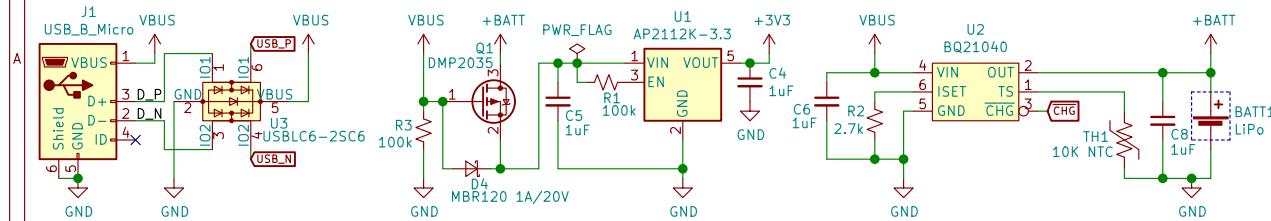
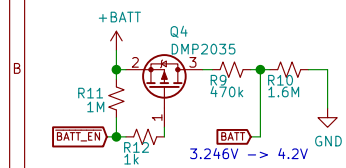


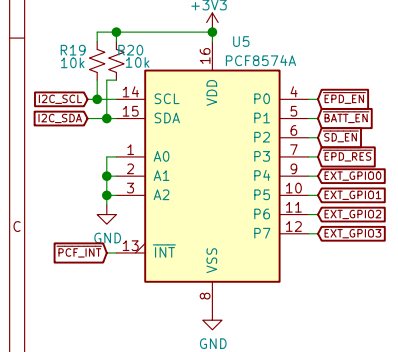
## Power Supply and Battery Charging



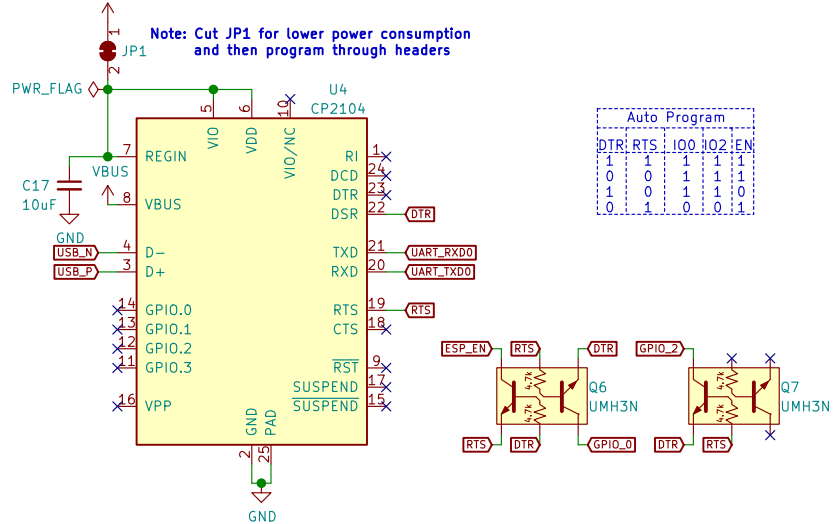
## Battery Sensing



## IO Expansion

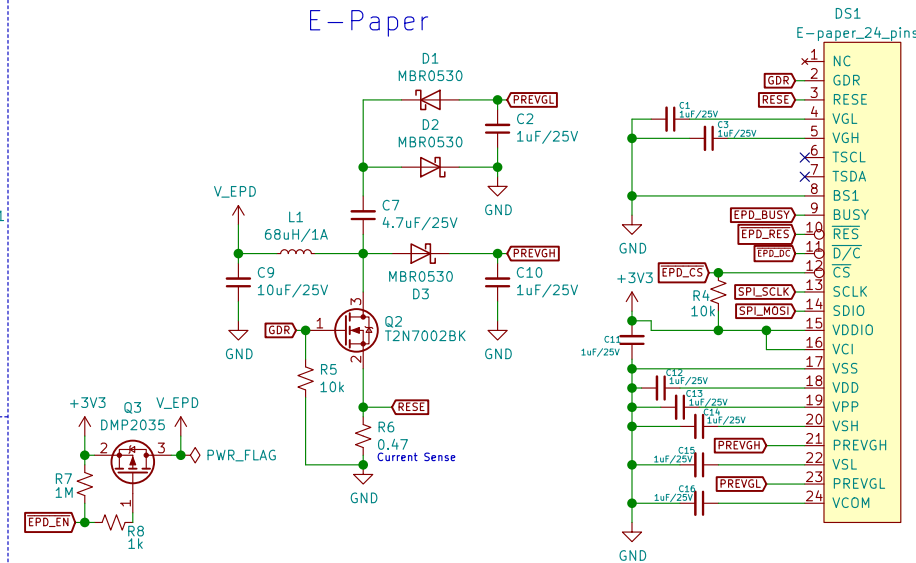


## USB to UART Interface

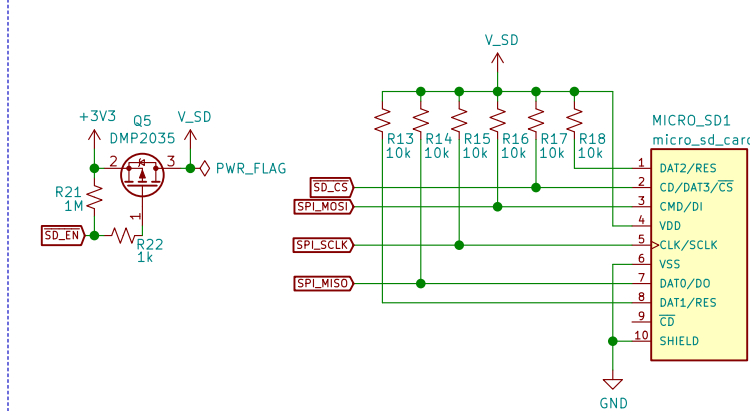


Auto Program					
DTR	RTS	IO0	IO2	EN	
1	1	1	1	1	1
0	0	1	1	1	1
1	0	1	1	1	0
0	1	0	0	1	1

