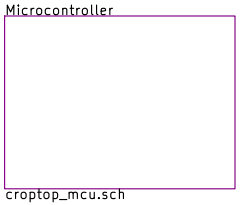
Change List:

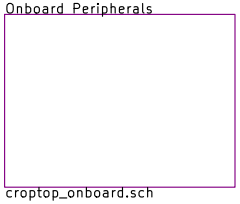
SCHEMATIC:
[Up to date]

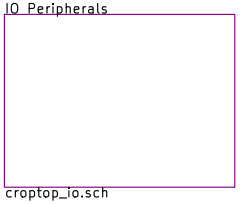
PCB:
All elements that have a pad, make sure that there is a pad pin and it's footprint is has the pad assigned to it
Check that all components with a pad are connected with solder paste in footprint
Add a cut out around temperature sensor (SHT35-D)
Add vias to mounting holes for style
Make logo in copper layer, not silkscreen
How do I route a 90 ohm USB trace
Put croptop sign in copper layer
Move ADC over star ground
Move memory and ADC to different busses
Add heat sinks to motor drivers
Ground plane on top and bottom layer
Look into thermal vias for motor drivers
Add silkscreen labels to configuration resistors
When laying out the footprint for the motor drivers, follow datasheet
Move micro usb and GPU connector further forward
Add ground plane to top and bottom layers
Stitch top and bottom layers together with vias
SPI I2C and RS232 testpoints should be closer to pic, or at fork point
Label Terminal blocks on top side
Make test points bigger {--> R y a n   t o l d   y o u   t o<--}
Add a via fence and copper perimeter to board edge

COMPLETION STEPS:
Manually check entire board with Ryan, with each datasheet
Calculate power rail burdens
Figure out if ESD diodes will mess up ADC measurements
Come up with different devices configurations (using DNP for components)
Run through pin out of every chip and verify it's connection
Verify the package footprint of every chip
Make sure that 3V3 rotary encoder buffer resistor is DNP

List of Schematic Sheets







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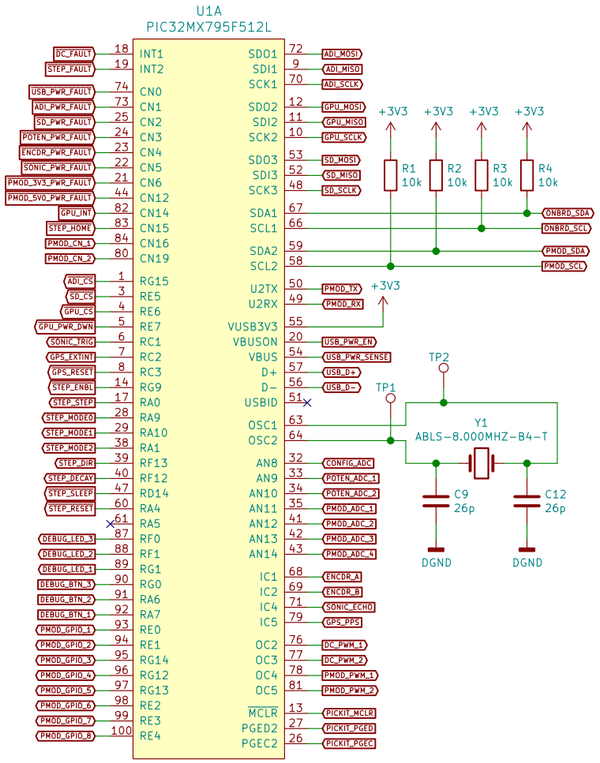
Sheet: /
File: croptop.sch

