CAN harness information can be found @ https://uwarg-docs.atlassian.net/wiki/spaces/ARCHS22/pages/2555904119/CAN+Integration+2025#Harness-Philosophy

Input Range: 5.5V to 3.7V

CAN1

J5 — SM04B-GHS-TB(LF)(SN)
+5V2
1 CAN_H
2 CAN_L
GND

CAN2

J7 — SM04B-GHS-TB(LF)(SN)
+5V2
1 CAN_H
2 CAN_L
GND

J6 — BM06B-GHS-TBT
+3V3
NRST
SWO
SWDIO
SWCLK
GND

XTAL

X1 — ASDDV-8.000MHZ-LR-T
+3V3
VDD
TS
GND
OUT
C38 10nF 25V X7R 0603
R25 10k 1/10W 1% 0603
OSC_EN
HSE_8MHZ
GND

I2C Debug Connecters

J3 — 61300211121
SCL_1
SDA_1

J4 — 61300211121
SCL_2
SDA_2

MCU

U3 — STM32L431KCU6

HSE_8MHZ	6	PA0/CK_IN	
OSC_EN	7	PA1	
ADC_2_FILT	8	PA2	
OVERCURRENT	9	PA3	VDDA/VREF+
VIOUT_FILT	10	PA4	
VCOUT_1_FILT	11	PA5	
	12	PA6	
SCL_2	13	PA7	
	18	PA8	
SCL_1	19	PA9	PC14-OSC32_IN
SDA_1	20	PA10	PC15-OSC32_OUT
CAN1_RX	21	PA11	
CAN1_TX	22	PA12	
SWDIO	23	PA13	
SWCLK	24	PA14	
TJA1051_SLEEP	25	PA15	PH3/BOOT0
ADC_1_FILT	14	PB0	NRST
VCOUT_2_FILT	15	PB1	
SWO	26	PB3	
SDA_2	27	PB4	VSS
	28	PB5	VSS
	29	PB6	
	30	PB7	E-PAD

VDD: 1, 17
VDDA/VREF+: 5
PC14-OSC32_IN: 2
PC15-OSC32_OUT: 3
PH3/BOOT0: 31 BOOT0
NRST: 4 NRST
VSS: 16, 32
E-PAD: 33

+3V3
C27 100nF 0603
C28 100nF 0603
C29 4.7uF 0603
C30 100nF 25V X7R 0603
R19 10k 1/10W 1% 0603
GND

