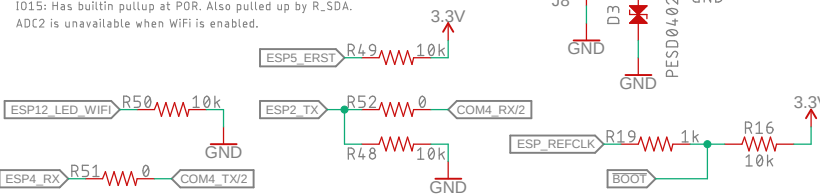
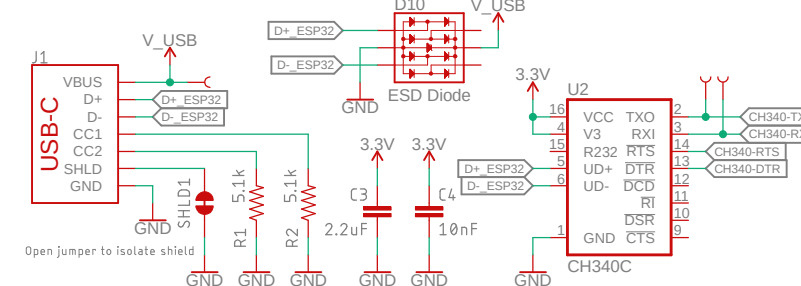


ESP32 WROVER

Use boot control pins with caution: 0, 2, 5, 12, 15
 I00: Avoid device connections.
 I02: Avoid external pullups – will cause bootloader fail.
 I05: Has builtin pullup at POR.
 I012: Avoid external pullups – will cause bootloader fail.
 I015: Has builtin pullup at POR. Also pulled up by R_SDA.
 ADC2 is unavailable when WiFi is enabled.

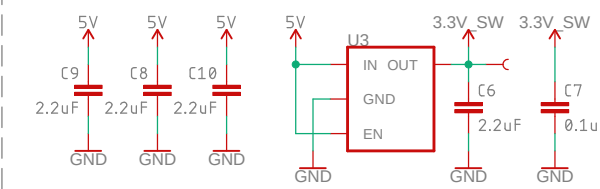


ESP32 USB-C

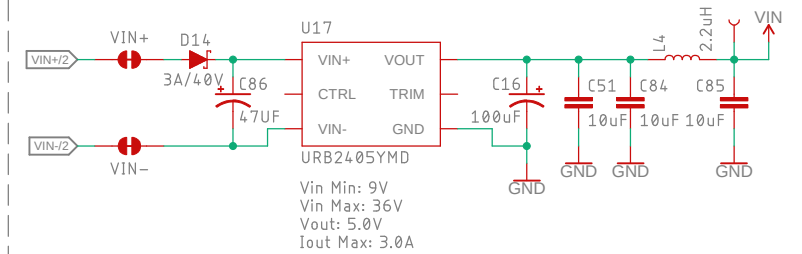


Secondary Power

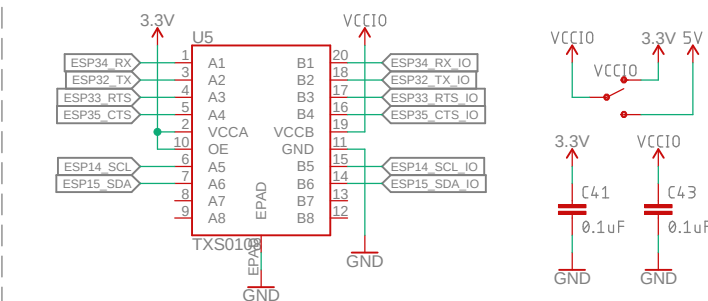
AP7361C-33
 Vin Max: 6.0V
 Iout Max: 1A (Limit 1.5A Typ)
 Vdo: 360mV @ 1A
 Output Discharge: 100Ω Typ



