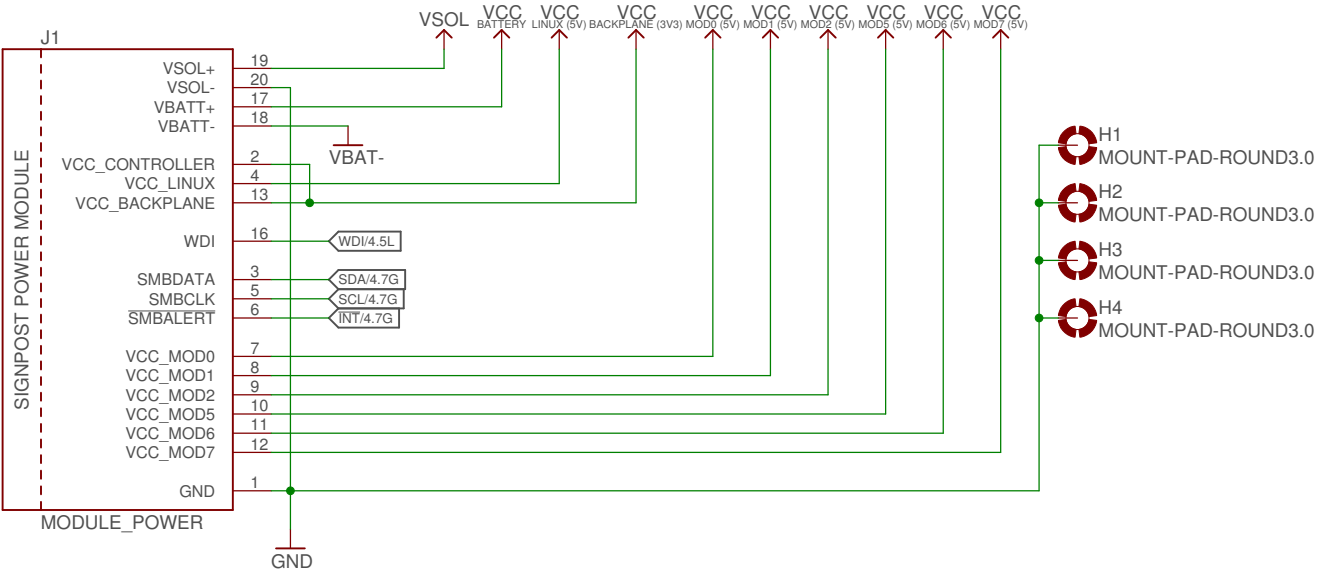


# Power Module Header



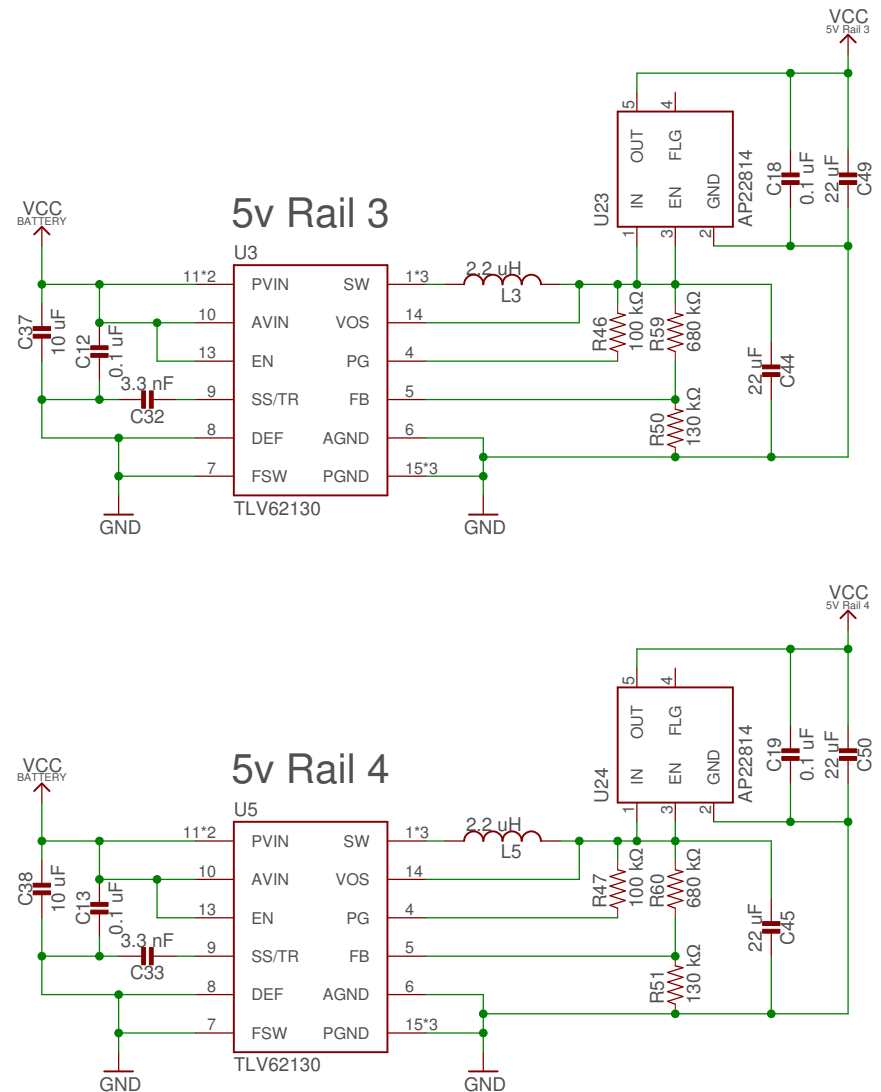
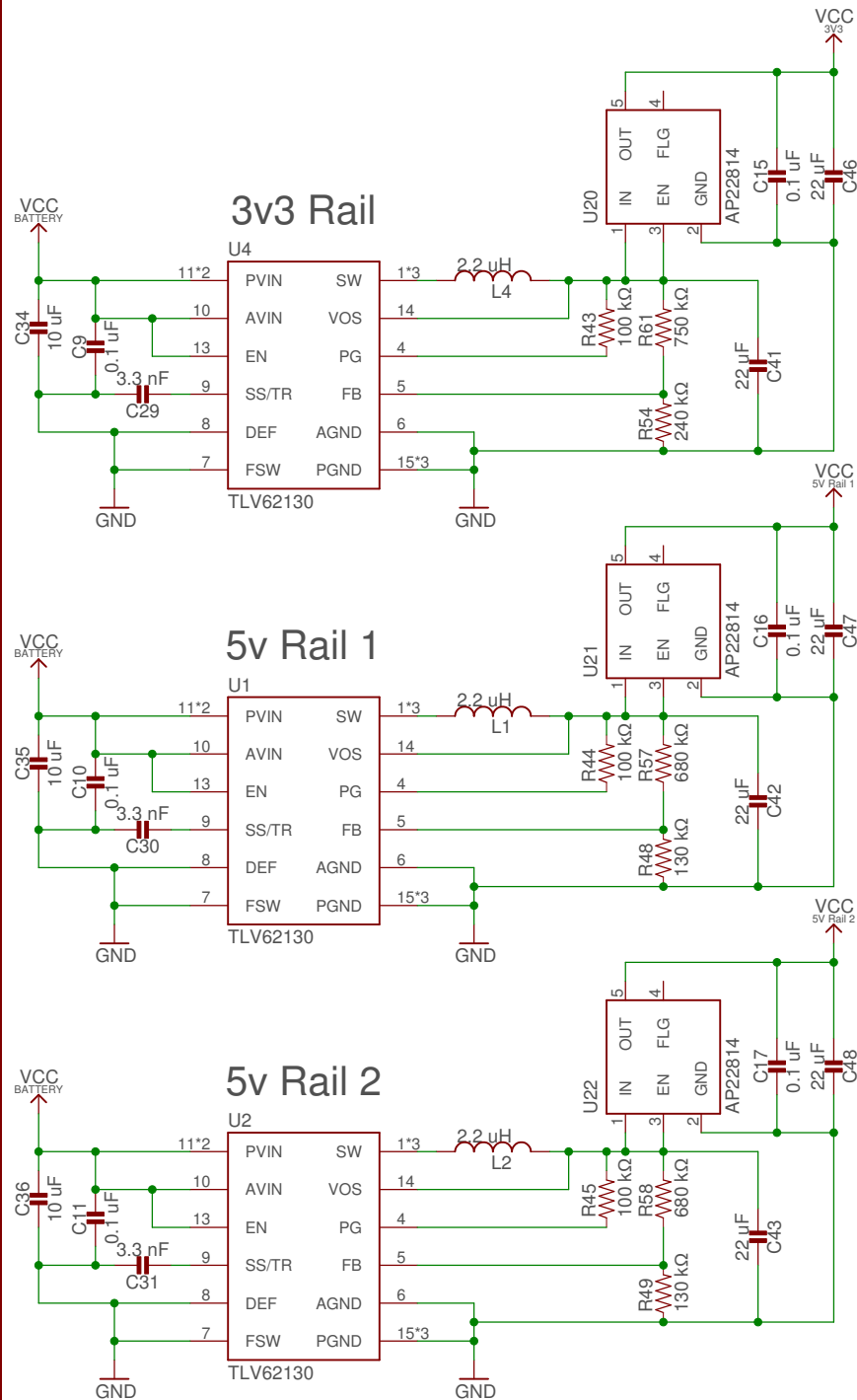
Power Supply Module

