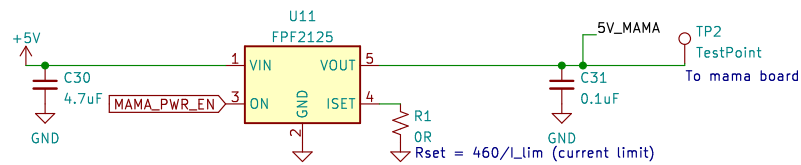
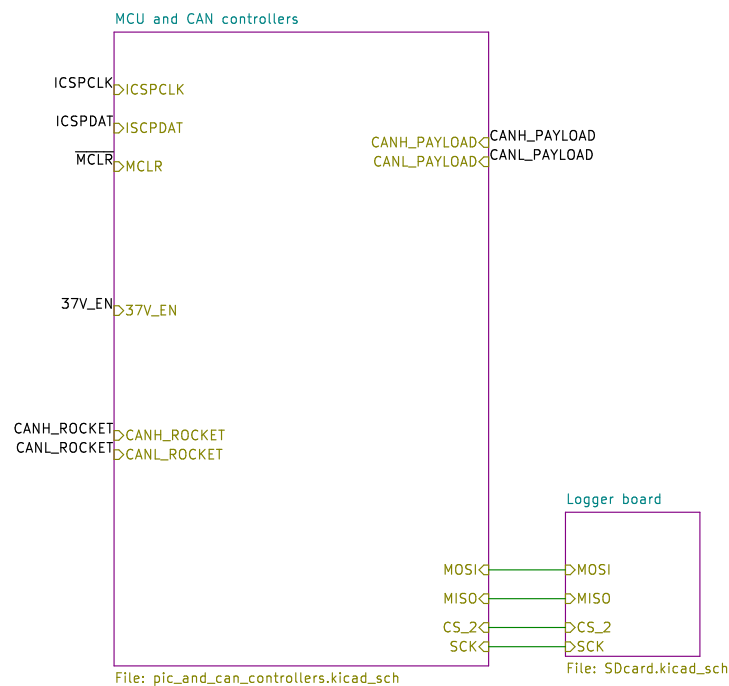
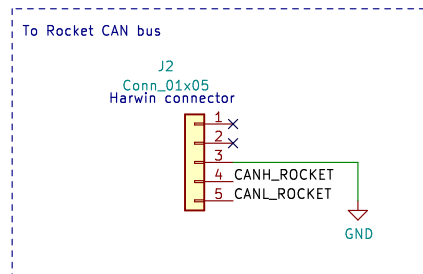
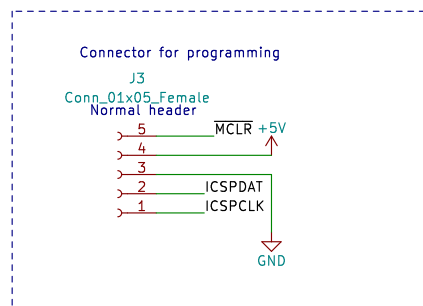
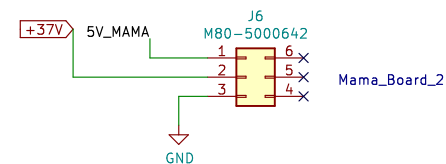
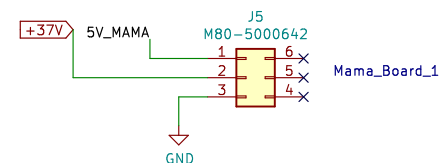
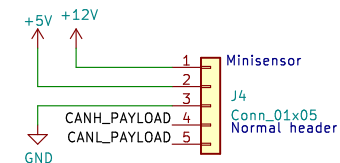
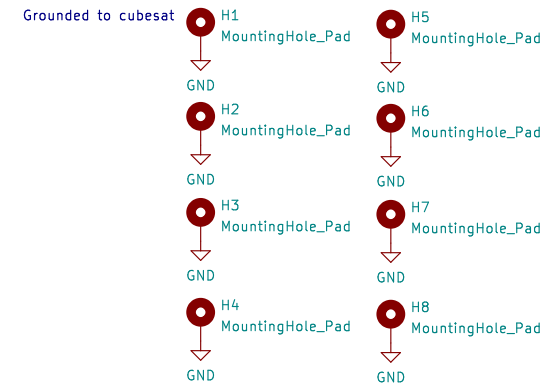
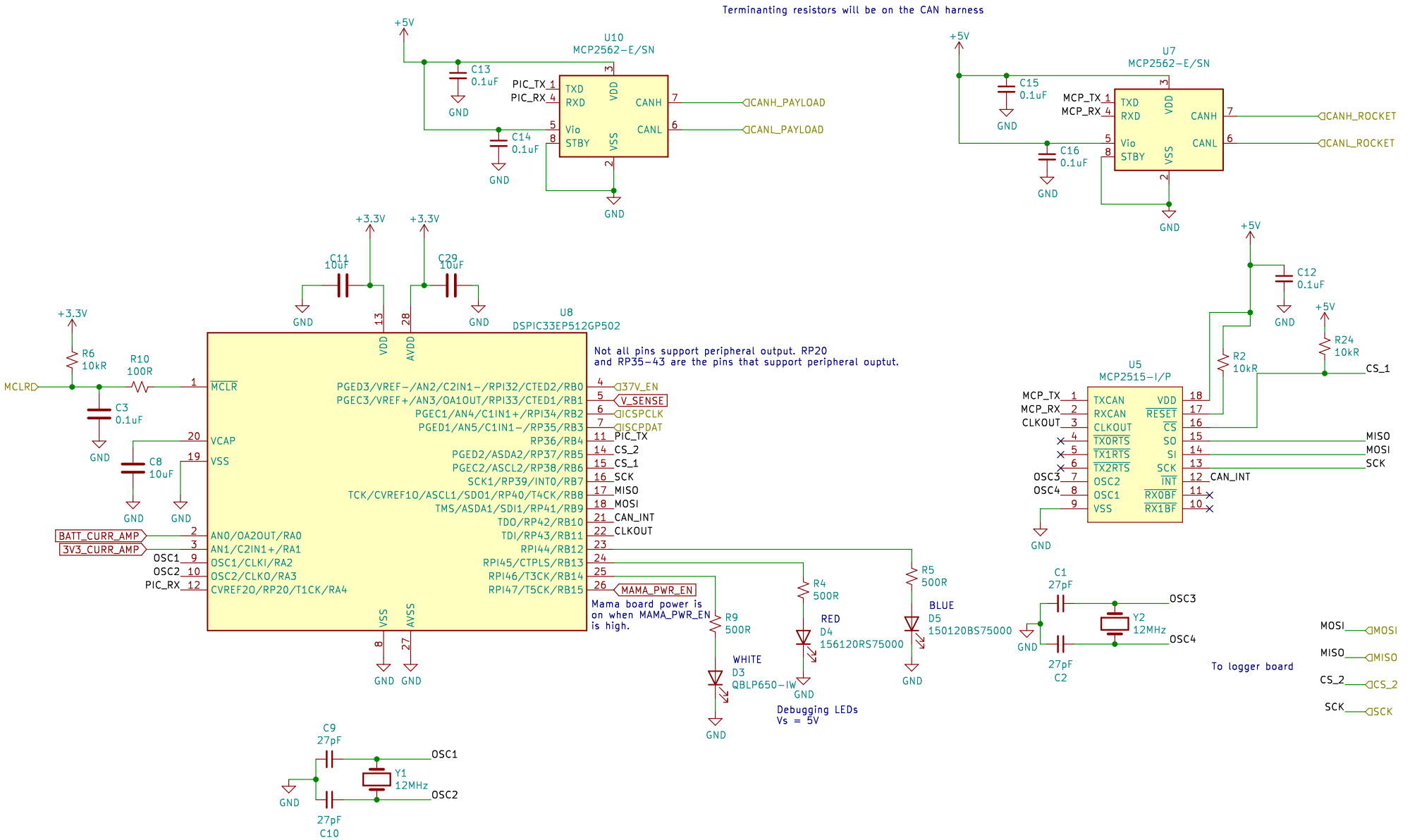


