

SYSTEM ON MODULE

Top-Level Overview

 Date:

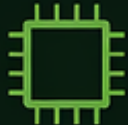
12.04.2026

 Author:

Ti2i3

 Revision:

A1



DDR3L Memory

MT41K64M16TW-107:J

1 Gb / 933 MHz / 16-bit

VDD_DDR: 1.35 V

Datelt: DDR3.kicad_sch



24 MHz
System Clock

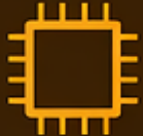
OT2JI11124M



32.768 kHz
RTC Clock

SX3M32.768KM20F30TNN

Datelt: Ports.kicad_sch



PMIC

TPS65218D0



PMIC Reset Buffer

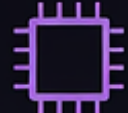
SN74LVC1G07DBVR



AM3354

Sitara™ ARM®

Cortex®-A8



CORE & MPU

VDD_CORE1.1 V

VDD_MPU1.325 V

(1 GHz OPP)



MEMORY

VDD_DDR1.35 V

(DDR3L)



I/O

VDDS1.8 V

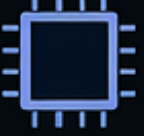
VDDSHVx1.8 V / 3.3 V

All voltages are typical values.

Refer to AM3354 Datasheet for details.

Datelt: Power.kicad_sch

KEY COMPONENTS (Critical)



