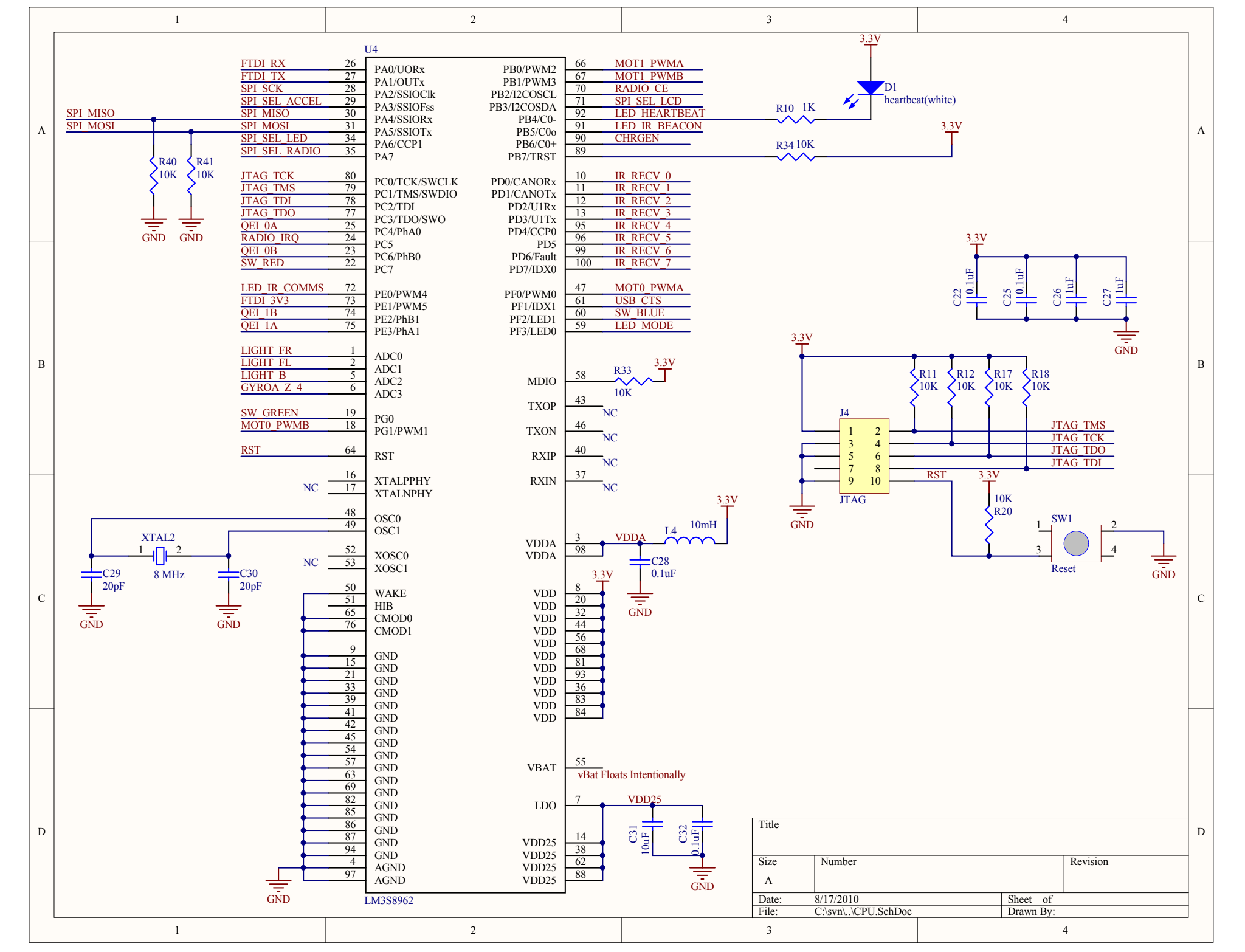
