure 2. EVL9962 expansion board - device

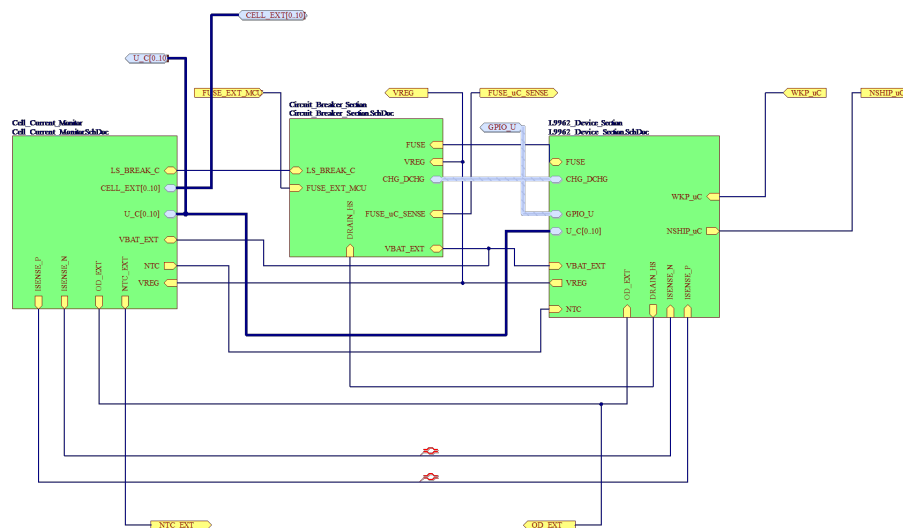


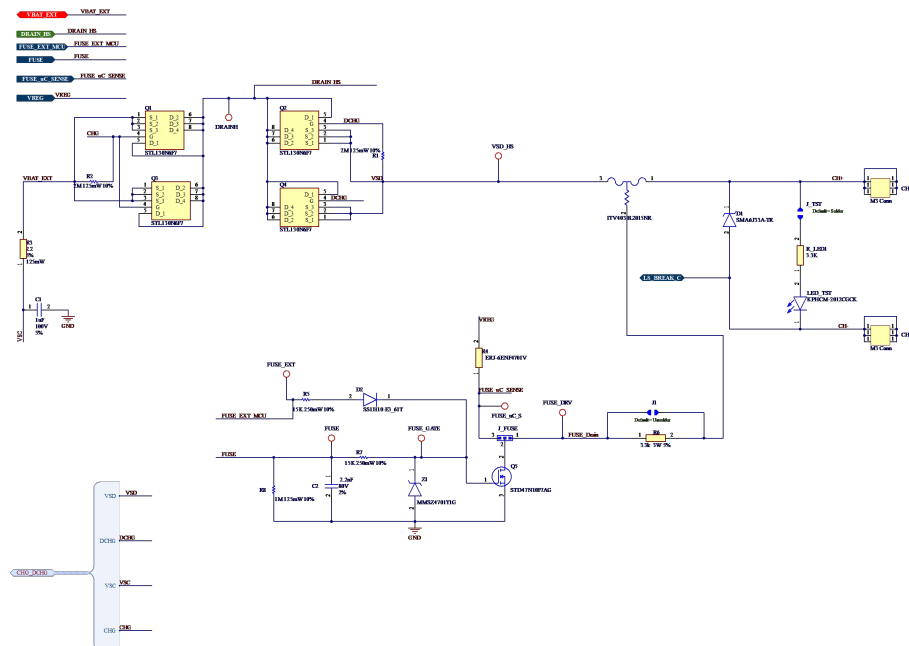
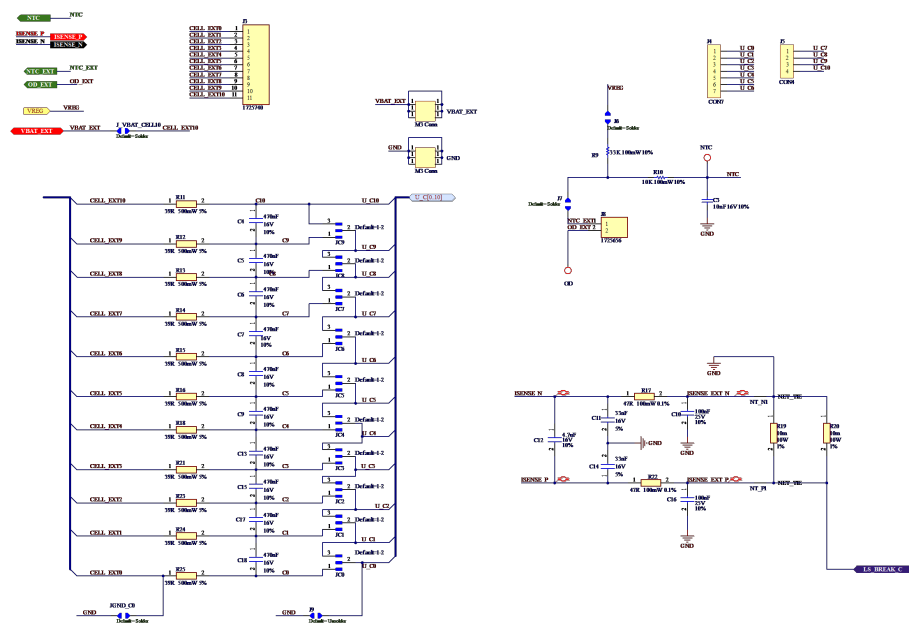
Figure 3. EVL9962 expansion board - circuit breaker section