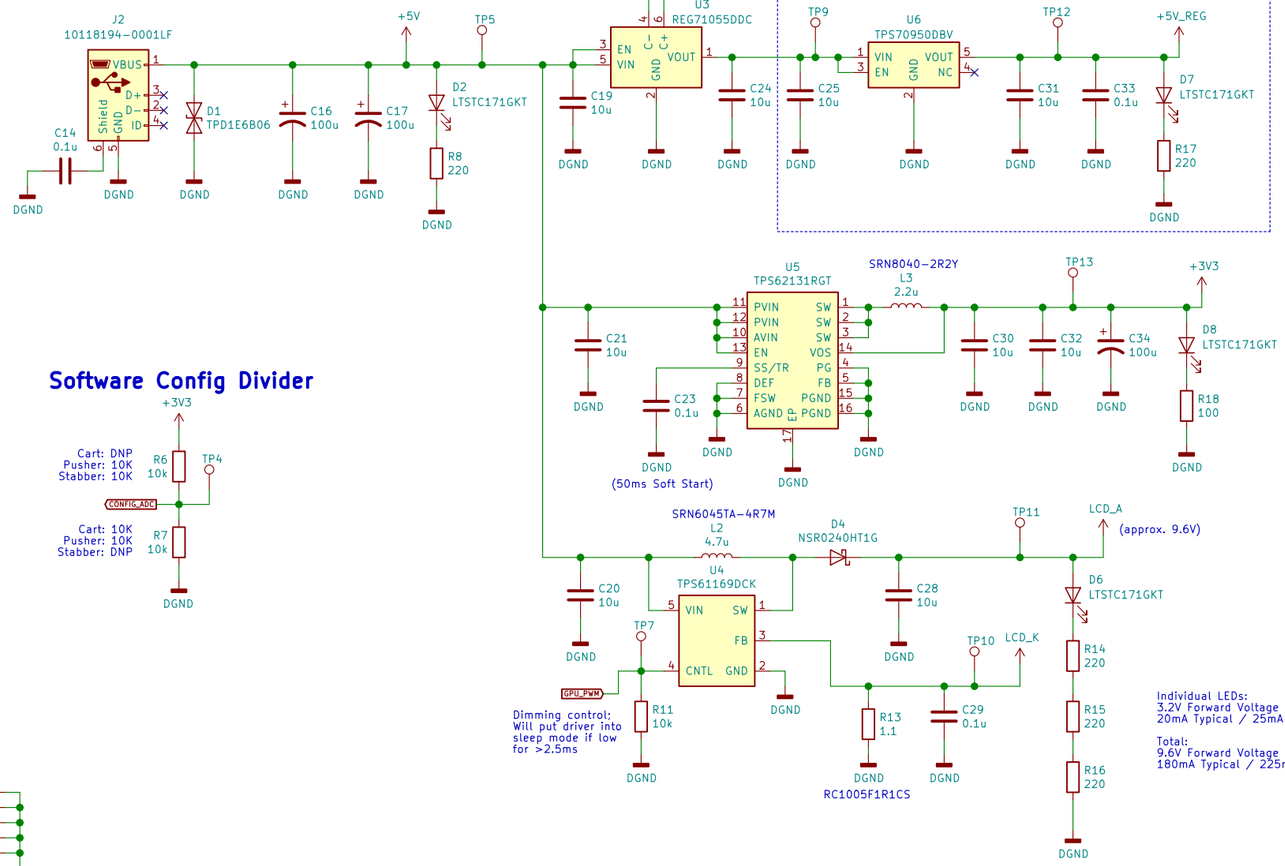
Title: CropTop 2.0

Size: USLetter	Date: 2019-03-18	**Rev: Revision 12**
KiCad E.D.A. kicad (5.0.1)-3		Id: 1/5