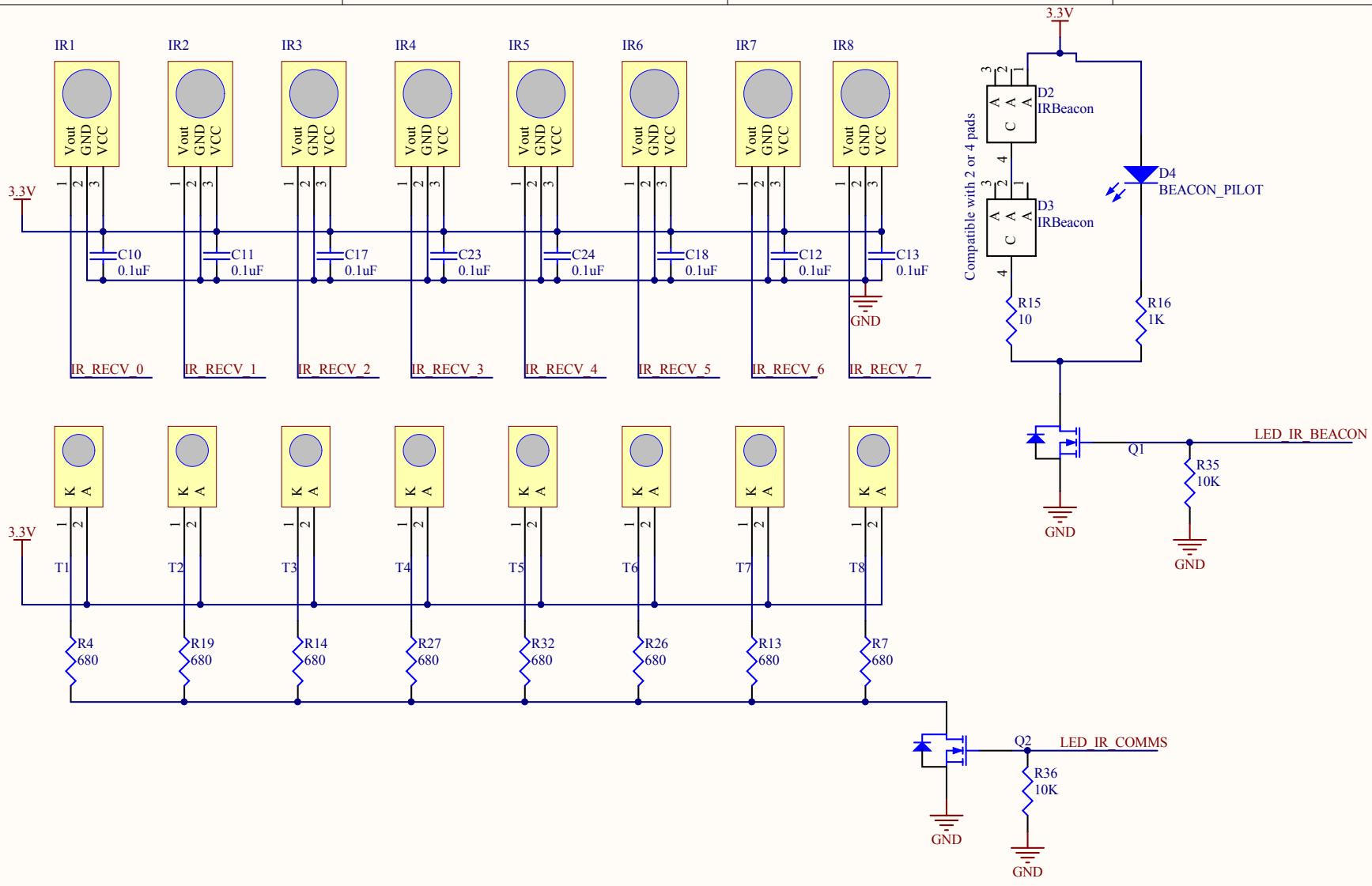
