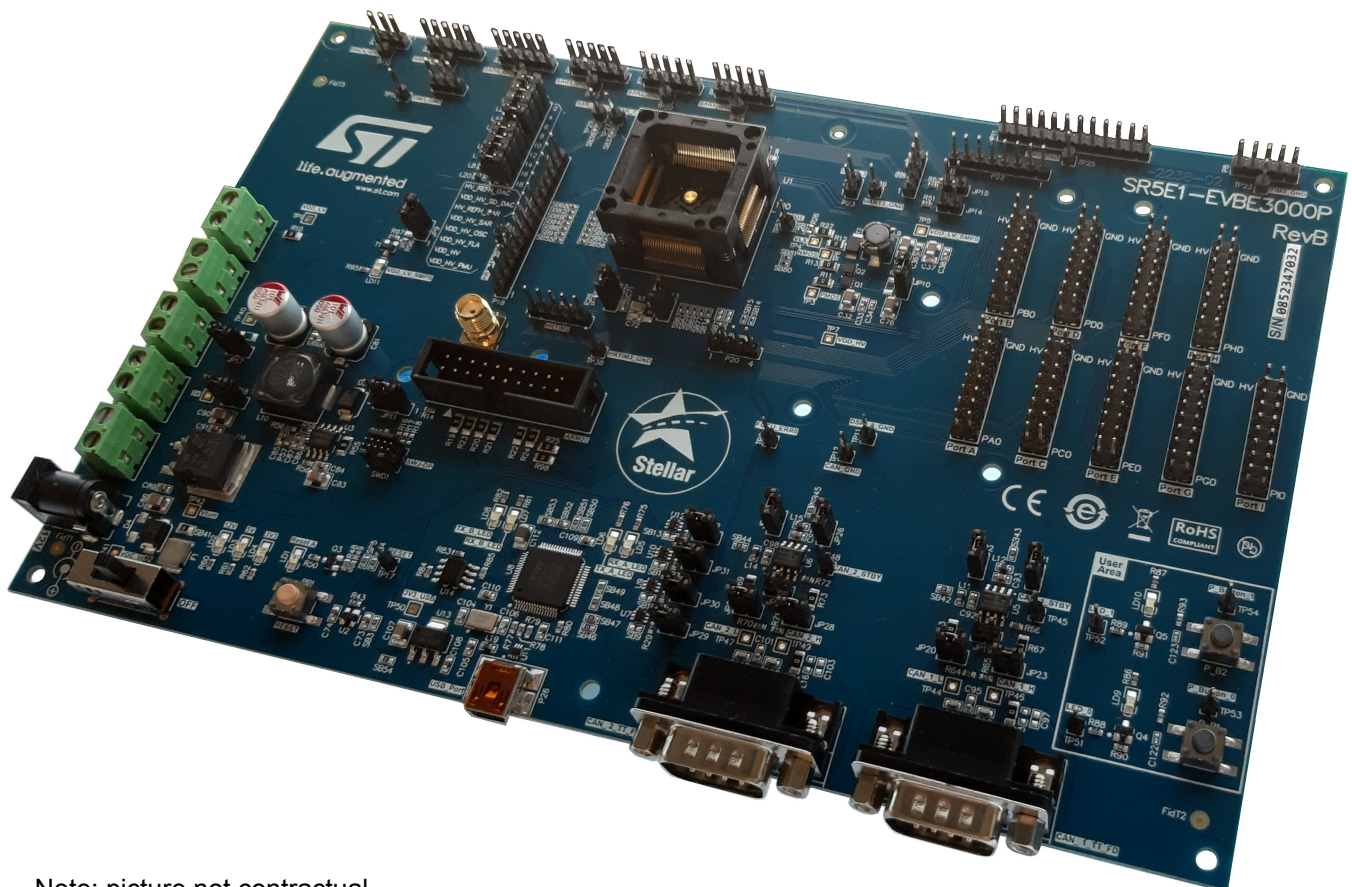


SR5E1-EVBE3000P rev. B evaluation board

Introduction

The SR5E1-EVBE3000P rev. B standalone evaluation board supports STMicroelectronics SR5E1E3 microcontroller in TQFP100.

Figure 1. SR5E1-EVBE3000P rev. B



Note: picture not contractual



1 Overview

The SR5E1-EVBE3000P rev. B standalone evaluation board supports STMicroelectronics SR5E1E3 microcontroller with package TQFP 14x14 100L exposed pad down.

The evaluation board is a standalone unit allowing access to the CPU, to the I/O pins and to any on-board peripherals. The evaluation board is intended for bench/laboratory use and has been designed using normal temperature specified components.

Figure 2. SR5E1-EVBE3000P rev. B—Top overview

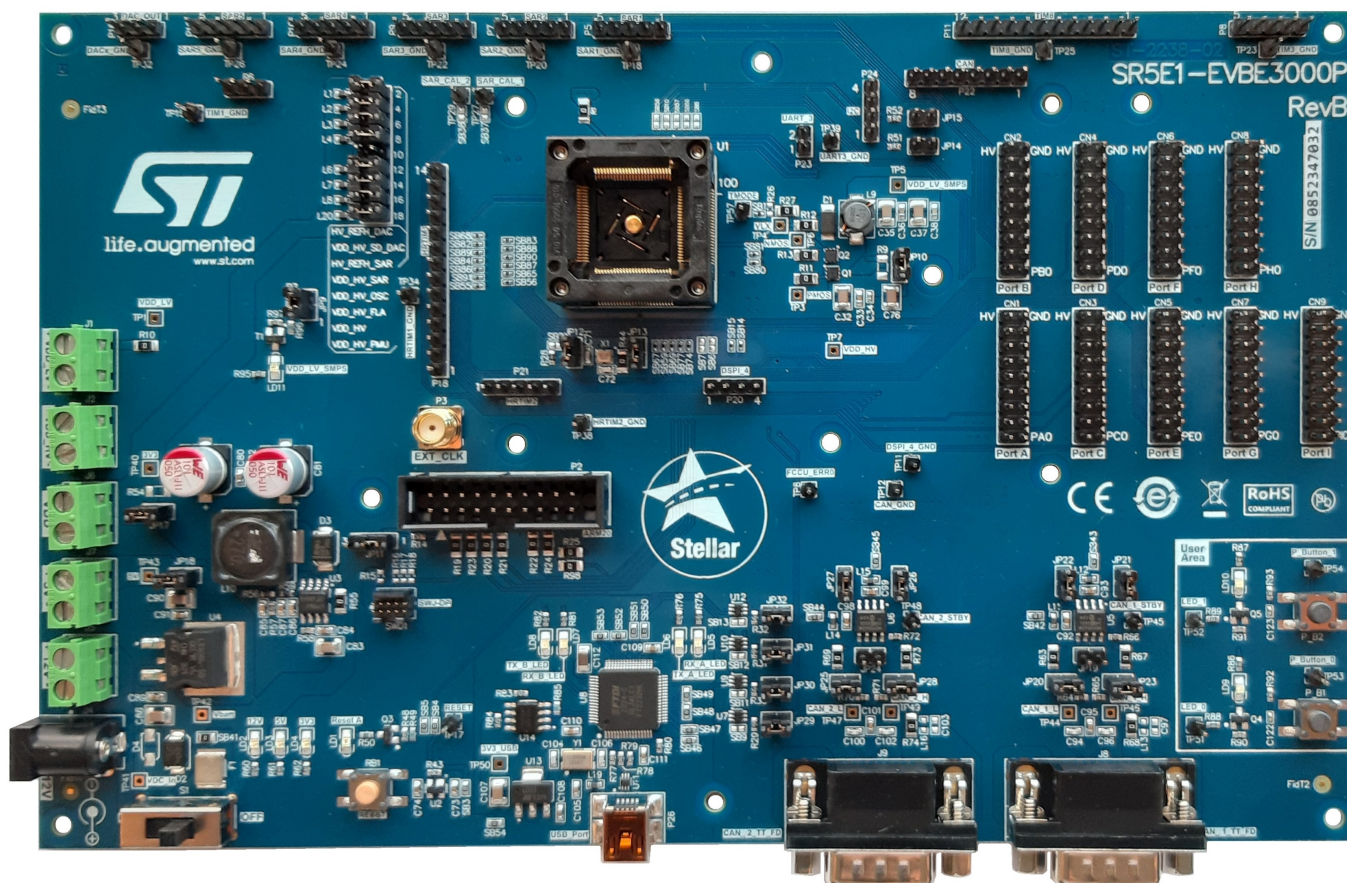
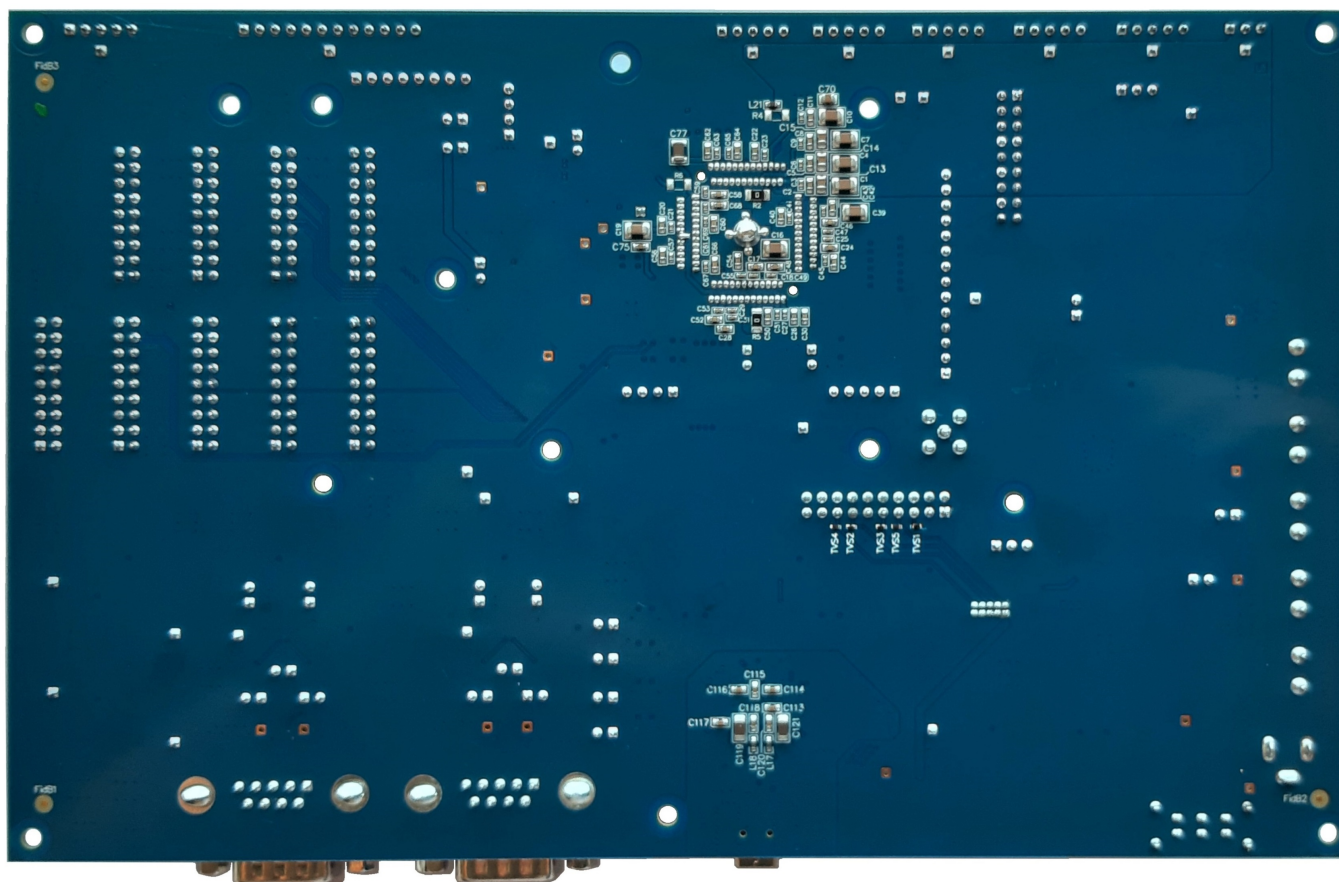


Figure 3. SR5E1-EVBE3000P rev. B–Bottom overview



1.1 Supported devices

The SR5E1-EVBE3000P rev. B board supports the following STMicroelectronics family of microcontrollers in TQFP100:

- SR5E1E3

2 License agreement

The packaging of this evaluation board was sealed with a seal stating, by breaking this seal, you agree to the terms and conditions of the evaluation board license agreement, the terms and conditions of which are available at https://www.st.com/resource/en/evaluation_board_terms_of_use/evaluationproductlicenseagreement.pdf.

Upon breaking the seal, you and STMicroelectronics entered into the evaluation board license agreement, a copy of which is also enclosed with the evaluation board for convenience.

Attention: *This evaluation board only offers limited features for evaluating ST products. It has not been tested for use with other products and is not suitable for any safety or other commercial or consumer application. This evaluation board is otherwise provided "AS IS" and STMicroelectronics disclaims all warranties, express or implied, including the implied warranties of merchantability and fitness for a particular purpose.*

3 Safety recommendations

3.1 Targeted audience

This product targets users with at least basic electronics or embedded software development knowledge like engineers, technicians, or students.

This board is not a toy and is not suited for use by children.

3.2 Handling the board

This product contains a bare printed circuit board. As for all products of this type, the user must be careful about the following points:

- The connection pins on the board might be sharp. Handle the board carefully to avoid getting hurt.
- This board contains static-sensitive devices. To avoid damaging it, handle the board in an ESD-proof environment.
- While powered, do not touch the electric connections on the board with fingers or anything conductive. The board operates at voltage levels that are not dangerous, but some components might be damaged when shorted.
- Do not put any liquid on the board; avoid operating it close to water or at a high humidity level.
- Do not operate the board if it is dirty or dusty.

3.3 Delivery recommendations

Before the first use, check the board for any damage that might have occurred during shipment, and check that all socketed components are firmly fixed in their sockets and none is lost in the plastic bag.

4 Hardware description overview

4.1 Hardware features

The SR5E1-EVBE3000P rev. B has the following features:

- 12 V external power supply
- Socketed device
- Reset generation
- Clock generation
 - 40 MHz external oscillator
 - SMA connector
- External supply connector
 - 12 V
- 2x UART (USB connector)
- 3x CAN FD:
 - CAN 1 and CAN 4 with CAN FD transceivers and DB9 connectors
 - CAN 1, CAN 2, and CAN 4 at GPIO level (header connector)
- 1x SPI (DSPI_4)
- 1x I2C
- 5x SAR ADC modules
- 2x buffered DACs
- 2x advanced control timers:
 - TIM1: 1 channel
 - TIM8: 3 channels
- 1x general purpose timers:
 - TIM3: 4 channels
- 2x high resolution timers
 - HRTIM1
 - HRTIM2
- JTAG debug connector (MIPI 10 pin + Arm 20pin)
- User area: user controllable I/Os, two LEDs and two push buttons.

4.2 Hardware dimensions

The evaluation board has the following dimensions:

- PCB area: 220 mm x 140 mm
- Top components height: 25 mm
- Bottom components height: 5.0 mm
- PCB thickness 1.546 mm

5 Power and system configuration

5.1 Power supplies

The SR5E1-EVBE3000P rev. B requires an external power supply voltage of 12 V DC, minimum 2 A. The single input voltage is regulated on-board using a step-down switching regulator for automotive applications providing the supply voltages of 3.3 V.

5.2 Power supply connector

2.1 mm barrel connector:

Figure 4. 2.1 mm power connector



5.3 Power switch, status LEDs, and fuse

The main power switch (slide switch S1) can be used to isolate the power supply input from the EVB voltage regulators if required.

When power is applied to the evaluation board, the power LEDs next to the voltage regulators show the presence of the supply voltages as follows:

- LED LD2–12 V
- LED LD3–5 V
- LED LD4–3.3 V
- LED LD11–VDD_LV_SMPS

If no LED is illuminated when power is applied to the evaluation board and the regulators are correctly enabled using the appropriate jumpers, it is possible that either power switch SW1 is in the “OFF” position or that the fuse F1 has blown. The fuse blows also if the power is applied to the evaluation board in reverse-bias.

The following jumpers are used to configure the power supply (common for all supported devices):

Table 1. Power configuration jumpers

Jumper	Description	Default	Position
JP1 pin 1-2	HV_REFH_DAC configuration: • Open: not connected • Closed: connected to 3V3	Closed	B1 ⁽¹⁾
JP1 pin 3-4	VDD_HV_SD_DAC_COMP voltage configuration: • Open: not connected • Closed: connected to 3V3	Closed	B1 ⁽¹⁾
JP1 pin 5-6	HV_REFH_SAR configuration: • Open: not connected • Closed: connected to 3V3	Closed	B1 ⁽¹⁾
JP1 pin 7-8	VDD_HV_SAR voltage configuration: • Open: not connected • Closed: connected to 3V3	Closed	B1 ⁽¹⁾
JP1 pin 9-10	Not used	Open	B1 ⁽¹⁾

Jumper	Description	Default	Position
JP1 pin 11-12	VDD_HV_OSC voltage configuration: - Open: not connected - Closed: connected to 3V3	Closed	B1 ⁽¹⁾
JP1 pin 13-14	VDD_HV_FLTA voltage configuration: - Open: not connected - Closed: connected to 3V3	Closed	B1 ⁽¹⁾
JP1 pin 15-16	VDD_HV voltage configuration: - Open: not connected - Closed: connected to 3V3	Closed	B1 ⁽¹⁾
JP1 pin 17-18	VDD_HV_IO_PMU voltage configuration: - Open: not connected - Closed: connected to 3V3	Closed	B1 ⁽¹⁾
JP9	VDD_LV voltage configuration: - Open: not connected - Closed: connected to VDD_LV_SMPS	Closed	A2 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B—Top overview](#).

