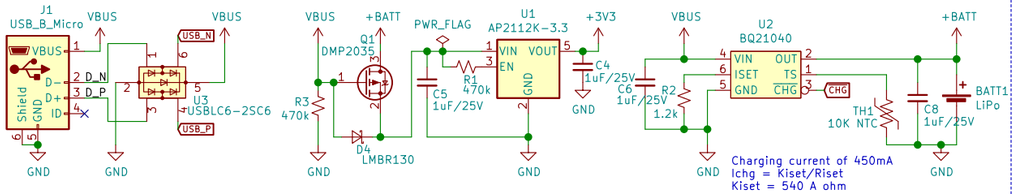
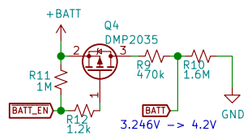
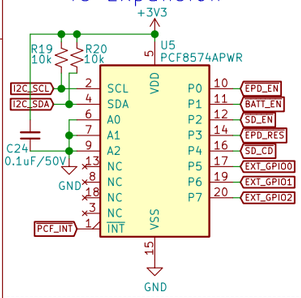
Power Supply and Battery Charging



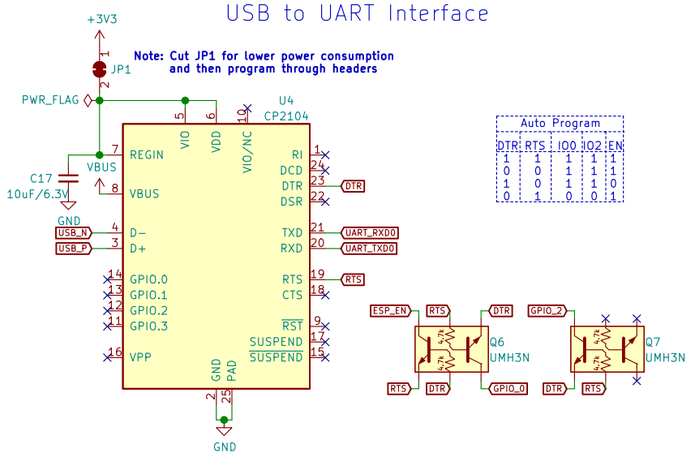
Battery Sensing



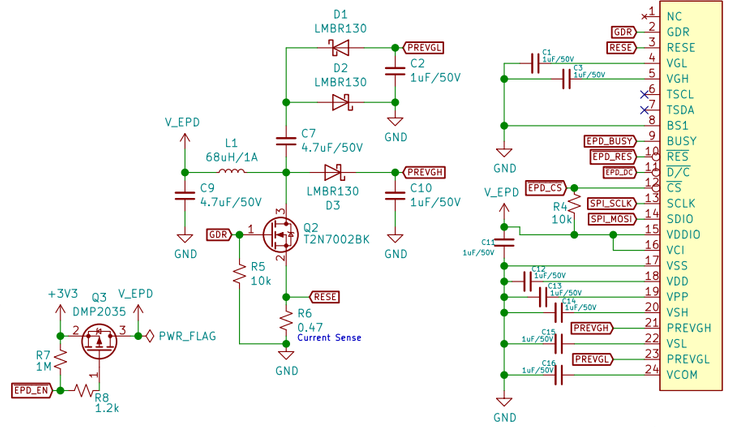
IO Expansion



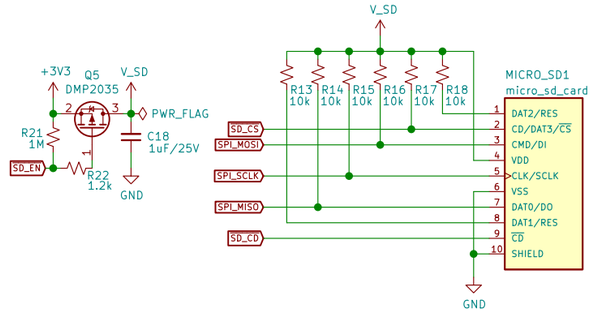
USB to UART Interface



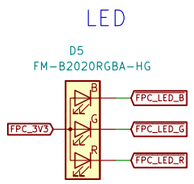
E-Paper



SD Card

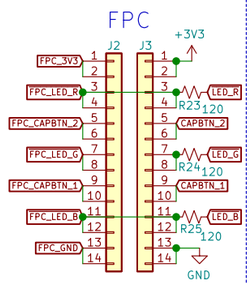


LED

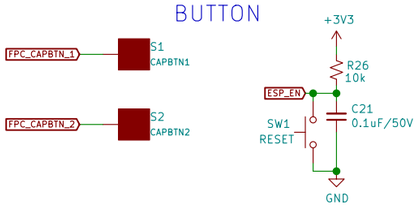


Note: LED and capacitive buttons are on different PCB connected using FPC

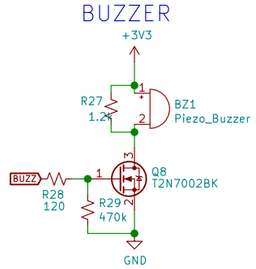
FPC



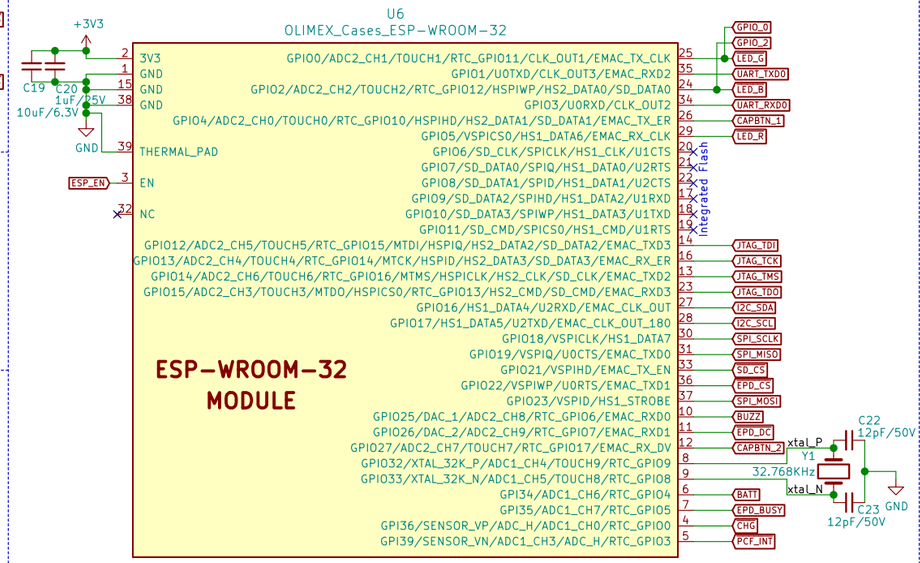
BUTTON



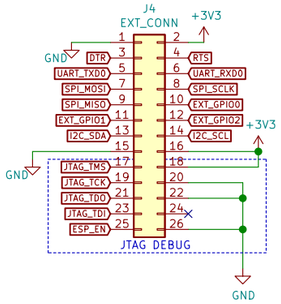
BUZZER



ESP32-WROOM



External Header



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:

- Add provison in next rev to eliminate GPIO expander

References

SD Card: https://www.alliedelec.com/m/d/04db416b291011446889dbd6129e2644.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

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Designed by
Rohit Gujarathi

PAPERD.INK

Sheet: /
File: paperd.ink_V1.sch

Title: rev A

Size: A3	Date: 2019-09-15	**Rev: 1**
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