CAN Transceiver

FL1 — ACT1210D-510-2P-TL00
CAN_H
CAN_L
2 CAN_H_FILT
1 CAN_L_FILT
4 CAN_L_FILT

D3 — PESD2CANFD24U-QCZ

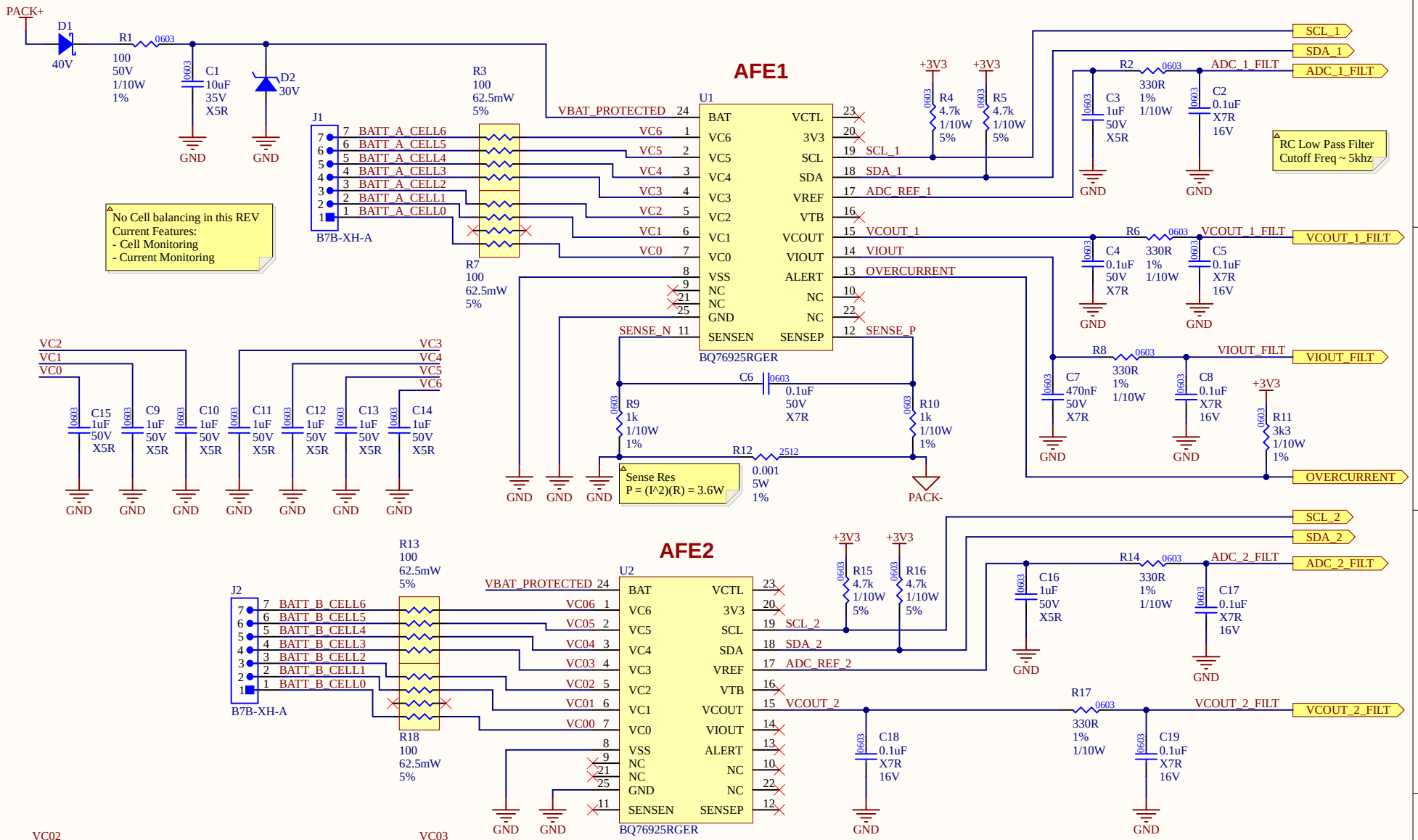
R22 60.4R 100mW 1% 0603
R23 60.4R 100mW 1% 0603
C37 4.7nF 50V X7R 0603
C33 22pF C0G,NP0 50V 0603
C34 22pF C0G,NP0 50V 0603
C35 22pF C0G,NP0 50V 0603
C36 22pF C0G,NP0 50V 0603

