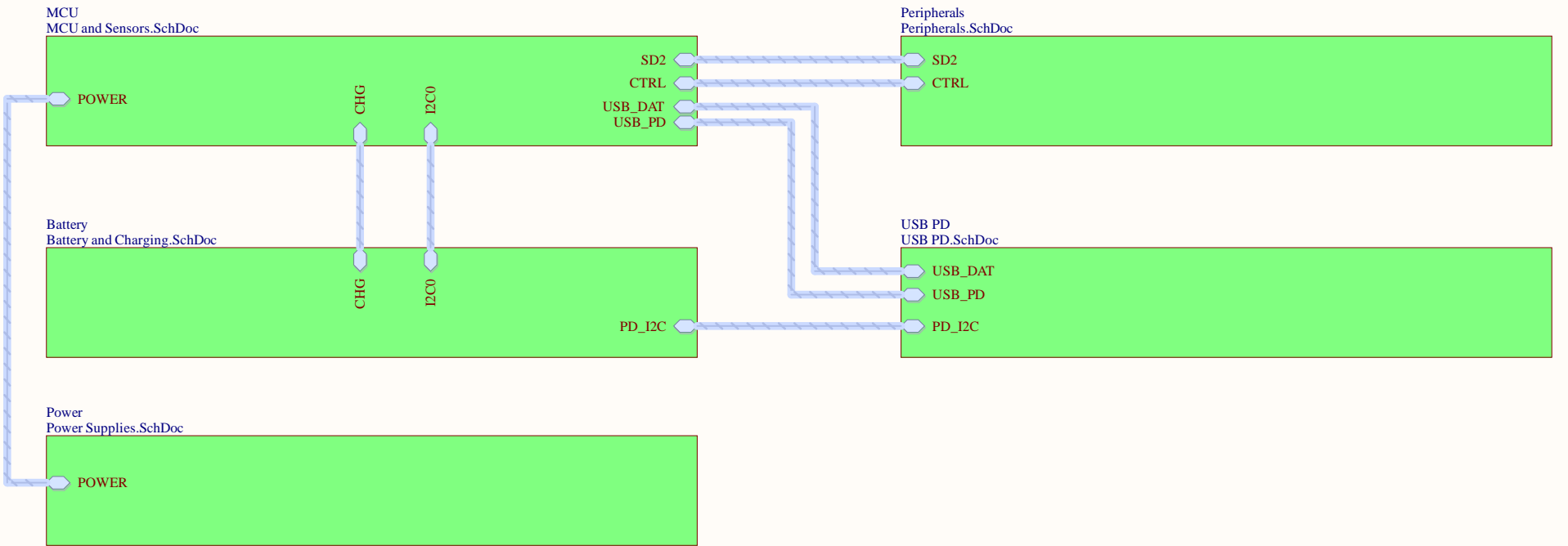



GHL NAATOS Sample Prep Main Board

SD Card pin	nRF52840 DK (PCA10056)
1 - D3 / CS	P1.12
2 - DI / MOSI	P1.13
3 - GND	GND
4 - Vcc (3,3V)	Vdd
5 - CLK	P1.15
6 - GND	GND
7 - D0 / MISO	P1.14
8 - D1	-
9 - D2	-

I2C Addresses:
RTC: 1010001
Fuel Gauge: 0x36 = 00110110
PD Controller = 0100011
TSYS01: 1110110 and 1110111
LED Driver: 1100100

