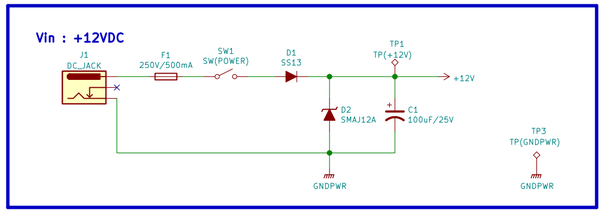
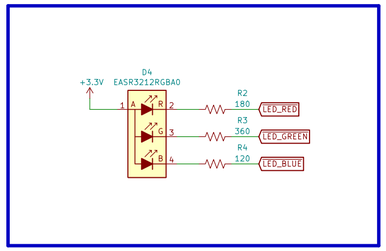
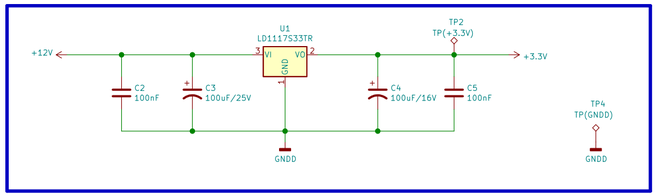


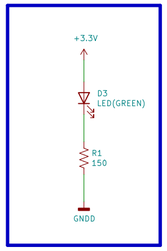
POWER CONNECTOR (+12V)



LED (STATUS)



+12V to +3.3V REGULATOR



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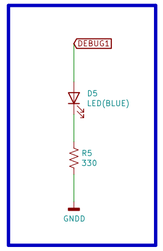
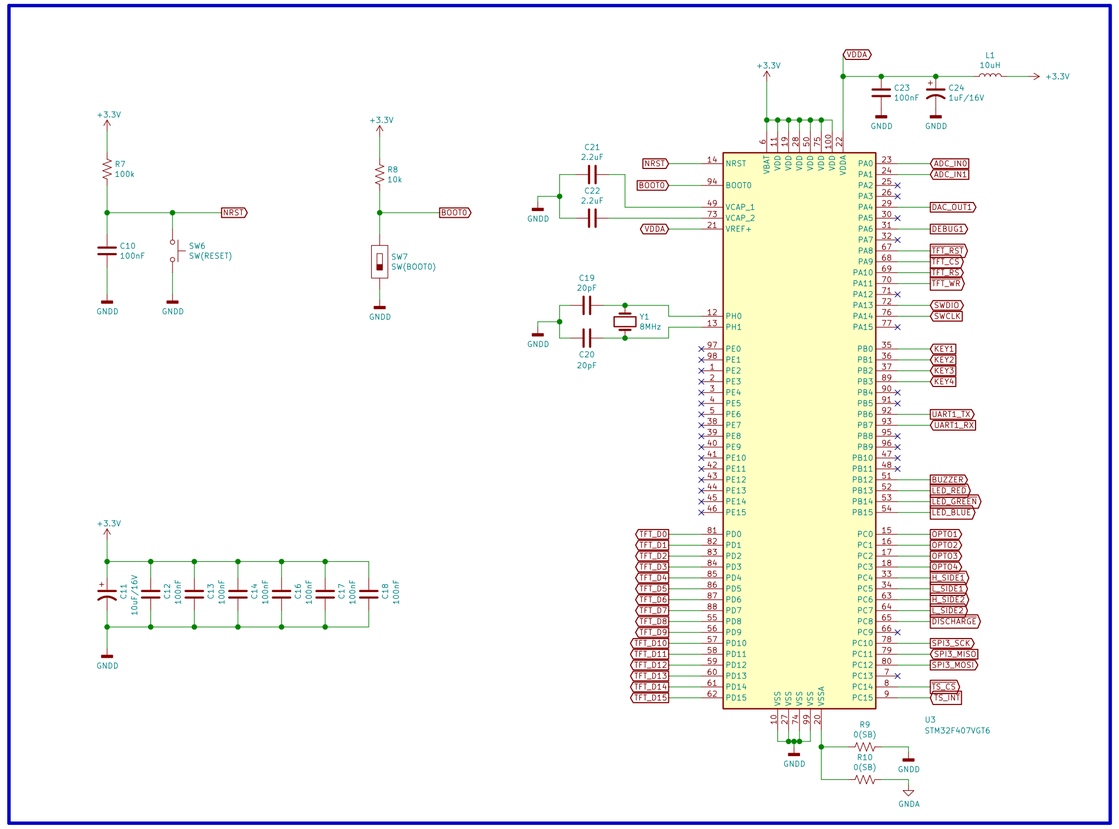
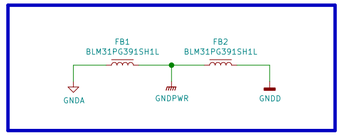


