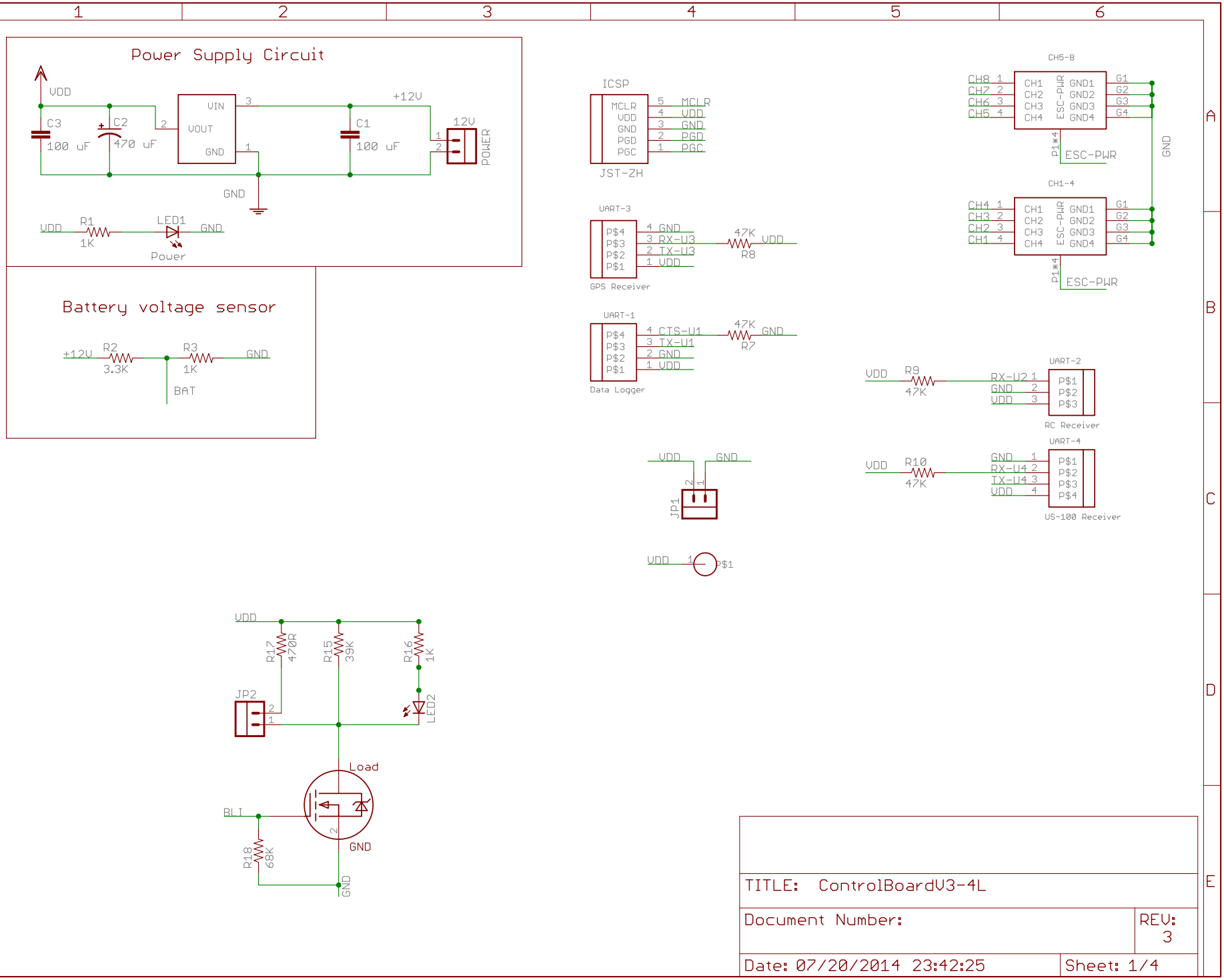
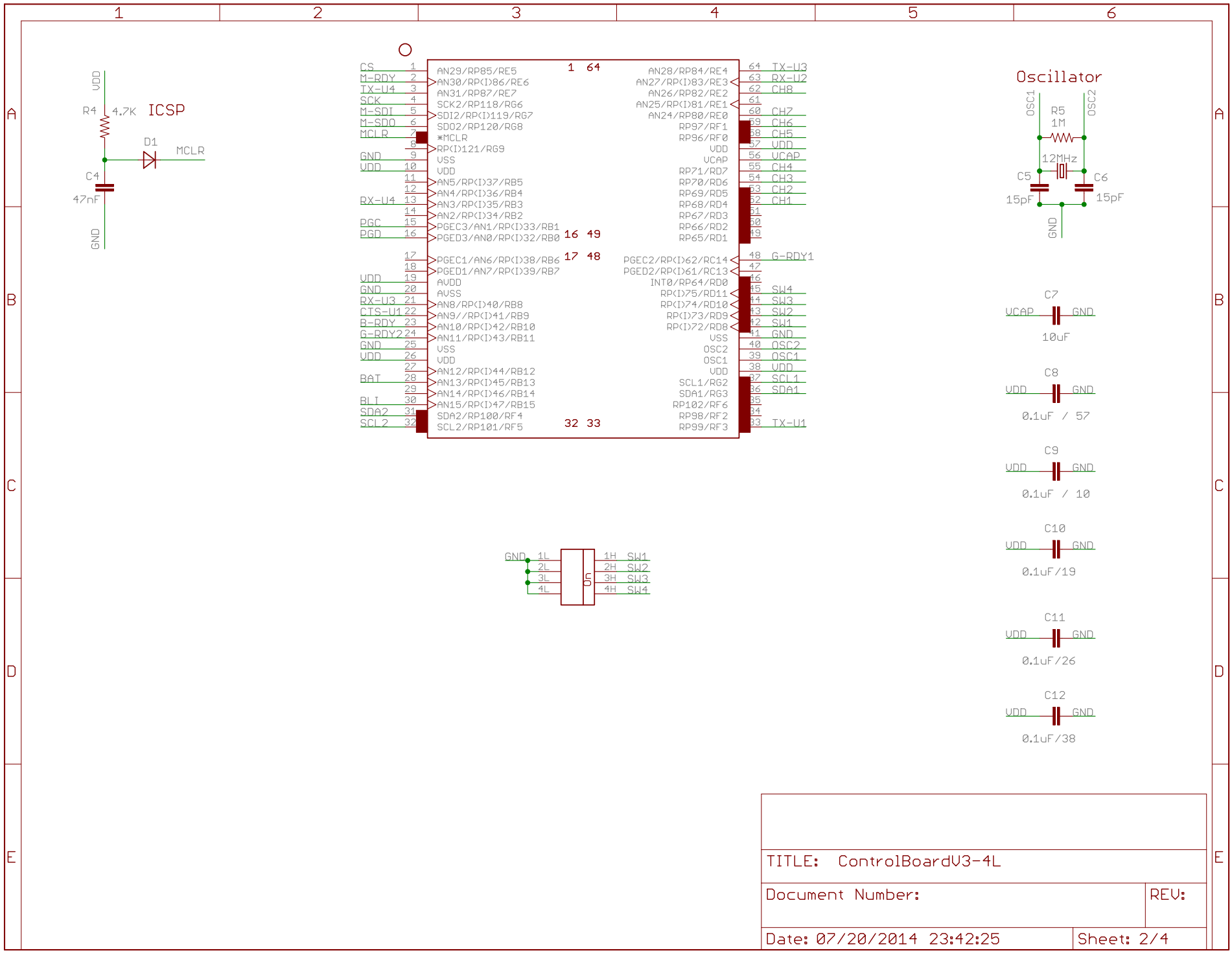
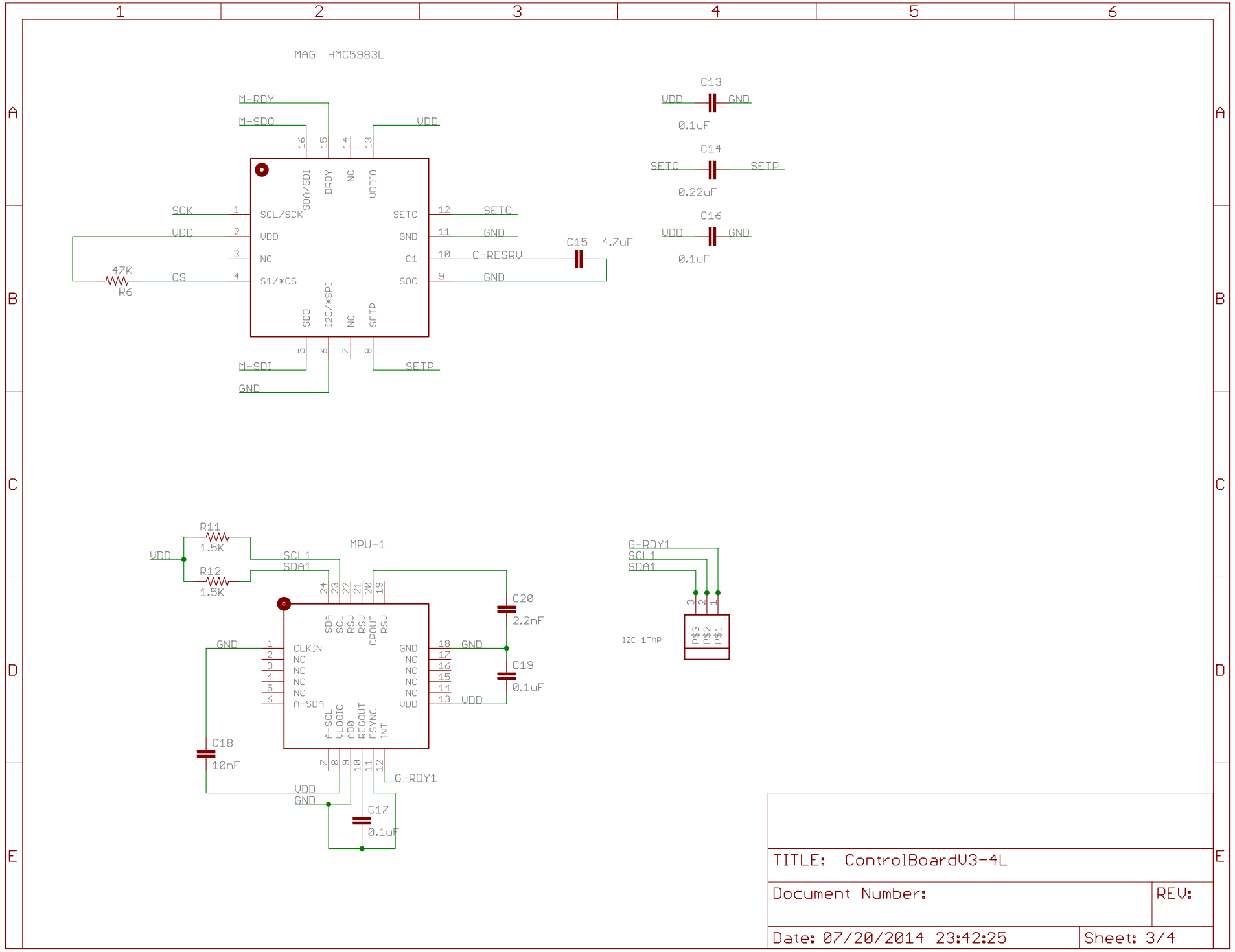
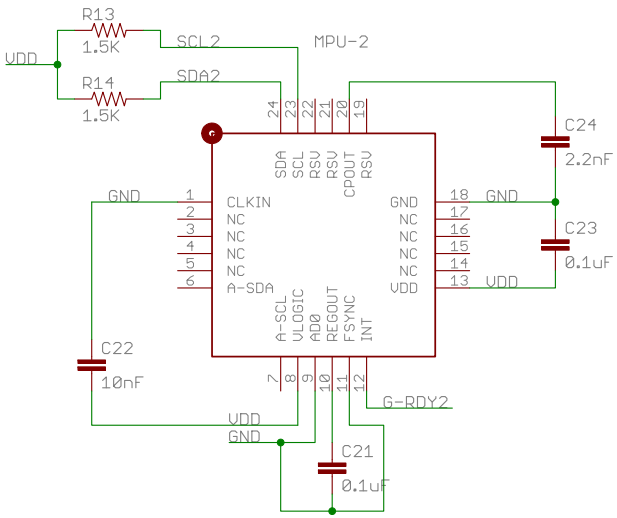
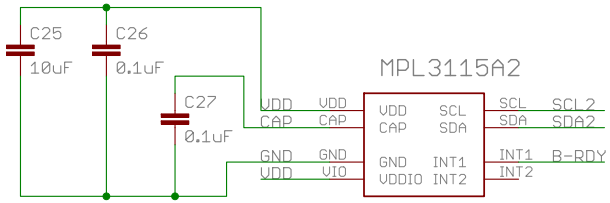
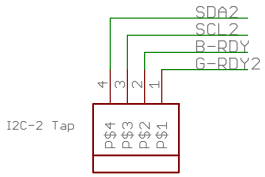

Power Supply Circuit
VDD
C3
100 uF
C2
470 uF
VIN
VOUT
GND
+12V
C1
100 uF
12V
POWER
GND
VDD
R1
1K
LED1
GND
Power
Battery voltage sensor
+12V
R2
3.3K
R3
1K
GND
BAT
ICSP
MCLR
VDD
GND
PGD
PGC
JST-ZH
UART-3
P$4
P$3
P$2
P$1
GND
RX-U3
TX-U3
VDD
47K
R8
VDD
GPS Receiver
UART-1
CTS-U1
TX-U1
GND
VDD
47K
R7
GND
Data Logger
CH5-8
CH8
CH7
CH6
CH5
CH1
CH2
CH3
CH4
ESC-PWR
GND1
GND2
GND3
GND4