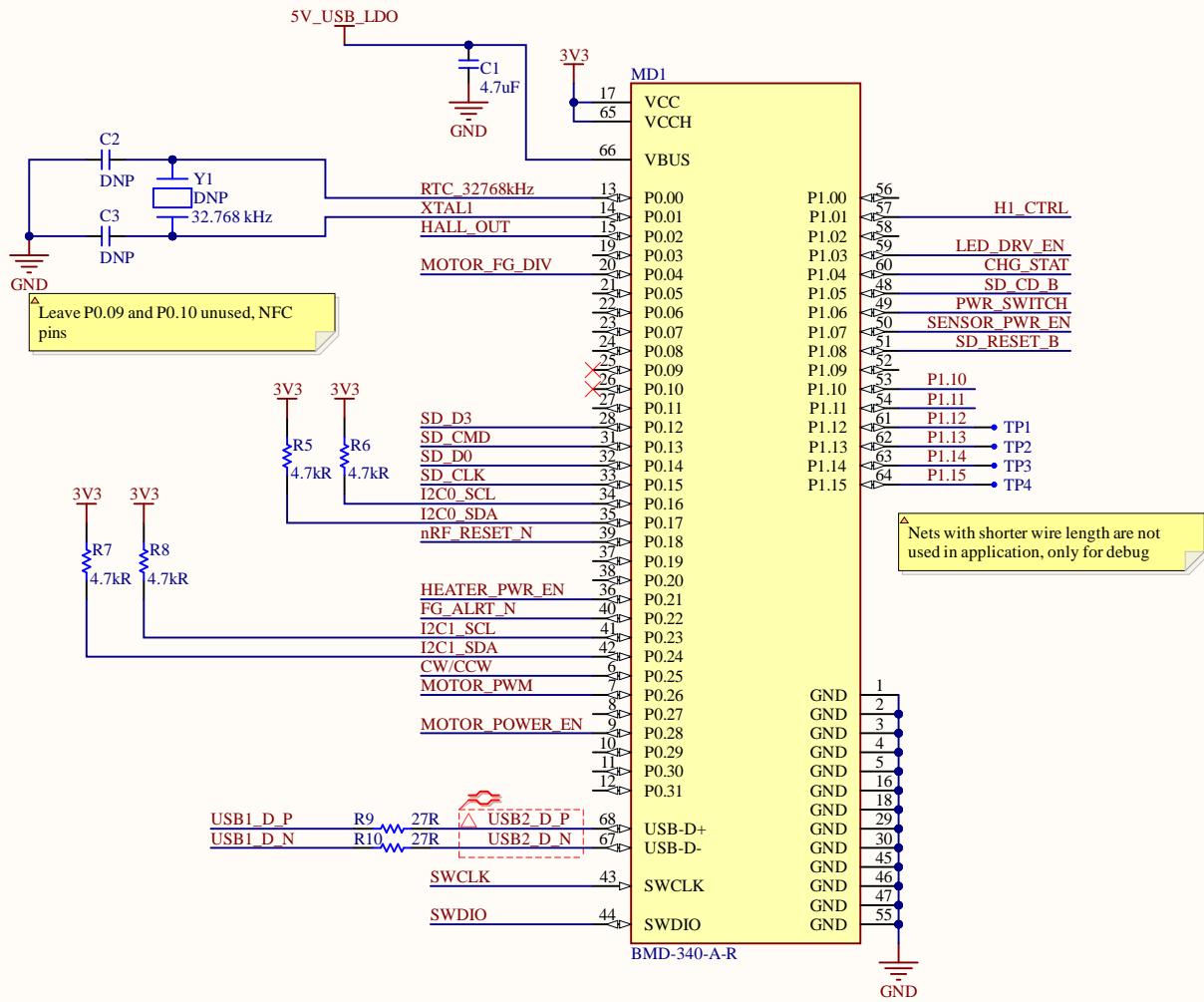


Revision History Revision History.SchDoc

 <div>295 Foster St Suite 202 Littleton, MA 01460 www.odc.com</div>	PROJECT GHL NAATOS Sample Prep Main Board.PrjPcb			
	TITLE *			
APPROVALS	DATE	SIZE B	PROJECT ID	DWG NO. *
DRAWN: *	5/28/2025			
CHECKED: *				
APPROVED: *		FILE NAME Title Page.SchDoc	SHEET 1	OF 7

