

A

A

B

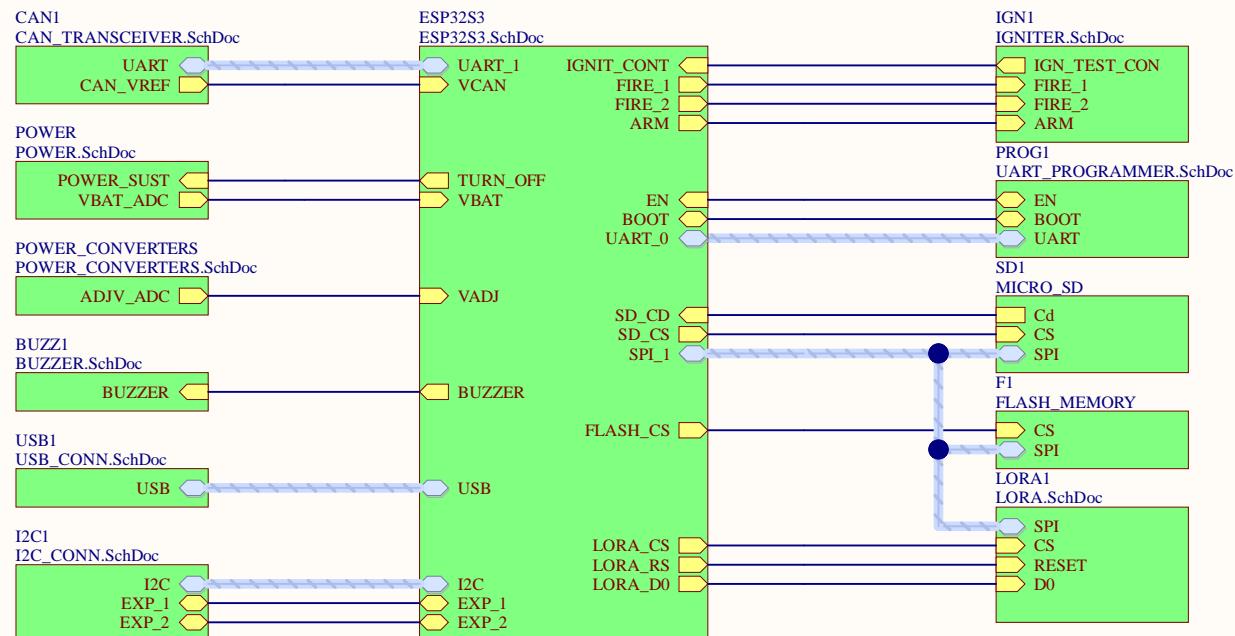
B

C

C

D

D



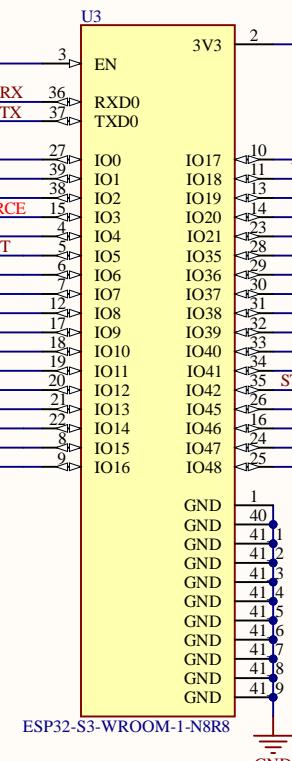
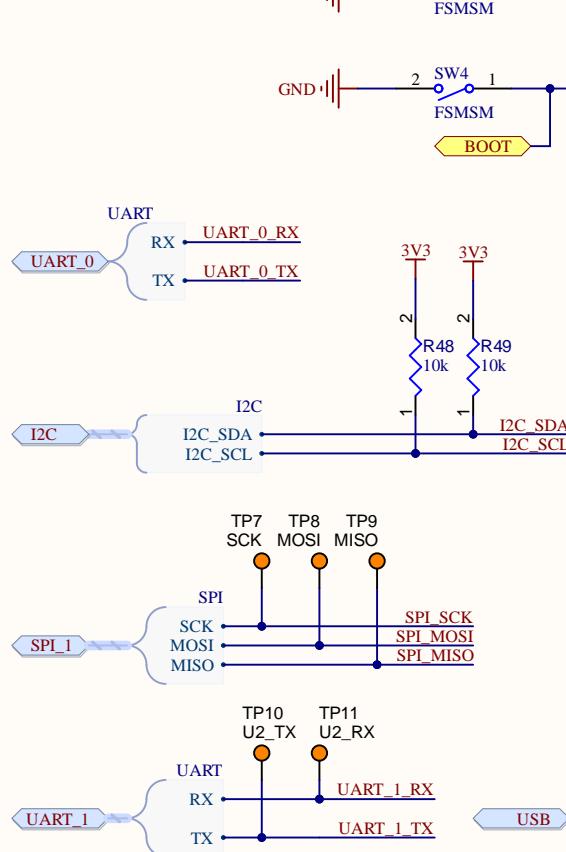
Author: KRZYSZTOF GLIWINSKI
Title: ROSALIA MAINBOARD rev.2

