

A

A

B

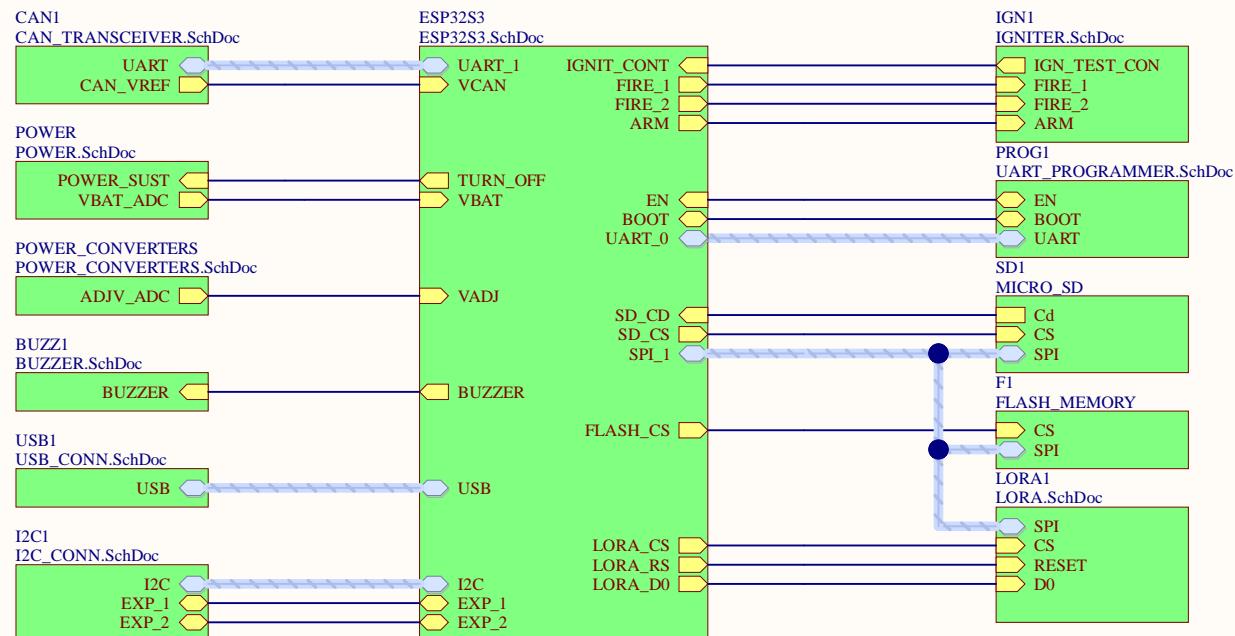
B

C

C

D

D



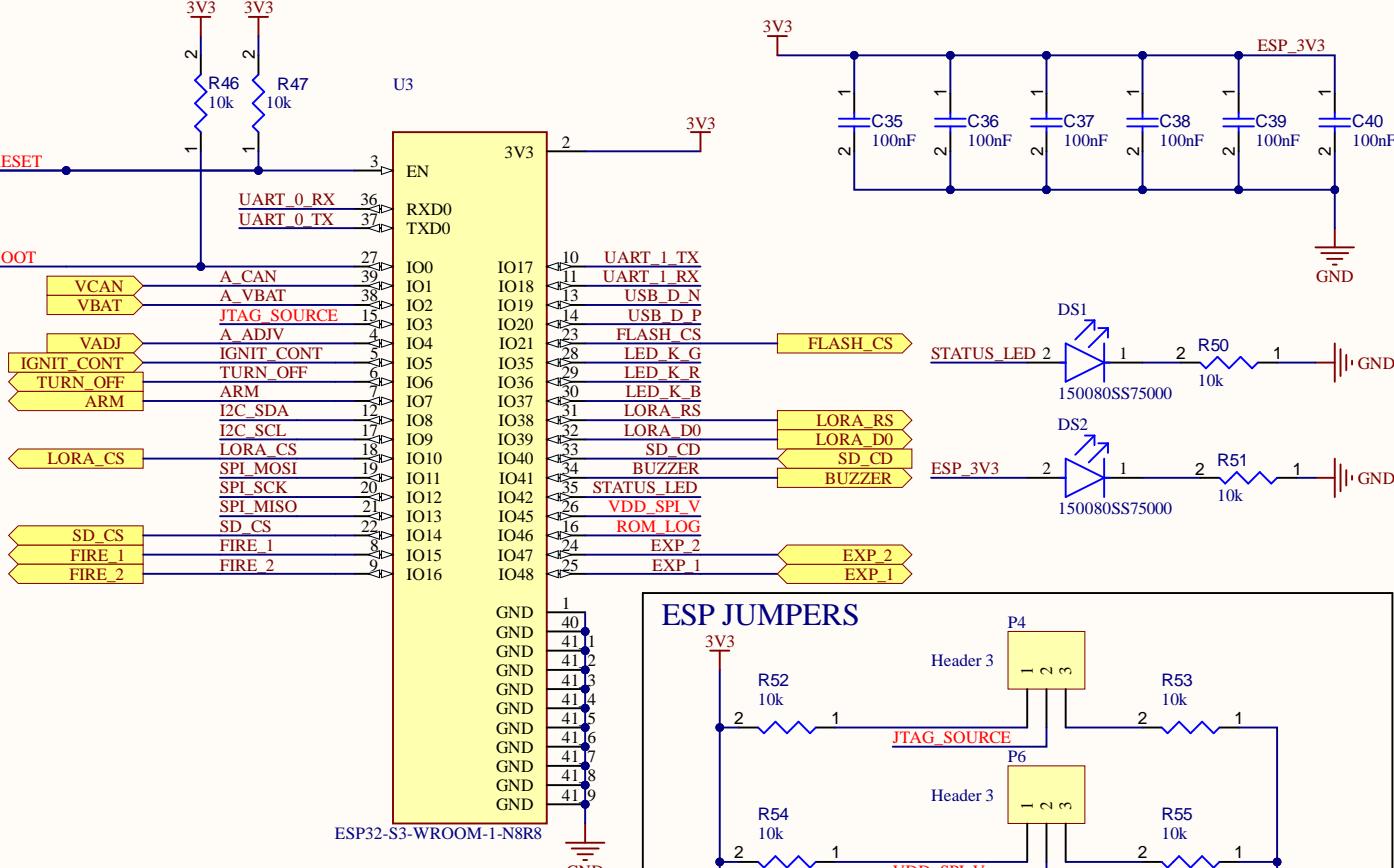
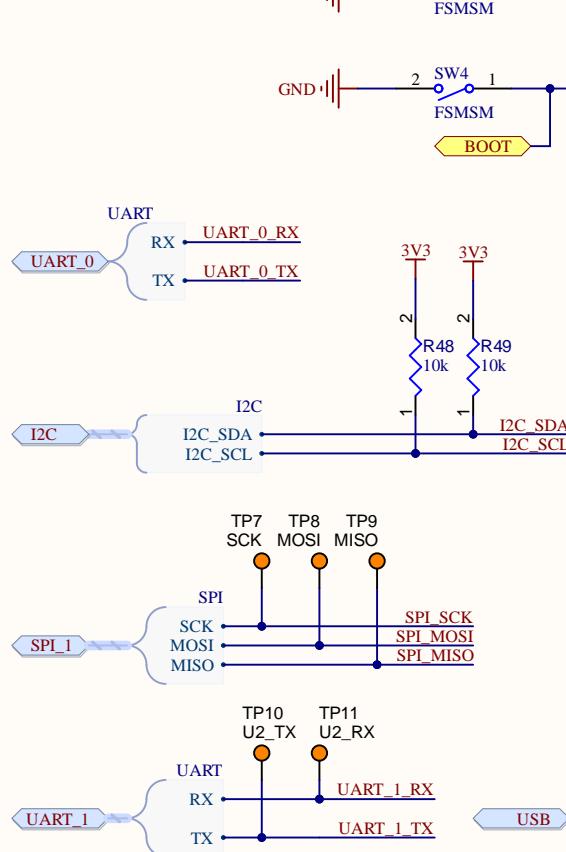
Author: KRZYSZTOF GLIWINSKI  
Title: ROSALIA MAINBOARD rev.2

Sheet number: 1 / 13  
Modified: 18/09/2023

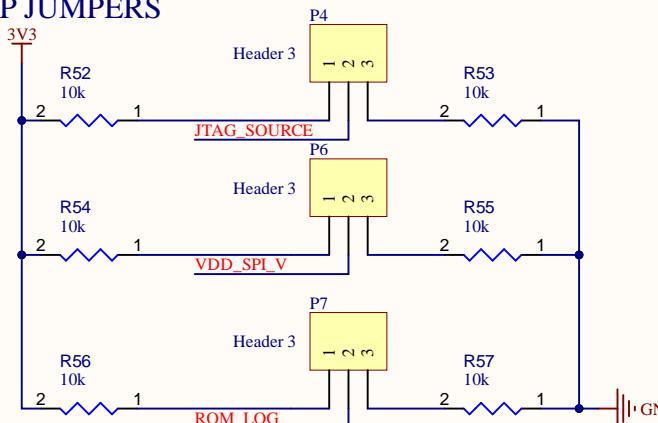
Description: ROSALIA MAINBOARD rev. 2 main schematic. Contains all sub-modules of this system

