


MIMXRT1064 MCU Module – TABLE OF CONTENTS

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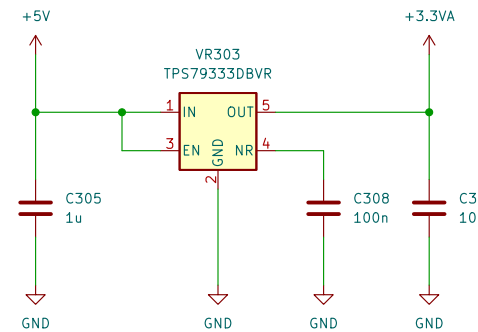
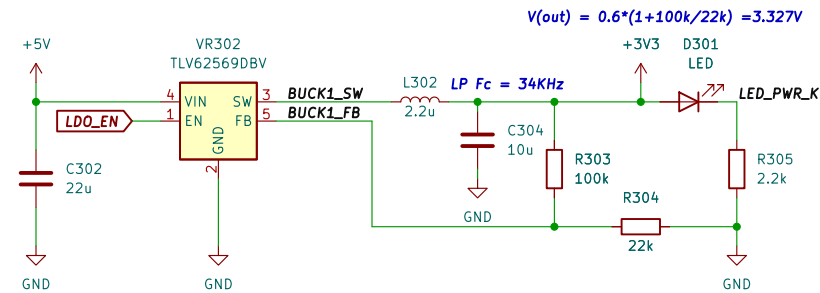
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2 : BLOCK DIAGRAM

Joël Ucedo		
Sheet: /BLOCK DIAGRAM/ File: block_diagram.kicad_sch		
Title: MIMXRT1064 MCU Module		
Size: A3	Date: 2023-05-23	Rev: 0
KiCad E.D.A. kicad (6.0.7)	Id: 2/10	

The diagram shows a buck converter circuit. The input is +5V, which is connected to the VIN pin (pin 4) of the TLV62569DBV. A 22uF capacitor (C302) is connected between the +5V input and GND. The LDO_EN pin (pin 1) is also connected to the +5V input. The SW pin (pin 3) is connected to the BUCK1_SW node, which is the inverting input of the buck converter. The FB pin (pin 5) is connected to the BUCK1_FB node, which is the non-inverting input. The output of the buck converter is connected to the LED_PWR_K node, which is the anode of the LED (D301). The LED is connected to GND through a 2.2k resistor (R305). The output voltage is calculated as $V(out) = 0.6 * (1 + 100k/22k) = 3.327V$.