5.4 System clock configuration

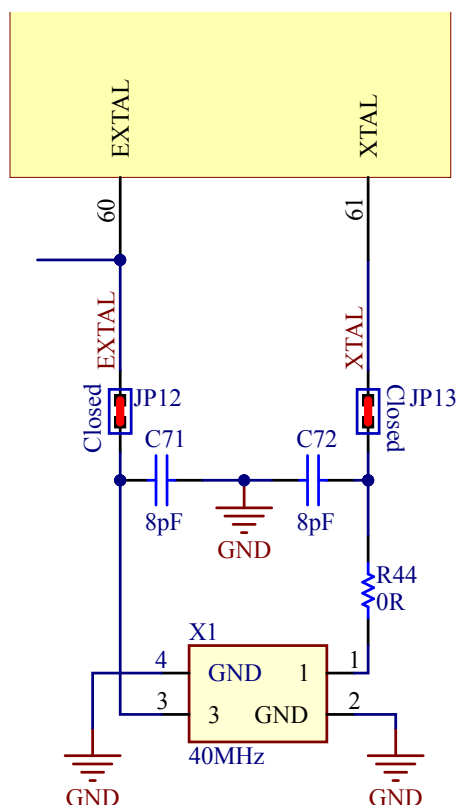
The evaluation board supports the usage of crystal clock sources as well as an external clock source.

The following clock sources are supported:

- 40 MHz local crystal oscillator for PLL
- A SMA connector is provided for the external clock input

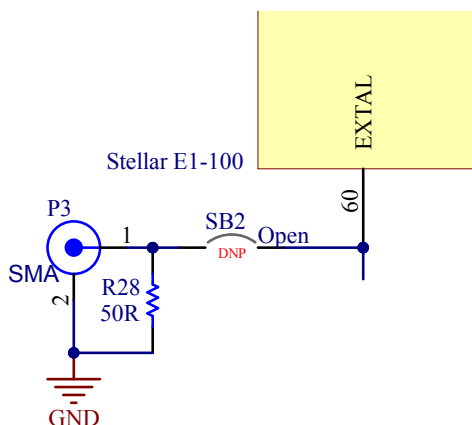
The following figure shows the 40 MHz local crystal oscillator schema.

Figure 5. 40 MHz local crystal oscillator schema



The following figure shows the external clock source schema.

Figure 6. External clock schema



The following table shows the sources configuration setting of the system clock:

Table 2. System clock configuration

Jumper	Description	Default	Position
JP12	EXTAL configuration: - Closed: connect pin 3 of a 40 MHz crystal (X1) to EXTAL - Open: disconnect the 40 MHz crystal (X1).	Closed	B2 ⁽¹⁾
JP13	XTAL configuration: - Closed: connect pin 1 of a 40 MHz crystal (X1) to XTAL - Open: disconnect the 40 MHz crystal (X1).	Closed	B2 ⁽¹⁾
SB2	System clock external source: - Open: disconnect SMA connector (P3) from EXTAL - Closed: connect SMA connector (P3) to EXTAL	Open	B2 ⁽¹⁾

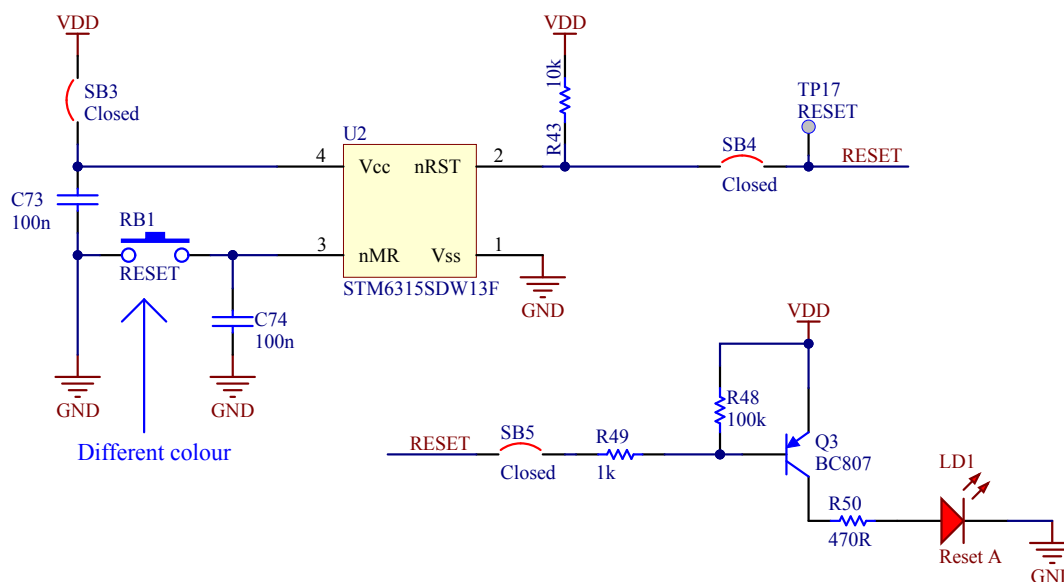
1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B—Top overview](#).

5.5 Reset circuit

The reset circuit is performed using the STM6315 device.

The following picture shows the schema of the evaluation board reset circuit.

Figure 7. Reset circuit schema



To use and perform the reset driving, there are different solder bridges:

Table 3. Reset circuit schema

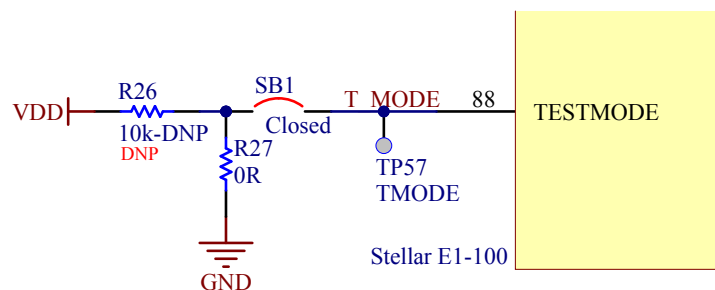
Jumper	Description	Default	Position
RB1	Reset push button	Open	B4 ⁽¹⁾
SB3	- Open: disconnect the V_{CC} of the STM6315 device. - Closed: connect the V_{CC} of the STM6315 device to VDD_HV.	Closed	B4 ⁽¹⁾
SB4	- Open: disconnect the RESET signal from the reset out of the STM6315 device. - Closed: directly connect the signal to the reset out of the STM6315 device.	Closed	B4 ⁽¹⁾
SB5	- Open: disconnect the RESET signal from the Q3 base transistor to drive the LED reset LD1. - Closed: connect the RESET signal from the Q3 base transistor to drive the LED reset LD1.	Closed	B4 ⁽¹⁾

1. Refer to the Figure 14. SR5E1-EVBE3000P rev. B–Top overview.

5.6 TESTMODE configuration

The following picture shows the TESTMODE configuration schema.

Figure 8. TESTMODE configuration schema



The following table shows the TESTMODE configuration setting:

Table 4. TESTMODE configuration schema

Jumper	Description	Default	Position
SB1	TESTMODE settings: - Open: TESTMODE pin is unconnected - Closed: TESTMODE pin is connected to GND	Closed	C1 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B–Top overview](#).

6 Hardware description

6.1 CAN interface

The SR5E1-EVBE3000P rev. B has four MCP2542WFD high-speed CAN transceivers, two male standard DB9 connectors, and one 8x1 header connector to provide physical CAN interfaces for the MCU.

The following table describes the CAN connectors:

Table 5. CAN connectors

Connectors	Description	Position
J8	CAN_1 FD DB9 connector	D4 ⁽¹⁾
J9	CAN_2 FD DB9 connector	C4 ⁽¹⁾
P22	8x1 header connector	C1 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B—Top overview](#).

The following table shows the CAN_0 DB9 connector pinout (J8).

Table 6. CAN_0 DB9 connector pinout

Pin number (DB9)	Signal
1	N.C.
2	CAN_0_L
3	GND
4	N.C.
5	N.C.
6	GND
7	CAN_0_H
8	N.C.
9	N.C.

The following table shows the CAN_1 DB9 connector pinout (J9).

Table 7. CAN_1 DB9 connector pinout

Pin number (DB9)	Signal
1	N.C.
2	CAN_1_L
3	GND
4	N.C.
5	N.C.
6	GND
7	CAN_1_H
8	N.C.
9	N.C.

The following table shows the 8x1 header connector pinout (P22).

Table 8. 8x1 header CAN connector pinout

Pin number	Signal	Port
1	CAN_1_RX	PA[4]
2	CAN_1_TX	PA[5]
3	CAN_2_RX	PD[8]
4	CAN_2_TX	PD[7]
5	Not connected	-
6	Not connected	-
7	CAN_4_RX	PH[13]
8	CAN_4_TX	PH[12]

The jumpers and the solder bridges detailed in the following table are used to configure the CAN interfaces.

Table 9. CAN configuration jumpers and solder bridges

Jumper	Description	Default	Position
JP19	CAN_1_STBY configuration: - Open: disconnect CAN_1_STBY - Closed: connect CAN_1_STBY to VIO pin of CAN transceiver	Open	D4 ⁽¹⁾
JP20	CAN_1_L termination resistor configuration: - Open: disconnect the termination resistor - Closed: connect CAN_1_L to a 60.4 Ω termination resistor	Closed	D4 ⁽¹⁾
JP21	CAN_1_TX configuration: - Open: disconnect PA4 from CAN_1_TX - Closed: connect PA4 to CAN_1_TX	Closed	D3 ⁽¹⁾
JP22	CAN_1_RX configuration: - Open: disconnect PA5 from CAN_1_RX - Closed: connect PA5 to CAN_1_RX	Closed	D3 ⁽¹⁾
JP23	CAN_1_H termination resistor configuration: - Open: disconnect the termination resistor - Closed: connect CAN_1_H to a 60.4 Ω termination resistor	Closed	D4 ⁽¹⁾
JP24	CAN_2_STBY configuration: - Open: disconnect CAN_2_STBY - Closed: connect CAN_2_STBY to VIO pin of CAN transceiver	Open	C4 ⁽¹⁾
JP25	CAN_2_L termination resistor configuration: - Open: disconnect the termination resistor - Closed: connect CAN_2_L to a 60.4 Ω termination resistor	Closed	C4 ⁽¹⁾
JP26	CAN_4_TX configuration: - Open: disconnect PA12 from CAN_FD2_TX - Closed: connect PA12 to CAN_FD2_TX	Closed	C3 ⁽¹⁾
JP27	CAN_4_RX configuration: - Open: connect PA11 to CAN_2_RX - Closed: disconnect PA11 to CAN_2_RX	Closed	C3 ⁽¹⁾
JP28	CAN_2_H termination resistor configuration: - Open: disconnect the termination resistor - Closed: connect CAN_2_H to a 60.4 Ω termination resistor	Closed	C4 ⁽¹⁾

Jumper	Description	Default	Position
SB42	CAN 1 transceiver VIO supply configuration: - Open: disconnect the VDD_HV_IO_MAIN from the VIO of the U5 CAN transceiver - Closed: connect the VDD_HV_IO_MAIN to the VIO of the U5 CAN transceiver	Closed	D3 ⁽¹⁾
SB43	CAN 1 transceiver VDD supply configuration: - Open: disconnect the VDD of the U5 CAN transceiver from the 5 V domain. - Closed: connect the VDD of the U5 CAN transceiver to the 5 V domain.	Closed	D3 ⁽¹⁾
SB44	CAN 2 transceiver VIO supply configuration: - Open: disconnect the VDD_HV_IO_MAIN from the VIO of the U6 CAN transceiver - Closed: connect the VDD_HV_IO_MAIN to the VIO of the U6 CAN transceiver	Closed	C3 ⁽¹⁾
SB45	CAN 2 transceiver VDD supply configuration: - Open: disconnect the VDD of the U6 CAN transceiver from the 5 V domain. - Closed: connect the VDD of the U6 CAN transceiver to the 5 V domain.	Closed	C3 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B–Top overview](#).

6.2 UART interface

The board contains an FT2232HL with two receivers and two drivers. It has a USB MINI-B, 5-pin connector and a two pins header connector.

Each Tx and Rx pin has a jumper allowing the possibility to disconnect the default pin and connect another pin.

The following table lists the UART interface connectors:

Table 10. UART interface connectors

Connector	Description	Position
P23	UART_3 connector	C1 ⁽¹⁾
P26	USB port	B4 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B–Top overview](#).

The following table shows the UART interface jumpers configuration.

Table 11. UART interface pin configuration

Jumper	Description	Default	Position
JP29	UART_A_RX connection: - Open: UART_A_RX not connected - Closed: UART_A_RX connected to PG14	Closed	C4 ⁽¹⁾
JP30	UART_A_TX connection: - Open: UART_A_TX not connected - Closed: UART_A_TX connected to PG15	Closed	C4 ⁽¹⁾
JP31	UART_B_RX connection: - Open: UART_B_RX not connected - Closed: UART_B_RX connected to PF2	Closed	C4 ⁽¹⁾
JP32	UART_B_TX connection: - Open: UART_B_TX not connected - Closed: UART_B_TX connected to PF3	Closed	C3 ⁽¹⁾
SB46	TX_A_USB connection: - Open: TX_A_USB not connected - Closed: TX_A_USB connected to UART_A_RX using a level shifter	Closed	B4 ⁽¹⁾
SB47	RX_A_USB connection: - Open: RX_A_USB not connected - Closed: RX_A_USB connected to UART_A_TX using a level shifter	Closed	B4 ⁽¹⁾

Jumper	Description	Default	Position
SB48	USB A DTR and DSR connection: - Open: DTR and DSR not connected - Closed: DTR and DSR connected	Closed	B4 ⁽¹⁾
SB49	USB A DCD and RI connection: - Open: DCD and RI not connected - Closed: DCD and RI connected	Closed	B4 ⁽¹⁾
SB50	TX_B_USB connection: - Open: TX_B_USB not connected - Closed: TX_B_USB connected to UART_B_RX using a level shifter	Closed	B3 ⁽¹⁾
SB51	RX_A_USB connection: - Open: RX_B_USB not connected - Closed: RX_B_USB connected to UART_B_TX using a level shifter	Closed	B3 ⁽¹⁾
SB52	USB B DTR and DSR connection: - Open: DTR and DSR not connected - Closed: DTR and DSR connected	Closed	B3 ⁽¹⁾
SB53	USB B DCD and RI connection: - Open: DCD and RI not connected - Closed: DCD and RI connected	Closed	B3 ⁽¹⁾
SB54	USB GND connection: - Open: USB_GND not connected - Closed: USB_GND connected to GND	Closed	B4 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B–Top overview](#).

The following table shows the UART interface LEDs.

Table 12. UART interface LEDs

LED	Description	Position
LED5	RX_A_LED	B4 ⁽¹⁾
LED6	TX_A_LED	B4 ⁽¹⁾
LED7	RX_B_LED	B4 ⁽¹⁾
LED8	TX_B_LED	B4 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B–Top overview](#).

The following figure shows the two connectors of the pins header schema.

Figure 9. UART 3 schema



The following table shows the 1x2 header connector pinout (P23).

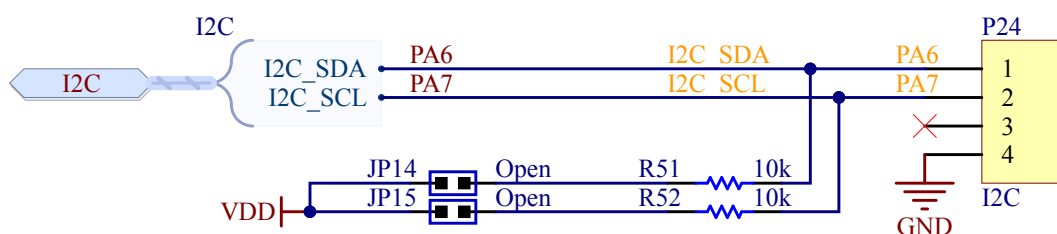
Table 13. UART3 1x2 header connector (P23) pinout

Pin number	Signal
1	UART3_RX
2	UART3_TX

6.3 I²C interface

This paragraph describes the embedded I²C interface present on-board.
The following figure shows the I²C schema.

Figure 10. I²C schema



The following table describes the connector and the jumpers used to configure the interface:

Table 14. I²C connector and jumpers

Component	Description	Default	Position
P24	I ² C connector	-	C1 ⁽¹⁾
JP14	I ² C SDA pull-up configurator: - Closed: I2C_SDA pull-up inserted - Open: I2C_SDA pull up not inserted	Open	C1 ⁽¹⁾
JP15	I ² C SCL pull-up configurator: - Closed: I2C_SCL pull-up inserted - Open: I2C_SCL pull up not inserted	Open	C1 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B–Top overview](#).

The following table shows the 1x4 header connector pinout (P24).

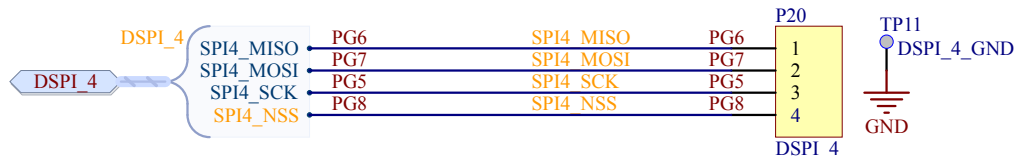
Table 15. I²C header 1x4 pins connector pinout

Pin number	Signal	Port
1	I2C_SDA	PA[6]
2	I2C_SCL	PA[7]
3	Not connected	-
4	GND	-

6.4 DSPI interface

The board has a DSPI connector: DSPI_4 (P20). The figure below shows the pinout of the header connector.

Figure 11. DSPI header connector schema



The following table shows the connector:

Table 16. DSPI connectors

Connectors	Description	Position
P20	DSPI_4 connector	C2 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B–Top overview](#).

The following table shows the DSP_4 connector (P20) pin mapping.

Table 17. DSP_4 connector (P20) pin mapping

Pin	Description	Port	QFP 100
1	SPI4_MISO	PG[6]	73
2	SPI4_MOSI	PG[7]	174
3	SPI4_SCK	PG[5]	72
4	SPI4_NSS	PG[8]	75

6.5 Analog and timers connectors

The SR5E1-EVBE3000P rev. B has some analog and timers connectors indicated in the following table:

Table 18. Analog and timers connectors

Connectors	Description	Position
P5	SAR1_IO connector	B1 ⁽¹⁾
P6	TIM1 connector	A1 ⁽¹⁾
P7	SAR2_IO connector	B1 ⁽¹⁾
P8	TIM3 connector	D1 ⁽¹⁾
P9	SAR3_IO connector	B1 ⁽¹⁾
P10	SAR4_IO connector	A1 ⁽¹⁾
P11	TIM8 connector	C1 ⁽¹⁾
P12	SAR5_IO connector	A1 ⁽¹⁾
P16	DAC_OUT_IO connector	A1 ⁽¹⁾
P18	HRTIM1 connector	B2 ⁽¹⁾
P21	HRTIM2 connector	B2 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B–Top overview](#).

