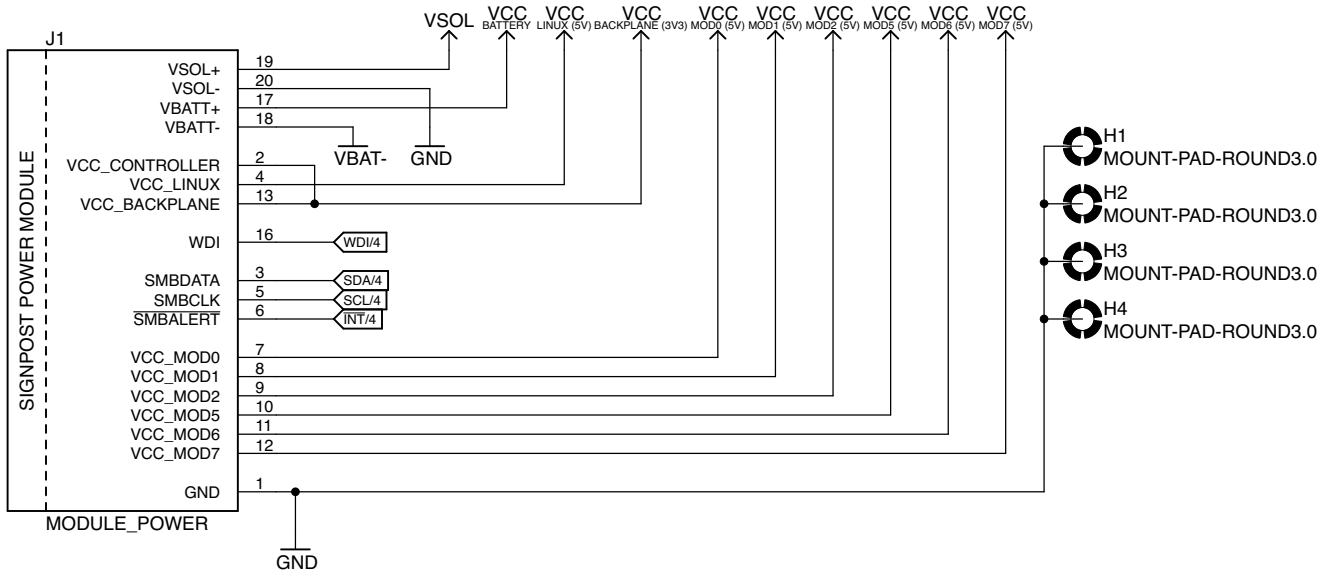
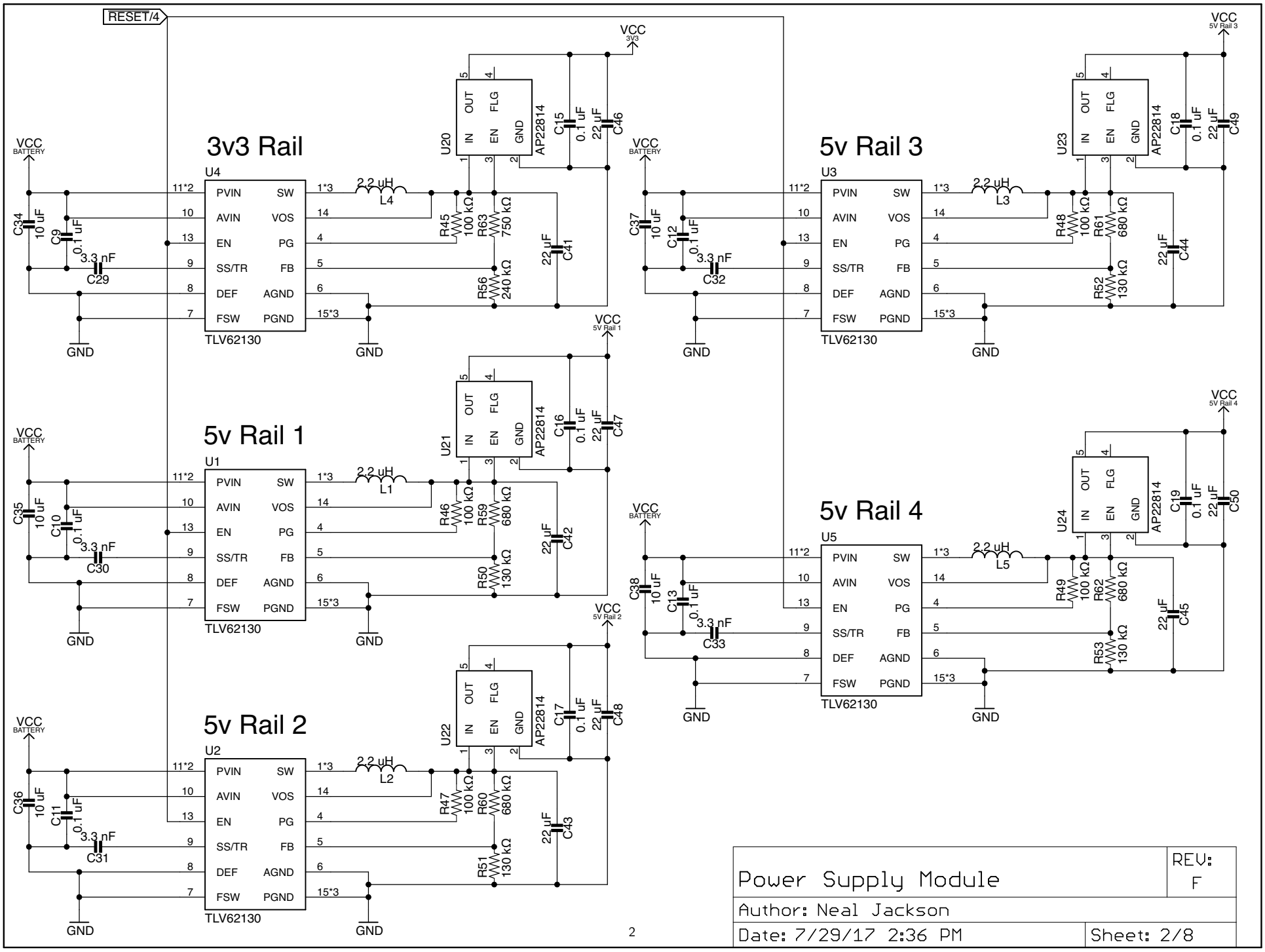
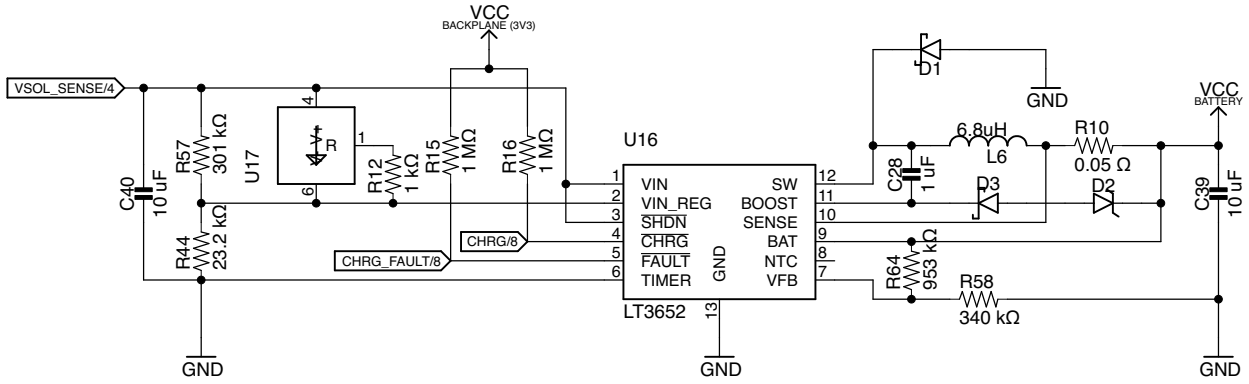
Power Module Header