VR301
TLV62569DBV

+3V3

C301
22u

GND

4 VIN
1 EN

3 SW
5 FB

2

GND

BUCK2_SW
BUCK2_FB

L301 LP Fc = 34KHz
2.2u

C303
10u

GND

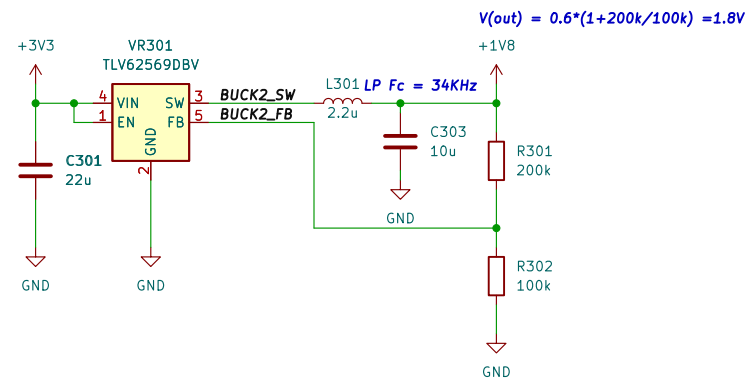
+1V8

R301
200k

R302
100k

GND

$V(out) = 0.6 * (1 + 200k / 100k) = 1.8V$

