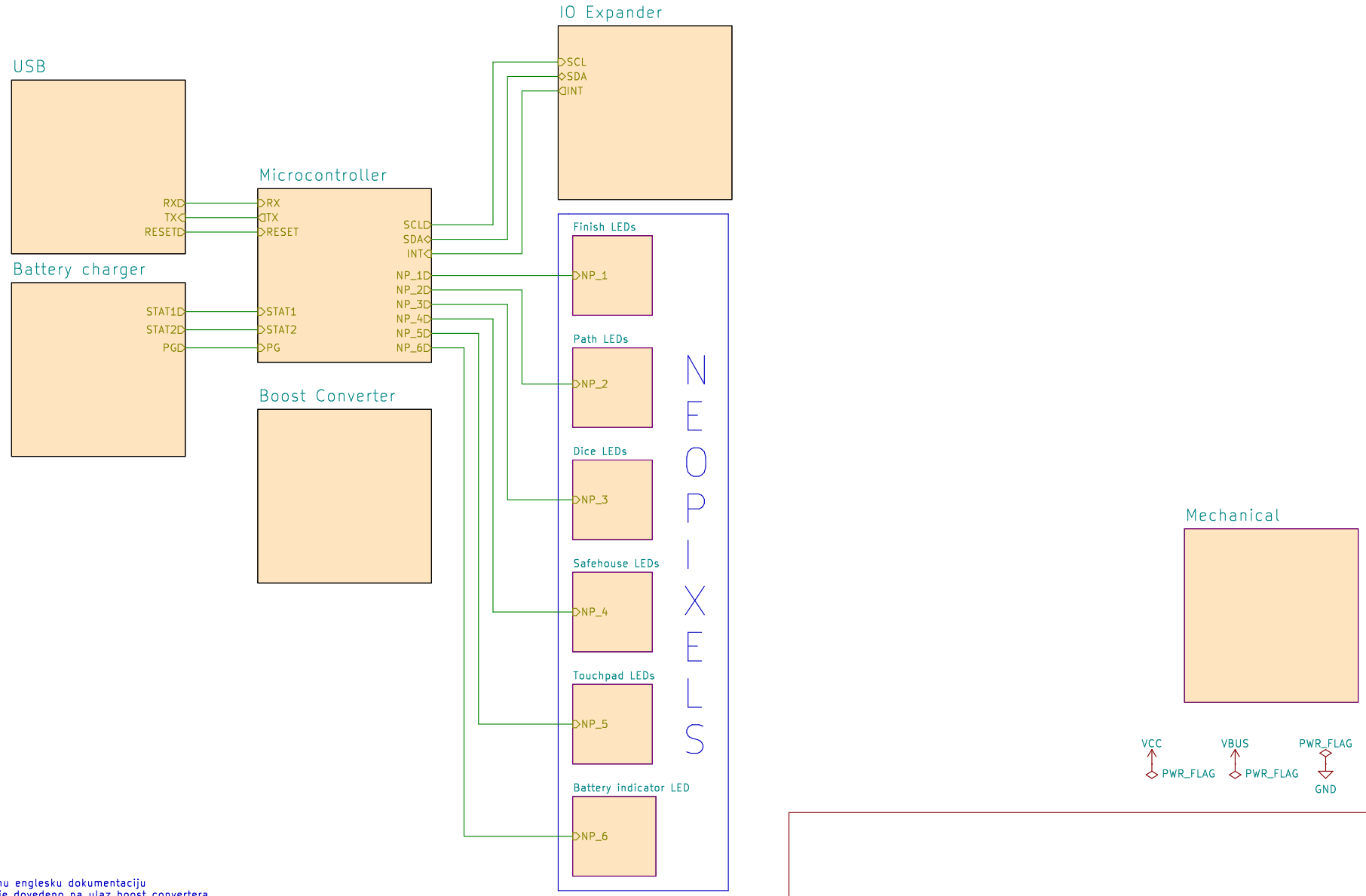


TODO:
- koristiti kompletnu englesku dokumentaciju
- ispraviti napajanje dovedeno na ulaz boost convertera
- maknuti kondenzator na reset tipkalu
- github pojasniti fajlove
- github dokumentirati skriptu

