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LPC3154 Powering and Unused parts

## Page 3

LPC3154 Digital I/O

## Page 4

JTAG Interface

## Page 5

LPC17XX

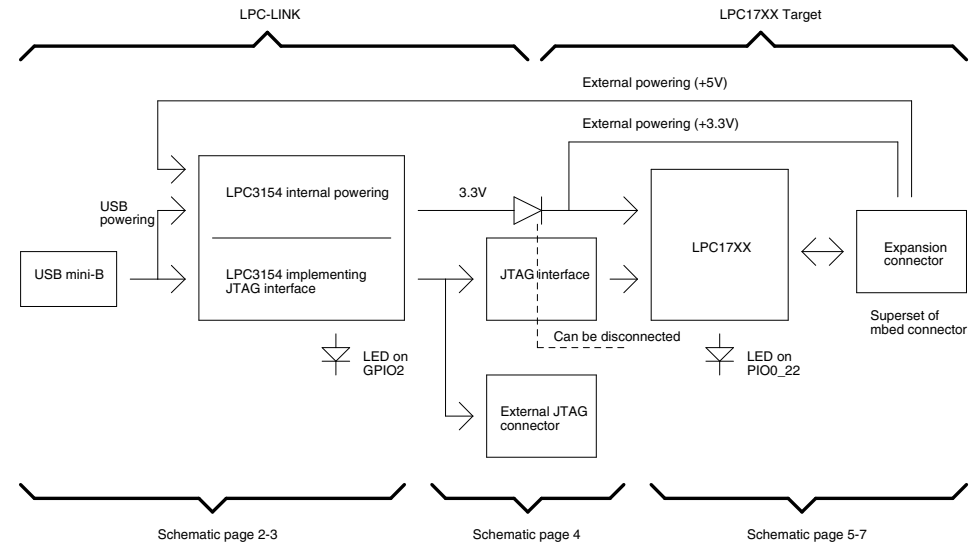
## Page 6

LPC17XX Ethernet and I2C-E2PROM

## Page 7

LPC17XX Expansion connector

## Design Overview



UL = UnLoaded = normally not mounted component.

Default jumper settings are indicated in the schematic.  
However, always check jumper positions on actual boards  
since there is no guarantee that all jumpers are in default place.