REV:  
A

Author: N. Jackson

Date: 3/17/17 2:23 PM

Sheet: 1/8



Power Supply Module

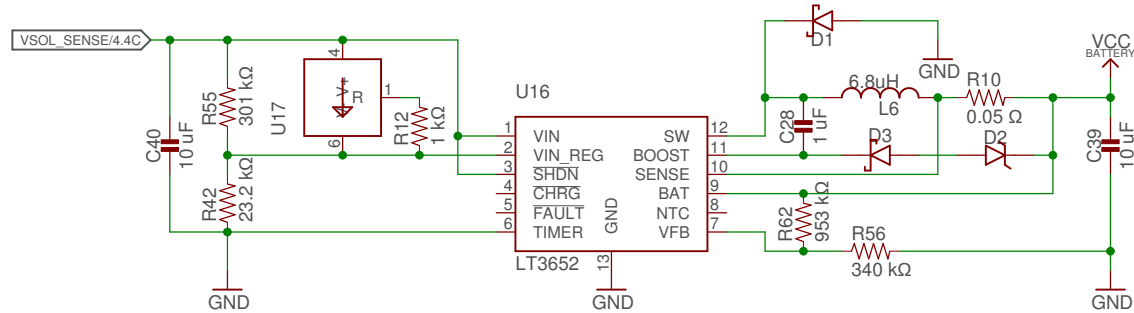
Author: N. Jackson

Date: 3/17/17 2:23 PM

REV:  
A

Sheet: 2/8

# Solar Charger



Power Supply Module

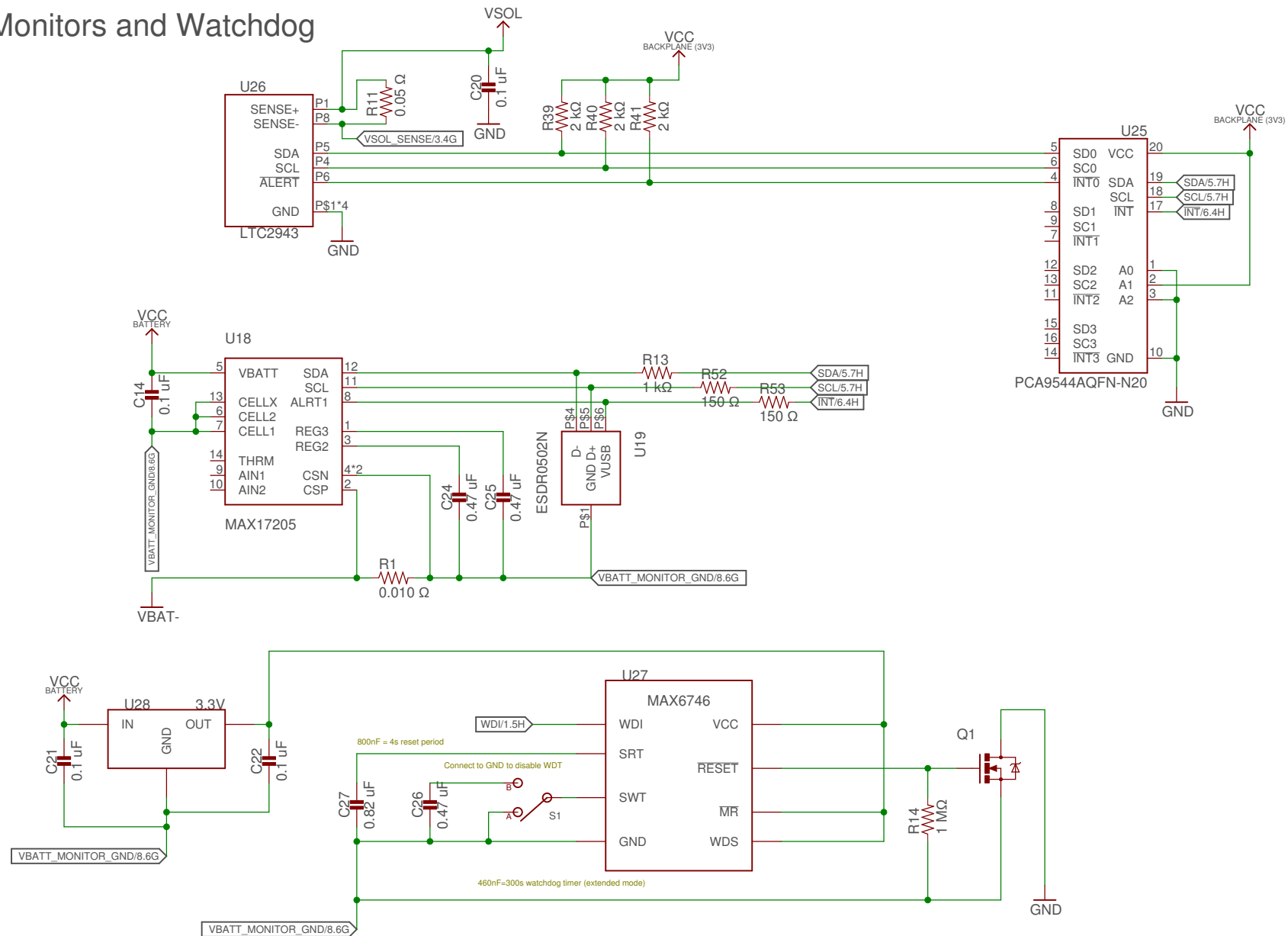
REV:  
A