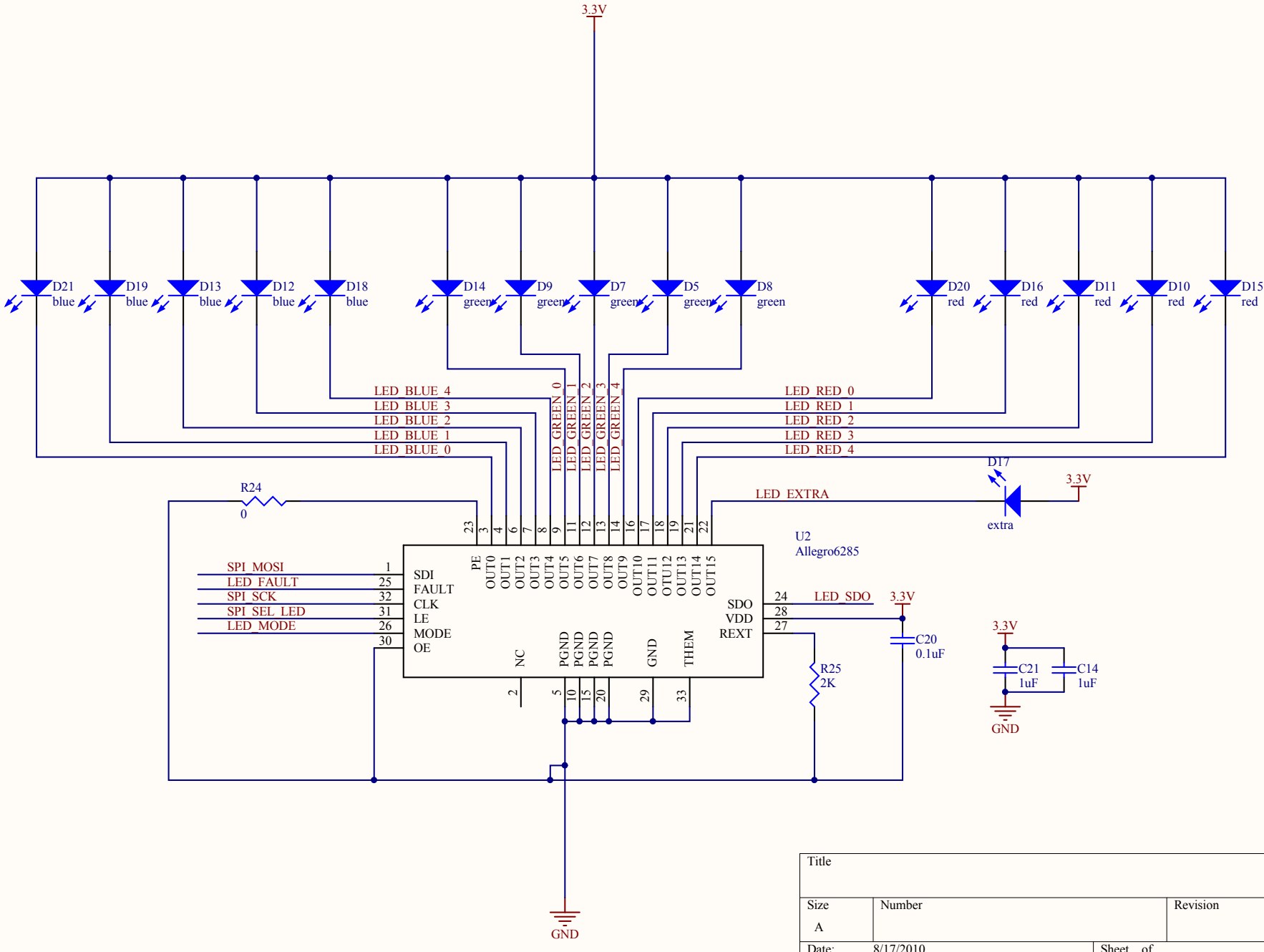

