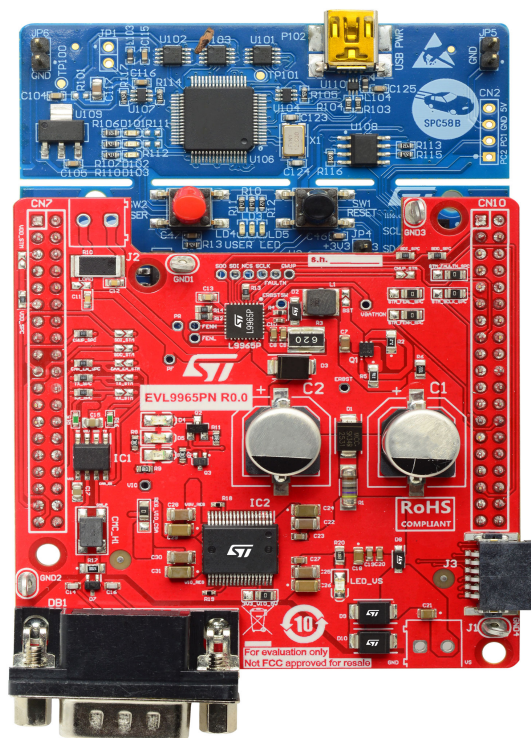


EVL9965P-N, EVL99BM2P-FN pyrofuse driver board

Introduction

The EVL9965P-N/EVL99BM2P-FN is a promotion board designed to provide the user a platform for the evaluation of the L9965P/L99BM2P device in QFN package.

Figure 1. EVL9965P-N promotion board



1 Getting started

The EVL9965P-N/EVL99BM2P-FN evaluation board allows user evaluation of IC main functionalities.

The main features are the following:

- Access all main pins through test points.
- Onboard load resistor connection through jumper.
- Possibility to interface the board with MCU board (SPC582B-DIS or NUCLEO-L476RG).
- Possibility to interface the board with L9965C/L99BM2C promotion board.
- Possibility to communicate with BUS CAN.
- L9965 promotion environment with a dedicated GUI.
- LEDs to report:
 - Main supply source (blue LED)
 - VIO source (yellow LED)
 - Fault status (red LED, green LED)

1.1 Hardware description

1.1.1 Board supply

The main supply is provided by the J1 connector in the standalone configuration, or by the J3 connector when used with the L9965C or L99BM2C.

When supplied by the main source, the dedicated blue LED turns on.

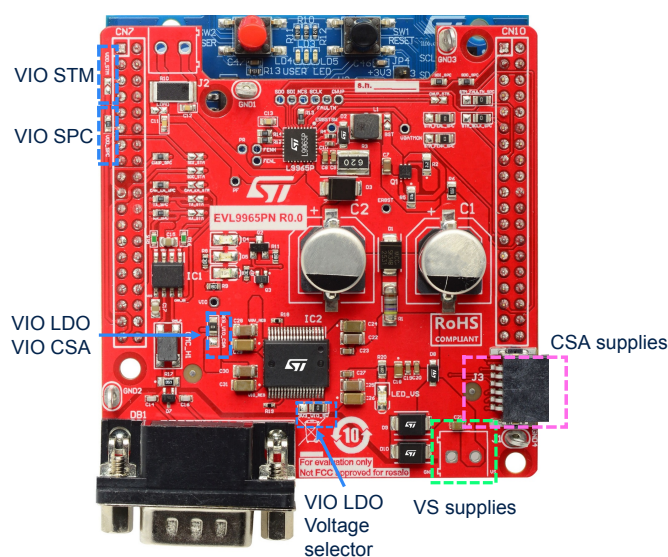
The VIO supply can be provided externally by the microcontroller, the EVL9965C-L board, or EVL99BM2C-L board, or internally by the mounted LDO. Select the LDO output voltage, either 3.3 V or 5 V, by closing the dedicated three-way jumper.

All VIO source and configuration are selectable with the jumpers (see in [Section 2.4: Jumpers](#)).

The yellow LED turns on when the VIO is supplied.

Note: Use only one VIO source at a time.