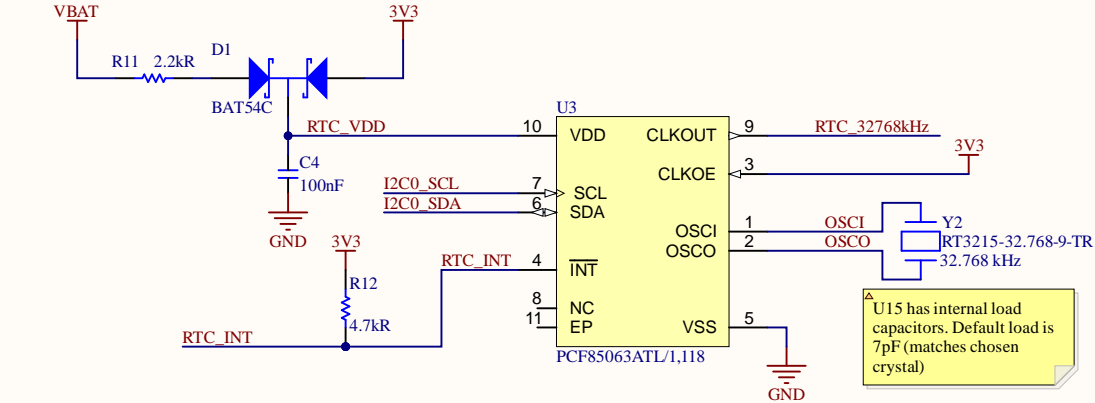
REVISION	DESCRIPTION	DATE	APPROVED

nRF52840 Module

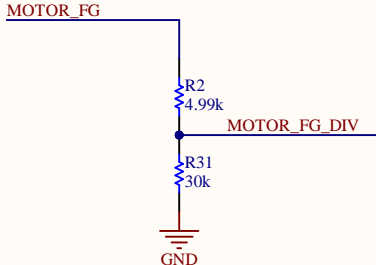


Nets with shorter wire length are not used in application, only for debug

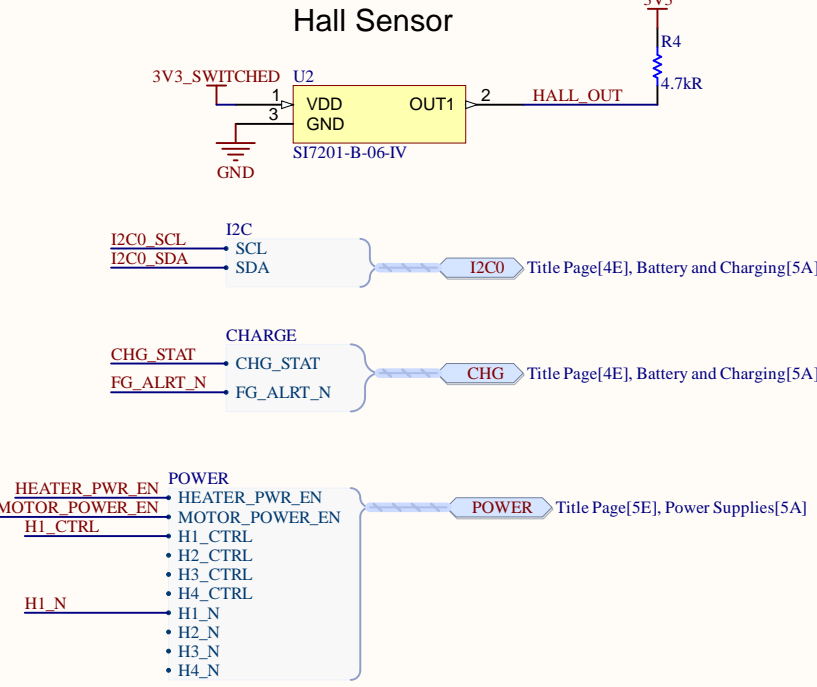
RTC/Calendar



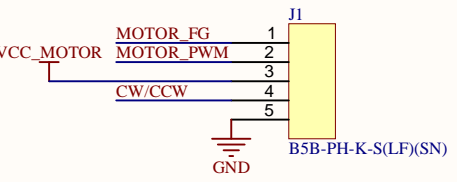
U15 has internal load capacitors. Default load is 7pF (matches chosen crystal)