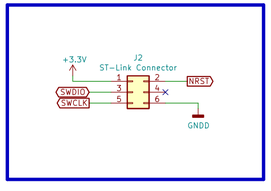
LED (DEBUG)



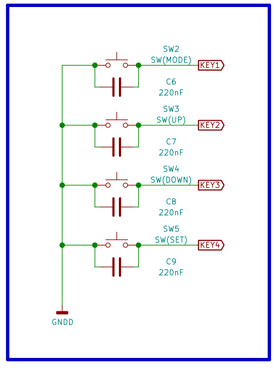
MCU (STM32F407VGT6)



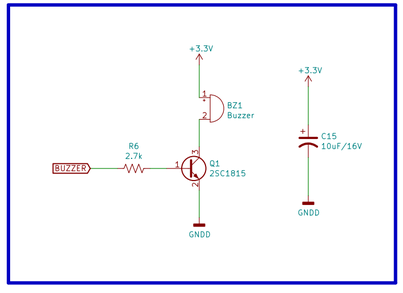
GROUND



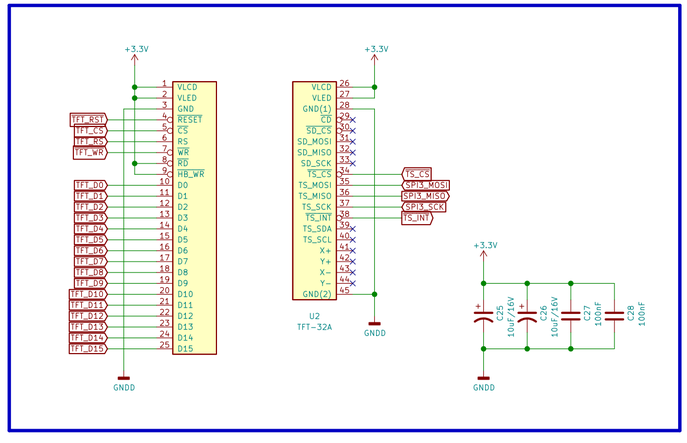
ST-LINK CONNECTOR



KEY



BUZZER



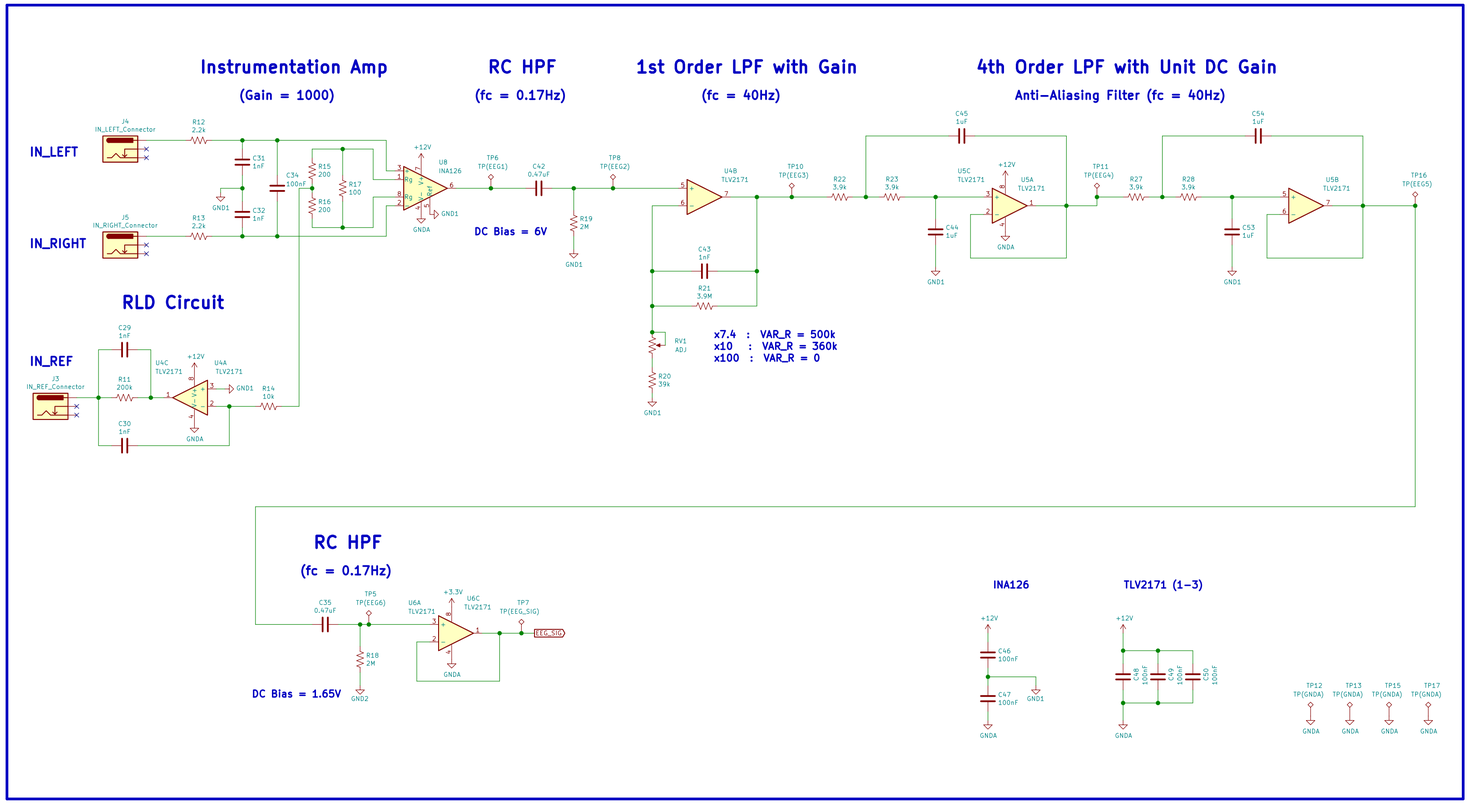
TFT LCD

Designed by Ganghyeok Lim
Arkx

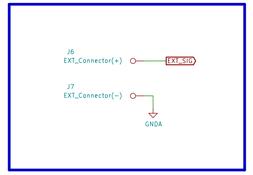
Sheet: /
File: EEG_Ver1.0A.sch

Title: EEG Measurement & Brain Stimulation System (1/4)

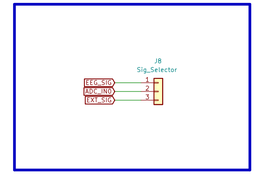
Size: User	Date: 2021-02-27	Rev: Ver1.0A
KiCad E.D.A. kicad (5.1.7)-1		Id: 1/4