Reviewers: ANNA JAROSZYNSKA

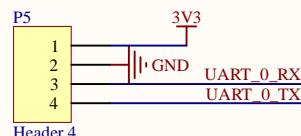
## ESP32S3 Configuration



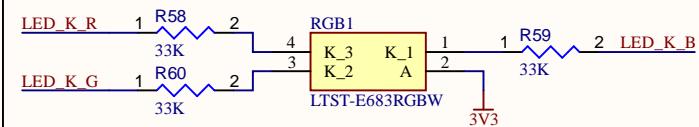
## ESP JUMPERS



## ESP PROG HDR



## RGB LED



Author: KRZYSZTOF GLIWINSKI  
Title: ROSALIA MAINBOARD rev.2

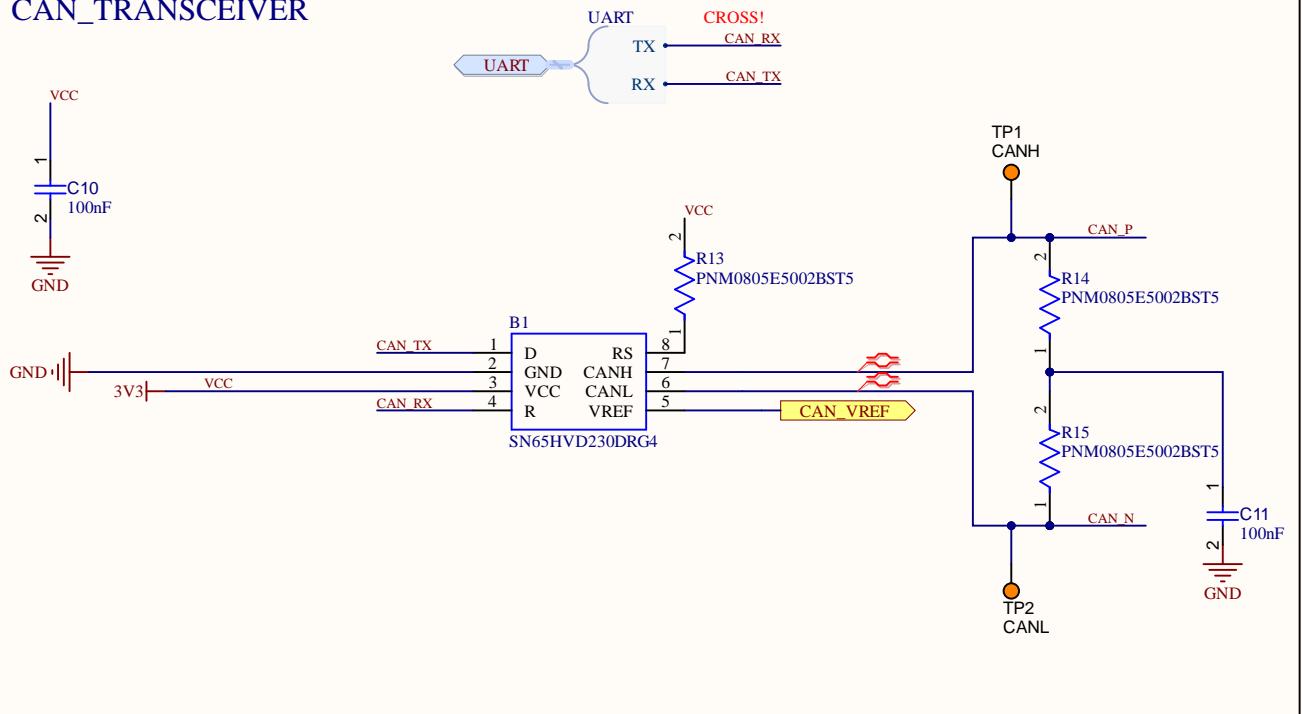
Sheet number: 2 / 13  
Modified: 18/09/2023

Description: ESP32S3 schematic. Contains all necessary components for the MCUs proper operation, pinout configuration, LEDs, and jumpers for low-level settings  
Reviewers: ANNA JAROSZYNSKA

A

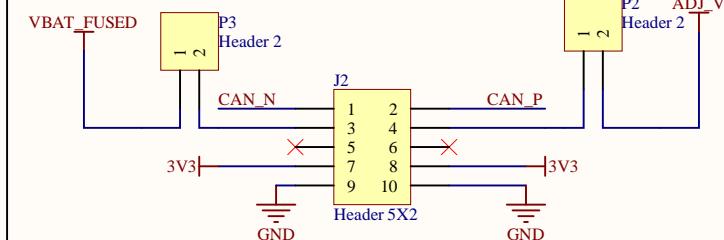
10

## CAN\_TRANSCEIVER



1

## CAN CONNECTOR



c

10



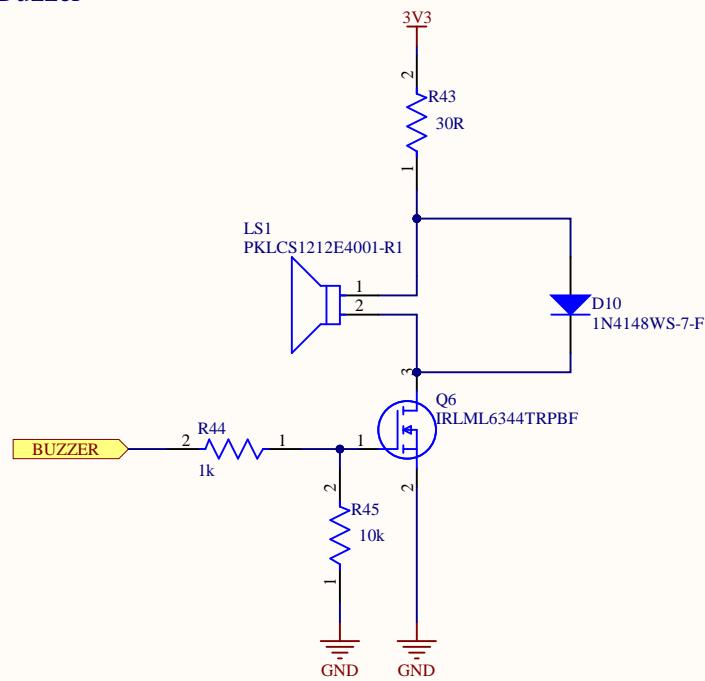
**Author:** KRZYSZTOF GLIWINSKI  
**Title:** ROSALIA MAINBOARD rev. 2

Sheet number: 3 / 13  
Modified: 18/09/2023

**Description:** CAN protocol transceiver based on SN65VHD230IC. Contains all necessary components for the ICs proper operation, as well as a connector to other devices  
**Reviewers:** ANNA IAROSZYNSKA