Author: N. Jackson

Date: 3/17/17 2:23 PM

Sheet: 3/8

# Monitors and Watchdog



Power Supply Module

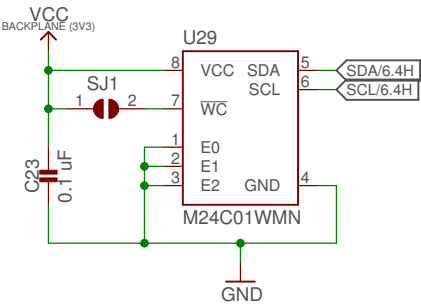
REV:  
A

Author: N. Jackson

Date: 3/17/17 2:23 PM

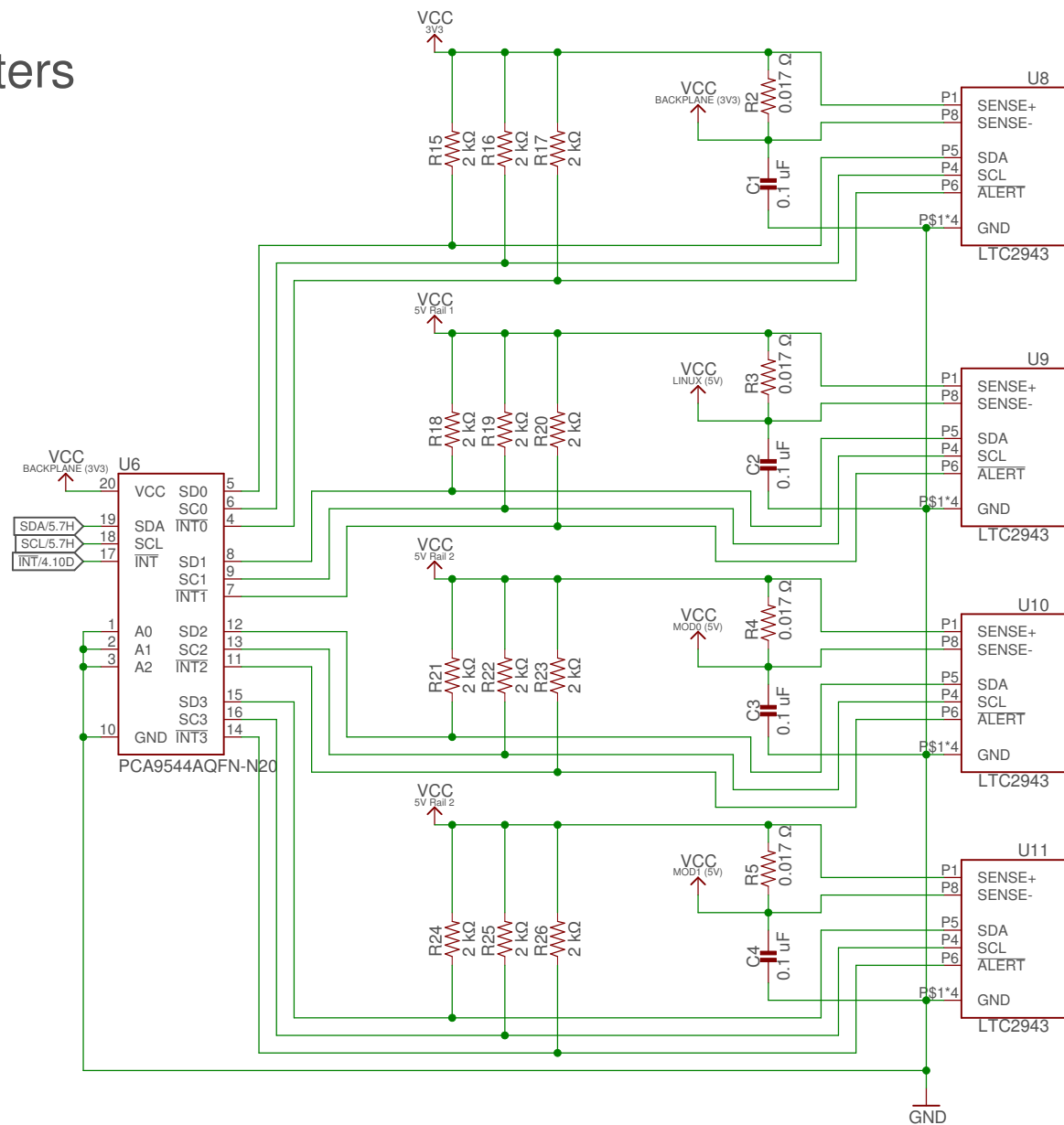
Sheet: 4/8

# EEPROM ID



# Coulomb Counters

For MOD0-2,5