6.5.1 SAR1_IO ADC module

The following table shows the SAR1_IO connector (P5) pin mapping:

Table 19. SAR1_IO connector pin mapping (P5)

Pin	Description	Port	QFP 100
1	SAR1_1	PB[2]	8
2	SAR1_2	PB[3]	9
3	SAR1_3	PB[4]	10
4	SAR1_4	PB[5]	11
5	Not connected	-	-

6.5.2 SAR2_IO ADC module

The following table shows the SAR2_IO connector (P7) pin mapping:

Table 20. SAR2_IO connector (P7) pin mapping

Pin	Description	Port	QFP 100
1	SAR2_1	PB[7]	12
2	SAR2_2	PB[8]	13
3	SAR2_3	PB[9]	14
4	Not connected	-	-
5	Not connected	-	-

6.5.3 SAR3_IO ADC module

The following table shows the SAR3_IO connector (P9) pin mapping:

Table 21. SAR3_IO connector (P9) pin mapping

Pin	Description	Port	QFP 100
1	SAR3_1	PB[12]	15
2	SAR3_2	PB[13]	16
3	SAR3_3	PB[14]	17
4	Not connected	-	-
5	Not connected	-	-

6.5.4 SAR4_IO ADC module

The following table shows the SAR4_IO connector (P10) pin mapping:

Table 22. SAR4_IO connector (P10) pin mapping

Pin	Description	Port	QFP 100
1	Not connected	-	-
2	Not connected	-	-
3	Not connected	-	-
4	SAR4_4	PC[7]	27
5	SAR4_5	PC[8]	28

6.5.5 SAR5_IO ADC module

The following table shows the SAR5_IO connector (P12) pin mapping:

Table 23. SAR5_IO connector (P12) pin mapping

Pin	Description	Port	QFP 100
1	SAR5_1	PC[9]	29
2	SAR5_2	PC[10]	30
3	Not connected	-	-
4	Not connected	-	-
5	Not connected	-	-

6.5.6 SAR_CAL ADC module

The following table shows the SAR_CAL ADC connector pin mapping:

Table 24. SAR_CAL ADC connector pin mapping

Pin	Description	Port	QFP 100
1	SAR_CAL_1	PC[1]	25
2	SAR_CAL_2	PC[2]	26

6.5.7 DAC_OUT module

The following table shows the DAC_OUT connector (P16) pin mapping:

Table 25. DAC_OUT connector (P16) pin mapping

Pin	Description	Port	QFP 100
1	DAC_1	PB[1]	31
2	DAC_2	PC[5]	32
3	GND	-	GND

6.5.8 TIM1 module

The following table shows the TIM1 connector (P6) pin mapping:

Table 26. TIM1 connector (P6) pin mapping

Pin	Description	Port	QFP 100
1	TIM1_BkIn	PH[0]	85
2	TIM1_BkIn2	PH[1]	86
3	-	GND	GND

6.5.9 TIM3 module

The following table shows the TIM3 connector (P8) pin mapping:

Table 27. TIM3 connector (P8) pin mapping

Pin	Description	Port	QFP 100
1	GND	-	GND

Pin	Description	Port	QFP 100
2	TIM3_CH1	PG[14]	80
3	TIM3_CH2	PG[15]	81
4	TIM3_CH3	PH[0]	85
5	TIM3_CH4	PH[1]	86

6.5.10 TIM8 module

The following table shows the TIM8 connector (P11) pin mapping:

Table 28. TIM8 connector (P11) pin mapping

Pin	Description	Port	QFP 100
1	TIM8_CH1	PI[0]	92
2	TIM8_CH1N	PI[1]	93
3	TIM8_CH2	PI[2]	95
4	TIM8_CH2N	PI[3]	96
5	TIM8_CH3	PI[4]	97
6	TIM8_CH3N	PI[5]	99
7	Not connected	-	-
8	Not connected	-	-
9	TIM8_BkIn	PG[15]	81
10	TIM8_BkIn2	PG[14]	80
11	Not connected	-	-
12	GND	-	GND

6.5.11 HRTIM1 module

The following table shows the HRTIM1 connector (P18) pin mapping:

Table 29. HRTIM1 connector (P18) pin mapping

Pin	Description	Port	QFP 100
1	HRTIM1_CHA1	PE[4]	42
2	HRTIM1_CHA2	PE[3]	50
3	HRTIM1_CHB1	PE[2]	49
4	HRTIM1_CHB2	PE[1]	48
5	HRTIM1_CHC1	PD[15]	47
6	HRTIM1_CHC2	PD[14]	46
7	HRTIM1_CHD1	PD[13]	44
8	HRTIM1_CHD2	PD[12]	43
9	HRTIM1_CHE1	PD[11]	42
10	HRTIM1_CHE2	PD[10]	40
11	HRTIM1_CHF1	PD[8]	39
12	HRTIM2_CHF1	PD[7]	38
13	HRTIM2_EEV2	PD[9]	35
14	Not connected	-	-

6.5.12 HRTIM2 module

The following table shows the HRTIM2 connector (P21) pin mapping:

Table 30. HRTIM2 connector (P21) pin mapping

Pin	Description	Port	QFP 100
1	HRTIM2_CHA1	PE[9]	54
2	HRTIM2_CHA2	PE[10]	55
3	Not connected	-	-
4	HRTIM2_CHE1	PF[2]	57
5	HRTIM2_CHE2	PF[3]	58

6.6 I/O user connectors

The SR5E1-EVBE3000P rev. B has nine I/O connectors indicated in the following table:

Table 31. I/O user connectors

Connectors	Description	Position
CN1	Port A 9x2 header connector	C2 ⁽¹⁾
CN2	Port B 9x2 header connector	C1 ⁽¹⁾
CN3	Port C 9x2 header connector	D2 ⁽¹⁾
CN4	Port D 9x2 header connector	D1 ⁽¹⁾
CN5	Port E 9x2 header connector	D2 ⁽¹⁾
CN6	Port F 9x2 header connector	D1 ⁽¹⁾
CN7	Port G 9x2 header connector	D2 ⁽¹⁾
CN8	Port H 9x2 header connector	D1 ⁽¹⁾
CN9	Port I 9x2 header connector	D2 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B—Top overview](#).

6.7 Debug connectors

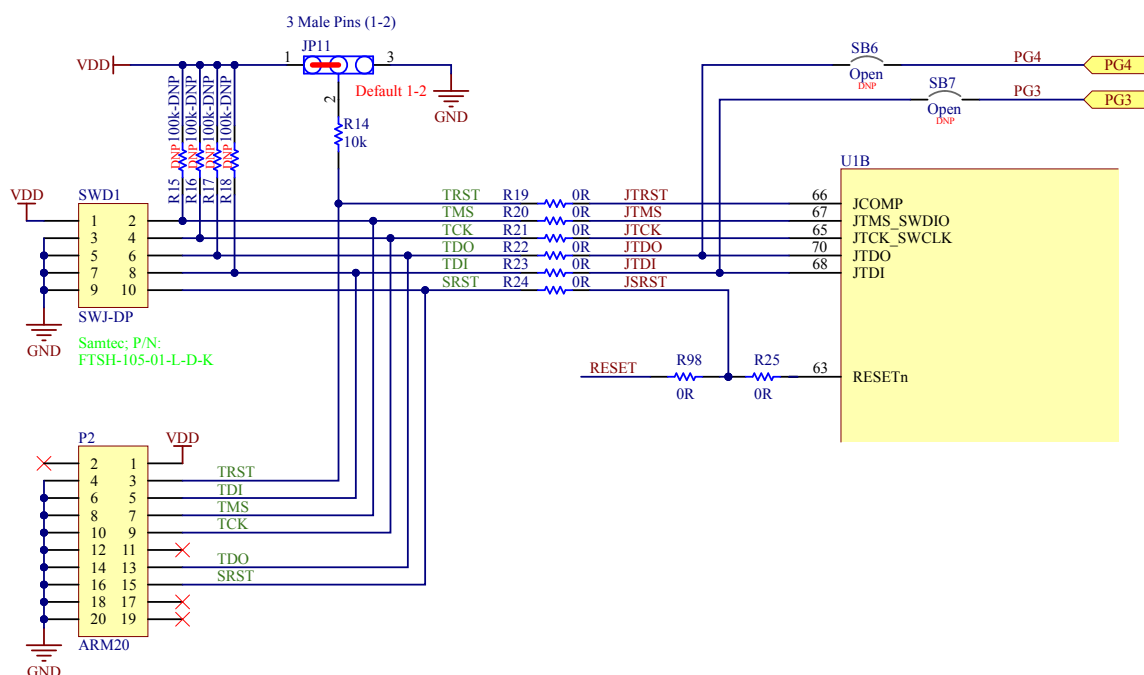
The SR5E1-EVBE3000P rev. B has the following debug connectors:

Table 32. Debug connectors

Connectors	Description	Position
SWD1	10-pin header connector for JTAG/SWD interface	B3 ⁽¹⁾
P2	20-pin Arm connector for JTAG interface	B3 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B—Top overview](#).

The following figure shows the main DAP connectors and the secondary DAP connector schema.

Figure 12. JTAG/SWD debug ports schema


The following table shows the 2x5 header connector pinout (SWD1).

Table 33. SWD1 Main DAP header 2x5 pins connector pinout

Pin number	Signal
1	VDD_HV
2	TMS/SWDIO
3	GND
4	TCK/SWCLK
5	GND
6	TDO
7	GND
8	TDI
9	GND
10	RESET

The following table shows the ARM20 2x10 header connector pinout (P2).

Table 34. P2 JTAG header 2x10 pins connector pinout

Pin number	Signal
1	VDD_HV_IO_MAIN
2	Not connected
3	JCOMP
4	GND
5	TDI

Pin number	Signal
6	GND
7	TMS
8	GND
9	TCK
10	GND
11	Not connected
12	GND
13	TDO
14	GND
15	RESET
16	GND
17	Not connected
18	GND
19	Not connected
20	GND

The following table describes all jumpers, all 0R resistors, and all solder bridges used to configure the JTAG/SWD ports of the board and their position on the PCB.

Table 35. JTAG/SWD configuration

Reference	Description	Default	Position
JP11	JCOMP configuration: 1-2: JCOMP connected to a pull-up resistor (10K ohm). 2-3: JCOMP connected to a pull-down resistor (10K ohm).	1-2	B3 ⁽¹⁾
R19	JCOMP connection configuration: - Mounted: pin 124 connected to JCOMP - Not mounted: pin 124 not connected to JCOMP	Mounted	B3 ⁽¹⁾
R20	TMS configuration: - Mounted: pin 125 connected to TMS - Not mounted: pin 125 not connected to TMS	Mounted	B3 ⁽¹⁾
R21	TCK configuration: - Mounted: pin 122 connected to TCK - Not mounted: pin 122 not connected to TCK	Mounted	B3 ⁽¹⁾
R22	TDO configuration: - Mounted: pin 127 connected to TDO - Not mounted: pin 127 not connected to TDO	Mounted	B3 ⁽¹⁾
R23	TDI configuration: - Mounted: pin 126 connected to TDI - Not mounted: pin 126 not connected to TDI	Mounted	B3 ⁽¹⁾
R24	Reset pin configuration: - Mounted: Reset pin not connected to RESET - Not mounted: Reset pin connected to RESET	Mounted	B3 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B—Top overview.](#)

6.8 User area

The SR5E1-EVBE3000P rev. B has a user area, consisting of the following features:

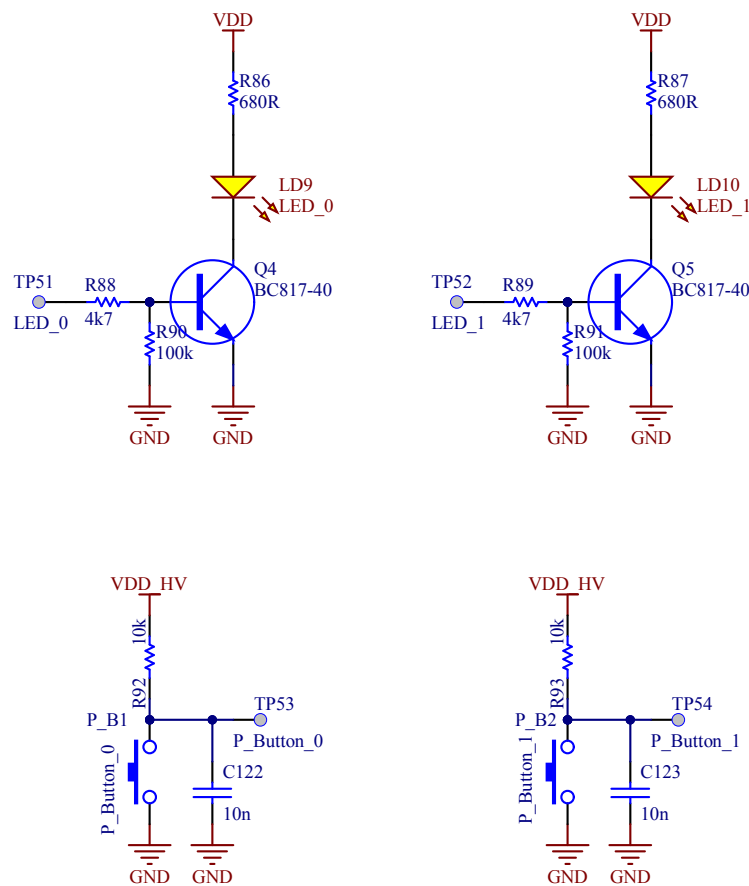
- 2 LEDs
- 2 push buttons

There are two active low user LEDs: LD9 and LD10. The LED inputs are pulled to VDD through 680 Ω resistors.

There are two active high pushbuttons: PB_1 and PB_2, which drive VDD_HV onto the respective test point when pressed. The switch outputs are pulled to GND via 10 k Ω .

The following figure shows the user area schema.

Figure 13. User area schema



6.9 Test points

Several test points of different shape and functionality are scattered around the SR5E1-EVBE3000P rev. B to allow easy access to MCU and reference signals. This section summarizes and describes the available test points. Test points are listed and detailed in the following table.

Table 36. Test points

Test point	Description	Position
TP1	VDD_LV	A2 ⁽¹⁾
TP3	SMPS_Pmos	C2 ⁽¹⁾
TP4	SMPS_VLX	C2 ⁽¹⁾
TP5	VDD_LV_SMPS	C1 ⁽¹⁾
TP6	SMPS_Nmos	C2 ⁽¹⁾

Test point	Description	Position
TP7	VDD_HV	C2 ⁽¹⁾
TP8	FCCU_ERR0	C3 ⁽¹⁾
TP11	DSPI_4_GND	C3 ⁽¹⁾
TP12	CAN_GND	C3 ⁽¹⁾
TP17	RESET	B4 ⁽¹⁾
TP18	SAR1_GND	B1 ⁽¹⁾
TP19	TIM1_GND	A1 ⁽¹⁾
TP20	SAR2_GND	B1 ⁽¹⁾
TP22	SAR3_GND	B1 ⁽¹⁾
TP23	TIM3_GND	D1 ⁽¹⁾
TP24	SAR4_GND	A1 ⁽¹⁾
TP25	TIM8_GND	D1 ⁽¹⁾
TP26	SAR5_GND	A1 ⁽¹⁾
TP27	SAR_CAL_1	B1 ⁽¹⁾
TP29	SAR_CAL2_GND	B1 ⁽¹⁾
TP32	DACx_GND	A1 ⁽¹⁾
TP34	HRTIM1_GND	B2 ⁽¹⁾
TP38	HRTIM2_GND	B3 ⁽¹⁾
TP39	UART3_GND	C1 ⁽¹⁾
TP40	3V3	A3 ⁽¹⁾
TP41	Vbatt	A4 ⁽¹⁾
TP42	Vbatt	A4 ⁽¹⁾
TP43	5V	A3 ⁽¹⁾
TP44	CAN_1_L	D4 ⁽¹⁾
TP45	CAN_1_STBY	D3 ⁽¹⁾
TP46	CAN_1_H	D4 ⁽¹⁾
TP47	CAN_2_L	C4 ⁽¹⁾
TP48	CAN_2_STBY	C3 ⁽¹⁾
TP49	CAN_2_H	C4 ⁽¹⁾
TP50	3V3_USB	B4 ⁽¹⁾
TP51	LED_0	D4 ⁽¹⁾
TP52	LED_1	D3 ⁽¹⁾
TP53	P_Button_0	D4 ⁽¹⁾
TP54	P_Button_1	D3 ⁽¹⁾
TP57	TESTMODE	C1 ⁽¹⁾

