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LPC3154 Powering and Unused parts

Page 3

LPC3154 Digital I/O

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JTAG Interface

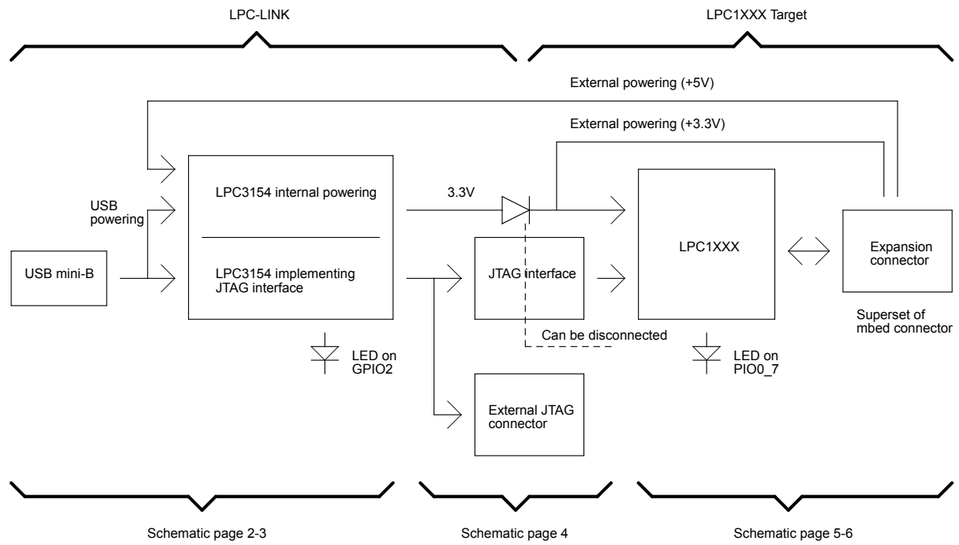
Page 5

LPC12xx target

Page 6

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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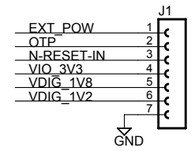
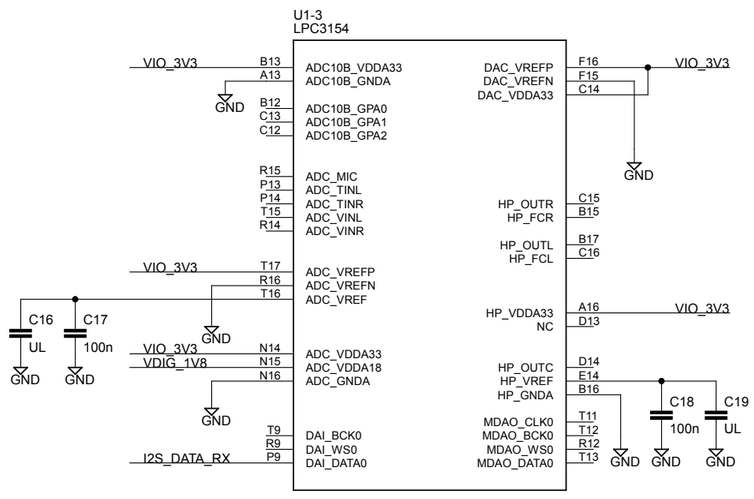
Note: 1V8 rail is actually 1.4V
since internal regulator in default