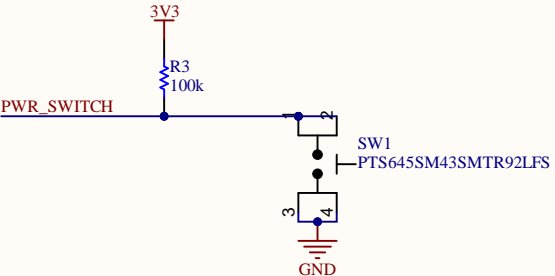
Hall Sensor



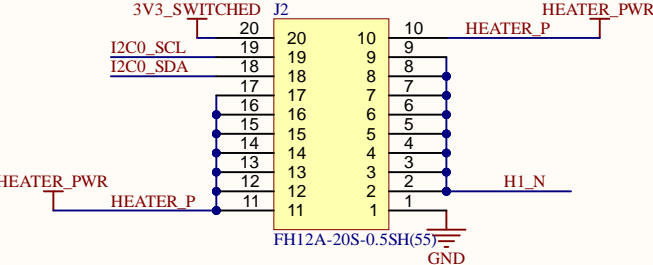
Motor Connector



On/Off button connector



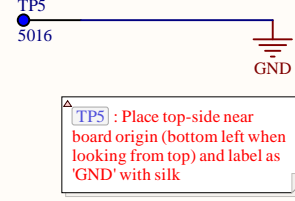
Heater Board FFC Connector



Tag-Connect Headers



GND Clip

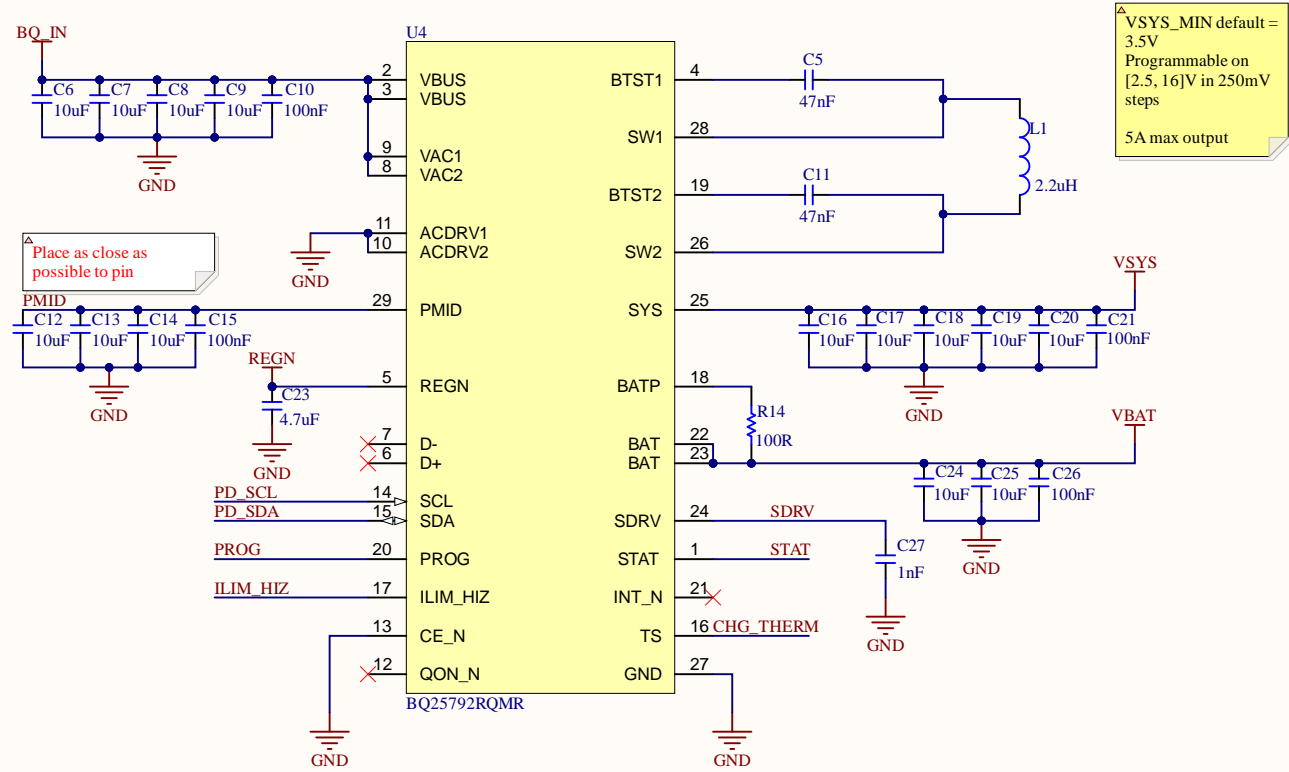


TP5 : Place top-side near board origin (bottom left when looking from top) and label as 'GND' with silk

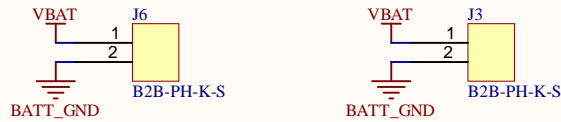
odc Engineered.		295 Foster St Suite 202 Littleton, MA 01460 www.odc.com		PROJECT GHL NAATOS Sample Prep Main Board.PrjPcb	
APPROVALS		DATE		TITLE MCU and Sensors	
DRAWN: DD	5/28/2025	SIZE B	PROJECT ID 263-03	DWG NO. GHL-1-21002	REV A
CHECKED: *		FILE NAME MCU and Sensors.SchDoc			SHEET 2 OF 7
APPROVED: *					

