

PCB Overview

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Markus Koch – entsyncing.net

Sheet: /
 File: leddie.kicad_sch

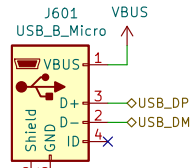
Title: Leddie

Size: A4 Date: 2021-03-06

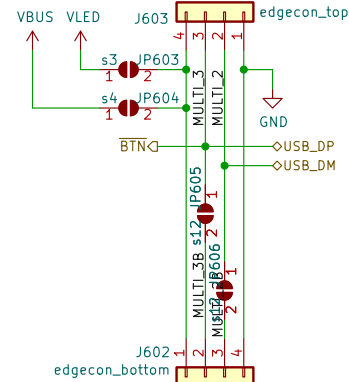
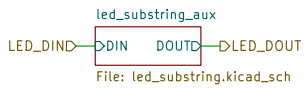
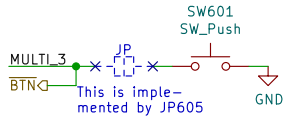
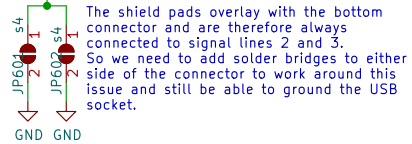
KiCad E.D.A. kicad (6.0.8)

Rev: 01

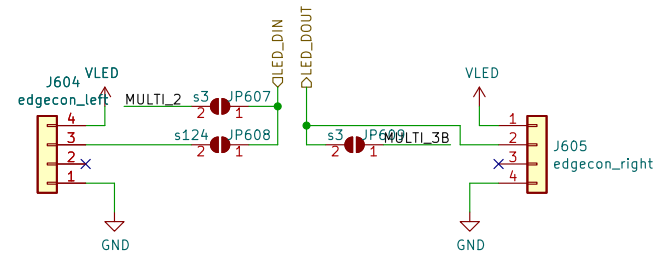
Id: 1/7



MULTI_3B will be shorted to GND using JP602

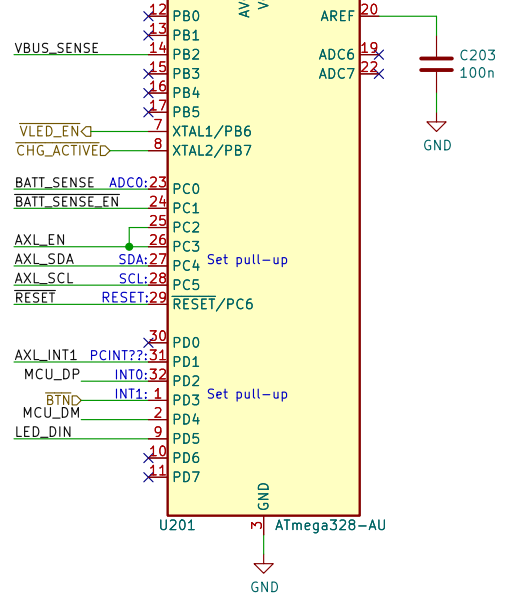
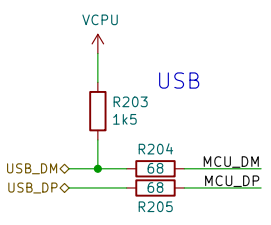
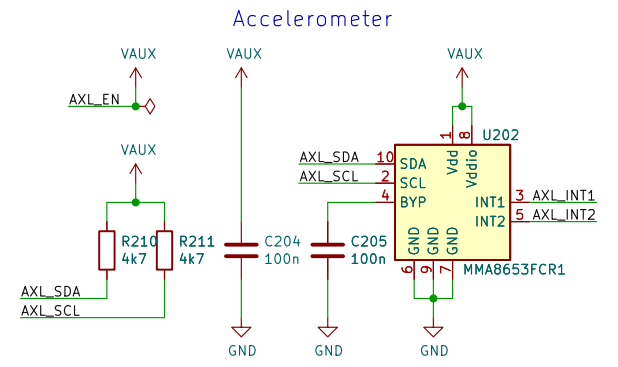
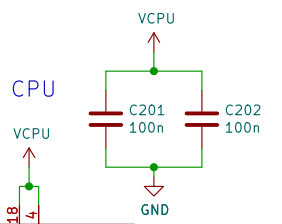
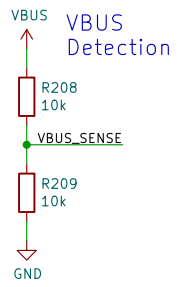
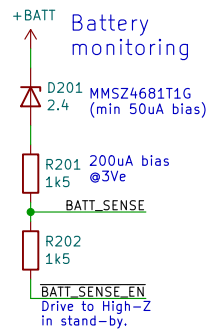