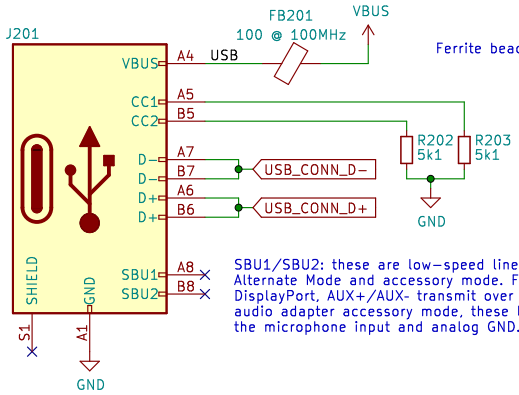
Sheet: /
File: BoardGame.kicad_sch

Title: BoardGame

Size: A4	Date: 2022-09-21	**Rev: 1**
KiCad E.D.A. kicad 7.0.2		Id: 1/13

The device must have 5.1k pull-down on the its port CC pin (on both pins).

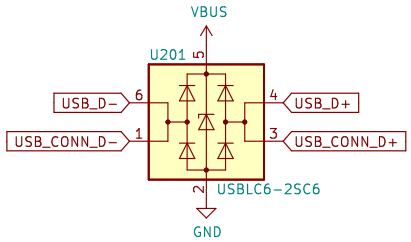
Once the C-C cable is connected between two link partners, the DFP (host) will sense the drag by 5.1k resistor (from device side). As result, it will turn the VBUS on. This is how a host recognizes that a connection has been made. The connect event is essentially controlled by sink side having 5.1k Rd.



Ferrite bead needs to be placed close to USB connector on PCB

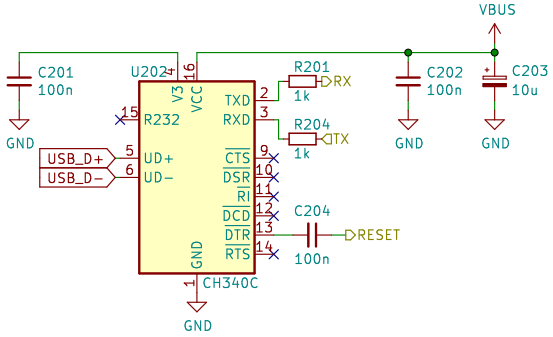
SBU1/SBU2: these are low-speed lines used only for Alternate Mode and accessory mode. For example, with DisplayPort, AUX+/AUX- transmit over the SBU lines. For audio adapter accessory mode, these lines are used for the microphone input and analog GND.

Shield is grounded at the host side (PC) so NC here.