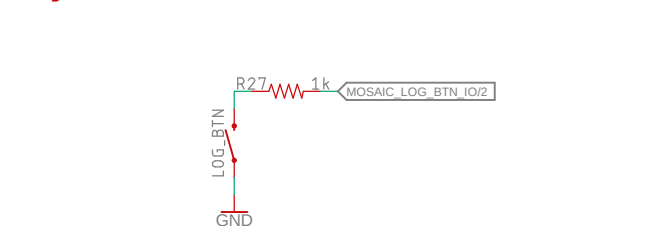
Power In



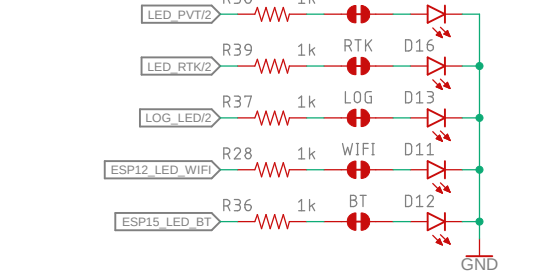
IO Level Shifting



Log / Unmount SD Button

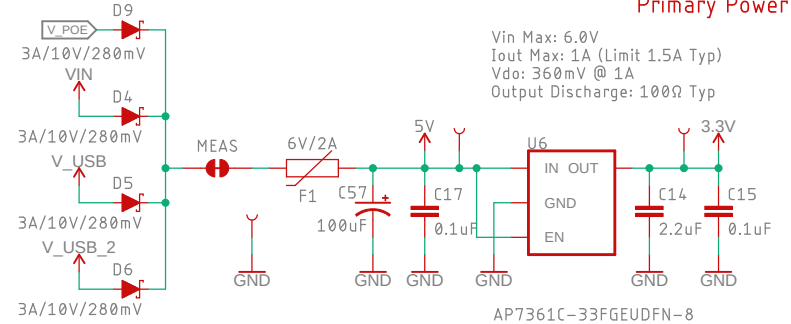


LEDs

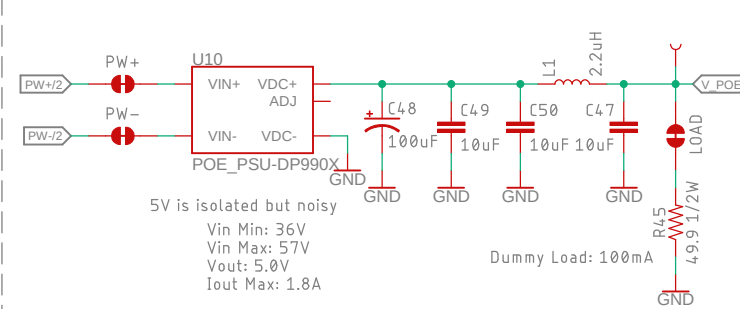


Primary Power

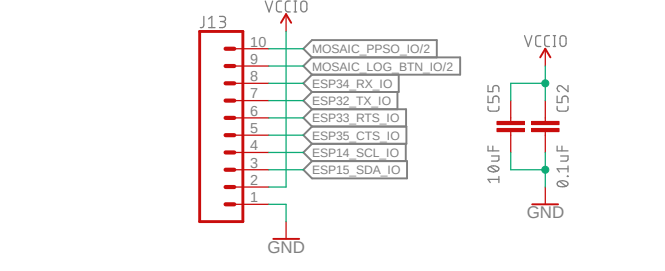
Vin Max: 6.0V
 Iout Max: 1A (Limit 1.5A Typ)
 Vdo: 360mV @ 1A
 Output Discharge: 100Ω Typ