Power Supply Module

REV:  
A

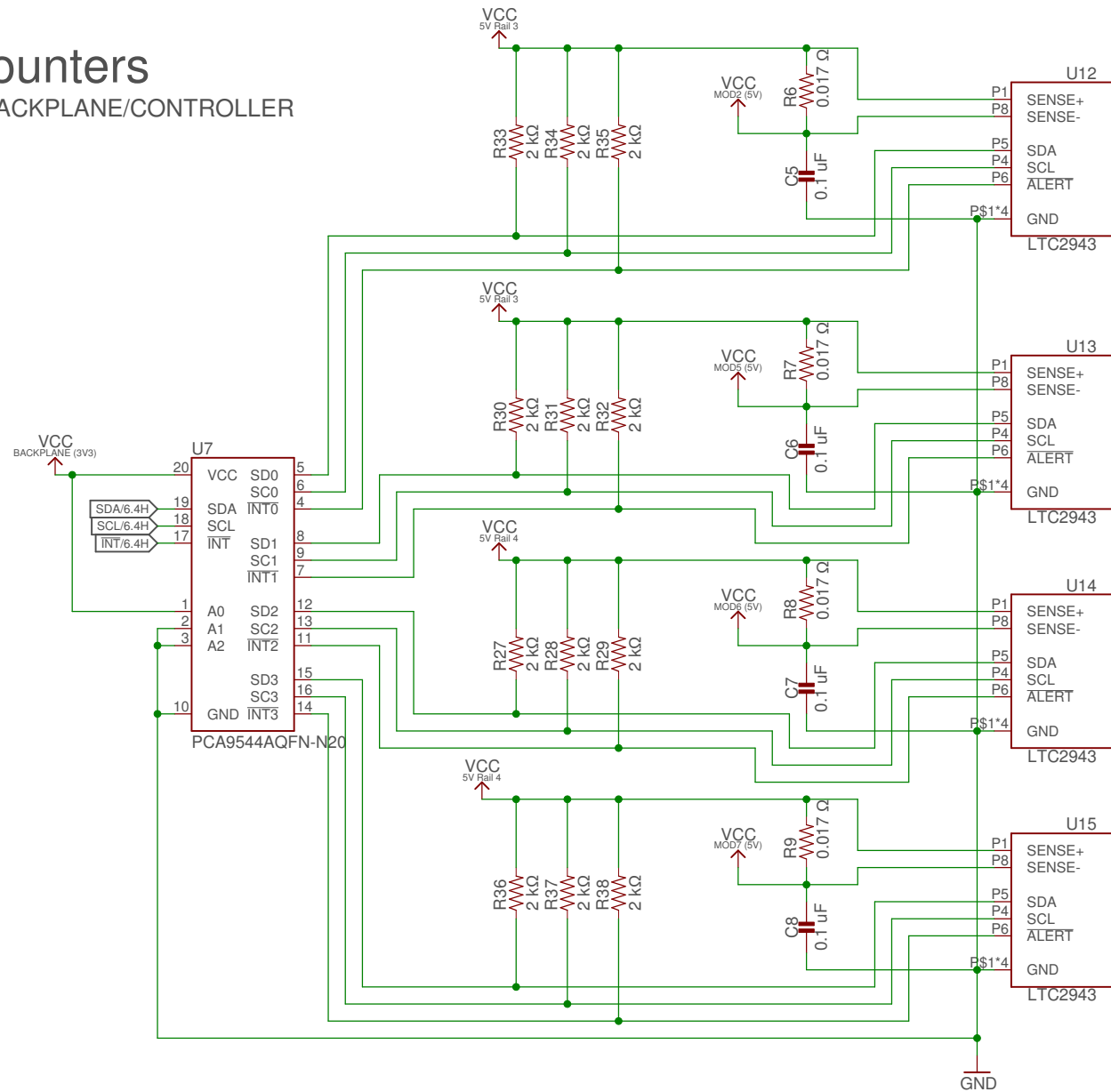
Author: N. Jackson

Date: 3/17/17 2:23 PM

Sheet: 6/8

# Coulomb Counters

For MOD6-7, LINUX, BACKPLANE/CONTROLLER



Power Supply Module

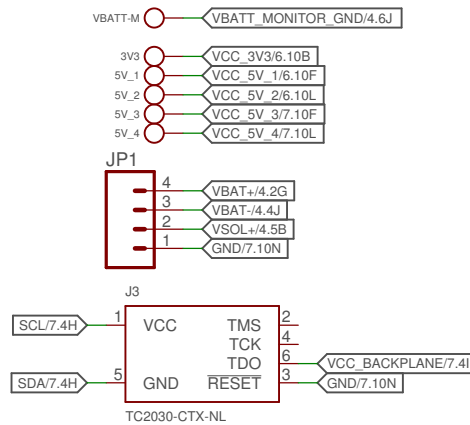
REV:  
A

Author: N. Jackson