Power Supply Module	REV: F
Author: Neal Jackson	
Date: 7/29/17 2:36 PM	Sheet: 1/8

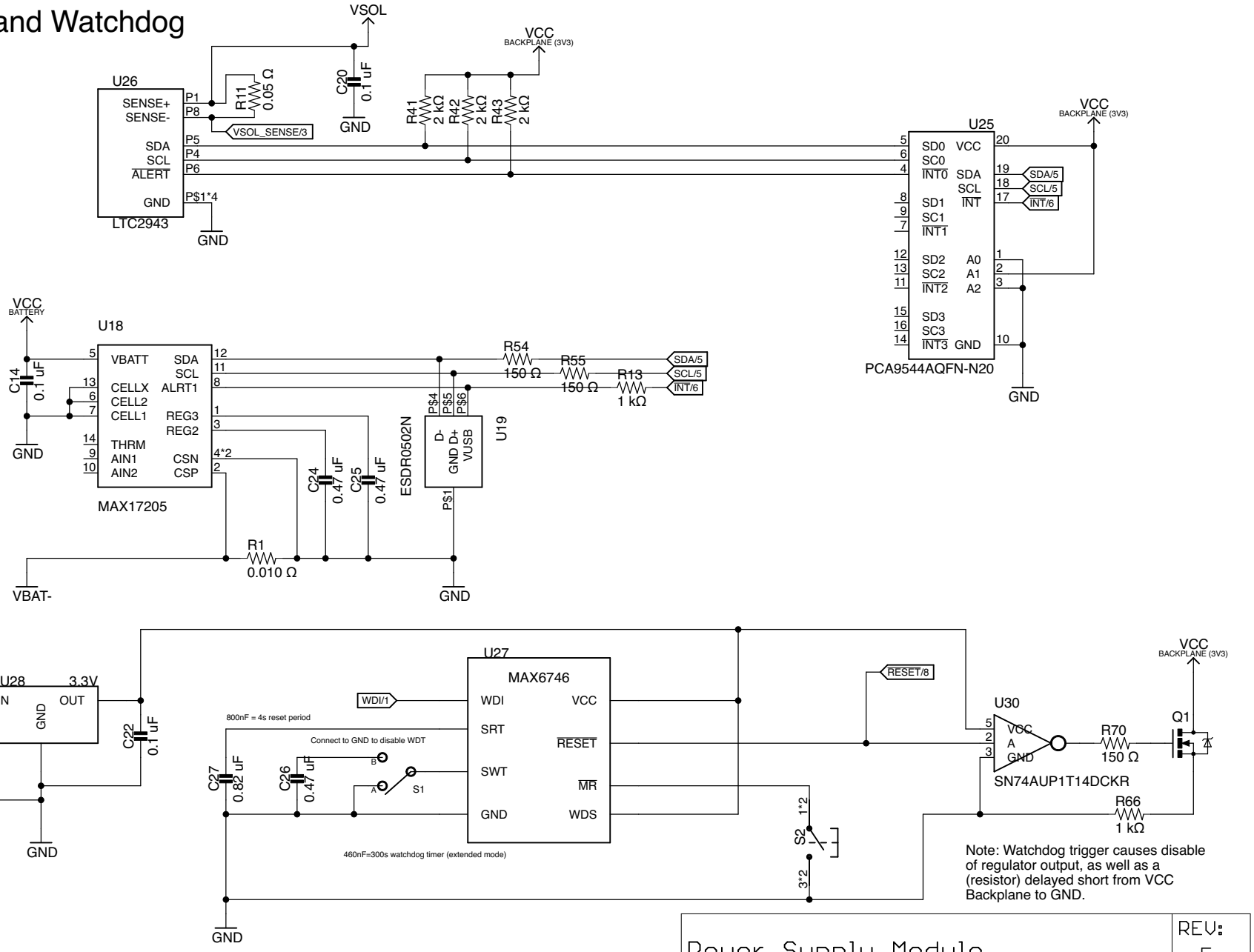

RESET/4
3v3 Rail
5v Rail 1
5v Rail 2
5v Rail 3
5v Rail 4
VCC
BATTERY
VCC
3V3
VCC
5V Rail 1
VCC
5V Rail 2
VCC
5V Rail 3
VCC
5V Rail 4
GND
U1
U2
U3
U4
U5
PVIN
SW
AVIN
VOS
EN
PG
SS/TR
FB
DEF
AGND
FSW
PGND
TLV62130
U20
U21
U22
U23
U24
IN
OUT
FLG
EN
GND
AP22814
L1
L2
L3
L4
L5
2.2 uH
C9
C10
C11
C12
C13
C29
C30
C31
C32
C33
C34
C35
C36
C37
C38
3.3 nF
10 uF
0.1 uF
C15
C16
C17
C18
C19
C41
C42
C43
C44
C45
C46
C47
C48
C49
C50
22 uF
R45
R46
R47
R48
R49
R50
R51
R52
R53
R56
R59
R60
R61
R62
R63
100 kΩ
130 kΩ
240 kΩ
680 kΩ
750 kΩ
11*2
10
13
9
8
7
1*3
14
4
5
6
15*3
Power Supply Module
REV: F
Author: Neal Jackson
Date: 7/29/17 2:36 PM
Sheet: 2/8
2

Solar Charger



Power Supply Module	REV: F
Author: Neal Jackson	
Date: 7/29/17 2:36 PM	Sheet: 3/8

Monitors and Watchdog



Note: Watchdog trigger causes disable of regulator output, as well as a (resistor) delayed short from VCC Backplane to GND.

Power Supply Module	REV: F
Author: Neal Jackson	
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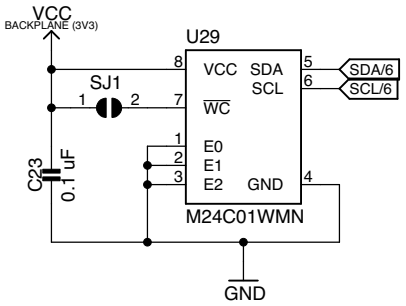
EEPROM ID