PIC32 Microcontroller

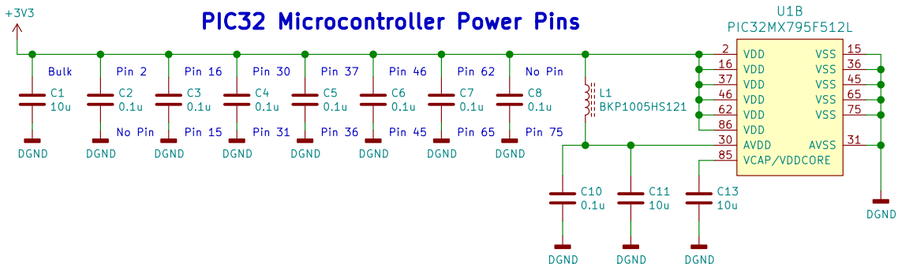


Digital & Analog Power Supply

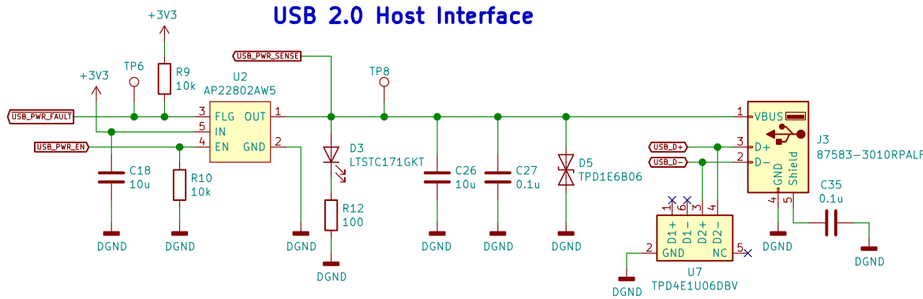


Software Config Divider

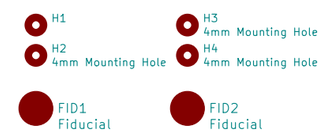
PIC32 Microcontroller Power Pins



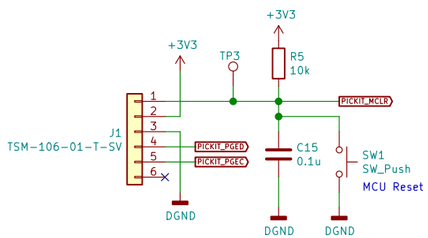
USB 2.0 Host Interface



Mounting Holes & Fiducials