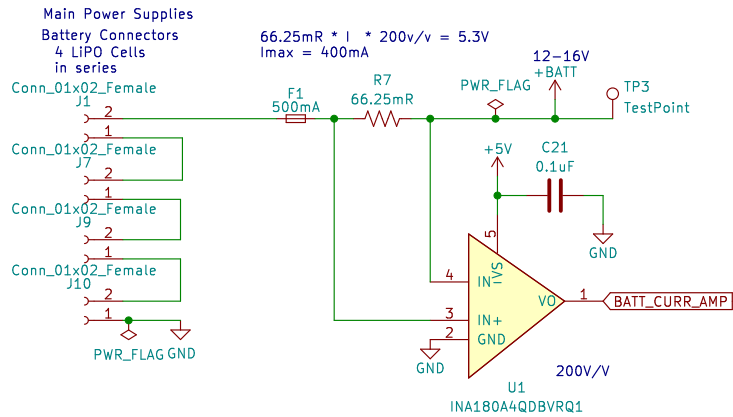
Mama board 5V power switch



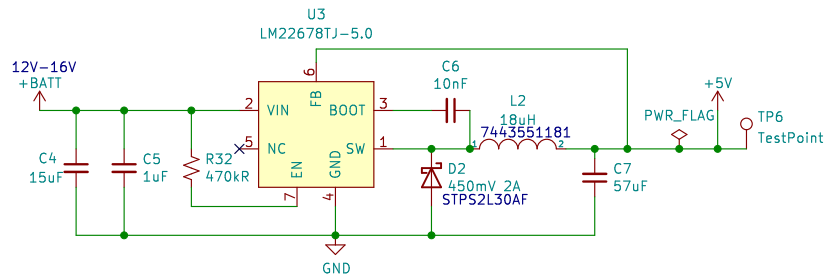
MAMA_PWR_EN set by MCU, HIGH = power to mama board, LOW = no power to mama board