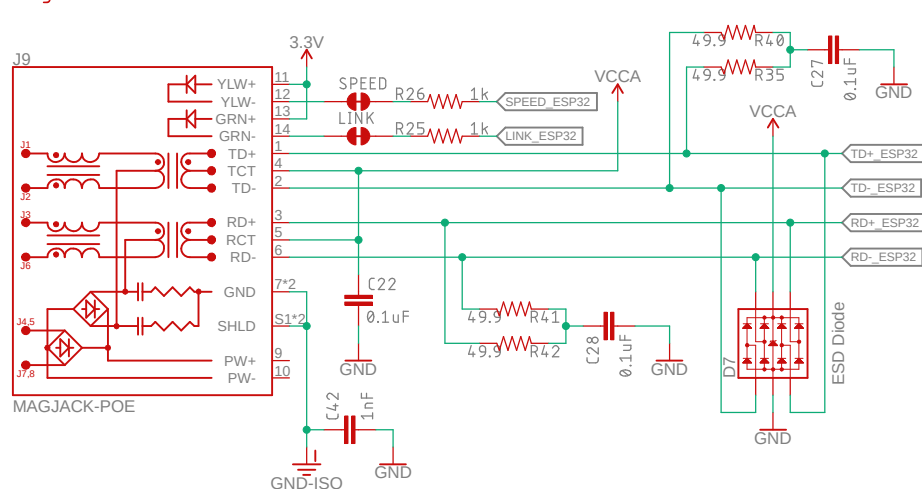
Power Over Ethernet



I/O Connector

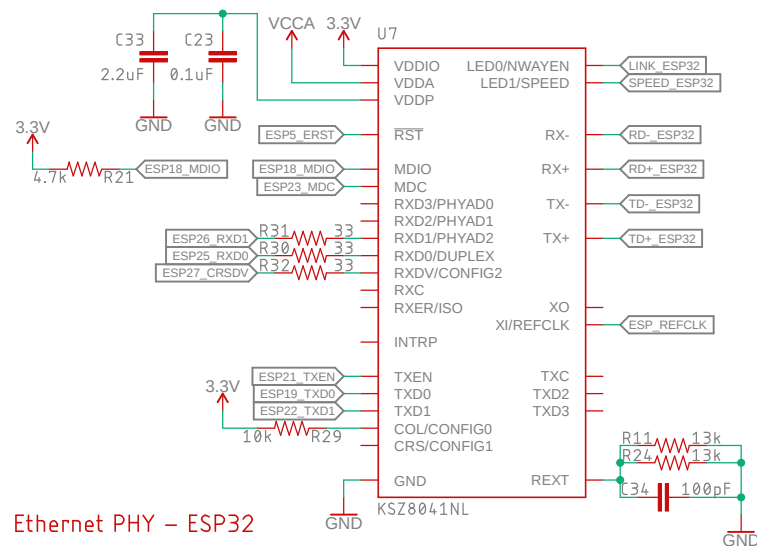


Mag Jack – ESP32

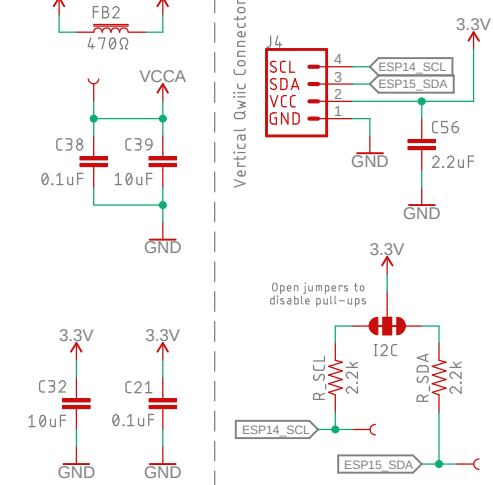


Ethernet PHY – ESP32

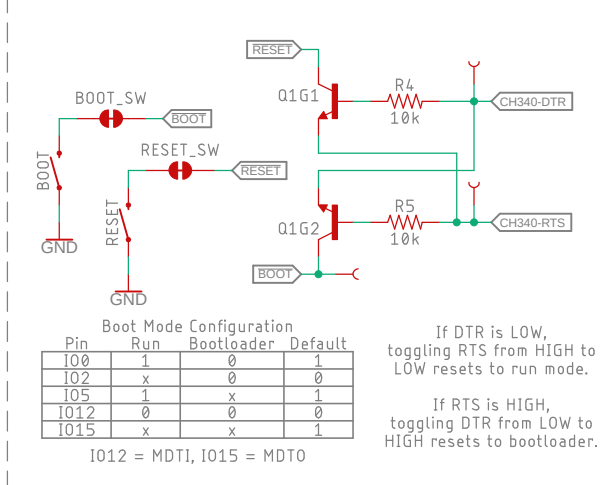
KSZ8041NL



OLED (Qwiic)