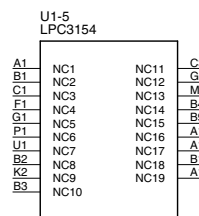
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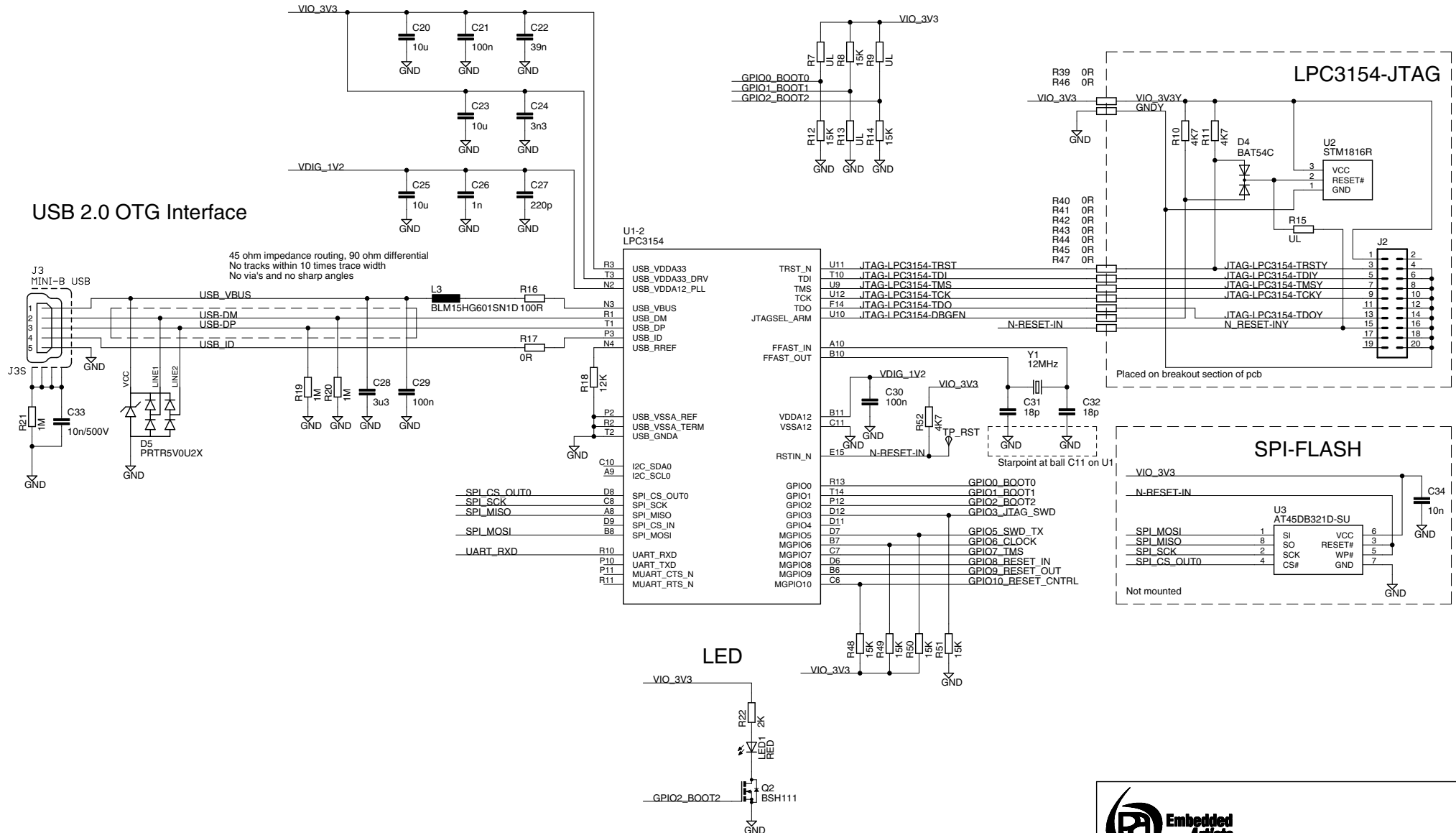
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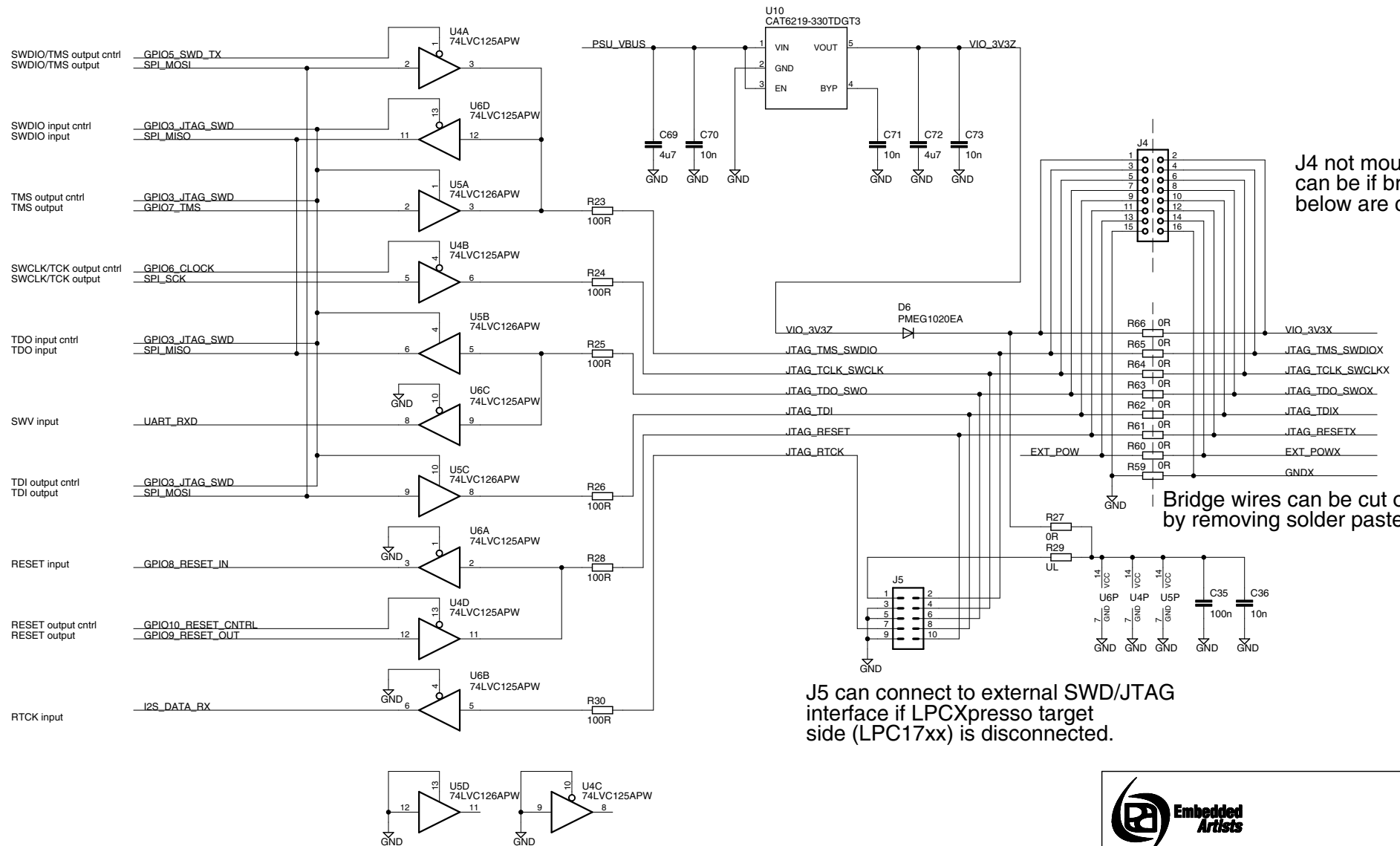
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## Boot mode - USB via DFU class