Power Supply Module		REV: F
Author: Neal Jackson		
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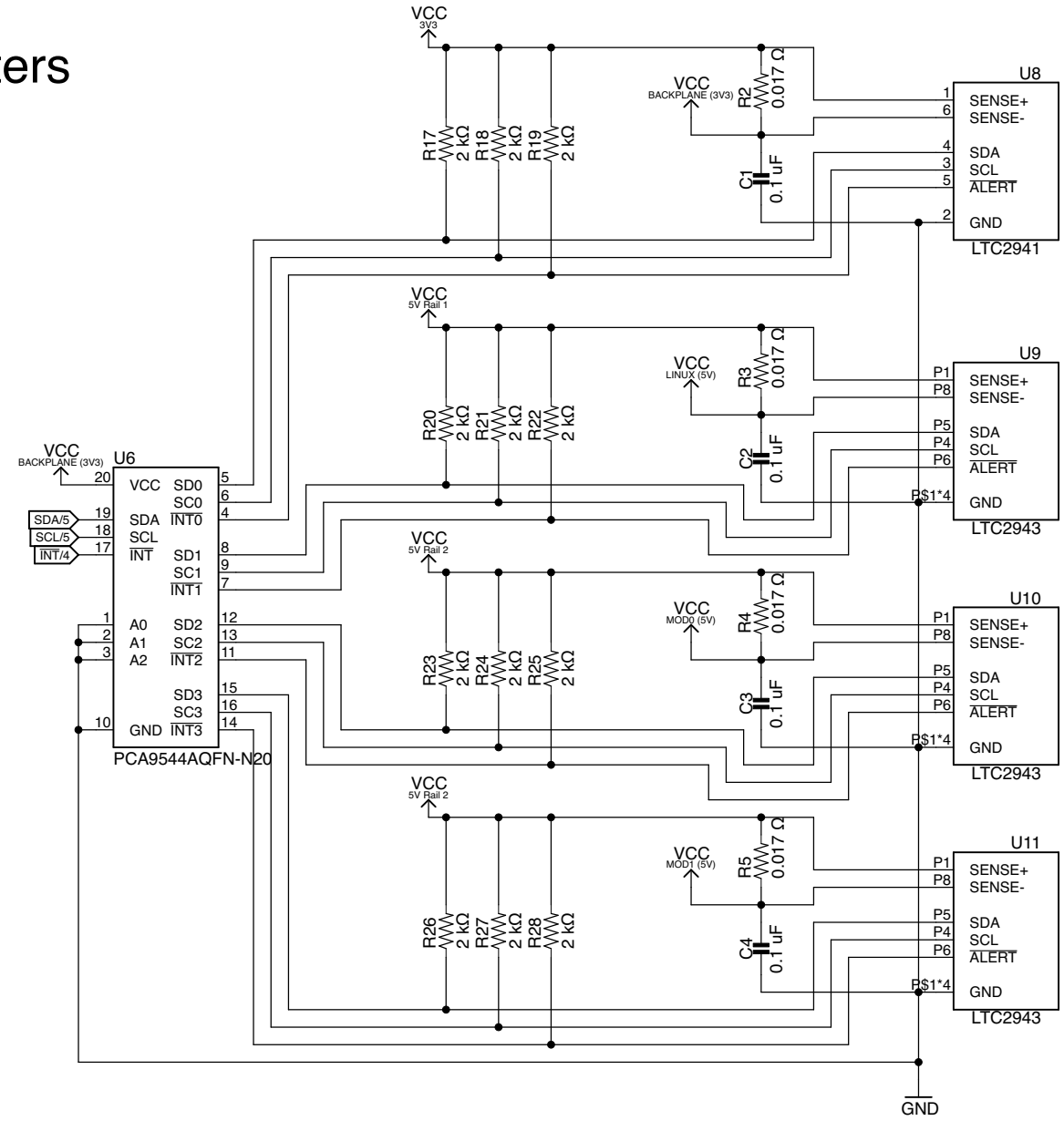
Coulomb Counters

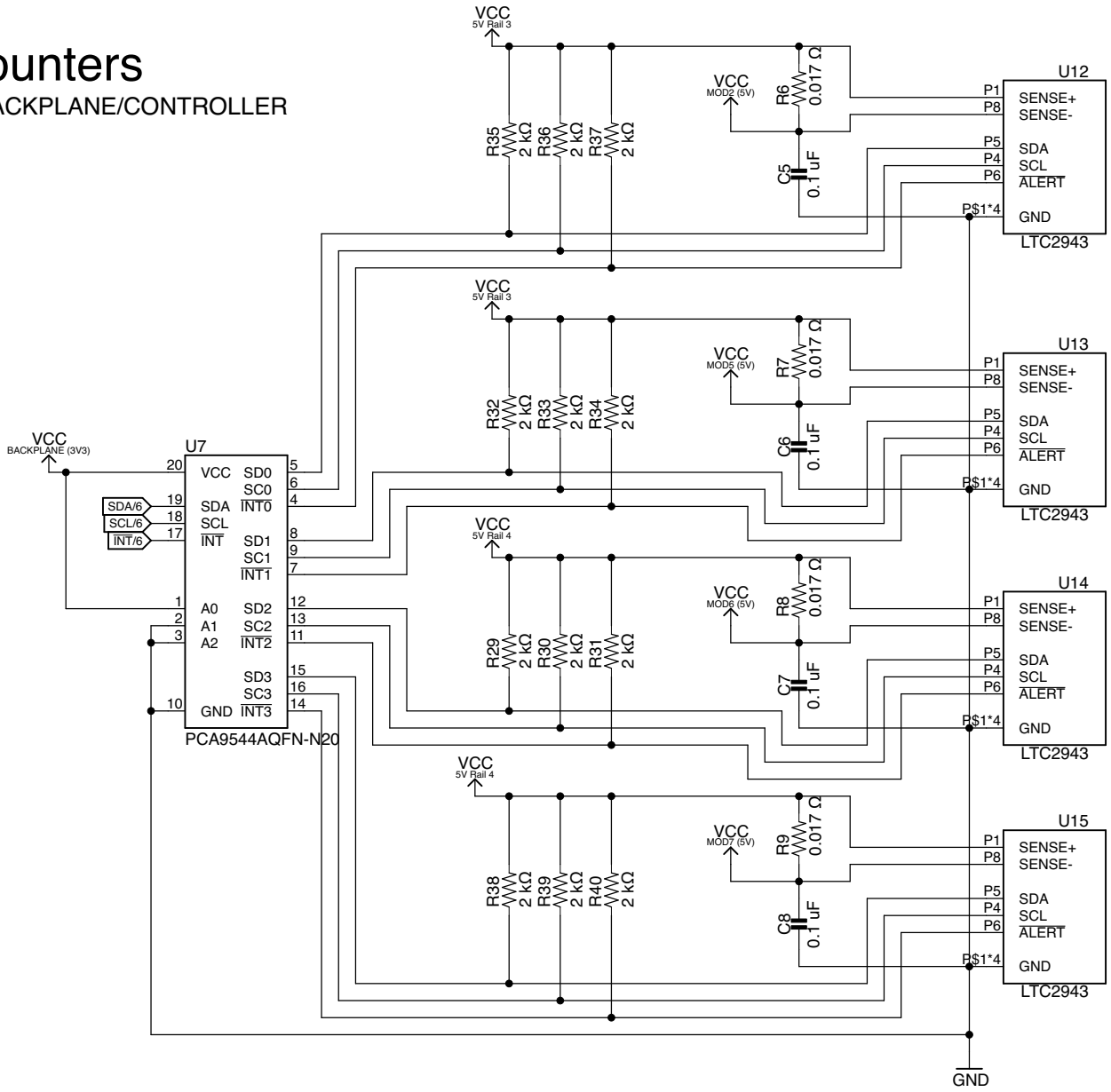
For MOD0-2,5



Power Supply Module	REV: F
Author: Neal Jackson	
Date: 7/29/17 2:36 PM	Sheet: 6/8