U4
FTDI_RX 26
FTDI_TX 27
SPI_SCK 28
SPI_SEL_ACCEL 29
SPI_MISO 30
SPI_MOSI 31
SPI_SEL_LED 34
SPI_SEL_RADIO 35
JTAG_TCK 80
JTAG_TMS 79
JTAG_TDI 78
JTAG_TDO 77
QEI_0A 25
RADIO_IRQ 24
QEI_0B 23
SW_RED 22
LED_IR_COMMS 72
FTDI_3V3 73
QEI_1B 74
QEI_1A 75
LIGHT_FR 1
LIGHT_FL 2
LIGHT_B 5
GYROA_Z_4 6
SW_GREEN 19
MOT0_PWMB 18
RST 64
NC 16
NC 17
48
49
NC 52
NC 53
50
51
65
76
9
15
21
33
39
41
42
45
54
57
63
69
82
85
86
87
94
4
97
PA0/UORx
PA1/OUTx
PA2/SSIOClk
PA3/SSIOFss
PA4/SSIORx
PA5/SSIOTx
PA6/CCP1
PA7
PC0/TCK/SWCLK
PC1/TMS/SWDIO
PC2/TDI
PC3/TDO/SWO
PC4/PhA0
PC5
PC6/PhB0
PC7
PE0/PWM4
PE1/PWM5
PE2/PhB1
PE3/PhA1
ADC0
ADC1
ADC2
ADC3
PG0
PG1/PWM1
RST
XTALPPHY
XTALNPHY
OSC0
OSC1
XOSC0
XOSC1
WAKE
HIB
CMOD0
CMOD1
GND
AGND
PB0/PWM2
PB1/PWM3
PB2/I2COSCL
PB3/I2COSDA
PB4/C0-
PB5/C0o
PB6/C0+
PB7/TRST
PD0/CANORx
PD1/CANOTx
PD2/U1Rx
PD3/U1Tx
PD4/CCP0
PD5
PD6/Fault
PD7/IDX0
PF0/PWM0
PF1/IDX1
PF2/LED1
PF3/LED0
MDIO
TXOP
TXON
RXIP
RXIN
VDDA
VBAT
LDO
VDD25
66 MOT1_PWMA
67 MOT1_PWMB
70 RADIO_CE
71 SPI_SEL_LCD
92 LED_HEARTBEAT
91 LED_IR_BEACON
90 CHRGEN
89
10 IR_RECV_0
11 IR_RECV_1
12 IR_RECV_2
13 IR_RECV_3
95 IR_RECV_4
96 IR_RECV_5
99 IR_RECV_6
100 IR_RECV_7
47 MOT0_PWMA
61 USB_CTS
60 SW_BLUE
59 LED_MODE
58 MDIO
43 TXOP
46 TXON
40 RXIP
37 RXIN
3 VDDA
98 VDDA
8 VDD
20 VDD
32 VDD
44 VDD
56 VDD
68 VDD
81 VDD
93 VDD
36 VDD
83 VDD
84 VDD
55 VBAT
7 LDO
14 VDD25
38 VDD25
62 VDD25
88 VDD25
LM3S8962
SPI_MISO
SPI_MOSI
R40 10K
R41 10K
GND
GND
3.3V
D1
heartbeat(white)
R10 1K
R34 10K
C22 0.1uF
C25 0.1uF
C26 1uF
C27 1uF
R11 10K
R12 10K
R17 10K
R18 10K
J4
JTAG
JTAG_TMS
JTAG_TCK
JTAG_TDO
JTAG_TDI
RST
R20 10K
SW1
Reset
R33 10K
NC
L4 10mH
C28 0.1uF
XTAL2
8 MHz
C29 20pF
C30 20pF
C31 10uF
C32 0.1uF
vBat Floats Intentionally
Title
Size A
Number
Revision
Date: 8/17/2010
Sheet of
File: C:\svn\..\CPU.SchDoc
Drawn By:




