

<https://electronics.stackexchange.com/questions/473037/how-to-design-a-snap-breakable-pcb-module>

Display board (SNAP OFF BOARD)

Snap off board for the display side- outputs are a 40 pin ZIF and a 8 pin ZIF (ffc's)

File: display\_board.kicad\_sch

Buttons

DPAD\_UPD > DPAD\_UP  
DPAD\_DOWND > DPAD\_DOWN  
DPAD\_LEFTD > DPAD\_LEFT  
DPAD\_RIGHTD > DPAD\_RIGHT  
BTN\_AD > BTN\_A  
BTN\_BD > BTN\_B  
BTN\_BACKLIGHTD > BTN\_BACKLIGHT  
BTN\_STARTD > BTN\_START  
BTN\_SELECTD > BTN\_SELECT  
GLOBAL\_EN < GLOBAL\_EN

+3.3v > +3.3v

File: gamepad.kicad\_sch

CM4

+1.8v  
+3.3v  
+5v  
+1.8v  
+3.3v  
+5v

Connectors:  
- Hirose 100 pin  
- SD CARD  
- SPI DISPLAY

Output:  
- Speaker

TODO: CHOOSE NPM TRANSISTOR

FUEL\_SDA >  
FUEL\_SCL >

File: CM4.kicad\_sch

Connectors

Connectors:  
- Hirose 100 pin  
- USB C 2.0  
- Peripheral (ie: kbm combo)  
- MicroHDMI Output  
- USB C  
- Power only (Battery system)

+5v < +5v

QVBUS\_CHARGE

File: connectors.kicad\_sch

Battery

FUEL\_SDA <  
FUEL\_SCL <

+3.3v > +3.3v

File: battery.kicad\_sch

BATT <

Battery Charger

BATT <

CHRG <

Outputs:  
- Battery Monitor

5v < +5v

File: power.kicad\_sch

TODO: finish battery monitor and connect to pi GPIO.