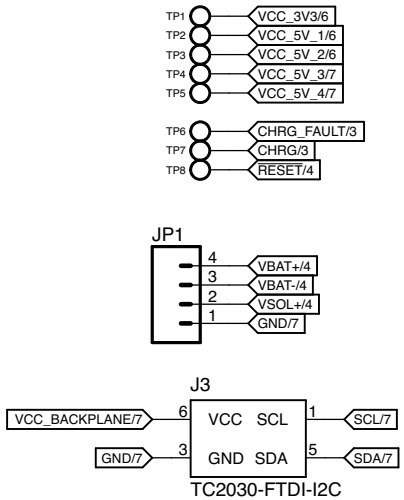
Coulomb Counters

For MOD6-7, LINUX, BACKPLANE/CONTROLLER



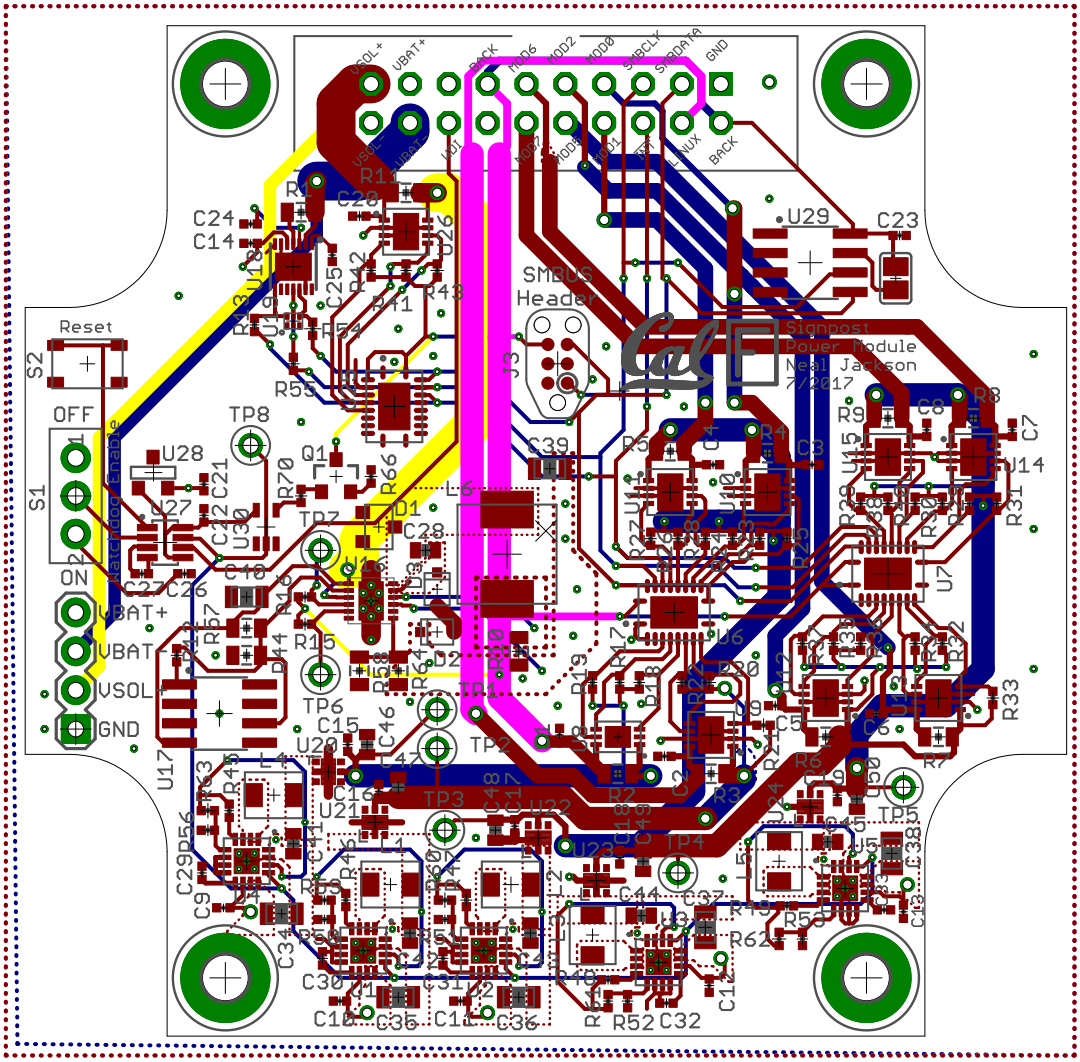
Power Supply Module		REV: F
Author: Neal Jackson		
Date: 7/29/17 2:36 PM	Sheet: 7/8	