G1
G2
G3
G4
P1*4
ESC-PWR
GND
CH1-4
CH4
CH3
CH2
CH1
ESC-PWR
P1*4
ESC-PWR
VDD
R9
47K
RX-U2
GND
VDD
UART-2
RC Receiver
VDD
R10
47K
GND
RX-U4
TX-U4
VDD
UART-4
US-100 Receiver
VDD
GND
JP1
VDD
P$1
VDD
R17
470R
R15
39K
R16
1K
JP2
LED2
Load
BLI
R18
68K
GND
GND
TITLE: ControlBoardV3-4L
Document Number:
REV: 3
Date: 07/20/2014 23:42:25
Sheet: 1/4


1
2
3
4
5
6
A
B
C
D
E
VDD
R4
4.7K
ICSP
D1
MCLR
C4
47nF
GND
CS 1
M-RDY 2
TX-U4 3
SCK 4
M-SDI 5
M-SDO 6
MCLR 7
8
GND 9
VDD 10
11
12
RX-U4 13
14
PGC 15
PGD 16
17
18
VDD 19
GND 20
RX-U3 21
CTS-U1 22
B-RDY 23
G-RDY2 24
GND 25
VDD 26
27
BAT 28
29
BLI 30
SDA2 31
SCL2 32
AN29/RP85/RE5