Pins 2+3 are always connected to the USB FRAME in the layout

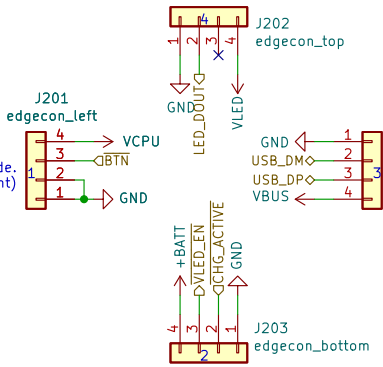


The "sXXXX" markings on solder jumpers indicate which side it is to be bridged on.
 IDs (directions from power board):
 S1: Switch (left)
 S2: Power mgmt, direct (top)
 S3: LED data + VLED (bottom)
 S4: USB + VBUS (right)

LED + Routing		This sheet will be used for four PCBs with different component population.	
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Sheet: /aux/ File: aux.kicad_sch			
Title: Leddie			
Size: A4	Date: 2021-03-06	Rev: 01	
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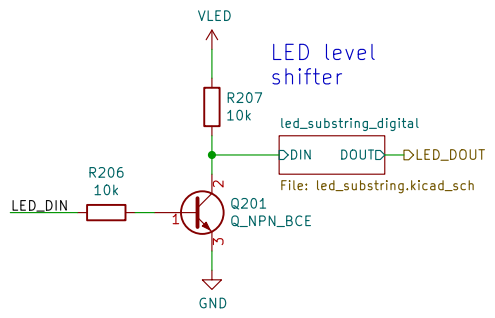


To get the bottom connection, swap pin numbers and position. E.g.: 4.3 (top) becomes 4.2 (bottom)



To get the bottom connection, swap pin numbers, but not the side. E.g.: 3.1 (right) becomes 3.1 (right)

L and R center (2+3) can not go through to the bottom. They connect J204 only to HW on the sides. edgecon_right



Digital Logic

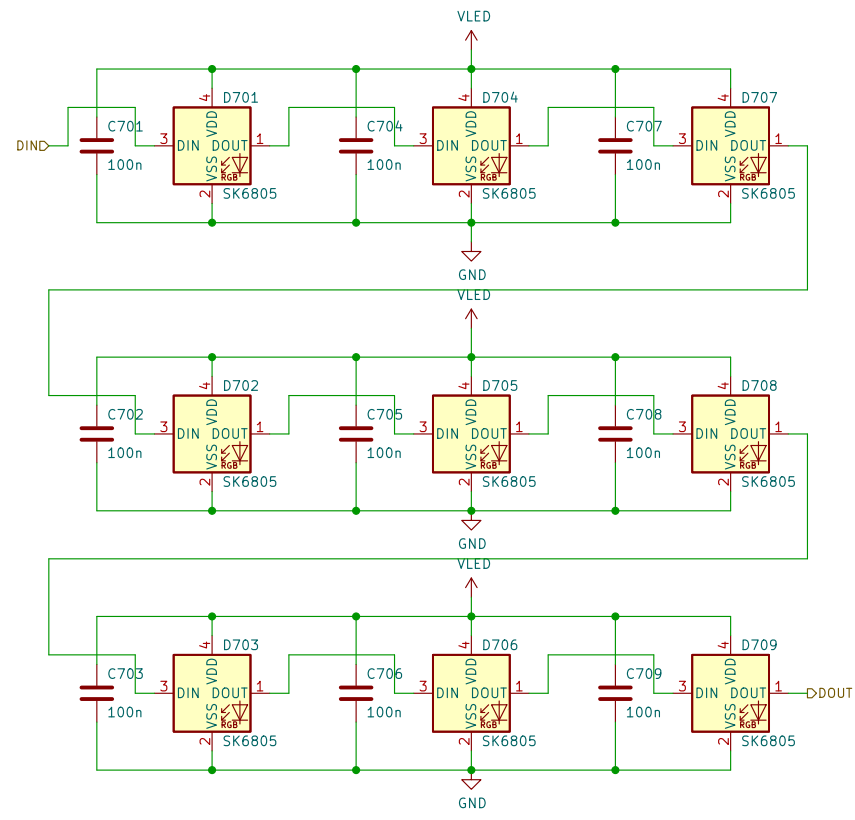
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Sheet: /digital/
 File: digital.kicad_sch