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

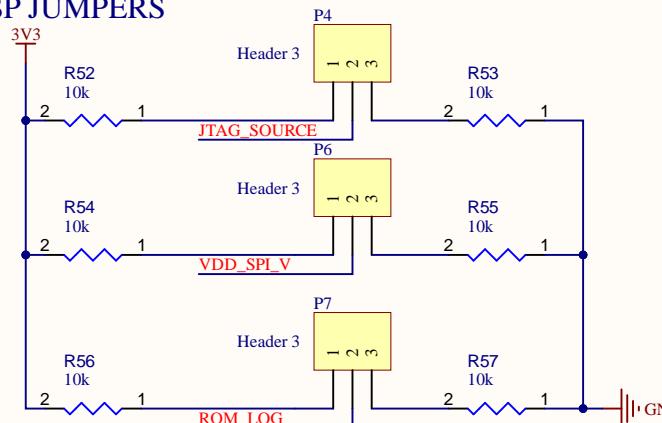
Description: ROSALIA MAINBOARD rev. 2 main schematic. Contains all sub-modules of this system

Reviewers: ANNA JAROSZYNSKA

ESP32S3 Configuration



ESP JUMPERS



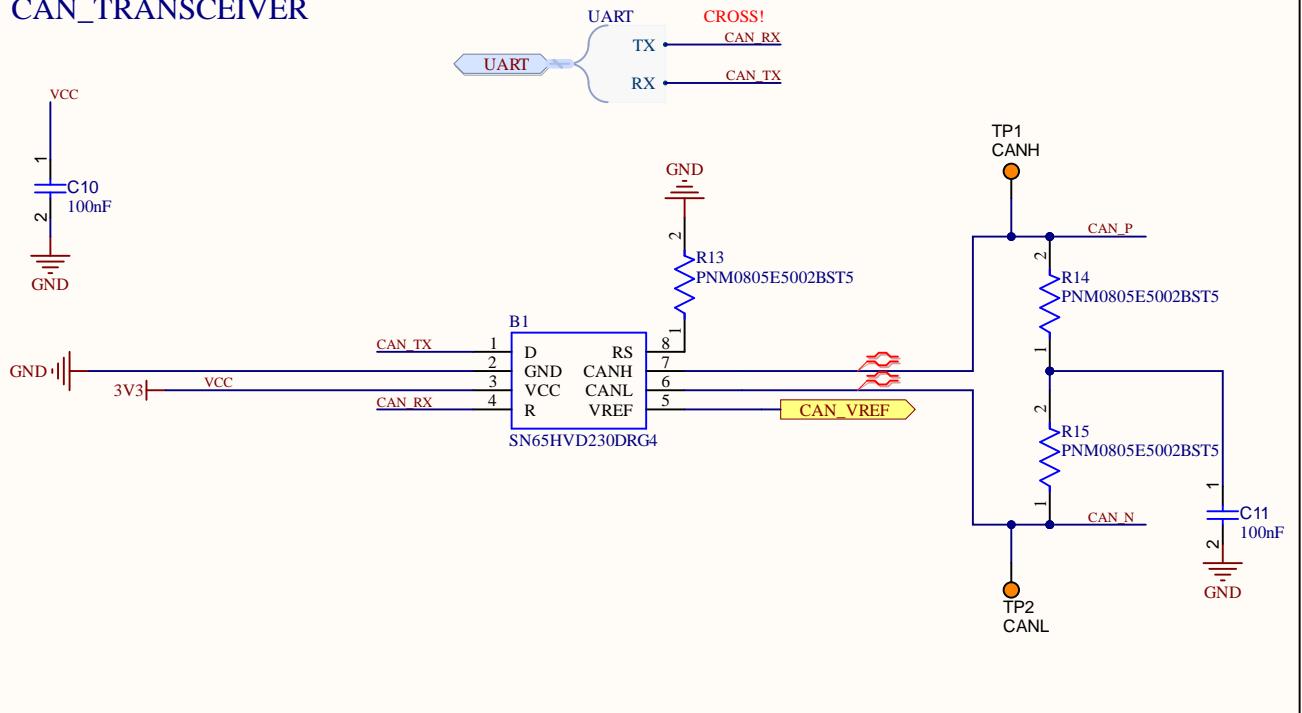
Author: KRZYSZTOF GLIWINSKI
Title: ROSALIA MAINBOARD rev.2