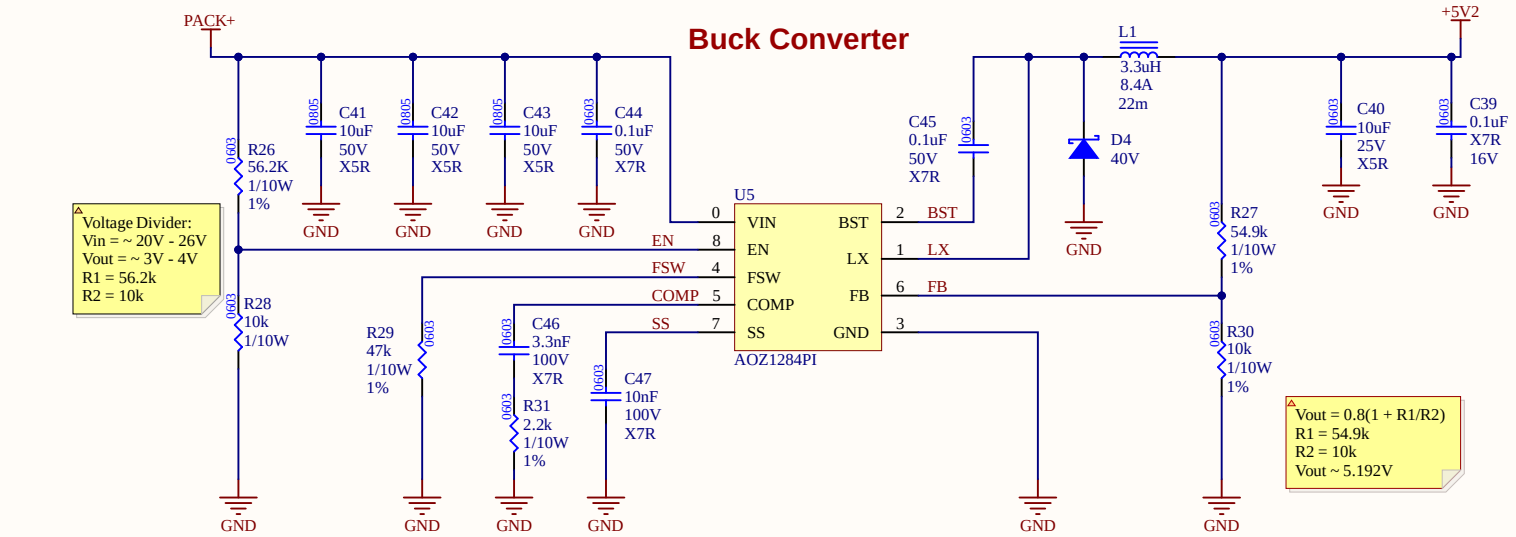
U4 — TJA1051TK/3,118

	3	VCC	VIO	5	+3V3
	7	CANH	TXD	1	TJA1051_TX
	6	CANL	RXD	4	TJA1051_RX
	2	GND	S	8	TJA1051_SLEEP
	9	EPAD			

+5V2
C31 100nF 25V X7R 0603
C32 100nF 25V X7R 0603
R20 10 1/10W 1% 0603
R21 10 1/10W 1% 0603
R24 10k 1/10W 1% 0603
CAN1_TX
CAN1_RX
GND

Waterloo Aerial Robotics Group 200 University Ave W Waterloo, Ontario, Canada N2L 3G1	
PROJECT: 6s Power Module.PrjPcb, [No Variations]	REVISION: *
DOCUMENT: MCU.SchDoc	MODIFIED: 2024-09-05
ENGINEER: *	REVIEWER: *
	SHEET * OF *

