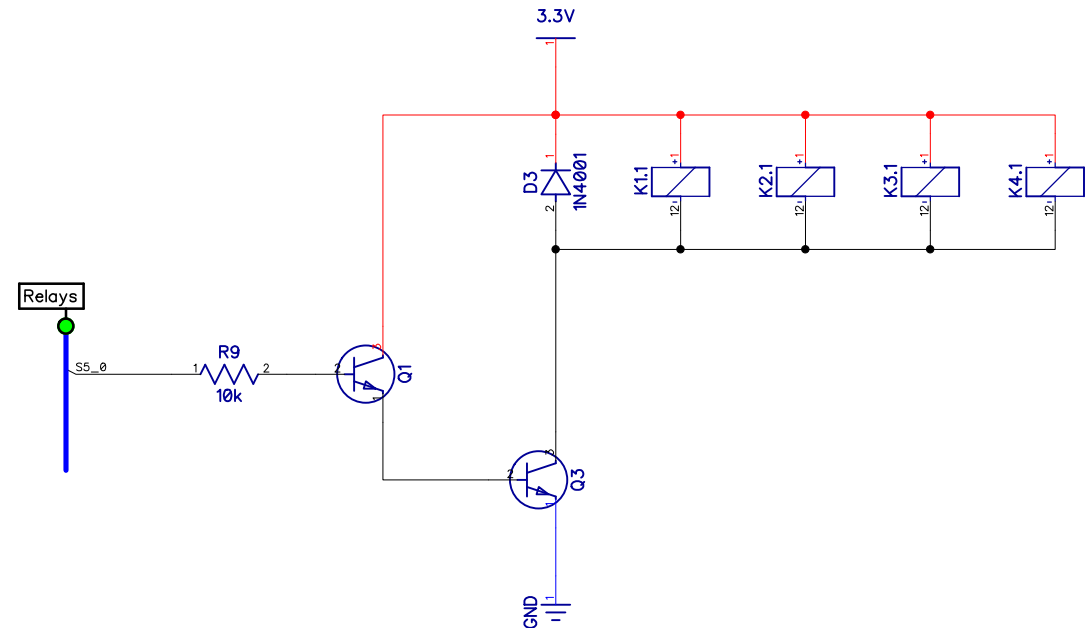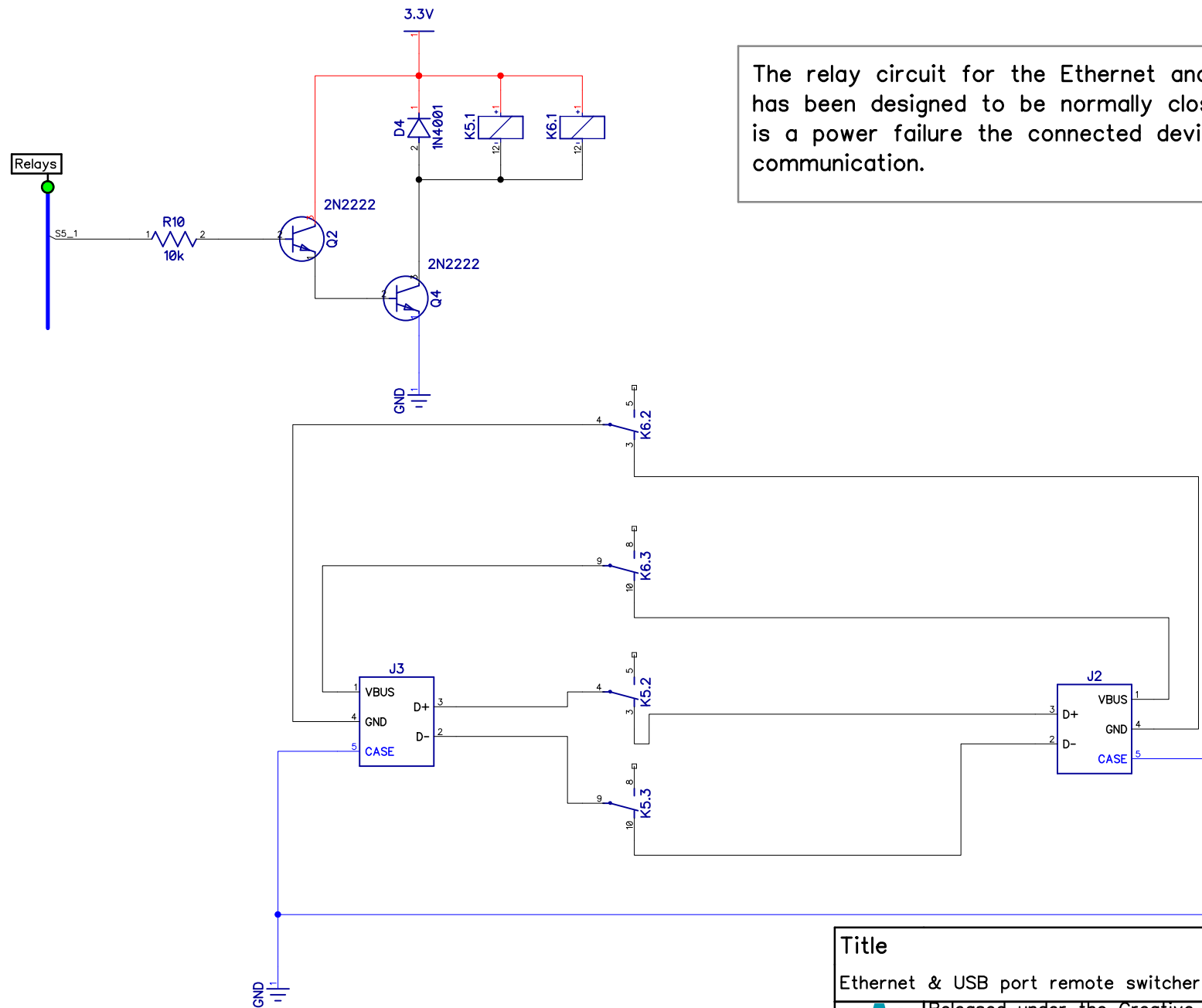The relay circuit for the Ethernet and USB ports has been designed to be normally closed so if there is a power failure the connected devices will have communication.