Sheet number: 2 / 13
Modified: 27/09/2023

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

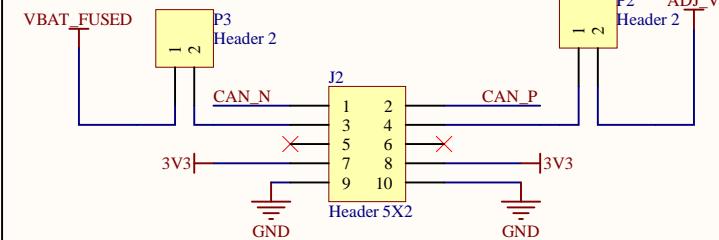
A

A

CAN_TRANSCEIVER

B

B

CAN CONNECTOR

C

C



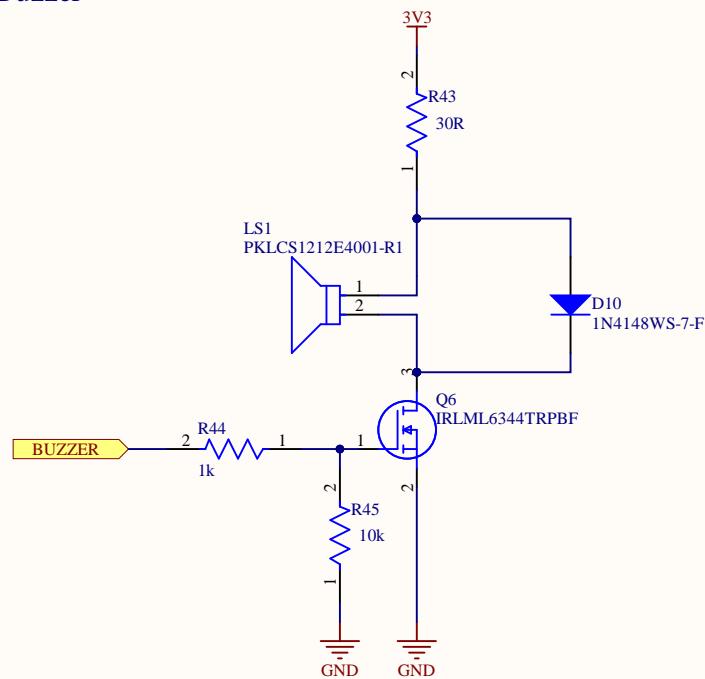
Author: KRZYSZTOF GLIWINSKI
Title: ROSALIA MAINBOARD rev.2

Sheet number: 3 / 13
Modified: 17/11/2023

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 JAROSZYNSKA

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

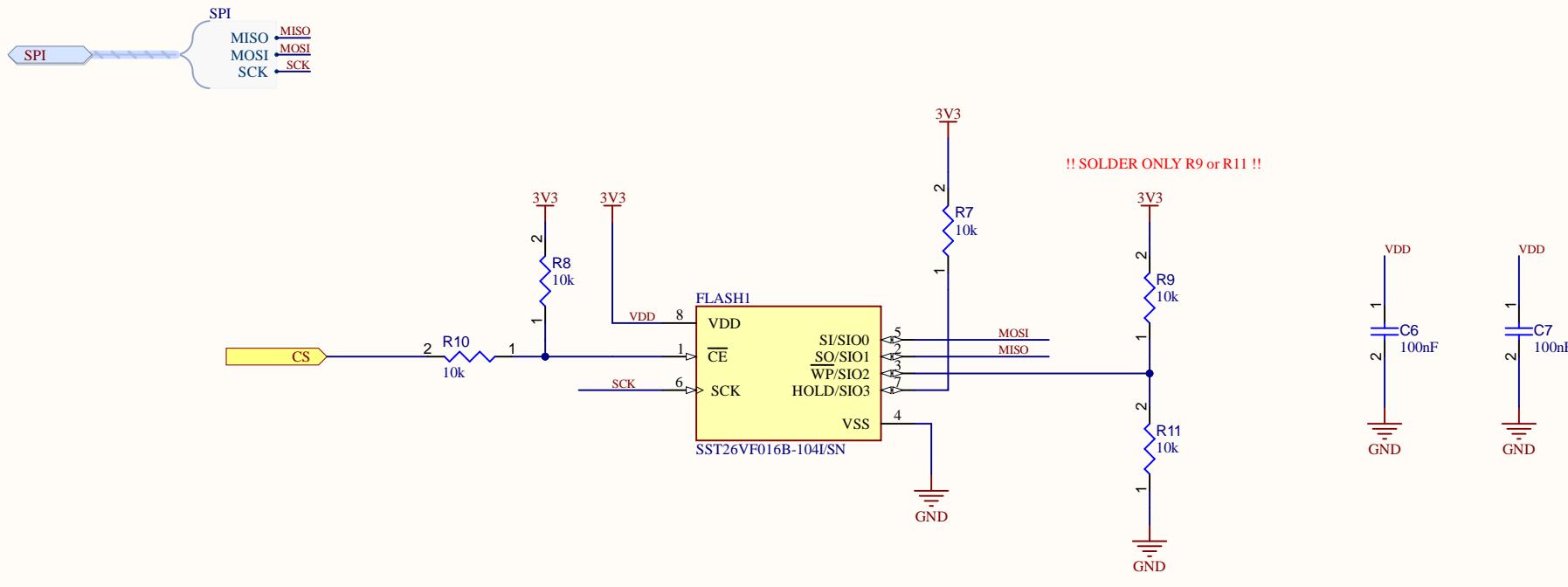
Description: ROSALIA MAINBOARD buzzer. Design of piezoelectric buzzer electrical connections.