AM3354 Processor

Sitara™ ARM®

Cortex®-A8



DDR3L Memory

MT41K64M16TW-107:J

1 Gb / 933 MHz / 16-bit

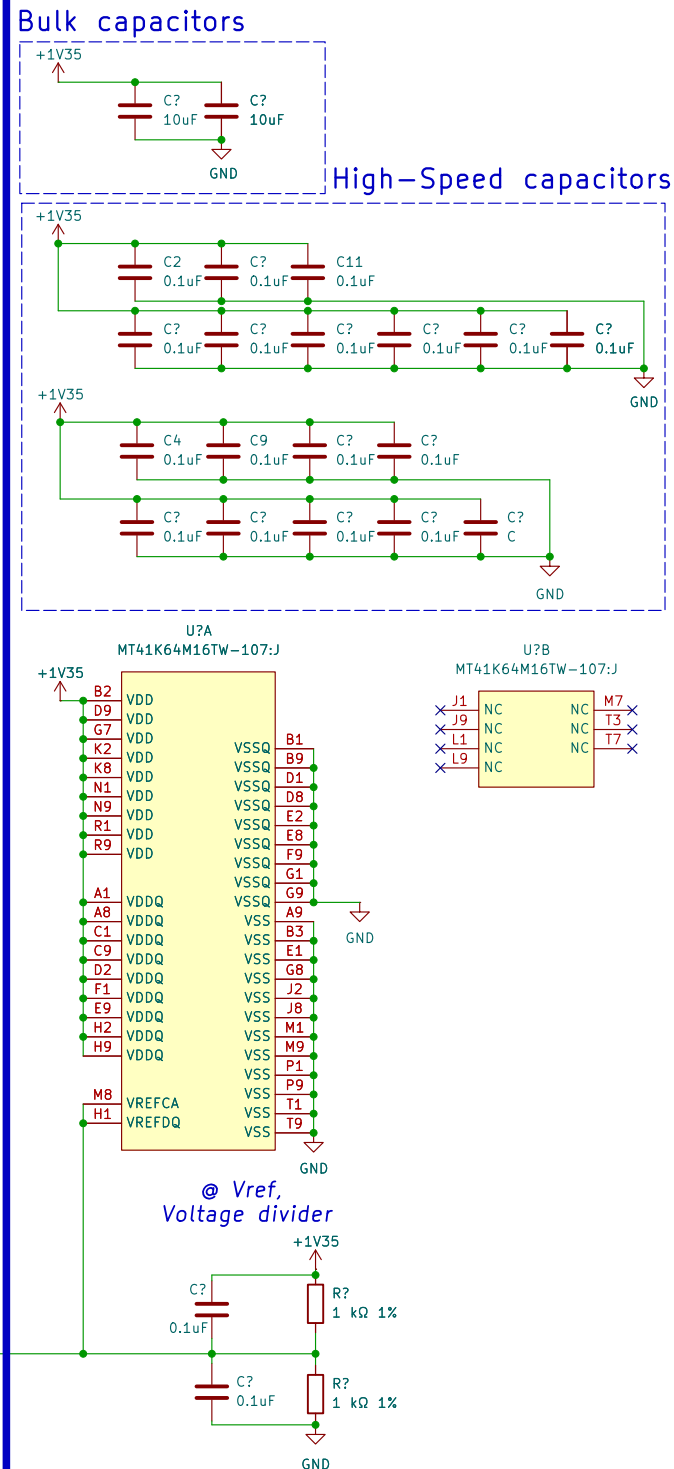
1.35 V

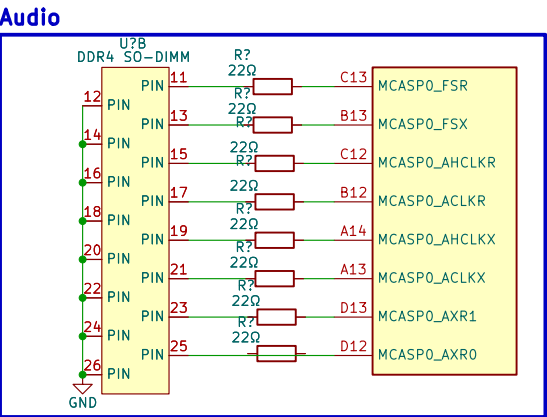
GENERAL NOTES

All capacitors are rated at 10 V.

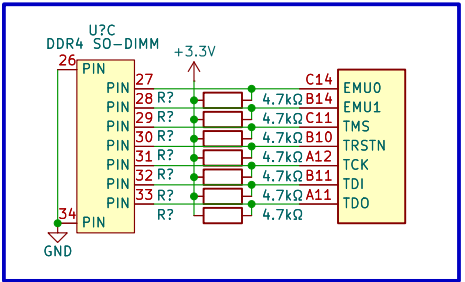
Use 16 V capacitors on 5 V rails.

DDR3L Power



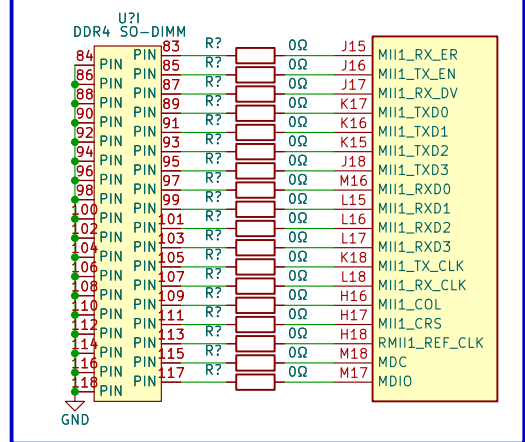


JTAG @ ESD protection may be required

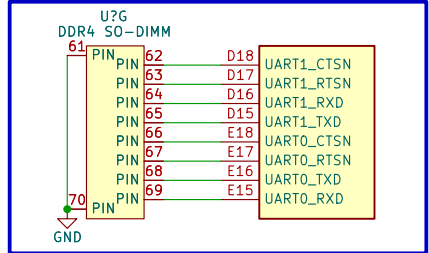


ETHERNET/10/100/1000

@ needs pull ups on the carrier

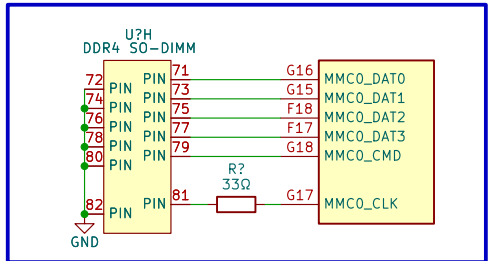


UART

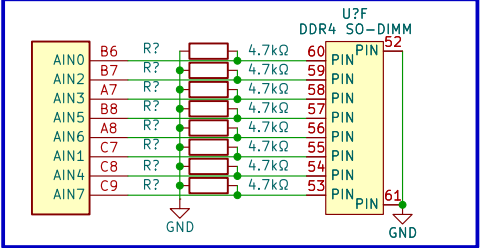


@ Pull-ups on the carrier board will be implemented.

