power

File: power_sch.kicad_sch

Connetor

File: Connector_sch.kicad_sch

Ethernat

File: Ethernet.kicad_sch

Sheet: /
File: infrastructure.kicad_sch

Title: Infrastructure

Size: A4	Date: 2024-08-24	**Rev: V1.0**
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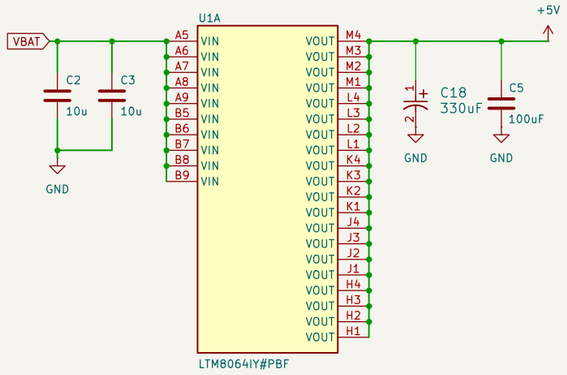

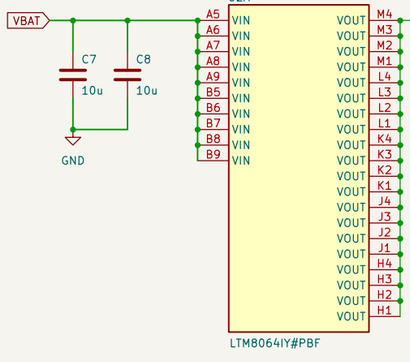

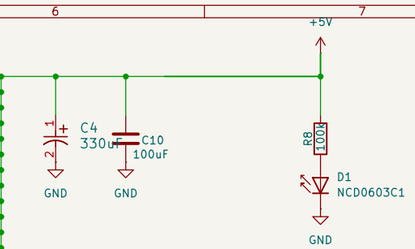

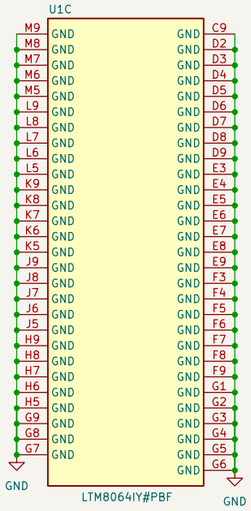

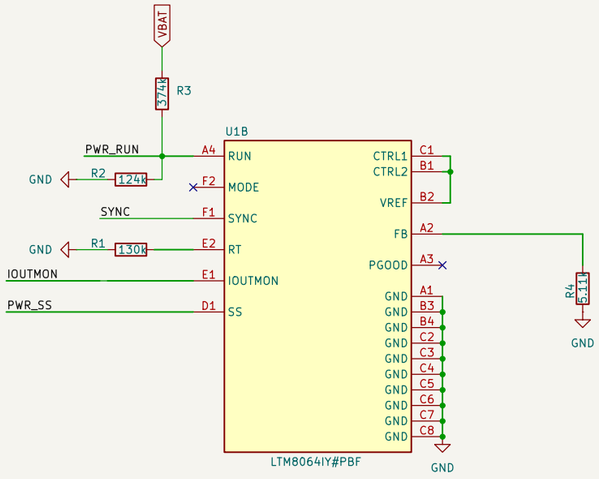

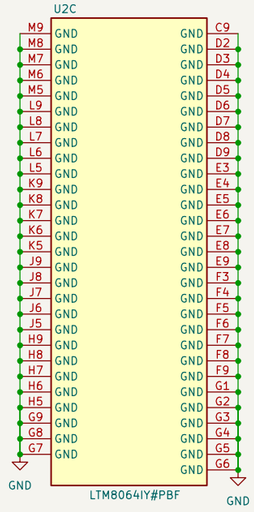

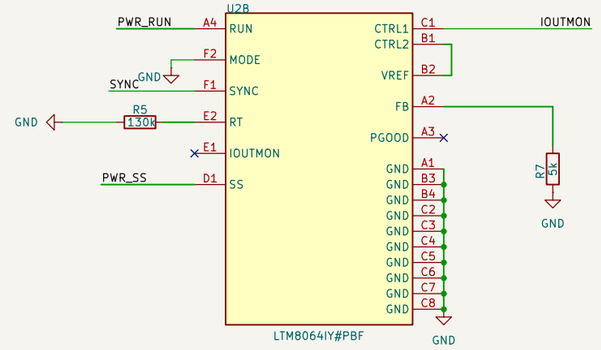

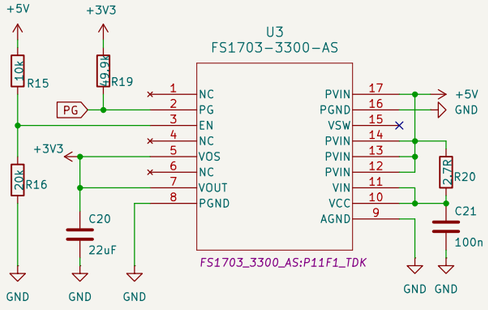

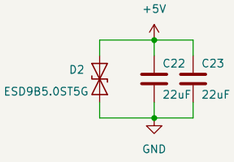

- RFB calculation
R4 = 19.44/(Vout-1.2)=19.44/(5-1.2)=5.11k
R7 = R4*0.98=5.11k*0.98=5k
- RT
R1=R5=130k => f=325kHz
- UVLO and Shutdown
R2= 1.52*R3/(UVLO-1.52)
R3= (VENA-1.122*UVLO)/5uA
R2=124k, R3=374k =>
UVLO = 5.78V
VENA = 8.35V

- Series LED Resistor Calculation
R=Vs-V(led)*N/I(led)
R8=100k => I(LED)=(Vs-V(led))/R8=(8-2)/100k=0.06mA<25mA

- FS1703-3300-AS
Input voltage(Vin).
Tie to PVIN through a 2.7Ω resistor.
R7=2.7Ω
- power good status
R6=49.9kΩ(Pull up to VCC - pin 10 or an external bias voltage - with a 49.9kΩ resistor)

V_{IN} Range (V)	V_{OUT} (V)	C_{IN}*	C_{OUT}*	R_{FB} (Ω)	$f_{OPTIMAL}$ (kHz)	$RT_{OPTIMAL}$ (kΩ)	f_{MAX} (kHz)	RT_{MIN} (kΩ)
6 to 36	3.3	10µF ×2, 1210, 50V	470µF, 6.3V, 45mΩ, Tantalum 220µF, 1206, 4V, X5R, Ceramic	9.31k	300	143	550	76.8
7.5 to 36	5	10µF ×2, 1210, 50V	330µF, 10V, 35mΩ, Tantalum 100µF, 1210, 6.3V, X5R, Ceramic	5.11k	325	130	835	47.5

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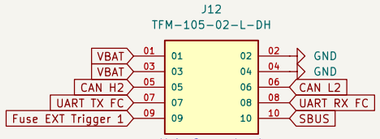