PICKit3 Programming Header



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Title: CropTop 2.0

Size: USLedger	Date: 2019-03-18	**Rev: Revision 12**
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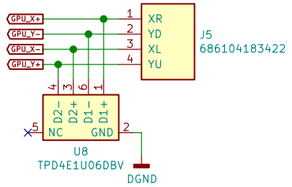
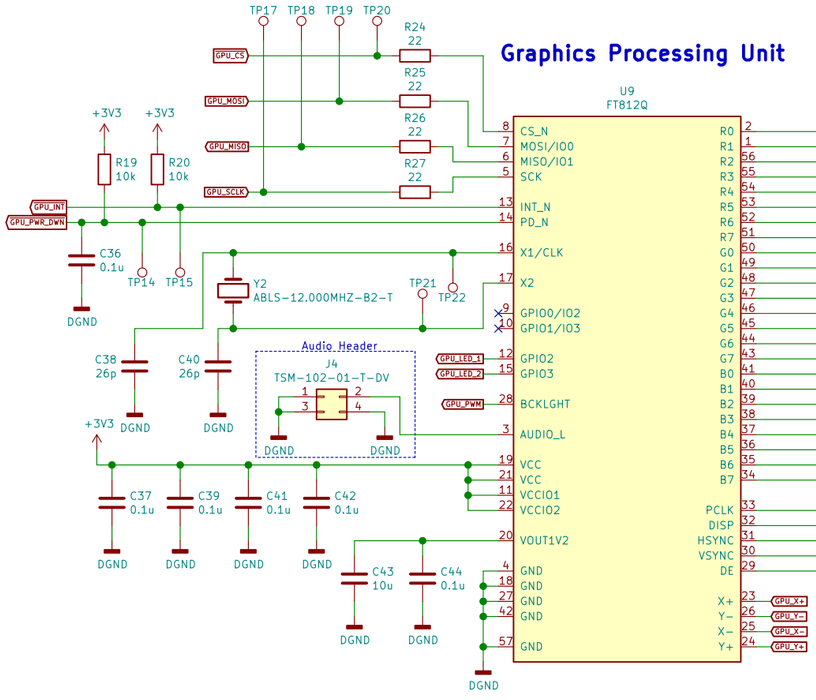
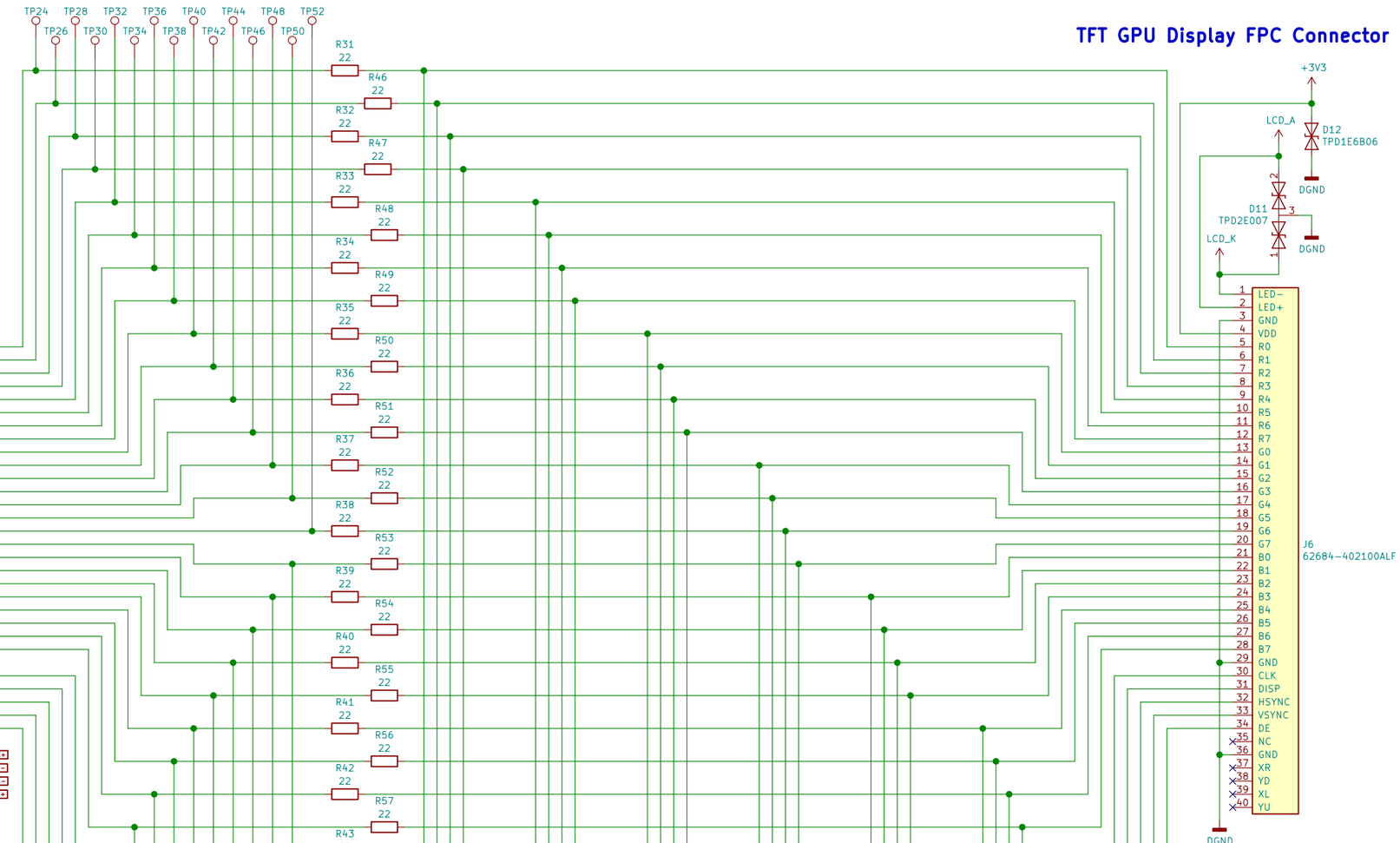
Resistive Touch Panel FPC Connector