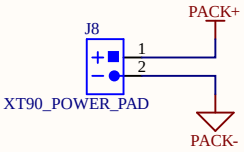

PACK+
D1
40V
R1
0603
100
50V
1/10W
1%
C1
10uF
35V
X5R
D2
30V
GND
R3
100
62.5mW
5%
J1
B7B-XH-A
BATT_A_CELL6
BATT_A_CELL5
BATT_A_CELL4
BATT_A_CELL3
BATT_A_CELL2
BATT_A_CELL1
BATT_A_CELL0
R7
100
62.5mW
5%
No Cell balancing in this REV
Current Features:
- Cell Monitoring
- Current Monitoring
AFE1
U1
BQ76925RGER
VBAT_PROTECTED
VC6
VC5
VC4
VC3
VC2
VC1
VC0
VSS
NC
GND
SENSEN
BAT
VC6
VC5
VC4
VC3
VC2
VC1
VC0
VSS
NC
NC
GND
SENSEN
VCTL
3V3
SCL
SDA
VREF
VTB
VCOUT
VIOUT
ALERT
NC
NC
NC
SENSEP
SCL_1
SDA_1
ADC_REF_1
VCOUT_1
VIOUT
OVERCURRENT
SENSE_N
SENSE_P
+3V3
R4
4.7k
1/10W
5%
R5
4.7k
1/10W
5%
R2
330R
1%
1/10W
ADC_1_FILT
C3
1uF
50V
X5R
C2
0.1uF
X7R
16V
RC Low Pass Filter
Cutoff Freq ~ 5khz
R6
C4
0.1uF
50V
X7R
C5
0.1uF
X7R
16V
VCOUT_1_FILT
R8
330R
1%
1/10W
C7
470nF
50V
X7R
C8
0.1uF
X7R
16V
R11
3k3
1/10W
1%
VIOUT_FILT
C6
0.1uF
50V
X7R
R9
1k
1/10W
1%
R10
1k
1/10W
1%
R12
2512
0.001
5W
1%
Sense Res
P = (I^2)(R) = 3.6W
PACK-
C15
C9
C10
C11
C12
C13
C14
1uF
50V
X5R
AFE2
U2
BQ76925RGER
R13
100
62.5mW
5%
J2
B7B-XH-A
BATT_B_CELL6
BATT_B_CELL5
BATT_B_CELL4
BATT_B_CELL3
BATT_B_CELL2
BATT_B_CELL1
BATT_B_CELL0
R18
100
62.5mW
5%
VBAT_PROTECTED
VC06
VC05
VC04
VC03
VC02
VC01
VC00
SCL_2
SDA_2
ADC_REF_2
VCOUT_2
R15
4.7k
1/10W
5%
R16
4.7k
1/10W
5%
R14
330R
1%
1/10W
ADC_2_FILT
C16
1uF
50V
X5R
C17
0.1uF
X7R
16V
R17
330R
1%
1/10W
VCOUT_2_FILT
C18
0.1uF
X7R
16V
C19
0.1uF
X7R
16V
C26
C20
C21
C22
C23
C24
C25
SCL_1
SDA_1
ADC_1_FILT
VCOUT_1_FILT
VIOUT_FILT
OVERCURRENT
SCL_2
SDA_2
ADC_2_FILT
VCOUT_2_FILT
WARG
Waterloo Aerial Robotics Group
200 University Ave W
Waterloo, Ontario, Canada
N2L 3G1
PROJECT
6s Power Module.PrjPcb, [No Variations]
REVISION
1
DOCUMENT
Pack_monitoring.SchDoc
MODIFIED
2024-09-05
ENGINEER
Andrew Chai
REVIEWER
*
SHEET * OF *