Power supply parts of LPC3154

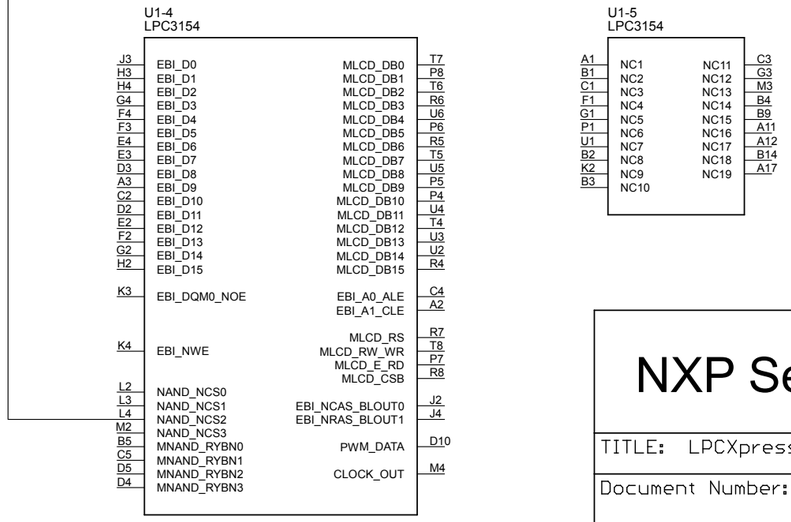
Production test connector



Analog parts of LPC3154



Not used parts of LPC3154



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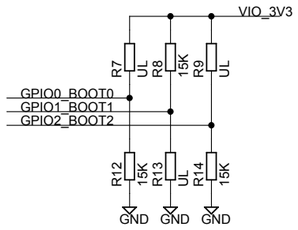
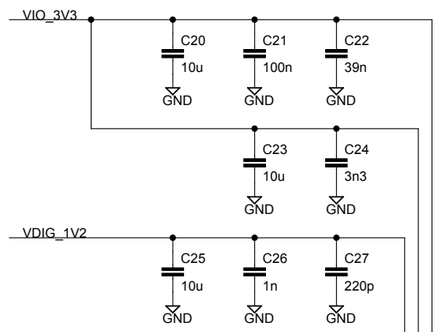
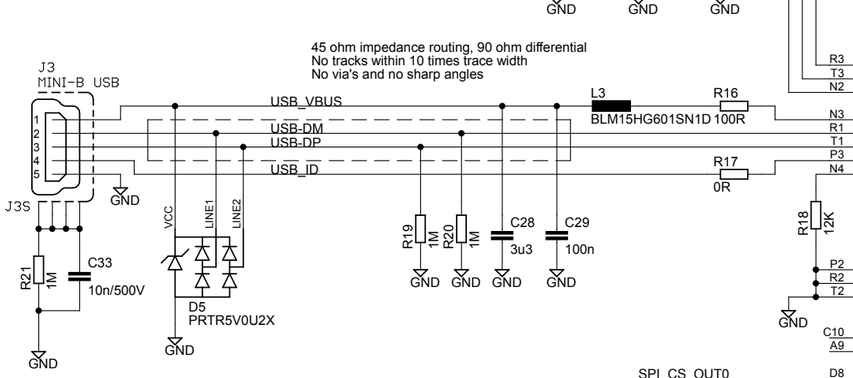
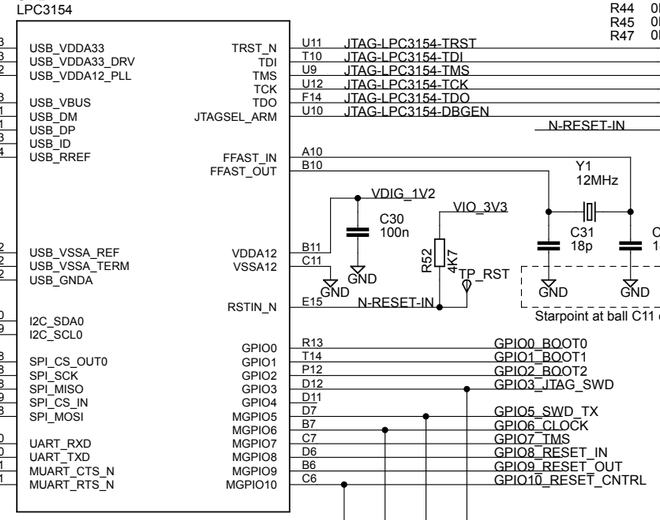
Boot mode - USB via DFU class