Title: Leddie

Size: A4 Date: 2021-03-06
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Rev: 01
 Id: 3/7



LED substring for one side

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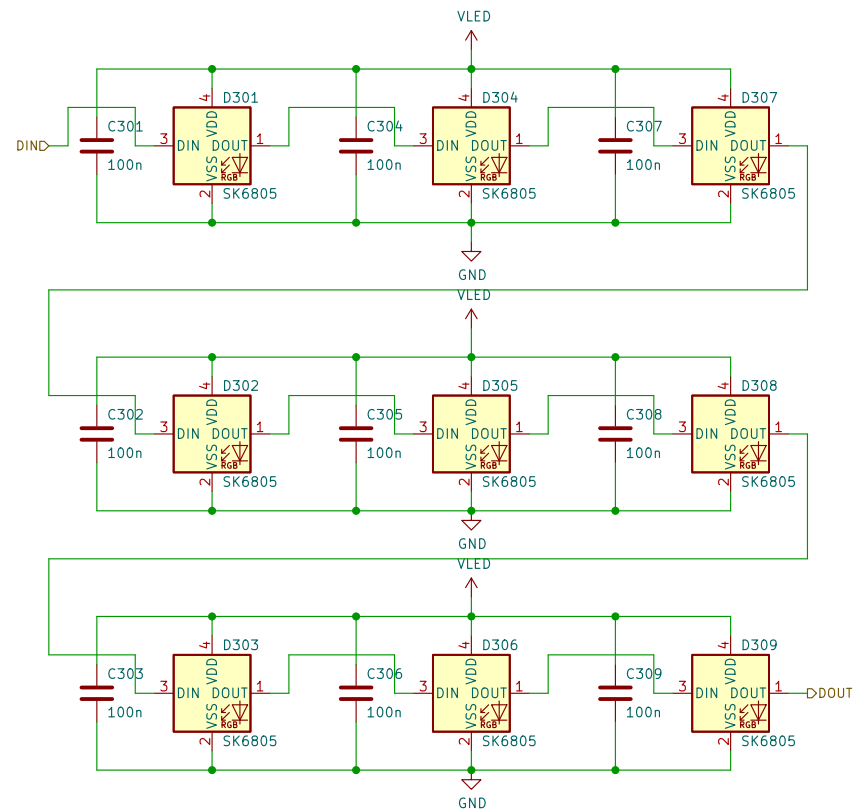
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Sheet: /aux/led_substring_aux/
 File: led_substring.kicad_sch