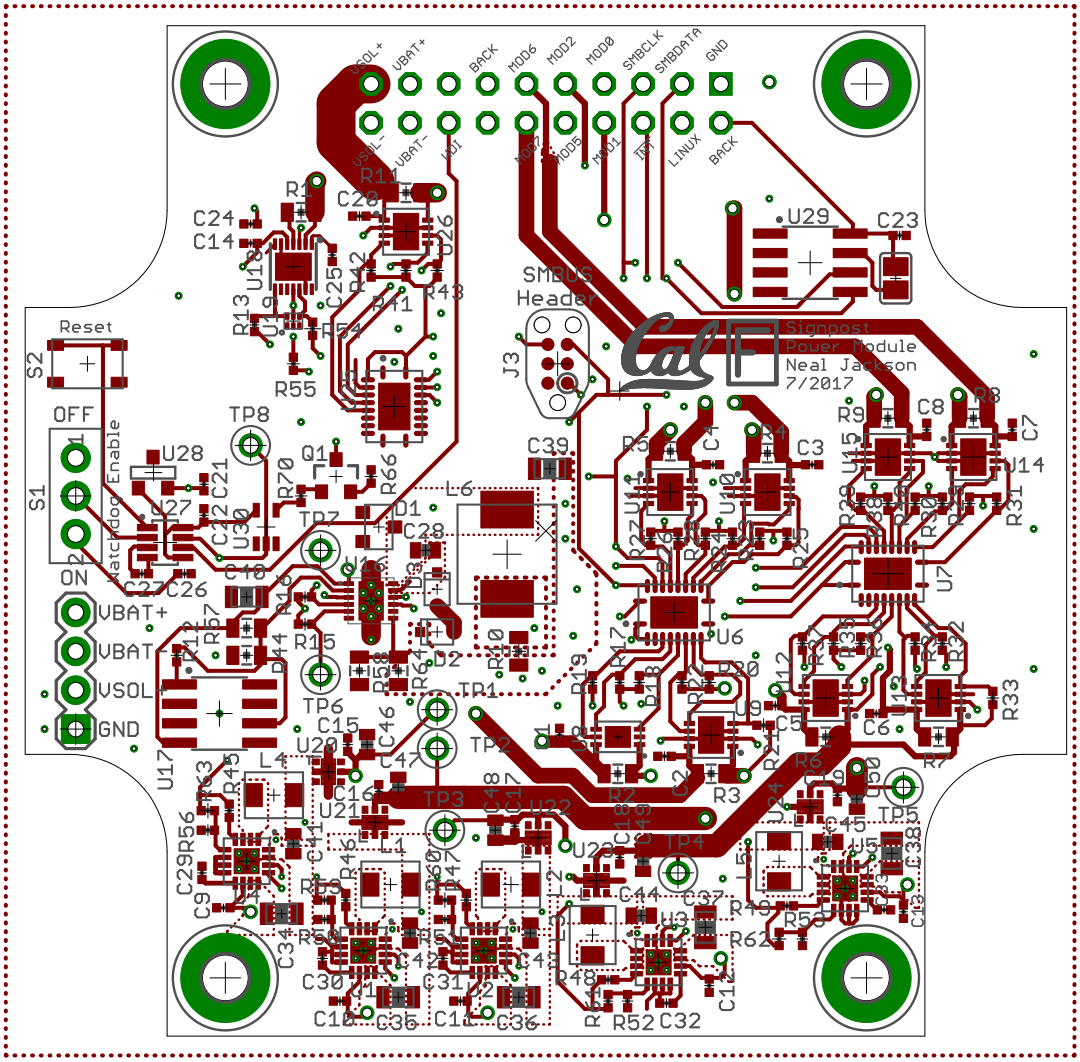
Debugging



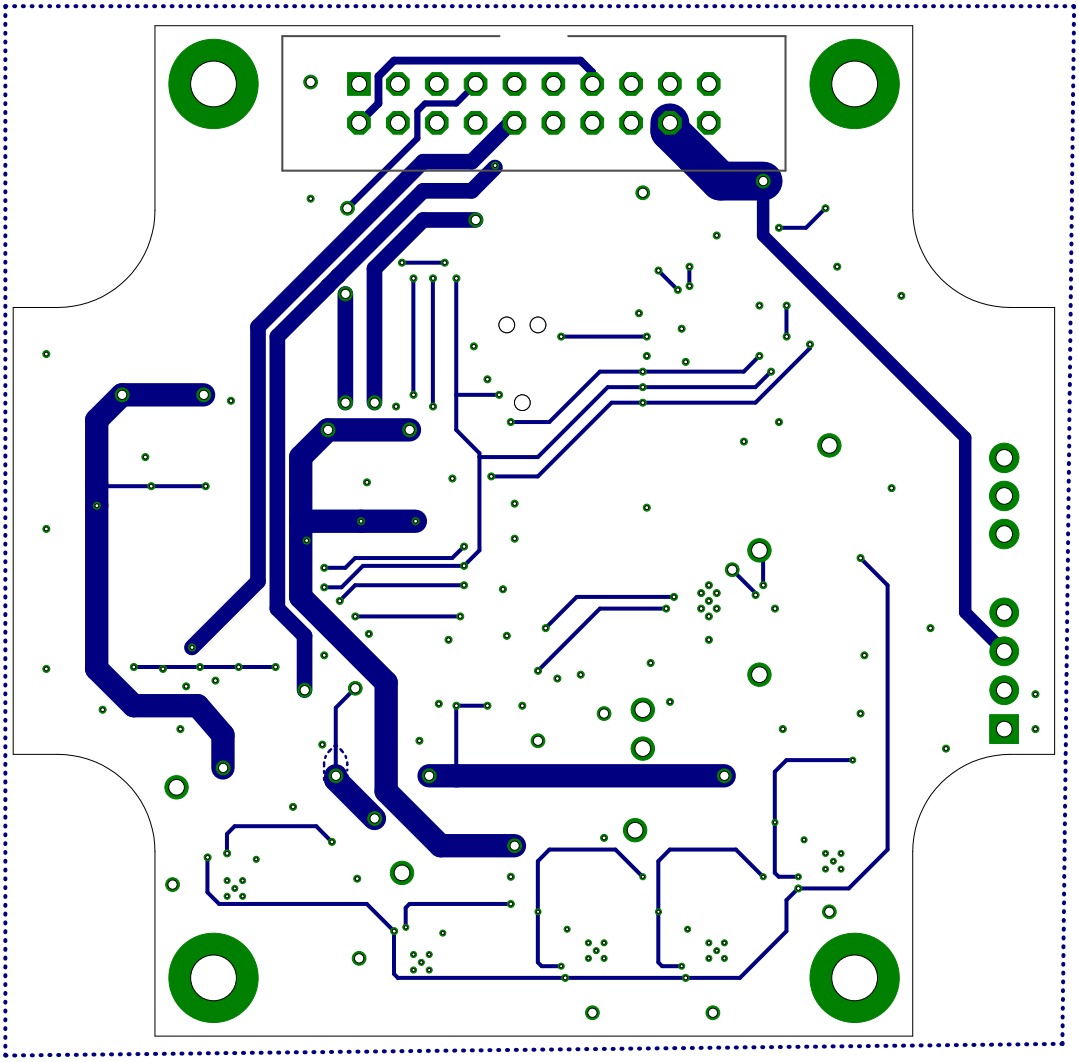
Power Supply Module		REV: F
Author: Neal Jackson		
Date: 7/29/17 2:36 PM	Sheet: 8/8	

Top and Bottom Layers

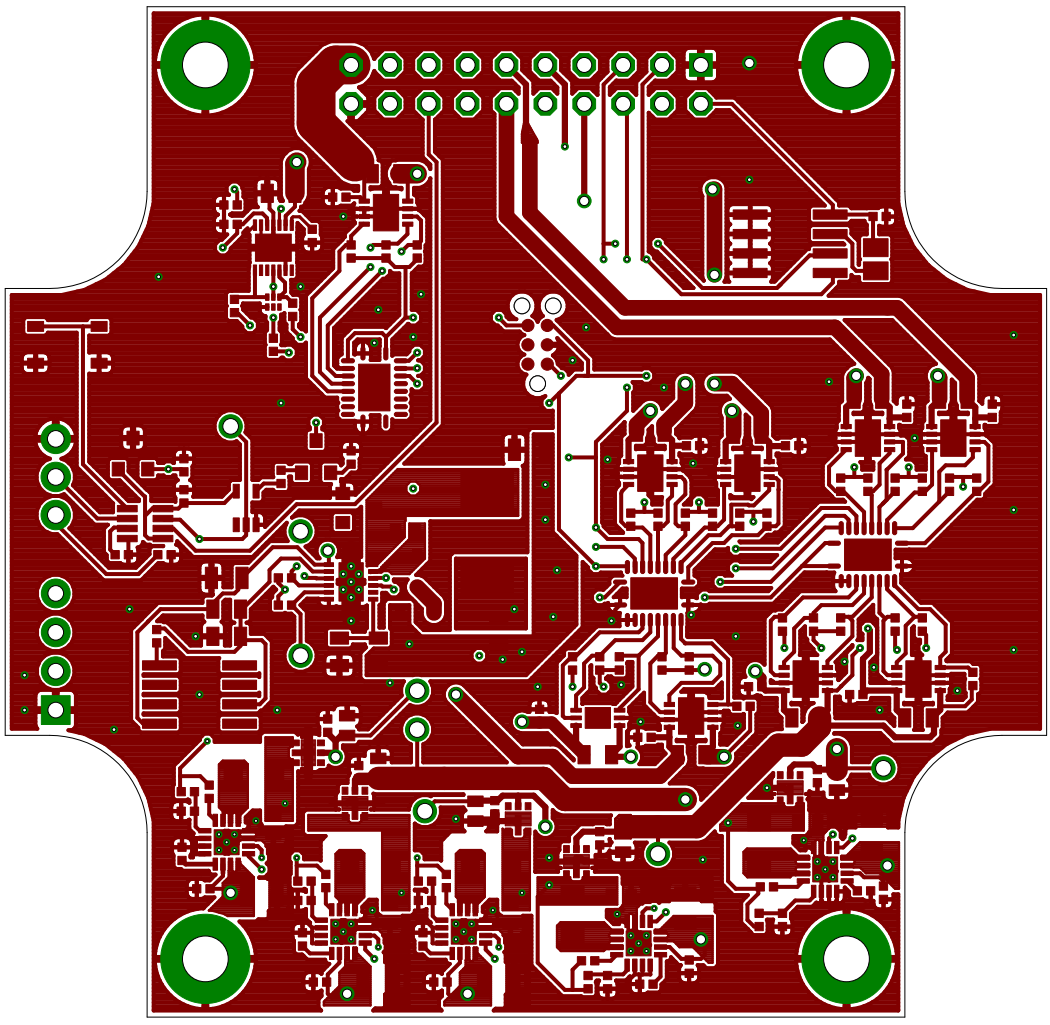



VSOL+
VBAT+
BACK
MOD6
MOD2
MOD0
SMBCLK
SMBDATA
GND
LINUX
SMBUS Header
Signpost Power Module
Neal Jackson
7/2017
Reset
OFF
ON
Watchdog Enable
VBAT+
VBAT
VSOL+
GND