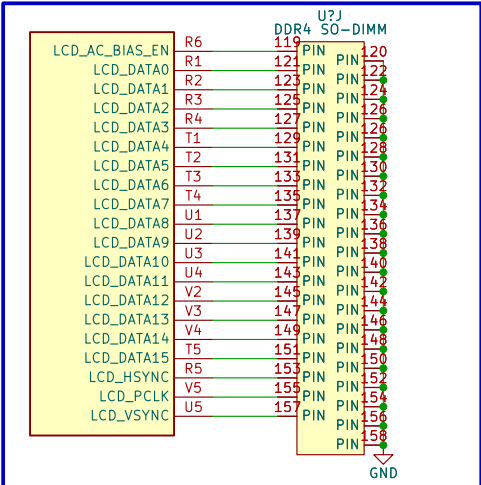
RMI



ADC

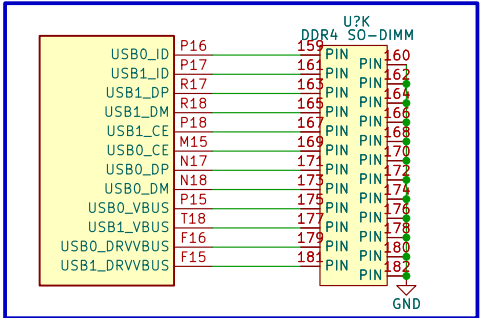


LCD @ Connect the lcd pins on the carrier

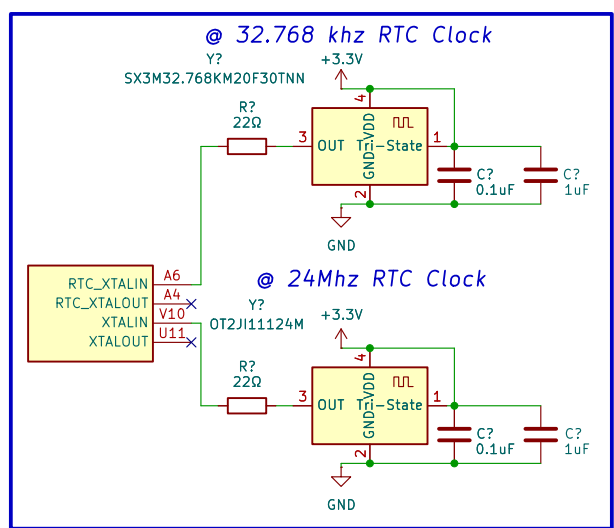


@ High speed signals

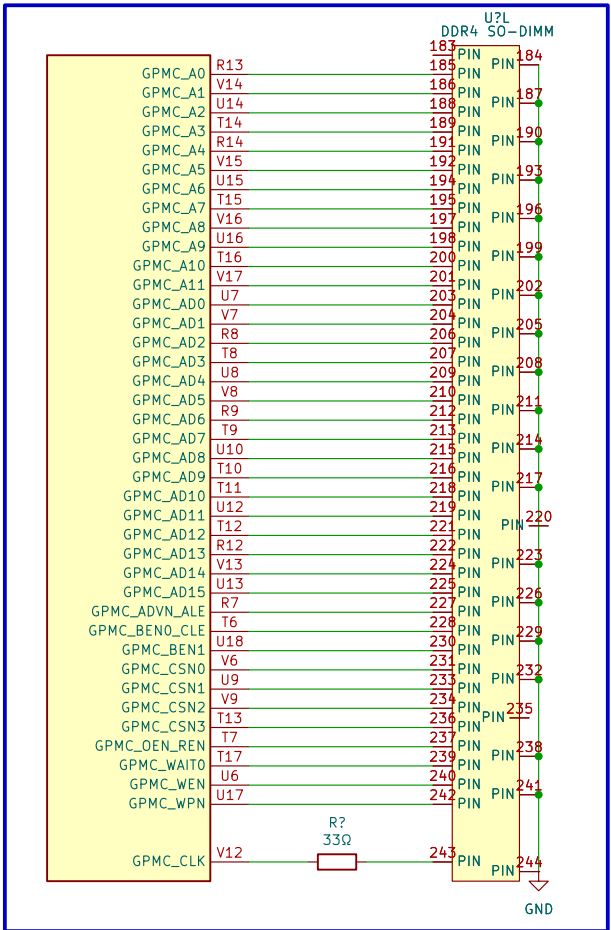
USB Minimize addition of series resistor or TP



