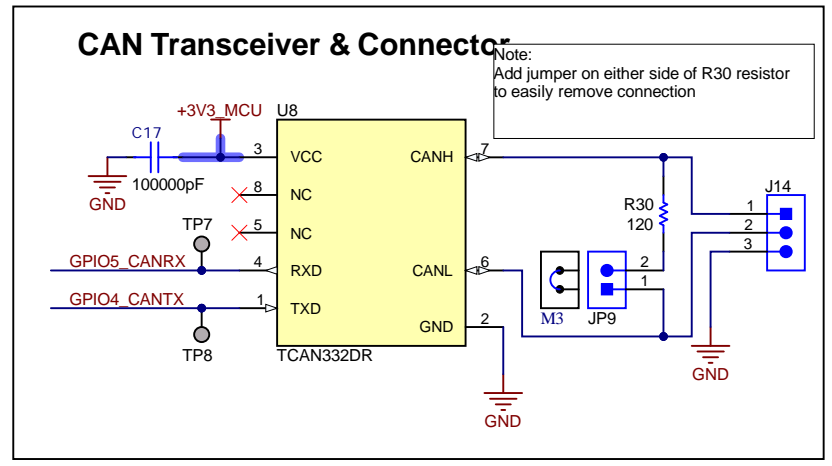
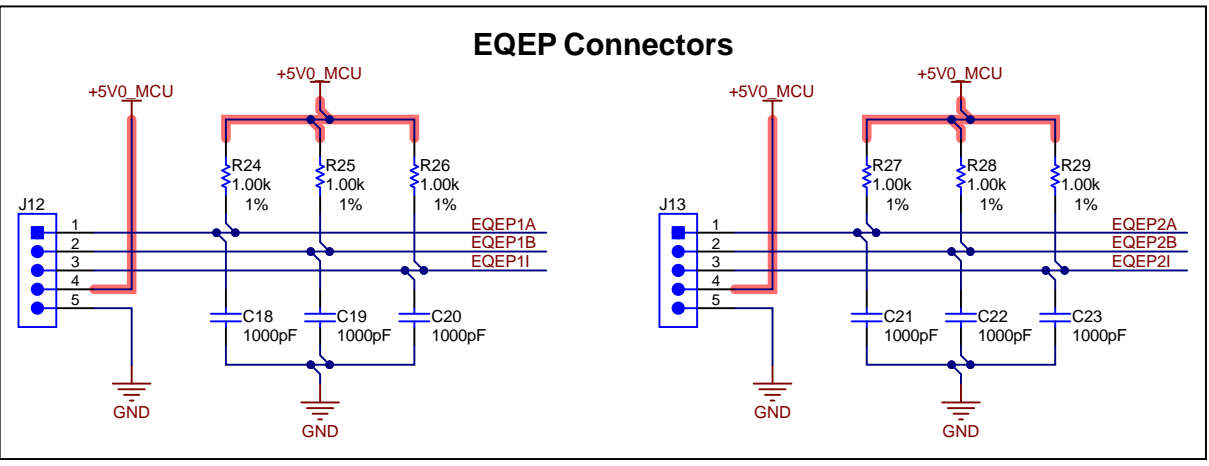
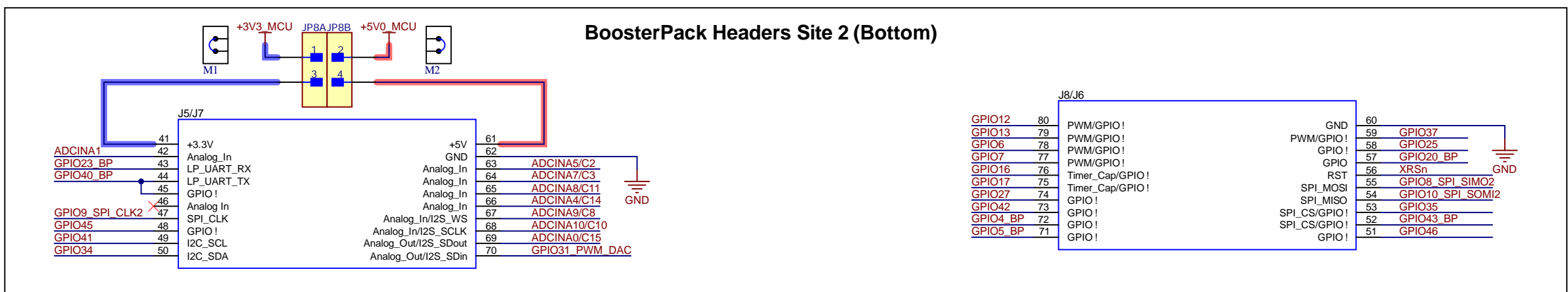
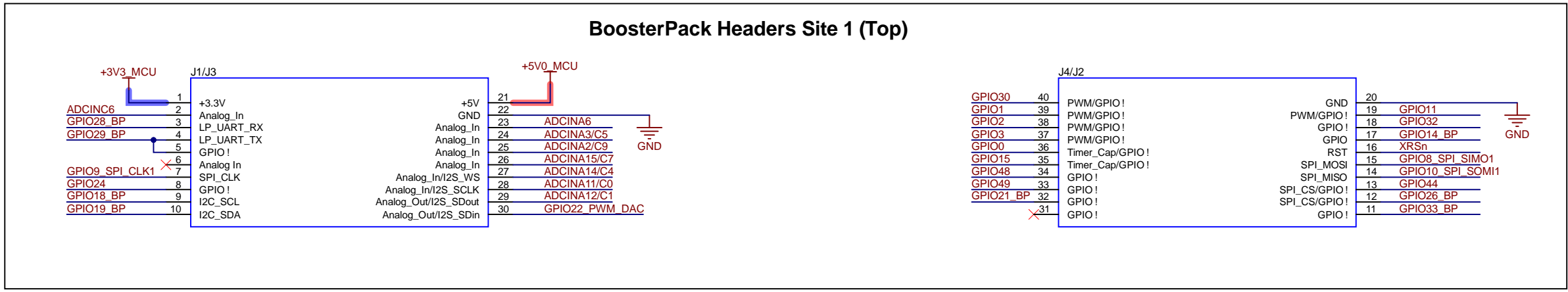