Sheet: /

File: carrier.kicad\_sch

**Title: CM4 Gameboy Main Sheet**

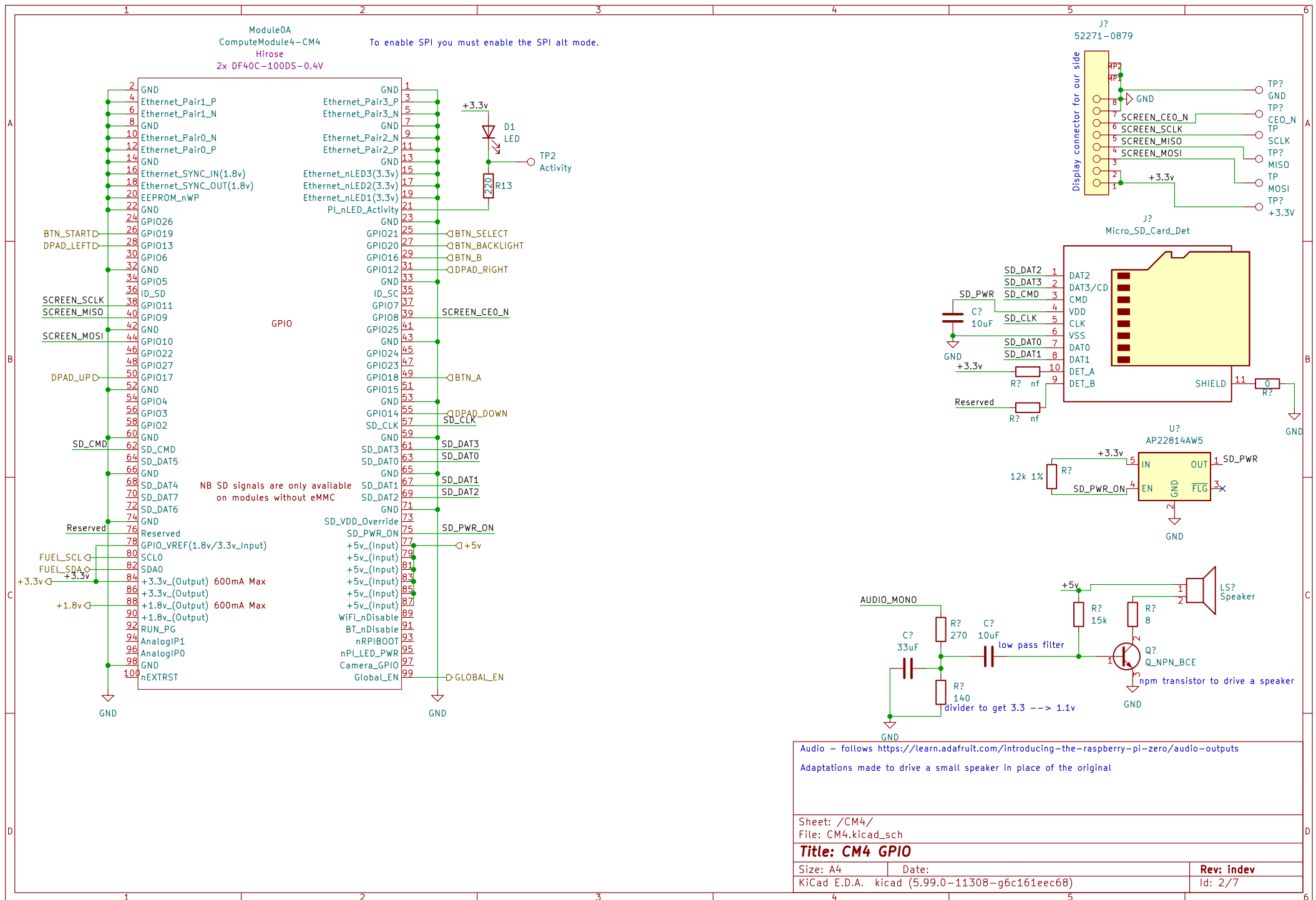
Size: A4

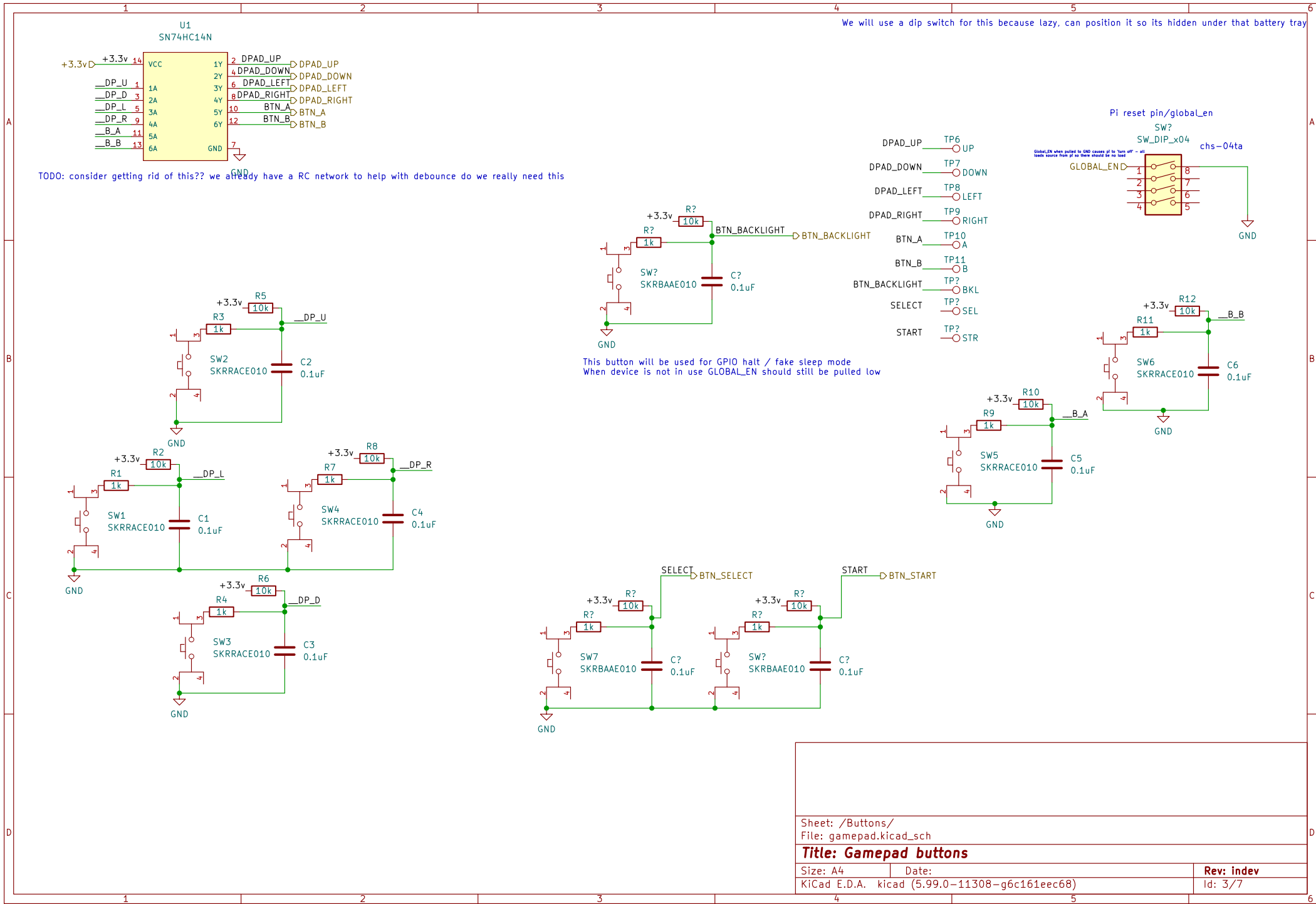
Date:

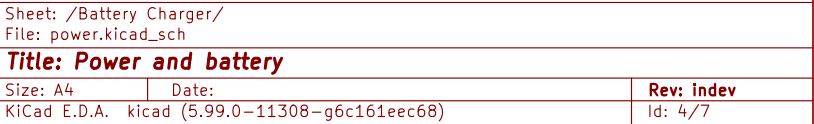
KiCad E.D.A. kicad (5.99.0-11308-g6c161eec68)

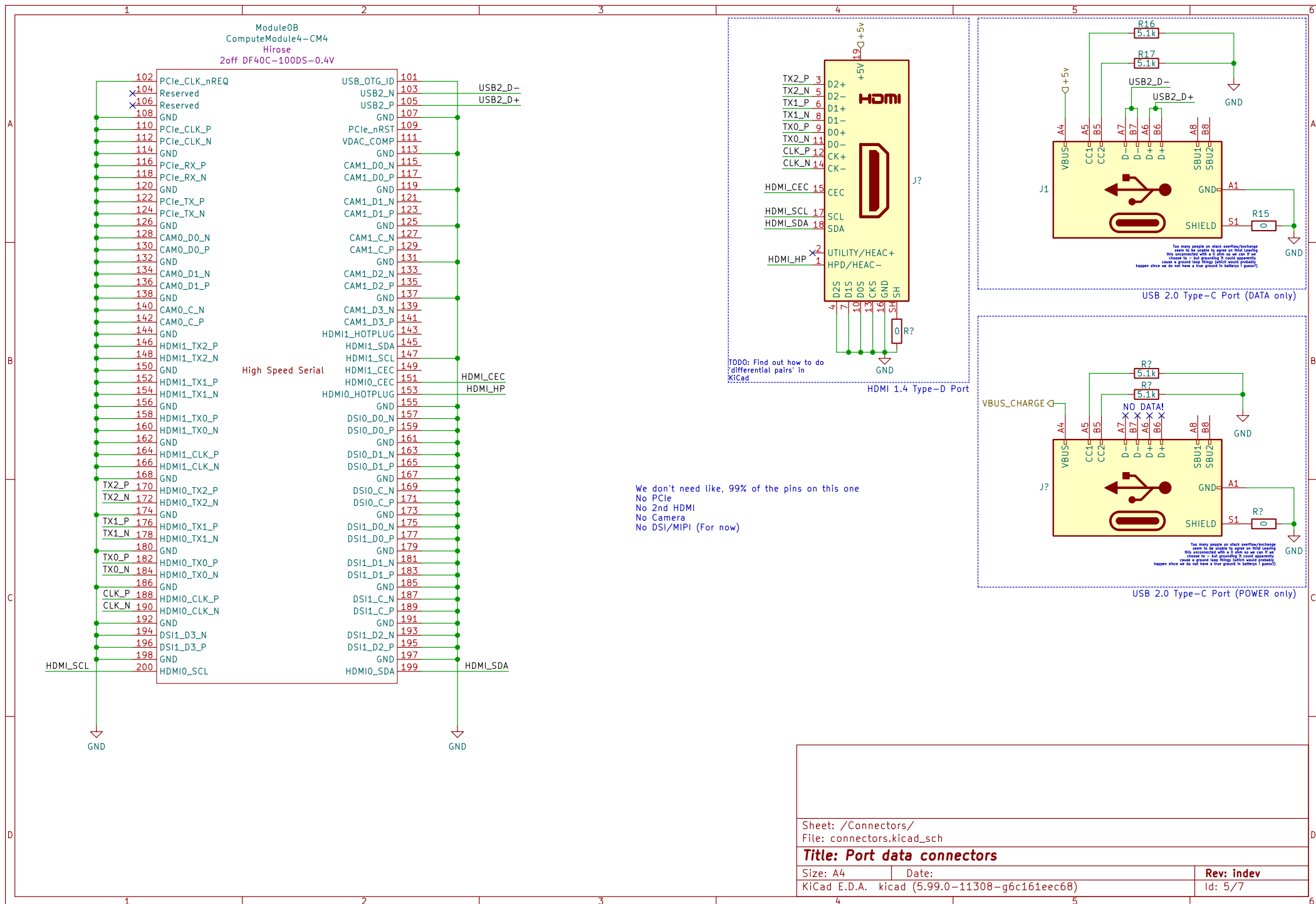
Rev: indev

Id: 1/7

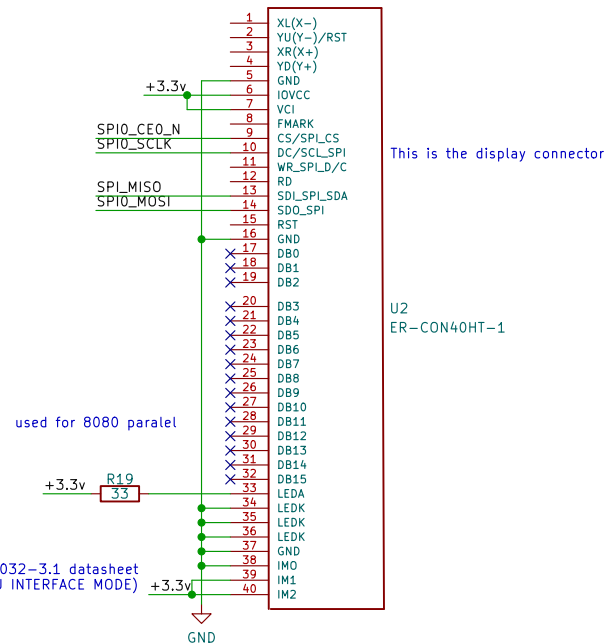
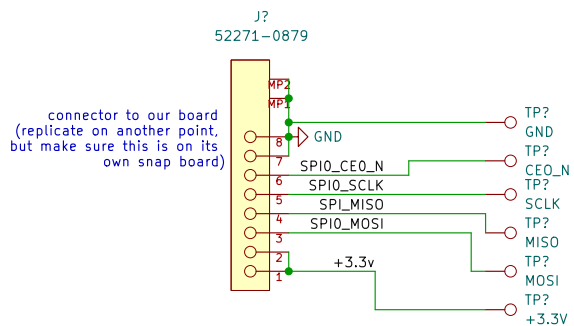






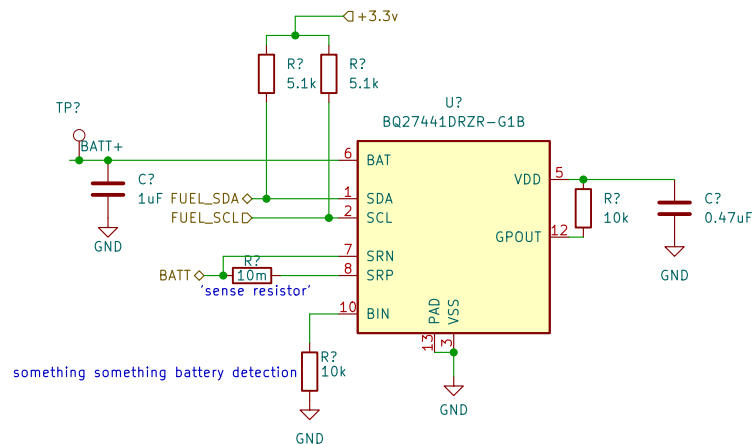


SPI display control      TODO: make spacing better



Sheet: /Display board (SNAP OFF BOARD)/		
File: display_board.kicad_sch		
Title: Display connector board (not part of mainboard)		
Size: A4	Date:	Rev: indev
KiCad E.D.A. kicad (5.99.0-11308-g6c161eec68)		Id: 6/7

following BQ27441-G1 datasheet



worth noting our battery bank is to have its own protection circuitry so it can be omitted

Sheet: /Battery/  
File: battery.kicad\_sch

**Title: Power and battery**

Size: A4

Date:

Size: 1.7 MB	SHA-256:
KiCad E.D.A.	kiCad (5.99.0-11308-g6c161eec68)

Rev: indev

Id: 8/7