

EFM32 Wonder Gecko Starter Kit

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Revision History

Rev.	Description
A00	Initial release. Transition to new STK platform.
A01	P601 Footprint Update, P400 Part change
A02	Change in orientation of battery holder in layout file.

The Silicon Labs logo, consisting of a red stylized 'S' and the text 'SILICON LABS' in black.

Designed
ANK

Size
A3

Approved
RGU

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Board Name
EFM32 Wonder Gecko Starter Kit

Page Title
Title Page

Board Number
BRD2400B

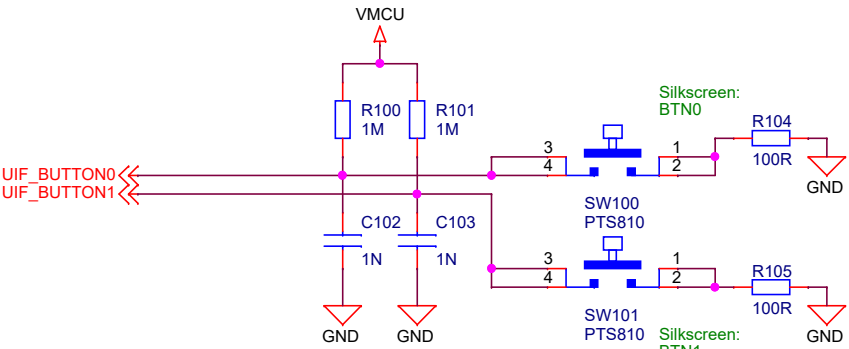
Revision
A02

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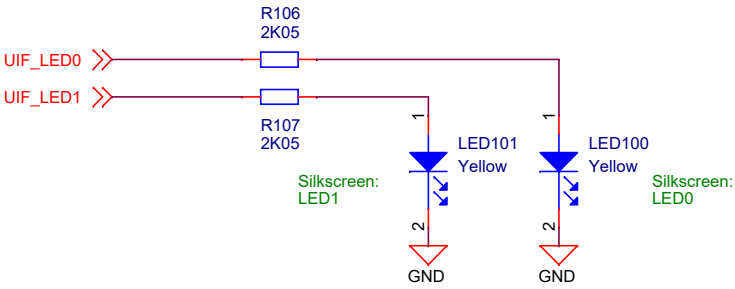
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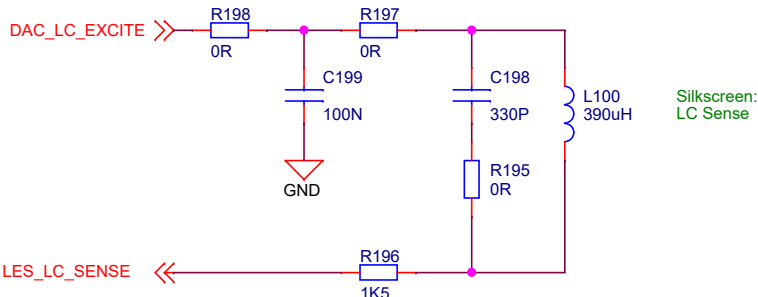
Push Buttons