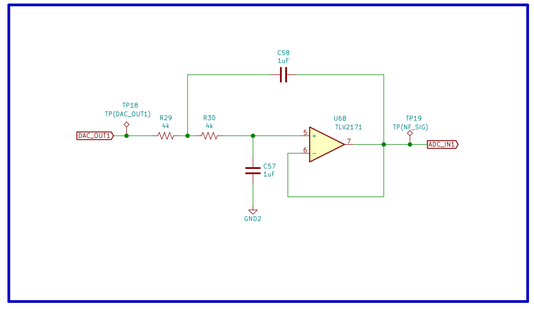
EEG MEASUREMENT CIRCUIT



EXTERNAL SIGNAL

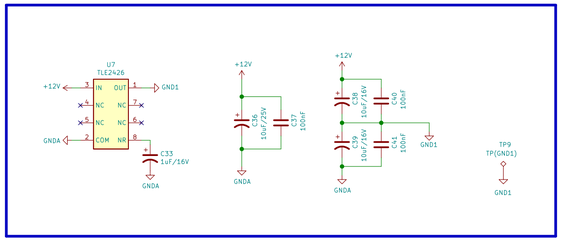


ADC_IN0 INPUT SELECTOR

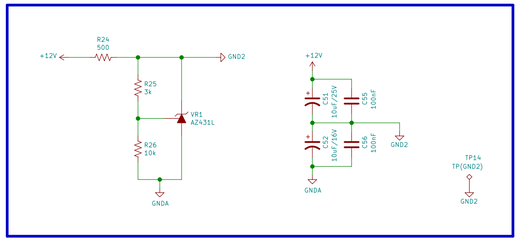


2th Order LPF with Unit DC Gain

Post Filter (fc = 40Hz)

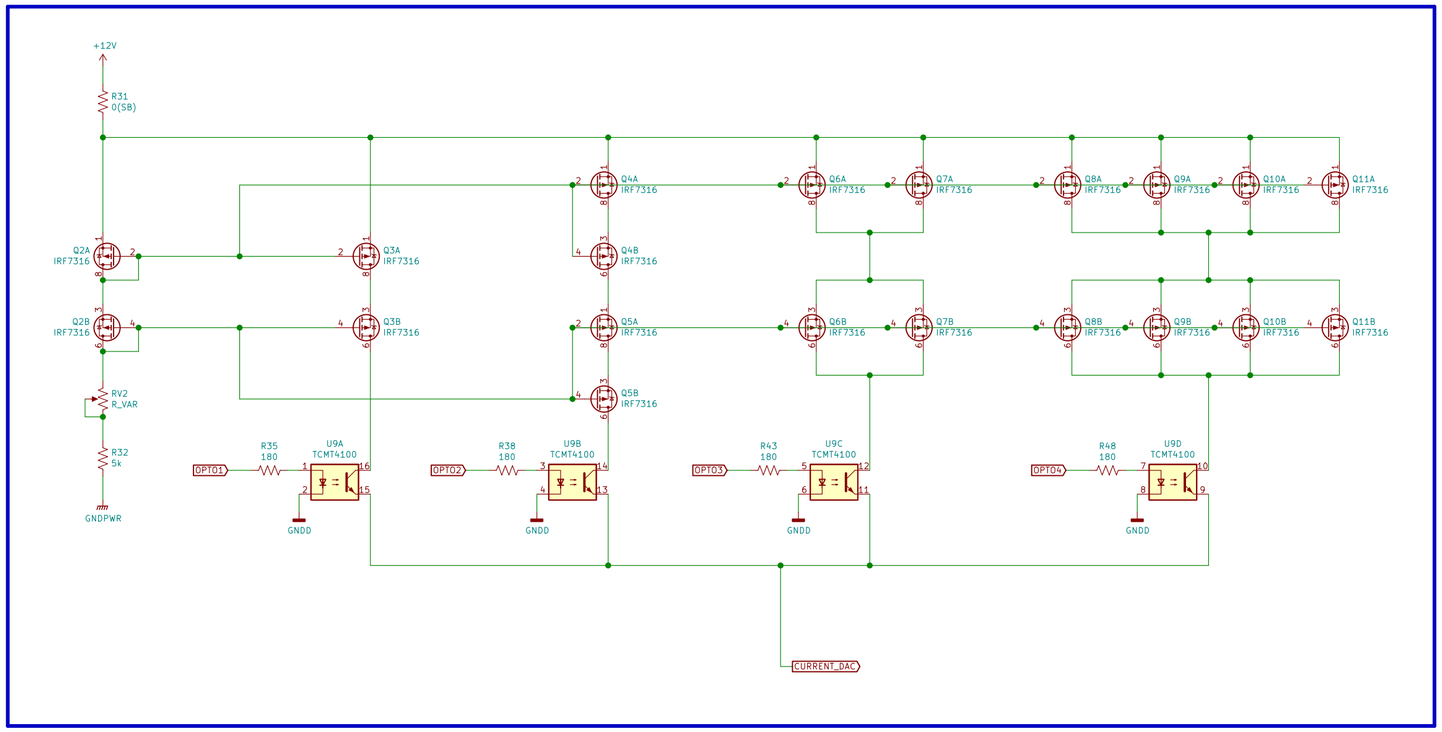


GND REFERENCE (GND1 : 6[V])