| | | |
|---|---|---|
| Title | | |
| Size: A | Number | Revision |
| Date: 8/17/2010 | | Sheet of |
| File: C:\svn\..\IRComms.SchDoc | | Drawn By: |

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|---|---|---|
| Title | | |
| Size: A | Number | Revision |
| Date: 8/17/2010 | | Sheet of |
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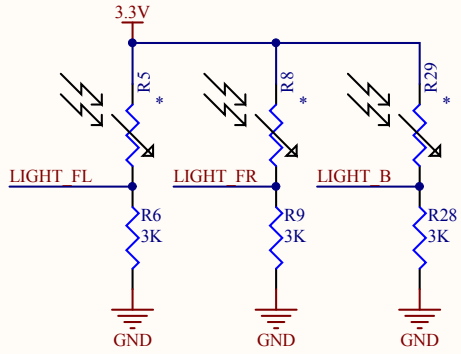
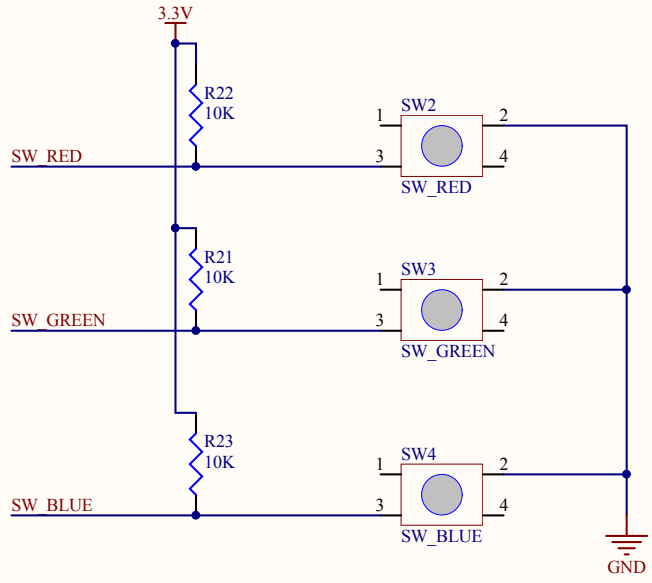
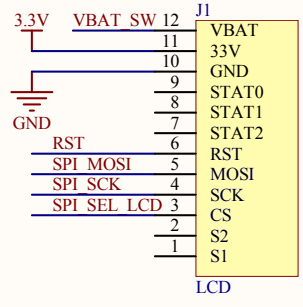
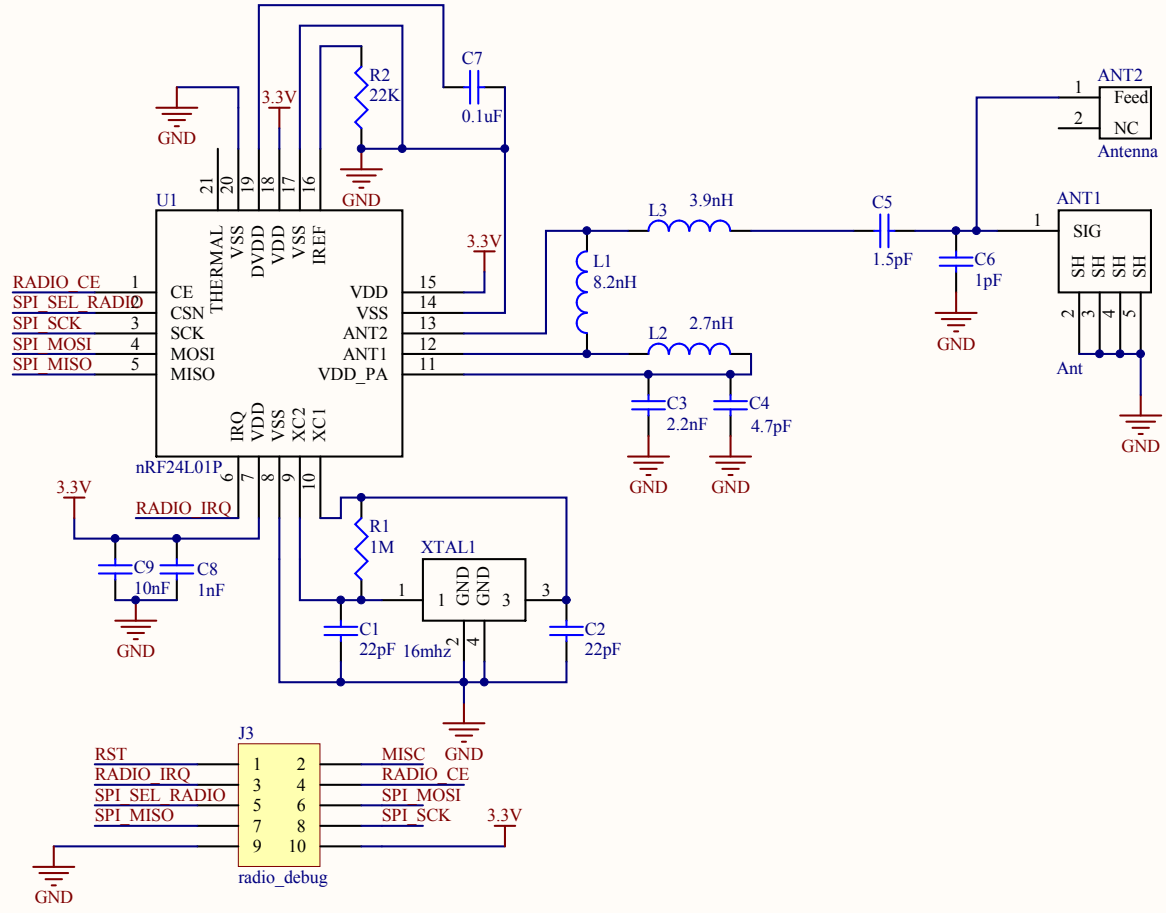