Reset and Boot



USB Track Impedance: Differential Pair
<https://saturnpcb.com/saturn-pcb-toolkit/>
 Prepreg thickness: 0.2mm (7.87 mil). Er = 4.6
 10.5 mil track with 9.5 mil gap (20 mil center to center) = 90 Ohms

RF Track Impedance: Coplanar Waveguide with Ground Calculations
 Ground is on layer 2. Prepreg thickness: 0.2mm. Er = 4.6
 12.5 mil track with 5 mil gap = 50 Ohms
<https://chemandy.com/calculators/coplanar-waveguide-with-ground-calculator.htm>



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Sheet: 1/2



No clean process

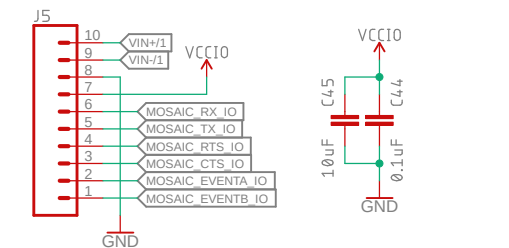
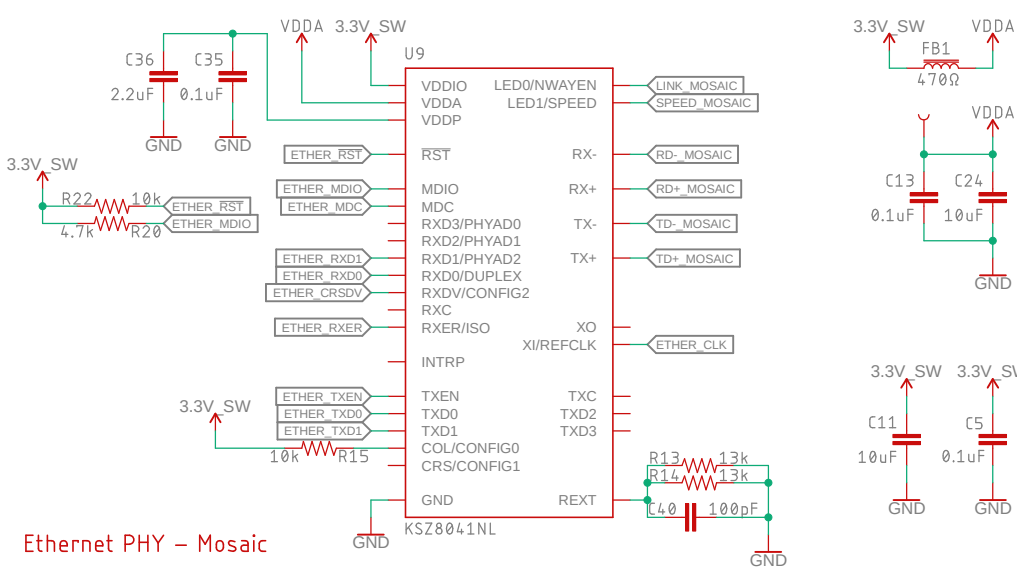
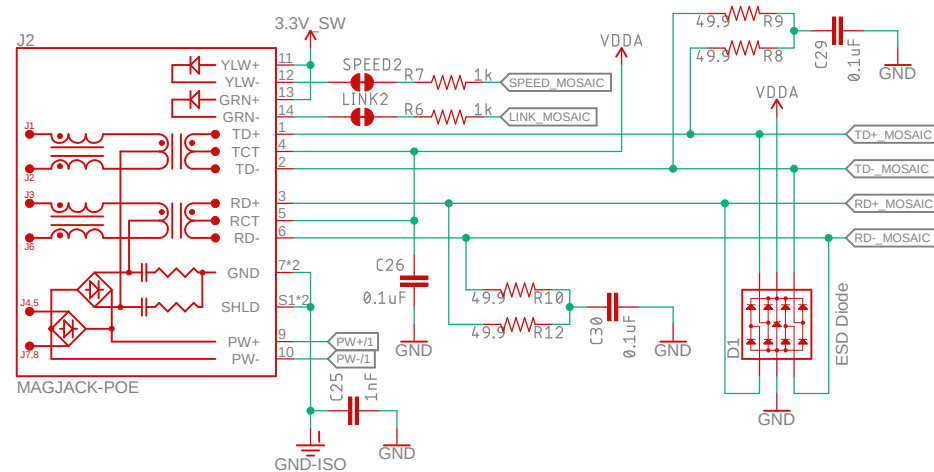
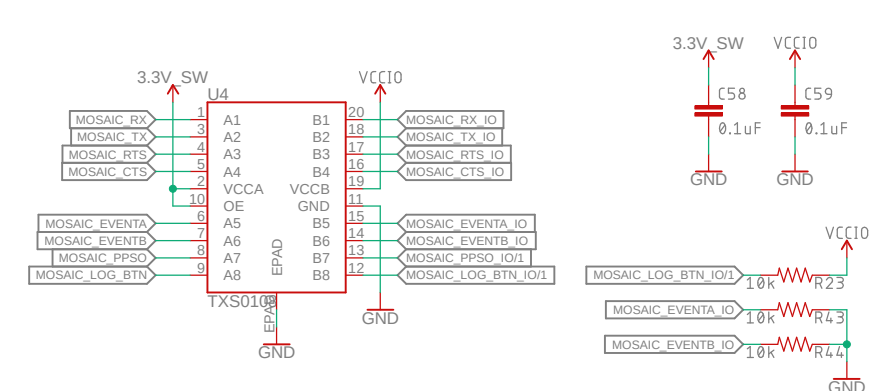
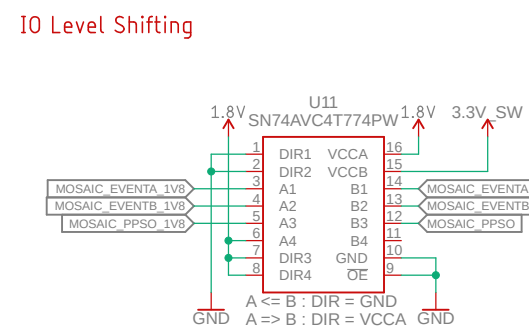
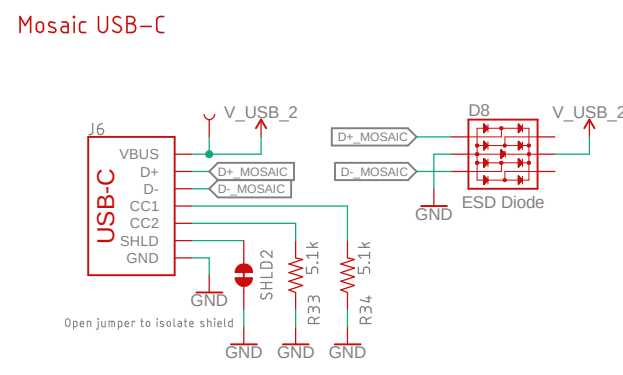