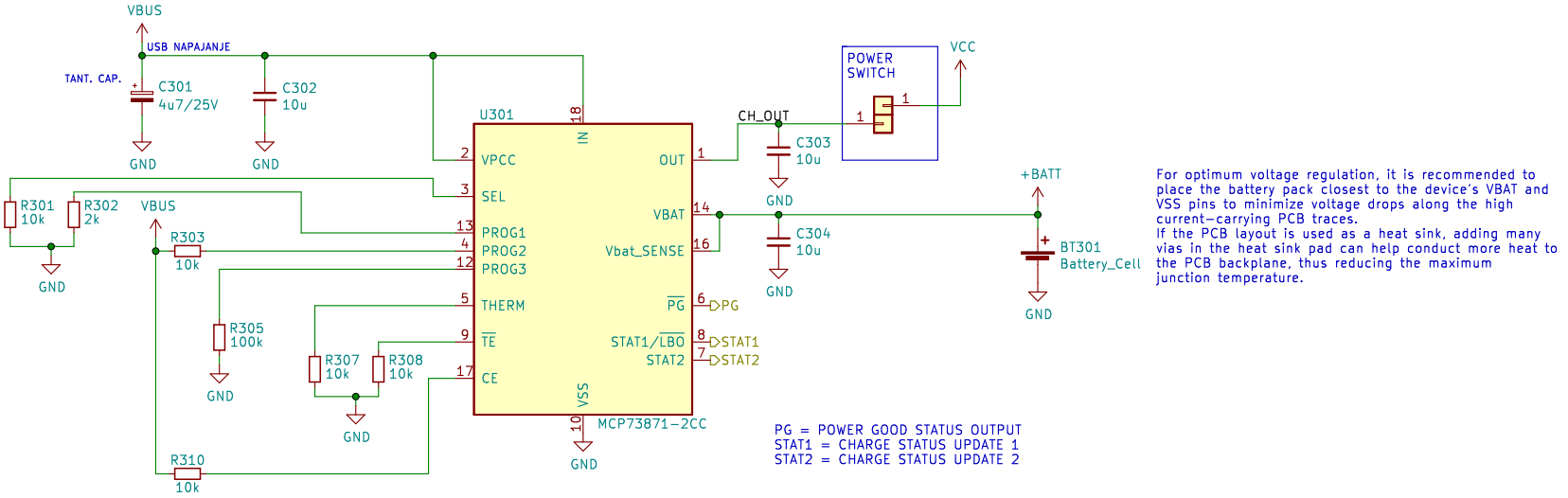
ESD protection IC

CH340C USB-UART IC



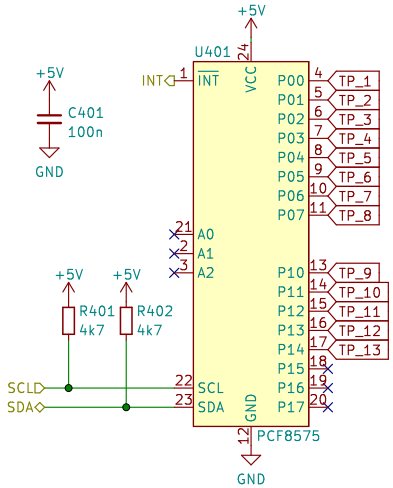
Sheet: /USB/		
File: USB.kicad_sch		
Title: BoardGame		
Size: A4	Date: 2022-09-21	**Rev: 1**
KiCad E.D.A. kicad 7.0.2		Id: 2/13

MCP73871

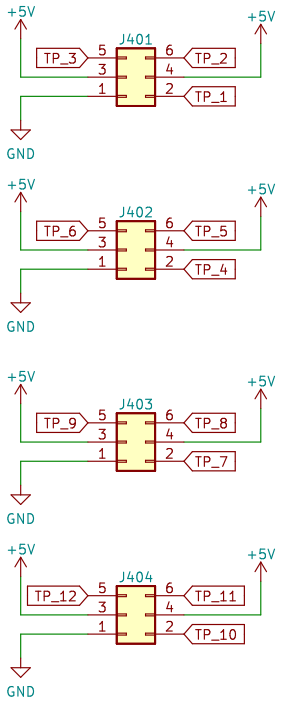


Sheet: /Battery charger/		
File: Battery charger.kicad_sch		
Title: BoardGame		
Size: A4	Date: 2022-09-21	**Rev: 1**
KiCad E.D.A. kicad 7.0.2		Id: 3/13