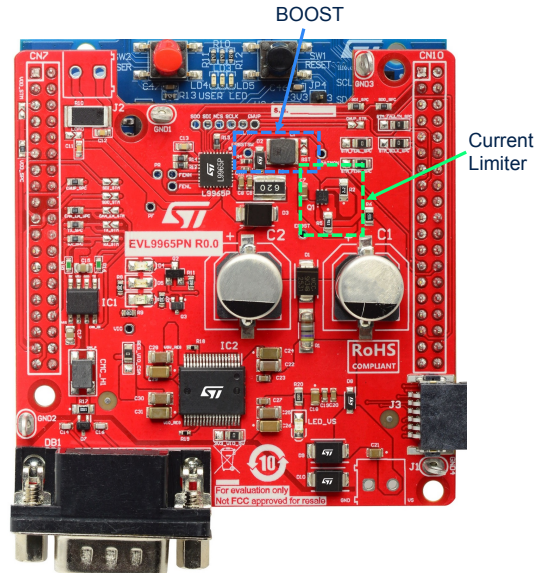
Figure 2. Board supply



1.1.2 Current limiter and boost

By default, the main device supply comes from the mounted boost converter. The current input is limited by a dual PNP circuit (Q1). For more information, see the application note. The connection is made through the BST jumper.

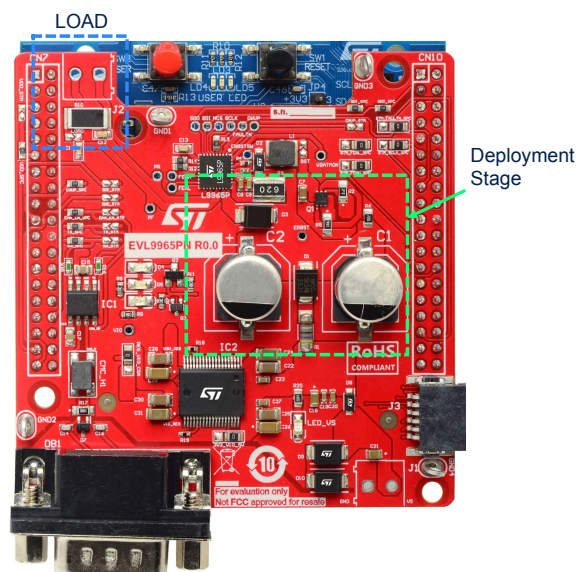
Figure 3. Boost branch



1.1.3 Deployment stage

The power stage of the board is designed to work with the energy reserve capacitors C1 and C2 charged by the boost converter.

Figure 4. Deployment stage



The feedforward branch (R1, D1) is added to ensure that the deployment current can be supplied if it needs to come from the main power source.

When using multiple L9965P/L99BM2P in parallel on the same squib, a reverse protection diode (D3) has been added to protect the devices from possible circulating currents.

The board is equipped with a dummy load (R10) to emulate the squib connected to the PF and PR pins closing the LOAD jumper.

There is also a dedicated connector J2 in case external load to be connected.

1.1.4

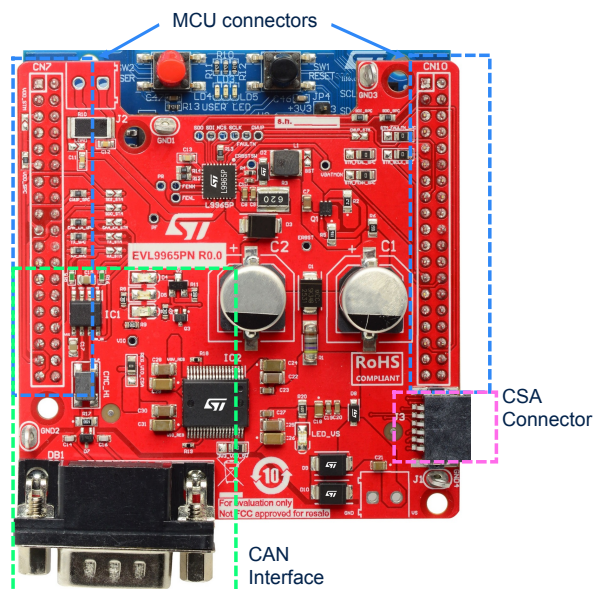
GPIO section

The board has been designed to work with a microcontroller (SPC582B-DIS, NUCLEO-L476RG), or with L9965C/L99BM2C companion chip using SPI communication.