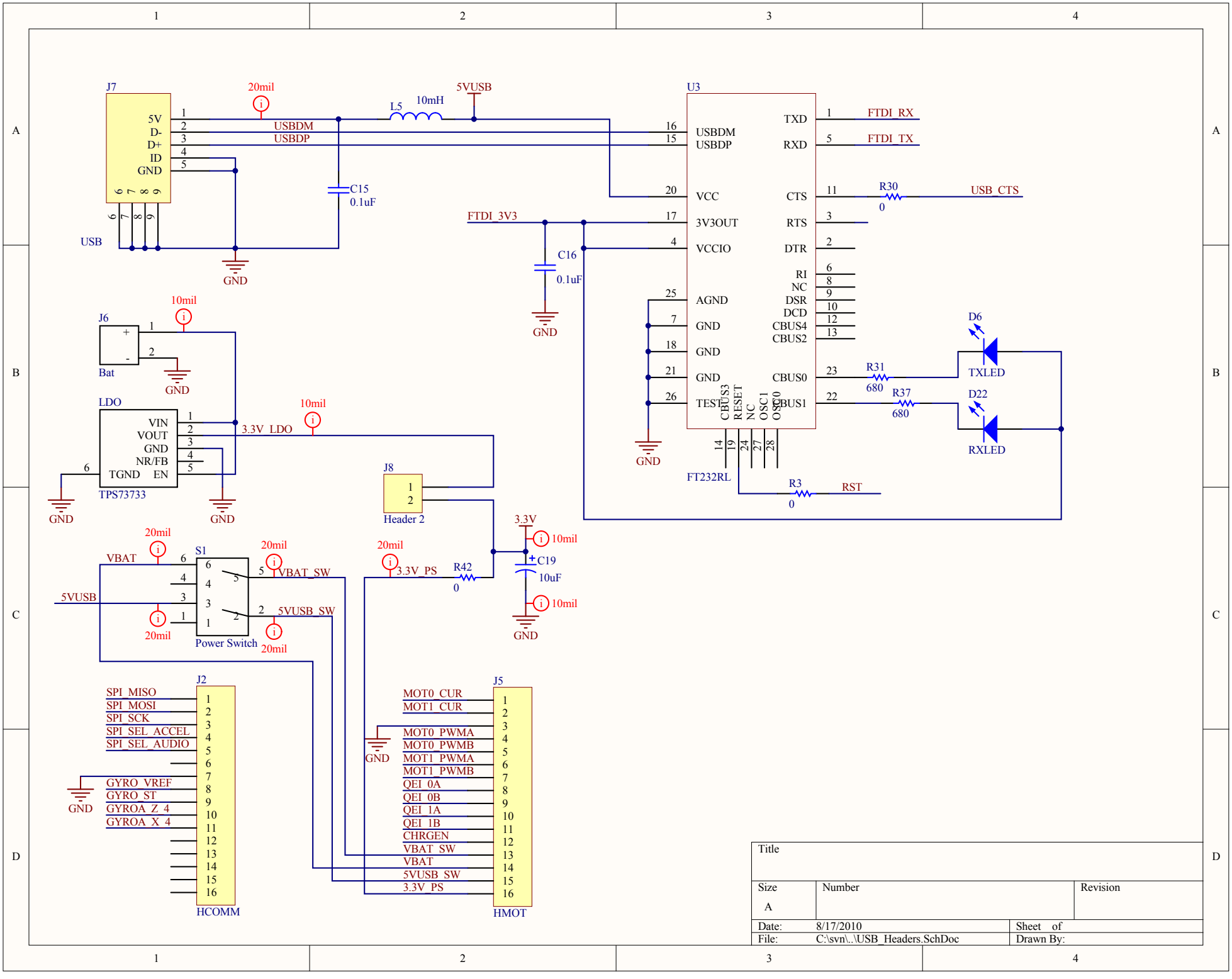



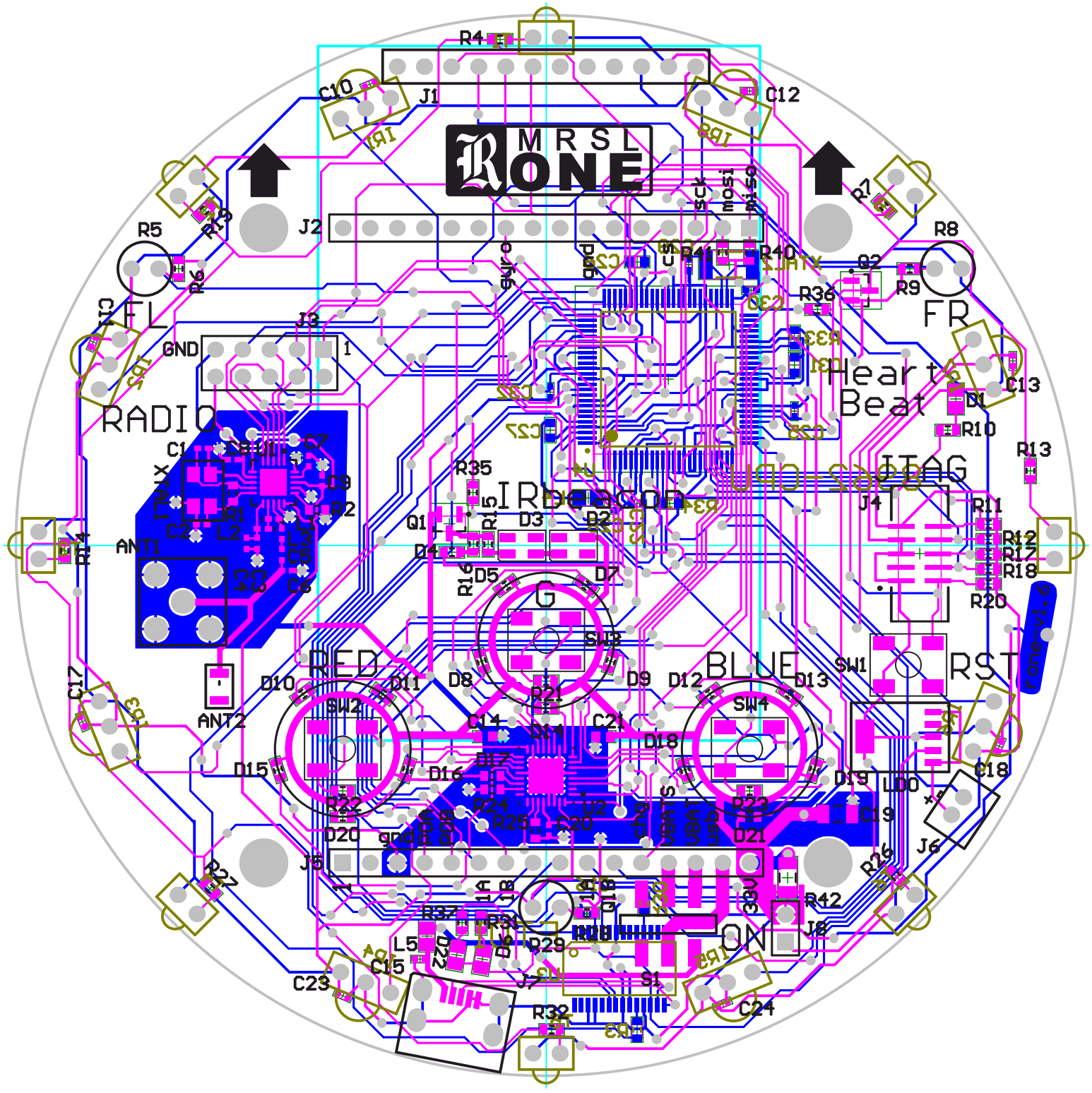




| | | |
|---|---|---|
| Title | | |
| Size: A | Number | Revision |
| Date: 8/17/2010 | | Sheet of |
| File: C:\svn\..\LightSensors_Buttons_LCD.SchDoc | | Drawn By: |




| | | |
|---|---|---|
| Title | | |
| Size A | Number | Revision |
| Date: 8/17/2010 | | Sheet of |
| File: C:\svn\..\Radio.SchDoc | | Drawn By: |


J7
5V
D-
D+
ID
GND
USB
20mil
USBDM
USBDP
L5
10mH
5VUSB
C15
0.1uF
GND
U3
USBDM
USBDP
VCC
3V3OUT
VCCIO
AGND
GND
GND
GND
GND
TEST
TXD
RXD
CTS
RTS
DTR
RI
NC
DSR
DCD
CBUS4
CBUS2
CBUS0
CBUS1
CBUS3
RESET
NC
OSC1
OSC0
FT232RL
FTDI_RX
FTDI_TX
R30
0
USB_CTS
FTDI_3V3
C16
0.1uF
D6
TXLED
R31
680
R37
680
D22
RXLED
J6
Bat
10mil
LDO
VIN
VOUT
GND
NR/FB
TGND
EN
TPS73733
3.3V_LDO
J8
Header 2
R3
0
RST
3.3V
C19
10uF
R42
0
3.3V_PS
VBAT