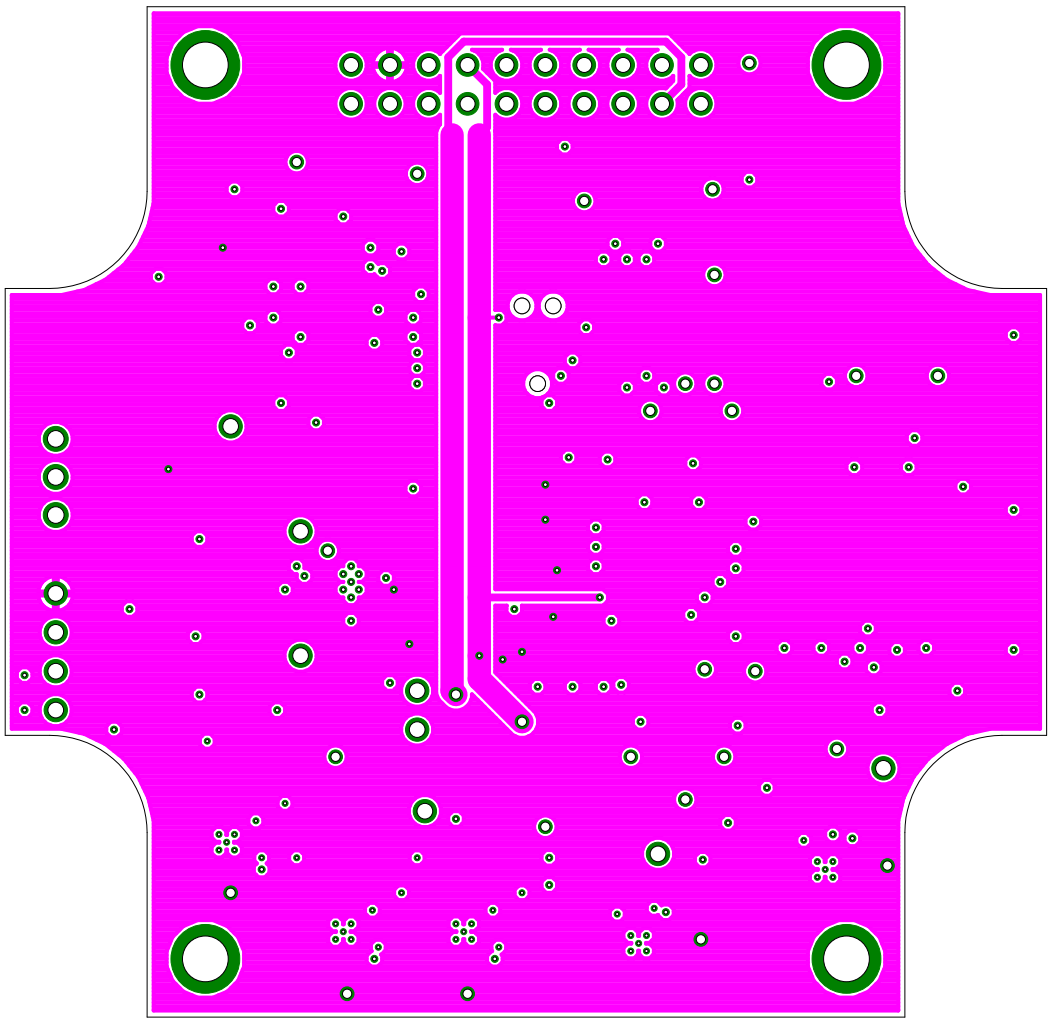
Bottom Layer



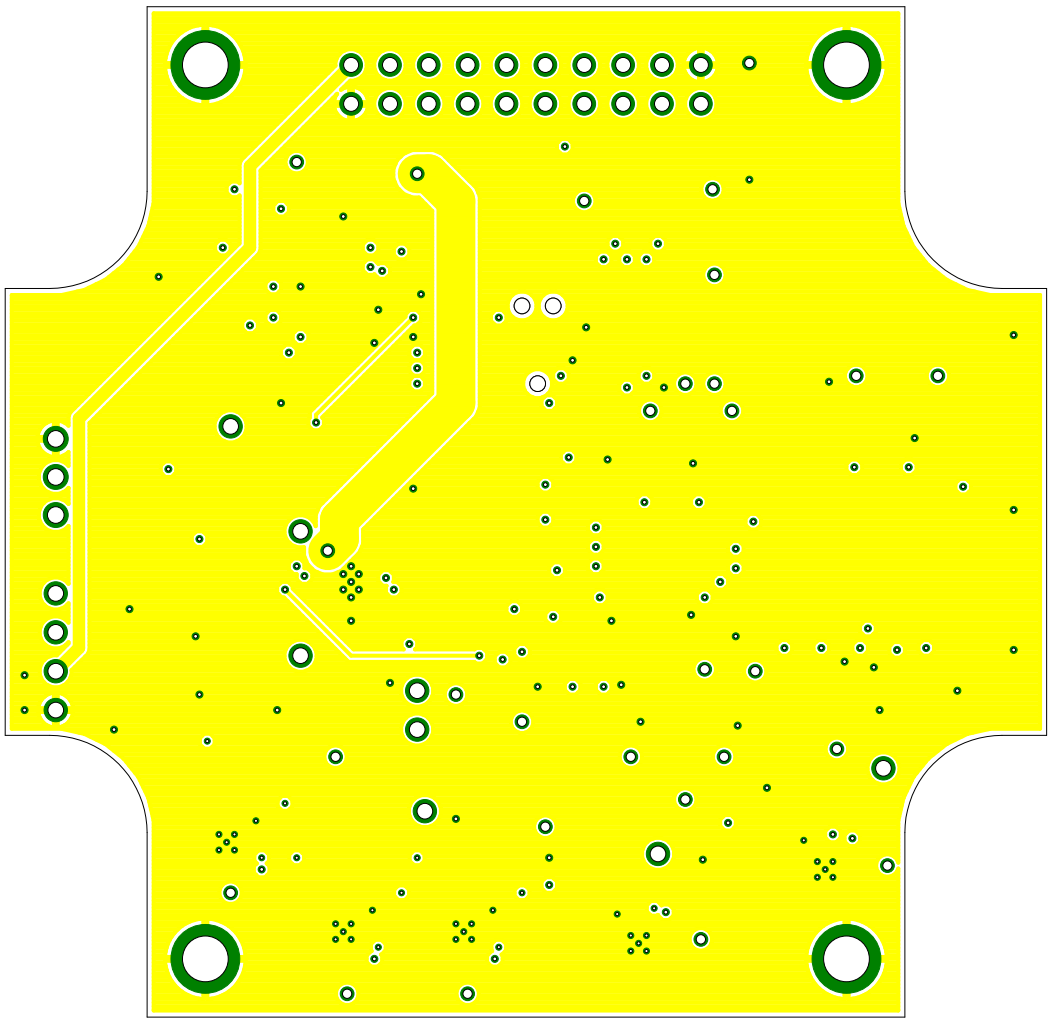
Top Copper Layer



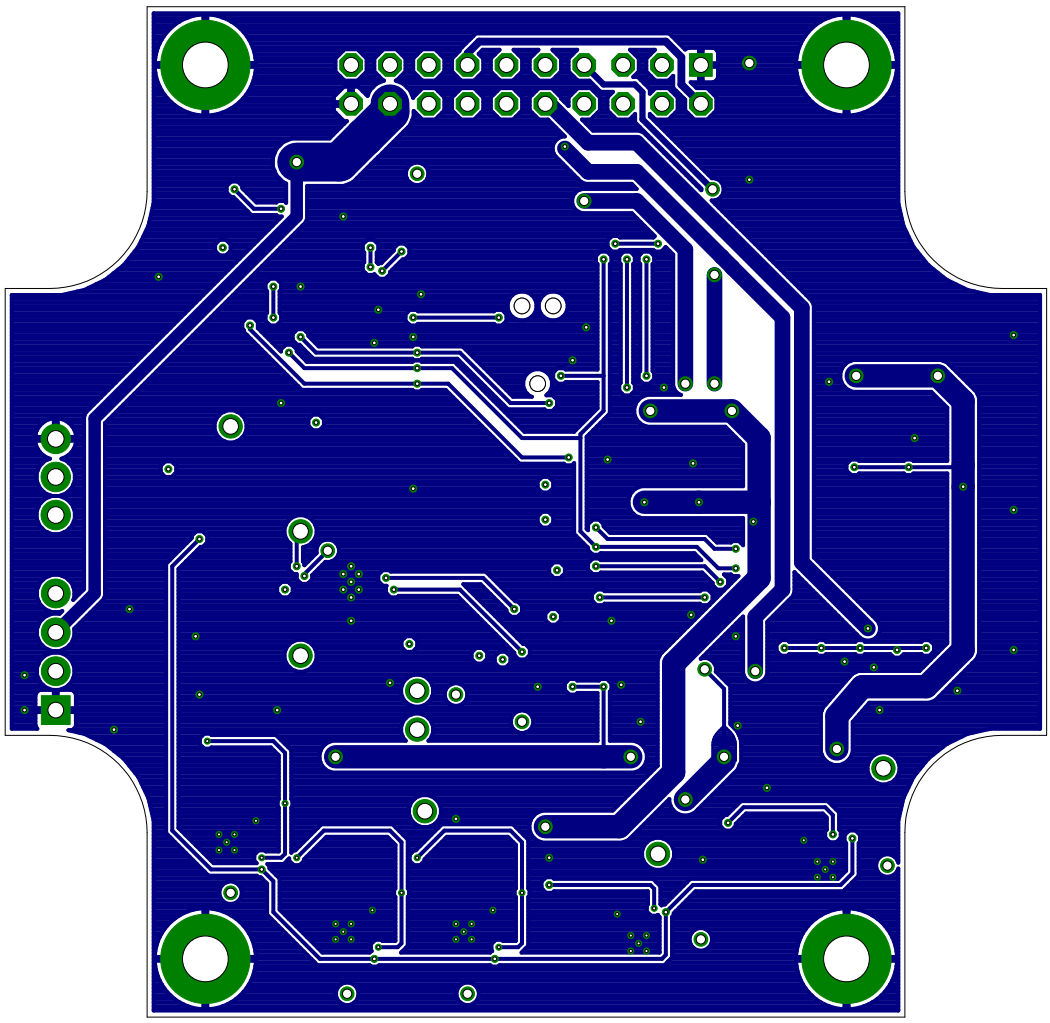
Layer 2 Copper

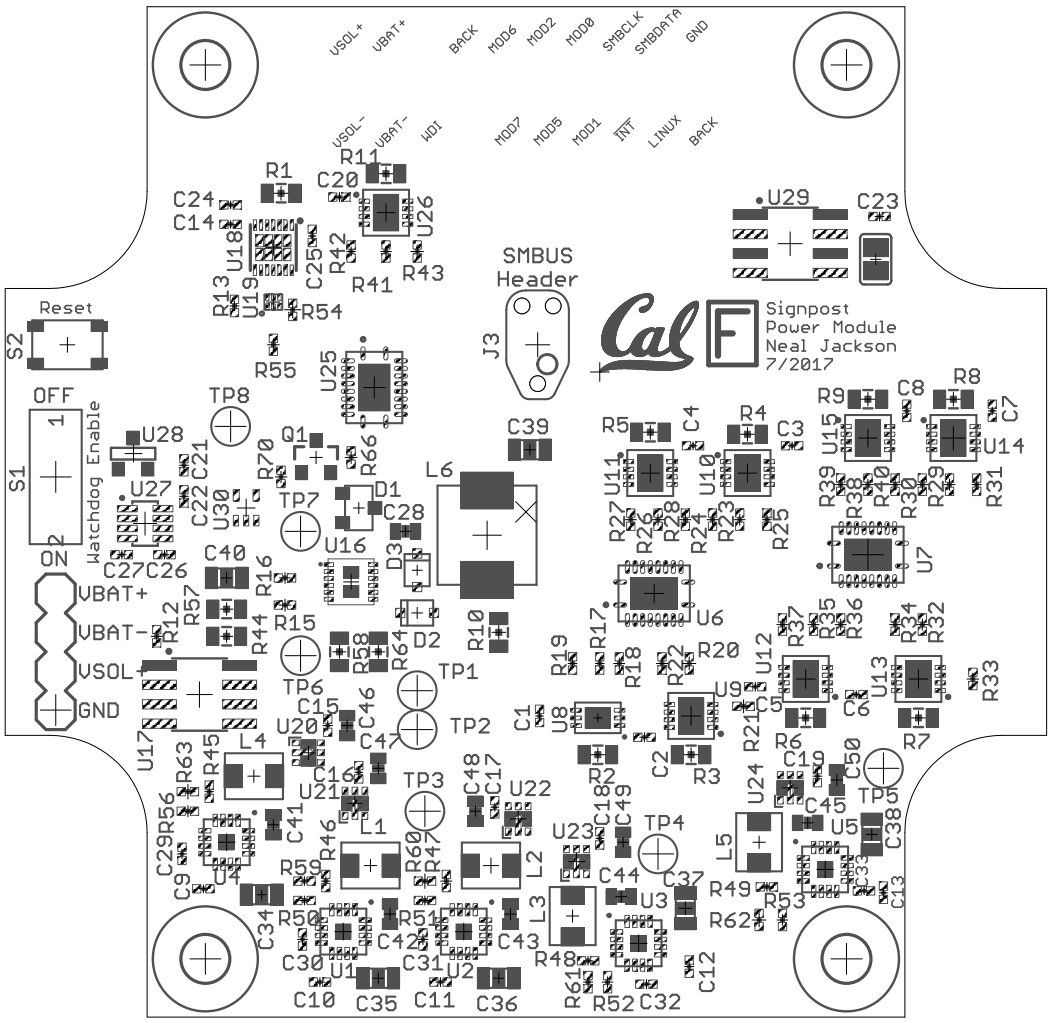


Layer 3 Copper

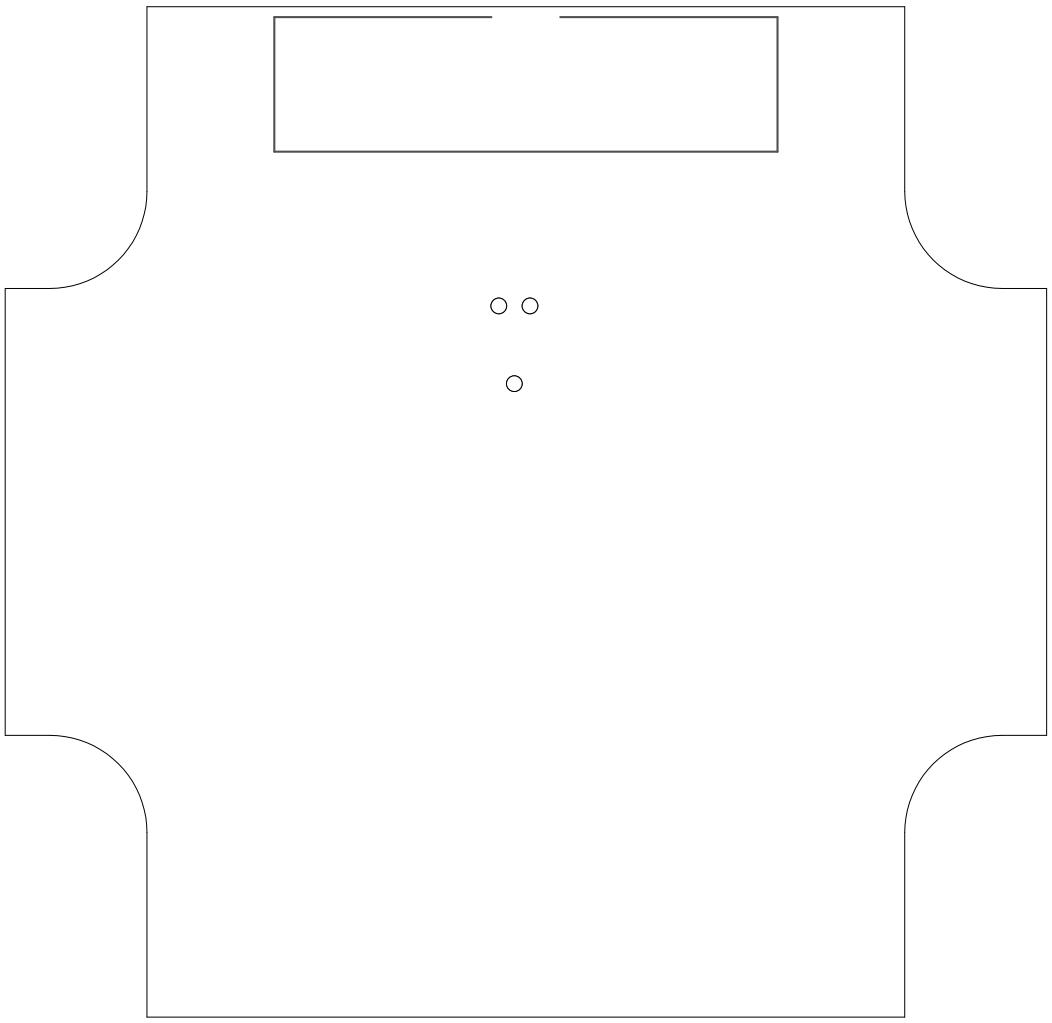


Bottom Copper Layer