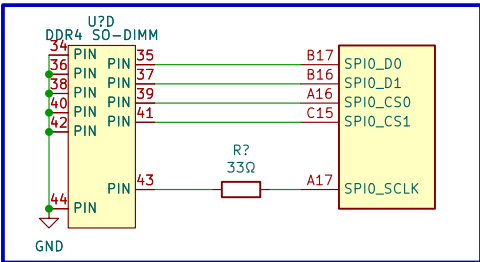
CLOCK



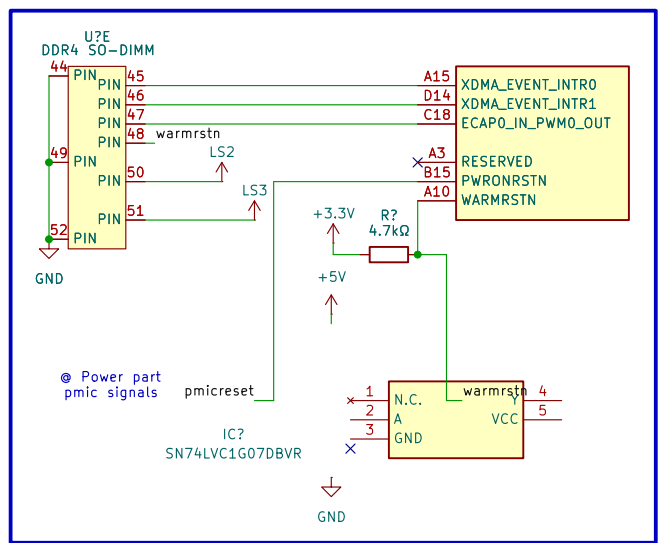
General-Purpose Memory Controller



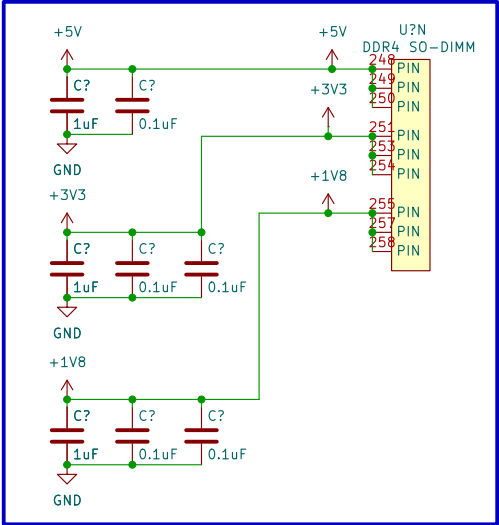
SPI



REST @ Connect the rtc pins on the carrier!