1. Refer to the [Figure 14. SR5E1-EVBE3000P rev. B—Top overview](#).

7 Layout overview

Figure 14. SR5E1-EVBE3000P rev. B–Top overview

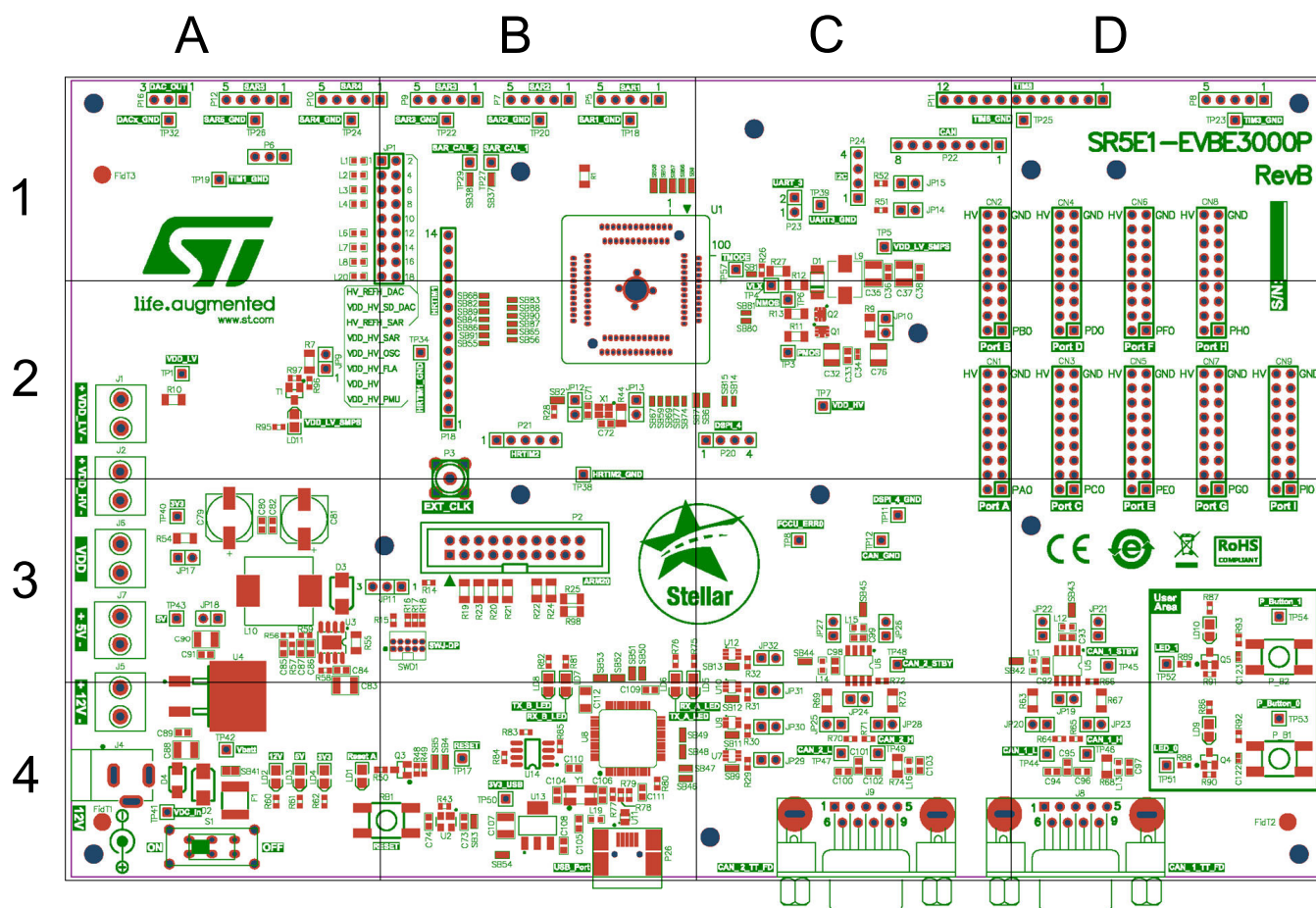


Figure 15. SR5E1-EVBE3000P rev. B—Bottom overview

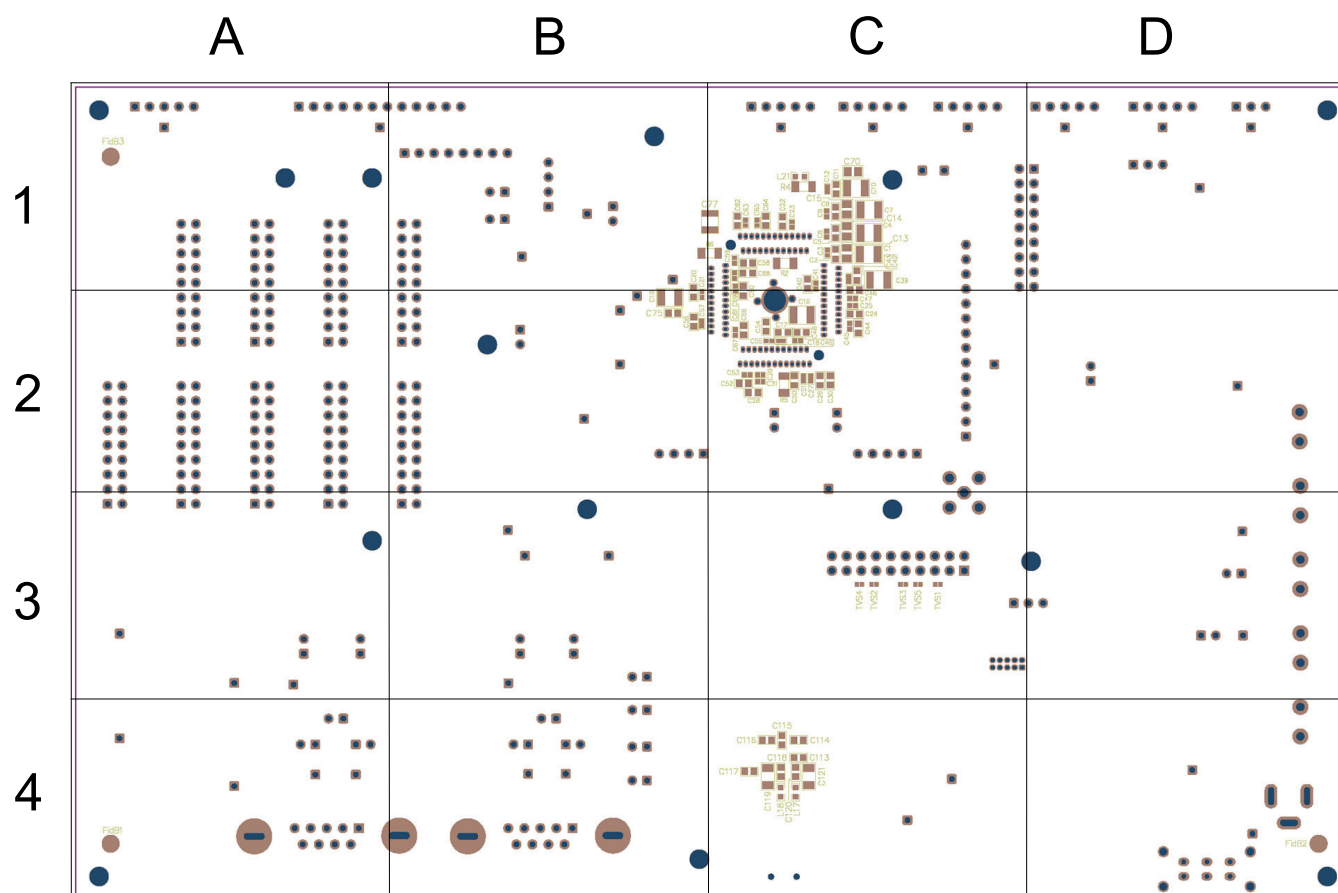


Table 37. Bill of material

#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
1	C1	1	CAP_SMD_X7R	10 μ F	-	C1210-B	SMD multilayer ceramic capacitor	KEMET	-
2	C2	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
3	C3	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
4	C4	1	CAP_SMD_X7R	10 μ F	-	C1210-B	SMD multilayer ceramic capacitor	KEMET	-
5	C5	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
6	C6	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
7	C7	1	CAP_SMD_X7R	10 μ F	-	C1210-B	SMD multilayer ceramic capacitor	KEMET	-
8	C8	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
9	C9	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
10	C10	1	CAP_SMD_X7R	10 μ F	-	C1210-B	SMD multilayer ceramic capacitor	KEMET	-
11	C11	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
12	C12	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
13	C13	1	CAP_SMD_X7R	1 μ F	-	C0805-B	Cap Ceramic 1 μ F 50V X7R 10% 0805T/R	Kyocera AVX	-
14	C14	1	CAP_SMD_X7R	1 μ F	-	C0805-B	Cap Ceramic 1 μ F 50V X7R 10% 0805T/R	Kyocera AVX	-
15	C15	1	CAP_SMD_X7R	1 μ F	-	C0805-B	Cap Ceramic 1 μ F 50V X7R 10% 0805T/R	Kyocera AVX	-
16	C16	1	CAP_SMD_X7R	10 μ F	-	C1210-B	SMD multilayer ceramic capacitor	KEMET	-
17	C17	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
18	C18	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
19	C19	1	CAP_SMD_X7R	10 μ F	-	C1210-B	SMD multilayer ceramic capacitor	KEMET	-
20	C20	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-

#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
21	C21	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
22	C22	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
23	C23	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
24	C24	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
25	C25	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
26	C26	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
27	C27	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
28	C28	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
29	C29	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
30	C30	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
31	C31	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
32	C32	1	CAP_SMD_X7R	22 µF	-	C1210-C	Multilayer Ceramic Capacitor, 22 uF, 16 V, ± 20%, X5R, 1206 [3216 Metric]	KEMET	-
33	C33	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
34	C34	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
35	C35	1	CAP_SMD_X7R	10 µF	-	C1210-B	SMD multilayer ceramic capacitor	KEMET	-
36	C36	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
37	C37	1	CAP_SMD_X7R	10 µF	-	C1210-B	SMD multilayer ceramic capacitor	KEMET	-
38	C38	1	CAP_SMD_X7R	1 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
39	C39	1	CAP_SMD_X7R	10 µF	-	C1210-B	SMD multilayer ceramic capacitor	KEMET	-
40	C40	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
41	C41	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
42	C42	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
43	C43	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
44	C44	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
45	C45	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
46	C46	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
47	C47	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
48	C48	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
49	C49	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
50	C50	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
51	C51	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
52	C52	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
53	C53	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
54	C54	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
55	C55	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
56	C56	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
57	C57	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
58	C58	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
59	C59	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
60	C60	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
61	C61	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
62	C62	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
63	C63	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
64	C64	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
65	C65	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
66	C66	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
67	C67	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
68	C68	1	CAP_SMD_X7R	47 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	MURATA	-
69	C69	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
70	C70	1	CAP_SMD_X7R	1 µF	-	C0805-B	Cap Ceramic 1µF 50V X7R 10% 0805T/R	Kyocera AVX	-
71	C71	1	CAP_SMD_X7R	8 pF	-	C0603-B	SMD multilayer ceramic capacitor	SAMSUNG	-
72	C72	1	CAP_SMD_X7R	8 pF	-	C0603-B	SMD multilayer ceramic capacitor	SAMSUNG	-
73	C73	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
74	C74	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
75	C75	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
76	C76	1	CAP_SMD_X7R	22 µF	-	C1210-C	Multilayer Ceramic Capacitor, 22 uF, 16 V, ± 20%, X5R, 1206 [3216 Metric]	KEMET	-
77	C77	1	CAP_SMD_X7R	4.7 µF	-	C1210-C	1206 C 4.7uF Ceramic Multilayer Capacitor; 16 VDC; +125degC; X7R Dielec; +/-10%	KEMET	-
78	C79	1	Generic Cap. Pol.	100 µF	-	CAP. 8.3 X 10.2 - SMD	Polarized Capacitor	-	-
79	C80	1	CAP_SMD_X7R	100 nF	-	C0603-B	TDK - CGA3E2X7R1H104K080AA. - CERAMIC CAPACITOR, 0.1UF, 50V, X7R, 0603, FULL REEL	TDK	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
80	C81	1	Generic Cap. Pol.	100 µF	-	CAP. 8.3 X 10.2 - SMD	Polarized Capacitor	-	-
81	C82	1	CAP_SMD_X7R	100 nF	-	C0603-B	TDK - CGA3E2X7R1H104K080AA. - CERAMIC CAPACITOR, 0.1UF, 50V, X7R, 0603, FULL REEL	TDK	-
82	C83	1	CAP_SMD_X7R	10 µF	-	C1210-B	KEMET - C1206C106K3RACAUTO - Keramikvielschichtkondensator, SMD, AEC-Q200, 10 µF, 25 V, 1206 [Metrisch 3216], ± 10%, X7R	KEMET	-
83	C84	1	CAP_SMD_X7R	220 nF	-	C0603-B	Capacitor X7R	KEMET	-
84	C85	1	CAP_SMD_X7R	22 nF	-	C0603-B	Capacitor X7R	KEMET	-
85	C86	1	CAP_SMD_X7R	1 nF	-	C0603-B	Capacitor X7R	KEMET	-
86	C87	1	CAP_SMD_X7R	82 nF	-	C0603-B	CAP CER 8200PF 50V X7R 0603 AUTO	KEMET	-
87	C88	1	CAP_SMD_X7R	10 µF	-	C1210-B	KEMET - C1206C106K3RACAUTO - Keramikvielschichtkondensator, SMD, AEC-Q200, 10 µF, 25 V, 1206 [Metrisch 3216], ± 10%, X7R	KEMET	-
88	C89	1	CAP_SMD_X7R	100 nF	-	C0603-B	TDK - CGA3E2X7R1H104K080AA. - CERAMIC CAPACITOR, 0.1UF, 50V, X7R, 0603, FULL REEL	TDK	-
89	C90	1	CAP_SMD_X7R	10 µF	-	C1210-B	SMD multilayer ceramic capacitor	KEMET	-
90	C91	1	CAP_SMD_X7R	100 nF	-	C0603-B	TDK - CGA3E2X7R1H104K080AA. - CERAMIC CAPACITOR, 0.1UF, 50V, X7R, 0603, FULL REEL	TDK	-
91	C92	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
92	C93	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
93	C94	1	CAP_SMD_X7R	47 pF	-	C0603-B	SMD multilayer ceramic capacitor	AVX Corporation	-
94	C95	1	CAP_SMD_X7R	4.7 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
95	C96	1	CAP_SMD_X7R	47 pF	-	C0603-B	SMD multilayer ceramic capacitor	AVX Corporation	-
96	C97	1	CAP_SMD_X7R	1 nF	DNP	C0603-B	SMD multilayer ceramic capacitor	KEMET	-
97	C98	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
98	C99	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
99	C100	1	CAP_SMD_X7R	47 pF	-	C0603-B	SMD multilayer ceramic capacitor	AVX Corporation	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
100	C101	1	CAP_SMD_X7R	4.7 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
101	C102	1	CAP_SMD_X7R	47 pF	-	C0603-B	SMD multilayer ceramic capacitor	AVX Corporation	-
102	C103	1	CAP_SMD_X7R	1 nF	DNP	C0603-B	SMD multilayer ceramic capacitor	KEMET	-
103	C104	1	CAP_SMD_X7R	18 pF	-	C0603-B	SMD multilayer ceramic capacitor	TDK	-
104	C105	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
105	C106	1	CAP_SMD_X7R	18 pF	-	C0603-B	SMD multilayer ceramic capacitor	TDK	-
106	C107	1	CAP_SMD_X7R	10 µF	-	C1210-B	SMD multilayer ceramic capacitor	KEMET	-
107	C108	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
108	C109	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
109	C110	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
110	C111	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
111	C112	1	CAP_SMD_X7R	4.7 µF	-	C1206-B	Capacitor X7R	TAIYO YUDEN	-
112	C113	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
113	C114	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
114	C115	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
115	C116	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
116	C117	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
117	C118	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
118	C119	1	CAP_SMD_X7R	4.7 µF	-	C1206-B	Capacitor X7R	TAIYO YUDEN	-
119	C120	1	CAP_SMD_X7R	100 nF	-	C0603-B	SMD multilayer ceramic capacitor automotive	TDK	-
120	C121	1	CAP_SMD_X7R	4.7 µF	-	C1206-B	Capacitor X7R	TAIYO YUDEN	-
121	C122	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
122	C123	1	CAP_SMD_X7R	10 nF	-	C0402-B	SMD multilayer ceramic capacitor automotive	MURATA	-
123	CN1	1	CONN_HDR_9X2	Port A	-	HEADER 9X2	Male Strip 9x2 poles straight gold plated	HARWIN	-
124	CN2	1	CONN_HDR_9X2	Port B	-	HEADER 9X2	Male Strip 9x2 poles straight gold plated	HARWIN	-
125	CN3	1	CONN_HDR_9X2	Port C	-	HEADER 9X2	Male Strip 9x2 poles straight gold plated	HARWIN	-
126	CN4	1	CONN_HDR_9X2	Port D	-	HEADER 9X2	Male Strip 9x2 poles straight gold plated	HARWIN	-
127	CN5	1	CONN_HDR_9X2	Port E	-	HEADER 9X2	Male Strip 9x2 poles straight gold plated	HARWIN	-
128	CN6	1	CONN_HDR_9X2	Port F	-	HEADER 9X2	Male Strip 9x2 poles straight gold plated	HARWIN	-
129	CN7	1	CONN_HDR_9X2	Port G	-	HEADER 9X2	Male Strip 9x2 poles straight gold plated	HARWIN	-
130	CN8	1	CONN_HDR_9X2	Port H	-	HEADER 9X2	Male Strip 9x2 poles straight gold plated	HARWIN	-
131	CN9	1	CONN_HDR_9X2	Port I	-	HEADER 9X2	Male Strip 9x2 poles straight gold plated	HARWIN	-
132	D1	1	Diode 10TQ035	PMEG3030EP	-	SOD-128	SMD 3A low Vf MEGA Schottky barrier rectifier	NXP Semiconductors	-
133	D2	1	D Schottky	STPS340U	-	DO-214AA	Schottky Diode	STMicroelectronics	-
134	D3	1	D Schottky	STPS2L25U	-	DO-214AA	Rectificador Schottky, 25 V, 2 A, Único, DO-214AA (SMB), 2 Pines, 450 mV	STMicroelectronics	STPS2L25U
135	D4	1	D Schottky	SMAJ24A	DNP	DO-214AC	Schottky Diode	STMicroelectronics	-
136	F1	1	Fuse 2	2 A	-	2018 (5045)	PTC Resettable Fuse 0.8A(hold) 2A(trip) 16VDC 70A 1.5W 9s 0.13Ohm SMD Solder Pad 2018 T/R	Littelfuse	-
137	FidB 1	1	Fiducial	Fiducial	-	Fiducial 1mm	Fiducial 1mm	-	-
138	FidB 2	1	Fiducial	Fiducial	-	Fiducial 1mm	Fiducial 1mm	-	-
139	FidB 3	1	Fiducial	Fiducial	-	Fiducial 1mm	Fiducial 1mm	-	-
140	FidT 1	1	Fiducial	Fiducial	-	Fiducial 1mm	Fiducial 1mm	-	-
141	FidT 2	1	Fiducial	Fiducial	-	Fiducial 1mm	Fiducial 1mm	-	-
142	FidT 3	1	Fiducial	Fiducial	-	Fiducial 1mm	Fiducial 1mm	-	-
143	J1	1	ARK_2	ARK_2	-	CON2	Screw Conn. Term., single row, 5.00 pitch, 9 depth, 12.6 height, AWG 14-26, 16A	WURTH	691101710002