Reviewers: ANNA JAROSZYNSKA

A

A

FLASH_MEMORY



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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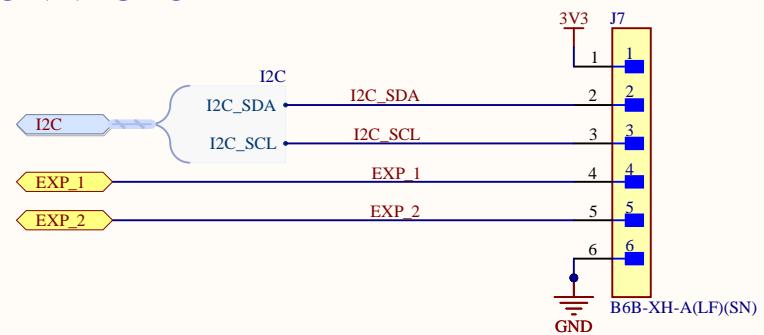
C

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D

D

I2C_CONNECTOR



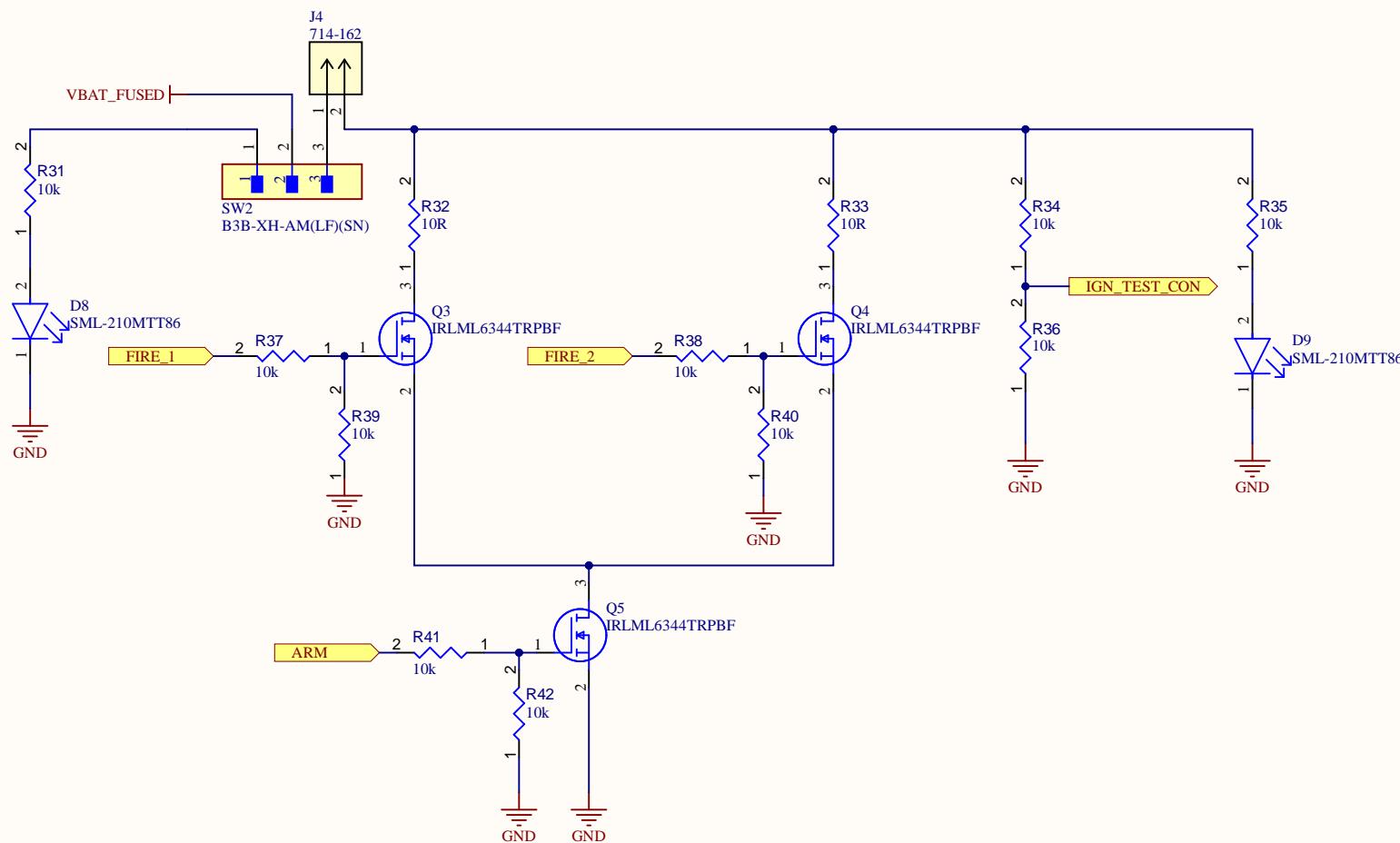
Author: KRZYSZTOF GLIWINSKI
Title: ROSALIA MAINBOARD rev.2