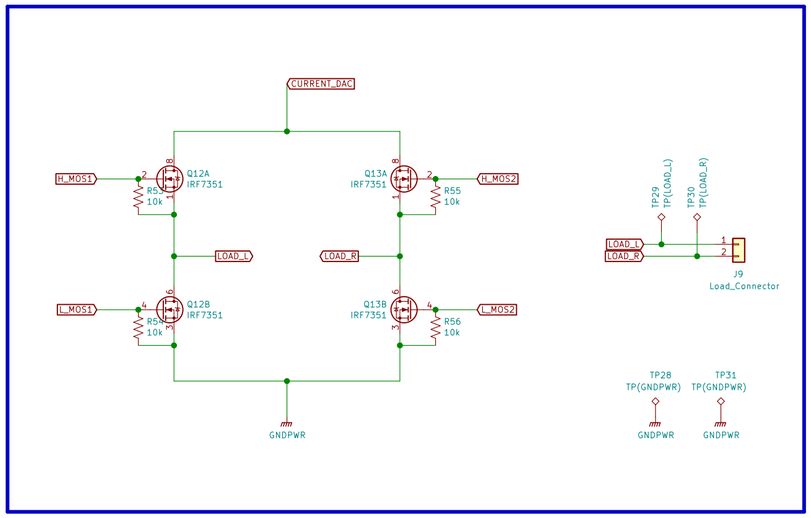


GND REFERENCE (GND2 : 1.65[V])

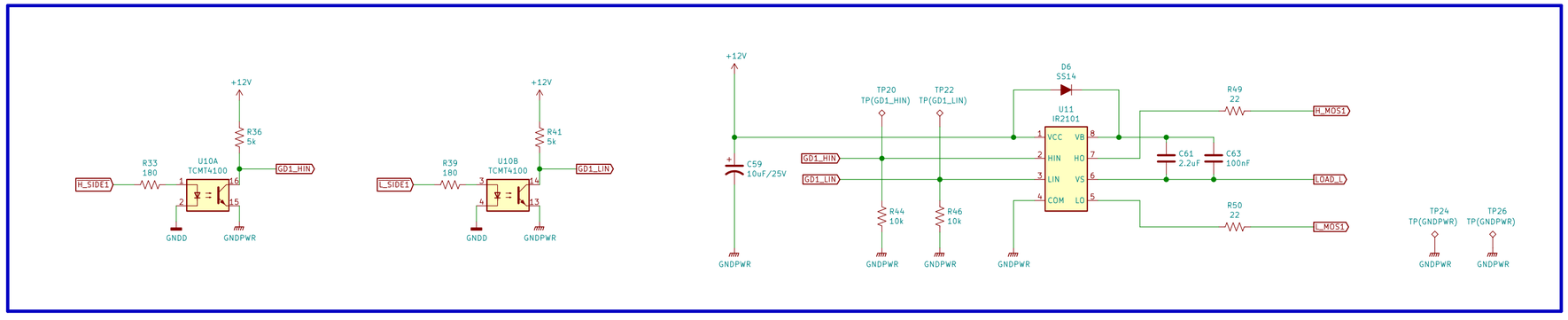
Designed by Ganghyeok Lim
Arkx
Sheet: /EEG Measurement & Stimulation System (2/4)/
File: file6038A417.sch
Title: EEG Measurement & Brain Stimulation System (2/4)
Size: User | Date: 2021-02-28 | Rev: Ver1.0A
KiCad E.D.A. kicad (5.1.7)-1 | Id: 2/4