J7

1	in1	
2	in2	
3	in3	
4	in4	
5	in5	
6	in6	
7	in7	
8	in8	

9 CASE

J1

out1	1	
out2	2	
out3	3	
out4	4	
out5	5	
out6	6	
out7	7	
out8	8	

CASE 9

GND

K1.2 3 out1
5
4
in1

K1.3 10 out2
8
9
in2

K2.2 3 out3
5
4
in3

K2.3 10 out4
8
9
in4

K3.2 3 out5
5
4
in5

K3.3 10 out6
8
9
in6

K4.2 3 out7
5
4
in7

K4.3 10 out8
8
9
in8

3.3V

D3 1N4001

K1.1   K2.1   K3.1   K4.1

Relays

S5_0   R9 10k   Q1

Q3

GND

Title

Ethernet & USB port remote switcher Lure

Rev

1.1

Date: 07/10/2015

Drawn by: Jose Navarro

eth&usbswitcher_Lure.dch

Ethernet

The relay circuit for the Ethernet and USB ports has been designed to be normally closed so if there is a power failure the connected devices will have communication.
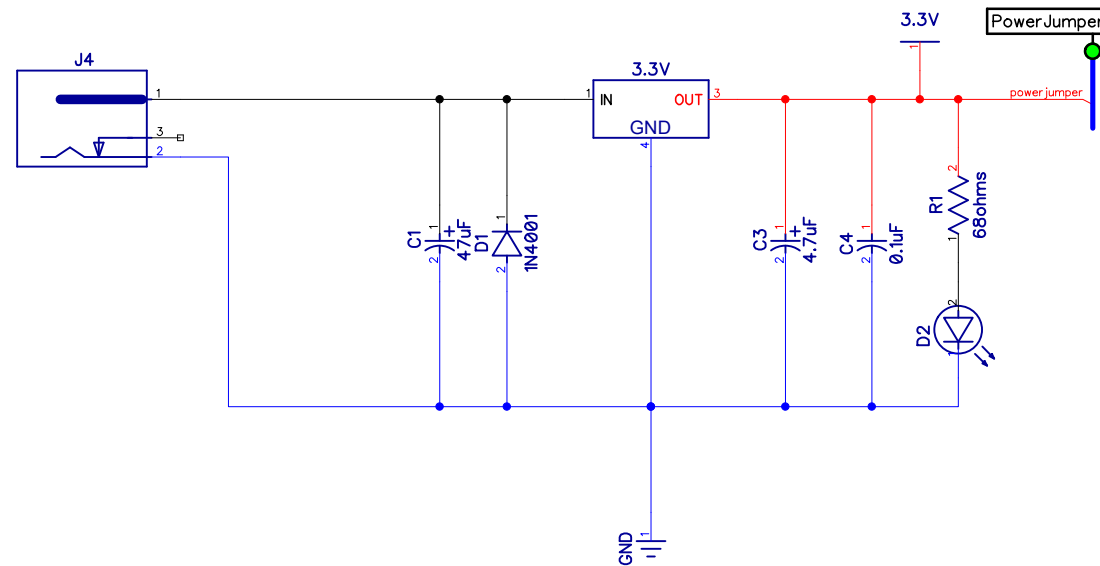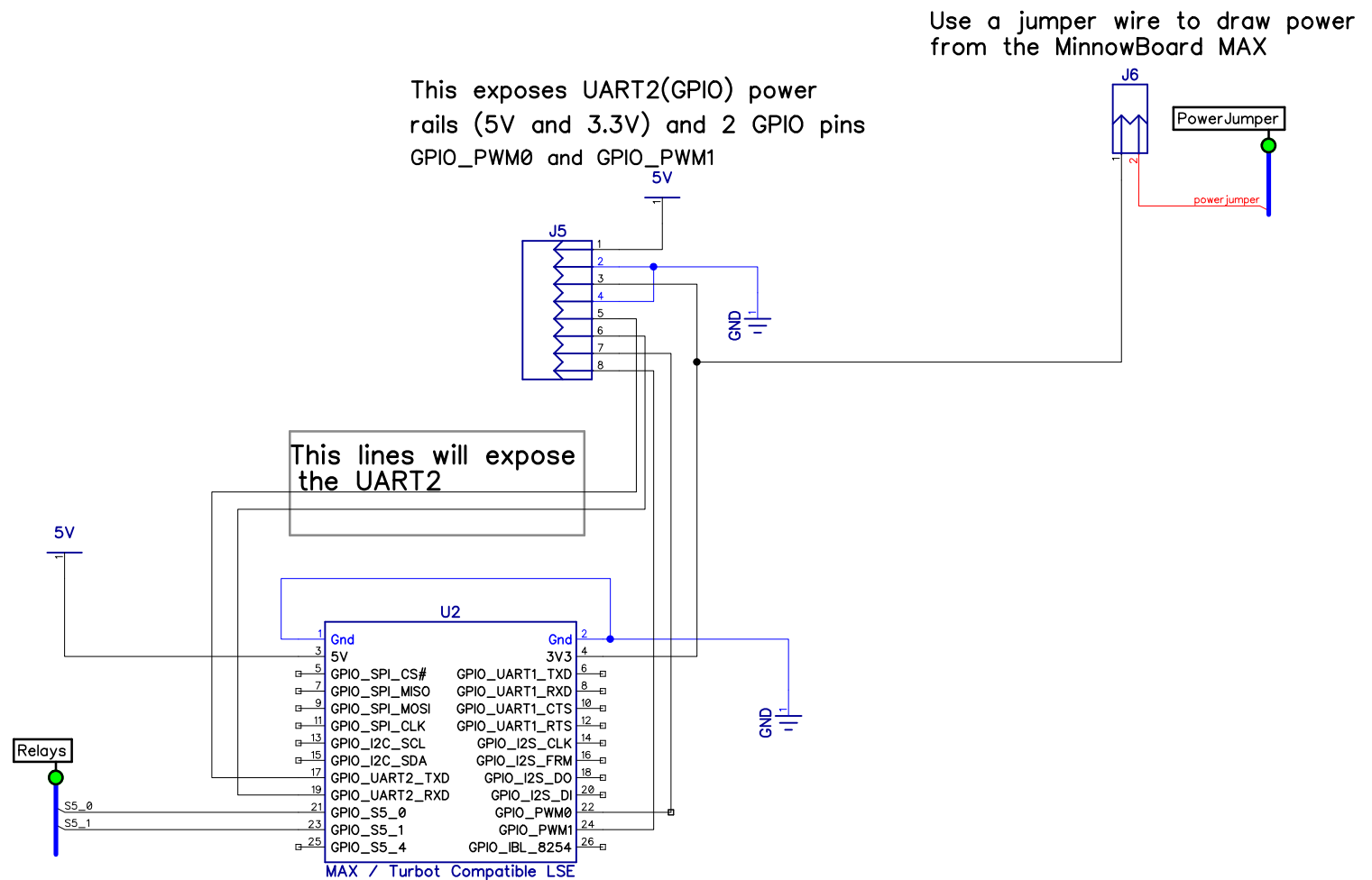
3.3V