Using CN7 and CN10, users can access the FENx, FAULTN, SPIx, CWUP and CAN signal from the microcontroller.

Using J3 users can access the FENx, FAULTN, SPIx, and CWUP signal from the L9965C/L99BM2C.

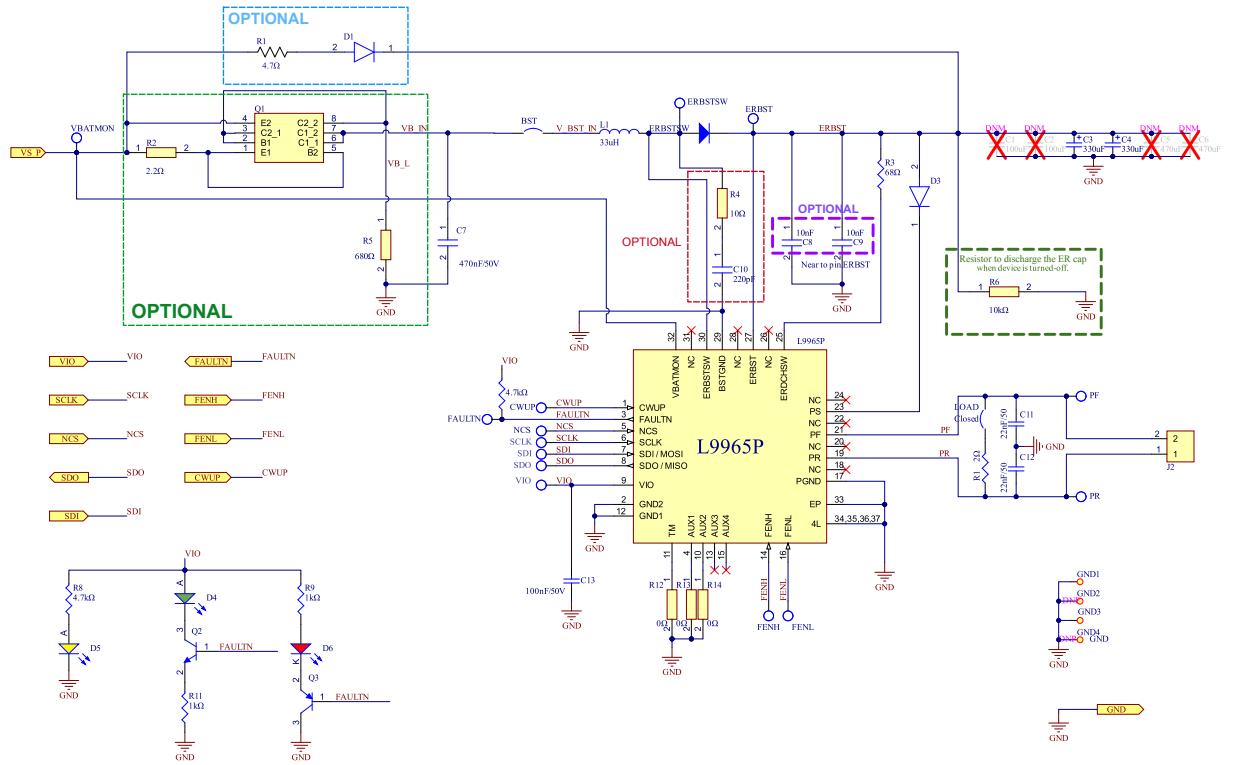
Figure 5. Board connectors



2 Board information

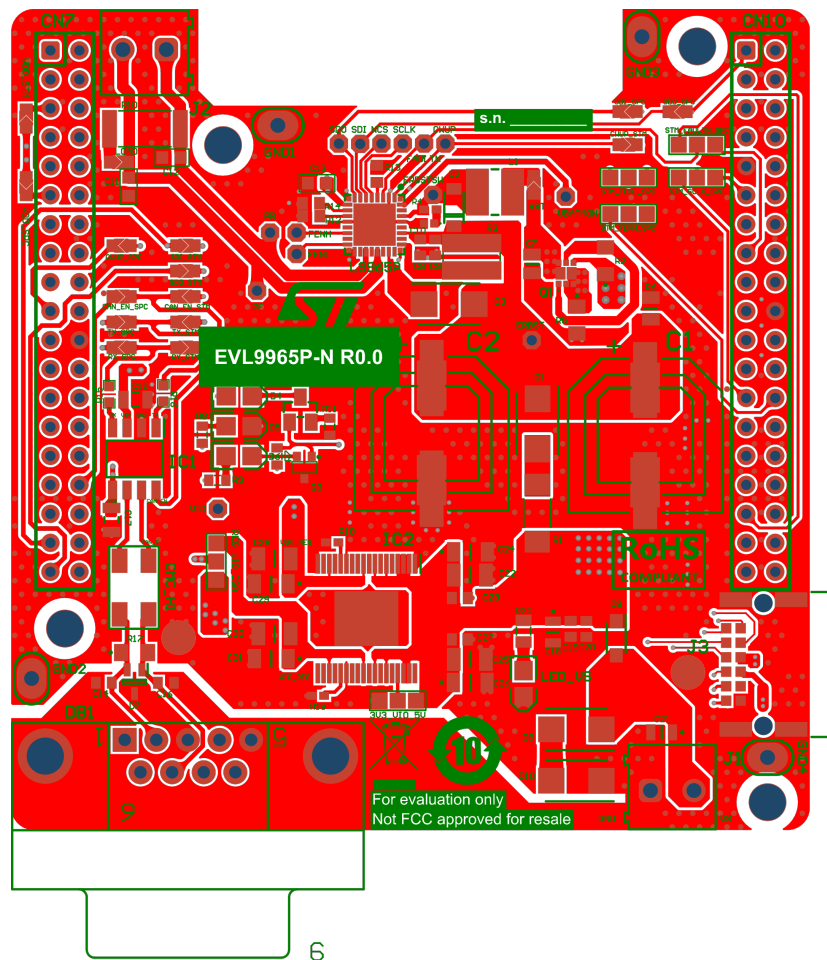
2.1 Board schematic

Figure 6. Device schematic



2.2 Board layout

Figure 9. Board layout



2.3 Connectors

Table 1. EVL9965P-N/EVL99BM2P-FN connectors description

Designator	Type	Function
CN7	38-ways connector	Connector for SPC582B-DIS or NUCLEO-L476RG
CN10	38-ways connector	Connector for SPC582B-DIS or NUCLEO-L476RG
J1	2-poles connector	Connector for VS supply
J2	2-poles connector	Connector for external load
J3	12-poles connector	Connector for interaction with L9965C
DB1	CAN connector	Connector for CAN communication

2.4 Jumpers

The jumpers on the evaluation board are configurable. With them, it is possible to choose to enable communication with either the SPC582B-DIS or the NUCLEO-L476RG, and to select the VIO supply.

Figure 10 and Figure 11 show how to configure the jumpers on the EVL9965P-N/EVL99BM2P-FN. To supply correctly the device, close the BST. Select one VIO source between the microcontroller, the LDO, or the companion board.