Date: 3/17/17 2:23 PM

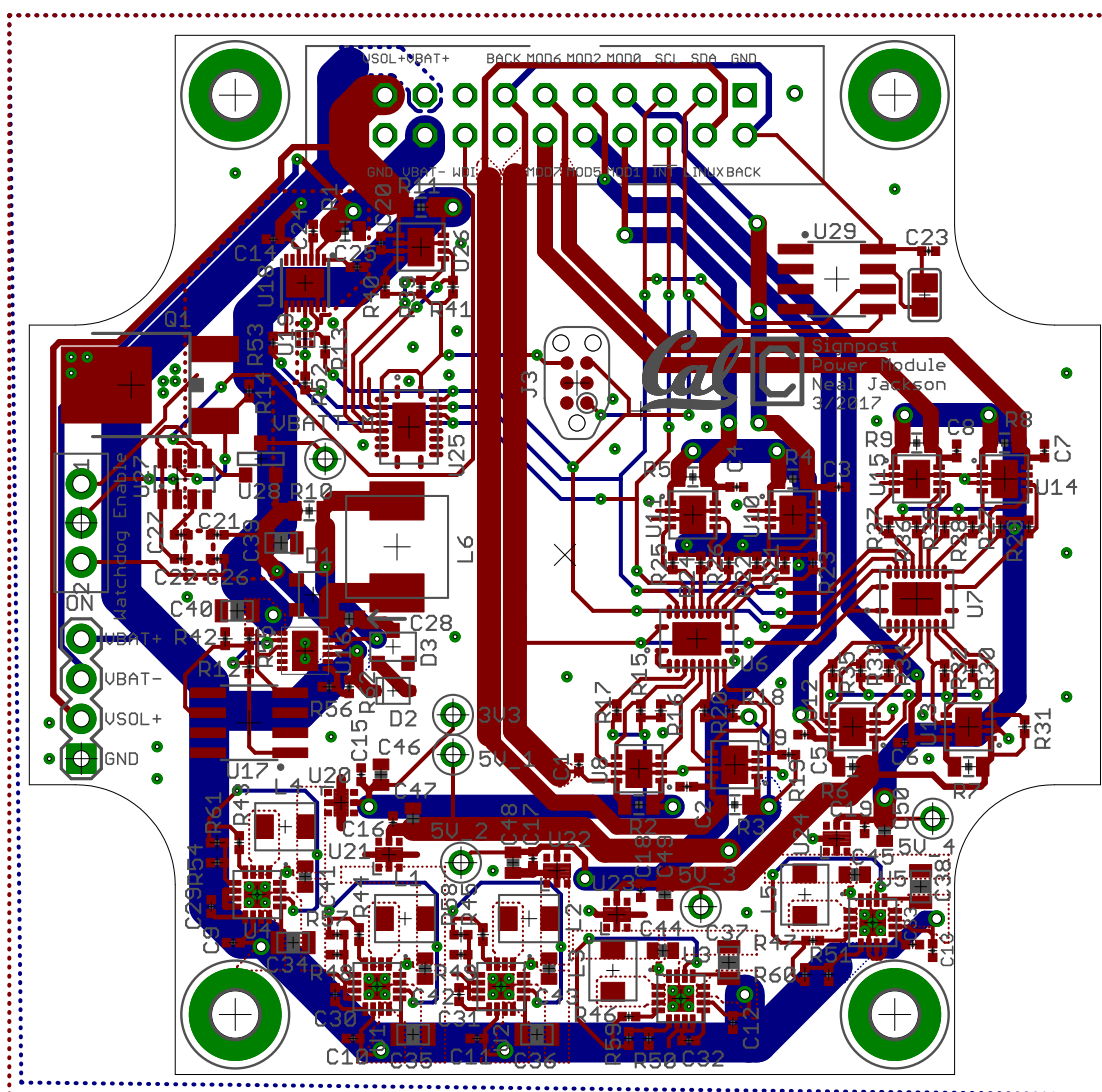
Sheet: 7/8

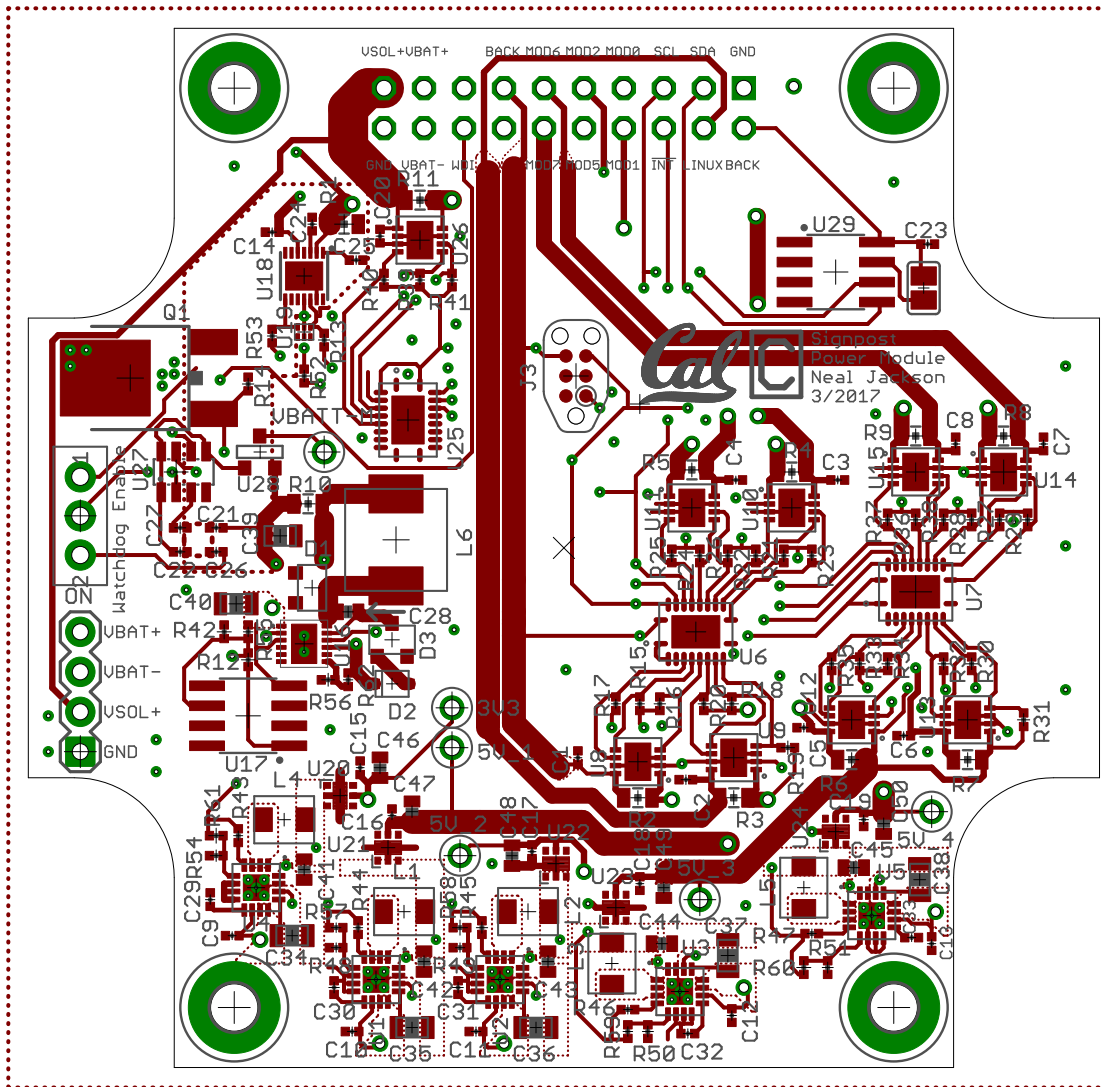
# Debugging

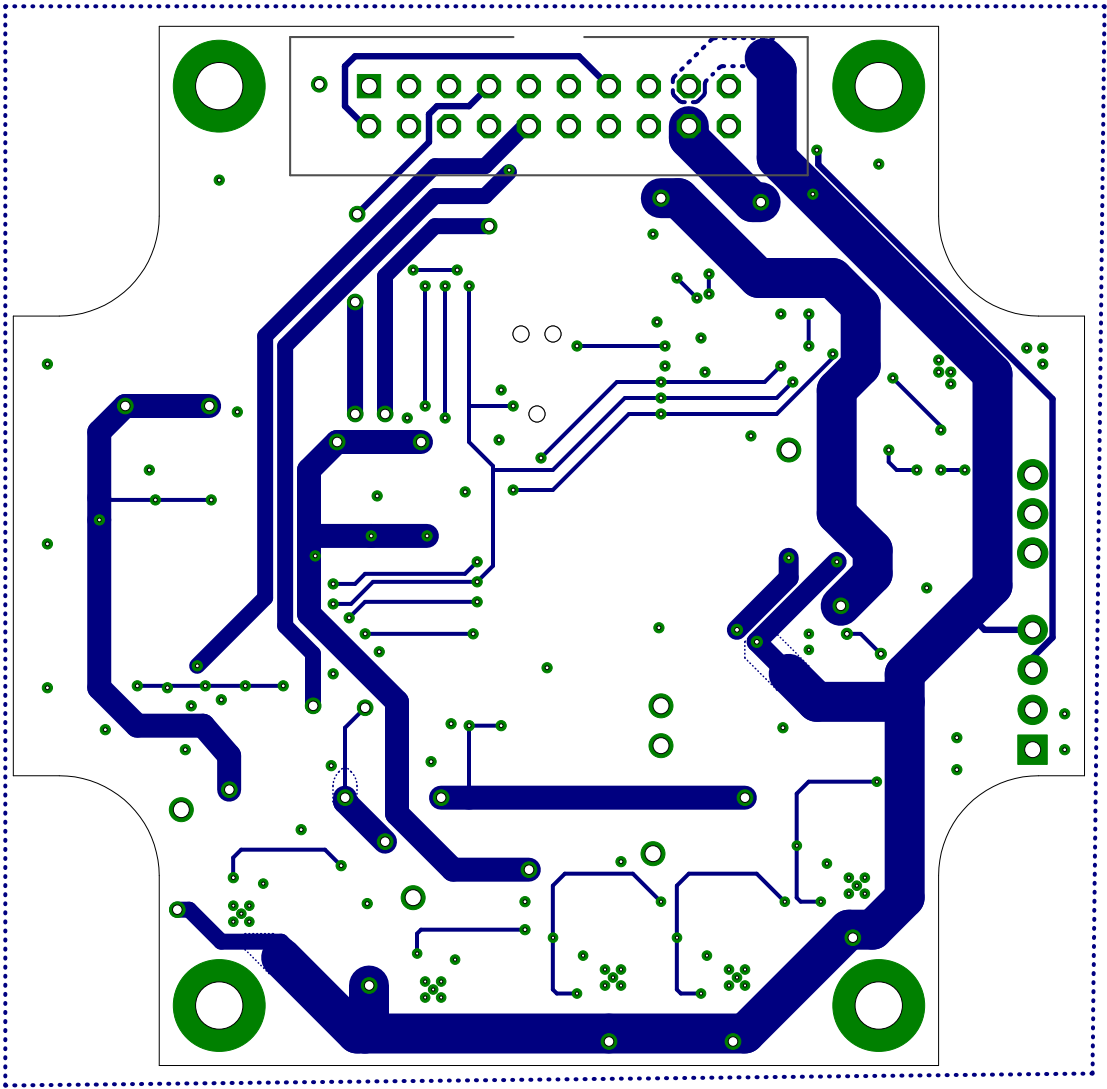


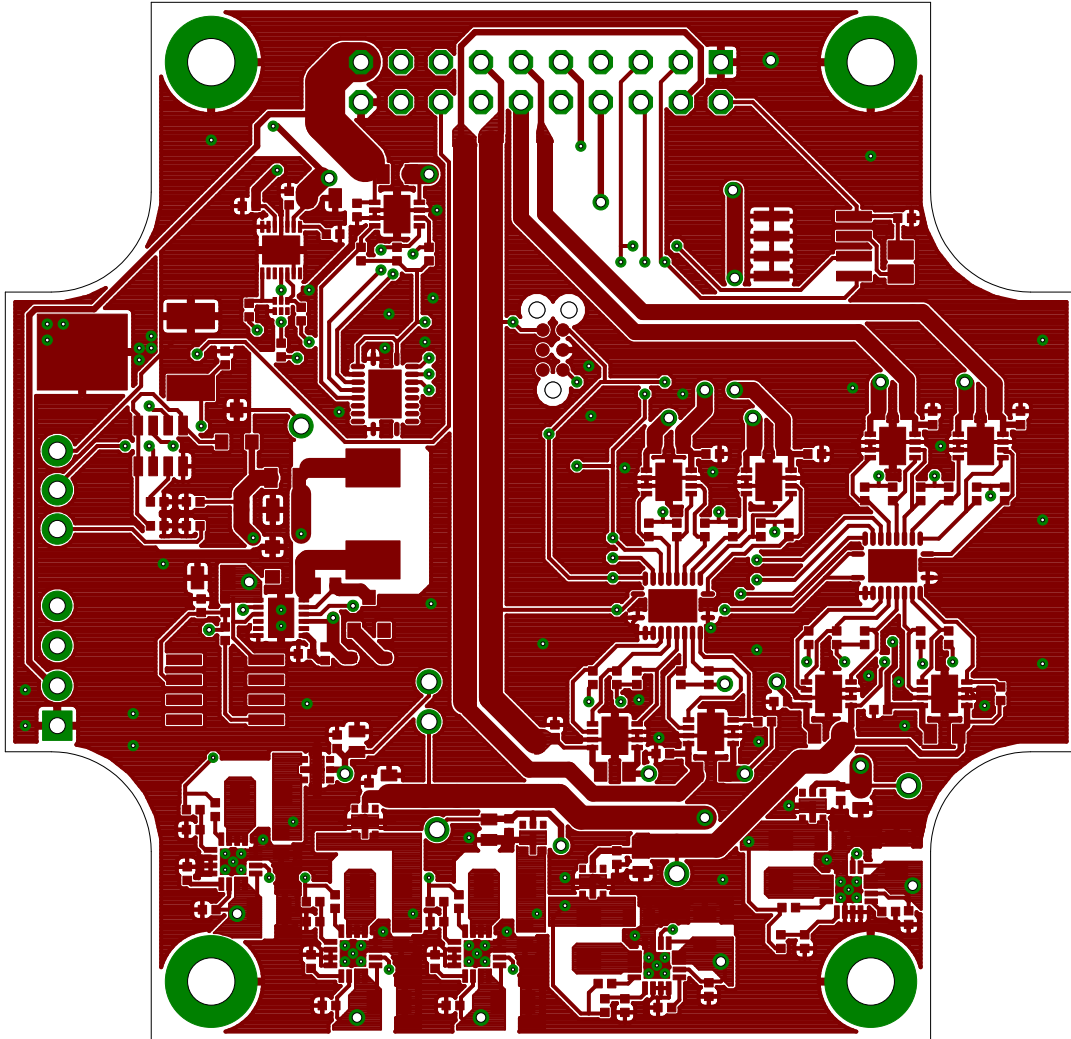
Power Supply Module		REV: A
Author: N. Jackson		
Date: 3/17/17 2:23 PM	Sheet: 8/8	