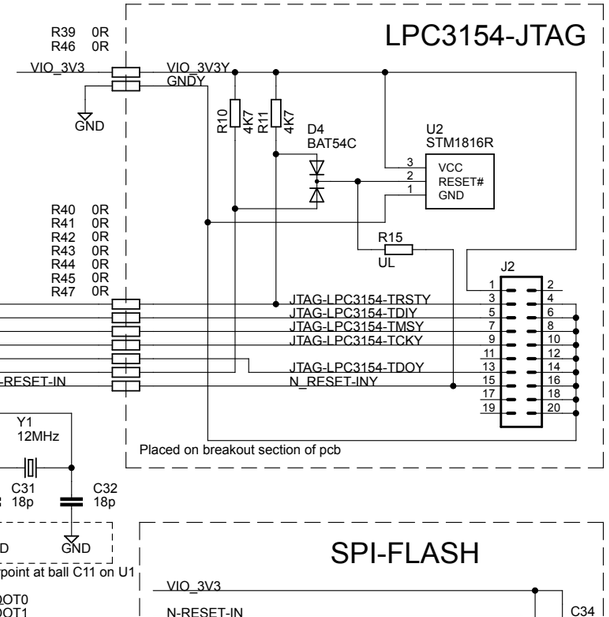


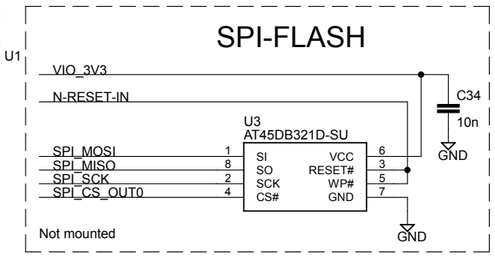
USB 2.0 OTG Interface



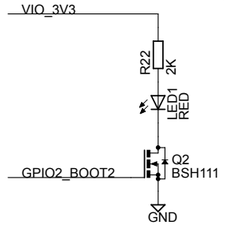








LED



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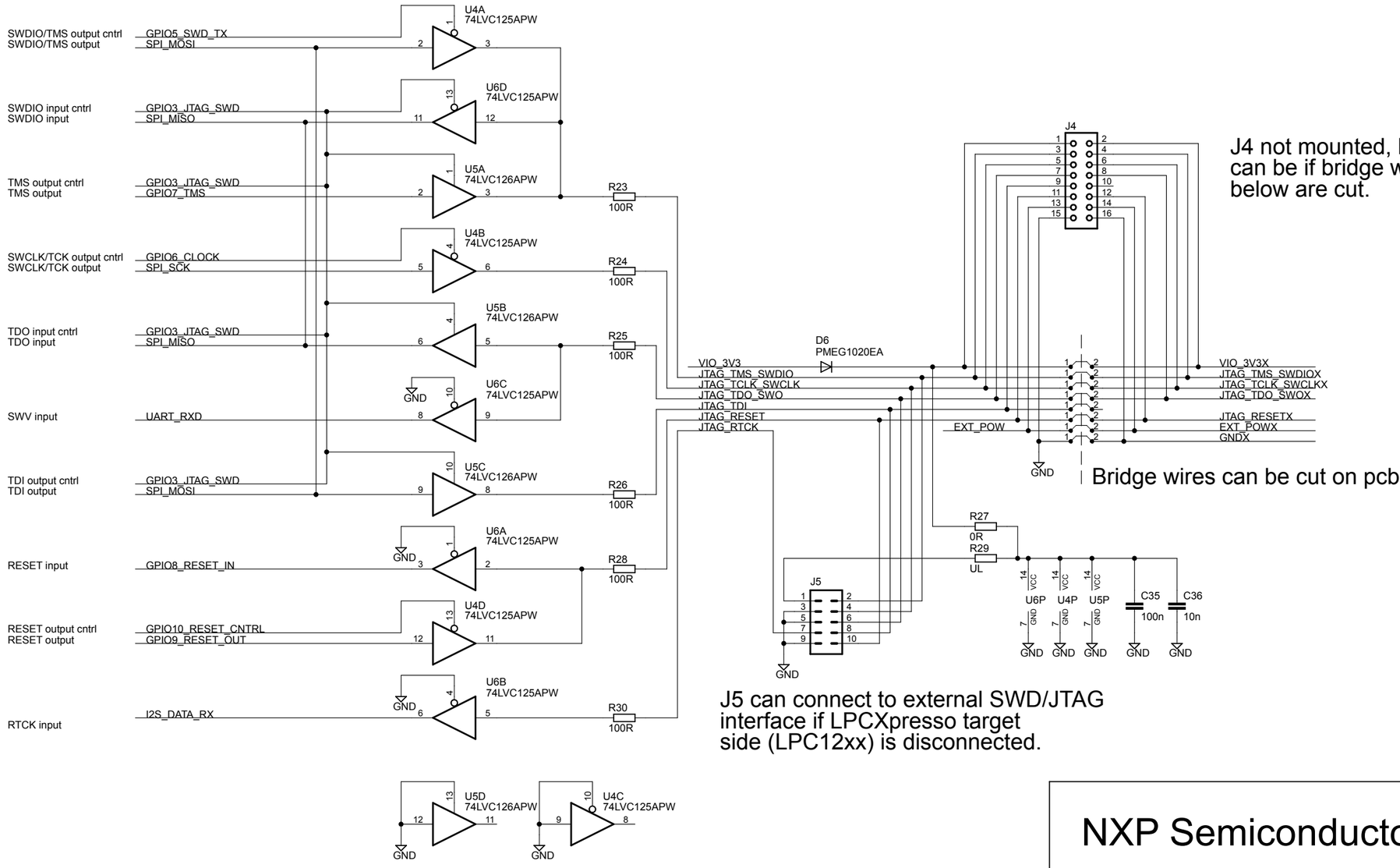
SWD/JTAG Interface