Figure 4. EVL9962 expansion board - cell current monitor


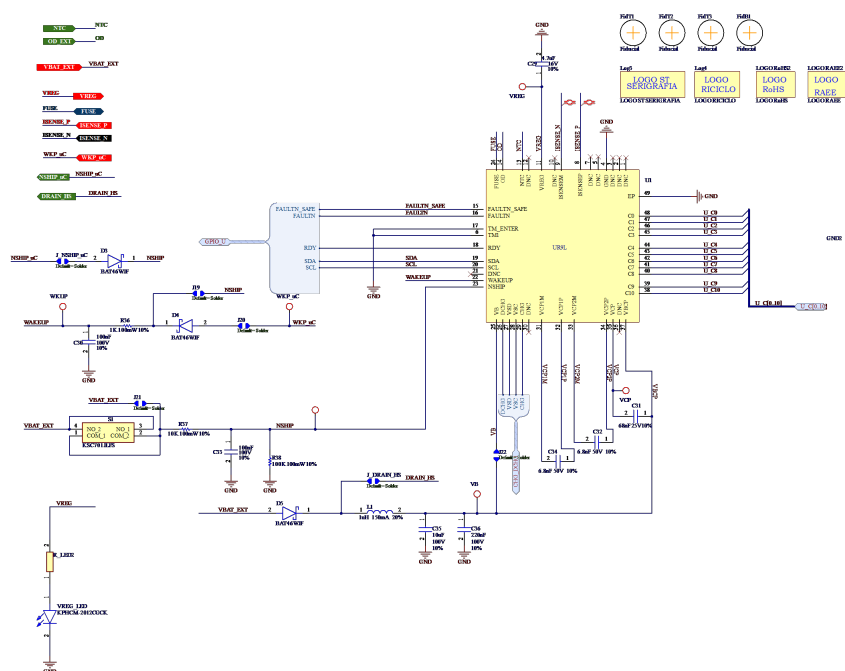
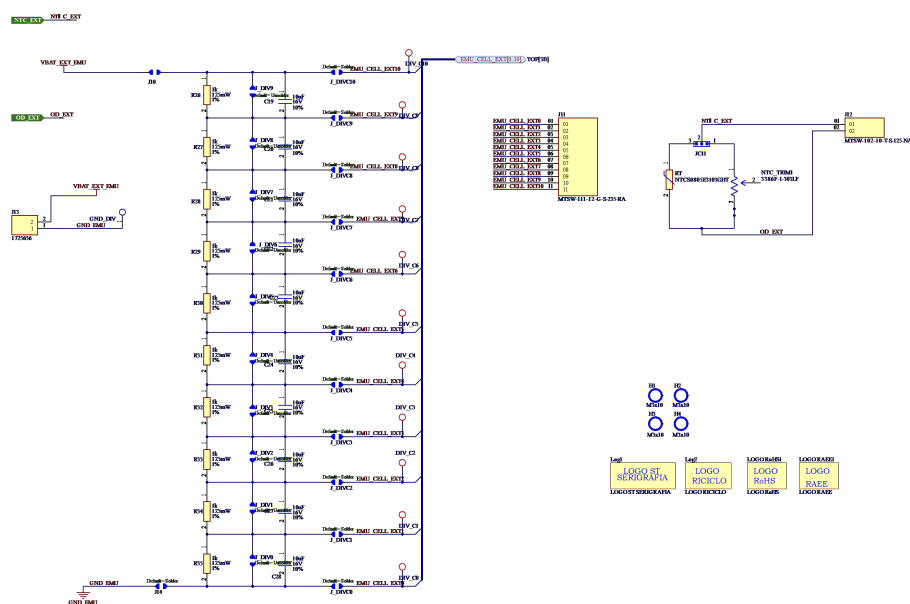
Figure 5. EVL9962 expansion board - device section

