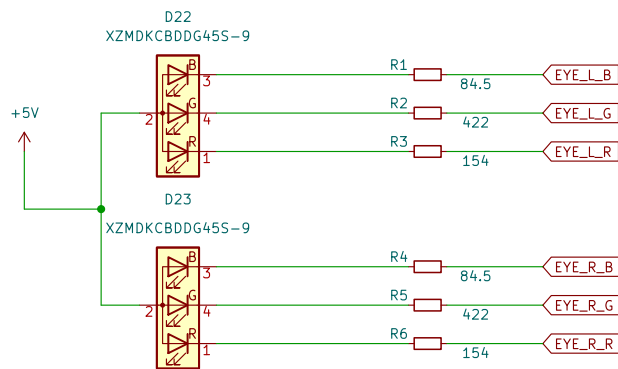


This sheet contains the SK9822 LED chain around the perimeter of the badge	
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<b>Yahoo</b>	
Sheet: /LED chain/ File: led_chain.kicad_sch	
<b>Title: Paranoïds Con Badge</b>	
Size: A4	Date: 2022-06-21
KiCad E.D.A. kicad (6.0.1-0)	Rev: A Id: 2/6



Resistor values calculated as follows:

Typical luminous intensity @ 20 mA  $\approx$  100 mcd for R/B, 500 mcd for G  
 --> Want to run green at 1/5 current (4 mA)

$V_f$  (Typ.) @ 20 mA = 1.95/3.3/3.3 V for R/G/B

With 5V supply,  $R_{ser} = (5V - V_f)/I$

= 152.5/425/85  $\Omega$

(NOTE: This does not take into account the lower  $V_f$  of green at the lower current)