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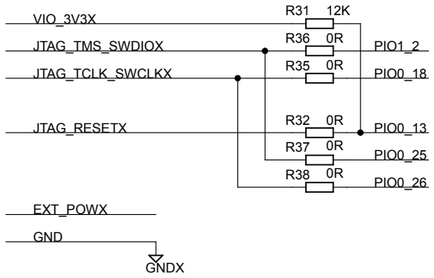
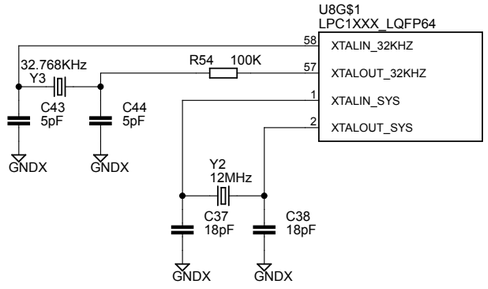
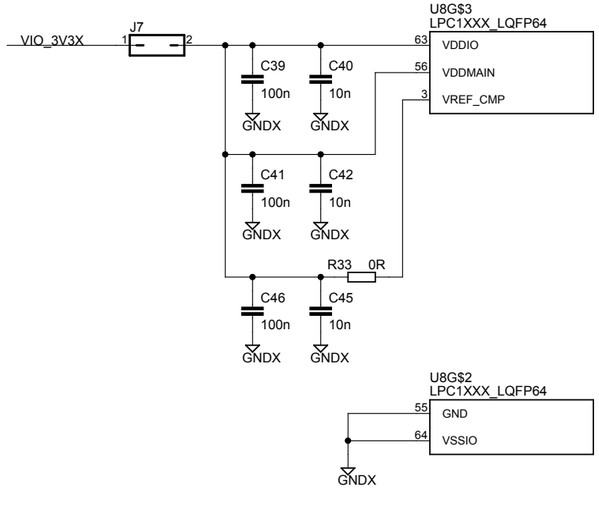
From LPC-LINK Side

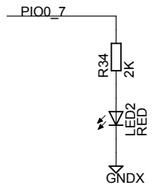




J7 normally shorted. Can be used for current consumption measurements on U8.