Orderable: LAUNCHXL-F2800157	Designed for: Public Release	Mod. Date: 3/17/2023	
TID #: LAUNCHXL-F2800157	Project Title: LAUNCHXL-F2800157	Sheet Title:	
Number: MCU110	Rev: A	Sheet: 1 of 7	http://www.ti.com
SVN Rev: 42c87052b884e9ec540698a58e8d462901	File: MCU110A_Block_Diagram_SchDoc	Size: B	
Drawn By: Peter Luong	Contact: http://www.ti.com/support		

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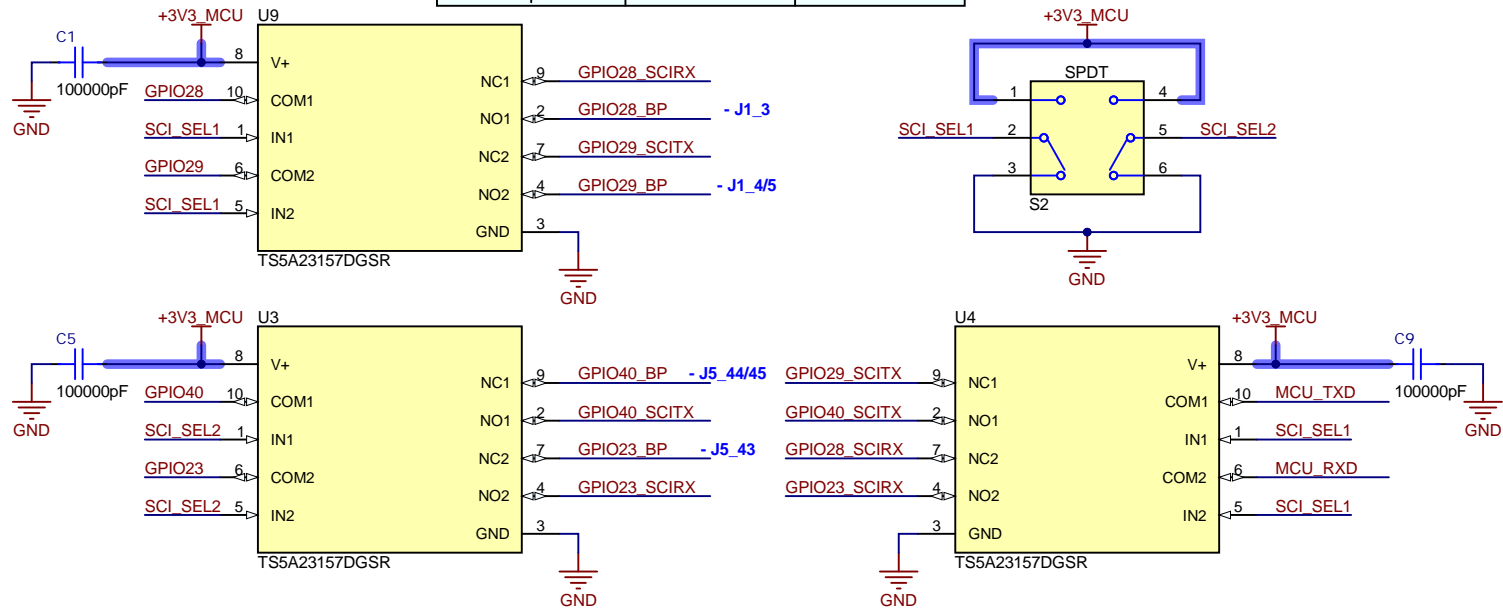


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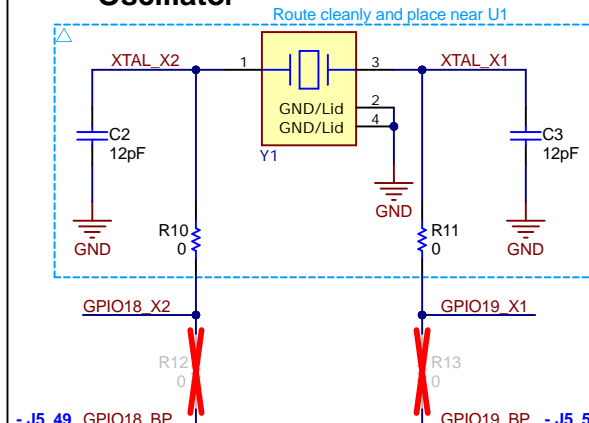
UART Routing

SCI_SEL1	SCI_SEL2	GPIO28/29 Route	GPIO23/40 Route
0	0	XDS110 COM Port	BP
0	1	XDS110 COM Port	NC
1	0	BP	BP
1	1	BP	XDS110 COM Port