S1
Power Switch
VBAT_SW
5VUSB_SW
5VUSB
J2
SPI_MISO
SPI_MOSI
SPI_SCK
SPI_SEL_ACCEL
SPI_SEL_AUDIO
GYRO_VREF
GYRO_ST
GYROA_Z_4
GYROA_X_4
HCOMM
J5
MOT0_CUR
MOT1_CUR
MOT0_PWMA
MOT0_PWMB
MOT1_PWMA
MOT1_PWMB
QEI_0A
QEI_0B
QEI_1A
QEI_1B
CHRGEN
VBAT_SW
VBAT
5VUSB_SW
3.3V_PS
HMOT
Title
Size
A
Number
Revision
Date:
8/17/2010
Sheet of
File:
C:\svn\..\USB_Headers.SchDoc
Drawn By:


MRSL
RONE
FL
FR
RADIO
IRBeacon
Heart
Beat
JTAG
RED
BLUE
RST
ON
LDO
GND
ANT1
ANT2
J1
J2
J3
J4
J5
J6
J7
J8
S1
SW1
SW2
SW3
SW4
U1
U2
U3
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
R25
R26
R27
R28
R29
R30
R31
R32
R33
R34
R35
R36
R37
R38
R39
R40
R41
R42
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
C28
C29
C30
C31
C32
C33
C34
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
D16
D17
D18
D19
D20
D21
Q1
Q2
L1
L2
L3
L4
L5
rone-v1.6