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
144	J2	1	ARK_2	ARK_2	-	CON2	Screw Conn. Term., single row, 5.00 pitch, 9 depth, 12.6 height, AWG 14-26, 16A	WURTH	691101710002
145	J4	1	PJ202A	DC-10A	-	CON DC10A	-	CLIFF ELECTRONIC COMPONENTS	DC-10A (FC68148)
146	J5	1	ARK_2	12 V	-	CON2	Screw Conn. Term., single row, 5.00 pitch, 9 depth, 12.6 height, AWG 14-26, 16A	WURTH	691101710002
147	J6	1	ARK_2	ARK_2	-	CON2	Screw Conn. Term., single row, 5.00 pitch, 9 depth, 12.6 height, AWG 14-26, 16A	WURTH	691101710002
148	J7	1	ARK_2	ARK_2	-	CON2	Screw Conn. Term., single row, 5.00 pitch, 9 depth, 12.6 height, AWG 14-26, 16A	WURTH	691101710002
149	J8	1	2BCONNECTPG 00211	CAN_1_TT_FD	-	DB9M SLOT	Conn DB9 Male 90°	MULTICOMP	-
150	J9	1	2BCONNECTPG 00211	CAN_2_TT_FD	-	DB9M SLOT	Conn DB9 Male 90°	MULTICOMP	-
151	JP1	1	HEADER 9X2	HEADER 9X2	-	HEADER 9X2	HEADER 9X2 PASSO 2,54MM	-	-
152	JP9	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
153	JP10	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
154	JP11	1	JUMP3	3 Male Pins (1-2)	-	SIP3	JUMP3	-	-
155	JP12	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
156	JP13	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
157	JP14	1	Jumper 2.54_Open	Open	DNP	SIP2	Conn Unshrouded Header HDR 2 POS 2.54mm Solder ST Thru-Hole Automotive Carton	TE Connectivity	-
158	JP15	1	Jumper 2.54_Open	Open	DNP	SIP2	Conn Unshrouded Header HDR 2 POS 2.54mm Solder ST Thru-Hole Automotive Carton	TE Connectivity	-
159	JP17	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
160	JP18	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
161	JP19	1	Jumper 2.54_Open	Open	DNP	SIP2	Conn Unshrouded Header HDR 2 POS 2.54mm Solder ST Thru-Hole Automotive Carton	TE Connectivity	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
162	JP20	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
163	JP21	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
164	JP22	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
165	JP23	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
166	JP24	1	Jumper 2.54_Open	Open	DNP	SIP2	Conn Unshrouded Header HDR 2 POS 2.54mm Solder ST Thru-Hole Automotive Carton	TE Connectivity	-
167	JP25	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
168	JP26	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
169	JP27	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
170	JP28	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
171	JP29	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
172	JP30	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
173	JP31	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
174	JP32	1	Jumper 2.54_Closed	Closed	-	SIP2	Male Strip, Single row, 2 poles, p=2,54mm (See Mech Parts) - Closed	TE Connectivity	-
175	L1	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
176	L2	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
177	L3	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
178	L4	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
179	L6	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
180	L7	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
181	L8	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
182	L9	1	Inductor	10 μ H	-	CLF6045NIT	Fixed Inductors 10uH AEC-Q200 (150C)	TDK	-
183	L10	1	Inductor	27 μ H	-	WE-PD	WURTH ELEKTRONIK 744771127 Surface Mount Power Inductor, WE-PD Series, 27 H, 2.97 A, 3.55 A, Shielded, 0.051 ohm	Würth	-
184	L11	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
185	L12	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
186	L13	1	Inductor	60 Ω at 100 MHz	DNP	F0603	SMD Multilayer Ferrite	Würth Electronics	-
187	L14	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
188	L15	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
189	L16	1	Inductor	60 Ω at 100 MHz	DNP	F0603	SMD Multilayer Ferrite	Würth Electronics	-
190	L17	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
191	L18	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
192	L19	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
193	L20	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
194	L21	1	Inductor	60 Ω at 100 MHz	-	F0603	SMD Multilayer Ferrite	Würth Electronics	-
195	LD1	1	LED2	Reset A	-	0805 LED	SMD Led Diode Red - Standard Bright	Kingbright	-
196	LD2	1	LED2	12 V	-	0805 LED	LED GREEN CLEAR CHIP SMD	Kingbright	-
197	LD3	1	LED2	5 V	-	0805 LED	LED GREEN CLEAR CHIP SMD	Kingbright	-
198	LD4	1	LED2	3V3	-	0805 LED	LED GREEN CLEAR CHIP SMD	Kingbright	-
199	LD5	1	LED2	RX_A_LED	-	0805 LED	SMD Micro LED®	Kingbright	-
200	LD6	1	LED2	TX_A_LED	-	0805 LED	SMD Micro LED®	Kingbright	-
201	LD7	1	LED2	RX_B_LED	-	0805 LED	SMD Micro LED®	Kingbright	-
202	LD8	1	LED2	TX_B_LED	-	0805 LED	SMD Micro LED®	Kingbright	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
203	LD9	1	LED2	LED_0	-	0805 LED	SMD Micro LED®	Kingbright	-
204	LD10	1	LED2	LED_1	-	0805 LED	SMD Micro LED®	Kingbright	-
205	LD11	1	LED2	VDD_LV_SMPS	-	0805 LED	SMD Led Diode Red - Standard Bright	Kingbright	-
206	P2	1	Header 10X2	ARM20	-	IDC20	Conn Flat Male 20 pins, straight low profile	AMPHENOL	-
207	P3	1	2BCONCOAXPG 00008	SMA	-	SMA DRITTO - 200X200	Female RF SMA 180°	TE Connectivity	-
208	P5	1	Header 5	SAR1	-	SIP5	Conn Unshrouded Header HDR 5 POS 2.54mm Solder ST Thru-Hole	TE Connectivity	-
209	P6	1	Header 3	DAC	-	SIP3	Header, 3-Pin		-
210	P7	1	Header 5	SAR2	-	SIP5	Conn Unshrouded Header HDR 5 POS 2.54mm Solder ST Thru-Hole	TE Connectivity	-
211	P8	1	Header 5	TIM3	-	SIP5	Conn Unshrouded Header HDR 5 POS 2.54mm Solder ST Thru-Hole	TE Connectivity	-
212	P9	1	Header 5	SAR3	-	SIP5	Conn Unshrouded Header HDR 5 POS 2.54mm Solder ST Thru-Hole	TE Connectivity	-
213	P10	1	Header 5	SAR4	-	SIP5	Conn Unshrouded Header HDR 5 POS 2.54mm Solder ST Thru-Hole	TE Connectivity	-
214	P11	1	Header 12	TIM8	-	SIP12	Header, 12-Pin		-
215	P12	1	Header 5	SAR5	-	SIP5	Conn Unshrouded Header HDR 5 POS 2.54mm Solder ST Thru-Hole	TE Connectivity	-
216	P16	1	Header 3	DAC_OUT	-	SIP3	Header, 3-Pin	-	-
217	P18	1	Header 14	HRTIM1	-	SIP14	CONN HEADER VERT 14POS .100 TIN	TE Connectivity	-
218	P20	1	Header 4	DSPI_4	-	SIP4	CONN HEADER VERT 4POS 2.54MM	TE Connectivity	-
219	P21	1	Header 5	HRTIM2	-	SIP5	Conn Unshrouded Header HDR 5 POS 2.54mm Solder ST Thru-Hole	TE Connectivity	-
220	P22	1	Header 8	CAN	-	SIP8	TE Connectivity AMPMODU Series, 2.54mm Pitch 8 Way 1 Row Straight PCB Header, Solder Termination, 3A	TE Connectivity	-
221	P23	1	Header 2	UART_3	-	SIP2	Conn Unshrouded Header HDR 2 POS 2.54mm Solder ST Thru-Hole Automotive Carton	TE Connectivity	-
222	P24	1	Header 4	I2C	-	SIP4	CONN HEADER VERT 4POS 2.54MM	TE Connectivity	-
223	P26	1	USB_Port	USB_Port	-	MINI USB MOLEX	MOLEX Connector SMT, right angle, USB MINI-B, 5pin	Molex	-
224	P_B1	1	KTH55150KA	P_Button_0	-	KTH55150KA	SWITCH, TACTILE, SMD, h=5mm	KANGHONG ELECTRONIC	KTH55150KA



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
225	P_B2	1	KTH55150KA	P_Button_1	-	KTH55150KA	SWITCH, TACTILE, SMD, h=5mm	KANGHONG ELECTRONIC	KTH55150KA
226	Q1	1	PMPB100XPEAX	PMPB100XPEAX	-	DFN2020MD (SOT1220)	-	-	-
227	Q2	1	PMPB55XNEAX	PMPB55XNEAX	-	DFN2020MD (SOT1220)	-	-	-
228	Q3	1	PNP	BC807	-	SOT-23-RS	ON SEMICONDUCTOR - BC807-25LT1G - Bipolar (BJT) Single Transistor, PNP, -45 V, 100 MHz, 225 mW, -500 mA, 160 hFE	ON Semiconductor	-
229	Q4	1	BC817-40	BC817-40	-	SOT-23-RS	Bipolar (BJT) Single Transistor, NPN, 45 V, 170 MHz, 300 mW, 500 mA, 250	MULTICOMP	BC817-40
230	Q5	1	BC817-40	BC817-40	-	SOT-23-RS	Bipolar (BJT) Single Transistor, NPN, 45 V, 170 MHz, 300 mW, 500 mA, 250	MULTICOMP	BC817-40
231	R1	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
232	R2	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
233	R4	1	Resistor_SMD	0 Ω	DNP	R1206-RS	SMD resistor automotive	VISHAY	-
234	R5	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
235	R6	1	Resistor_SMD	0 Ω	DNP	R1206-RS	SMD resistor automotive	VISHAY	-
236	R7	1	Resistor_SMD	0 Ω	DNP	R1206-RS	SMD resistor automotive	VISHAY	-
237	R9	1	Resistor_SMD	0 Ω	DNP	R1206-RS	SMD resistor automotive	VISHAY	-
238	R10	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor automotive	VISHAY	-
239	R11	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
240	R12	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
241	R13	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
242	R14	1	Resistor_SMD	10 k Ω	-	R0603-RS	SMD resistor	YAGEO	-
243	R15	1	Resistor_SMD	100 k Ω	DNP	R0603-RS	SMD Chip Resistor, 100 k Ω , $\pm$ 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	Yageo	-
244	R16	1	Resistor_SMD	100 k Ω	DNP	R0603-RS	SMD Chip Resistor, 100 k Ω , $\pm$ 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	Yageo	-
245	R17	1	Resistor_SMD	100 k Ω	DNP	R0603-RS	SMD Chip Resistor, 100 k Ω , $\pm$ 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	Yageo	-
246	R18	1	Resistor_SMD	100 k Ω	DNP	R0603-RS	SMD Chip Resistor, 100 k Ω , $\pm$ 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	Yageo	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
247	R19	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
248	R20	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
249	R21	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
250	R22	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
251	R23	1	Resistor_SMD	0R	-	R1206-RS	SMD resistor	Yageo	-
252	R24	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
253	R25	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
254	R26	1	Resistor_SMD	10 k Ω	DNP	R0603-RS	SMD resistor	YAGEO	-
255	R27	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	-	-
256	R28	1	Resistor_SMD	50 Ω	-	R0603-RS	SMD resistor automotive	Vishay Dale	-
257	R29	1	Resistor_SMD	4.7 k Ω	-	R0603-RS	SMD resistor	YAGEO	-
258	R30	1	Resistor_SMD	4.7 k Ω	-	R0603-RS	SMD resistor	YAGEO	-
259	R31	1	Resistor_SMD	4.7 k Ω	-	R0603-RS	SMD resistor	YAGEO	-
260	R32	1	Resistor_SMD	4.7 k Ω	-	R0603-RS	SMD resistor	YAGEO	-
261	R43	1	Resistor_SMD	10 k Ω	-	R0603-RS	SMD resistor	YAGEO	-
262	R44	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
263	R48	1	Resistor_SMD	100 k Ω	-	R0603-RS	Res Thick Film 1.6 x 0.8 mm 100 k Ω 1% 0.1W(1/10W) 100ppm/ C Molded SMD Paper T/R	Yageo	-
264	R49	1	Resistor_SMD	1k	-	R0603-RS	RES SMD 1 k Ω 1% 1/10W 0603	Yageo	-
265	R50	1	Resistor_SMD	470 Ω	-	R0603-RS	SMD resistor	YAGEO	-
266	R51	1	Resistor_SMD	10 k Ω	-	R0603-RS	SMD resistor	YAGEO	-
267	R52	1	Resistor_SMD	10 k Ω	-	R0603-RS	SMD resistor	YAGEO	-
268	R54	1	Resistor_SMD	0 Ω	DNP	R1206-RS	SMD resistor automotive	VISHAY	-
269	R55	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
270	R56	1	Resistor_SMD	220 Ω	-	R0603-RS	THICK FILM RESISTOR, 220 Ω , 100mW, 1%; Product Range:RC Series; Resistance:220ohm; Power Rating:100mW; Resistance Tolerance: 1%; Voltage Rating:50V; Resistor Case Style:0603 [1608 Metric]; Packaging:Cut Tape; MSL:-; No. of Pins:2 ;RoHS Compliant: Yes	Yageo	-
271	R57	1	Resistor_SMD	4.7 k Ω	-	R0603-RS	RES SMD 4.7 k Ω 1% 1/10W 0603	Yageo	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
272	R58	1	Resistor_SMD	1.05 kΩ	-	R0603-RS	RC Series 0603 0.1 W 1.05 kOhms 1% ±100 ppm/°C SMT Thick Film Chip Resistor	Yageo	-
273	R59	1	Resistor_SMD	1.3 kΩ	-	R0603-RS	RES SMD 1.3 kΩ 1% 1/10W 0603	Yageo	-
274	R60	1	Resistor_SMD	5.1 kΩ	-	R0603-RS	RES SMD 5.1 kΩ 1% 1/10W 0603	Yageo	-
275	R61	1	Resistor_SMD	1.5 kΩ	-	R0603-RS	Res Thick Film 0603 1.5K Ohm 1% 1/5W ±200ppm/°C Molded SMD	Yageo	-
276	R62	1	Resistor_SMD	680 Ω	-	R0603-RS	YAGEO - RC0603FR-07680RL - SMD Chip Resistor, 0603 [1608 Metric], 680 ohm, RC Series, 50 V, Thick Film, 100 mW	Yageo	-
277	R63	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
278	R64	1	Resistor_SMD	60.4 Ω	-	R0603-RS	SMD resistor	Yageo	-
279	R65	1	Resistor_SMD	60.4 Ω	-	R0603-RS	SMD resistor	Yageo	-
280	R66	1	Resistor_SMD	47 kΩ	-	R0603-RS	SMD resistor	Yageo	-
281	R67	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
282	R68	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
283	R69	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
284	R70	1	Resistor_SMD	60.4 Ω	-	R0603-RS	SMD resistor	Yageo	-
285	R71	1	Resistor_SMD	60.4 Ω	-	R0603-RS	SMD resistor	Yageo	-
286	R72	1	Resistor_SMD	47 kΩ	-	R0603-RS	SMD resistor	Yageo	-
287	R73	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
288	R74	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
289	R75	1	Resistor_SMD	220 Ω	-	R0603-RS	SMD resistor automotive	Panasonic	-
290	R76	1	Resistor_SMD	220 Ω	-	R0603-RS	SMD resistor automotive	Panasonic	-
291	R77	1	Resistor_SMD	12 kΩ	-	R0603-RS	SMD resistor	MULTICOMP	-
292	R78	1	Resistor_SMD	10 Ω	-	R0603-RS	SMD resistor automotive	Yageo	-
293	R79	1	Resistor_SMD	10 Ω	-	R0603-RS	SMD resistor automotive	Yageo	-
294	R80	1	Resistor_SMD	15 kΩ	-	R0603-RS	SMD resistor	Yageo	-
295	R81	1	Resistor_SMD	220 Ω	-	R0603-RS	SMD resistor automotive	Panasonic	-
296	R82	1	Resistor_SMD	220 Ω	-	R0603-RS	SMD resistor automotive	Panasonic	-
297	R83	1	Resistor_SMD	4.7 kΩ	-	R0603-RS	SMD resistor	YAGEO	-
298	R84	1	Resistor_SMD	4.7 kΩ	-	R0603-RS	SMD resistor	YAGEO	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
299	R85	1	Resistor_SMD	2.2 kΩ	-	R0603-RS	SMD resistor automotive	VISHAY	-
300	R86	1	Resistor_SMD	680 Ω	-	R0603-RS	SMD resistor	YAGEO	RC0603FR-07680RL
301	R87	1	Resistor_SMD	680 Ω	-	R0603-RS	SMD resistor	YAGEO	RC0603FR-07680RL
302	R88	1	Resistor_SMD	4.7 kΩ	-	R0603-RS	RES SMD 4.7 kΩ 1% 1/10W 0603	Yageo	-
303	R89	1	Resistor_SMD	4.7 kΩ	-	R0603-RS	RES SMD 4.7 kΩ 1% 1/10W 0603	Yageo	-
304	R90	1	Resistor_SMD	100 kΩ	-	R0603-RS	Res Thick Film 1.6 x 0.8 mm 100 kΩ 1% 0.1W(1/10W) 100ppm/ C Molded SMD Paper T/R	Yageo	-
305	R91	1	Resistor_SMD	100 kΩ	-	R0603-RS	Res Thick Film 1.6 x 0.8 mm 100 kΩ 1% 0.1W(1/10W) 100ppm/ C Molded SMD Paper T/R	Yageo	-
306	R92	1	Resistor_SMD	10 kΩ	-	R0603-RS	SMD resistor	YAGEO	-
307	R93	1	Resistor_SMD	10 kΩ	-	R0603-RS	SMD resistor	YAGEO	-
308	R95	1	Resistor_SMD	1.5 kΩ	-	R0603-RS	SMD resistor	YAGEO	RC0603FR-071K5L
309	R96	1	Resistor_SMD	1 kΩ	-	R0603-RS	SMD resistor	YAGEO	-
310	R97	1	Resistor_SMD	100 kΩ	-	R0603-RS	SMD resistor	TE Connectivity	-
311	R98	1	Resistor_SMD	0 Ω	-	R1206-RS	SMD resistor	Yageo	-
312	RB1	1	KTH55150KA	RESET	-	KTH55150KA	SWITCH, TACTILE, SMD, h=5mm	KANGHONG ELECTRONIC	KTH55150KA
313	S1	1	SPDT - SLITTA	SPDT - SLITTA	-	SWITCH C.S. MFP211N	SPDT - SLITTA p. 4,00mm	KNITTER SWITCH	MFP211N
314	SB1	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
315	SB2	1	Circuit Breaker_Open	Open	-	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL
316	SB3	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
317	SB4	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
318	SB5	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
319	SB6	1	Circuit Breaker_Open	Open	DNP	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL
320	SB7	1	Circuit Breaker_Open	Open	DNP	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
321	SB8	1	Circuit Breaker_Open	Open	DNP	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL
322	SB9	1	Circuit Breaker_Open	Open	DNP	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL
323	SB10	1	Circuit Breaker_Open	Open	DNP	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL
324	SB11	1	Circuit Breaker_Open	Open	DNP	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL
325	SB12	1	Circuit Breaker_Open	Open	DNP	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL
326	SB13	1	Circuit Breaker_Open	Open	DNP	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL
327	SB14	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
328	SB15	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
329	SB37	1	Circuit Breaker_Open	Open	DNP	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL
330	SB38	1	Circuit Breaker_Open	Open	DNP	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL
331	SB41	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0805	Circuit breaker	YAGEO	-
332	SB42	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
333	SB43	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
334	SB44	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
335	SB45	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
336	SB46	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
337	SB47	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
338	SB48	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
339	SB49	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
340	SB50	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
341	SB51	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
342	SB52	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
343	SB53	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
344	SB54	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0603	Circuit breaker	YAGEO	-
345	SB55	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
346	SB56	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
347	SB57	1	Circuit Breaker_Open	Open	DNP	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL
348	SB58	1	Circuit Breaker_Open	Open	DNP	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL
349	SB59	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
350	SB65	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
351	SB66	1	Circuit Breaker_Open	Open	DNP	Solder bridge - 0603	Circuit breaker	YAGEO	RC0603JR-070RL
352	SB67	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
353	SB68	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
354	SB69	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
355	SB74	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
356	SB77	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
357	SB80	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
358	SB81	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
359	SB82	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
360	SB83	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
361	SB84	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
362	SB86	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
363	SB87	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
364	SB88	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
365	SB89	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
366	SB90	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
367	SB91	1	Circuit Breaker_Closed	Closed	-	Solder bridge - 0402	Circuit breaker	YAGEO	-
368	SWD 1	1	Header 5X2	SWJ-DP	-	FTSH-105-01-L-D-K	Debug Connector 5x2 1.27mm	Samtec	-
369	T1	1	NPN	BC848	-	SOT-23-RS	NPN Bipolar Transistor	ON Semiconductor	BC848BLT3G
370	TP1	1	Test Point	VDD_LV	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
371	TP3	1	Test Point	PMOS	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
372	TP4	1	Test Point	VLX	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
373	TP5	1	Test Point	VDD_LV_SMPS	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
374	TP6	1	Test Point	NMOS	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
375	TP7	1	Test Point	VDD_HV	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
376	TP8	1	Test Point	FCCU_ERR0	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
377	TP11	1	Test Point	DSPI_4_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
378	TP12	1	Test Point	CAN_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
379	TP17	1	Test Point	RESET	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
380	TP18	1	Test Point	SAR1_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
381	TP19	1	Test Point	TIM1_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
382	TP20	1	Test Point	SAR2_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
383	TP22	1	Test Point	SAR3_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
384	TP23	1	Test Point	TIM3_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
385	TP24	1	Test Point	SAR4_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
386	TP25	1	Test Point	TIM8_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
387	TP26	1	Test Point	SAR5_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
388	TP27	1	Test Point	SAR_CAL_1	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
389	TP29	1	Test Point	SAR_CAL_2	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
390	TP32	1	Test Point	DACx_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
391	TP34	1	Test Point	HRTIM1_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
392	TP38	1	Test Point	HRTIM2_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
393	TP39	1	Test Point	UART3_GND	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
394	TP40	1	Test Point	3V3	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
395	TP41	1	Test Point	VDC_In	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
396	TP42	1	Test Point	Vbatt	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
397	TP43	1	Test Point	5V	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
398	TP44	1	Test Point	CAN_1_L	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
399	TP45	1	Test Point	CAN_1_STBY	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
400	TP46	1	Test Point	CAN_1_H	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
401	TP47	1	Test Point	CAN_2_L	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
402	TP48	1	Test Point	CAN_2_STBY	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
403	TP49	1	Test Point	CAN_2_H	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
404	TP50	1	Test Point	3V3_USB	DNP	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
405	TP51	1	Test Point	LED_0	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
406	TP52	1	Test Point	LED_1	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
407	TP53	1	Test Point	P_Button_0	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
408	TP54	1	Test Point	P_Button_1	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
409	TP57	1	Test Point	TMODE	-	SIP1	PCB ring test point - White (drill 1.32mm)	-	-
410	TVS 1	1	ESDAVLC8-1BT2 Y	ESDAVLC8-1BT2Y	-	SOD-882	ESD Suppressor Diode TVS Bi-Dir 3V Automotive 2-Pin SOD-882T T/R	-	-
411	TVS 2	1	ESDAVLC8-1BT2 Y	ESDAVLC8-1BT2Y	-	SOD-882	ESD Suppressor Diode TVS Bi-Dir 3V Automotive 2-Pin SOD-882T T/R	-	-