## E-Paper



## SD Card



## TO-DO

- + Check e-paper display inductor requirement
- Battery charger resistor value
- + Battery Sense Resistors
- JST PH 2 pin for battery connector
- ? Reverse Polarity on the Input – check in spice what would happen for existing circuit
- + ESD Protection
- + Add Auto-program circuit
- + Check if GPIO2 is required for the Auto-Program circuit
- Confirm Buzzer circuit with respect to Piezo/Magnetic
- Check Decoupling capacitors
- Check LED Resistors

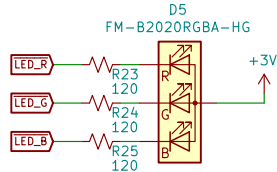
## NOTES:

## References

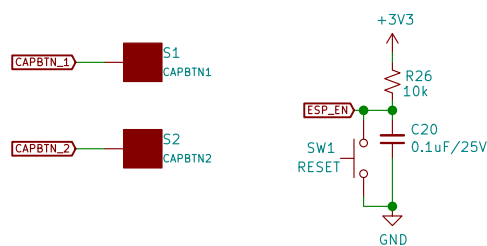
SD Card: <https://www.alliedelec.com/m/d/04db416b29101146889dbd6129e2644.pdf>  
 LED: <https://hackaday.com/2017/01/20/cheating-at-5v-ws2812-control-to-use-a-3-3v-data-line/>  
 JTAG: [http://www.keil.com/support/man/docs/ulink2/ulink2\\_hw\\_connectors.htm](http://www.keil.com/support/man/docs/ulink2/ulink2_hw_connectors.htm)

## LED

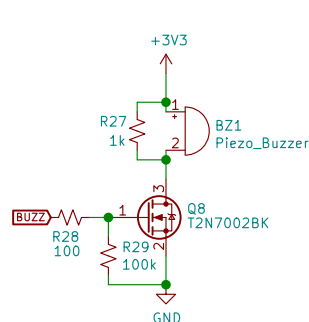
Note: LED and capacitive buttons are on different PCB



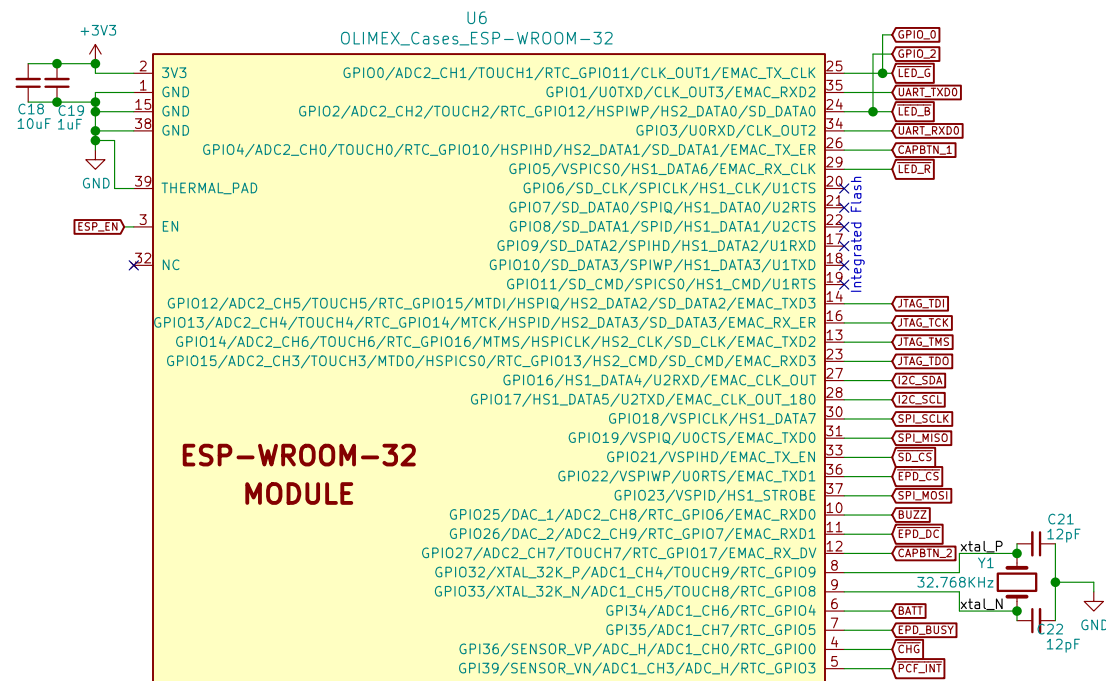
## BUTTON



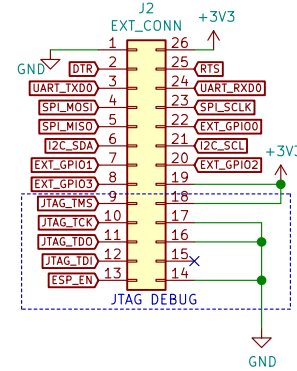
## BUZZER



## ESP32-WROOM



## External Header



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Sheet: /  
File: KaroDesk\_V1.sch

Title: alpha

Size: A3 Date: 2019-09-15  
KiCad E.D.A. kicad 5.1.4-e60b26684ubuntu16.04.1

Rev: 1  
Id: 1/1