REVISION	DESCRIPTION	DATE	APPROVED

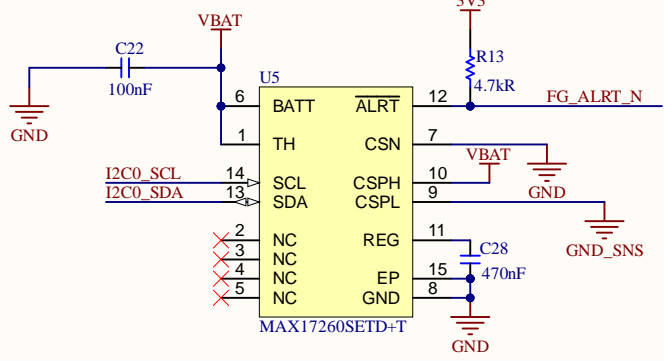
Battery Charger



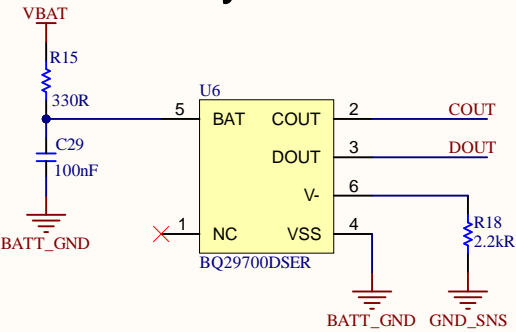
Battery Connectors



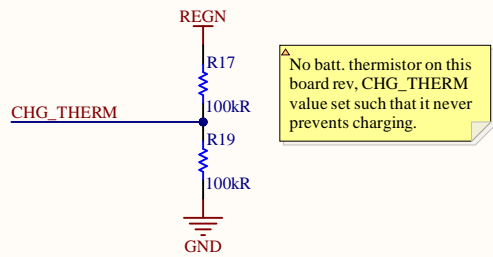
Battery Fuel Gauge



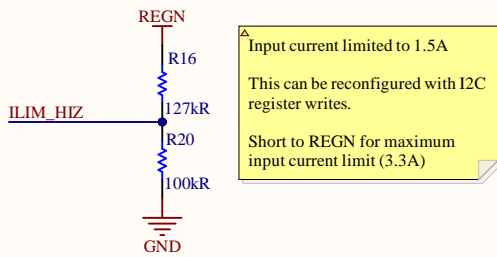
Battery Protection



Batt. Thermistor

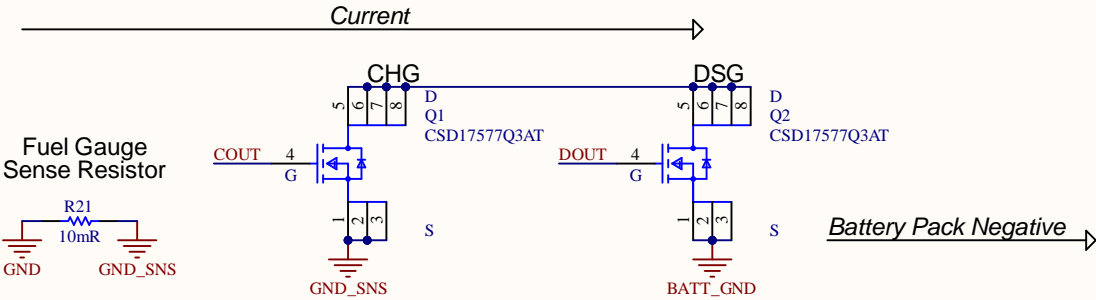
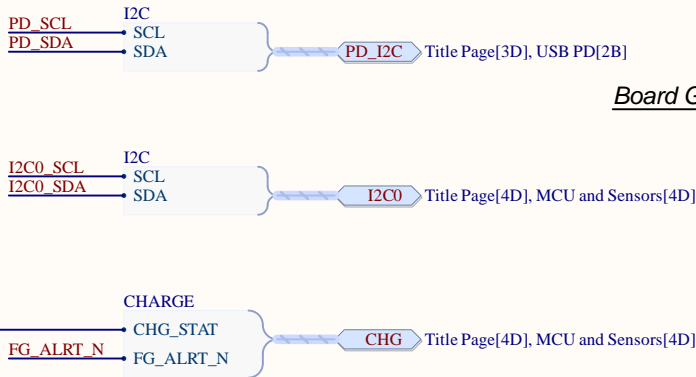
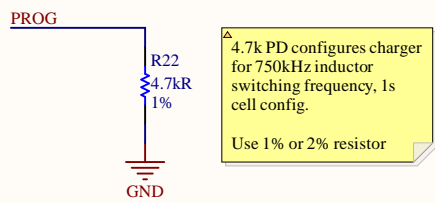


Input Current Set



Battery protection IC may require that a charger be connected when a battery is first plugged. This ensures that COUT and DOUT are both high. Otherwise, the board ground will not be connected to the battery pack

Switching Freq. Set



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GHL NAATOS Sample Prep Main Board.PrjPcb

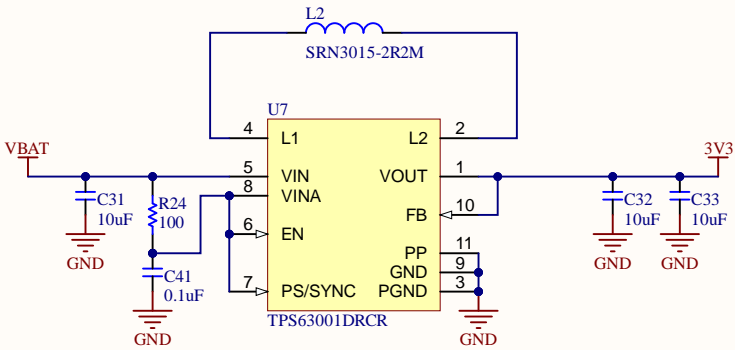
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Battery and Charging

APPROVALS	DATE
DRAWN: DD	5/28/2025
CHECKED: *	
APPROVED: *	

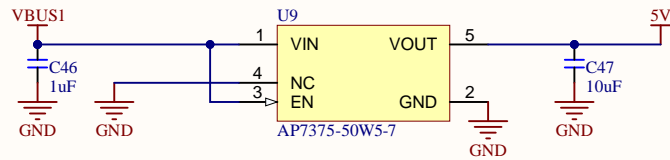
SIZE	PROJECT ID	DWG NO.	REV
B	263-03	GHL-1-21002	A
FILE NAME Battery and Charging.SchDoc			SHEET 3 OF 7

REVISION	DESCRIPTION	DATE	APPROVED

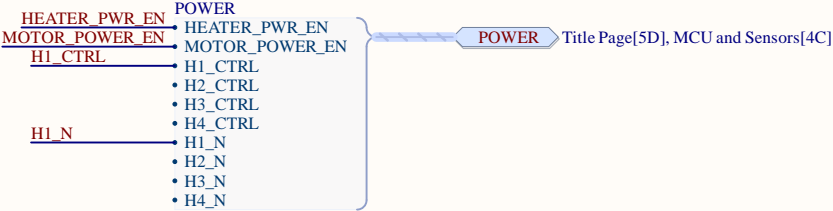
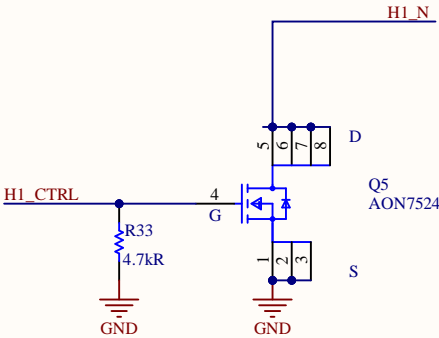
System/Logic 3V3