Figure 10. EVL9965P-N jumper configuration

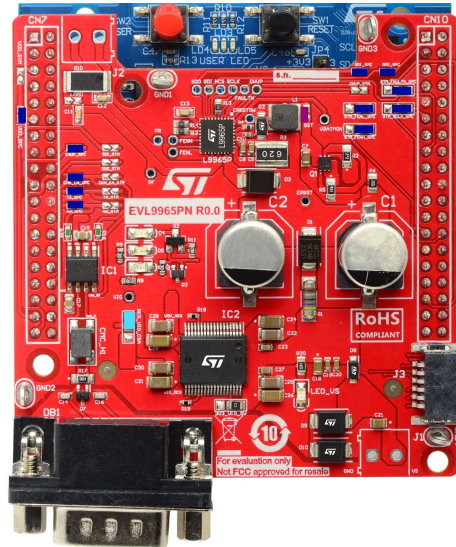
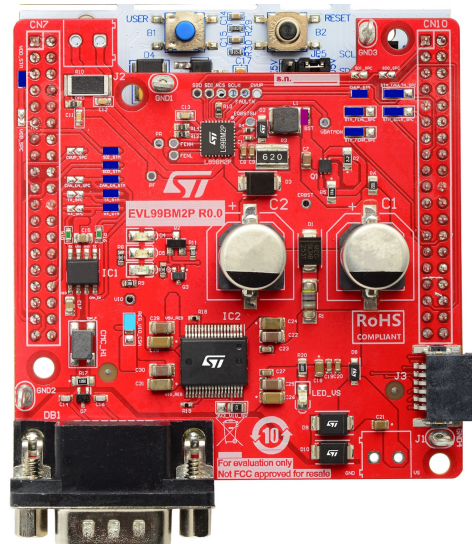


Figure 11. EVL99BMP2-FN jumper configuration



For the jumper description, refer to the Table 2.

Table 2. Jumper description

Designator	Type	Function	EVL9965P-N status	EVL99BM2P-FN status
BST	2-way jumper	ERBST supply	Close	Close
LOAD	2-way jumper	Access to on-board load	Close	Close
SDI_SPC	2-way jumper	SPC SDI to L9965P SDO	Close	Open
SDI_STM	2-way jumper	STM SDI to L9965P SDO	Open	Close
SDO_SPC	2-way jumper	SPC SDO to L9965P SDI	Close	Open
SDO_STM	2-way jumper	STM SDO to L9965P SDI	Open	Close
VDD_SPC	2-way jumper	VDD from SPC	Close	Open
VDD_STM	2-way jumper	VDD from STM	Open	Close
CWUP_SPC	2-way jumper	CWUP from SPC	Close	Open
CWUP_STM	2-way jumper	CWUP from STM	Open	Close
TX_SPC	2-way jumper	CAN_0_TX from SPC	Close	Open
TX_STM	2-way jumper	CAN_0_TX from STM	Open	Close
RX_SPC	2-way jumper	CAN_0_RX from SPC	Close	Open
RX_STM	2-way jumper	CAN_0_RX from STM	Open	Close
CAN_EN_SPC	2-way jumper	CAN_0_EN from SPC	Close	Open
CAN_EN_STM	2-way jumper	CAN_0_EN from STM	Open	Close
STM_SCLK_SPC	3-way jumper	SCLK source selection	Close (2-3)	Close (1-2)
STM_FENH_SPC	3-way jumper	FENH source selection	Close (2-3)	Close (1-2)
STM_FENL_SPC	3-way jumper	FENL source selection	Close (2-3)	Close (1-2)
STM_FAULTN_SPC	3-way jumper	FAULTN source selection	Close (2-3)	Close (1-2)
REG_VIO_CSA	3-way jumper	VIO source selection	Open	Open
3V3_VIO_5V	3-way jumper	VIO voltage selection from PCB's LDO	Open	Open

2.5 Test points

Table 3. Test points description

Designator	Type	Function
TP1	Loop test point	Ground sense
TP2	Loop test point	Ground sense
TP3	Loop test point	Ground sense
TP4	Loop test point	Ground sense
TP5	Loop test point	VIN sense
TP6	Loop test point	ERBST/PS sense
TP7	Loop test point	PF sense
TP8	Loop test point	CWUP sense
TP9	Loop test point	FAULTN sense
TP10	Loop test point	PR sense
TP11	Loop test point	3V3 sense

Revision history

Table 4. Document revision history

Date	Version	Changes
06-May-2024	1	Initial release.
21-Apr-2026	2	Added EVL99BM2P/L99BM2P part numbers and updated document title. Updated Section 1 , Section 2.4 , and removed <i>Section 2.6 MCU board</i> . Updated Figure 6 , Figure 9 , and added Figure 7 , Figure 8 , Figure 10 , Section 2.4 . Updated Table 1 , Table 2 , Table 3 .

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