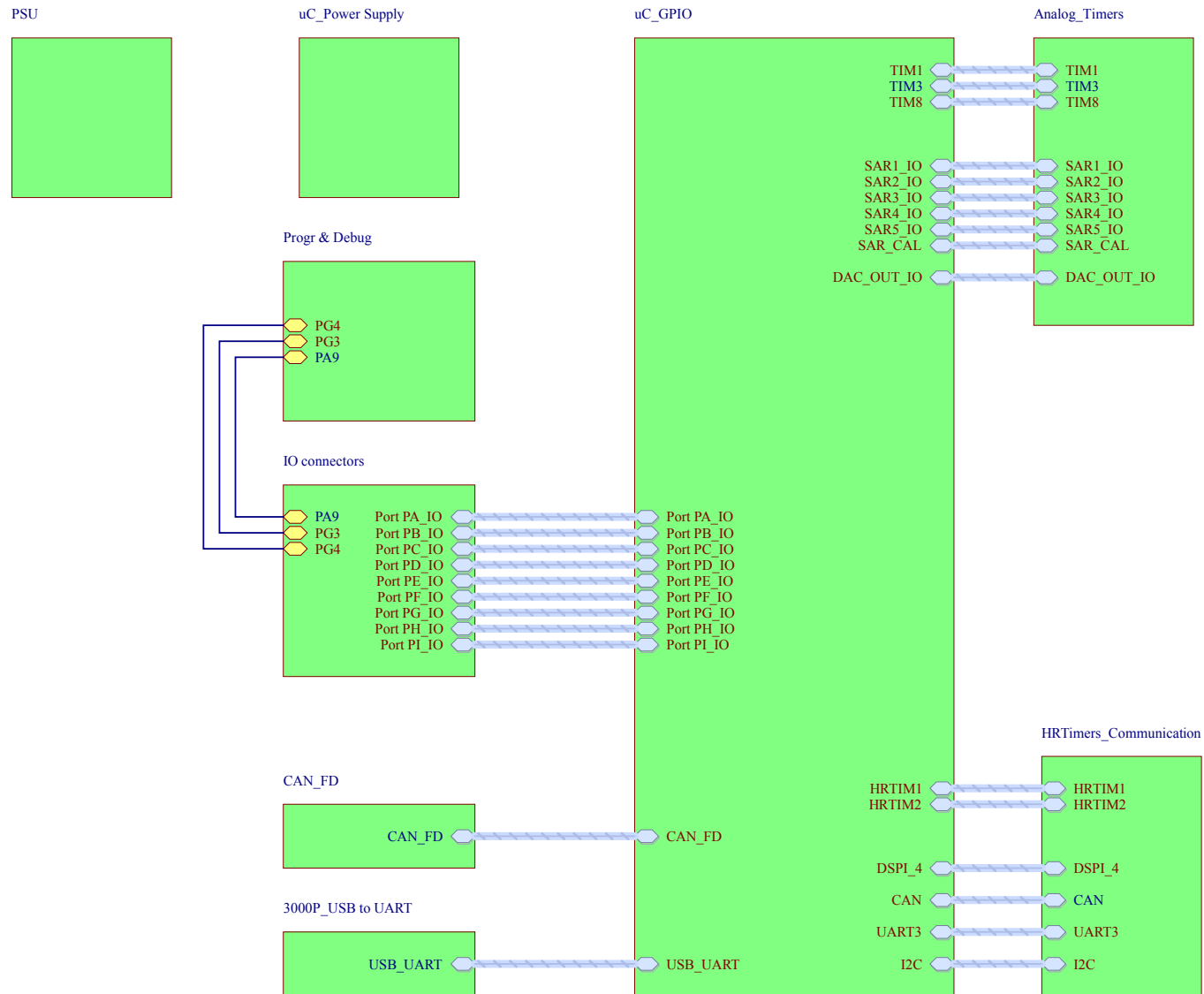
#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
412	TVS 3	1	ESDAVLC8-1BT2 Y	ESDAVLC8-1BT2Y	-	SOD-882	ESD Suppressor Diode TVS Bi-Dir 3V Automotive 2-Pin SOD-882T T/R	-	-
413	TVS 4	1	ESDAVLC8-1BT2 Y	ESDAVLC8-1BT2Y	-	SOD-882	ESD Suppressor Diode TVS Bi-Dir 3V Automotive 2-Pin SOD-882T T/R	-	-
414	TVS 5	1	ESDAVLC8-1BT2 Y	ESDAVLC8-1BT2Y	-	SOD-882	ESD Suppressor Diode TVS Bi-Dir 3V Automotive 2-Pin SOD-882T T/R	-	-
415	U1	1	SR5E1E3 (eQFP100)_V2	Stellar E1-100	-	OTQ-100SG-0.5-014-0 0	SR5E1E3 (eQFP100) - Bonding version 2.0	-	-
416	U2	1	STM6315RDW13 F	STM6315SDW13F	-	SOT-143	STMICROELECTRONICS - STM6315SDW13F - Reset Circuit, Active- Low, Open-Drain, 1V to 5.5V, 2.93V Threshold, 1 Monitor, SOT-143-4	STMicroelectroni cs	-
417	U3	1	A7986A	A7986A	-	HSOP-8	DC-DC Switching Buck (Step Down) Regulator, Adjustable, 3A, HSOP-8	STMicroelectroni cs	A7986ATR
418	U4	1	LD1086D2T50TR	LD1086D2T50TR	-	D2PAK	LDO Regulator Pos 5V 1.5A 3-Pin(2+Tab) D2PAK T/R	STMicroelectroni cs	LD1086D2T50TR
419	U5	1	MCP2542WFD- H/SN	MCP2542WFD-H/SN	-	SO-8 - NARROW	Can Fd Transceiver / 8 Soic 3.90Mm(.150In) Tube	-	-
420	U6	1	MCP2542WFD- H/SN	MCP2542WFD-H/SN	-	SO-8 - NARROW	Can Fd Transceiver / 8 Soic 3.90Mm(.150In) Tube	-	-
421	U7	1	SN74LVC1T45	SN74LVC1T45	-	SC-70	IC SMD Single-Bit Dual-Supply Bus Transceiver SC-70-6	Texas Instruments	-
422	U8	1	FTDI2232	FT2232HL	-	QFP64 - SMALL PADS	IC FTDI SMD USB HS DUAL UART/FIFO LQFP64	FTDI	-
423	U9	1	SN74LVC1T45	SN74LVC1T45	-	SC-70	IC SMD Single-Bit Dual-Supply Bus Transceiver SC-70-6	Texas Instruments	-
424	U10	1	SN74LVC1T45	SN74LVC1T45	-	SC-70	IC SMD Single-Bit Dual-Supply Bus Transceiver SC-70-6	Texas Instruments	-
425	U11	1	USBLC6-2P6	USBLC6-2P6	-	SOT-666	USBLC6-2P6	STMicroelectroni cs	-
426	U12	1	SN74LVC1T45	SN74LVC1T45	-	SC-70	IC SMD Single-Bit Dual-Supply Bus Transceiver SC-70-6	Texas Instruments	-
427	U13	1	LD1117S33TR	LD1117S33TR	-	SOT223	Volt. Reg. Low Drop out Lin. 3.3V SOT223	STMicroelectroni cs	-
428	U14	1	M93S46RMN6	M93S46-WMN6P	-	SO-8	1K (x16) Serial Microwire Bus EEPROM With Block Protection	STMicroelectroni cs	-
429	X1	1	Crystal 4Pin	40 MHz	-	ECX-2236Q	SMD Quartz ECS	ECS International	-



#	Item	Qty	Reference	Value	Ass. Opt.	Footprint	Description	Manufacturer	Manufacturer P/N
430	Y1	1	7B-12.000MAAJ-T	7B-12.000MAAJ-T	-	7B-12.000MAAJ-T	TXC - 7B-12.000MAAJ-T - XTAL, 12.000MHZ, 18PF, SMD, 5,0X3,2	TXC	7B-12.000MAAJ-T