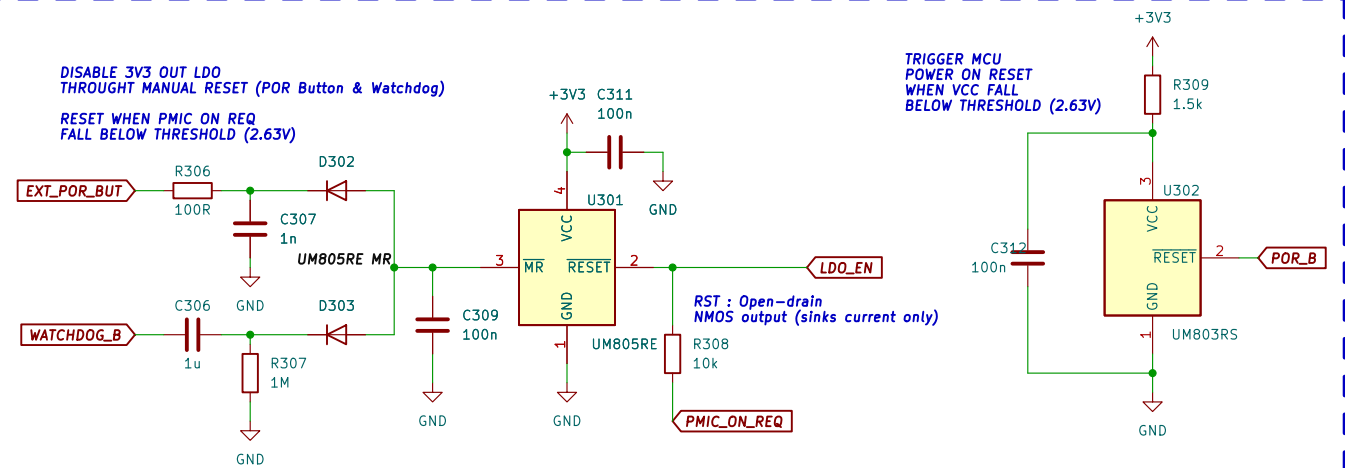


DISABLE 3V3 OUT LDO
THROUGHT MANUAL RESET (POR Button & Watchdog)

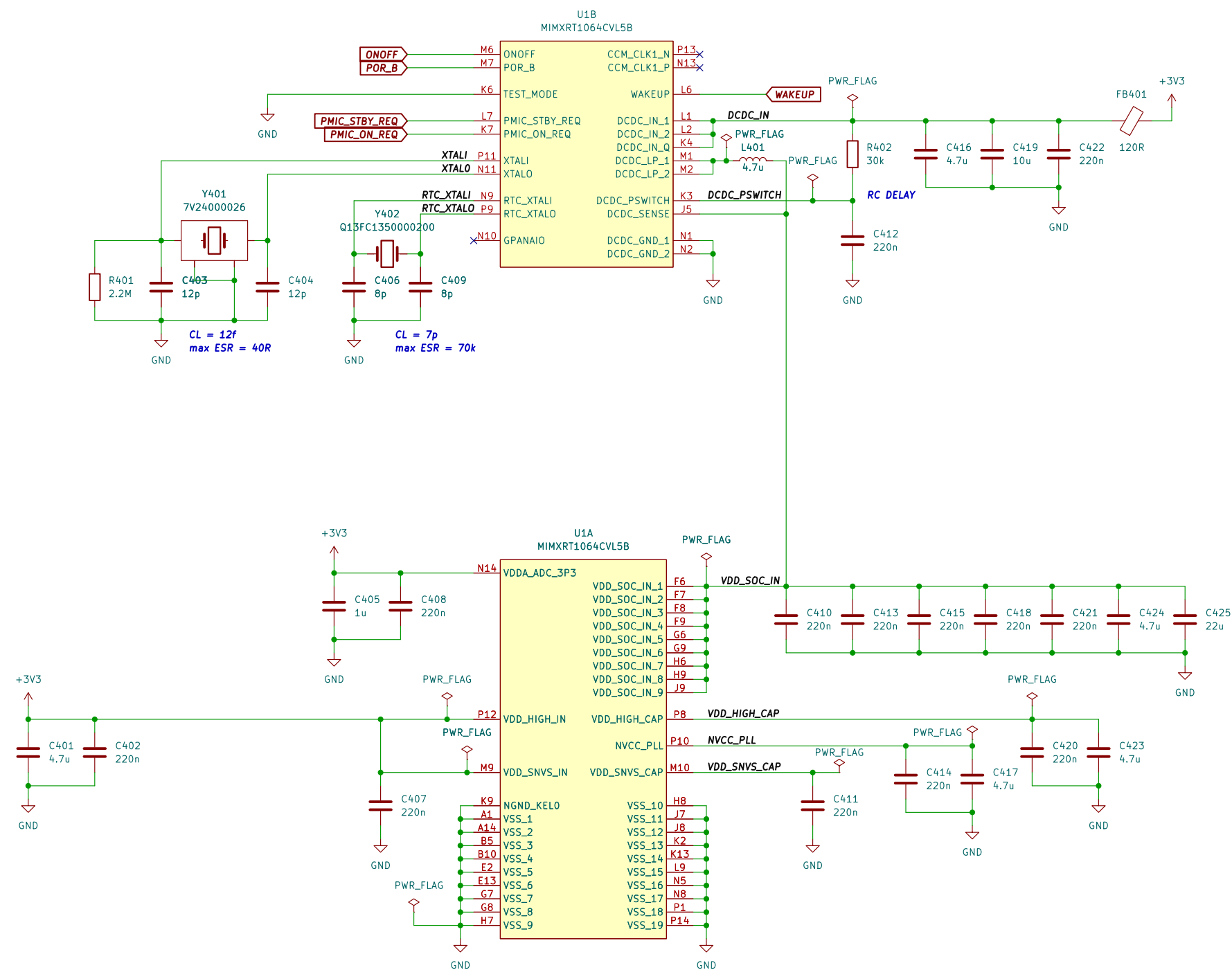
RESET WHEN PMIC ON REQ
FALL BELOW THRESHOLD (2.63V)

TRIGGER MCU
POWER ON RESET
WHEN VCC FALL
BELOW THRESHOLD (2.63V)