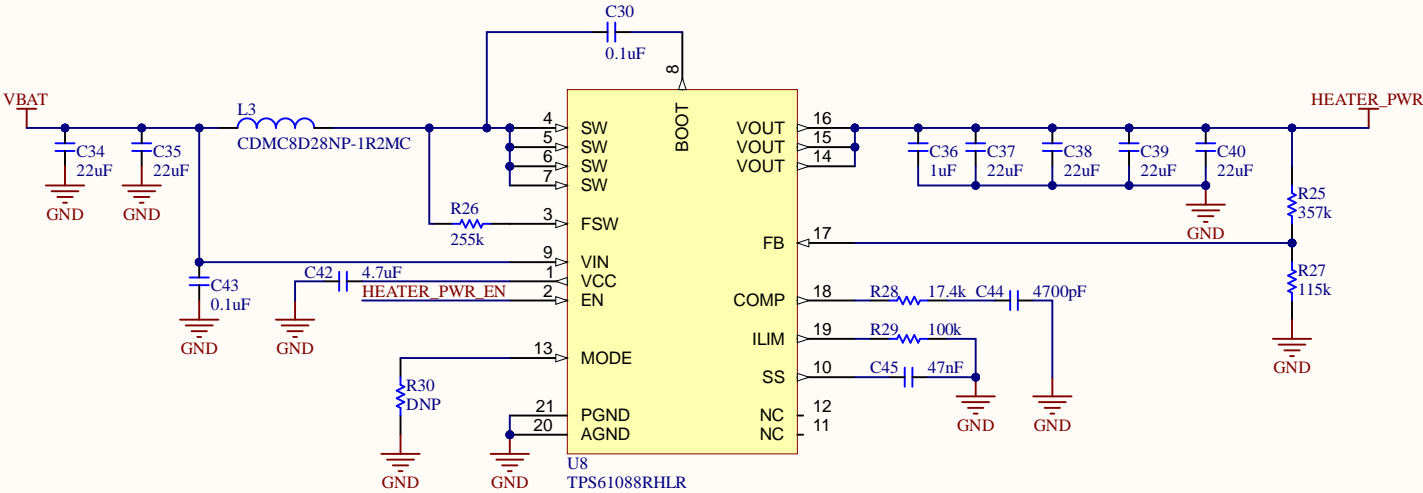
USB PHY 5V LDO



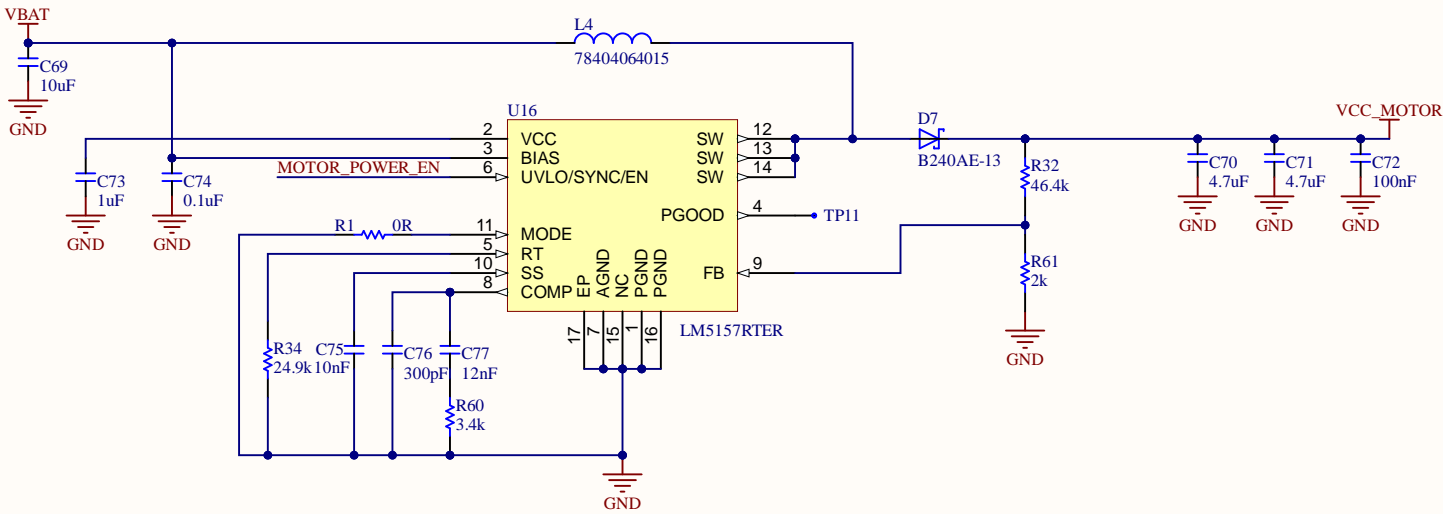
Heater Supply Switch FET



Heater Boost Supply



Motor 24V Boost Supply



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PROJECT
GHL NAATOS Sample Prep Main Board.PrjPcb

TITLE
Power Supplies

APPROVALS

DATE

DRAWN: DD

5/28/2025

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SIZE

B

PROJECT ID

263-03

DWG NO.

GHL-1-21002

REV

A

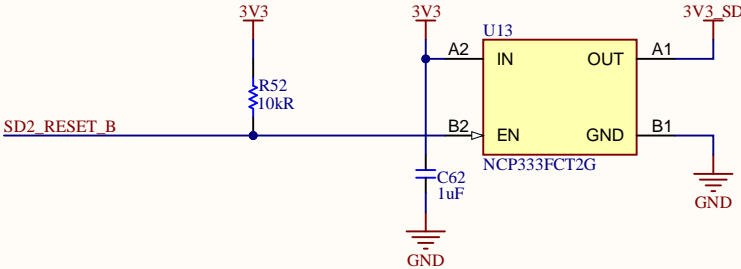
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Power Supplies.SchDoc