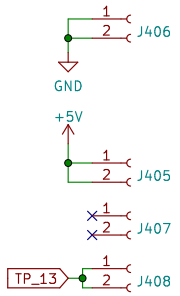
PCF8575 I/O Expander



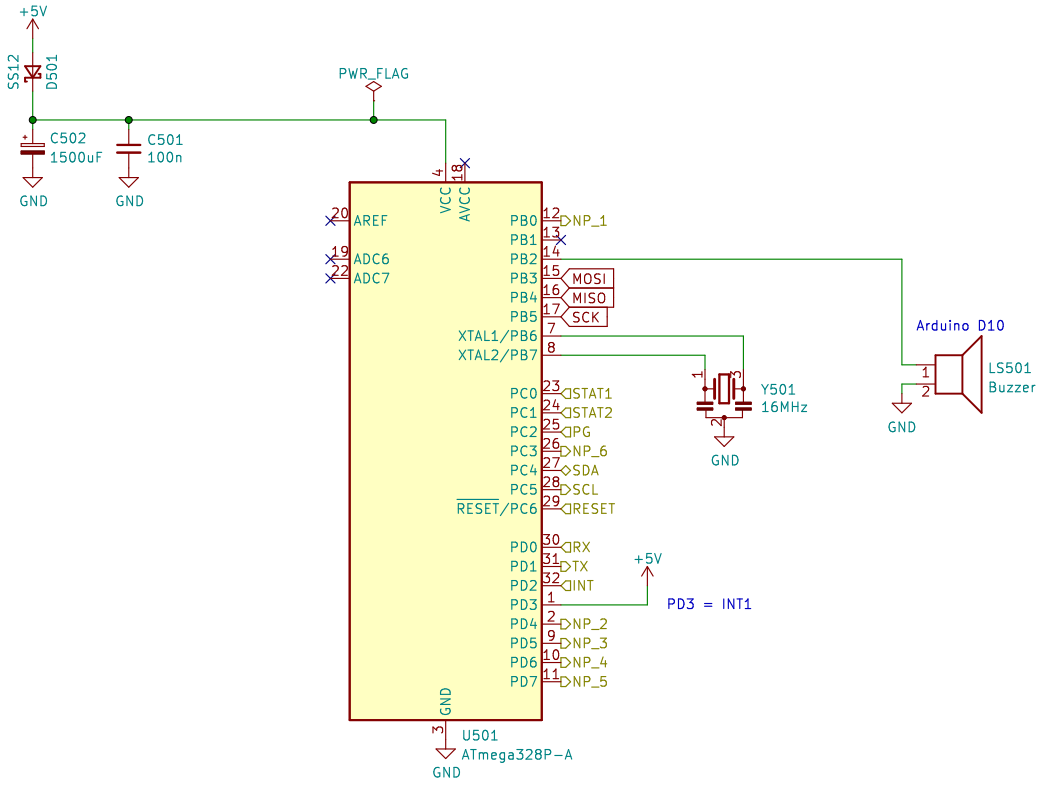
Touchpad connectors

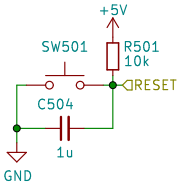


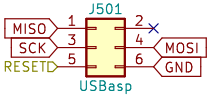
Dice touchpad connectors



Sheet: /IO Expander/		
File: IO Expander.kicad_sch		
Title: BoardGame		
Size: A4	Date: 2022-09-21	**Rev: 1**
KiCad E.D.A. kicad 7.0.2		Id: 4/13





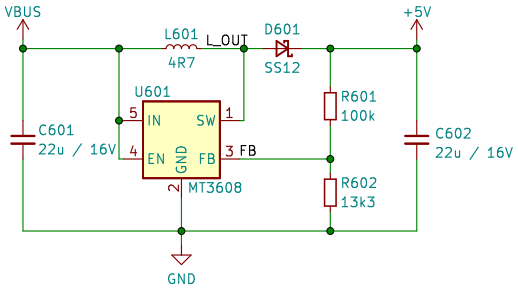


Sheet: /Microcontroller/		
File: Microcontroller.kicad_sch		
Title: BoardGame		
Size: A4	Date: 2022-09-21	**Rev: 1**
KiCad E.D.A. kicad 7.0.2		Id: 5/13

The recommended values of inductor are 4.7 to 22µH.
The inductor should have low core loss at 1.2MHz and low DCR for better efficiency.