Figure 6. EVL9962 expansion board - emulation section


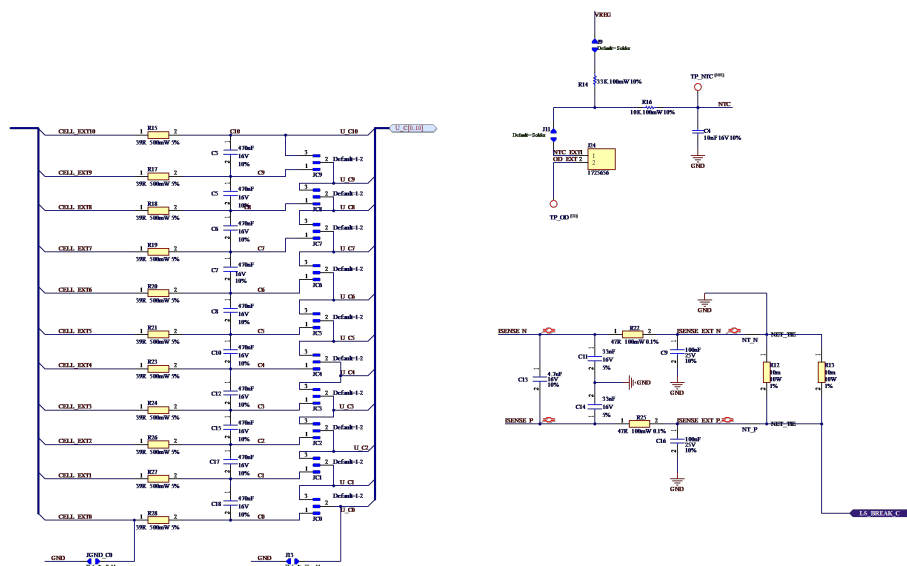
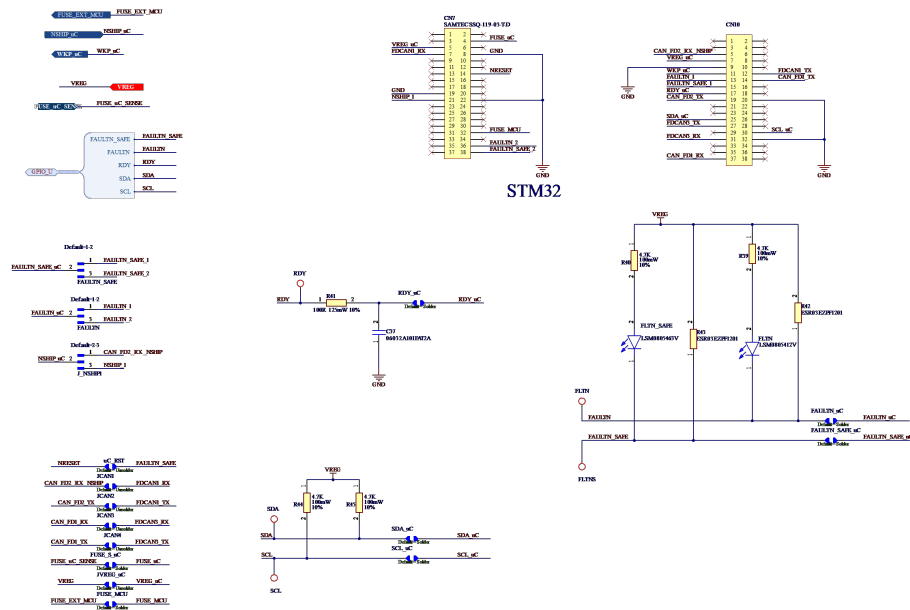
Figure 7. EVL9962 expansion board - MCU section