# Bill of Materials

<Parameter Title not found>

**Source Data From:** CPUBoard-v6.PrjPCB
**Project:** CPUBoard-v6.PrjPCB
**Variant:** None

Creation Date: 8/17/2010 12:27:09 PM
Print Date: 17-Aug-10 12:27:16 PM

| Footprint | Comment | LibRef | Designator | Description | Quantity |
|---|---|---|---|---|---|
| AntennaSMA | Ant | AntennaConn | ANT1 | | 1 |
| antenna | Antenna | Antenna | ANT2 | | 1 |
| CAPC1005L | Cap Semi | Cap Semi | C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C17, C18, C20, C22, C23, C24, C25, C28, C29, C30, C32 | Capacitor (Semiconductor SIM Model) | 24 |
| CAPC1608L | Cap Semi | Cap Semi | C14, C21, C26, C27, C31 | Capacitor (Semiconductor SIM Model) | 5 |
| CAPC1005L | | Cap | C15, C16 | Capacitor | 2 |
| CAPC3216L | Cap Pol3 | Cap Pol3 | C19 | Polarized Capacitor (Surface Mount) | 1 |
| INDC2012L | heartbeat(white) | LED2 | D1 | Typical RED, GREEN, YELLOW, AMBER GaAs LED | 1 |
| IRBeacon | IRBeacon | IRBeacon | D2, D3 | | 2 |
| SurfaceMount(603) | BEACON_PILOT | LED | D4 | | 1 |
| SurfaceMount(603) | green | LED | D5, D7, D8, D9, D14 | | 5 |
| INDC2012L | TXLED | LED2 | D6 | Typical RED, GREEN, YELLOW, AMBER GaAs LED | 1 |
| SurfaceMount(603) | red | LED | D10, D11, D15, D16, D20 | | 5 |
| SurfaceMount(603) | blue | LED | D12, D13, D18, D19, D21 | | 5 |
| SurfaceMount(603) | extra | LED | D17 | | 1 |
| INDC2012L | RXLED | LED2 | D22 | Typical RED, GREEN, YELLOW, AMBER GaAs LED | 1 |
| GP1UX31QS | GP1UX31QS | GP1UX31QS | IR1, IR2, IR3, IR4, IR5, IR6, IR7, IR8 | | 8 |
| LCD-6100breakout | LCD | LCD-NokiaBreakout | J1 | | 1 |
| HDR1X16 | HCOMM | Header 16 | J2 | Header, 16-Pin | 1 |
| HDR2X5 | radio_debug | Header 5X2 | J3 | Header, 5-Pin, Dual row | 1 |
| JTAG-10 | JTAG | Header 5X2H | J4 | Header, 5-Pin, Dual row, Right Angle | 1 |
| HDR1X16 | HMOT | Header 16 | J5 | Header, 16-Pin | 1 |
| BatteryConnJST | Bat | BatteryConnJST | J6 | | 1 |
| USB Minib (thru-hole) | USB | USB-ConnTH | J7 | | 1 |
| HDR1X2 | Header 2 | Header 2 | J8 | Header, 2-Pin | 1 |
| INDC1005AL | Inductor | Inductor | L1, L2, L3 | Inductor | 3 |
| INDC2012L | Inductor | Inductor | L4, L5 | Inductor | 2 |
| SOT-223-5pin | TPS73733 | LDO33-TI-TPS73733 | LDO | | 1 |
| SOT-23 | Mosfet | Mosfet | Q1, Q2 | | 2 |
| RESC1608L | Res3 | Res3 | R1, R2, R4, R6, R7, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R32, R33, R34, R35, R36, R40, R41 | Resistor | 32 |
| RESC1608L | | Res1 | R3, R30, R31, R37 | Resistor | 4 |
| photoresistor | photoresistor | photoresistor | R5, R8, R29 | | 3 |
| RESC3216L | | Res1 | R42 | Resistor | 1 |
| DPDTSwitch | Power Switch | DPDTSwitch | S1 | | 1 |
| SwitchTall-TL330 | Reset | Switch-TL330 | SW1 | | 1 |
| SwitchTall-TL330 | SW_RED | Switch-TL330 | SW2 | | 1 |
| SwitchTall-TL330 | SW_GREEN | Switch-TL330 | SW3 | | 1 |
| SwitchTall-TL330 | SW_BLUE | Switch-TL330 | SW4 | | 1 |
| LN54 | LN54 | LN54 | T1, T2, T3, T4, T5, T6, T7, T8 | | 8 |
| QFN-20 | nRF24L01P | radio-nRF24L01P | U1 | | 1 |
| QFN-32 | Allegro6285 | Allegro6285 | U2 | | 1 |
| SSOP-28 | FT232RL | FT232RL | U3 | | 1 |
| LQFP-100 | LM3S8962 | LM3S8962 | U4 | | 1 |
| RadioCrystal | RADIO CRYSTAL | RadioCrystal | XTAL1 | | 1 |
| RESC5025L | 8 MHz | XTAL | XTAL2 | Crystal Oscillator | 1 |
| | | | | | 139 |

| Approved | Notes | |
|---|---|---|
| | | |