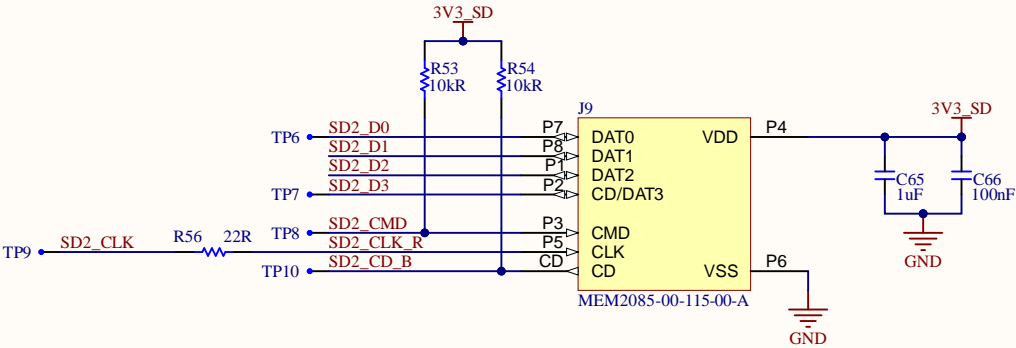
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REVISION	DESCRIPTION	DATE	APPROVED

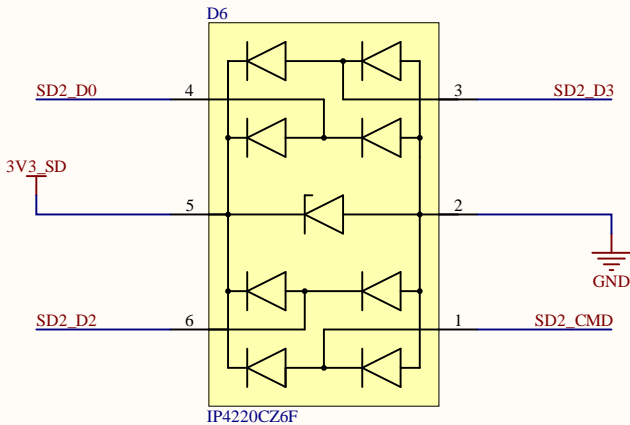
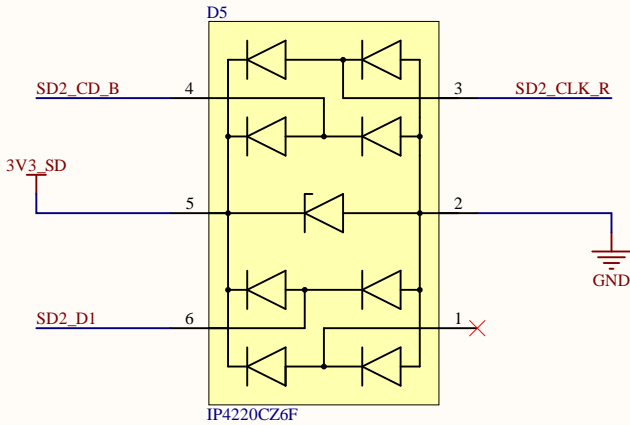
micro SD Card
SD Power/Reset



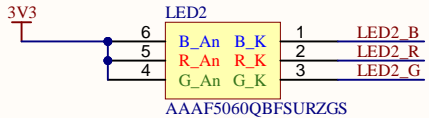
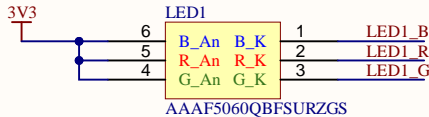
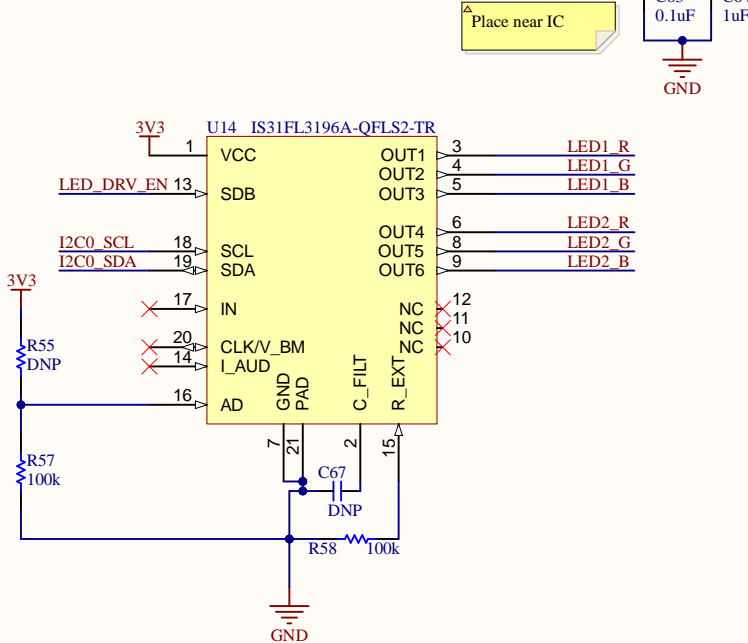
Card Receptacle