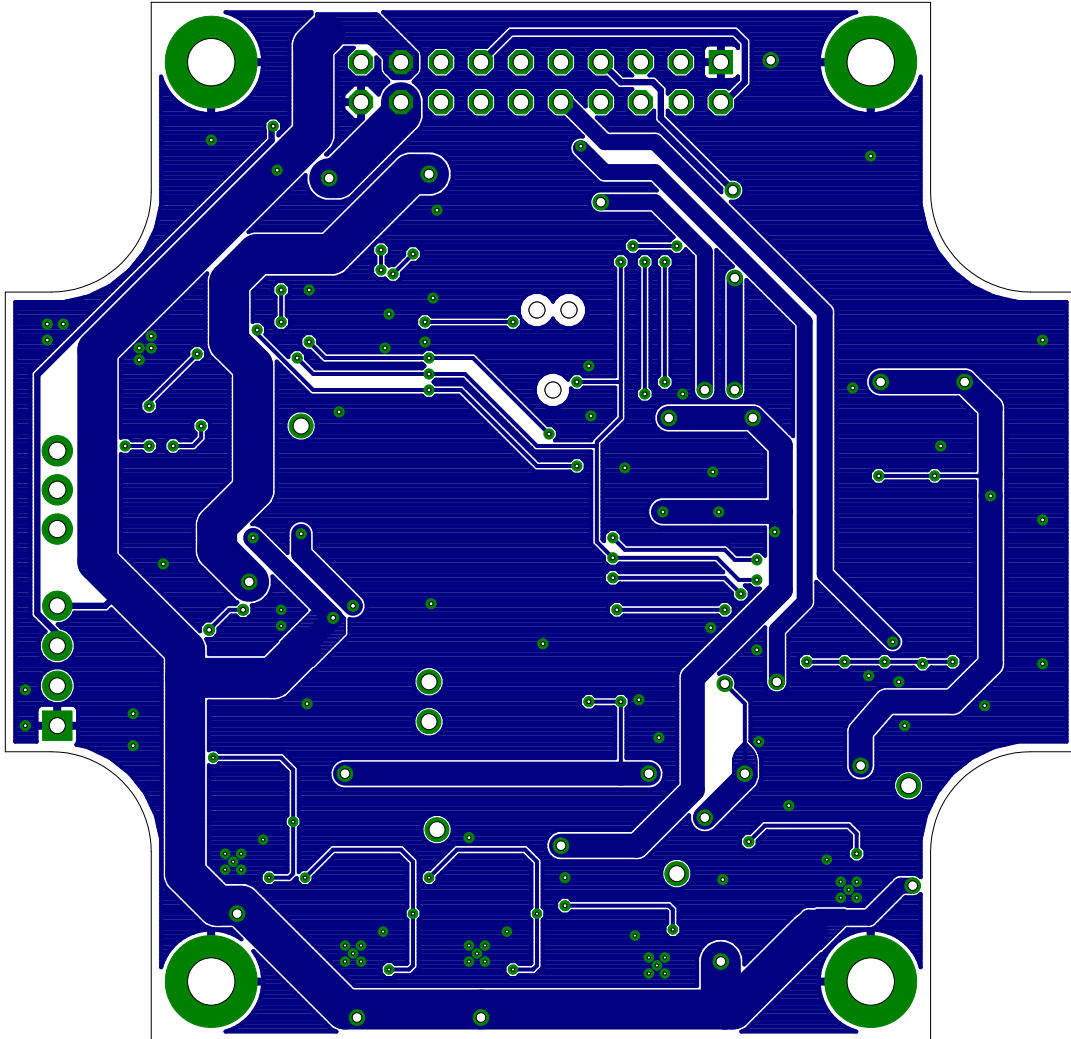




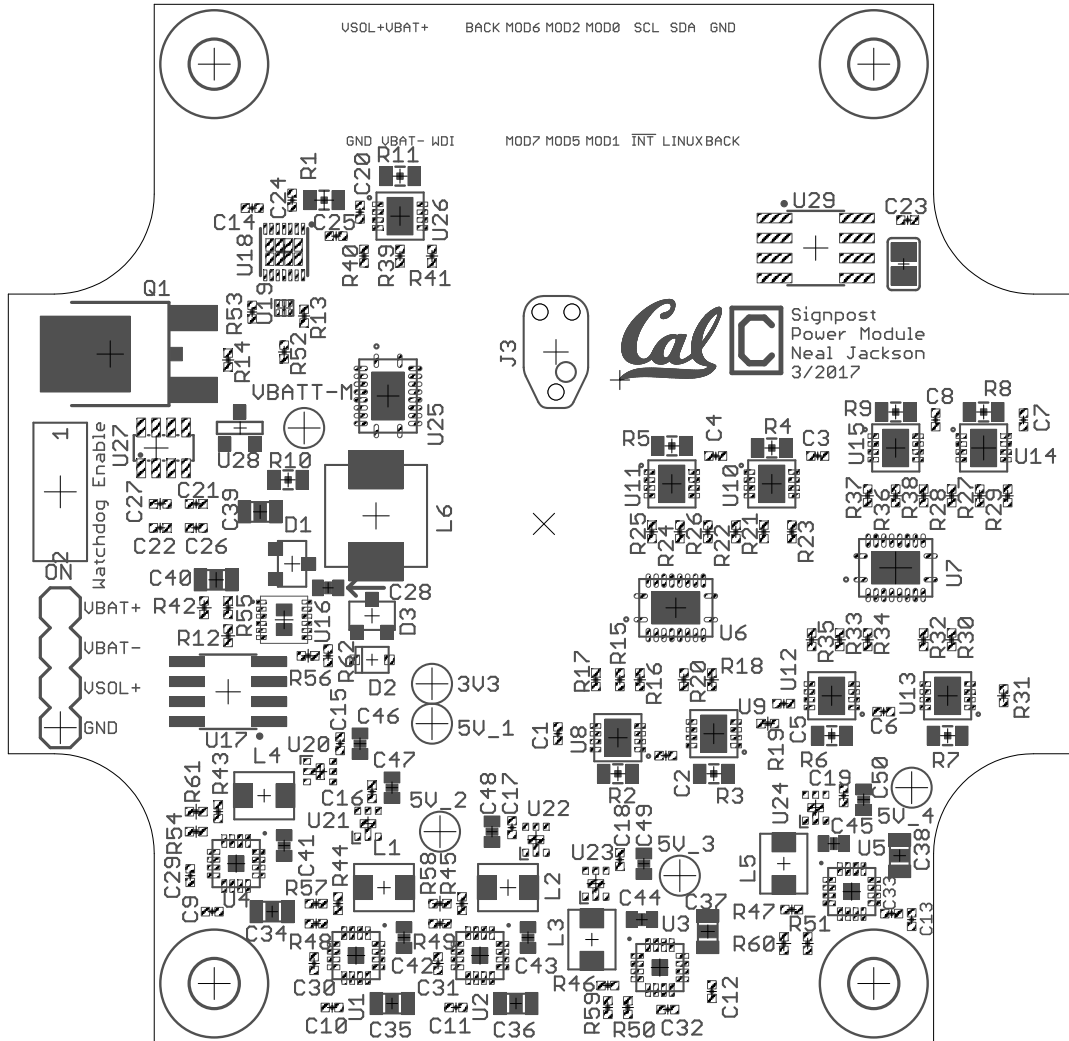




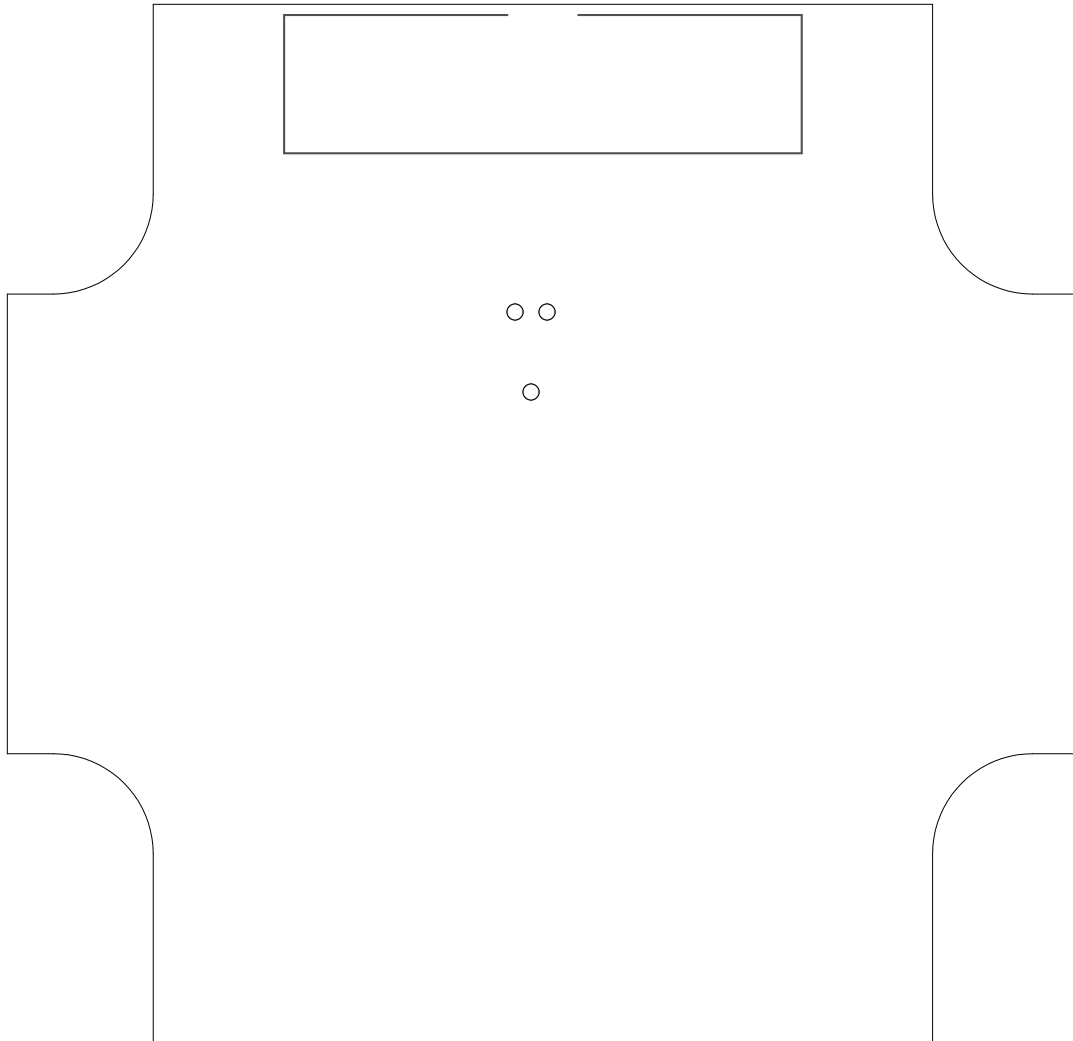
Bottom Copper Layer



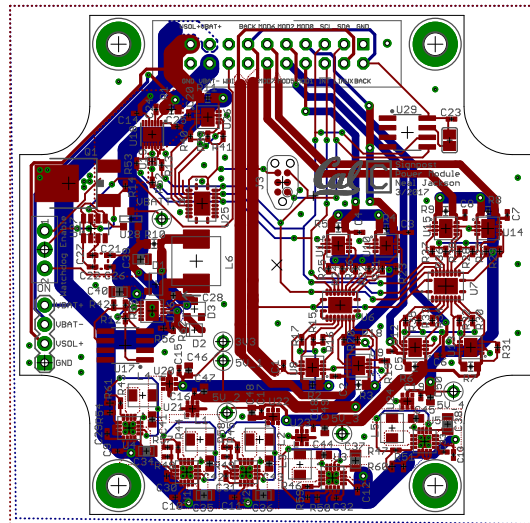
# Top Paste Layer with Silkscreen



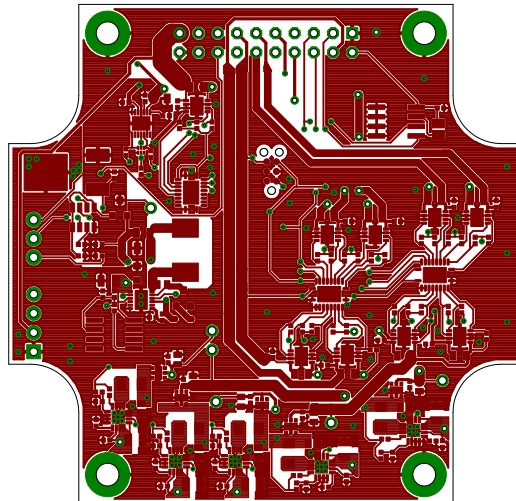
## Bottom Paste Layer with Silkscreen



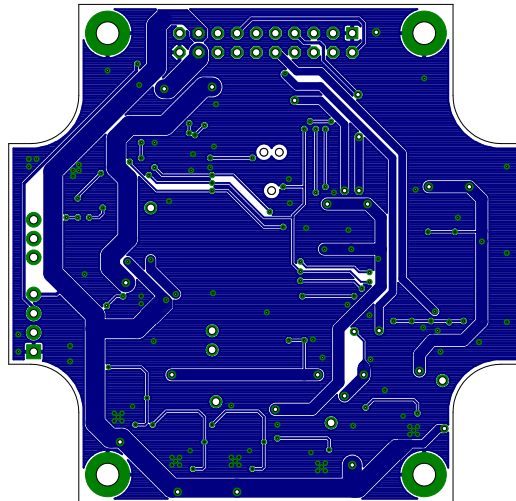
Top and Bottom Layers 1:1 Scale







Bottom Copper Layer 1:1 Scale



power\_supply\_module\_bom

Qty	Value	Device	Package
1		DIODE_ZENERSOT323	SOD323
1	0.010 ?	RESISTOR0805_RES	0805_RES
8	0.017 ?	RESISTOR0805_RES	0805_RES
2	0.05 ?	RESISTOR0805_RES	0805_RES
23	0.1 uF	CAPACITOR0402_CAP	0402_CAP
3	0.47 uF	CAPACITOR0402_CAP	0402_CAP
1	0.82 uF	CAPACITOR0402_CAP	0402_CAP
1	1 M?	RESISTOR0402_RES	0402_RES
2	1 k?	RESISTOR0402_RES	0402_RES
1	1 uF	CAPACITOR0603_CAP	0603_CAP
7	10 uF	CAPACITOR0805_CAP	0805_CAP
5	100 k?	RESISTOR0402_RES	0402_RES
4	130 k?	RESISTOR0402_RES	0402_RES
2	150 ?	RESISTOR0402_RES	0402_RES
27	2 k?	RESISTOR0402_RES	0402_RES
5	2.2 uH	INDUCTOR1HL	IHL-1212BZ-11
10	22 uF	CAPACITOR0603_CAP	0603_CAP
1	23.2 k?	RESISTOR0402_RES	0402_RES
1	240 k?	RESISTOR0402_RES	0402_RES
5	3.3 nF	CAPACITOR0402_CAP	0402_CAP
1	3.3V	T1LM34803.3V	SOT-23
1	301 k?	RESISTOR0402_RES	0402_RES
1	340 k?	RESISTOR0402_RES	0402_RES
1	6.8uH	INDUCTOR1HL2525CZ	IHL-2525CZ
4	680 k?	RESISTOR0402_RES	0402_RES
1	750 k?	RESISTOR0402_RES	0402_RES
1	953 k?	RESISTOR0402_RES	0402_RES