LED



LPC12XX Target Side

U8G$4
LPC1XXX_LQFP64

PIO0_0/UART0_NRTS	19	PIO0_0
PIO0_1/UART0_RXD/CT32B0_CAP0/CT32B0_MAT0	20	PIO0_1
PIO0_2/UART0_TXD/CT32B0_CAP1/CT32B0_MAT1	21	PIO0_2
PIO0_3/UART0_NDTR/CT32B0_CAP2/CT32B0_MAT2	22	PIO0_3
PIO0_4/UART0_NDSR/CT32B0_CAP3/CT32B0_MAT3	23	PIO0_4
PIO0_5/UART0_NDCD	24	PIO0_5
PIO0_6/UART0_NRI/CT32B1_CAP0/CT32B1_MAT0	25	PIO0_6
PIO0_7/UART0_NCTS/CT32B1_CAP1/CT32B1_MAT1	26	PIO0_7
PIO0_8/UART1_RXD/CT32B1_CAP2/CT32B1_MAT2	27	PIO0_8
PIO0_9/UART1_TXD/CT32B1_CAP3/CT32B1_MAT3	28	PIO0_9
PIO0_10/I2C_SCL	37	PIO0_10
PIO0_11/I2C_SDA/CT16B0_CAP0/CT16B0_MAT0	38	PIO0_11
PIO0_12/CLKOUT/CT16B0_CAP1/CT16B0_MAT1	39	PIO0_12
NRESET/PIO0_13	40	PIO0_13
PIO0_14/SSP_CLK	41	PIO0_14
PIO0_15/SSP_SSEL/CT16B1_CAP0/CT16B1_MAT0	42	PIO0_15
PIO0_16/SSP_MISO/CT16B1_CAP1/CT16B1_MAT1	43	PIO0_16
PIO0_17/SSP_MOSI	44	PIO0_17
PIO0_18/SWCLK/CT32B0_CAP0/CT32B0_MAT0	45	PIO0_18
PIO0_19/CMP0_IN0/CT32B0_CAP1/CT32B0_MAT1	4	PIO0_19
PIO0_20/CMP0_IN1/CT32B0_CAP2/CT32B0_MAT2	5	PIO0_20
PIO0_21/CMP0_IN2/CT32B0_CAP3/CT32B0_MAT3	6	PIO0_21
PIO0_22/CMP0_IN3	7	PIO0_22
PIO0_23/CMP1_IN0/CT32B1_CAP0/CT32B1_MAT0	8	PIO0_23
PIO0_24/CMP1_IN1/CT32B1_CAP1/CT32B1_MAT1	9	PIO0_24
SWDIO/PIO0_25/CMP1_IN2/CT32B1_CAP2/CT32B1_MAT2	10	PIO0_25
SWCLK/PIO0_26/CMP1_IN3/CT32B1_CAP3/CT32B1_MAT3	11	PIO0_26
PIO0_27/CMP0_OUT	12	PIO0_27
PIO0_28/CMP1_OUT/CT16B0_CAP0/CT16B0_MAT0	17	PIO0_28
PIO0_29/ROSC/CT16B0_CAP1/CT16B0_MAT1	18	PIO0_29
R/PIO0_30/ADCIN0	46	PIO0_30
R/PIO0_31/ADCIN1	47	PIO0_31

U8G$6
LPC1XXX_LQFP64

PIO2_0/CT16B0_CAP0/CT16B0_MAT0/UART0_NRTS	29	PIO2_0
PIO2_1/CT16B0_CAP1/CT16B0_MAT1/UART0_RXD	30	PIO2_1
PIO2_2/CT16B1_CAP0/CT16B1_MAT0/UART0_TXD	31	PIO2_2
PIO2_3/CT16B1_CAP1/CT16B1_MAT1/UART0_NDTR	32	PIO2_3
PIO2_4/CT32B0_CAP0/CT32B0_MAT0/UART0_NCTS	33	PIO2_4
PIO2_5/CT32B0_CAP1/CT32B0_MAT1/UART0_NRI	34	PIO2_5
PIO2_6/CT32B0_CAP2/CT32B0_MAT2/UART0_NDCD	35	PIO2_6
PIO2_7/CT32B0_CAP3/CT32B0_MAT3/UART0_NDSR	36	PIO2_7
PIO2_8/CT32B1_CAP0/CT32B1_MAT0	59	PIO2_8
PIO2_9/CT32B1_CAP1/CT32B1_MAT1	60	PIO2_9
PIO2_10/CT32B1_CAP2/CT32B1_MAT2/UART1_TXD	61	PIO2_10
PIO2_11/CT32B1_CAP3/CT32B1_MAT3/UART1_RXD	62	PIO2_11
PIO2_12/UART1_RXD	13	PIO2_12
PIO2_13/UART1_TXD	14	PIO2_13
PIO2_14	15	PIO2_14
PIO2_15	16	PIO2_15

U8G$5
LPC1XXX_LQFP64

R/PIO1_0/ADCIN2	48	PIO1_0
R/PIO1_1/ADCIN3	49	PIO1_1
PIO1_2/SWDIO/ADCIN4	50	PIO1_2
PIO1_3/ADCIN5/WAKEUP	51	PIO1_3
PIO1_4/ADCIN6	52	PIO1_4
PIO1_5/ADCIN7/CT16B1_CAP0/CT16B1_MAT0	53	PIO1_5
PIO1_6/CT16B1_CAP1/CT16B1_MAT1	54	PIO1_6