## SWD/JTAG Interface



J4 not mounted, but  
can be if bridge wires  
below are cut.

Bridge wires can be cut on pcb by removing solder paste.

J5 can connect to external SWD/JTAG interface if LPCXpresso target side (LPC17xx) is disconnected.



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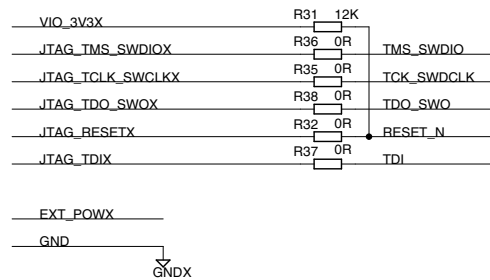
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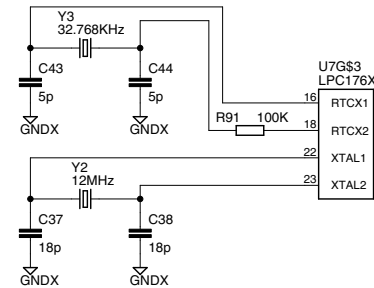
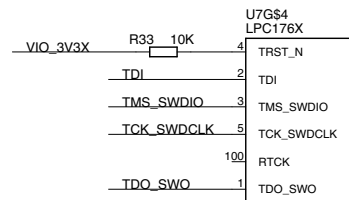
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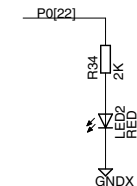
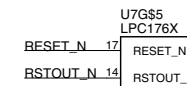
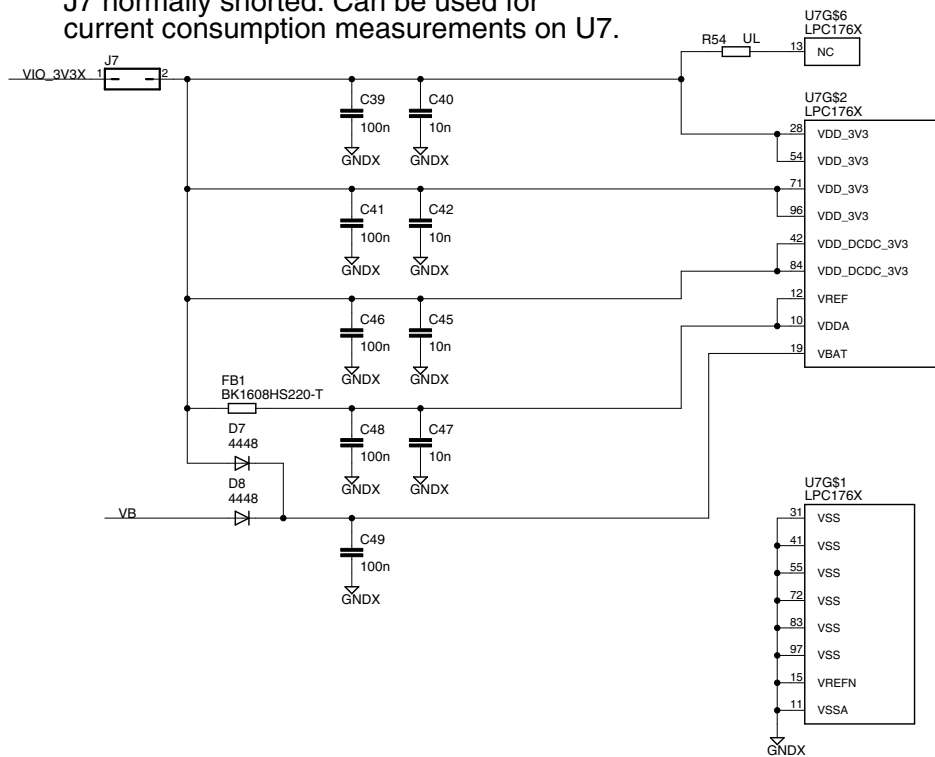
### From LPC-LINK Side