This was then rounded to the nearest E96 value

This sheet contains the RGB LEDs that light up behind the eyes

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**Yahoo**

Sheet: /Eye LEDs/  
 File: eye\_leds.kicad\_sch

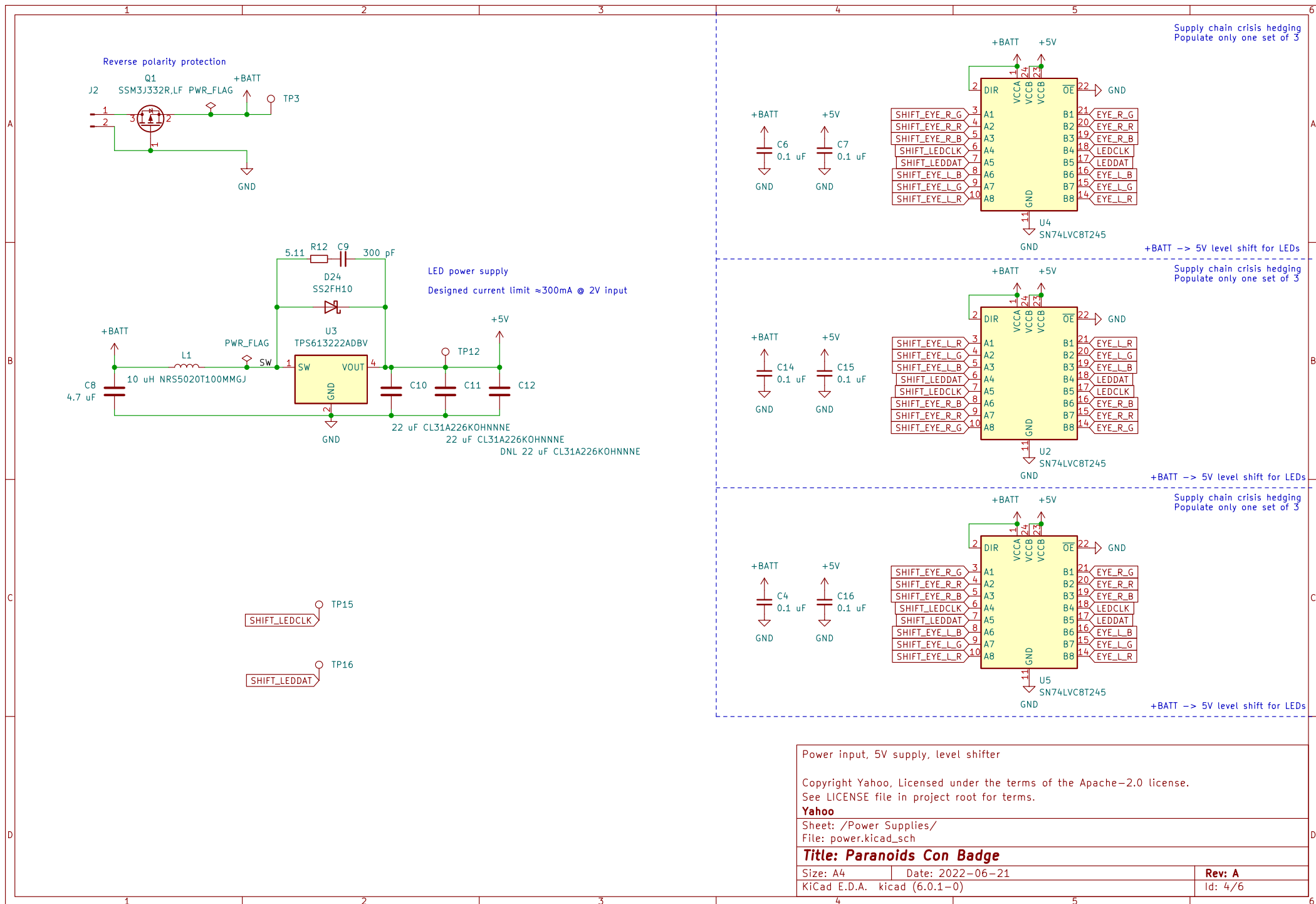
**Title: Paranooids Con Badge**

Size: A4 Date: 2022-06-21

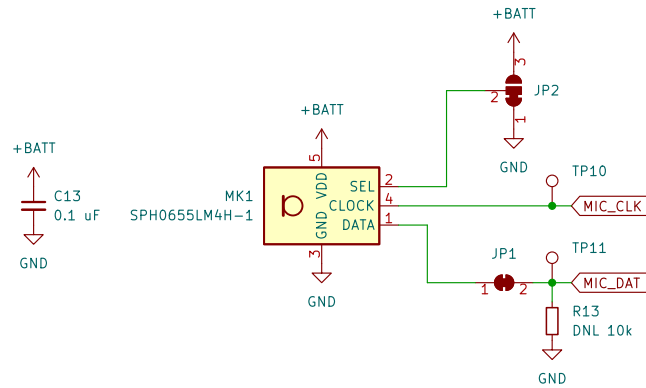
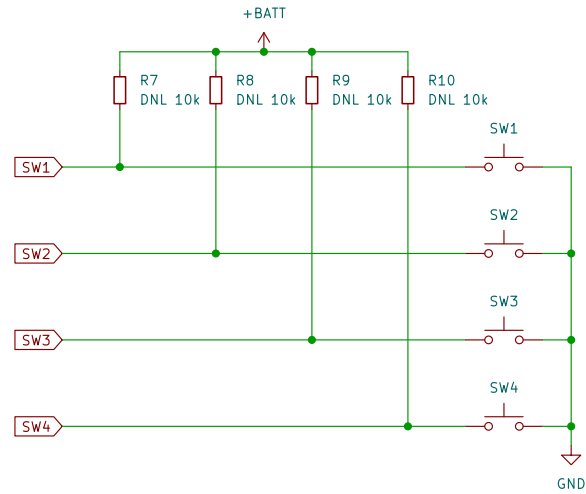
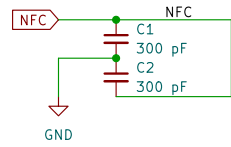
KiCad E.D.A. kicad (6.0.1-0)

**Rev: A**

Id: 3/6



NFC antenna  
PCB coil with target inductance 0.72 uH



Buttons, microphone

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Sheet: /Peripherals (buttons, NFC, microphone)/  
File: periphs.kicad\_sch

**Title: Paranooids Con Badge**

Size: A4 Date: 2022-06-21

KiCad E.D.A. kicad (6.0.1-0)

**Rev: A**

Id: 5/6