Figure 16. Main



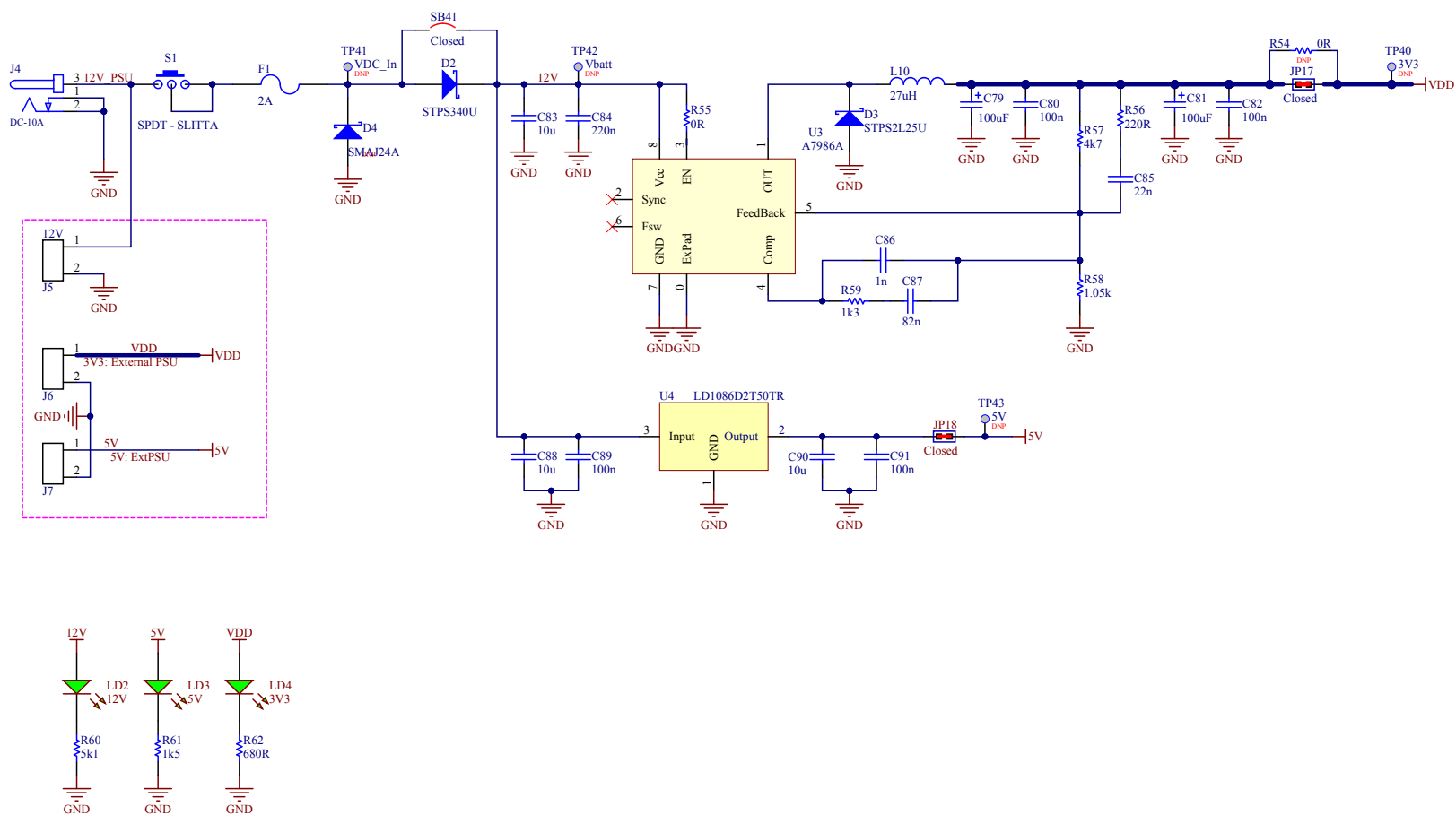


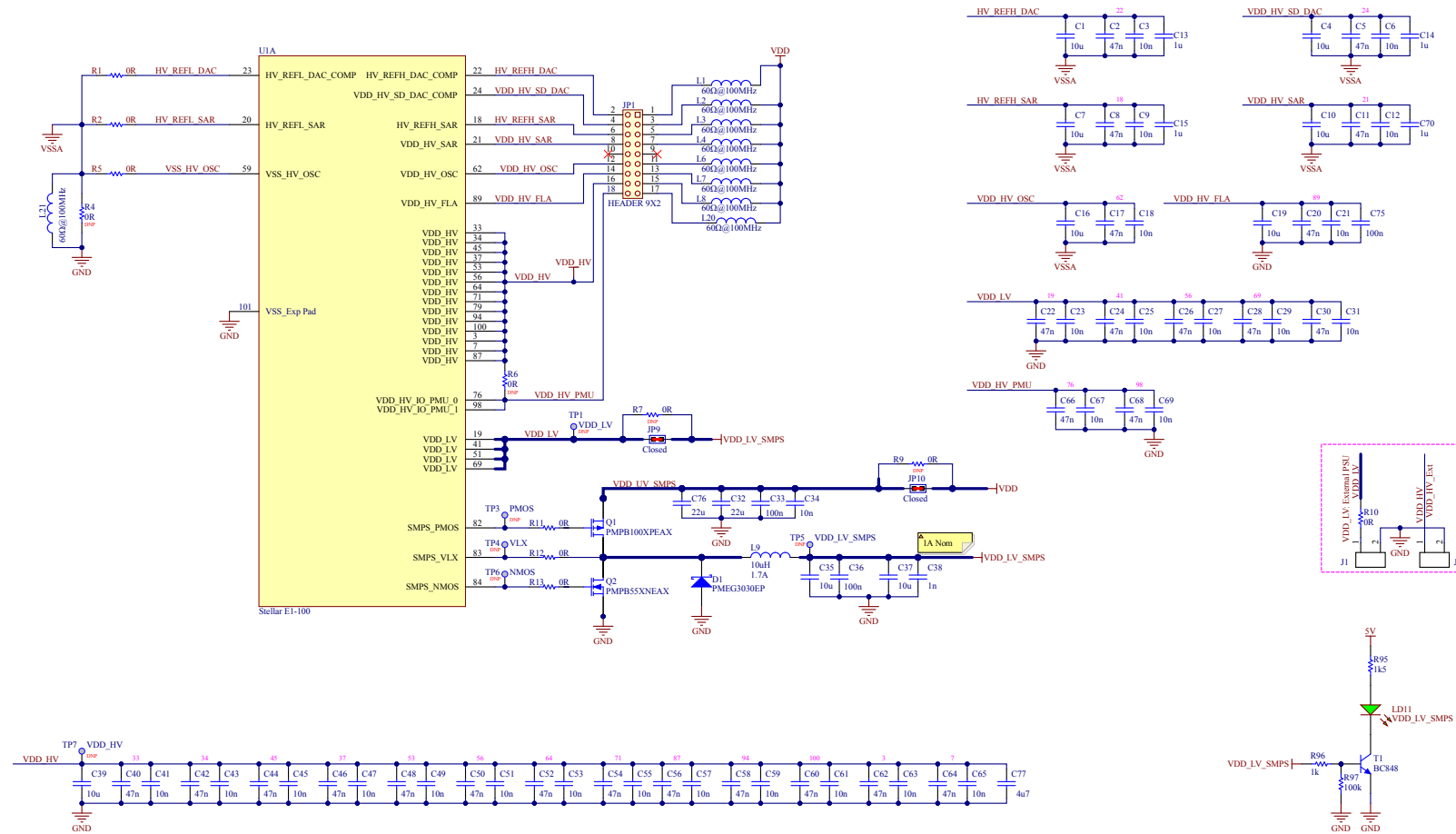
Figure 18. μ C PSU

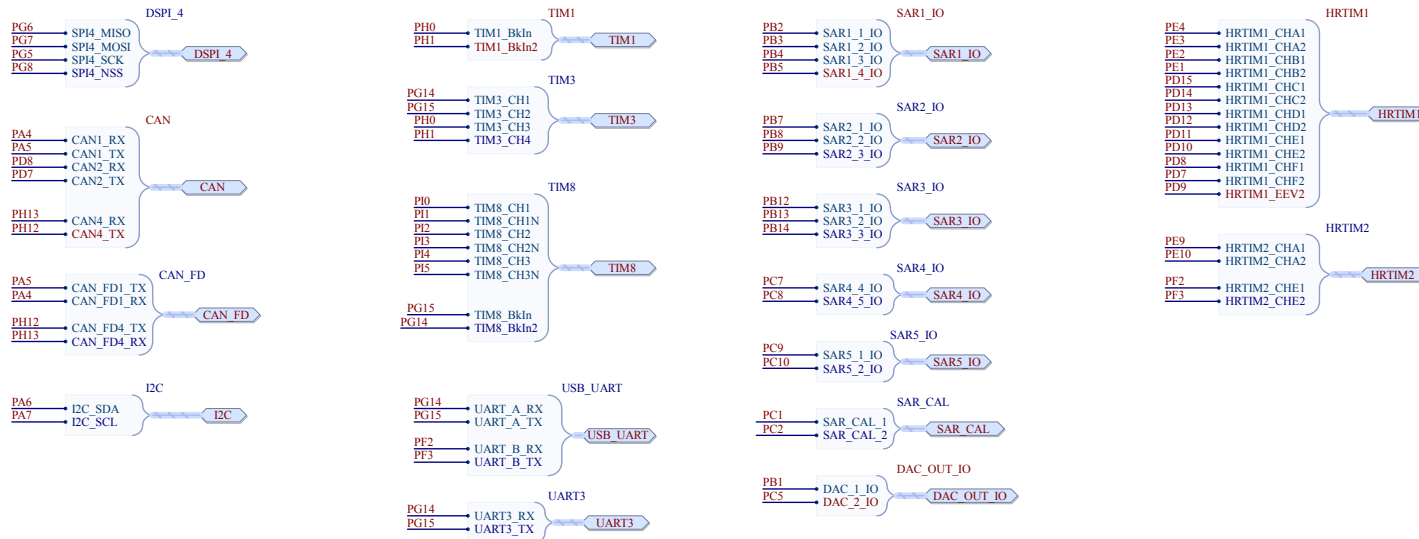
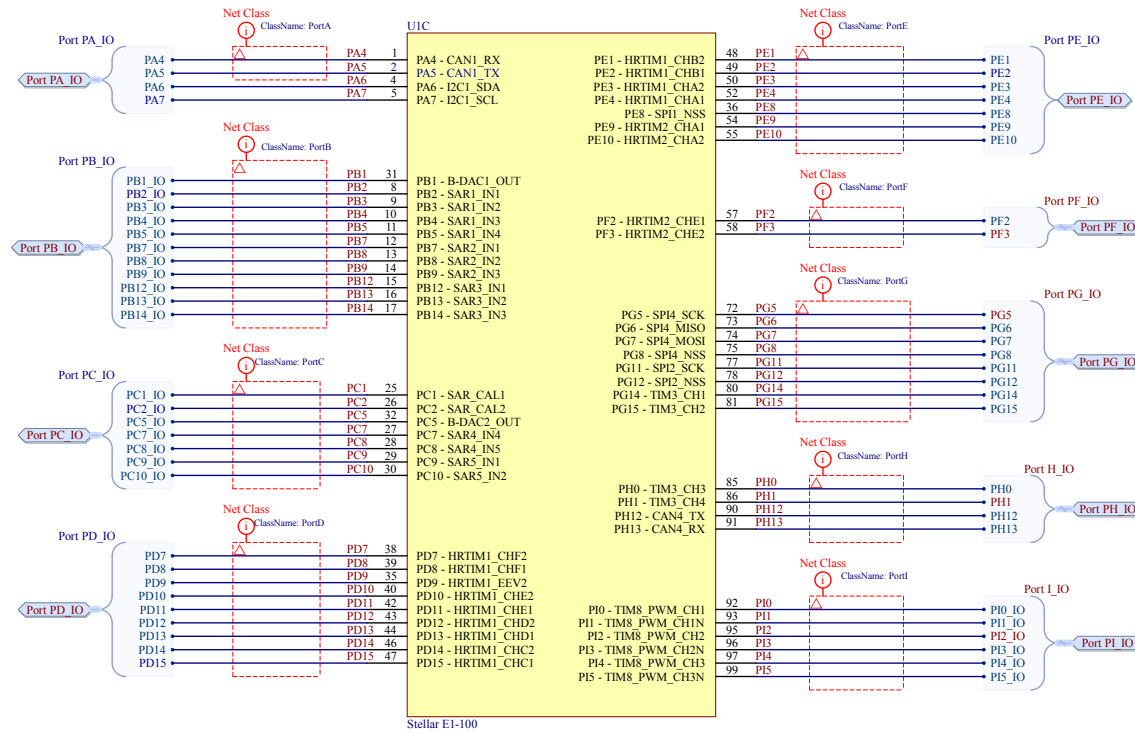
Figure 19. μ C GPIO