5	AP22814	AP22814	U-DFN2020-6
1	DIODE_SCHOTTKYSOT-23F	DIODE_SCHOTTKYSOT-23F	SOT-23F
1	DIODE_SCHOTTKYSOT-23F	DIODE_SCHOTTKYSOT-23F	SOT-23F
1	ESDR0502N	ESDR0502N	UDFN-6
1	LM234	LM234	SOIC-8
1	LT3652	LT3652	DFN-12/3MM
9	LTC2943	LTC2943	DFN-8
1	M24C01WMN	M24C01WMN	SOIC-8
1	MAX17205	MAX17205	14-TDFN
1	MAX6746	MAX6746	SOT-23-8
1	MODULE_POWER	MODULE_POWER	MODULE_POWER
1	MOSFET-NCHANNELFDD8580	MOSFET-NCHANNELFDD8580	DPAK
3	PCA9544AQFN-N20	PCA9544AQFN-N20	QFN-N20
1	TE_SSA12/SPDT	TE_SSA12/SPDT	TE_SSA12/SPD
5	TLV62130	TLV62130	TQFN-16/3MM

## power\_supply\_module\_bom

### Parts

D2

R1

R2, R3, R4, R5, R6, R7, R8, R9

R10, R11

C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23

C24, C25, C26

C27

R14

R12, R13

C28

C34, C35, C36, C37, C38, C39, C40

R43, R44, R45, R46, R47

R48, R49, R50, R51

R52, R53

R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38

L1, L2, L3, L4, L5

C41, C42, C43, C44, C45, C46, C47, C48, C49, C50

R42

R54

C29, C30, C31, C32, C33

U28

R55

R56

L6

R57, R58, R59, R60

R61

R62

U20, U21, U22, U23, U24

D3

D1

U19

U17

U16

U8, U9, U10, U11, U12, U13, U14, U15, U26

U29

U18

U27

J1

Q1

U6, U7, U25

S1

U1, U2, U3, U4, U5

## power\_supply\_module\_bom

Description	DIGIKEY
Resistor	1727-5151-1-ND
Resistor	WSLPB-.01CT-ND
Resistor	WSLPB-.017CT-ND
0402 Capacitor	WSLPB-.05CT-ND
0402 Capacitor	490-5920-1-ND
0402 Capacitor	490-3266-1-ND