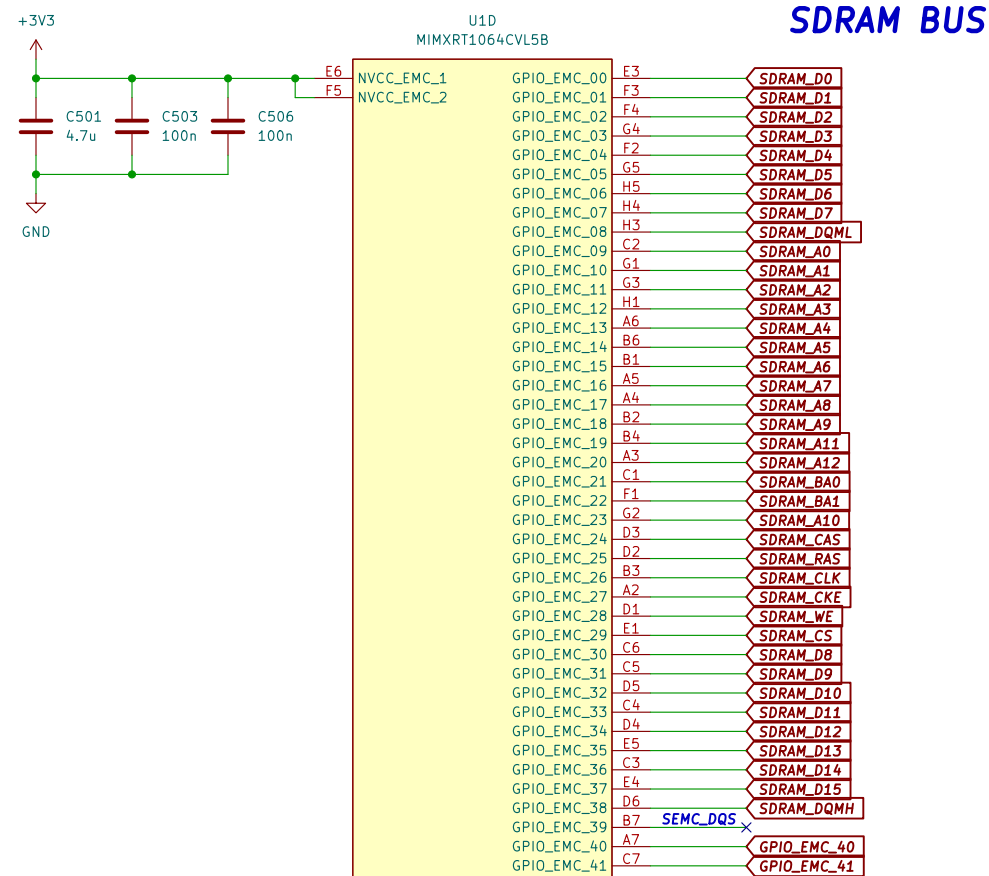
RST : Open-drain
NMOS output (sinks current only)



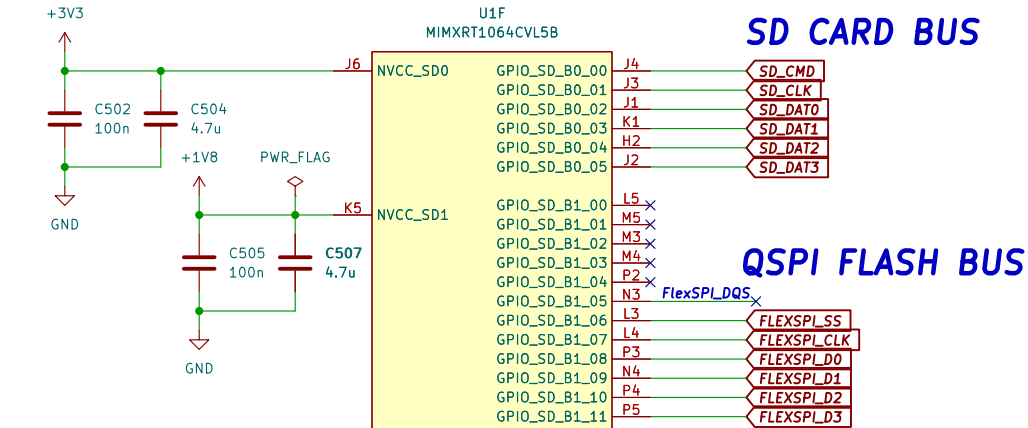
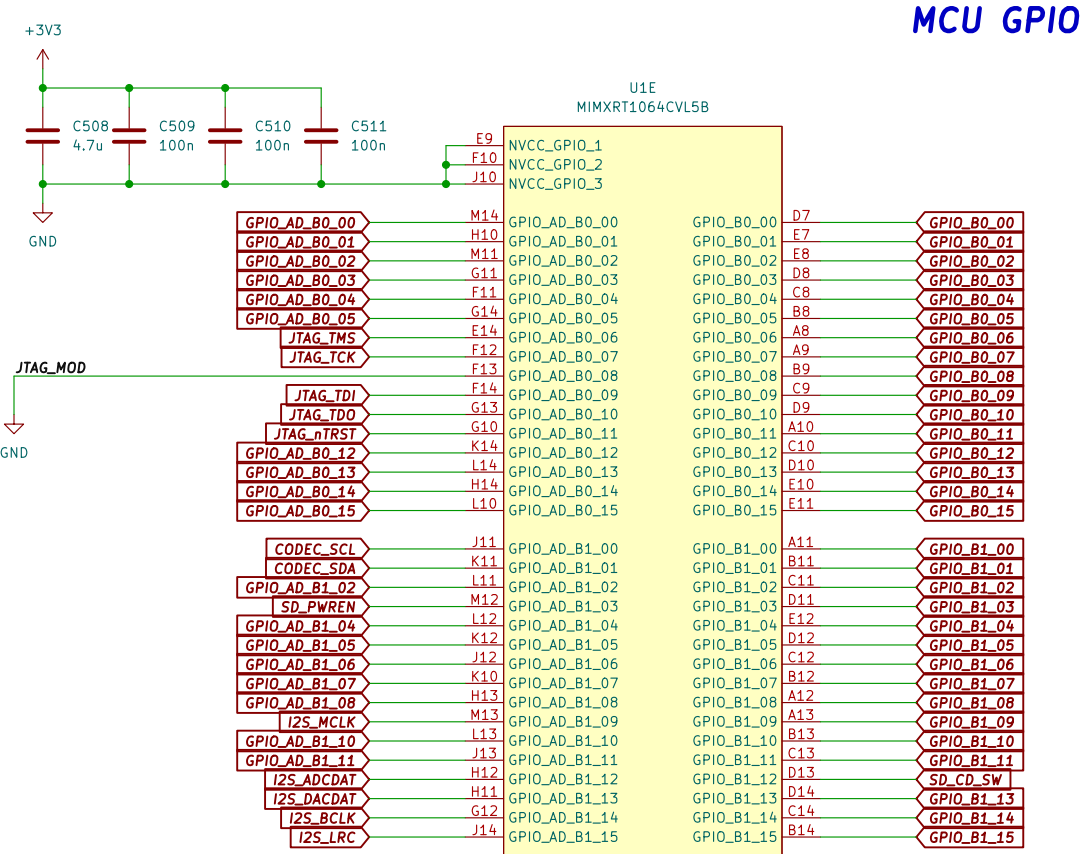
4 : MCU POWER & CRYSTALS