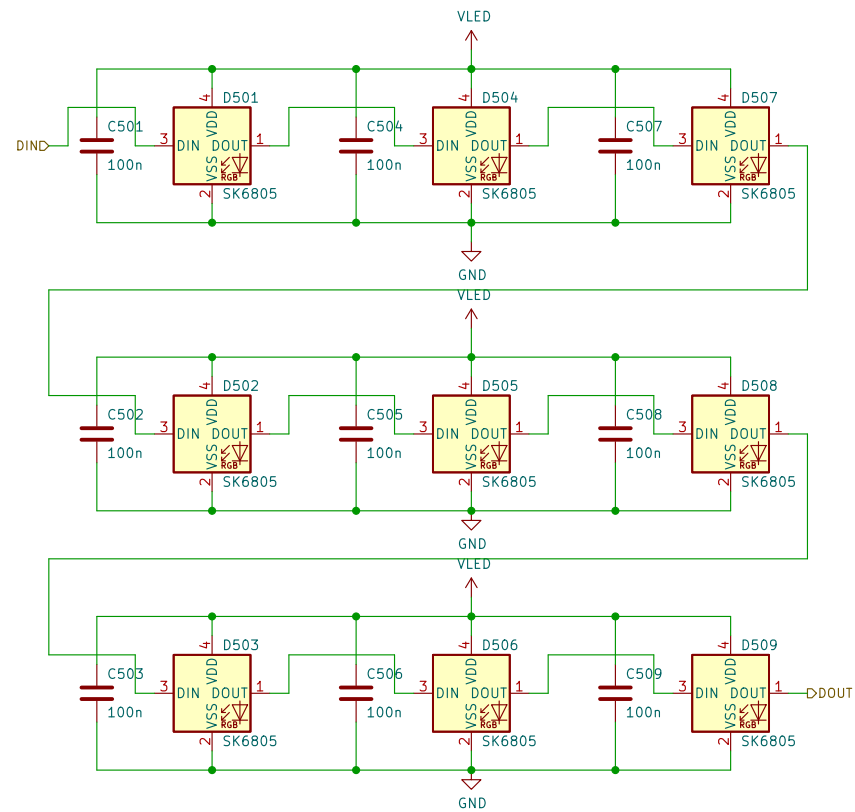
Title: Leddie

Size: A4	Date: 2021-03-06
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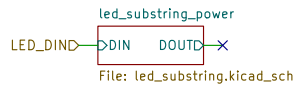
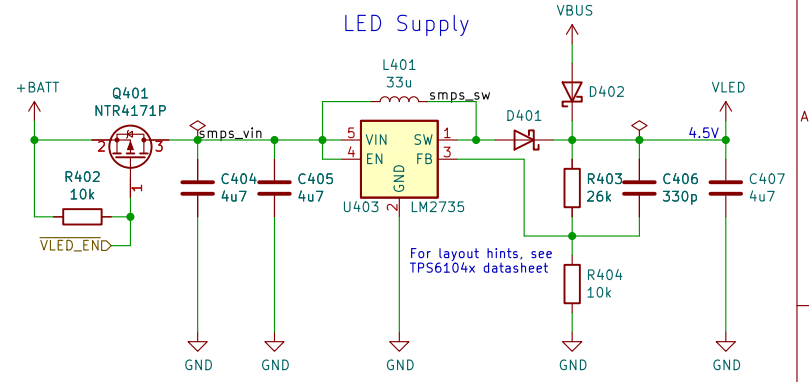
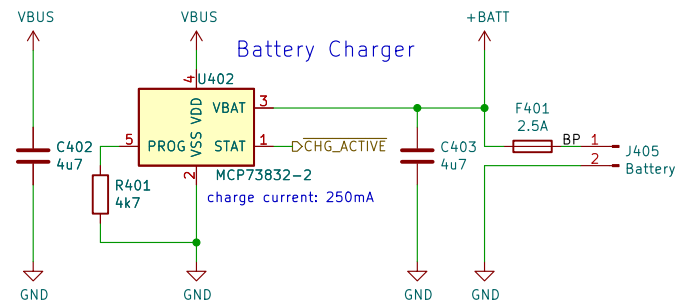
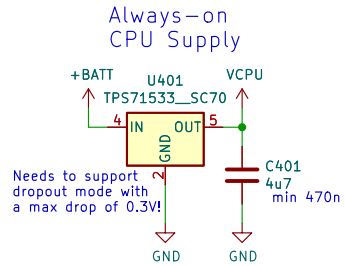
Rev: 01
Id: 4/7



LED substring for one side	
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Sheet: /digital/led_substring_digital/ File: led_substring.kicad_sch	
Title: Leddie	
Size: A4	Date: 2021-03-06
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LED substring for one side	
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Sheet: /power/led_substring_power/ File: led_substring.kicad_sch	
Title: Leddie	
Size: A4	Date: 2021-03-06
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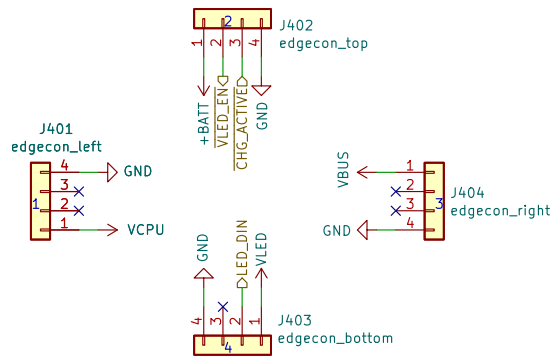
Power supply overview

Always on:
 +BATT: 3.0 – 4.2 V, 2.5 A, unregulated from battery cell
 VCPU: 3.0 – 3.3 V, 50 mA, unregulated, clipped at 3.3V

CPU controlled:
 VAUX: VCPU – 0.7V, 10 mA, unregulated
 VLED: 5V, 2.1 A, regulated

When plugged in:
 VBUS: 5V, 500 mA, regulated

Note: Current values are maximum design current.
 Note: VLED shall not draw more than 400 mA.
 Note: Stand-by current should be around 5uA.
 Note: VAUX is generated on the "digital" sheet.



Power supply and battery management	
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Size: A4	Date: 2021-03-06
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