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



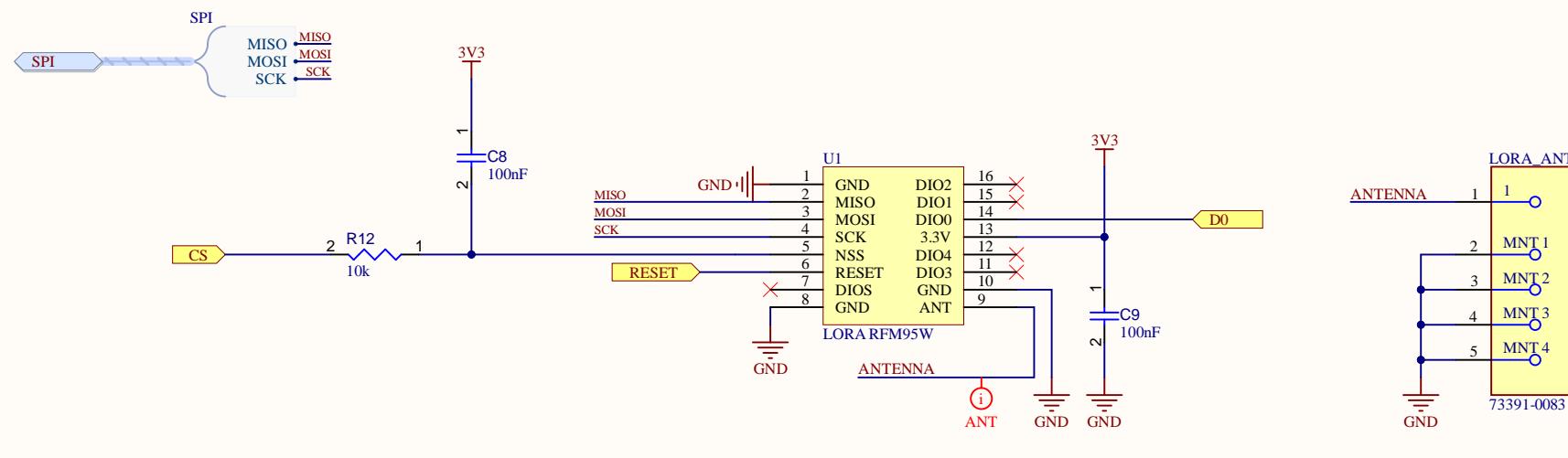
Author: KRZYSZTOF GLIWINSKI
Title: ROSALIA MAINBOARD rev.2