- DEFAULT

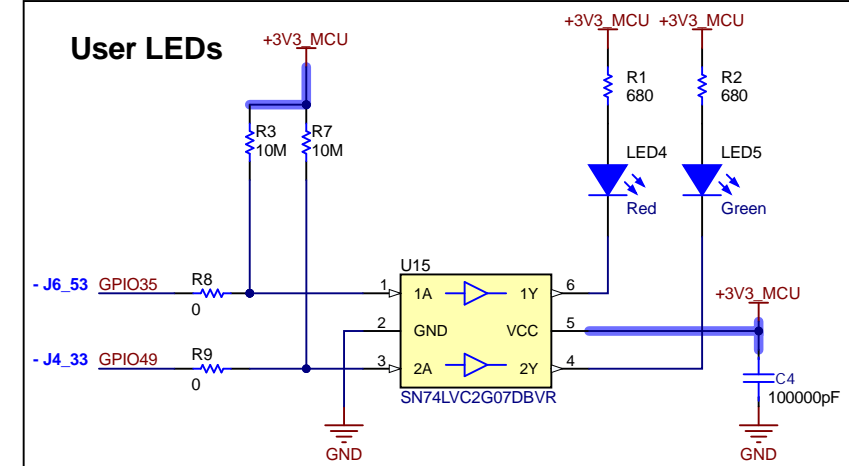


Oscillator

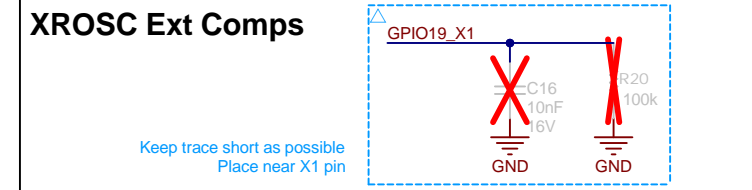


By default:
 - Crystal Y2 is connected between GPIO18_X2 and GPIO19_X1.
 - GPIO18_BP AND GPIO19_BP are connected to the BoosterPack headers.
 If GPIO18 and GPIO 19 are needed at the Boosterpac k Headers:
 - Remove R10 and R11, populate R12 and R13 with 0 ohm resistors
 - The F280015x device's internal oscillator will need to be used