AN30/RP(I)86/RE6
AN31/RP87/RE7
SCK2/RP118/RG6
SDI2/RP(I)119/RG7
SDO2/RP120/RG8
*MCLR
RP(I)121/RG9
VSS
VDD
AN5/RP(I)37/RB5
AN4/RP(I)36/RB4
AN3/RP(I)35/RB3
AN2/RP(I)34/RB2
PGEC3/AN1/RP(I)33/RB1
PGED3/AN0/RP(I)32/RB0
PGEC1/AN6/RP(I)38/RB6
PGED1/AN7/RP(I)39/RB7
AVDD
AVSS
AN8/RP(I)40/RB8
AN9//RP(I)41/RB9
AN10/RP(I)42/RB10
AN11/RP(I)43/RB11
VSS
VDD
AN12/RP(I)44/RB12
AN13/RP(I)45/RB13
AN14/RP(I)46/RB14
AN15/RP(I)47/RB15
SDA2/RP100/RF4
SCL2/RP101/RF5
1 64
16 49
17 48
32 33
AN28/RP84/RE4
AN27/RP(I)83/RE3
AN26/RP82/RE2
AN25/RP(I)81/RE1
AN24/RP80/RE0
RP97/RF1
RP96/RF0
VDD
VCAP
RP71/RD7
RP70/RD6
RP69/RD5
RP68/RD4
RP67/RD3
RP66/RD2
RP65/RD1