A

A

**Buzzer**

B

B

C

C

D

D



*Author:* KRZYSZTOF GLIWINSKI  
*Title:* ROSALIA MAINBOARD rev.2

*Sheet number:* 4 / 13  
*Modified:* 18/09/2023

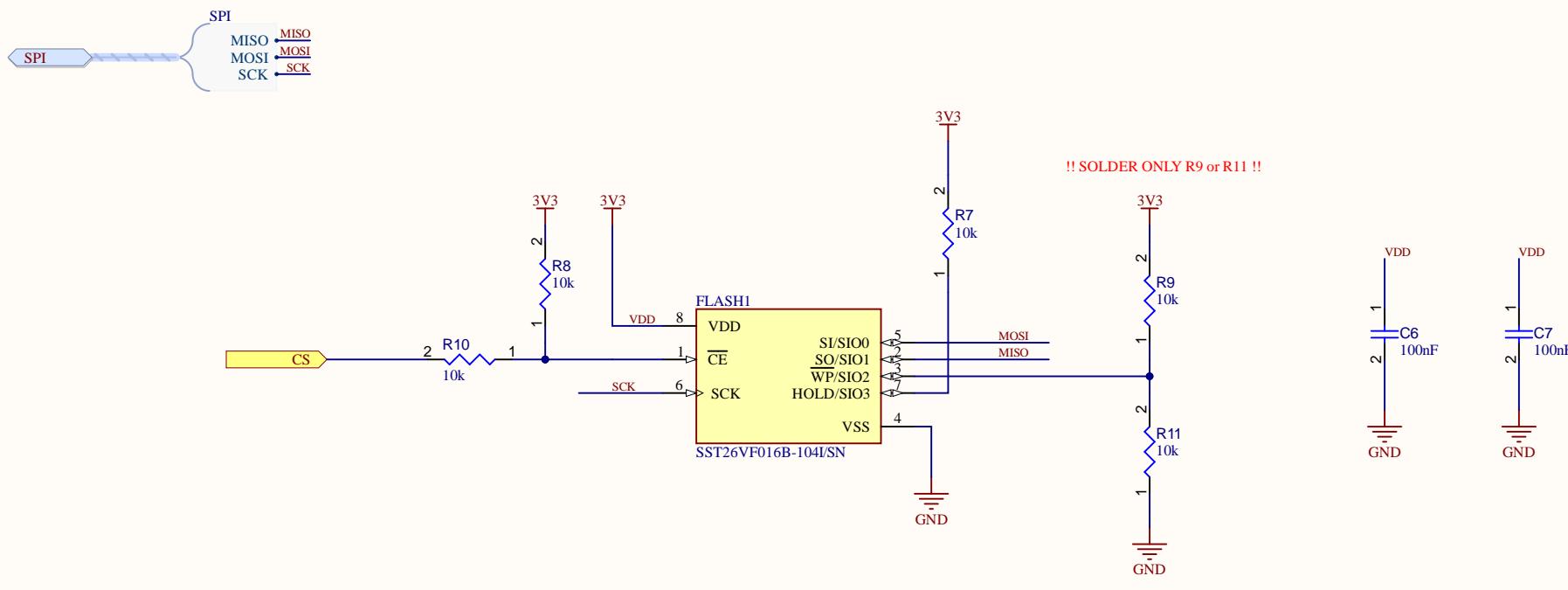
*Description:* ROSALIA MAINBOARD buzzer. Design of piezoelectric buzzer electrical connections.

*Reviewers:* ANNA JAROSZYNSKA

A

A

## FLASH\_MEMORY



B

B

C

C

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D



Author: KRZYSZTOF GLIWINSKI  
Title: ROSALIA MAINBOARD rev.2

Sheet number: 5 / 13  
Modified: 18/09/2023

Description: External FLASH memory based on SST26V 16 byte flash memory IC. Contains all passive components for proper operation of the IC.  
Reviewers: ANNA JAROSZYNSKA

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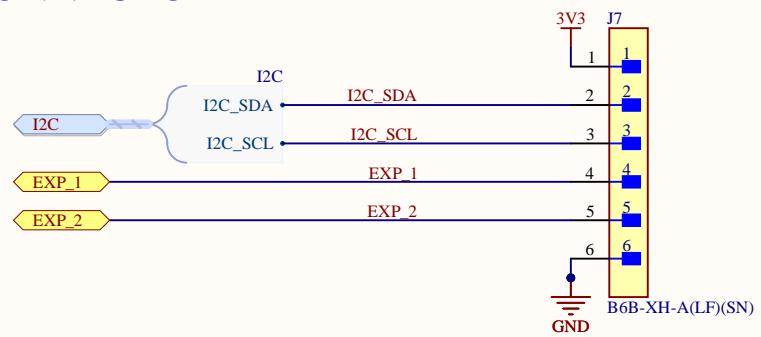
C