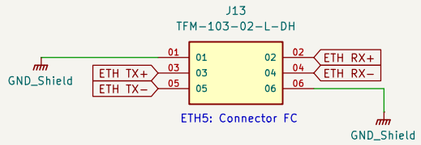

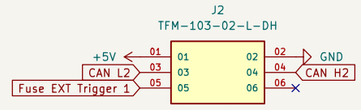

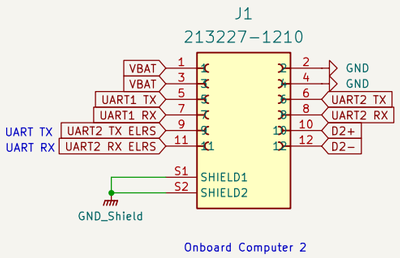

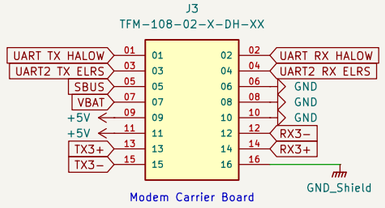

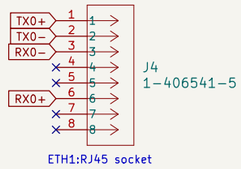

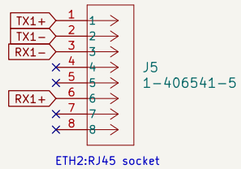

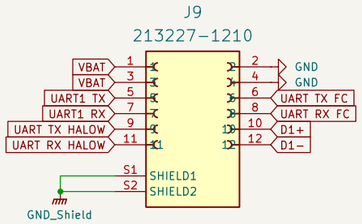

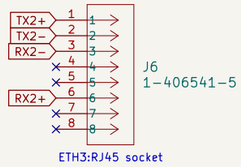

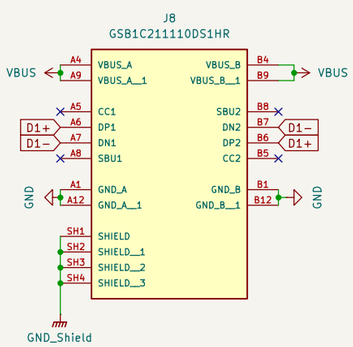