Schottky diode is a good choice for MT3608 because of its low forward voltage drop and fast reverses recovery.

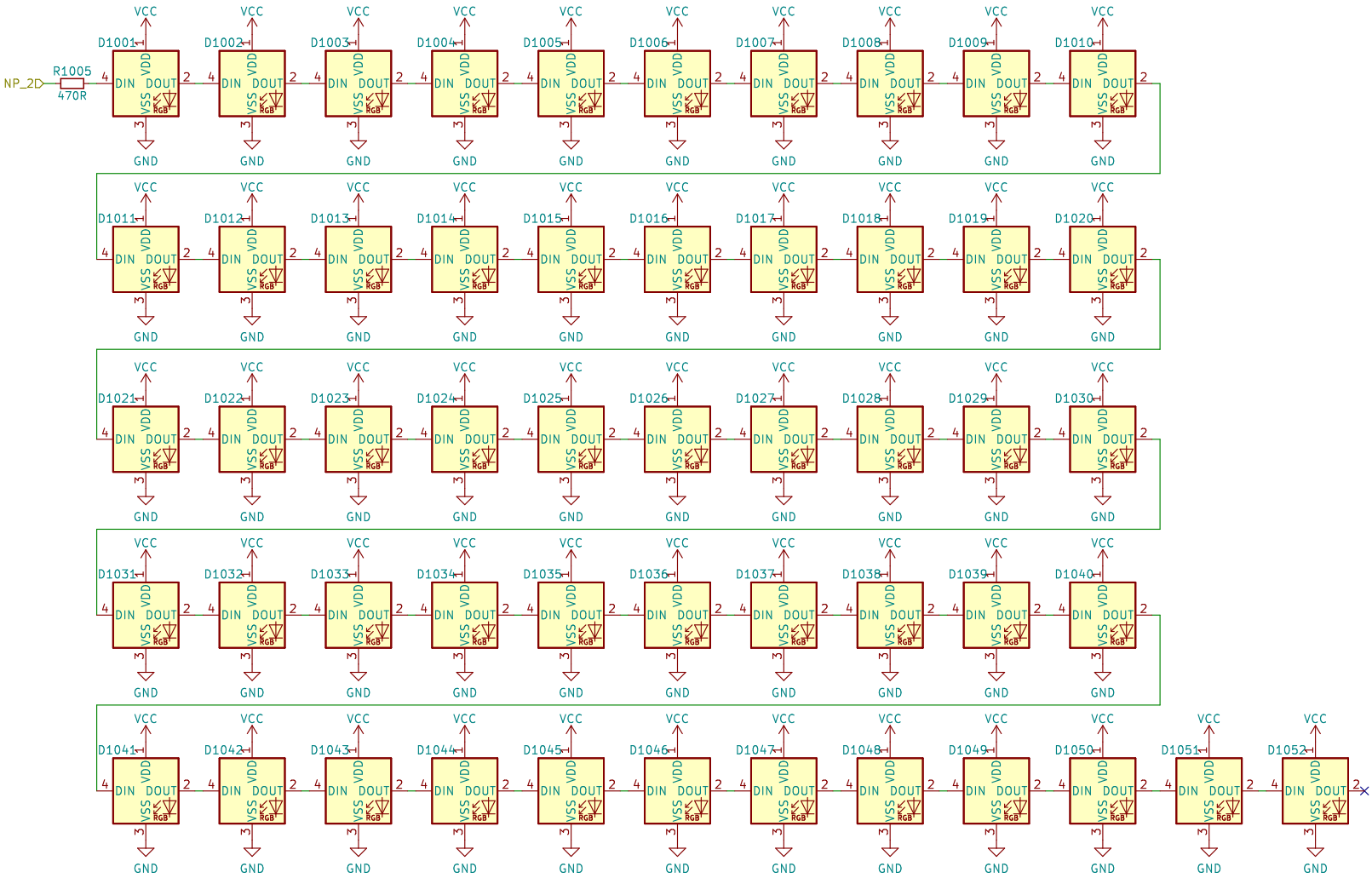
Input and output ceramic capacitors of 22µF are recommended.
For better voltage filtering, ceramic capacitors with low ESR are recommended (X7R).