C

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D

## I2C\_CONNECTOR



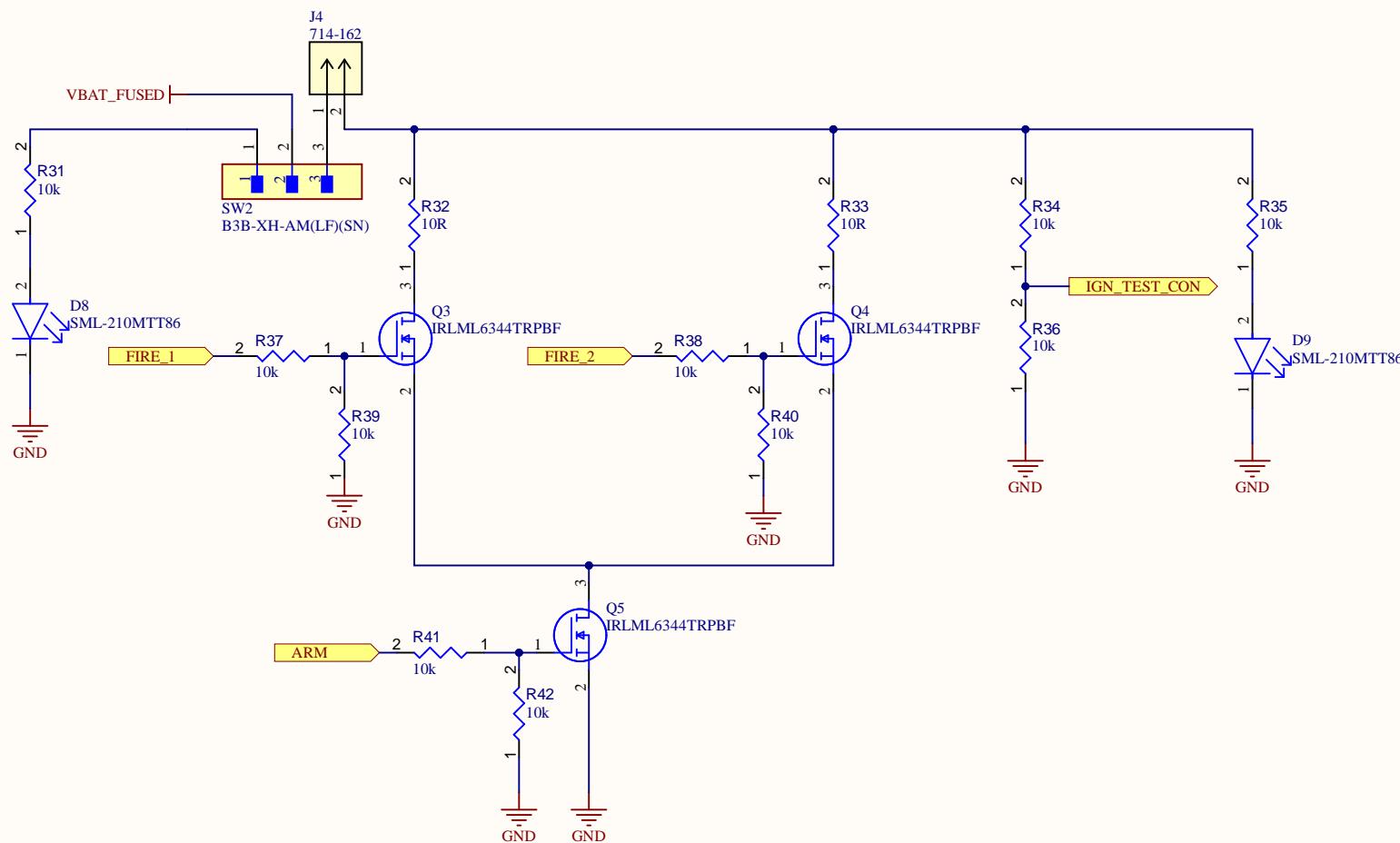
**Author:** KRZYSZTOF GLIWINSKI  
**Title:** ROSALIA MAINBOARD rev.2

**Sheet number:** 6 / 13  
**Modified:** 18/09/2023

**Description:** I2C connector to another PCB with I2C display and two buttons

**Reviewers:** ANNA JAROSZYNSKA

## IGNITER CIRCUIT



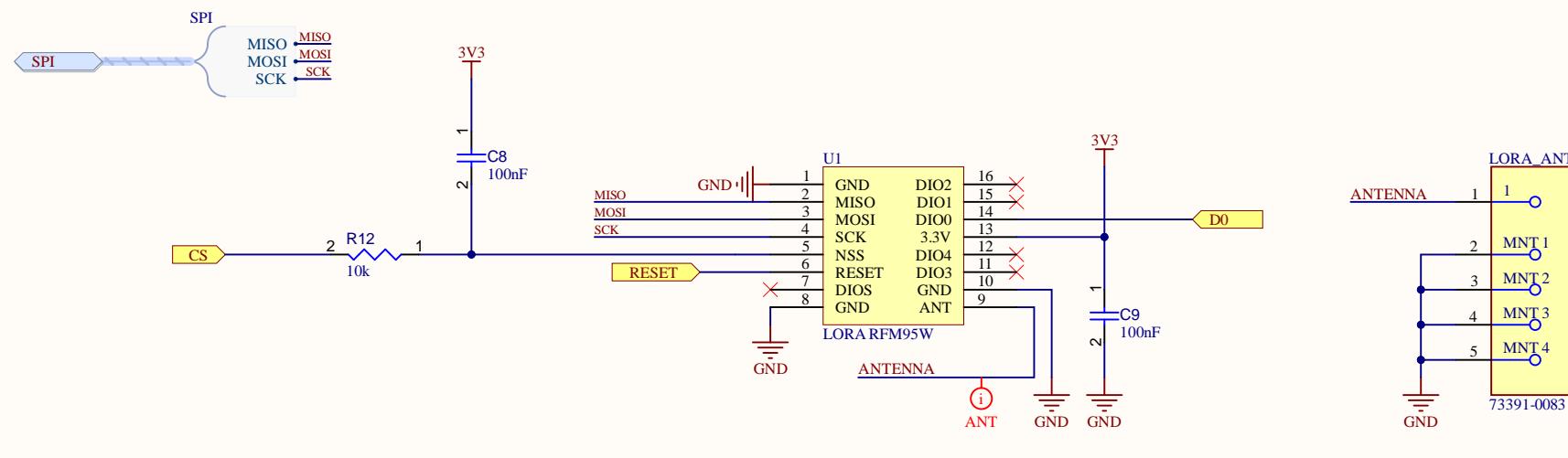
**Author:** KRZYSZTOF GLIWINSKI  
**Title:** ROSALIA MAINBOARD rev.2