LEDs



LESENSE LC-Sensor



OPAMP Connection Footprint

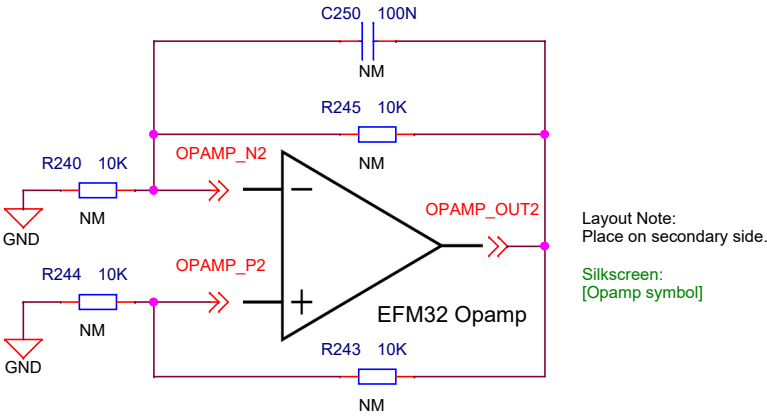
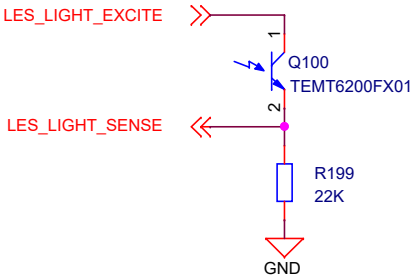
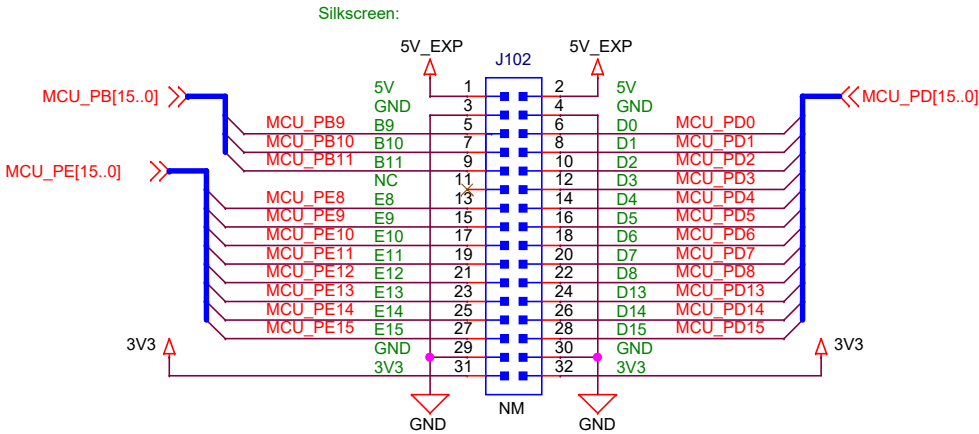


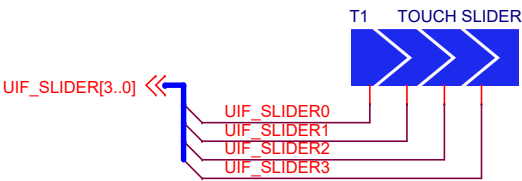
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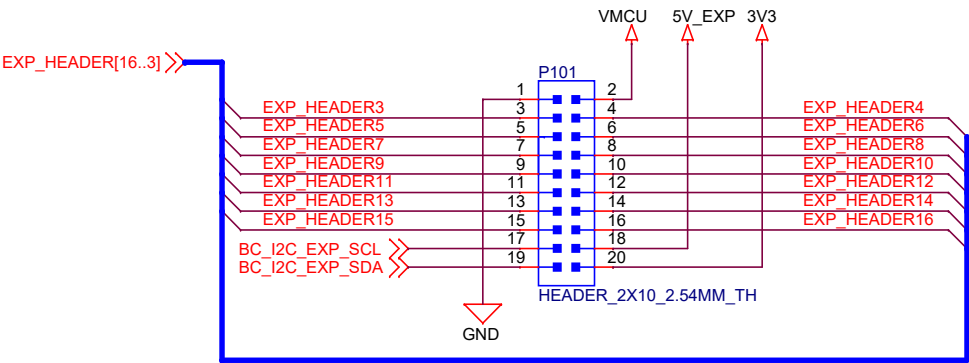
Breakout Pads



Touch Slider



EXP Header



EXP Header Functionality

Top Row			
2	VMCU		
4	PD0	US1_TX	ADC0_CH0
6	PD1	US1_RX	ADC0_CH1
8	PD2	US1_CLK	ADC0_CH2
10	PD3	US1_CS	ADC0_CH3
12	PD4	LEU0_TX	ADC0_CH4
14	PD5	LEU0_RX	ADC0_CH5
16	PD6	I2C0_SDA#1	
18	5V		
20	3V3		
Bottom Row			
1	GND		
3	PC0		ACMP0_CH4
5	PC3		ACMP0_CH5
7	PC4		ACMP1_CH4
9	PC5		ACMP0_O
11	PB11		DAC0_OUT0
13	PB12		DAC0_OUT1
15	PD7	I2C0_SCL#1	
17	Reserved for EXP Board Identification		
19	Reserved for EXP Board Identification		