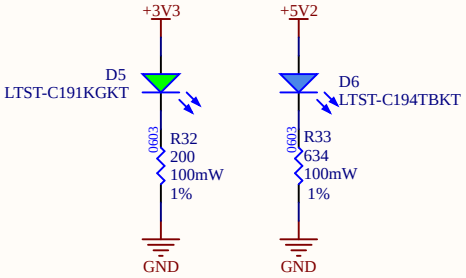
Mounting Holes

30.5mm x 30.5mm pattern

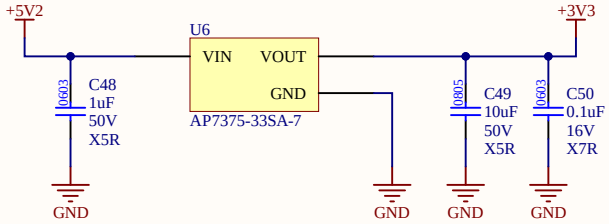
Input Conn



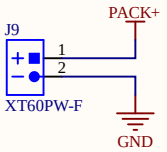
Output LEDs



LDO



Output Conn



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PROJECT: 6s Power Module.PrjPcb, [No Variations]	REVISION: *
DOCUMENT: Power.SchDoc	MODIFIED: 2024-08-25
ENGINEER: Andrew Chai	REVIEWER: *
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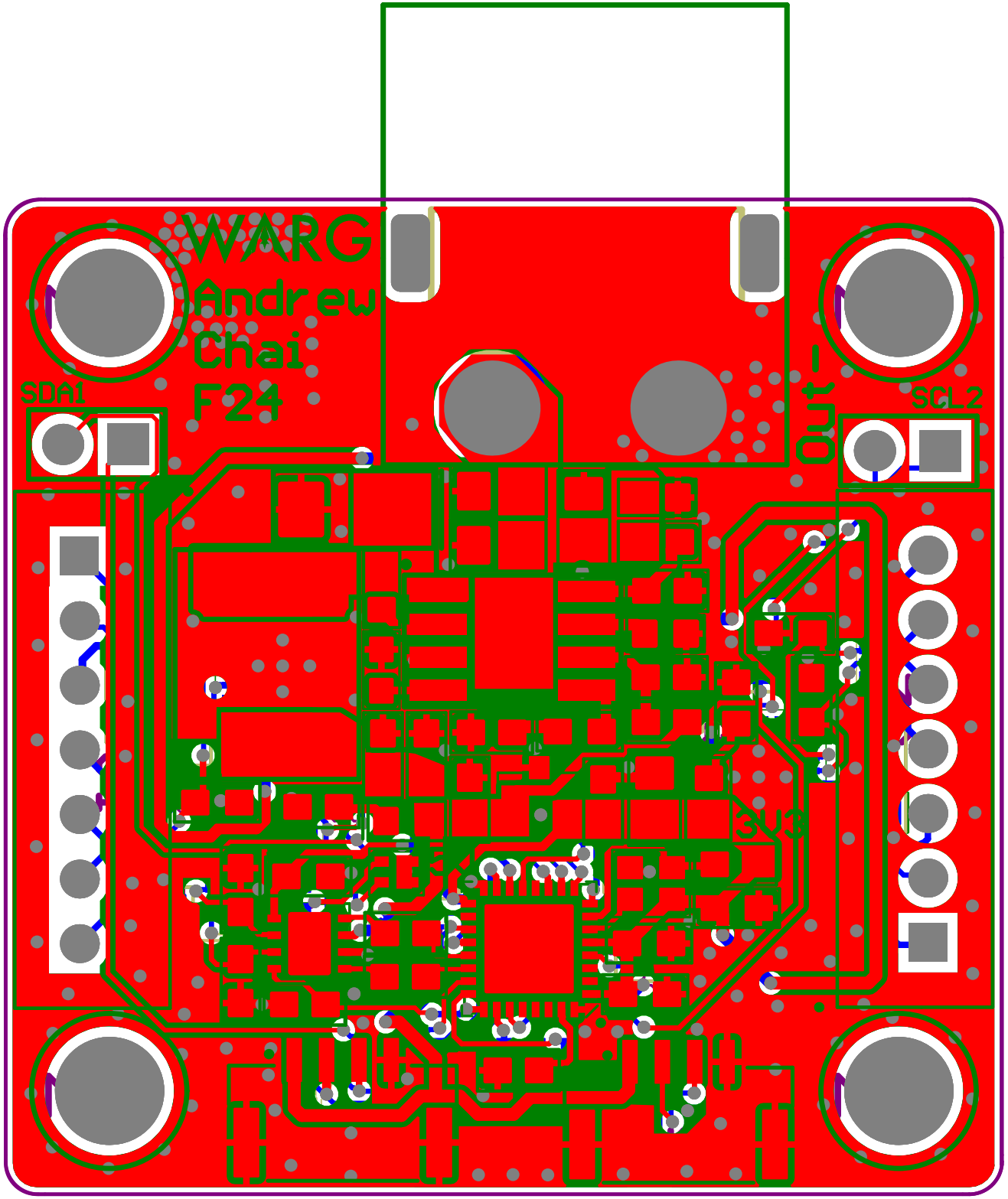
WARG
Andrew
Chai
F24
SDA1
SCL2
3V3

Board Stack Report