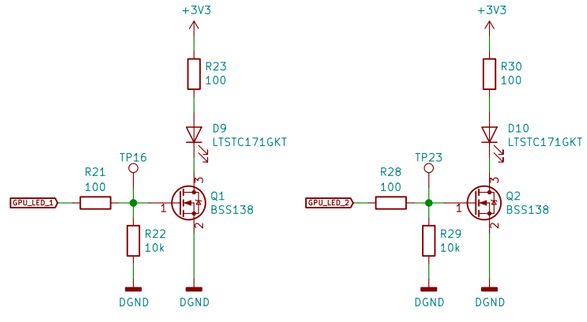


Graphics Processing Unit



TFT GPU Display FPC Connector





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Title: CropTop 2.0

Size: USLedger | Date: 2019-03-18	**Rev: Revision 12**
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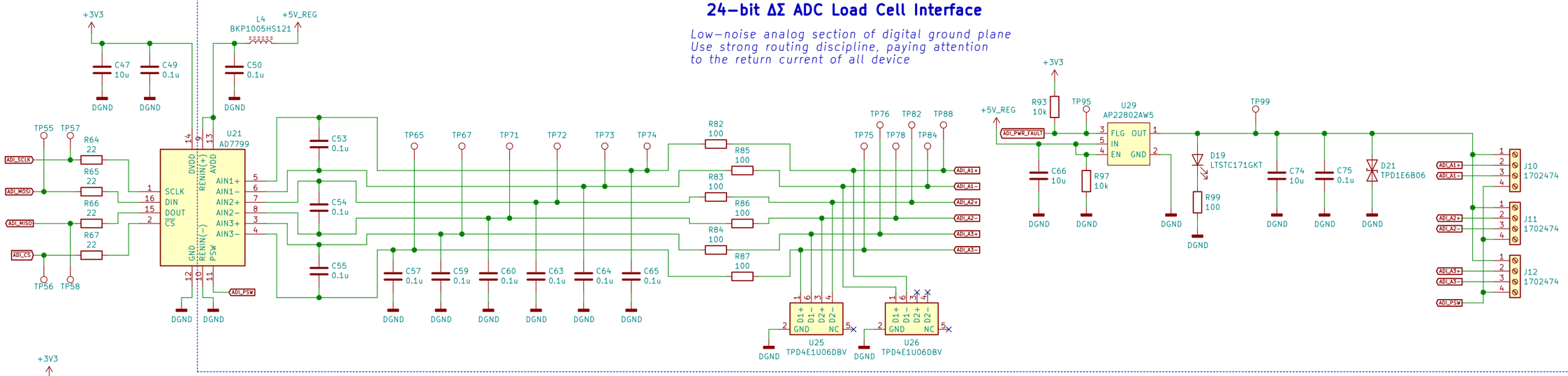
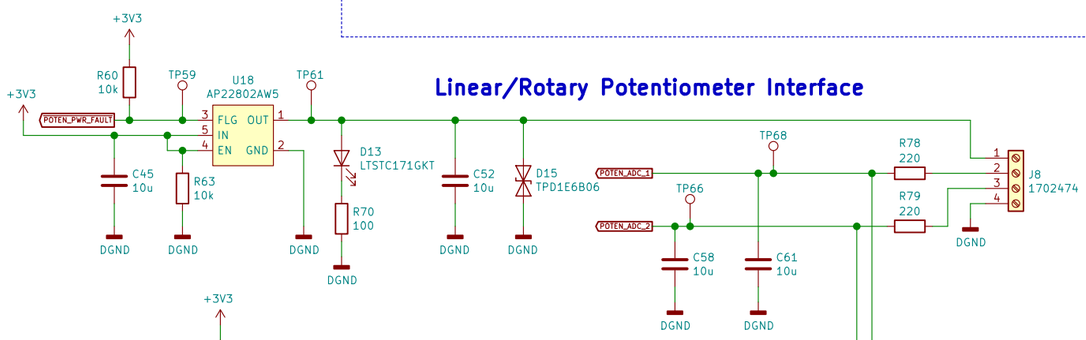
24-bit ΔΣ ADC Load Cell Interface

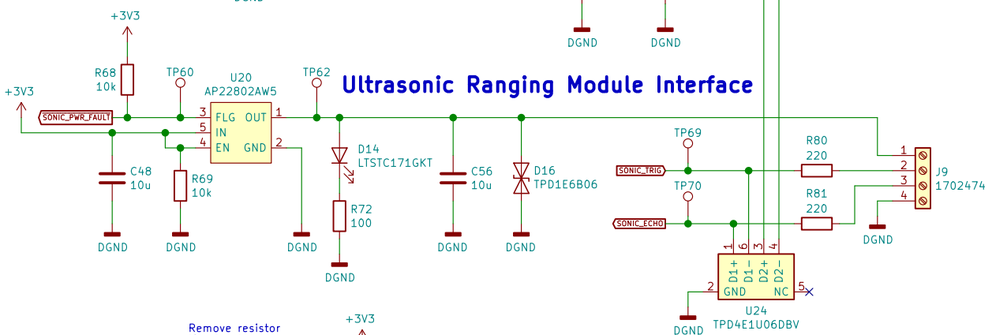
Low-noise analog section of digital ground plane
Use strong routing discipline, paying attention
to the return current of all device