**Sheet number:** 7 / 13  
**Modified:** 18/09/2023

**Description:** Igniter circuit with two ignition paths, software arm (through Q5 mosfet) and hardware ARM (through SW2 connector and off-board switch). Designed to be used with e-matches  
**Reviewers:** ANNA JAROSZYNSKA

A

## LORA\_MODULE



**Author:** KRZYSZTOF GLIWINSKI  
**Title:** ROSALIA MAINBOARD rev.2

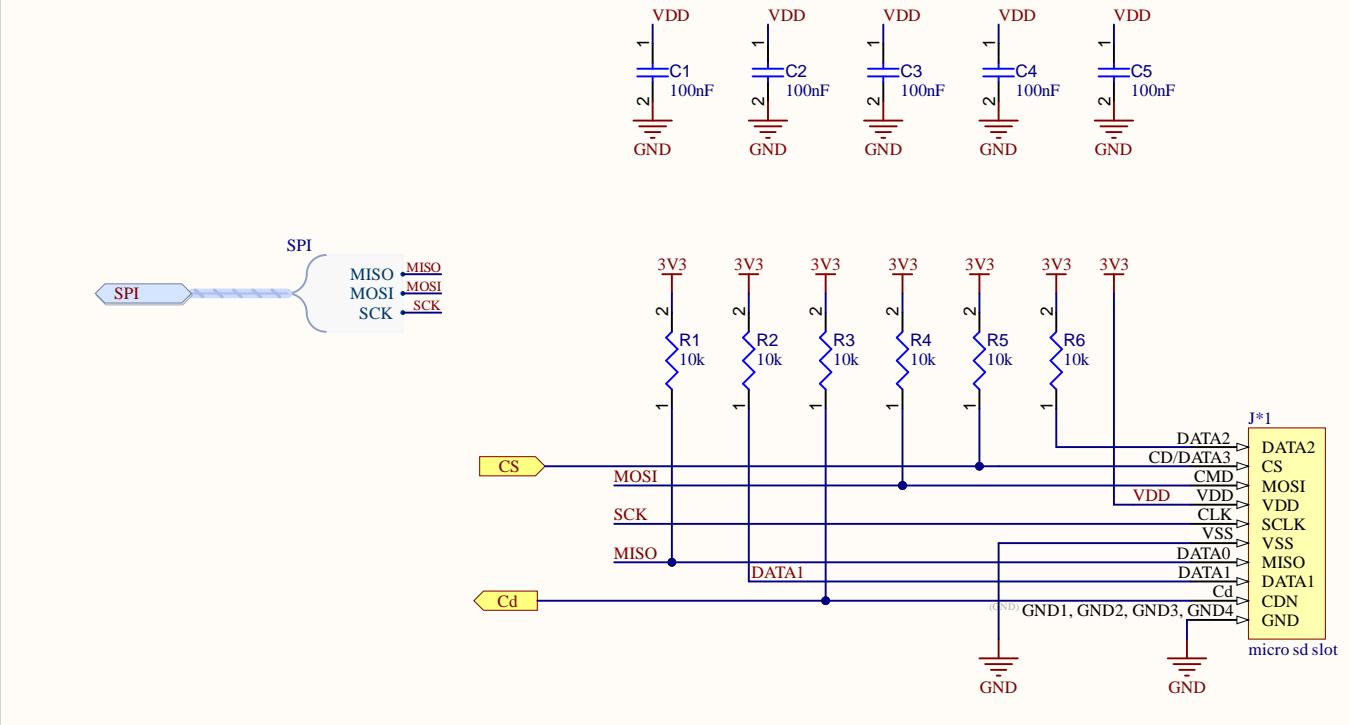
**Sheet number:** 8 / 13  
**Modified:** 19/09/2023

**Description:** LoRa module RFM95w and SMA connector for 868 MHz antenna. Contains all passive components, as well as connections from reset and D0 pins to the MCU  
**Reviewers:** ANNA JAROSZYNSKA

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A

## SD\_CARD



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B

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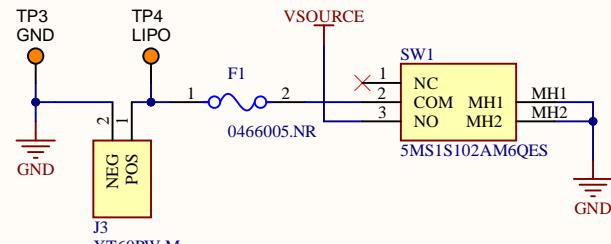
Author: KRZYSZTOF GLIWINSKI  
Title: ROSALIA MAINBOARD rev.2