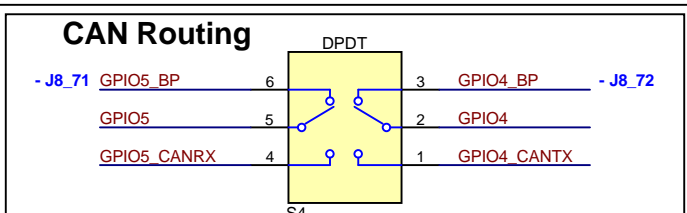
User LEDs



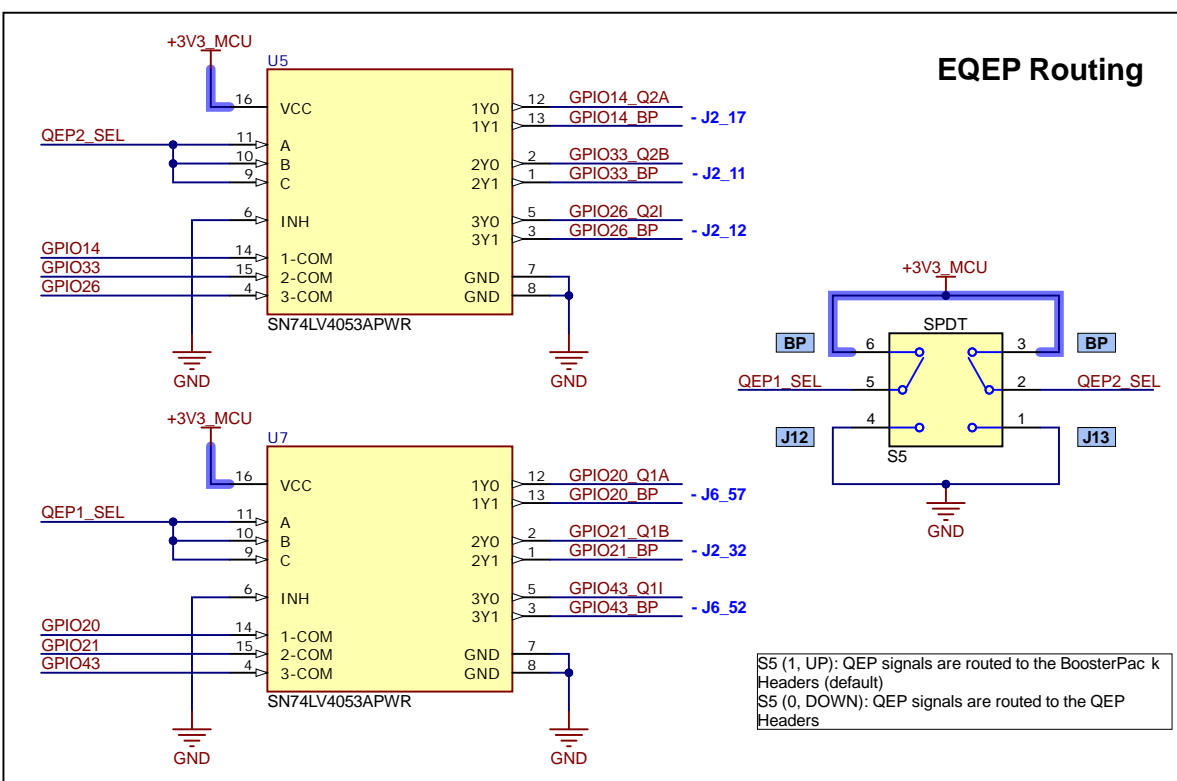
XROSC Ext Comps



CAN Routing

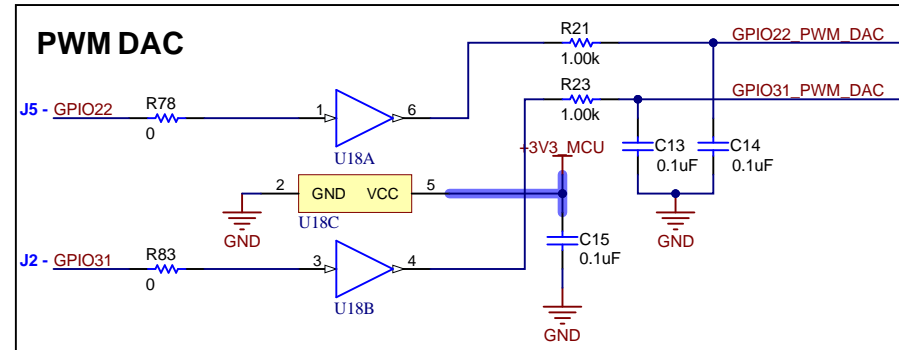


EQEP Routing

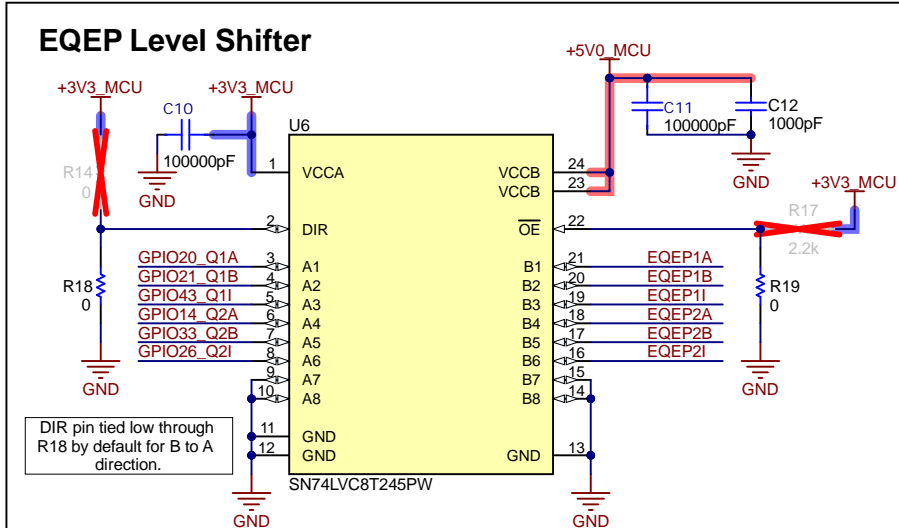


S5 (1, UP): QEP signals are routed to the BoosterPac k Headers (default)
 S5 (0, DOWN): QEP signals are routed to the QEP Headers

PWM DAC

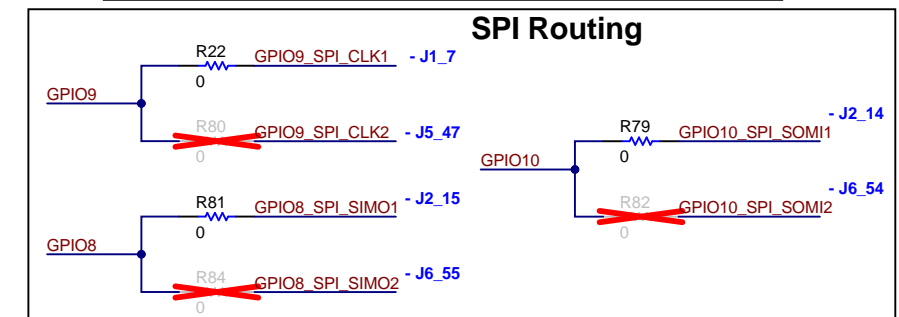


EQEP Level Shifter

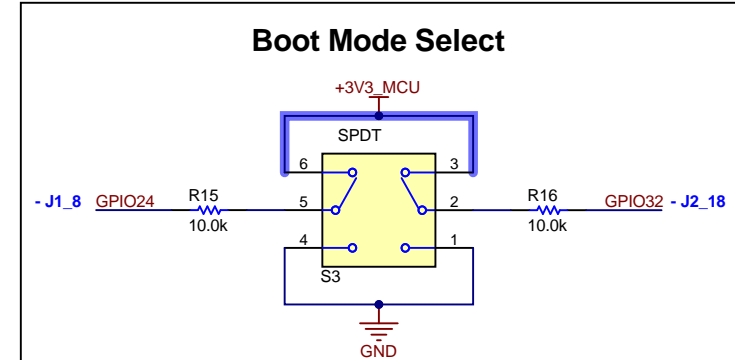


To disable the Level Shifter:
 1. De-populate R19
 2. Place a 2.2k ohm resistor on R17 to pull-up OE