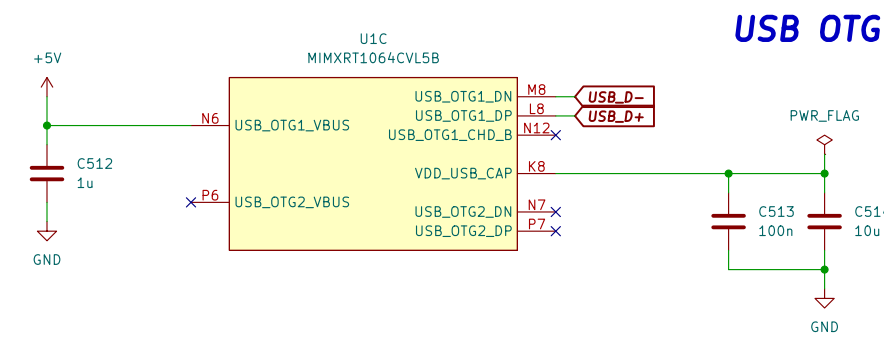
5 : MCU GPIO & BUS



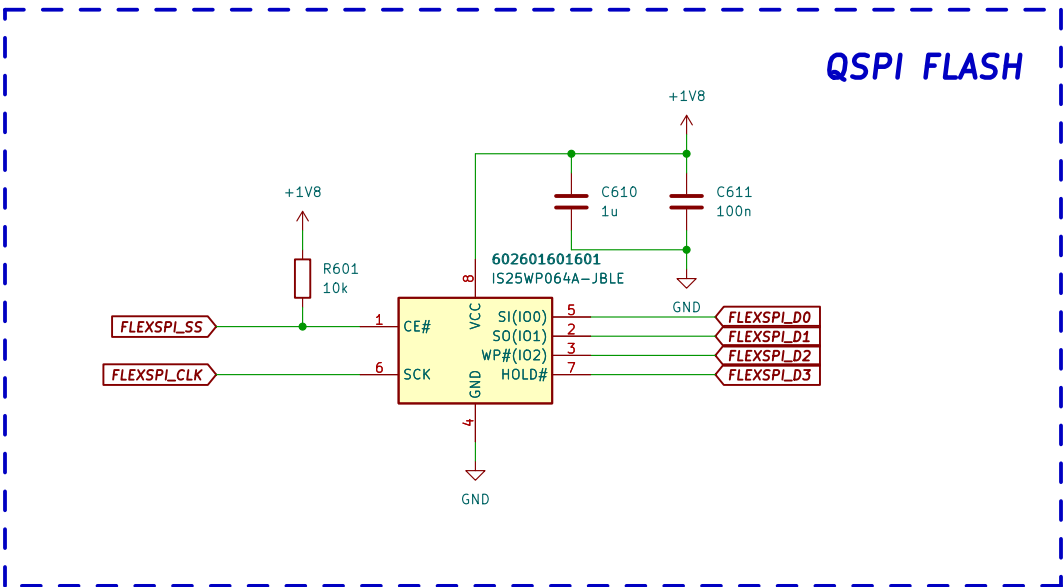
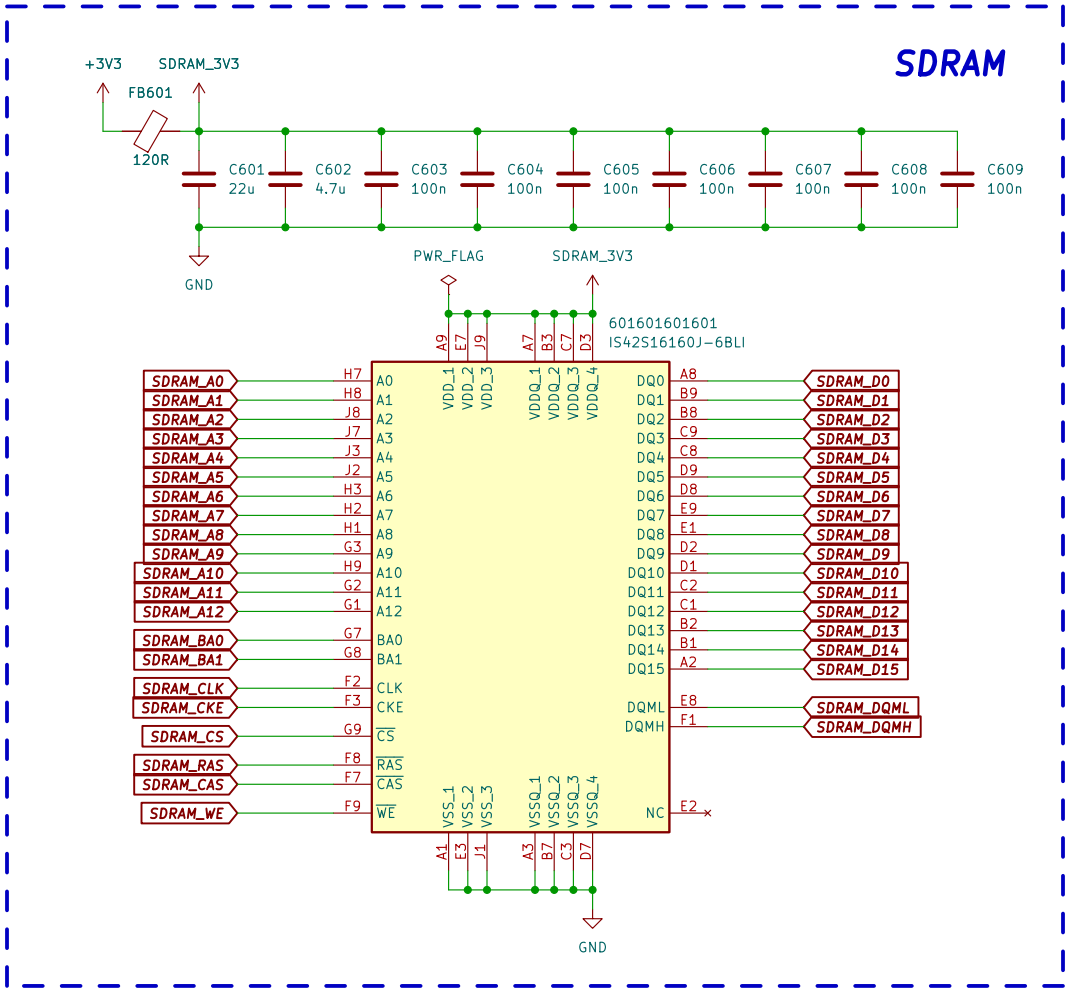
SEMCDQS PIN need floating for SDRAM RW @166MHz