Relays

S5_1

R10
10k

2N2222
Q2

2N2222
Q4

D4
1N4001

K5.1

K6.1

GND

K6.2

K6.3

J3

VBUS
GND
D+
D-
CASE

K5.2

K5.3

J2

VBUS
GND
D+
D-
CASE

GND

Title

Ethernet & USB port remote switcher Lure

Rev
1.1

Date: 07/10/2015

Drawn by: Jose Navarro

eth&usbswitcher_Lure.dch

USB

This power supply can be used to prevent relay power consumption spikes to affect the MinnowBoard MAX

Title		
Ethernet & USB port remote switcher Lure		
open source hardware	Released under the Creative Commons Attribution Share-Alike 3.0 License https://creativecommons.org/licenses/by-sa/3.0/	Rev 1.1
Date: 07/10/2015		Drawn by: Jose Navarro
eth&usbswitcher_Lure.dch		Power supply

Use a jumper wire to draw power
from the MinnowBoard MAX

J6

PowerJumper

power jumper

This exposes UART2(GPIO) power
rails (5V and 3.3V) and 2 GPIO pins
GPIO_PWM0 and GPIO_PWM1

5V

J5

1
2
3
4
5
6
7
8

GND

This lines will expose
the UART2

5V

U2

1 Gnd	Gnd 2
3 5V	3V3 4
5 GPIO_SPI_CS#	GPIO_UART1_TXD 6
7 GPIO_SPI_MISO	GPIO_UART1_RXD 8
9 GPIO_SPI_MOSI	GPIO_UART1_CTS 10
11 GPIO_SPI_CLK	GPIO_UART1_RTS 12
13 GPIO_I2C_SCL	GPIO_I2S_CLK 14
15 GPIO_I2C_SDA	GPIO_I2S_FRM 16
17 GPIO_UART2_TXD	GPIO_I2S_DO 18
19 GPIO_UART2_RXD	GPIO_I2S_DI 20
21 GPIO_S5_0	GPIO_PWM0 22
23 GPIO_S5_1	GPIO_PWM1 24
25 GPIO_S5_4	GPIO_IBL_8254 26

MAX / Turbot Compatible LSE

GND

Relays

S5_0
S5_1

Title

Ethernet & USB port remote switcher Lure

Rev

1.1

Date: 07/10/2015

Drawn by: Jose Navarro

eth&usbswitcher_Lure.dch

Minnowboard integration