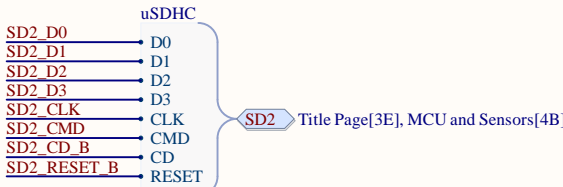
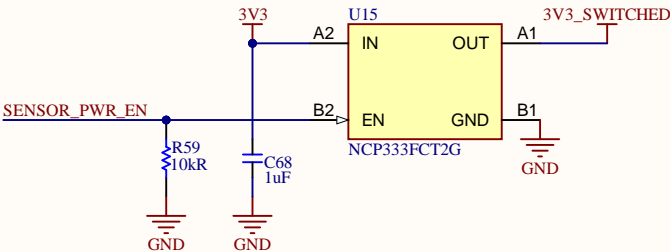
ESD Protection




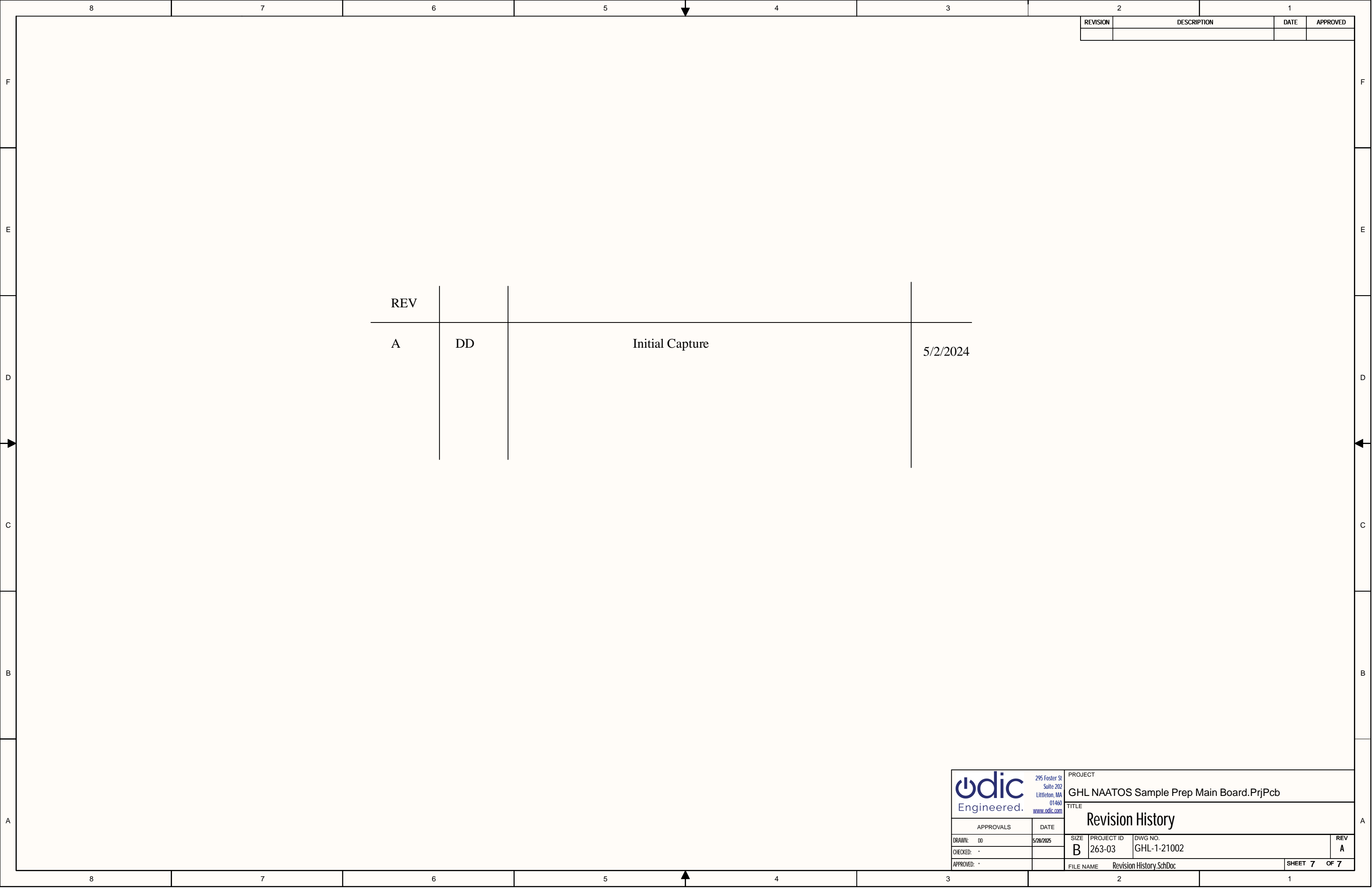
LED Driver



Sensor Load Switch




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	TITLE Peripherals					
	APPROVALS	DATE	SIZE	PROJECT ID	DWG NO.	REV
	DRAWN: DD	5/28/2025	B	263-03	GHL-1-21002	A
CHECKED: -		FILE NAME Peripherals.SchDoc			SHEET 6 OF 7	
APPROVED: *						



REV			
A	DD	Initial Capture	5/2/2024

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TITLE

Revision History

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5/28/2025

SIZE

PROJECT ID

DWG NO.

REV

B

263-03

GHL-1-21002

A

FILE NAME

SHEET 7 OF 7

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