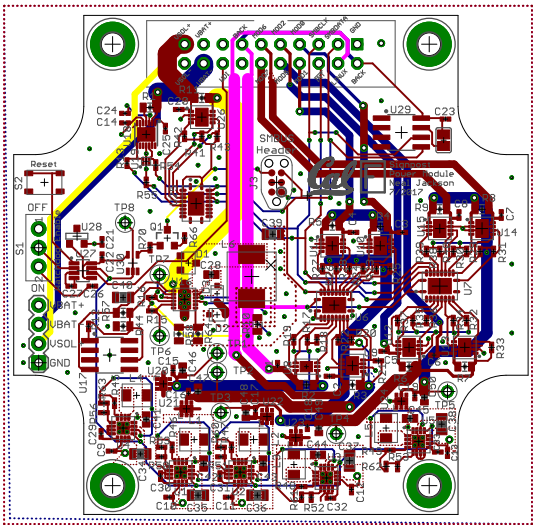



VSOL+
VBAT+
BACK
MOD6
MOD2
MOD0
SMBCLK
SMBDATA
GND
VSOL-
VBAT-
WDI
MOD7
MOD5
MOD1
INT
LINUX
BACK
SMBUS
Header
Reset
OFF
ON
Watchdog Enable
VBAT+
VBAT-
VSOL+
GND
Signpost
Power Module
Neal Jackson
7/2017

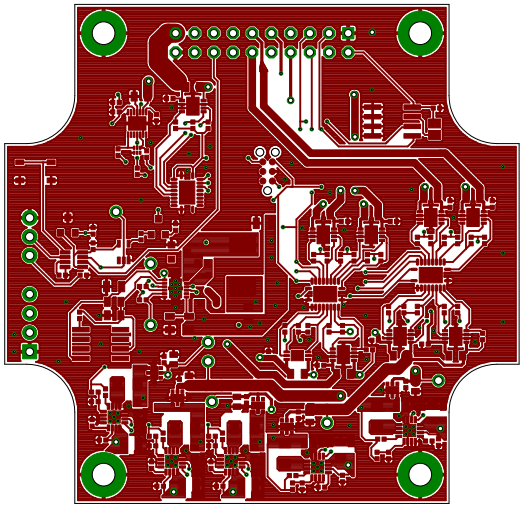