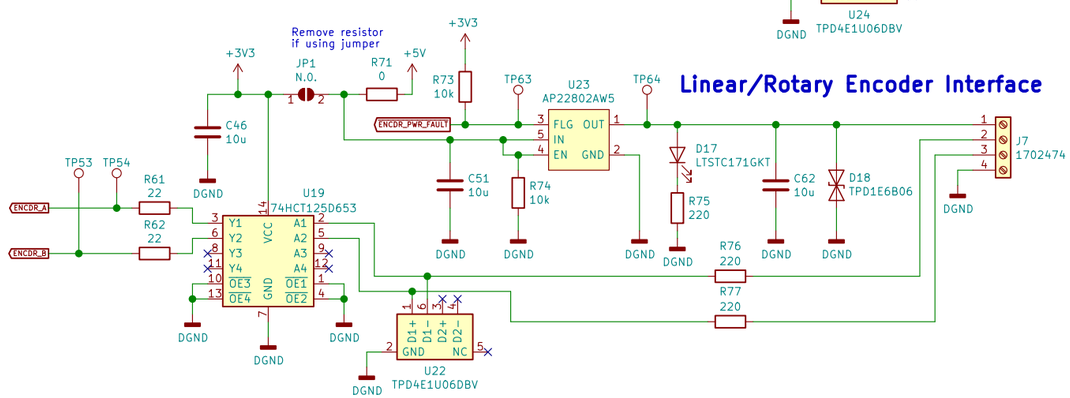
Linear/Rotary Potentiometer Interface



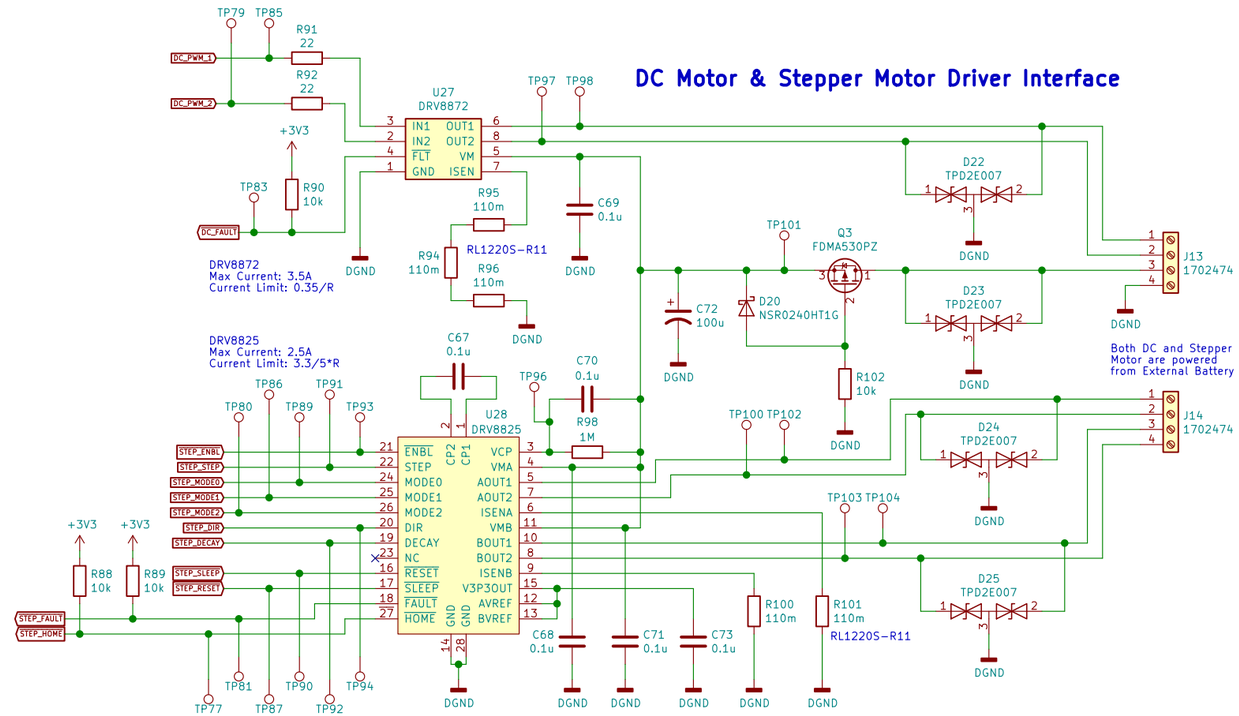
Ultrasonic Ranging Module Interface



Linear/Rotary Encoder Interface



DC Motor & Stepper Motor Driver Interface



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Sheet: /IO Peripherals/
File: croptop_io.sch