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

A

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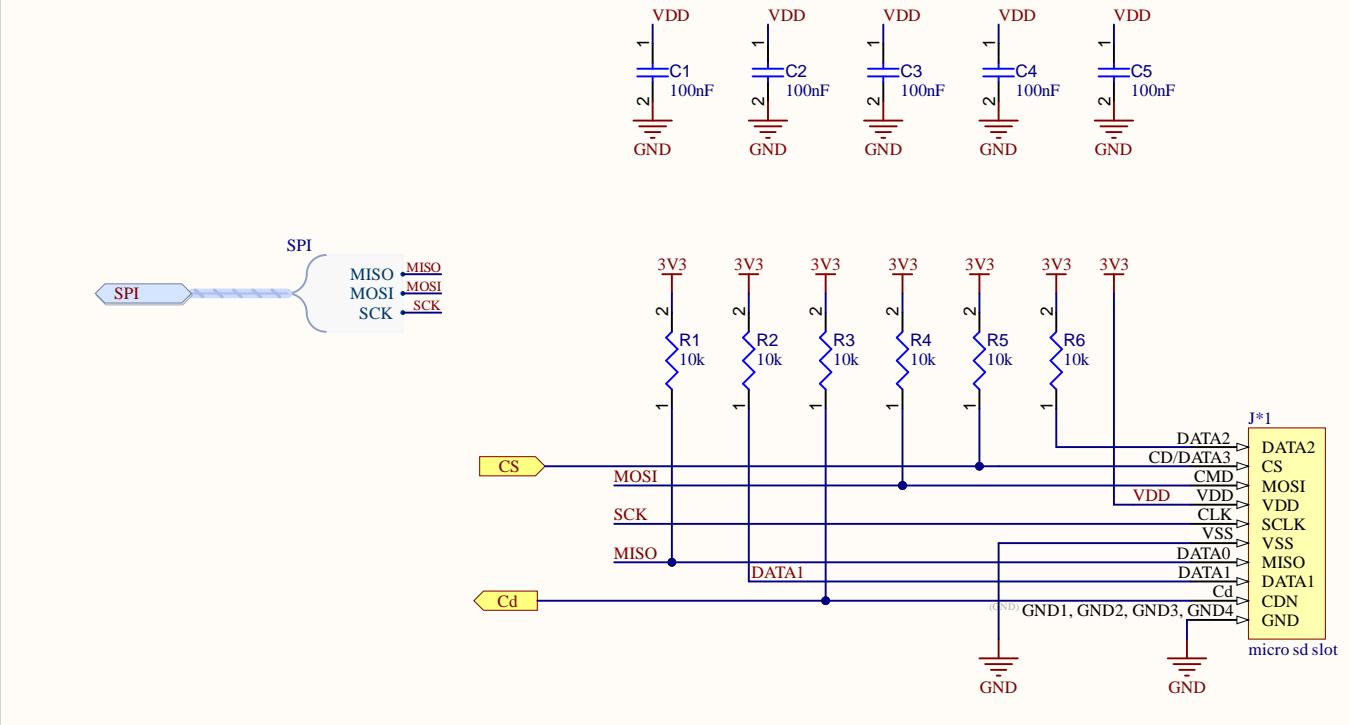
C

D

A

A

SD_CARD



B

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C

C

D

D



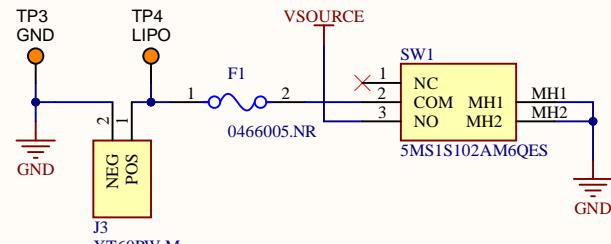
Author: KRZYSZTOF GLIWINSKI
Title: ROSALIA MAINBOARD rev.2

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

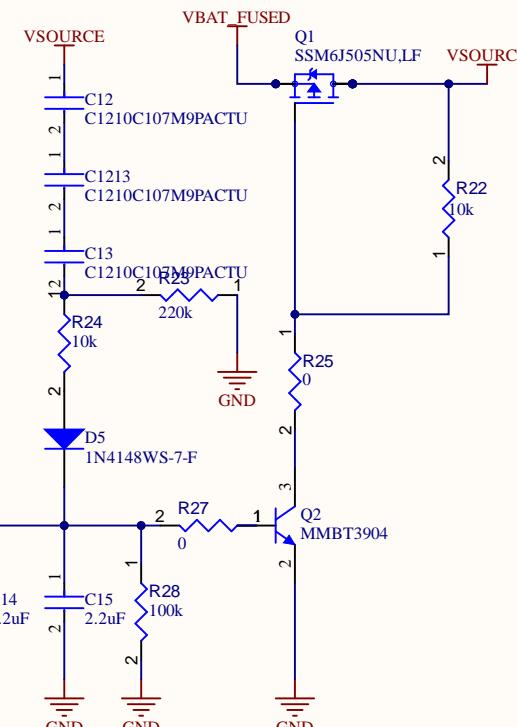
Description: Micro SD card slot with all necessary passive components. Designed for SPI connection to the MCU
Reviewers: ANNA JAROSZYNSKA