FlexSPLDQS PIN need floating for QSPI Flash RW @133MHz

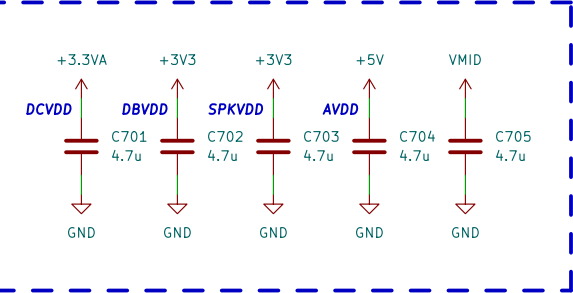


6 : MEMORY

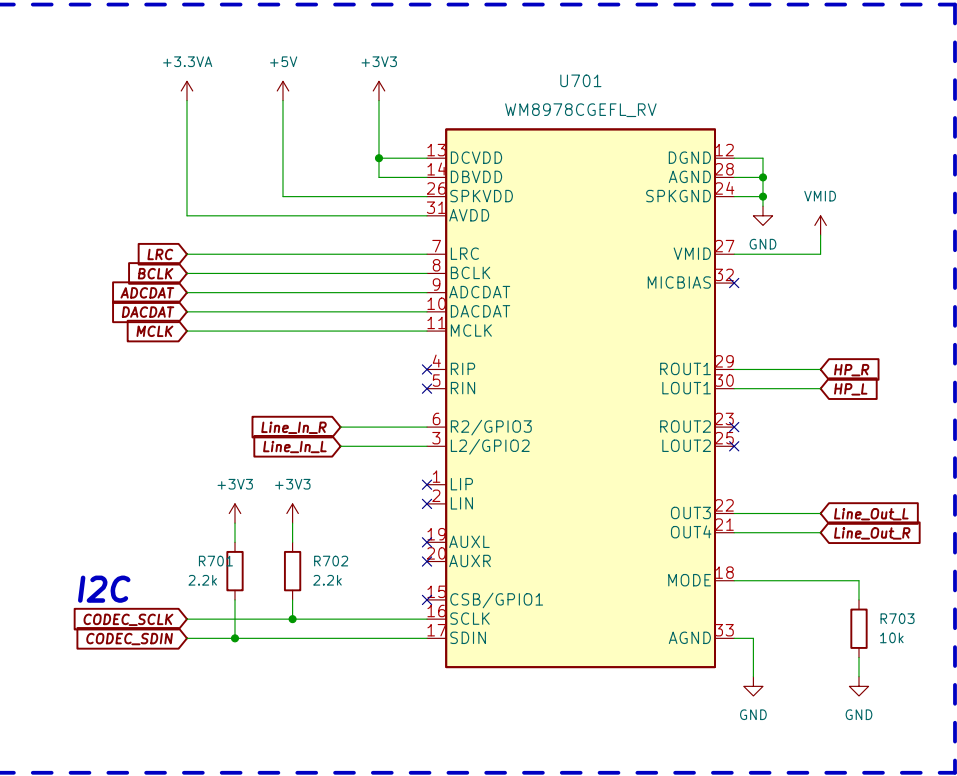


7 : AUDIO

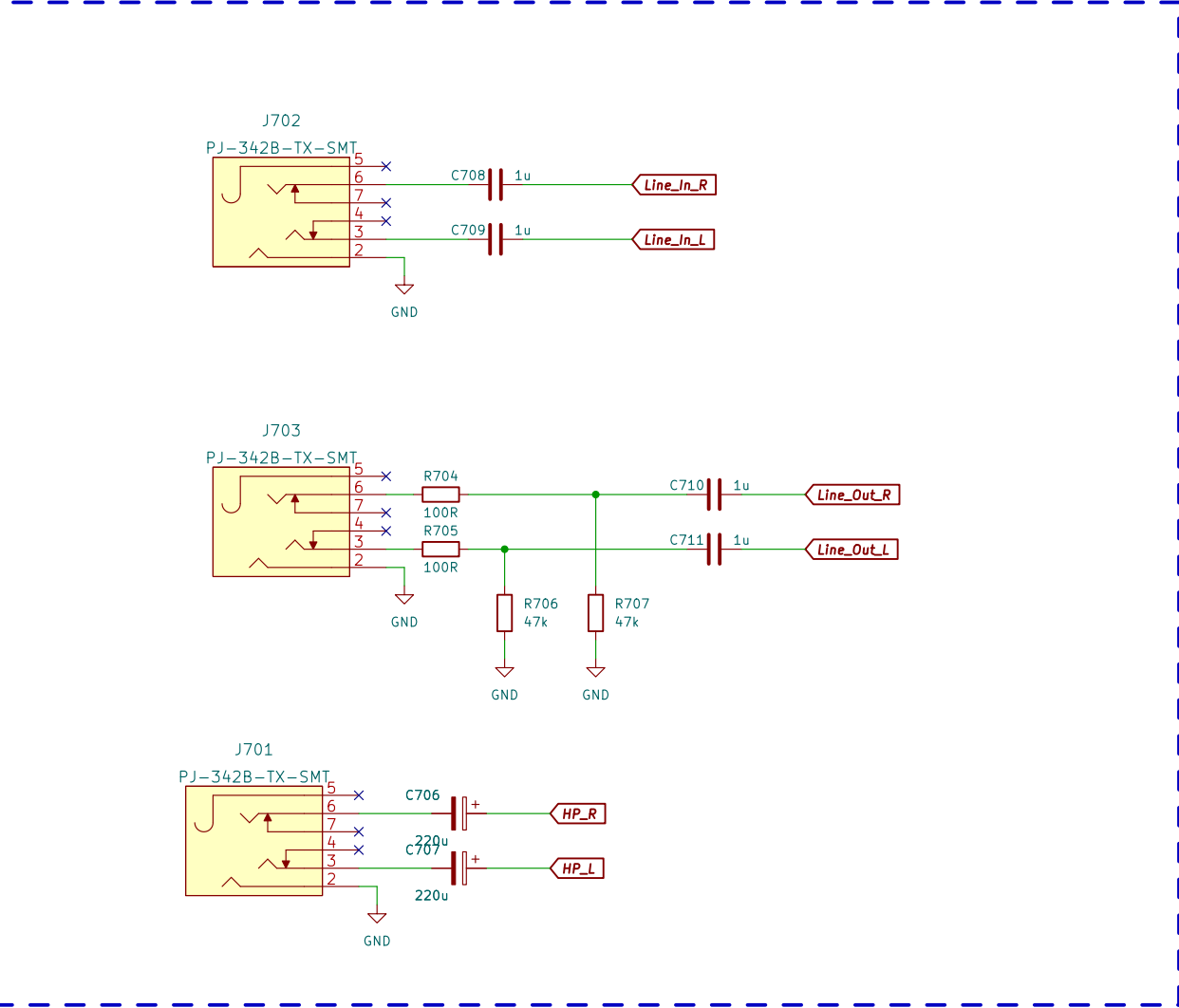
DECOUPLING