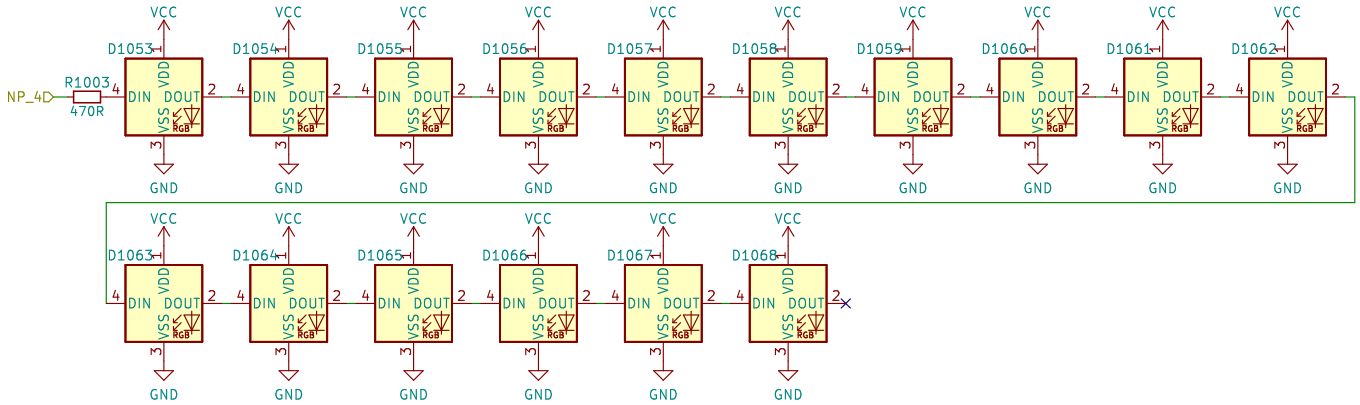
The internal reference V_{REF} is 0.6V (Typical).

$V_{OUT} = V_{REF} * (1 + R_1/R_2)$
$V_{OUT} = 0.6 * (1 + 100k/13.3k) = 5.11V$

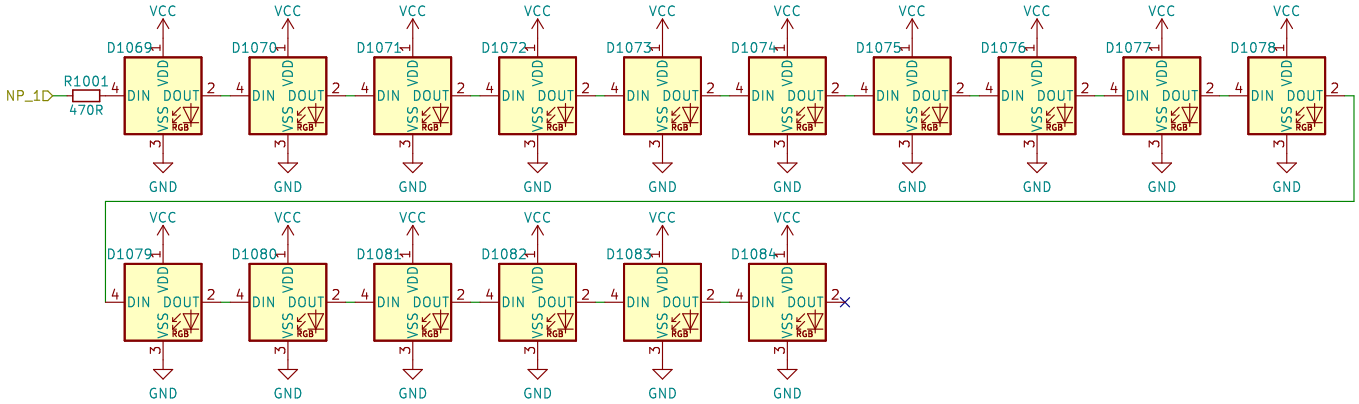
Sheet: /Boost Converter/		
File: Boost Converter.kicad_sch		
Title: BoardGame		
Size: A4	Date: 2022-09-21	**Rev: 1**
KiCad E.D.A. kicad 7.0.2		Id: 6/13