LPC176X Target Side



J7 normally shorted. Can be used for current consumption measurements on U7.



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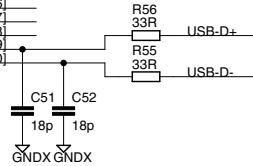
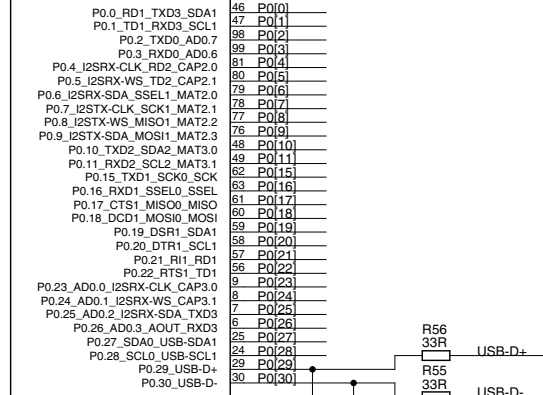
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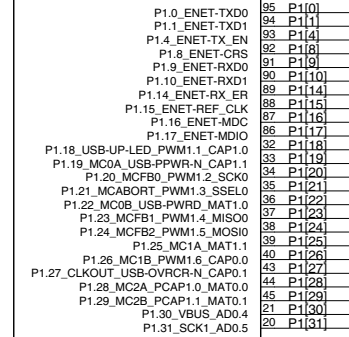
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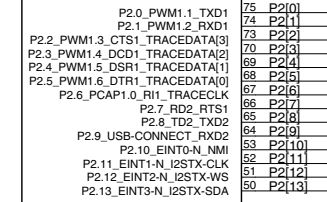
U7G\$7  
LPC176X



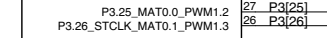
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LPC176X



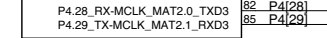
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LPC176X