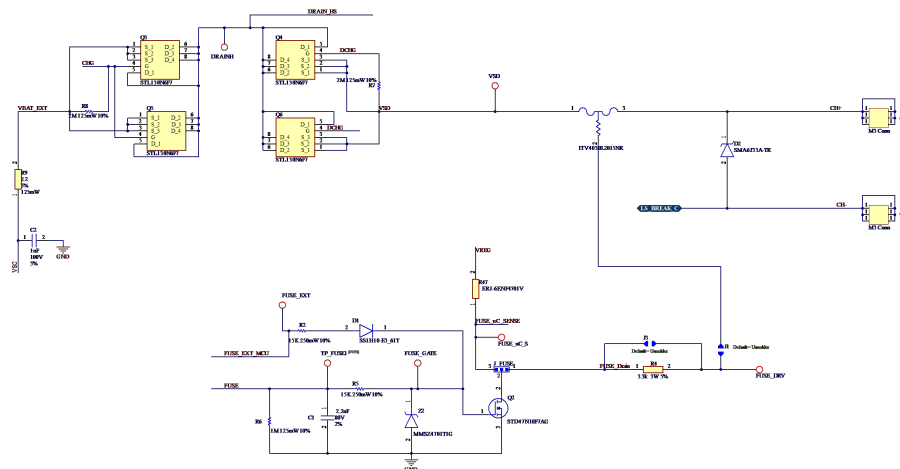
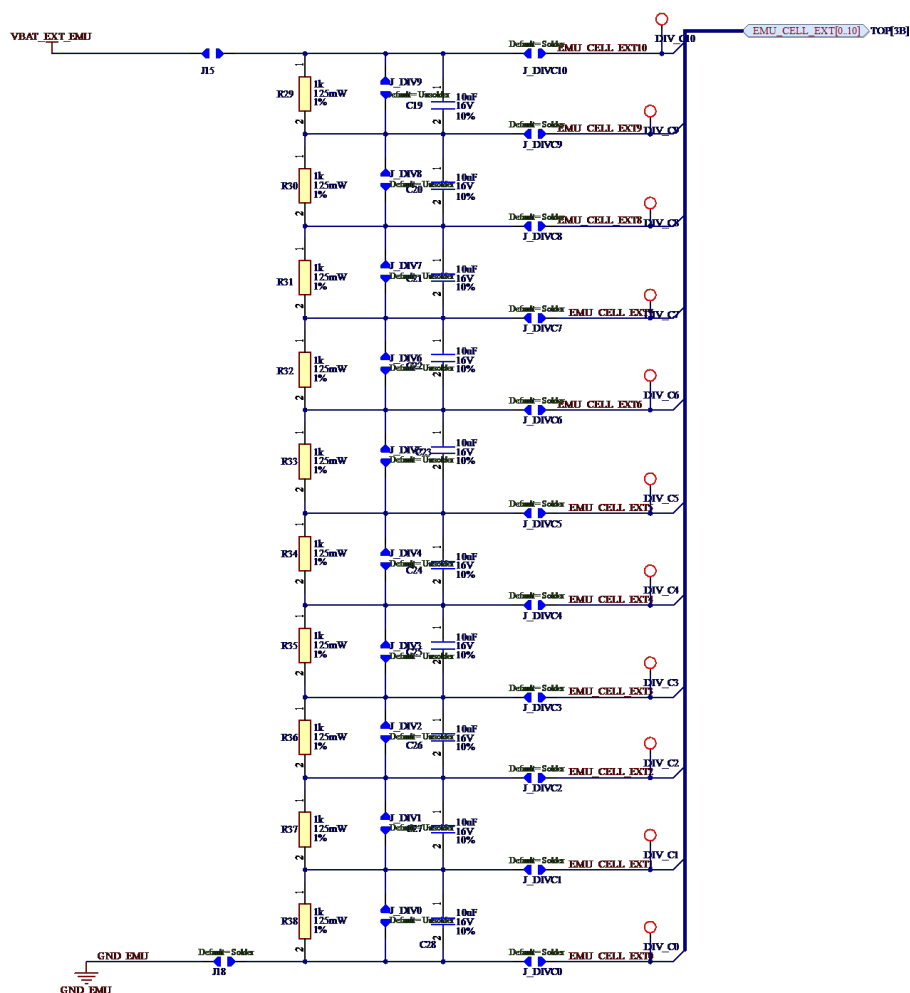
Figure 9. EVL9962 evaluation kit - emulation section