LIP0 CONNECTOR

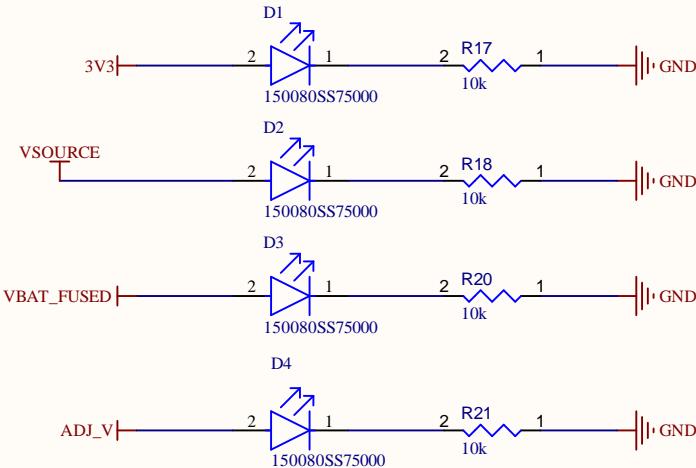
Up to 4S LIPO



POWER SUSTAIN



POWER STATUS LEDS



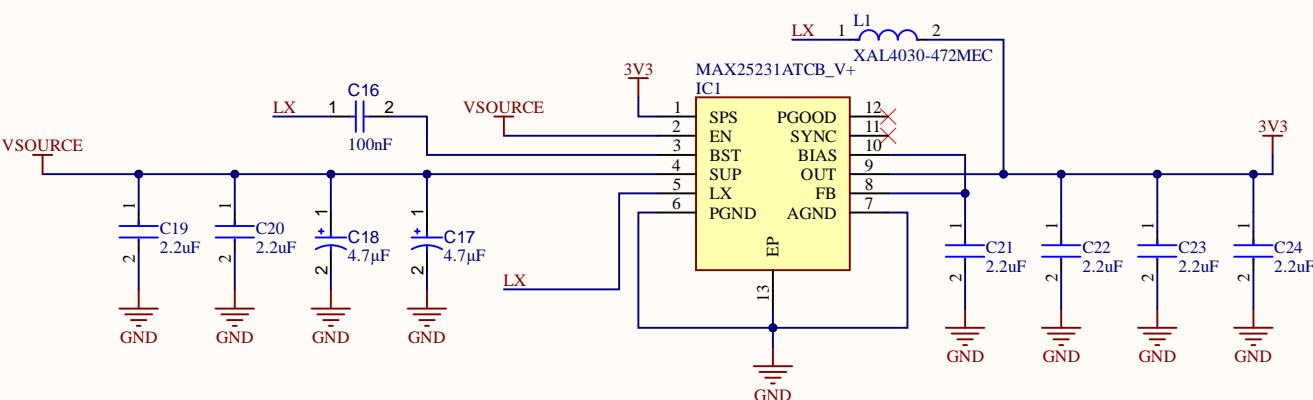
Author: KRZYSZTOF GLIWINSKI
Title: ROSALIA MAINBOARD rev.2