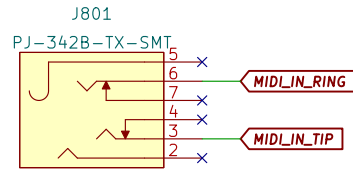
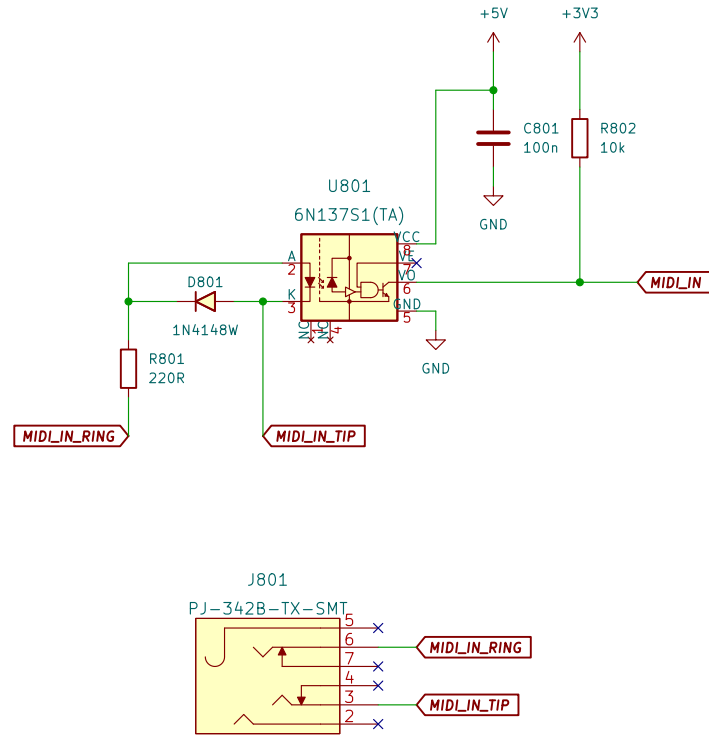
AUDIO CODEC



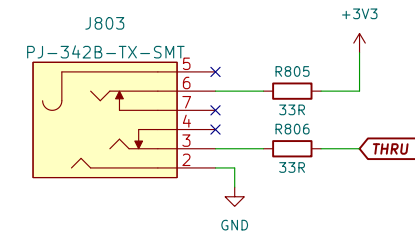
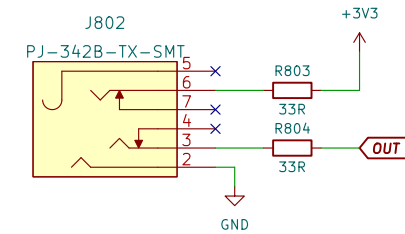
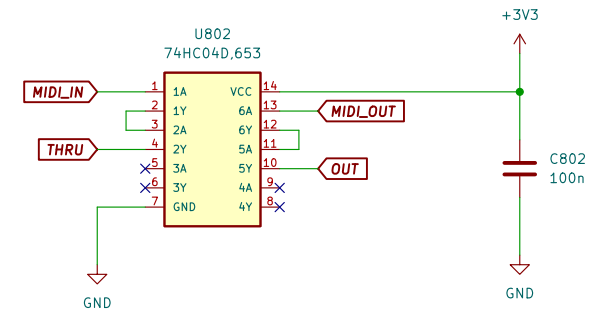
LINE IN – LINE OUT – HEADPHONE