SPI Routing

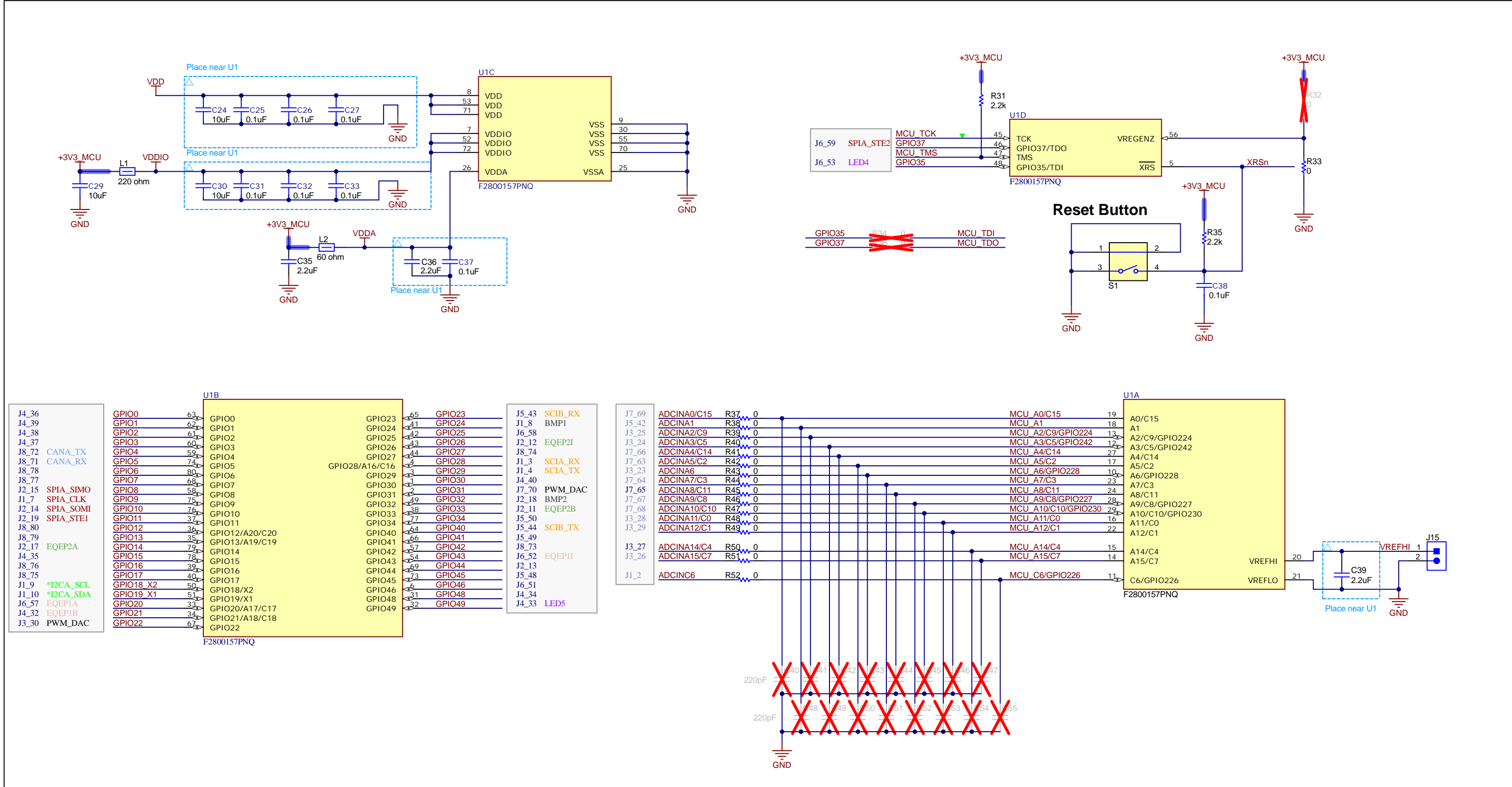


Boot Mode Select



Selected Boot Mode Chart

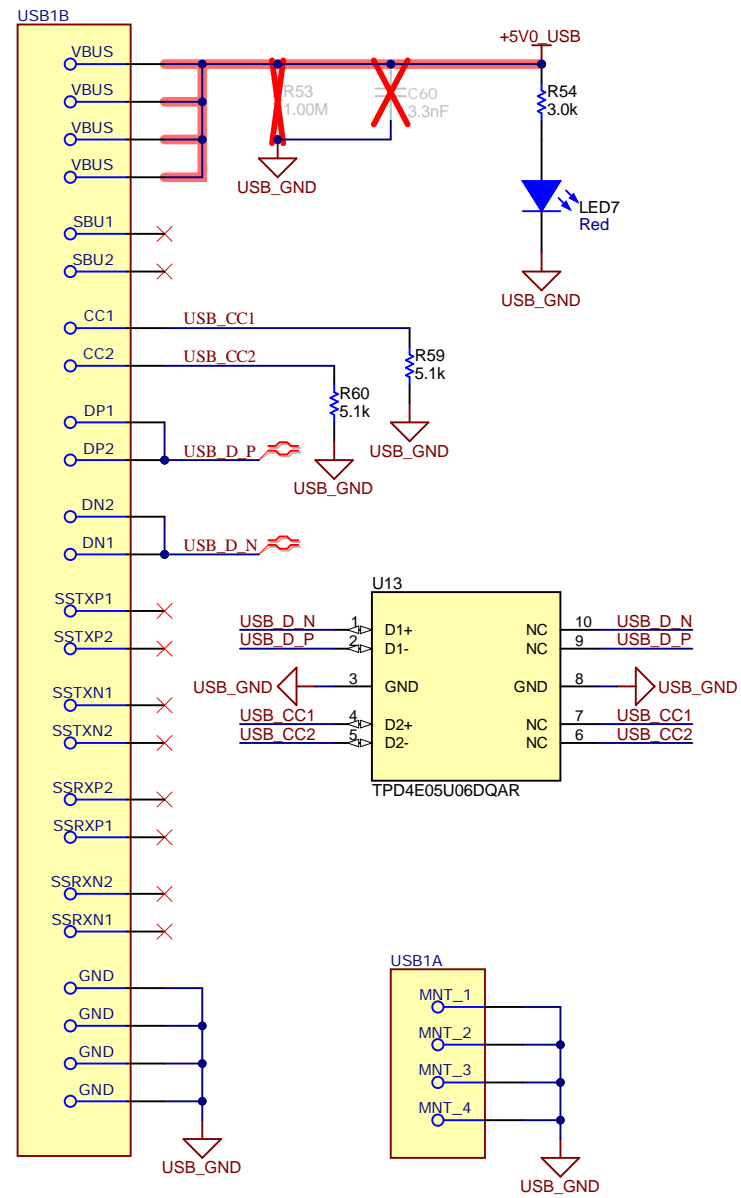
Mode #	GPIO24	GPIO32	Boot Mode
00	0	0	Boot from Parallel GPIO
01	0	1	Boot from SCI / Wait Mode
02	1	0	Boot from CAN
03	1	1	Boot from Flash