Sheet: /Path LEDs/		
File: Path LEDs.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.2		Id: 8/13



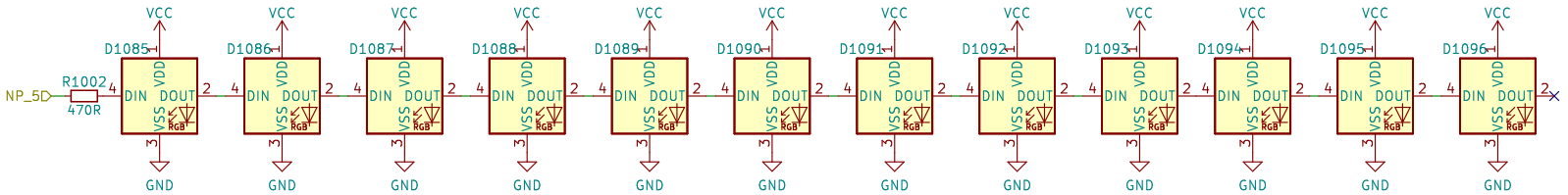
Sheet: /Safehouse LEDs/		
File: Safehouse LEDs.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.2		Id: 9/13



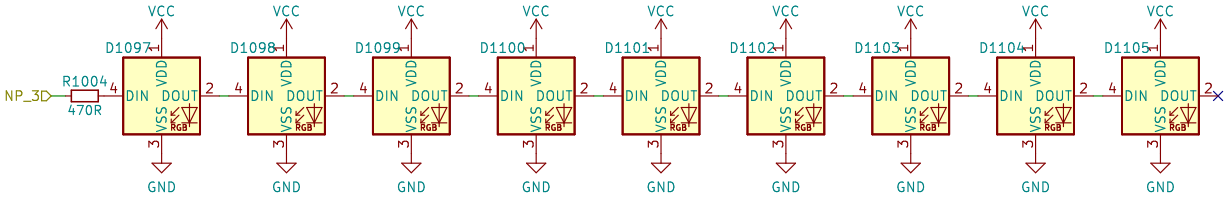
Sheet: /Finish LEDs/
File: Finish LEDs.kicad_sch

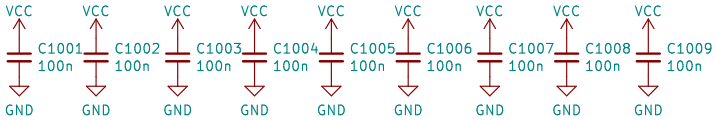
Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.2		Id: 10/13

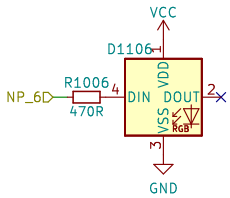


Sheet: /Touchpad LEDs/		
File: Touchpad LEDs.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.2		Id: 11/13





Sheet: /Dice LEDs/		
File: Dice LEDs.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.2		Id: 12/13



Sheet: /Battery indicator LED/		
File: Battery indicator LED.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.2		Id: 13/13

Sheet: /Mechanical/
File: Mechanical.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.2		Id: 14/13