Bottom Paste Layer with Silkscreen



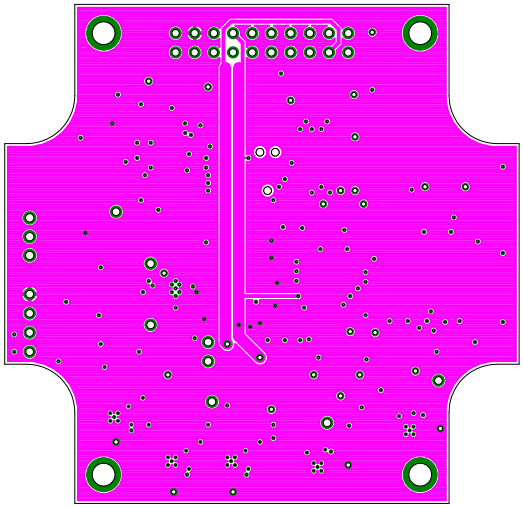
Top and Bottom Layers 1:1 Scale



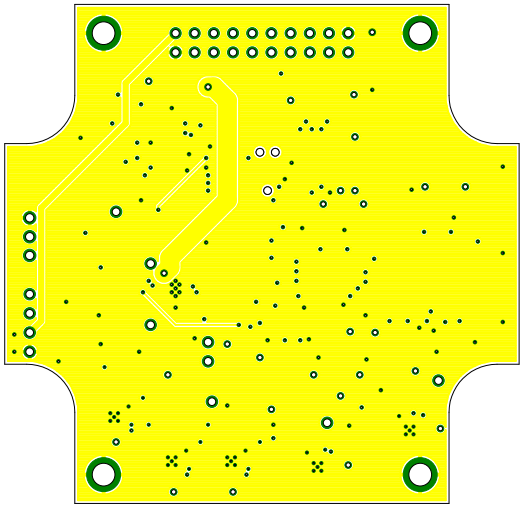
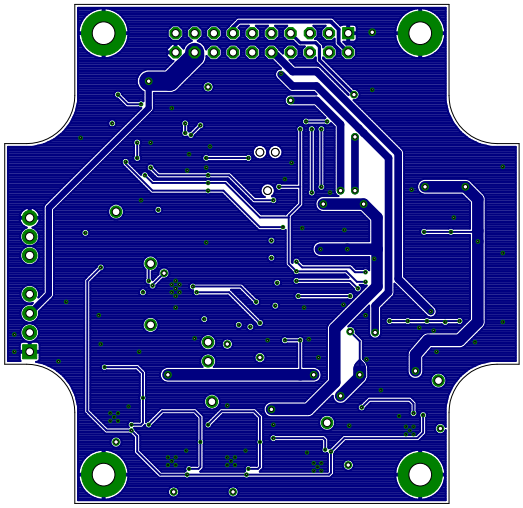
Top Layer 1:1 Scale



Layer 2 Copper 1:1 Scale



Layer 3 Copper 1:1 Scale



Bottom Copper Layer 1:1 Scale