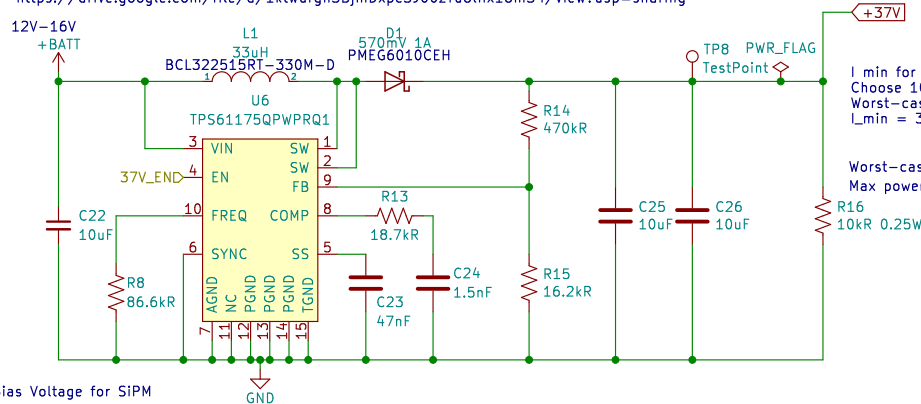




LM22678TJ-5.0/NOPB is a buck converter.
I_{out}: 1.5A
Values are taken from WEBENCH power designer
<https://webench.ti.com/appinfo/webench/scripts/SDP.cgi?ID=2053C05C03E5ECAE>
PDF version:
<https://drive.google.com/file/d/13pYM-p7NzZnNQYZXknj9P6BV4uZ4R9wv/view?usp=sharing>



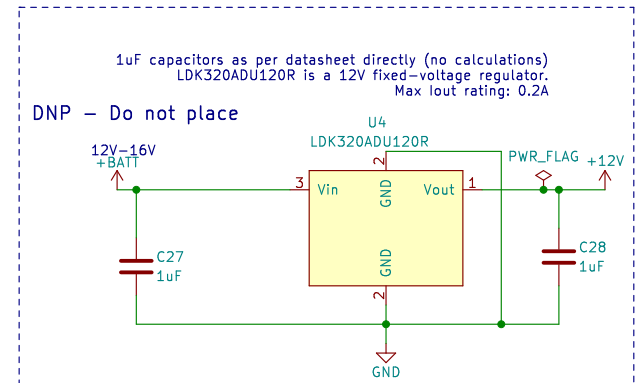
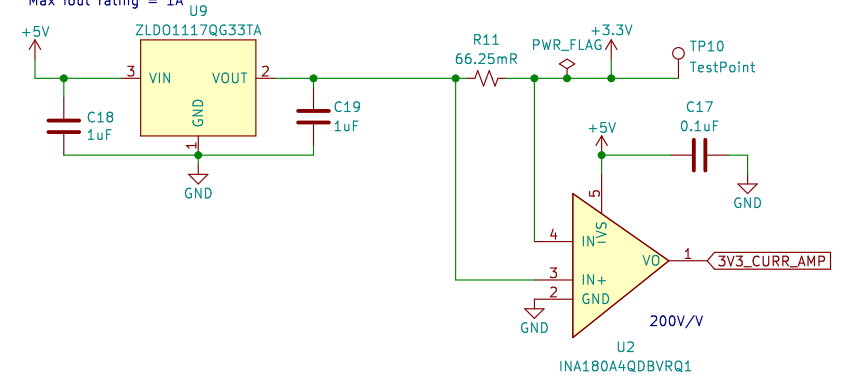
TPS61175 is a boost converter.
Max I_{out} rating: 3A
Values are taken from WEBENCH power designer
<https://webench.ti.com/appinfo/webench/scripts/SDP.cgi?ID=944A159EFA65DE89>
PDF version:
<https://drive.google.com/file/d/1ktwurg3BjmDxpc3J00zTu8lIix18m34/view?usp=sharing>



Bias Voltage for SIPM

MCU, CAN, SDcard power supply
66.25mR * I * 200v/v = 5.3V
I_{max} = 400mA

ZLDO1117QG33TA is a 3.3V LDO
Max I_{out} rating = 1A



I_{min} for the boost converter to operate in PWM mode is 3mA
Choose 10k resistor, 5% tol:
Worst-case (max) resistance = 10000ohm*(1 + 0.05) = 10500 ohms
I_{min} = 37V/10500 ohms = 3.5mA -> above min load current for PWM operation

Worst-case (min) resistance = 10000 ohms * 0.95 = 9500 ohms
Max power = (37²)/(9500) = 0.144 W