PGEC2/RP(I)62/RC14
PGED2/RP(I)61/RC13
INT0/RP64/RD0
RP(I)75/RD11
RP(I)74/RD10
RP(I)73/RD9
RP(I)72/RD8
VSS
OSC2
OSC1
VDD
SCL1/RG2
SDA1/RG3
RP102/RF6
RP98/RF2
RP99/RF3
64 TX-U3
63 RX-U2
62 CH8
61
60 CH7
59 CH6
58 CH5
57 VDD
56 VCAP
55 CH4
54 CH3
53 CH2
52 CH1
51
50
49
48 G-RDY1
47
46
45 SW4
44 SW3
43 SW2
42 SW1
41 GND
40 OSC2
39 OSC1
38 VDD
37 SCL1
36 SDA1
35
34
33 TX-U1
GND 1L
2L
3L
4L
1H SW1
2H SW2
3H SW3
4H SW4
On
Oscillator
OSC1
OSC2
R5
1M
12MHz
C5
15pF
C6
15pF
GND
C7
VCAP
GND
10uF
C8
VDD
GND
0.1uF / 57
C9
VDD
GND
0.1uF / 10
C10
VDD
GND
0.1uF/19
C11
VDD
GND
0.1uF/26
C12
VDD
GND
0.1uF/38
TITLE: ControlBoardV3-4L
Document Number:
REV:
Date: 07/20/2014 23:42:25
Sheet: 2/4


MAG HMC5983L
M-RDY
M-SDO
VDD
SCK
VDD
47K
R6
CS
SCL/SCK
SDA/SDI
DRDY
NC
VDDIO
SETC
GND
C-RESRV
C1
SOC
S1/*CS
I2C/*SPI
SDO
NC
SETP
M-SDI
GND
SETP
C15 4.7uF
C13
VDD GND
0.1uF
C14
SETC SETP
0.22uF
C16
VDD GND
0.1uF
R11
1.5K
R12
1.5K
VDD
SCL1
SDA1
MPU-1
CLKIN
NC
A-SDA
A-SCL
VLOGIC
AD0
REGOUT
FSYNC
INT
CPOUT
RSV
C20
2.2nF
C19
0.1uF
C18
10nF
C17
0.1uF
G-RDY1
G-RDY1
SCL1
SDA1
I2C-1TAP
P$3
P$2
P$1
TITLE: ControlBoardV3-4L
Document Number:
REV:
Date: 07/20/2014 23:42:25
Sheet: 3/4







TITLE: ControlBoardV3-4L	
Document Number:	REV:
Date: 07/20/2014 23:42:25	Sheet: 4/4