Resistor	490-10440-1-ND
Resistor	P1.00MLCT-ND
Resistor	P1.0KJCT-ND
0402 Capacitor	490-3890-1-ND
0402 Capacitor	490-5523-1-ND
Resistor	P100KJCT-ND
Resistor	P130KLCT-ND
Resistor	P150LCT-ND
Resistor	P2.00KLCT-ND
A very specific inductor	541-1322-1-ND
0402 Capacitor	1276-1193-1-ND
Resistor	311-2257-1-ND
Resistor	P240KLCT-ND
0402 Capacitor	490-3248-1-ND
Very simple LDO 100ma 3v3	LM3480IM3-3.3/NOPBCT-ND
Resistor	P301KLCT-ND
Resistor	P340KLCT-ND
A very specific inductor	541-2582-1-ND
Resistor	P680KLCT-ND
Resistor	P750KJCT-ND
Resistor	P953KLCT-ND
SINGLE CHANNEL POWER DISTRIBUTION LOAD SWITCH	AP22814ASN-7DICT-ND
	CMDSH2-4L CT-ND
	CMPSH1-4 CT-ND
	ESDR0502NMUTBGOSCT-ND
3-terminal temperature sensor	497-1549-1-ND
Solar power tracking 2A battery charger	LT3652EDD#PBF-ND
Multicell Battery Gas Gauge	LTC2943IDD#PBF-ND
1K I2C?"? Serial EEPROM	497-8631-1-ND
Stand-Alone ModelGauge m5 Fuel Gauge	
A simple watchdog timer with adjustable timeouts and reset time	MAX6746KA26+TCT-ND
Header for power module for signpost	S9172-ND
Generic NMOS footprint	NTD4965NT4GOSCT-ND
1-4 I2C/SMBUS Multiplexer with interrupt for power supply coulomb counters	296-20960-1-ND
SWITCH SLIDE SPDT 2POS SSA SER	450-1602-ND
High Efficient 3A switching step-down regulator. 1V-5V out, 4V-17V in.	296-35978-1-ND

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MOUSER

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700-MAX17205G+00E