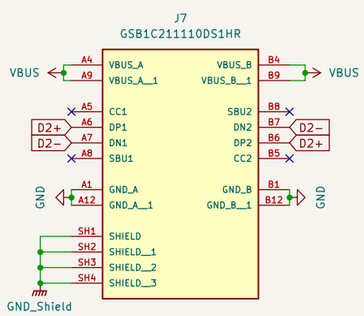

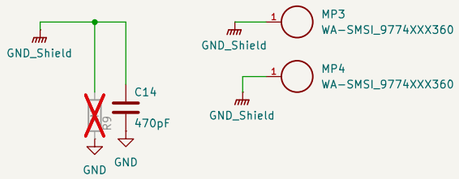

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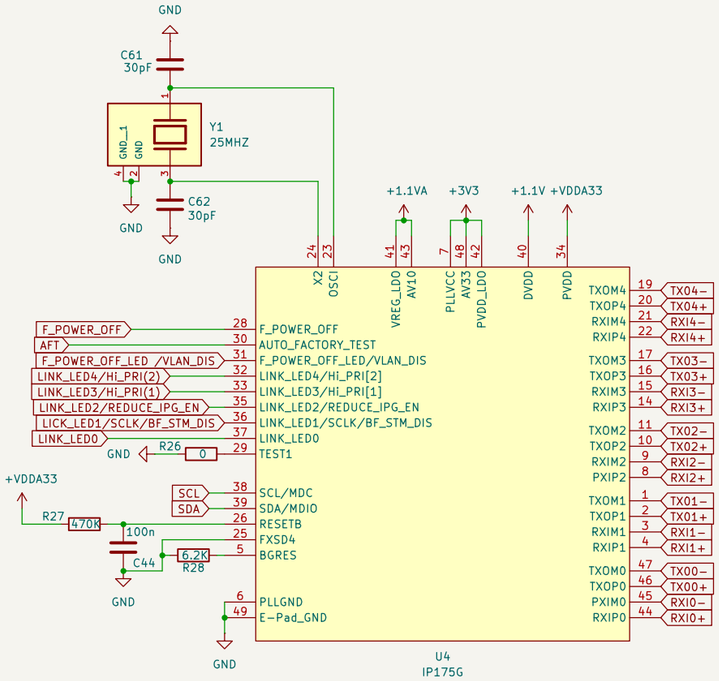

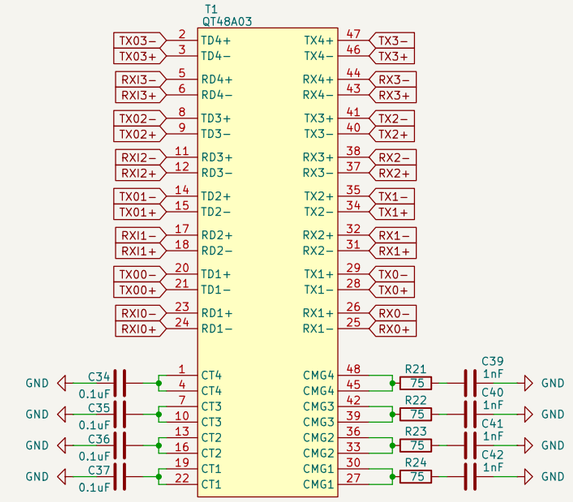

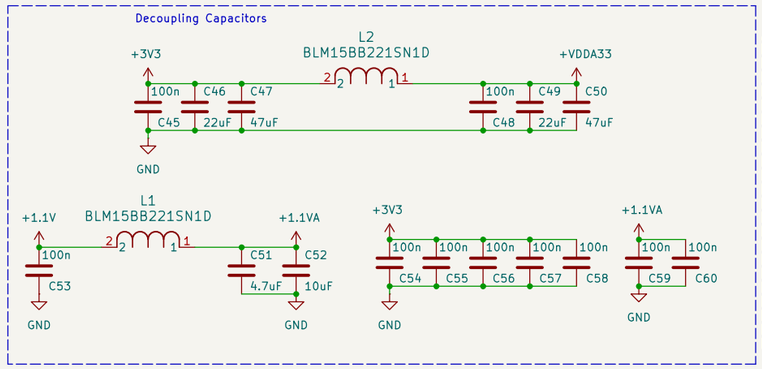

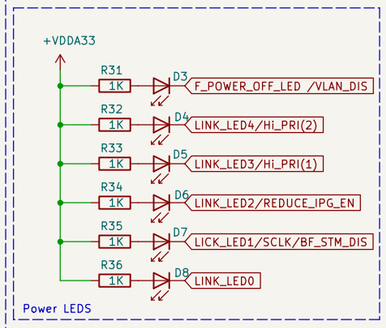

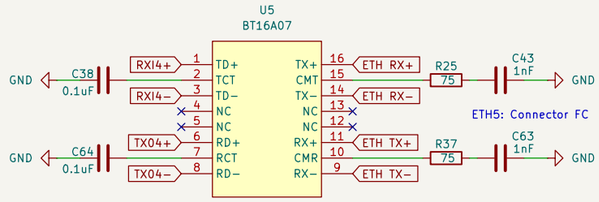

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