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

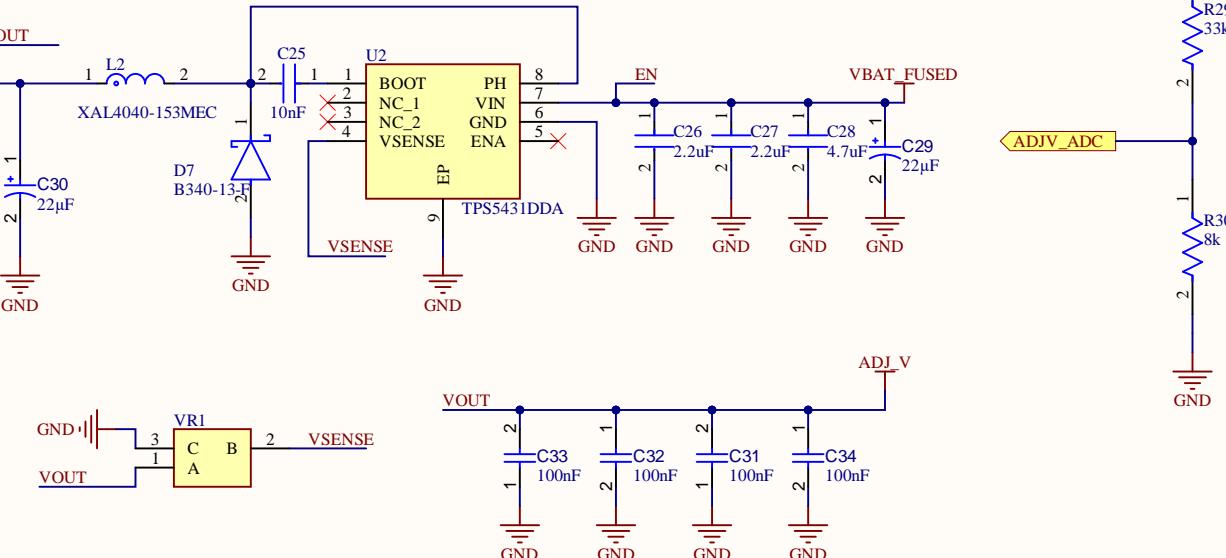
1.2A max



FOR CPUs

ADJUSTABLE BUCK CONVERTER

3A max



FOR DEVICES



Author: KRZYSZTOF GLIWINSKI
Title: ROSALIA MAINBOARD rev.2

Sheet number: 11 / 13
Modified: 17/11/2023

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

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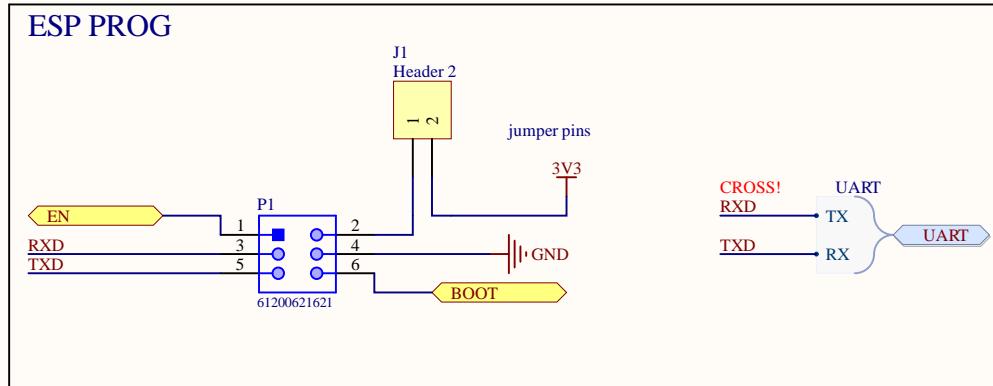
B

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Author: KRZYSZTOF GLIWINSKI
Title: ROSALIA MAINBOARD rev.2

Sheet number: 12/ 13
Modified: 17/11/2023

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

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A

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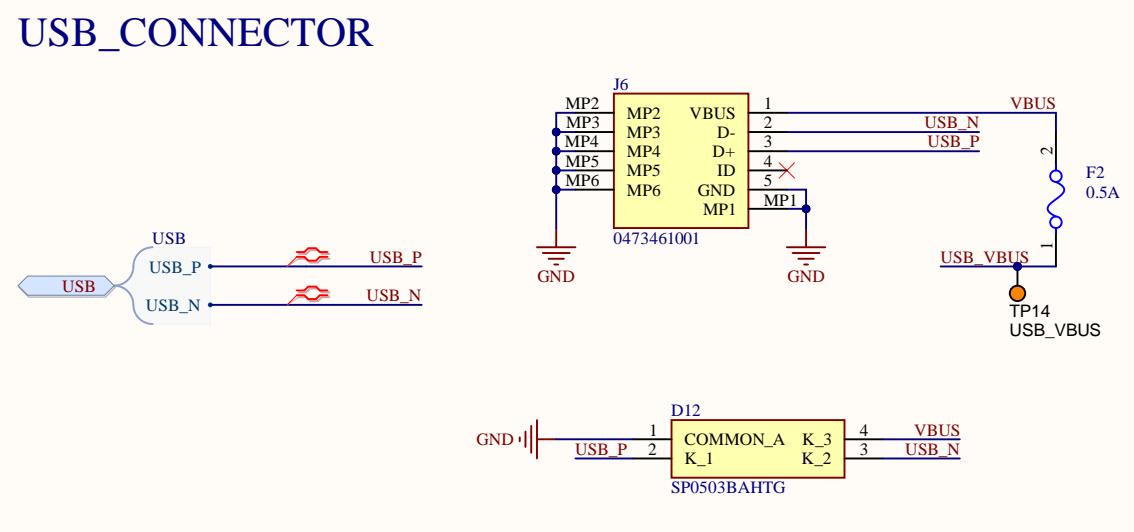
B

C

C

D

D



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