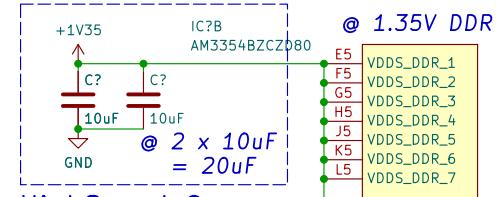
SODIMM Power Pins



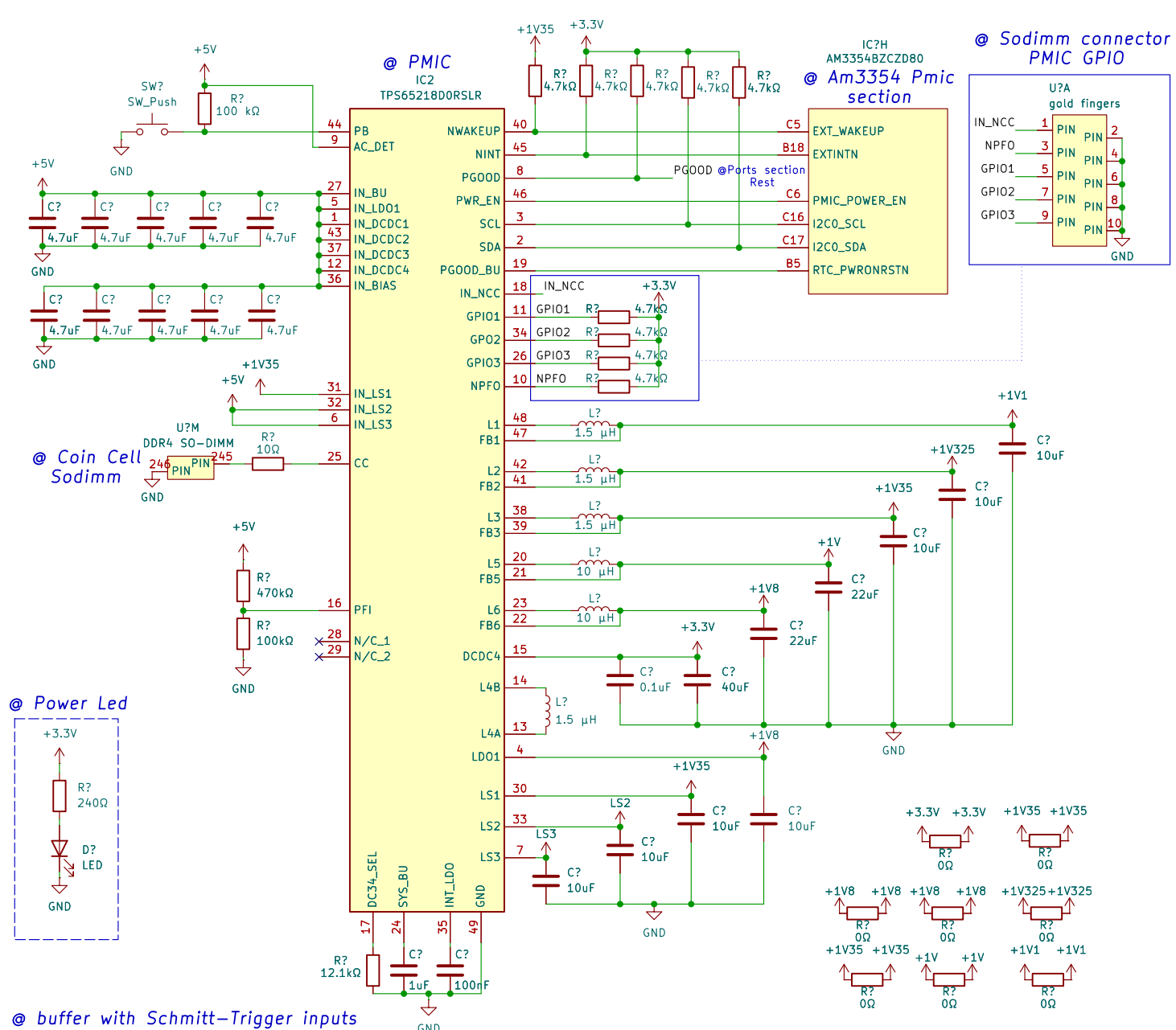
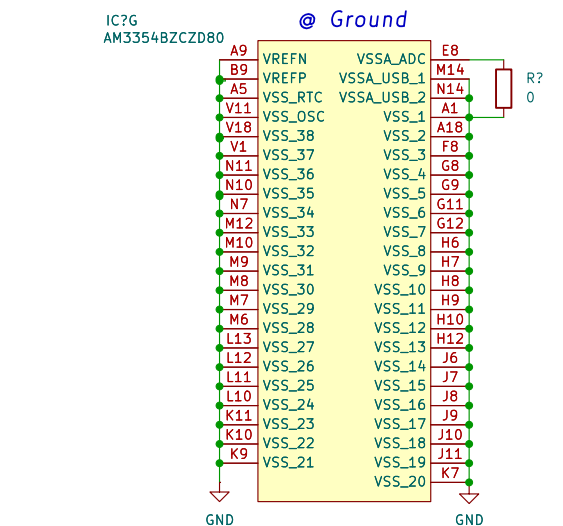
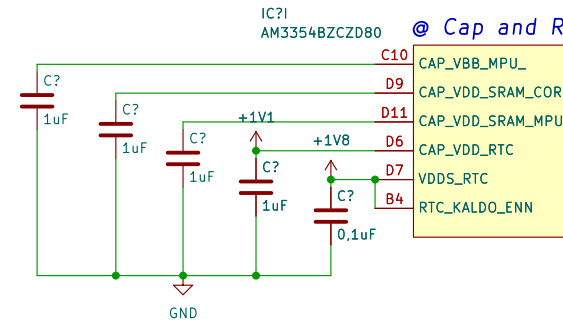
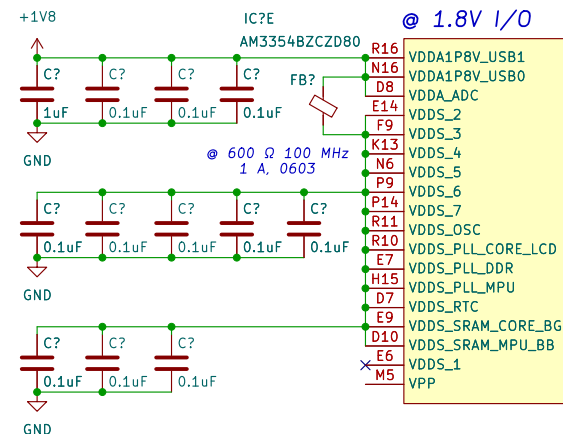
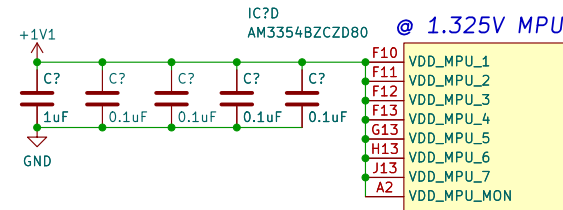
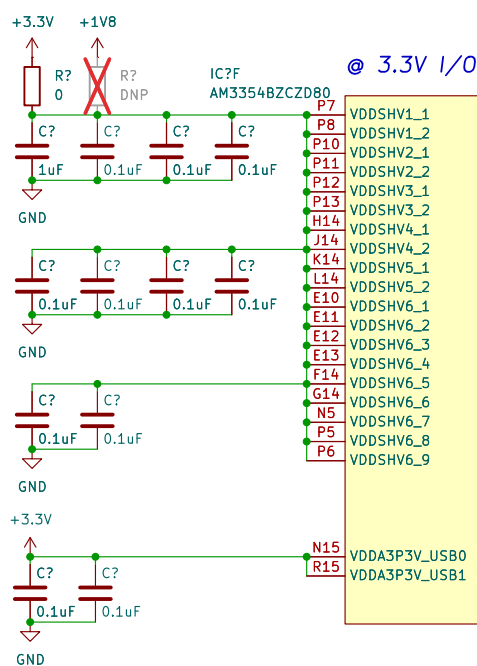
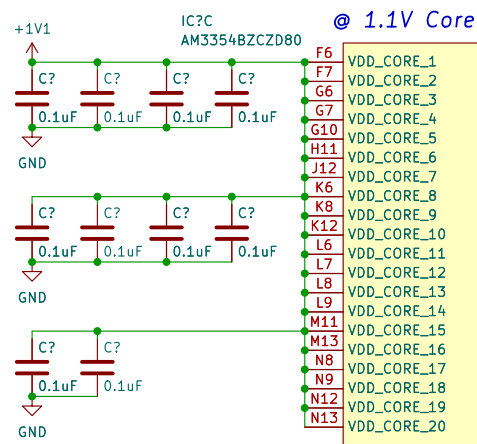
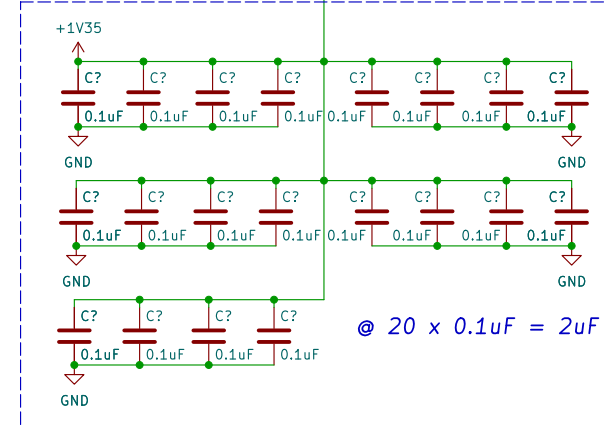
Power AM3354

PMIC TPS65218D0RSLR

Bulk Capacitors



HighSpeed Caps



@ Fail-safe protection is not implemented, as all connected I/O devices share the same supply source as the corresponding VDDSHV domains. External power injection on I/O pins is not supported. If such use cases are required, fail-safe protection must be evaluated.