Title: CropTop 2.0

Size: USLedger	Date: 2019-03-18	**Rev: Revision 12**
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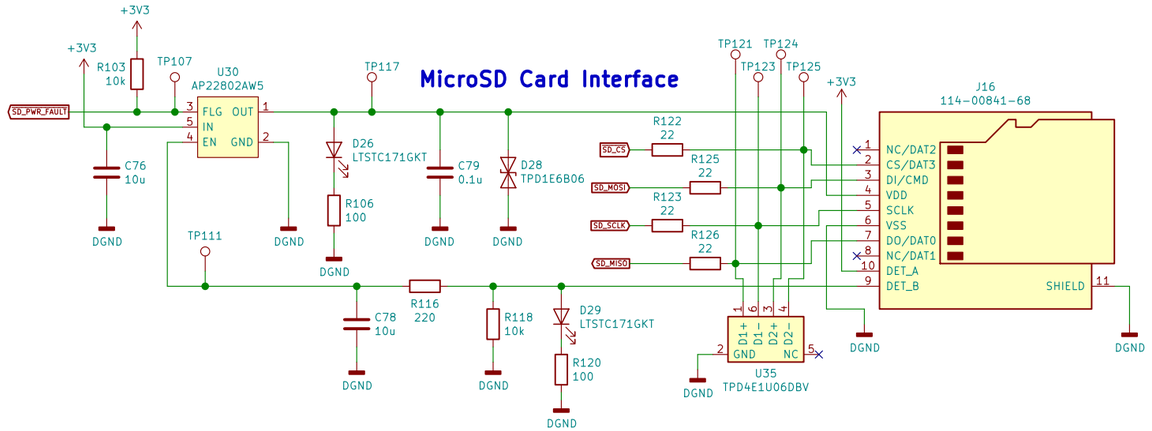
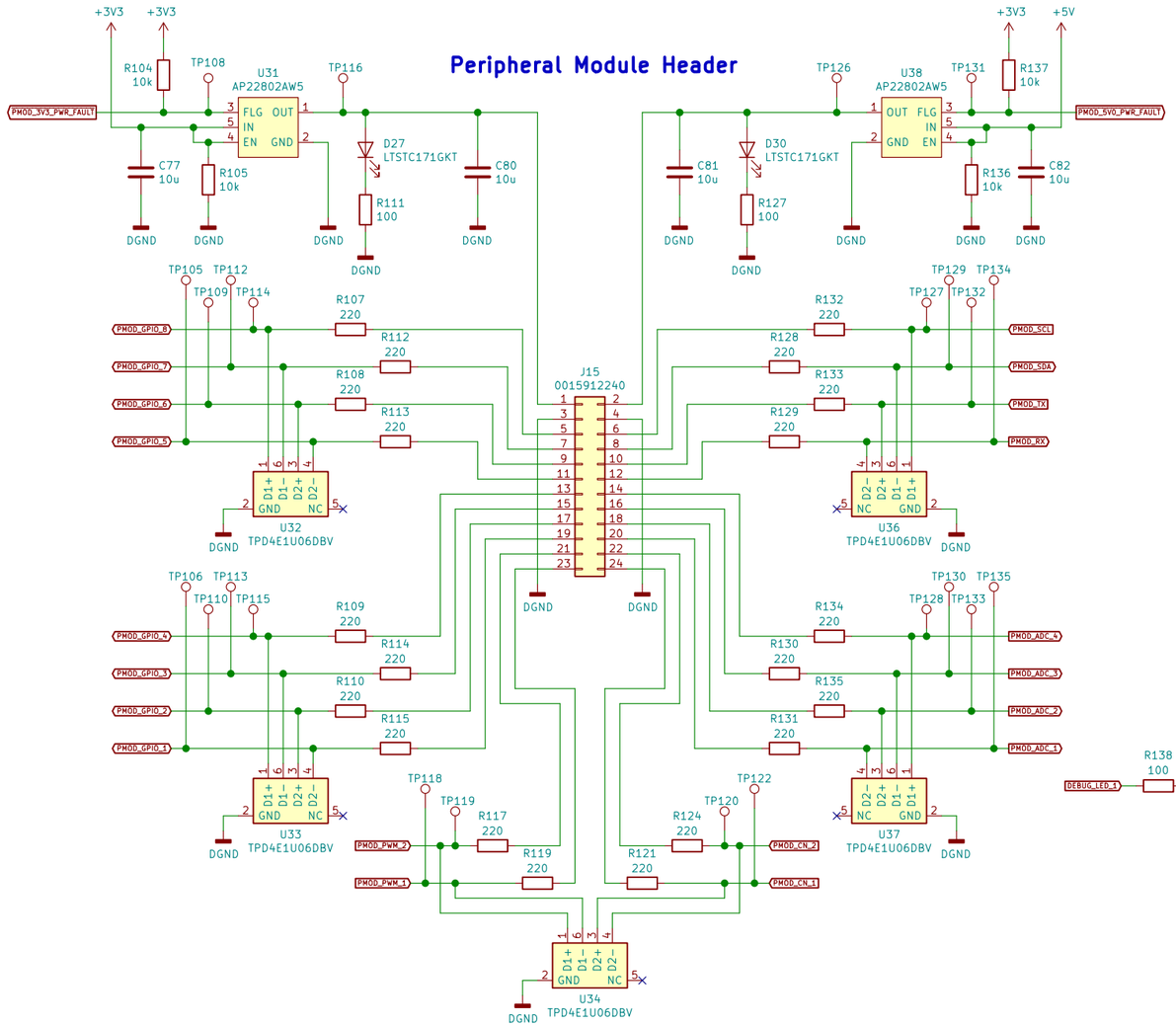
MicroSD Card Interface