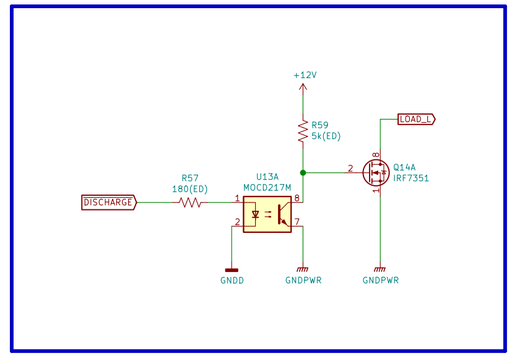
CURRENT STEERING DAC



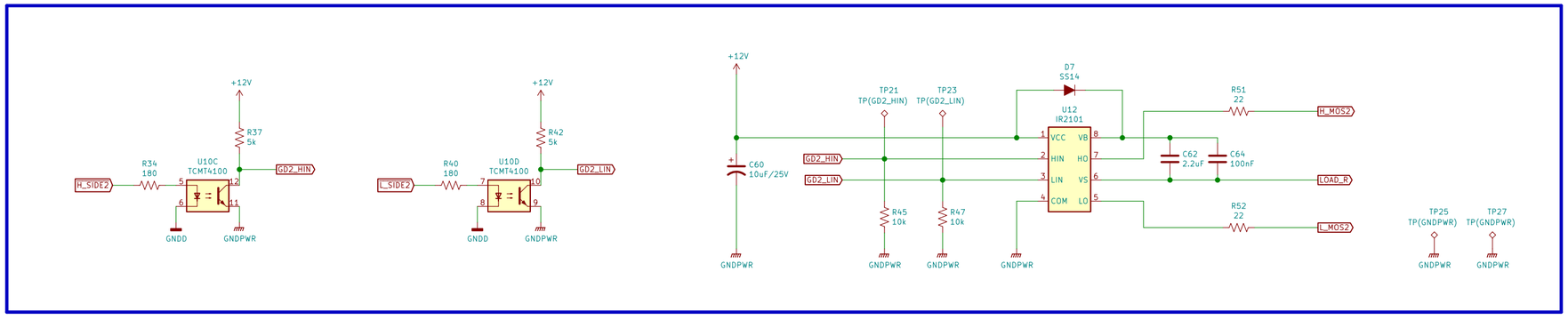
BI-PHASIC BIPOLAR CURRENT DRIVER



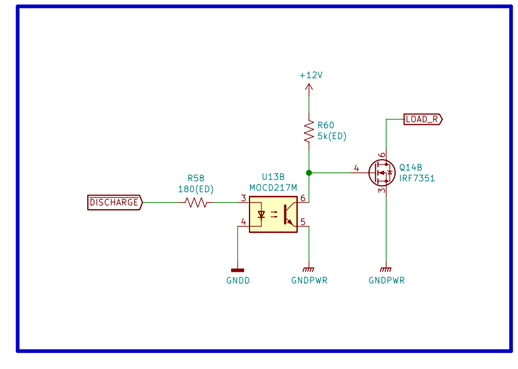
BIPOLAR PULSE SHAPING GATE DRIVER (LEFT)



PASSIVE DISCHARGE (LEFT)



BIPOLAR PULSE SHAPING GATE DRIVER (RIGHT)

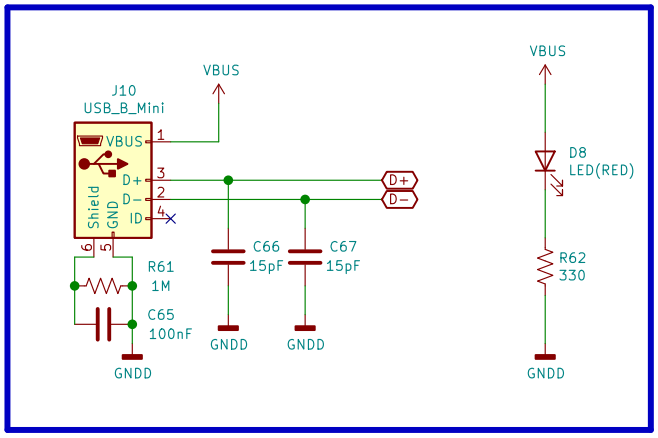


PASSIVE DISCHARGE (RIGHT)