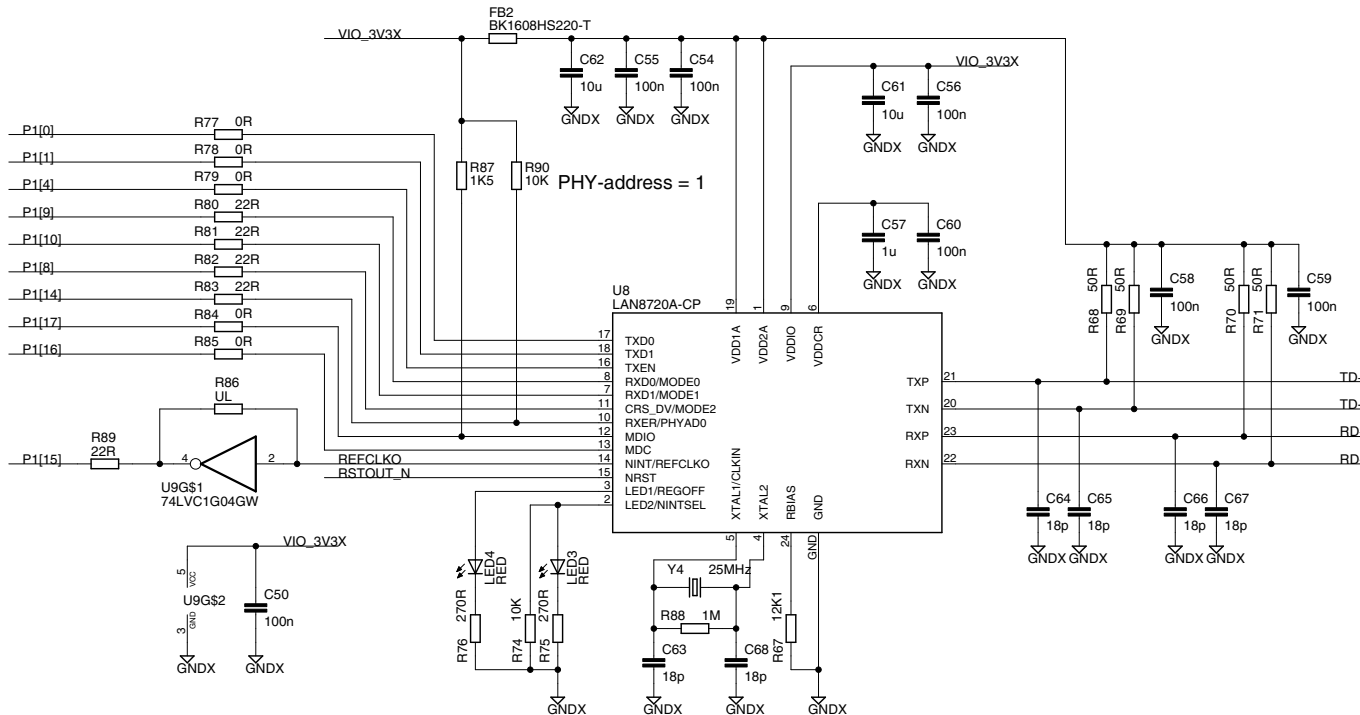
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LPC176X



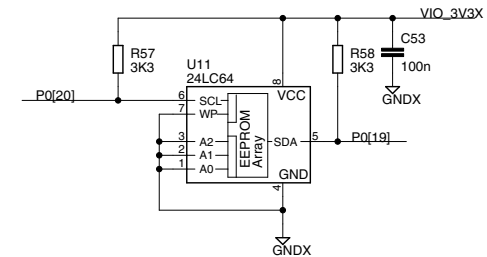
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LPC176X



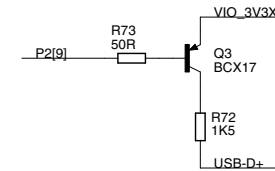
## 10/100M Ethernet PHY (LAN8720)