Figure 20. Program and debug

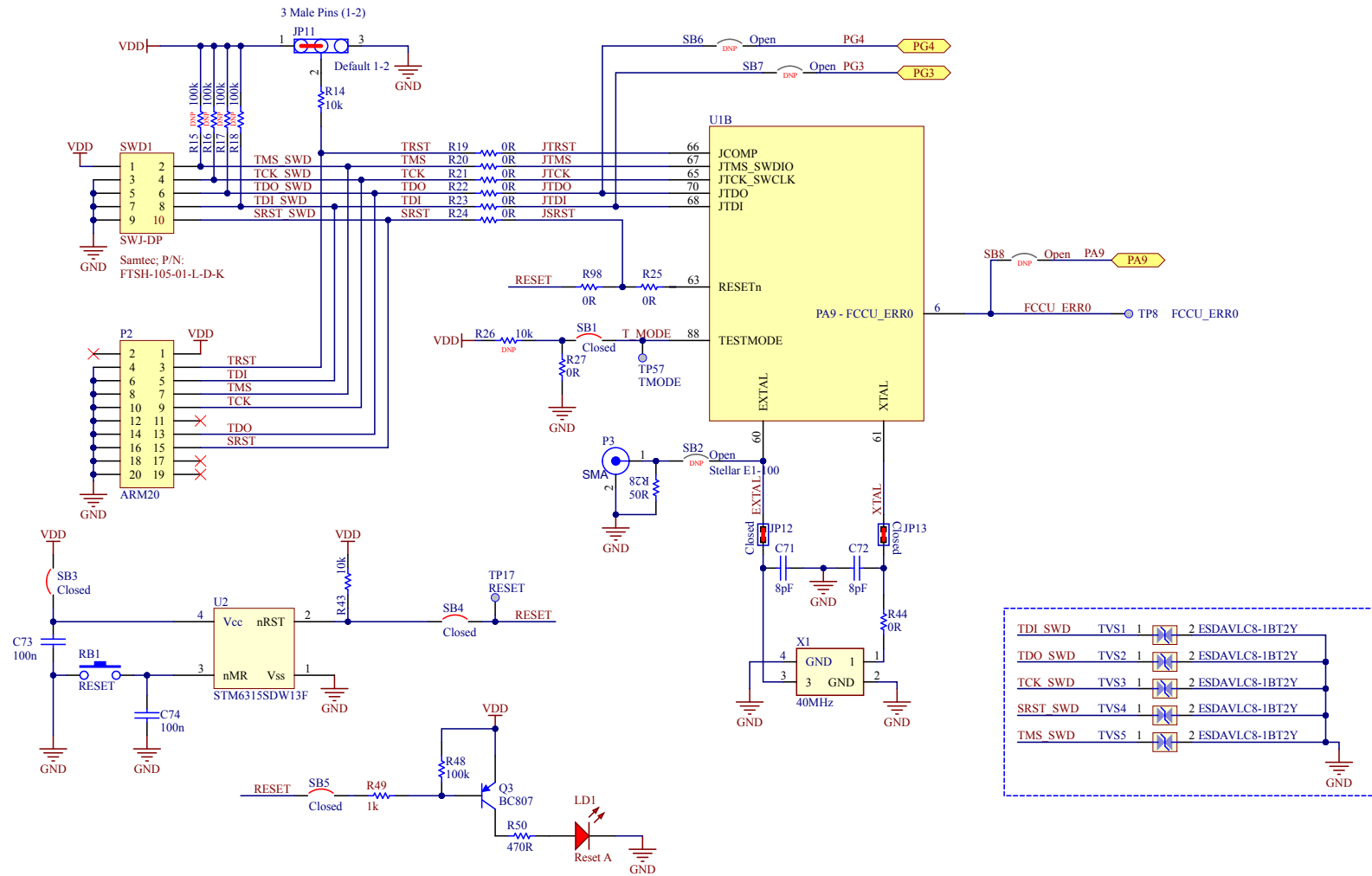


Figure 21. Analog and timers

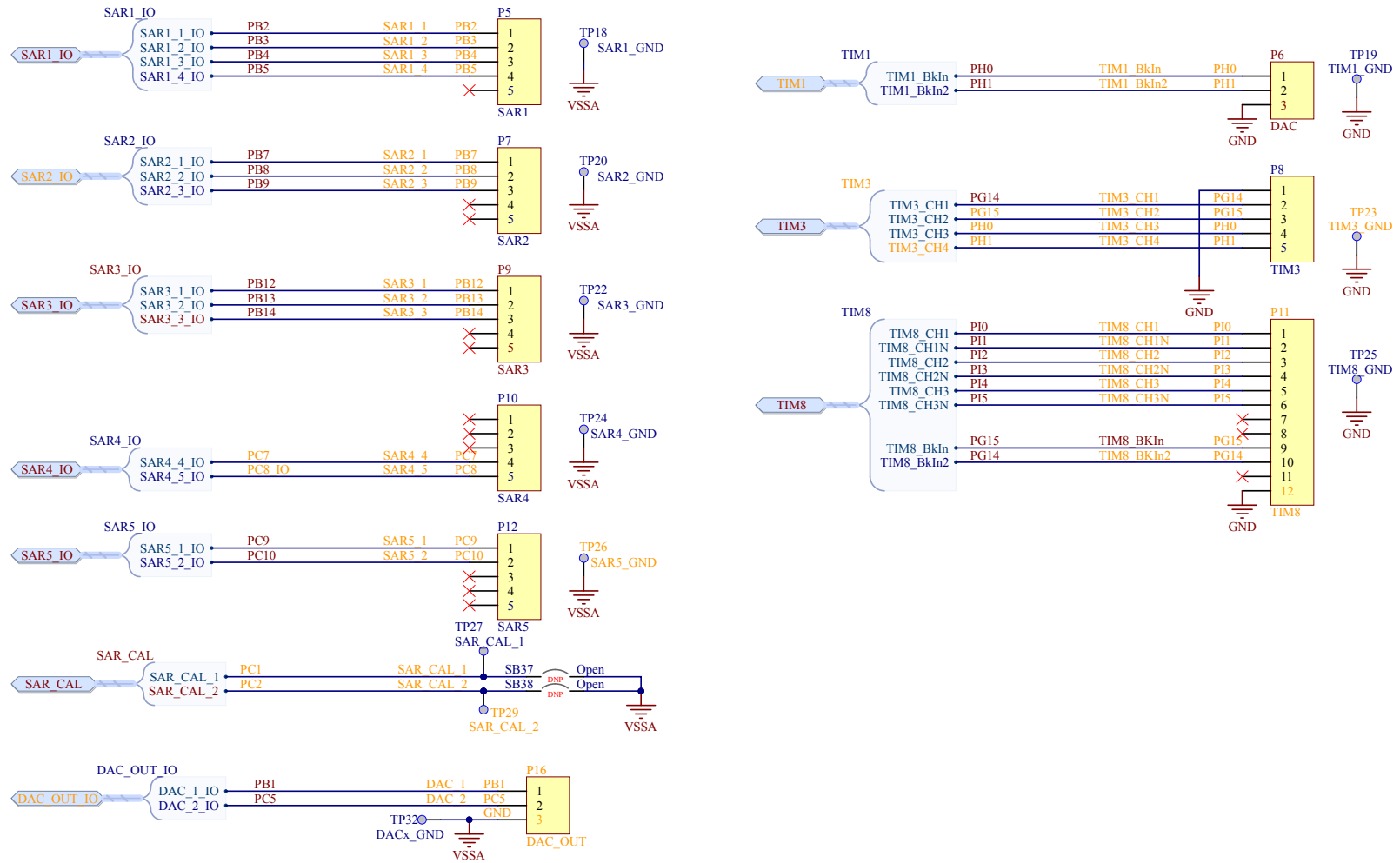


Figure 22. HRTimers and communication

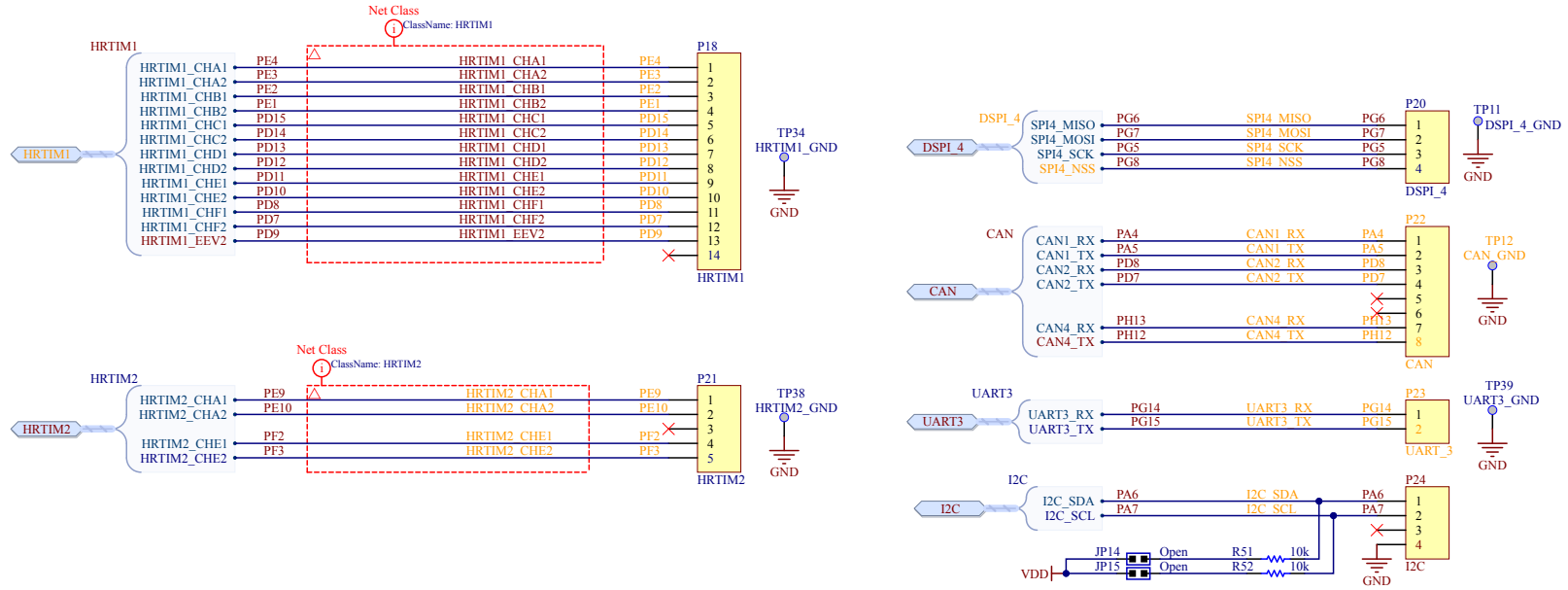


Figure 23. CAN FD

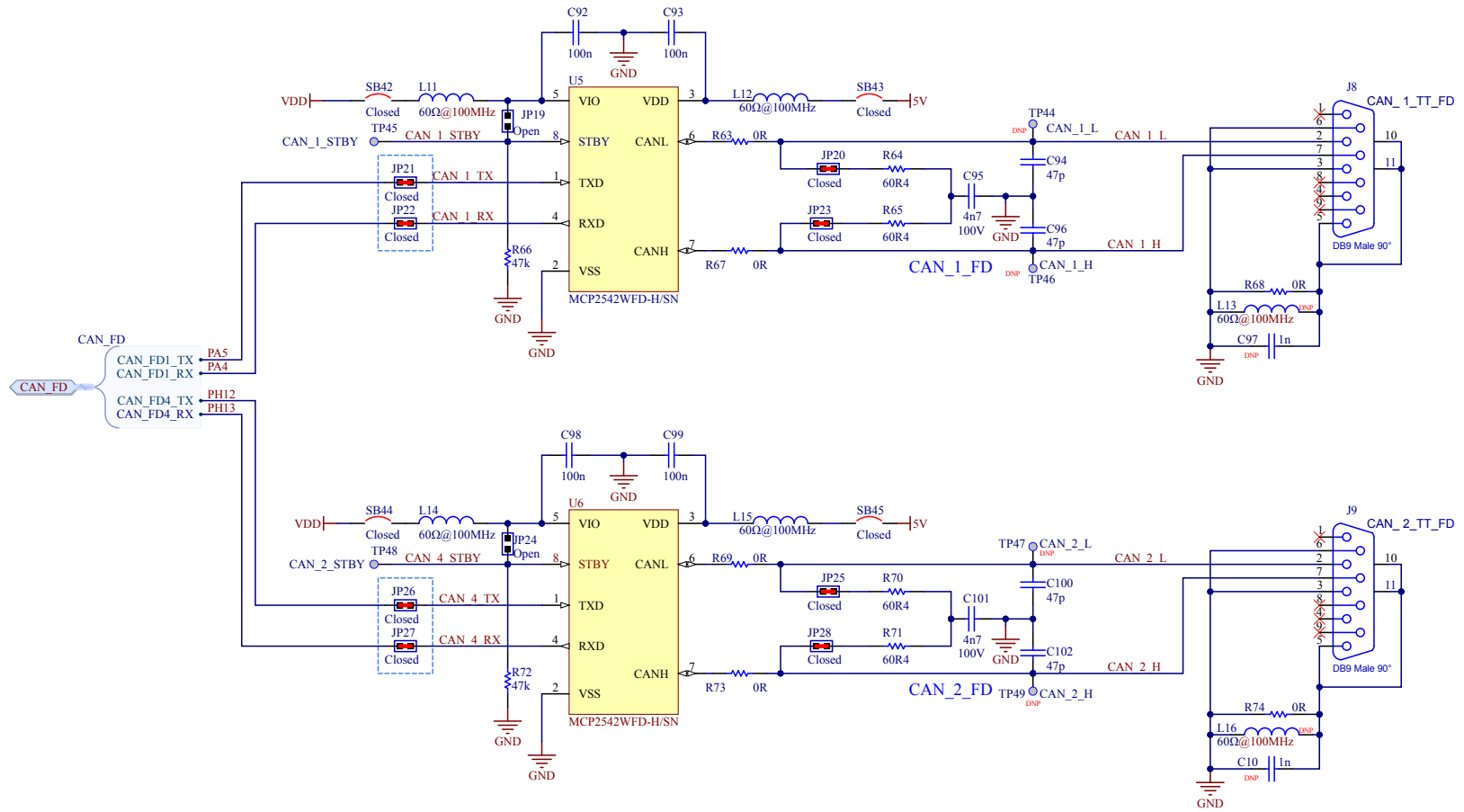


Figure 24. USB to UART

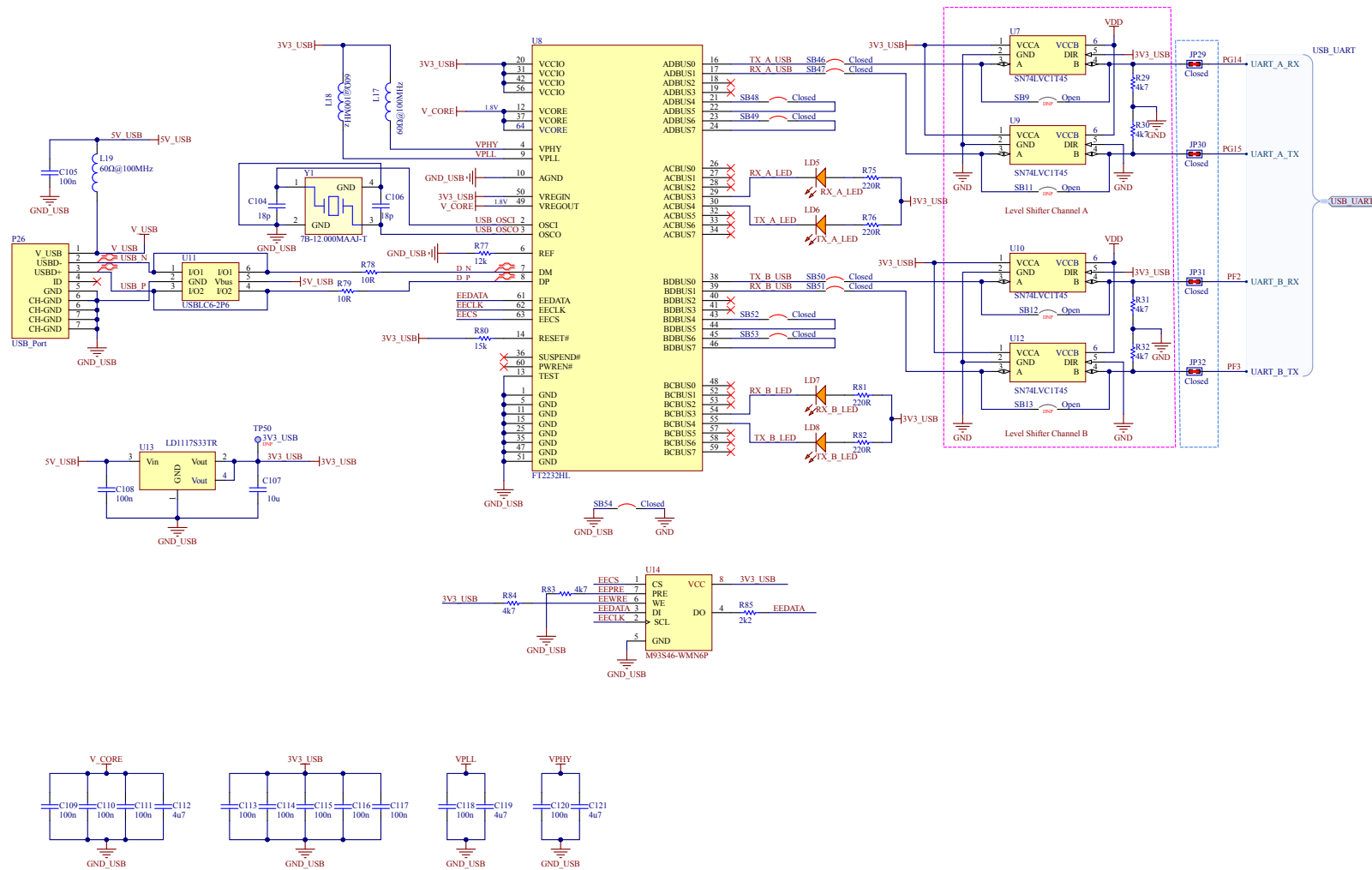
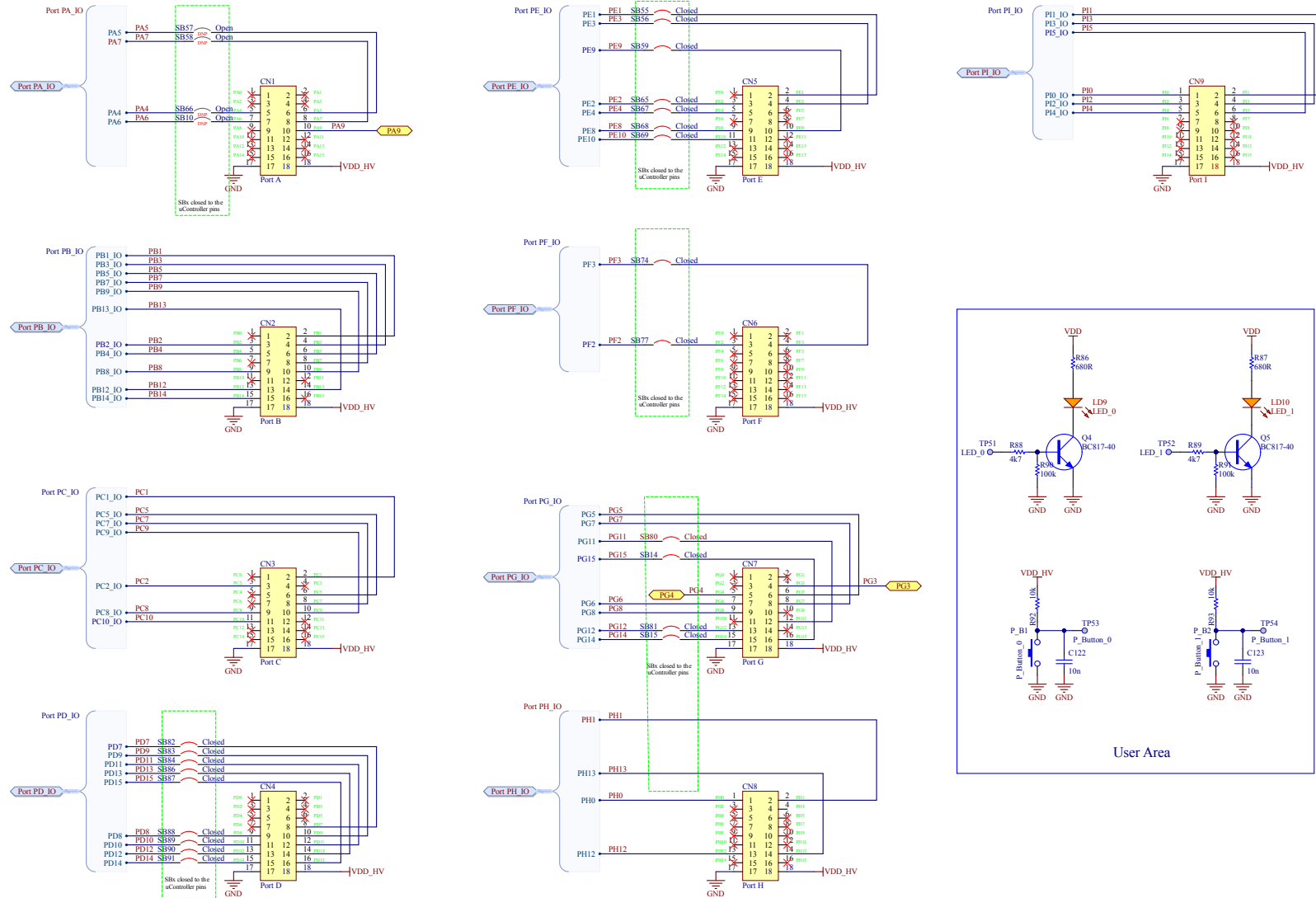


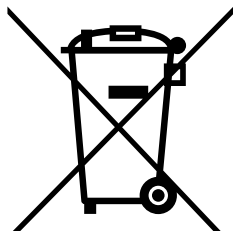
Figure 25. IO connectors



10 Product disposal

Disposal of this product: WEEE (Waste Electrical and Electronic Equipment)

(Applicable in Europe)



This symbol on the product, accessories, or accompanying documents indicates that the product and its electronic accessories must not be disposed of with household waste at the end of their working life.

To prevent possible harm to the environment and human health from uncontrolled waste disposal, separate these items from other types of waste and recycle them responsibly at a designated collection point to promote the sustainable reuse of material resources.

Household users:

Contact the retailer that you purchased the product from or your local authority for details of your nearest designated collection point.

Business users:

Contact your dealer or supplier for further information.

Revision history

Table 38. Document revision history

Date	Revision	Changes
23-Apr-2024	1	Initial release.
22-Jul-2026	2	Updated confidentiality level from "ST restricted" to "Public". Replaced "<i>Section 3: Handling precautions</i>" with Section 3: Safety recommendations and its subsections. Added Section 10: Product disposal. Minor text changes.

Contents

1	Overview	2
1.1	Supported devices	3
2	License agreement	4
3	Safety recommendations	5
3.1	Targeted audience	5
3.2	Handling the board	5
3.3	Delivery recommendations	5
4	Hardware description overview	6
4.1	Hardware features	6
4.2	Hardware dimensions	6
5	Power and system configuration	7
5.1	Power supplies	7
5.2	Power supply connector	7
5.3	Power switch, status LEDs, and fuse	7
5.4	System clock configuration	8
5.5	Reset circuit	10
5.6	TESTMODE configuration	11
6	Hardware description	12
6.1	CAN interface	12
6.2	UART interface	14
6.3	I ² C interface	16
6.4	DSPI interface	17
6.5	Analog and timers connectors	17
6.5.1	SAR1_IO ADC module	18
6.5.2	SAR2_IO ADC module	18
6.5.3	SAR3_IO ADC module	18
6.5.4	SAR4_IO ADC module	18
6.5.5	SAR5_IO ADC module	19
6.5.6	SAR_CAL ADC module	19
6.5.7	DAC_OUT module	19
6.5.8	TIM1 module	19
6.5.9	TIM3 module	19
6.5.10	TIM8 module	20
6.5.11	HRTIM1 module	20
6.5.12	HRTIM2 module	21

6.6	I/O user connectors	21
6.7	Debug connectors	21
6.8	User area	24
6.9	Test points	24
7	Layout overview	26
8	BOM.....	28
9	Schematics.....	49
10	Product disposal	59
	Revision history	60

List of tables

Table 1.	Power configuration jumpers	7
Table 2.	System clock configuration	9
Table 3.	Reset circuit schema	10
Table 4.	TESTMODE configuration schema	11
Table 5.	CAN connectors	12
Table 6.	CAN_0 DB9 connector pinout	12
Table 7.	CAN_1 DB9 connector pinout	12
Table 8.	8x1 header CAN connector pinout	13
Table 9.	CAN configuration jumpers and solder bridges	13
Table 10.	UART interface connectors	14
Table 11.	UART interface pin configuration	14
Table 12.	UART interface LEDs	15
Table 13.	UART3 1x2 header connector (P23) pinout	16
Table 14.	I ² C connector and jumpers	16
Table 15.	I ² C header 1x4 pins connector pinout	16
Table 16.	DSPI connectors	17
Table 17.	DSP_4 connector (P20) pin mapping	17
Table 18.	Analog and timers connectors	17
Table 19.	SAR1_IO connector pin mapping (P5)	18
Table 20.	SAR2_IO connector (P7) pin mapping	18
Table 21.	SAR3_IO connector (P9) pin mapping	18
Table 22.	SAR4_IO connector (P10) pin mapping	18
Table 23.	SAR5_IO connector (P12) pin mapping	19
Table 24.	SAR_CAL ADC connector pin mapping	19
Table 25.	DAC_OUT connector (P16) pin mapping	19
Table 26.	TIM1 connector (P6) pin mapping	19
Table 27.	TIM3 connector (P8) pin mapping	19
Table 28.	TIM8 connector (P11) pin mapping	20
Table 29.	HRTIM1 connector (P18) pin mapping	20
Table 30.	HRTIM2 connector (P21) pin mapping	21
Table 31.	I/O user connectors	21
Table 32.	Debug connectors	21
Table 33.	SWD1 Main DAP header 2x5 pins connector pinout	22
Table 34.	P2 JTAG header 2x10 pins connector pinout	22
Table 35.	JTAG/SWD configuration	23
Table 36.	Test points	24
Table 37.	Bill of material	28
Table 38.	Document revision history	60

List of figures

Figure 1.	SR5E1-EVBE3000P rev. B	1
Figure 2.	SR5E1-EVBE3000P rev. B–Top overview	2
Figure 3.	SR5E1-EVBE3000P rev. B–Bottom overview	3
Figure 4.	2.1 mm power connector	7
Figure 5.	40 MHz local crystal oscillator schema	8
Figure 6.	External clock schema	9
Figure 7.	Reset circuit schema	10
Figure 8.	TESTMODE configuration schema	11
Figure 9.	UART 3 schema	15
Figure 10.	I ² C schema	16
Figure 11.	DSPI header connector schema	17
Figure 12.	JTAG/SWD debug ports schema	22
Figure 13.	User area schema	24
Figure 14.	SR5E1-EVBE3000P rev. B–Top overview	26
Figure 15.	SR5E1-EVBE3000P rev. B–Bottom overview	27
Figure 16.	Main	49
Figure 17.	Power supply	50
Figure 18.	μC PSU	51
Figure 19.	μC GPIO	52
Figure 20.	Program and debug	53
Figure 21.	Analog and timers	54
Figure 22.	HRTimers and communication	55
Figure 23.	CAN FD	56
Figure 24.	USB to UART	57
Figure 25.	IO connectors	58

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