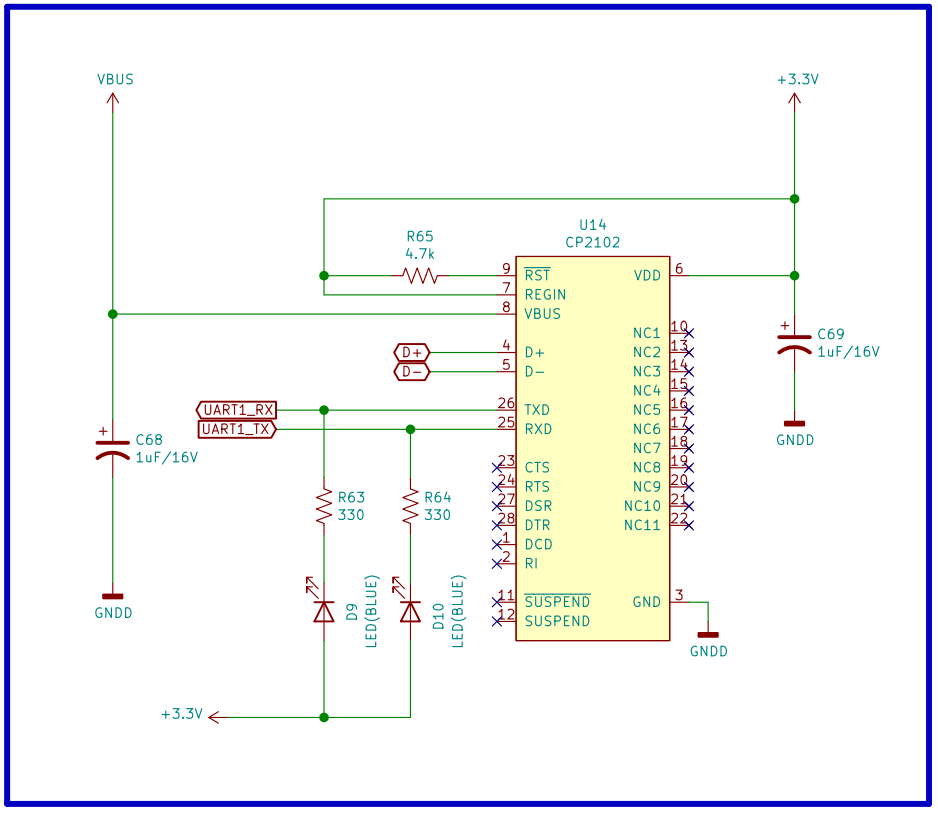
Designed by Ganghyeok Lim
Arkx
Sheet: /EEG Measurement & Stimulation System (3/4)/
File: file60945293.sch

Title: EEG Measurement & Brain Stimulation System (3/4)

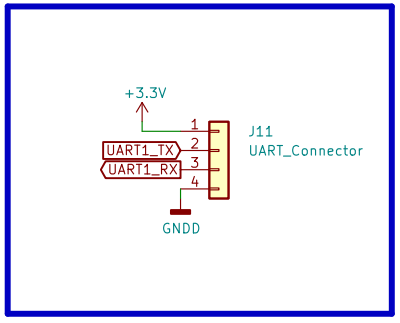
Size: User	Date: 2021-04-01	**Rev: Ver1.0A**
KiCad E.D.A. kicad (5.1.7)-1		Id: 3/4



USB−B MINI CONNECTOR



USB to UART BRIDGE



UART CONNECTOR

Designed by Ganghyeok Lim
Arkx

Sheet: /EEG Measurement & Stimulation System (4/4)/
File: file61D3EB20.sch

Title: EEG Measurement & Brain Stimulation System (4/4)

Size: A4	Date: 2021−04−08	**Rev: Ver1.0A**
KiCad E.D.A. kicad (5.1.7)−1		Id: 4/4