## I2C-E2PROM



## USB pullup for USB Device operation



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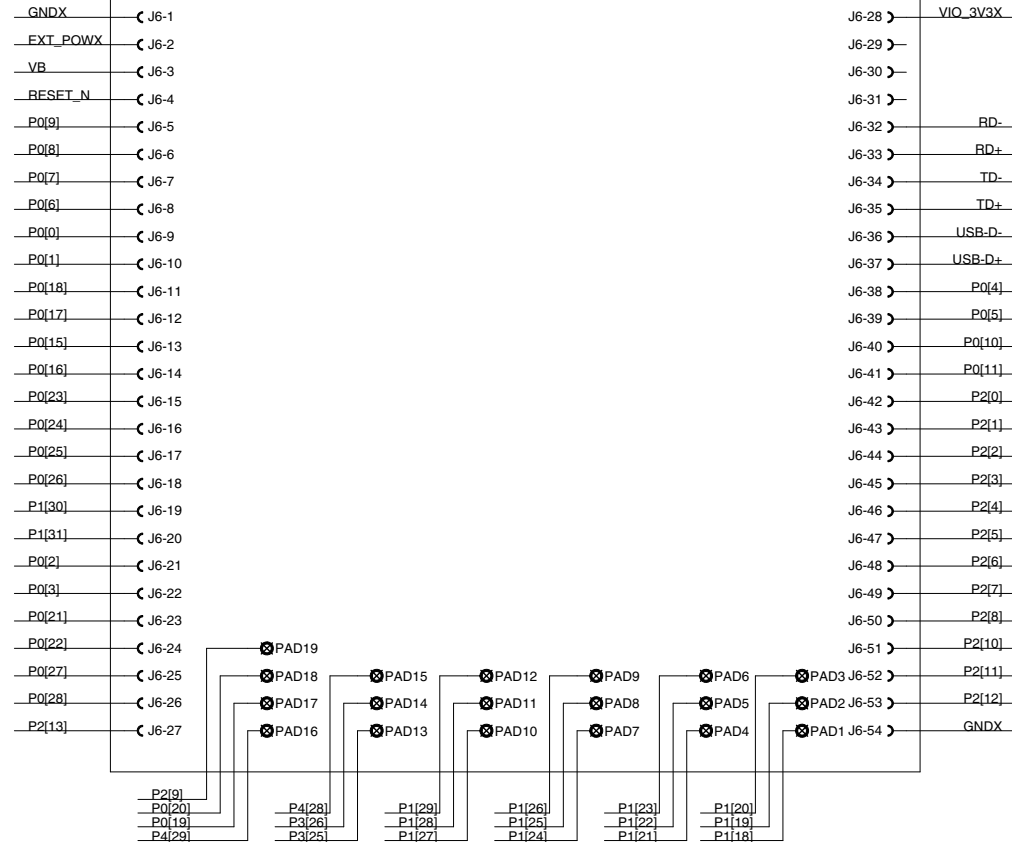
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LPC-LINK side

## Expansion Connector (superset of mbed pinning)

Dual row holes (2x27), 100 mil spacing

mbed	LPCXpresso
GND	GND
VIN (4.5-14V)	VIN (4.5-5.5V)
VB (battery supply)	VB (battery supply)
nR (reset)	RESET_N
SPI1-MOSI	P0.9 MOSI1
SPI1-MISO	P0.8 MISO1
SPI1-SCK	P0.7 SCK1
GPIO	P0.6 SSEL1
UART1-TX / I2C1-SDA	P0.0 TXD3/SDA1
UART1-RX / I2C1-SCL	P0.1 RXD3/SCL1
SPI2-MOSI	P0.18 MOSI0
SPI2-MISO	P0.17 MISO0
SPI2-SCL / UART2-TX	P0.15 TXD1/SCK0
UART2-RX	P0.16 RXD1/SSEL0
AIN0	P0.23 AD0.0
AIN1	P0.24 AD0.1
AIN2	P0.25 AD0.2
AIN3 / AOUT	P0.26 AD0.3/AOUT
AIN4	P1.30 AD0.4
AIN5	P1.31 AD0.5
	P0.2
	P0.3
	P0.21
	P0.22
	P0.27
	P0.28
	P2.13



LPCXpresso	mbed
VOUT (+3.3V out) if self powered, else +3.3V input	VOUT (3.3V out)
not used	VU (5.0V USB out)
not used	IF+
not used	IF-
RD-	RD- (Ethernet)
RD+	RD+ (Ethernet)
TD-	TD- (Ethernet)
TD+	TD+ (Ethernet)
USB-D-	D- (USB)
USB-D+	D+ (USB)
P0.4 CAN_RX2	CAN-RD
P0.5 CAN_TX2	CAN-TD
P0.10 TXD2/SDA2	UART3-TX / I2C2-SDA
P0.11 RXD2/SCL2	UART3-RX / I2C2-SCL
P2.0 PWM1.1	PWMOUT0
P2.1 PWM1.2	PWMOUT1
P2.2 PWM1.3	PWMOUT2
P2.3 PWM1.4	PWMOUT3
P2.4 PWM1.5	PWMOUT4
P2.5 PWM1.6	PWMOUT5
P2.6	
P2.7	
P2.8	
P2.10	
P2.11	
P2.12	
GND	



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