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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)	not used	
nR (reset)	PIO0_13	RESET
SPI1-MOSI	PIO0_17	MOSI/SWO
SPI1-MISO	PIO0_16	MISO
SPI1-SCK	PIO0_14	SCK
GPIO	PIO0_15	SSEL
UART1-TX / I2C1-SDA	PIO0_2	TXD
UART1-RX / I2C1-SCL	PIO0_1	RXD
SPI2-MOSI	PIO0_7	
SPI2-MISO	PIO0_3	
SPI2-SCL / UART2-TX	PIO0_9	TXD1
UART2-RX	PIO0_8	RXD1
AIN0	PIO0_30	AD0
AIN1	PIO0_31	AD1
AIN2	PIO1_0	AD2
AIN3 / AOUT	PIO1_5	AD7/CT16B1_MAT0
AIN4	PIO1_2	AD4/SWDIO
AIN5	PIO1_3	AD5
	PIO0_0	
	PIO0_19	
	PIO0_20	
	PIO0_18	SWCLK
	PIO0_28	
	PIO0_29	
	PIO1_6	

GNDX	J6-1	
EXT_POWX	J6-2	
	J6-3	
PIO0_13	J6-4	
PIO0_17	J6-5	
PIO0_16	J6-6	
PIO0_14	J6-7	
PIO0_15	J6-8	
PIO0_2	J6-9	
PIO0_1	J6-10	
PIO0_7	J6-11	
PIO0_3	J6-12	
PIO0_9	J6-13	
PIO0_8	J6-14	
PIO0_30	J6-15	
PIO0_31	J6-16	
PIO1_0	J6-17	
PIO1_5	J6-18	
PIO1_2	J6-19	
PIO1_3	J6-20	
PIO0_0	J6-21	
PIO0_19	J6-22	
PIO0_20	J6-23	
PIO0_18	J6-24	
PIO0_28	J6-25	
PIO0_29	J6-26	
PIO1_6	J6-27	

J6-28	VIO_3V3X	
J6-29		
J6-30		
J6-31		
J6-32		
J6-33		
J6-34		
J6-35		
J6-36		
J6-37		
J6-38	PIO0_12	
J6-39	PIO0_4	
J6-40	PIO0_11	
J6-41	PIO0_10	
J6-42	PIO2_0	
J6-43	PIO2_4	
J6-44	PIO2_5	
J6-45	PIO0_6	
J6-46	PIO0_21	
J6-47	PIO0_24	
J6-48	PIO0_23	
J6-49	PIO0_22	
J6-50	PIO0_25	
J6-51	PIO0_26	
J6-52	PIO0_27	
J6-53		
J6-54	GNDX	

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-
not used		RD- (Ethernet)
not used		RD+ (Ethernet)
not used		TD- (Ethernet)
not used		TD+ (Ethernet)
USB_DM		D- (USB)
USB_DP		D+ (USB)
PIO0_12		CAN-RD
PIO0_4		CAN-TD
PIO0_11	I2C-SDA	UART3-TX / I2C2-SDA
PIO0_10	I2C-SCL	UART3-RX / I2C2-SCL
PIO2_0	CT16B0_MAT0	PWMOUT0
PIO2_4	CT32B0_MAT0	PWMOUT1
PIO2_5	CT32B1_MAT0	PWMOUT2
PIO0_6	CT32B1_MAT0	PWMOUT3
PIO0_21	CT32B0_MAT3	PWMOUT4
PIO0_24	CT32B1_MAT1	PWMOUT5
PIO0_23		
PIO0_22		
PIO0_25		
PIO0_26		
PIO0_27		
GND		

VIO_3V3X VIO_3V3X

P$1	P$10	P$19
P$2	P$11	P$20
P$3	P$12	P$21
P$4	P$13	P$22
P$5	P$14	P$23
P$6	P$15	P$24
P$7	P$16	P$25
P$8	P$17	P$26
P$9	P$18	P$27

P$28	P$37	P$46
P$29	P$38	P$47
P$30	P$39	P$48
P$31	P$40	P$49
P$32	P$41	P$50
P$33	P$42	P$51
P$34	P$43	P$52
P$35	P$44	P$53
P$36	P$45	P$54

GNDX GNDX GNDX GNDX

PIO2_15 PIO2_14 PIO2_13 PIO2_12 PIO2_11 PIO2_10 PIO2_9 PIO2_8

PIO1_1 PIO1_4 PIO2_7 PIO2_6 PIO2_3 PIO2_2 PIO2_1 PIO0_5

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