Sheet number: 9 / 13  
Modified: 19/09/2023

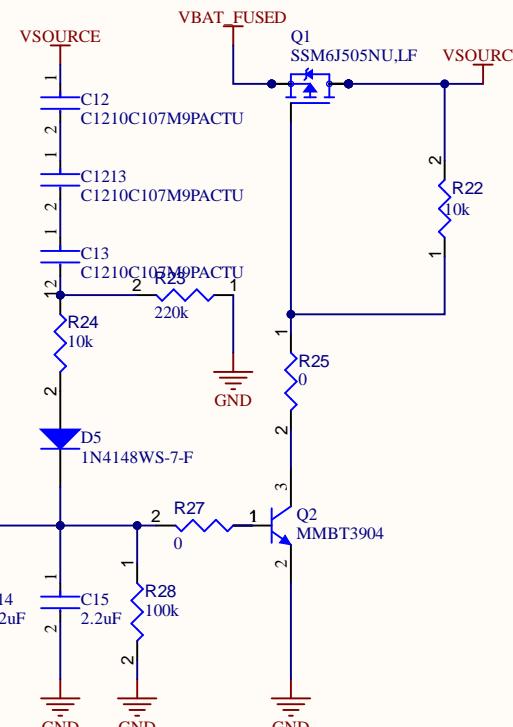
Description: Micro SD card slot with all necessary passive components. Designed for SPI connection to the MCU  
Reviewers: ANNA JAROSZYNSKA

## LIP0 CONNECTOR

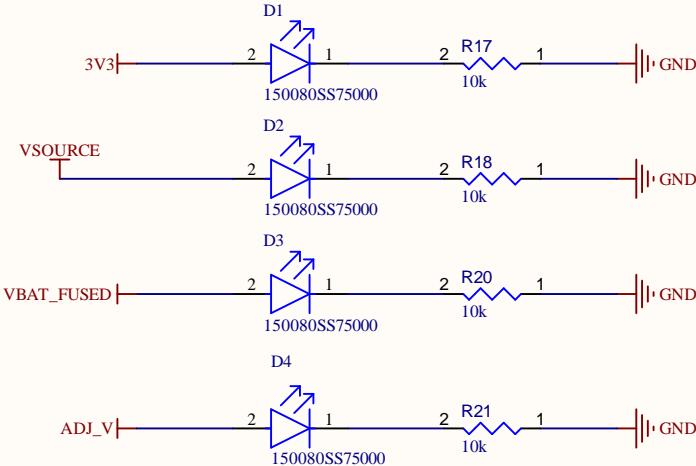
Up to 4S LIPO



## POWER SUSTAIN



## POWER STATUS LEDS



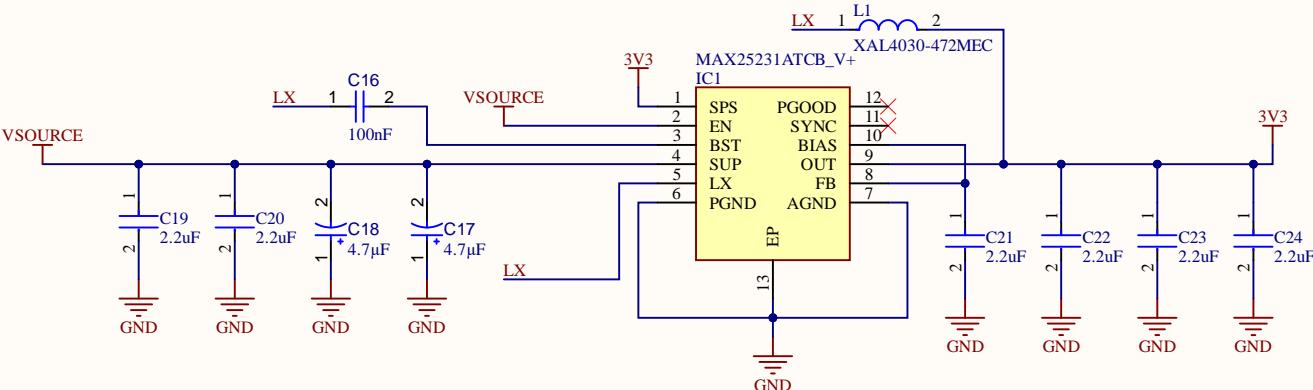
Author: KRZYSZTOF GLIWINSKI  
Title: ROSALIA MAINBOARD rev.2

Sheet number: 10/ 13  
Modified: 19/09/2023

Description: Power schematic. Contains a XT-60 connector for a 4-cell Li-Po, a convenient switch, 4 power status LEDs and a power sustain circuit connected to the ESP32S3  
Reviewers: ANNA JAROSZYNSKA