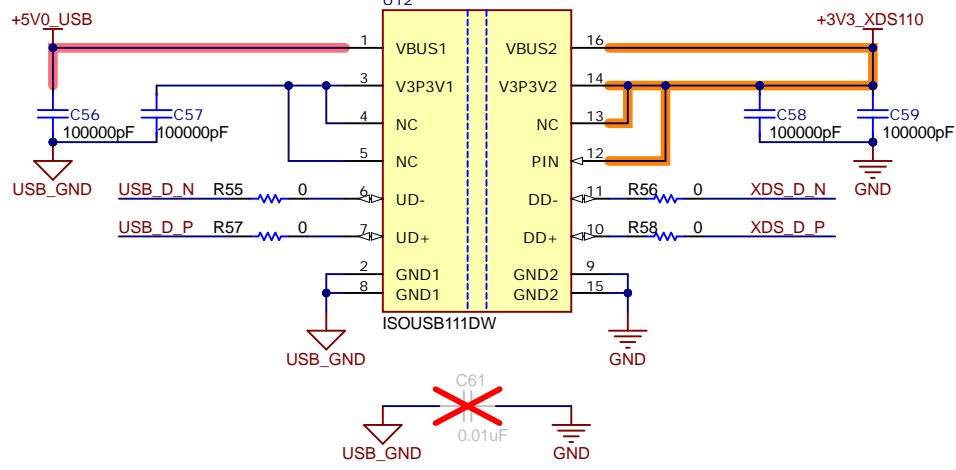
Pin	Signal	Pin	Signal	Pin	Signal
J4_36	GPIO0	63	GPIO23	J5_43	SCIB_RX
J4_39	GPIO1	62	GPIO24	J1_8	BMP1
J4_38	GPIO2	61	GPIO25	J6_58	BMP2
J4_37	GPIO3	60	GPIO26	J2_12	EQEP2I
J8_72	CANA_TX	59	GPIO27	J8_74	EQEP2B
J8_71	CANA_RX	74	GPIO28	J1_3	SCIA_RX
J8_78		80	GPIO29	J1_4	SCIA_TX
J8_77		68	GPIO30	J4_40	PWM_DAC
J2_15	SPIA_SIMO	58	GPIO31	J7_70	BMP2
J1_7	SPIA_CLK	75	GPIO32	J2_18	EQEP2B
J2_14	SPIA_SOMI	76	GPIO33	J2_11	EQEP2B
J2_19	SPIA_STE1	37	GPIO34	J5_50	SCIB_TX
J8_80		36	GPIO40	J5_44	SCIB_TX
J8_79		35	GPIO41	J5_49	
J2_17	EQEP2A	79	GPIO42	J8_73	EQEP2I
J4_35		78	GPIO43	J2_13	
J8_76		39	GPIO44	J5_48	
J8_75		40	GPIO45	J6_51	LED5
J1_9	*I2CA_SCL	50	GPIO46	J4_34	LED5
J1_10	*I2CA_SDA	51	GPIO48	J4_33	LED5
J6_57	EQEP1A	33	GPIO49		
J4_32	EQEP1B	34			
J3_30	PWM_DAC	67			

Pin	Signal	Pin	Signal
GPIO23	65	GPIO23	65
GPIO24	41	GPIO24	41
GPIO25	42	GPIO25	42
GPIO26	43	GPIO26	43
GPIO27	44	GPIO27	44
GPIO28	4	GPIO28	4
GPIO29	3	GPIO29	3
GPIO30	1	GPIO30	1
GPIO31	2	GPIO31	2
GPIO32	49	GPIO32	49
GPIO33	38	GPIO33	38
GPIO34	77	GPIO34	77
GPIO40	64	GPIO40	64
GPIO41	66	GPIO41	66
GPIO42	57	GPIO42	57
GPIO43	54	GPIO43	54
GPIO44	69	GPIO44	69
GPIO45	73	GPIO45	73
GPIO46	6	GPIO46	6
GPIO48	31	GPIO48	31
GPIO49	32	GPIO49	32