Figure 10. EVL9962 evaluation kit - emulation section


Figure 11. L9962 evaluation kit

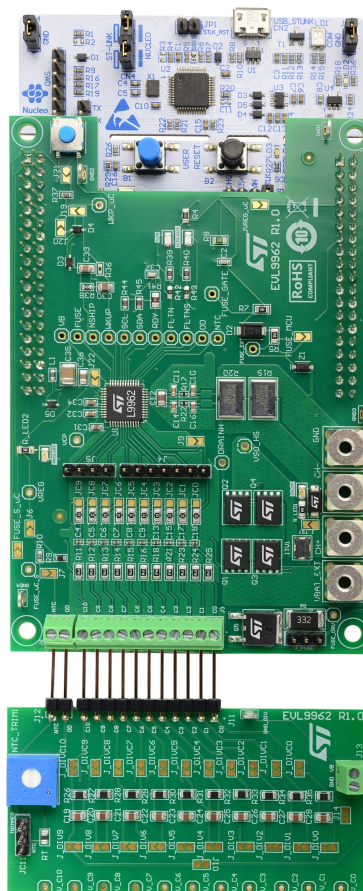


Figure 12. L9962 top layer

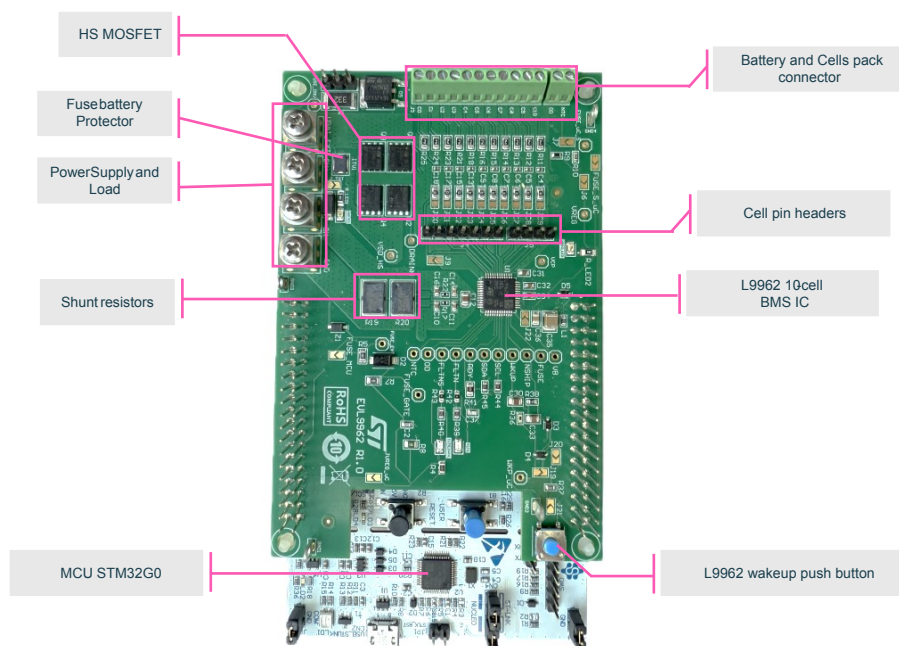
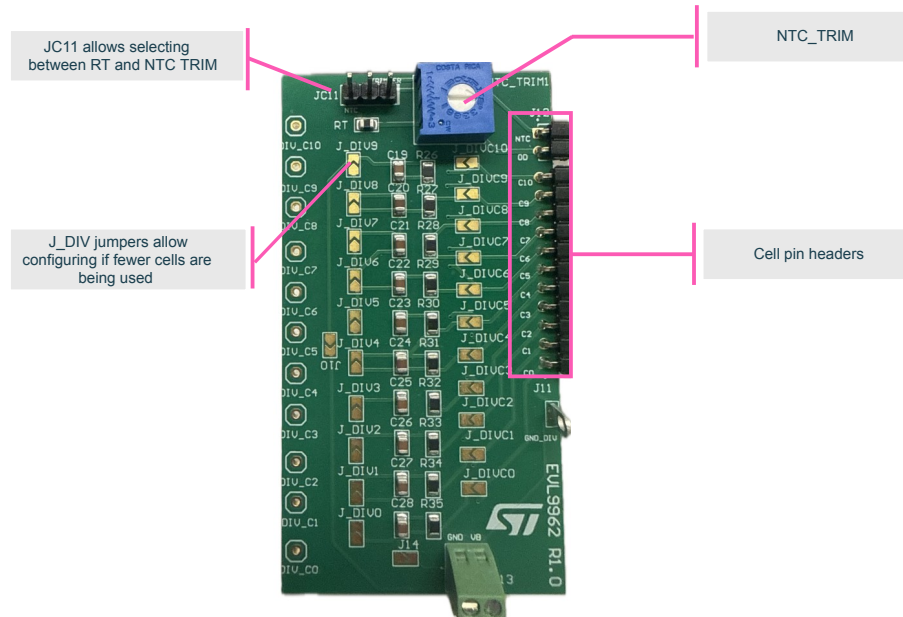


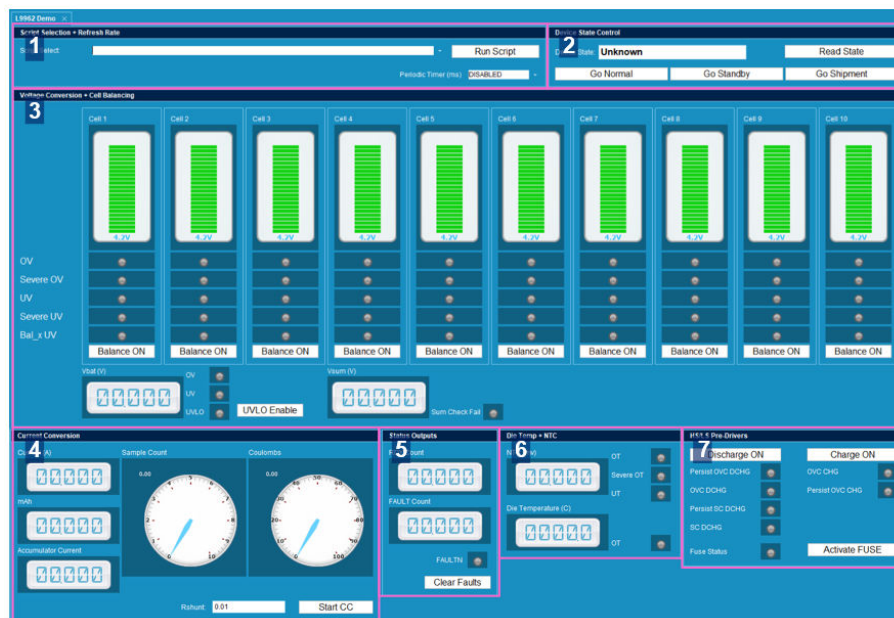
Figure 13. L9962 divider board



2 Promotional GUI

L9962 promotional GUI is available for demonstration purposes. For more information and download, refer to ST web page.

Figure 14. Promotional GUI interface



Revision history

Table 1. Document revision history

Date	Version	Changes
18-Feb-2026	1	Initial release.

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