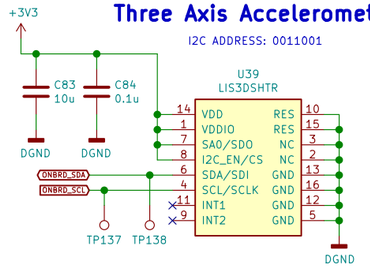
Peripheral Module Header



Onboard I2C Device Bus

Three Axis Accelerometer

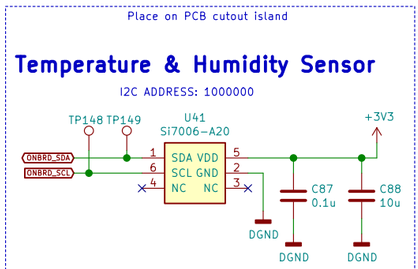
I2C ADDRESS: 0011001



Temperature & Humidity Sensor

Place on PCB cutout island

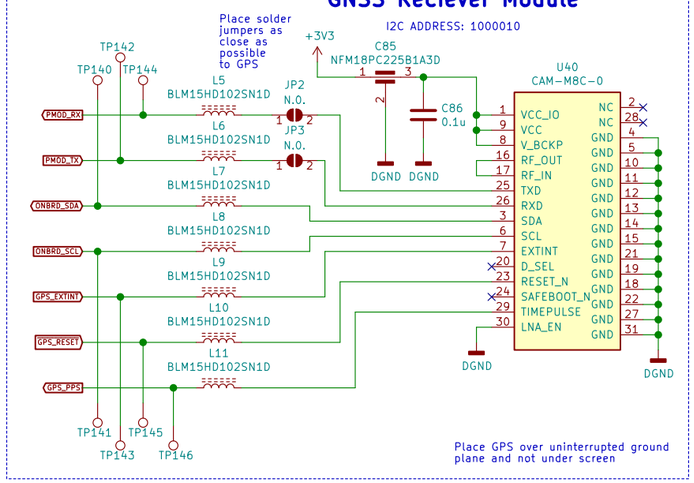
I2C ADDRESS: 1000000



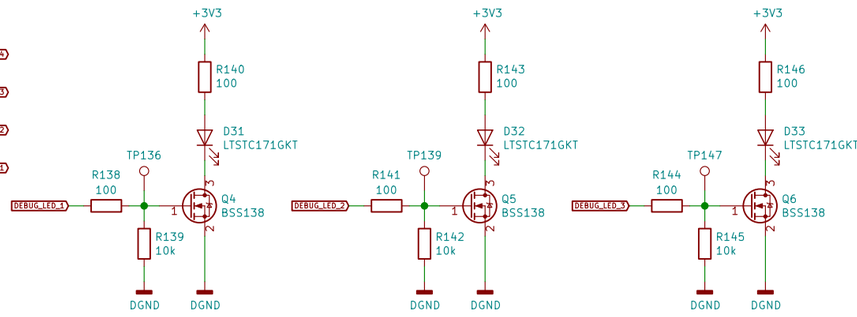
GNSS Reciever Module

Place solder jumpers as close as possible to GPS

I2C ADDRESS: 1000010

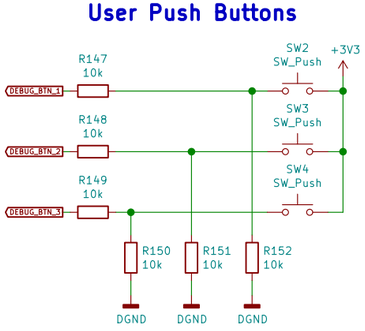


User LEDs



(LEDs are green)

User Push Buttons



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