## 3V3 BUCK CONVERTER

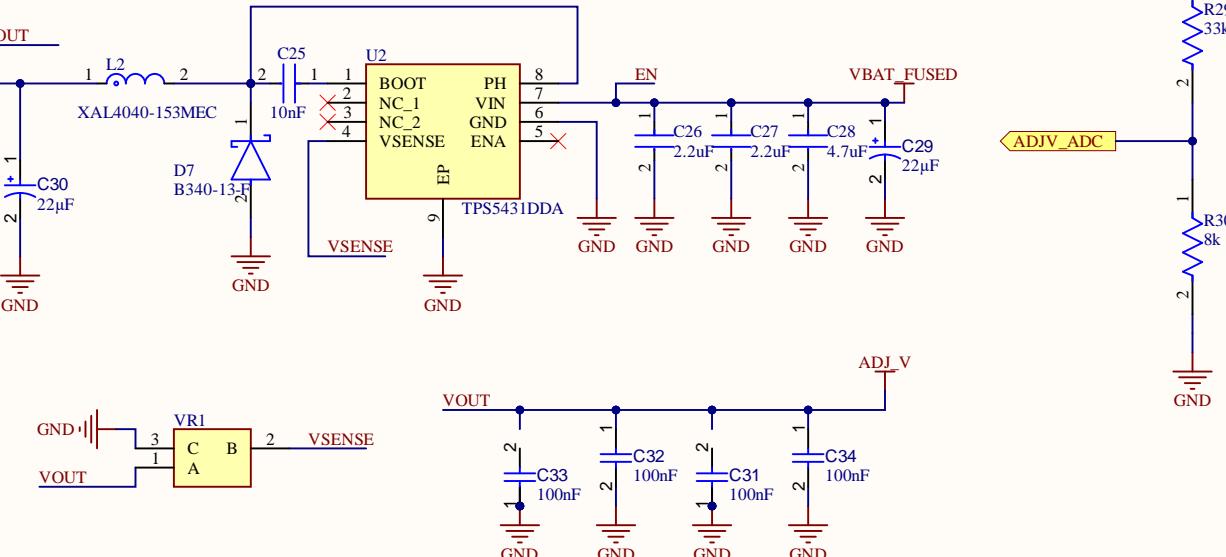
1.2A max



## FOR CPUs

## ADJUSTABLE BUCK CONVERTER

3A max



## FOR DEVICES

Author: KRZYSZTOF GLIWINSKI  
Title: ROSALIA MAINBOARD rev.2

Sheet number: 11 / 13  
Modified: 19/09/2023



Description: Two step-down DC/DC converters: the MAX25231ATCB\_V+ for 3V3 power for logic units, and the TPS5431DDA for adjustable voltage  
Reviewers: ANNA JAROSZYNSKA

A

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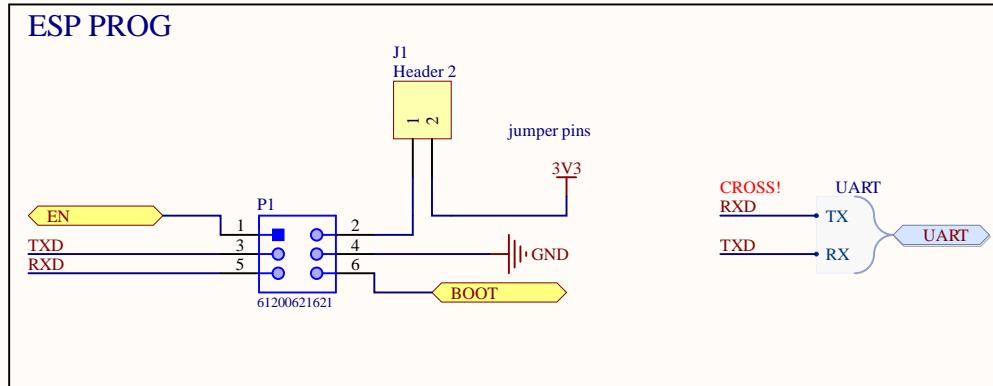
B

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C

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D



*Author:* KRZYSZTOF GLIWINSKI  
*Title:* ROSALIA MAINBOARD rev.2

*Sheet number:* 12/ 13  
*Modified:* 19/09/2023

*Description:* UART connector for programming. Designed specifically to work with the ESP-PROG from Espressif  
*Reviewers:* ANNA JAROSZYNSKA

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B

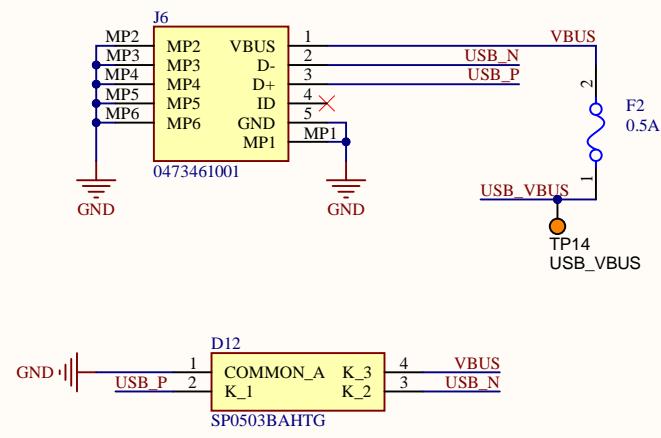
C

C

D

D

## USB\_CONNECTOR



**Author:** KRZYSZTOF GLIWINSKI  
**Title:** ROSALIA MAINBOARD rev.2

**Sheet number:** 13/ 13  
**Modified:** 19/09/2023

**Description:** Micro USB connector with USB connected directly to the ESP32S3.  
NOTE: does not provide power to the board  
**Reviewers:** ANNA JAROSZYNSKA