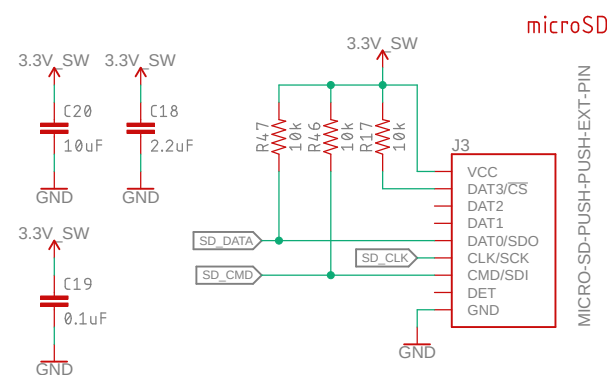
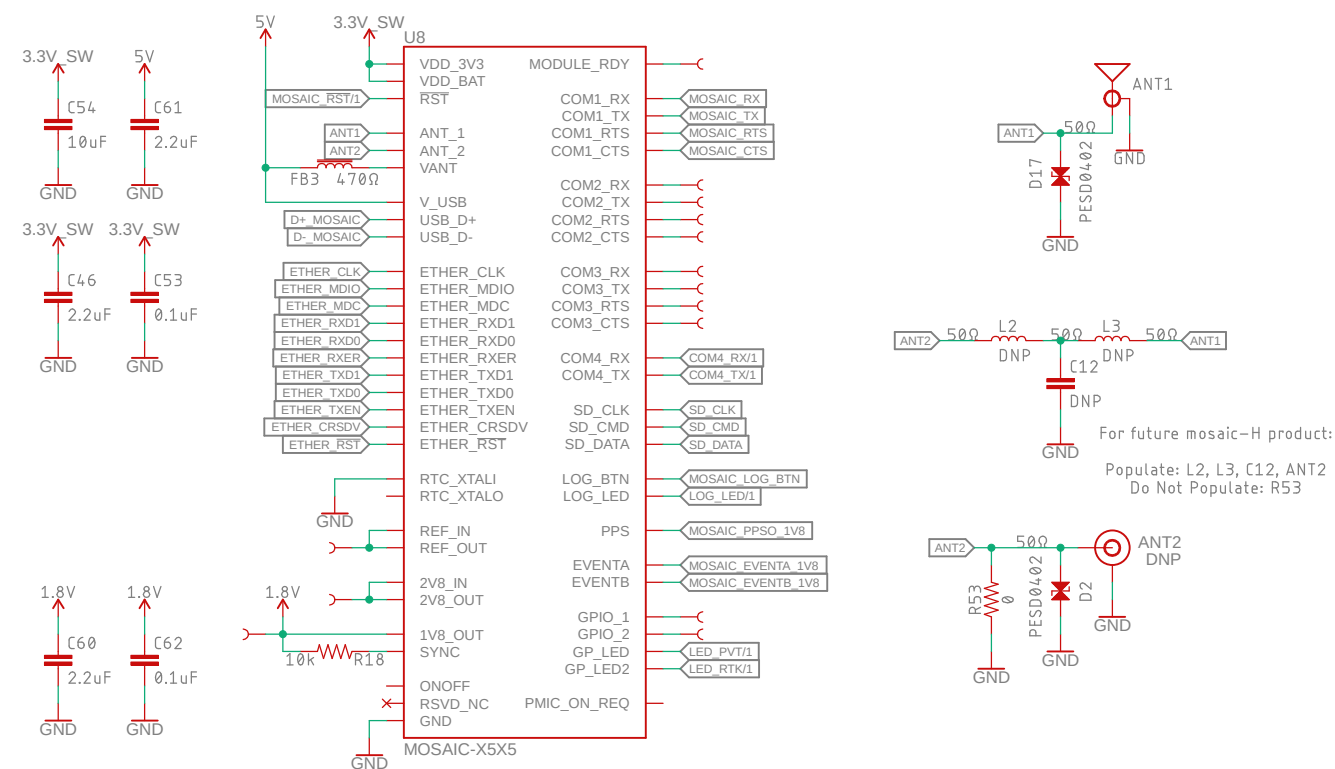
If DTR is LOW,
 toggling RTS from HIGH to
 LOW resets to run mode.

If RTS is HIGH,
 toggling DTR from LOW to
 HIGH resets to bootloader.

Pin	Run	Bootloader	Default
I00	1	0	1
I02	x	x	0
I05	1	x	1
I012	0	0	0
I015	x	x	1

I012 = MDTI, I015 = MDT0

Mosaic X5



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Sheet: 2/2