MIDI IN



MIDI OUT & THRU



Sheet: /MIDI/
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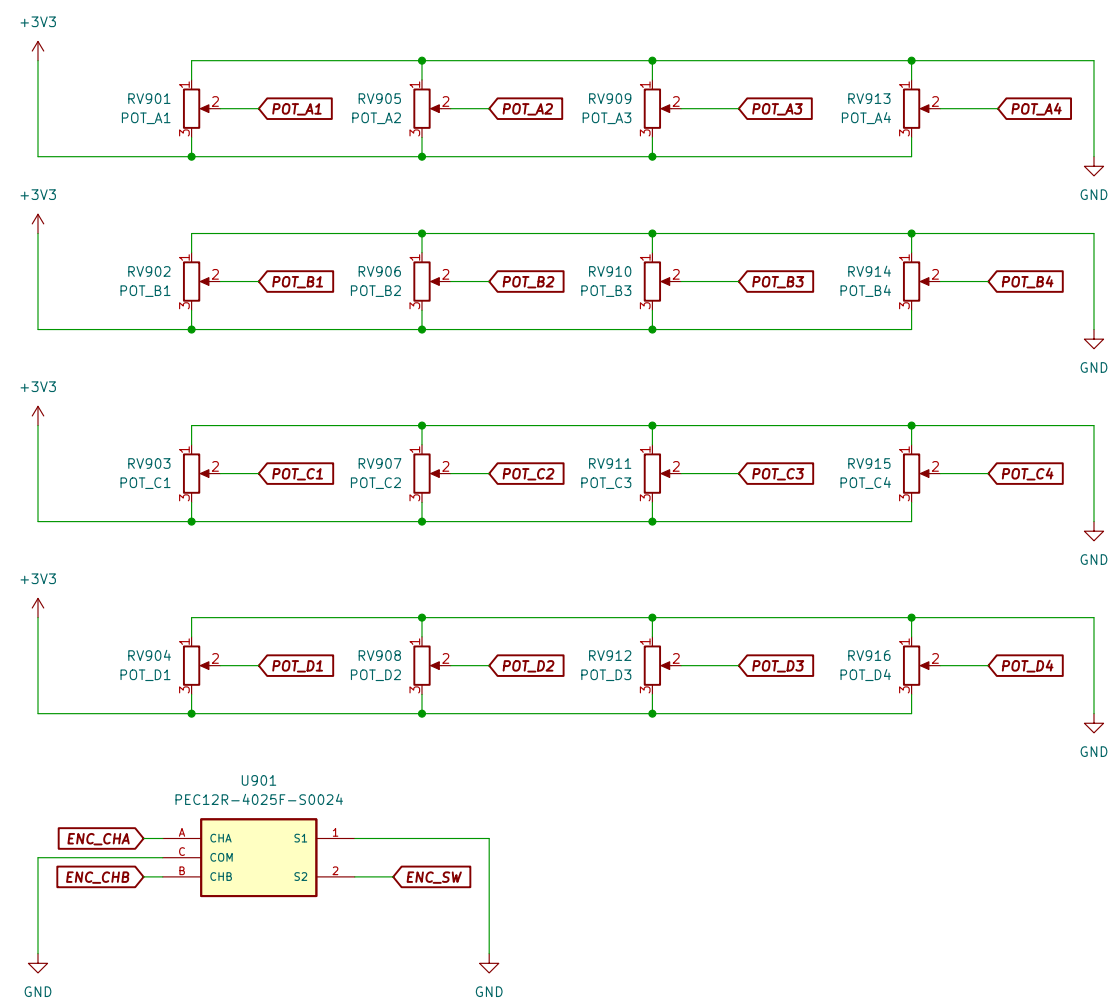
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Size: A4
KiCad E.D.A. kicad (6.0.7)

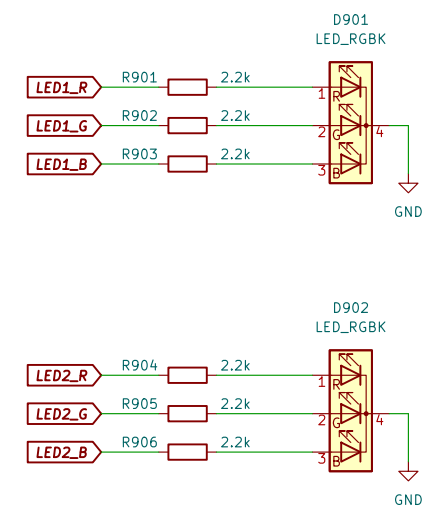
Date:

Rev:
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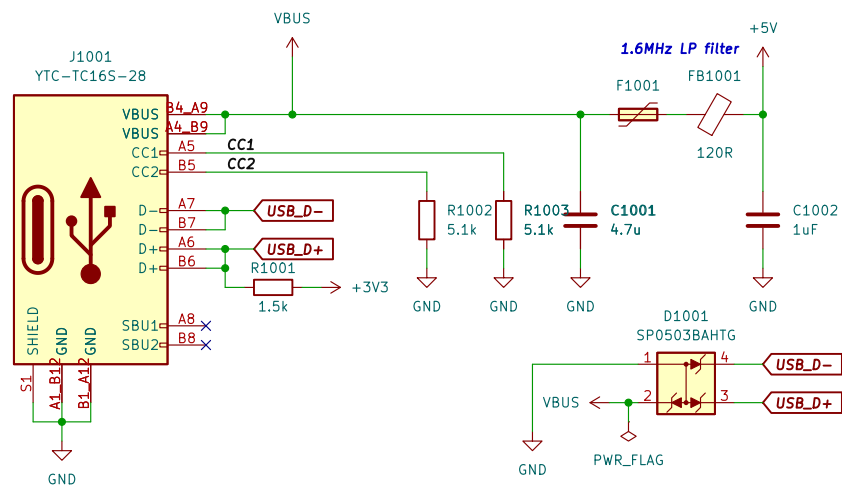
POTENTIOMETERS & ENCODER



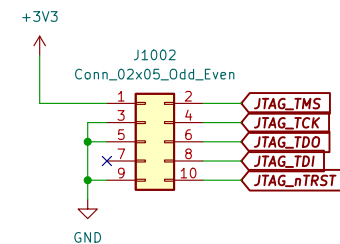
SELECT LEDS



USB-C CONNECTOR



JTAG



Sheet: /USB - JTAG/
File: usb_jtag.kicad_sch

Title:

Size: A4
KiCad E.D.A. kicad (6.0.7)

Date:

Rev:
Id: 10/10