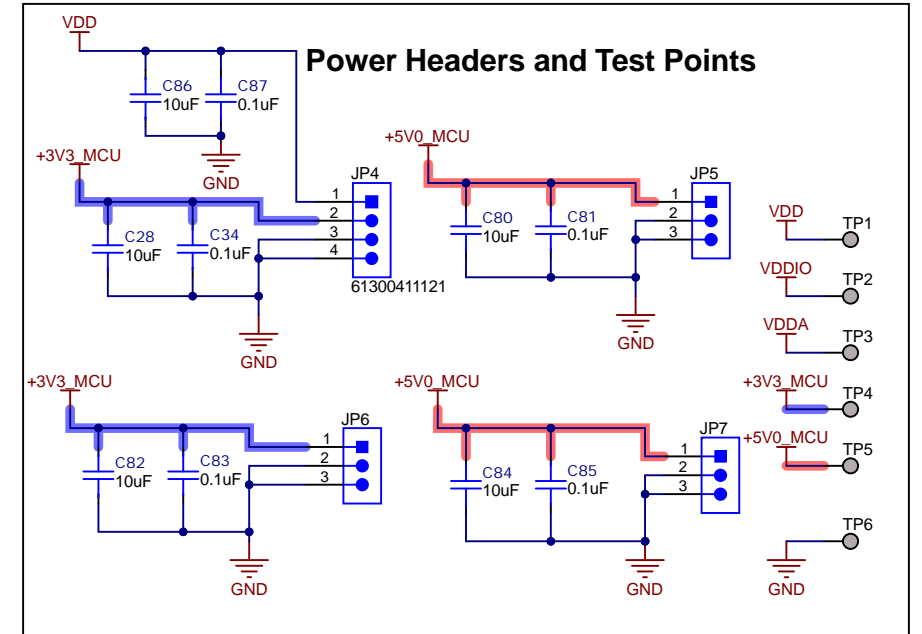
USB-C Connector



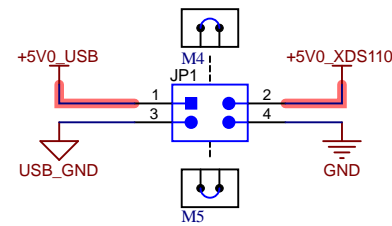
USB Isolation



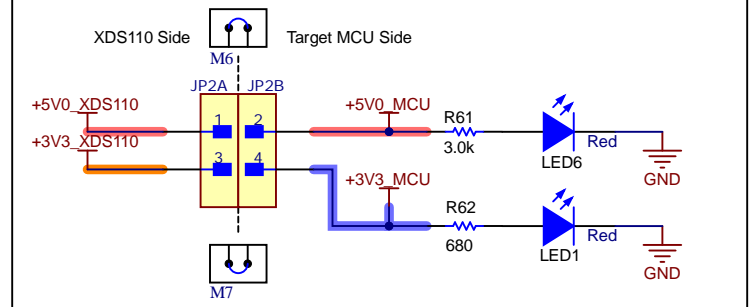
Power Headers and Test Points



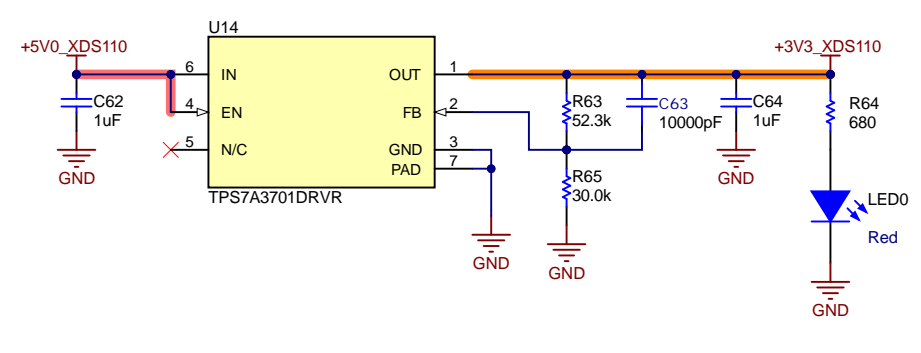
PWR & GND Isolation Boundary



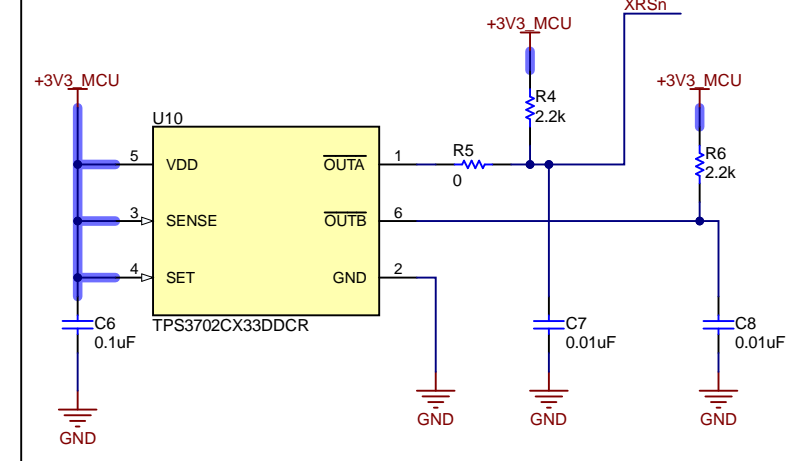
5V & 3.3V Isolation Boundary



5V to 3.3V



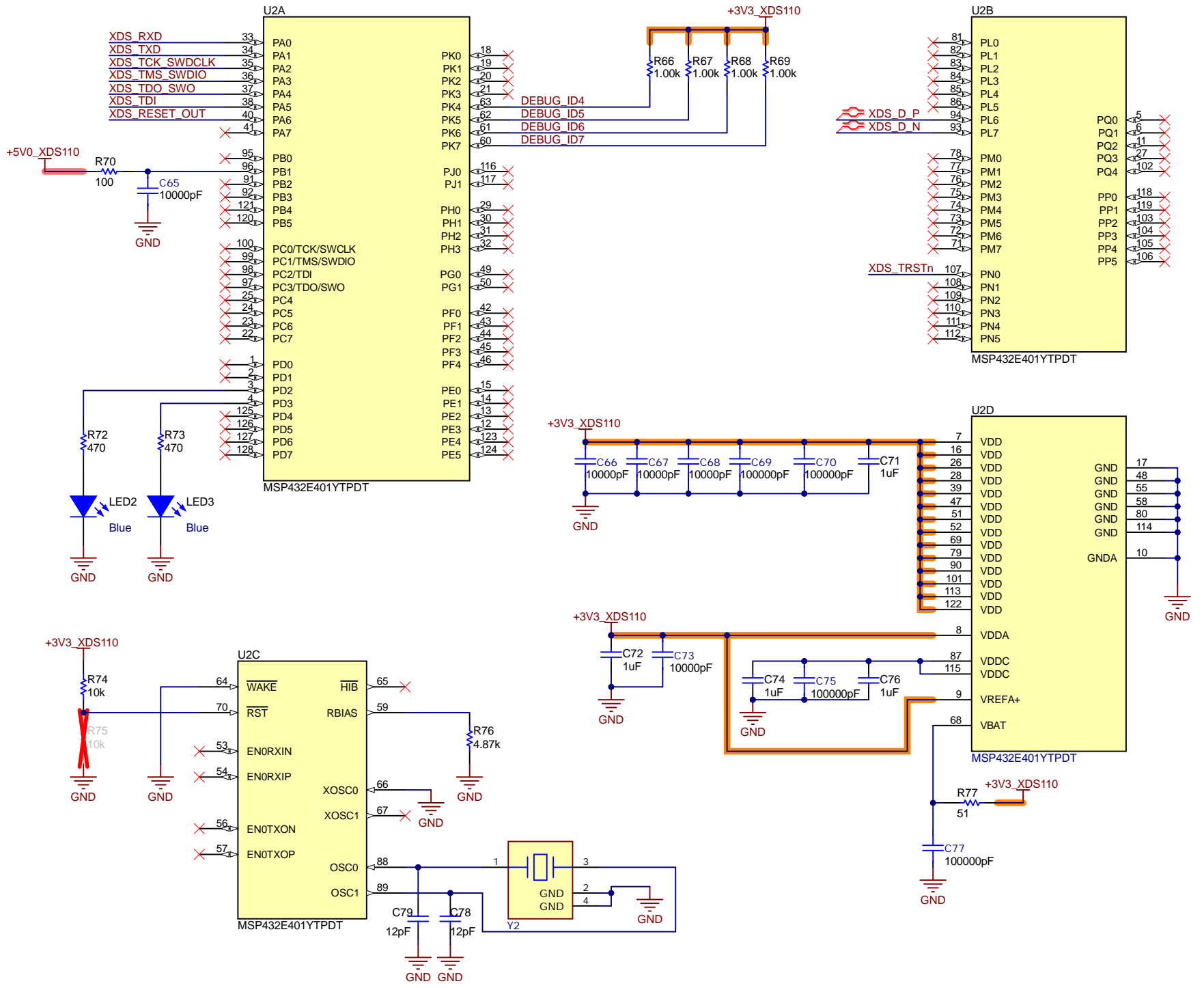
System Supervisory Circuit



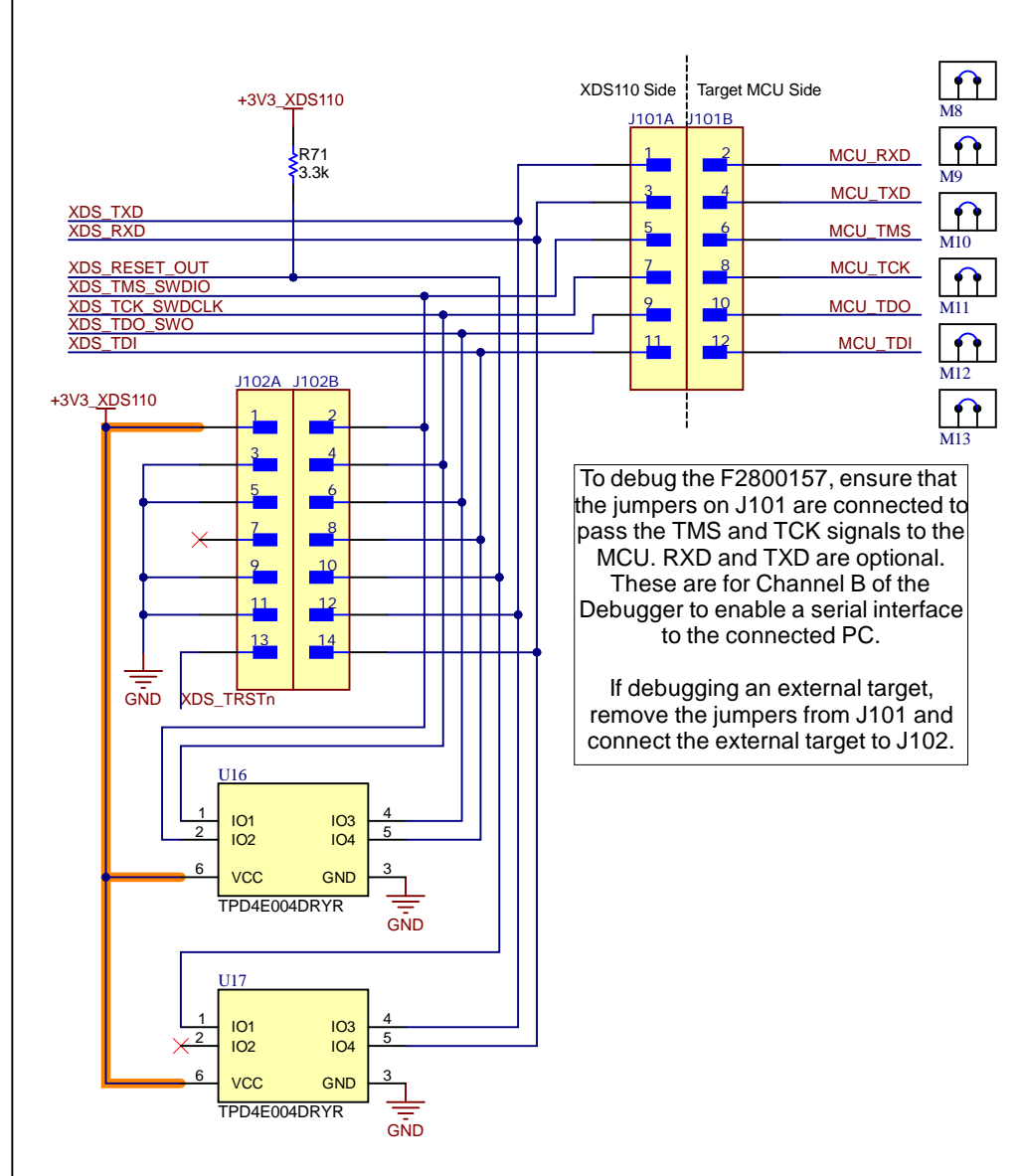
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TID #: Project Title: LAUNCHXL-F2800157	Number: MCU110	Rev: A
SVN Rev: 42c87052b884e9ec54069	Sheet Title: Assembly Diagram	Sheet: 5 of 7
Drawn By: File: MCU110A_USB_and_Power.SchDoc	Engineer: Peter Luong	Contact: http://www.ti.com/support

XDS110 Device



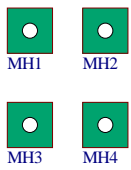
XDS110 Target Interface



To debug the F2800157, ensure that the jumpers on J101 are connected to pass the TMS and TCK signals to the MCU. RXD and TXD are optional. These are for Channel B of the Debugger to enable a serial interface to the connected PC.

If debugging an external target, remove the jumpers from J101 and connect the external target to J102.

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PCB Number: MCU110
PCB Rev: A

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FCC disclaimer

Logo3
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LOGO
WEEE logo

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ZZ1
Assembly Note
These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ2
Assembly Note
These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ3
Assembly Note
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

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TID #:	Project Title: LAUNCHXL-F2800157	Sheet Title:	
Number: MCU110	Rev: A	Assembly Variant: 001	Sheet: 7 of 7
SVN Rev:	File: MCU110A_Hardware.SchDoc	Size: B	http://www.ti.com
Drawn By:	Engineer: Peter Luong	Contact: http://www.ti.com/support	© Texas Instruments 2023

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