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Board Name

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User Interface

Board Number

BRD2400B

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A02

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Size

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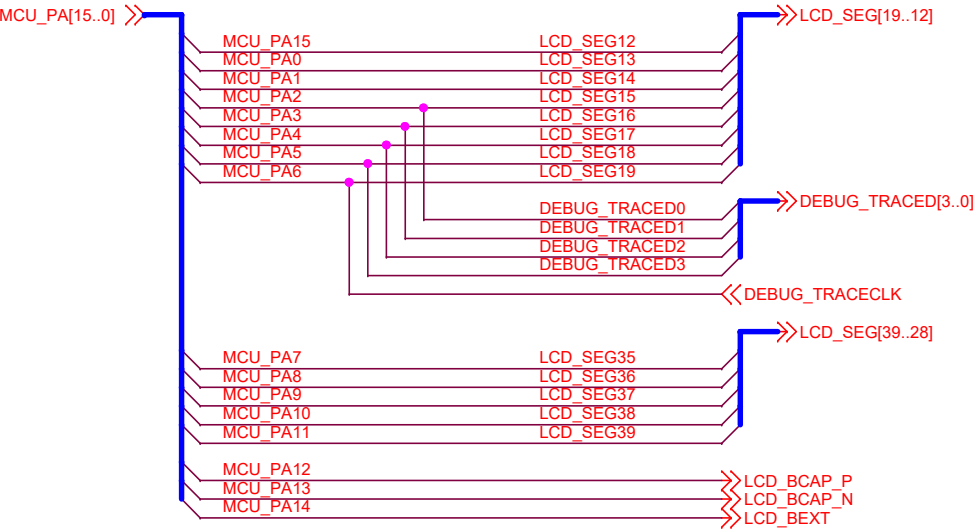
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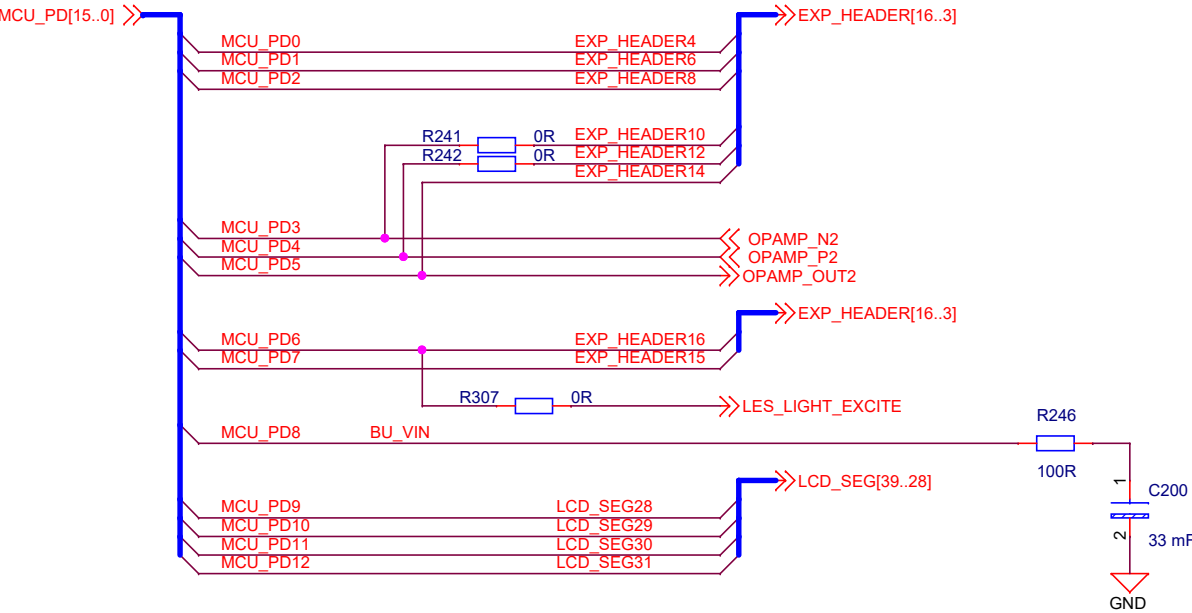
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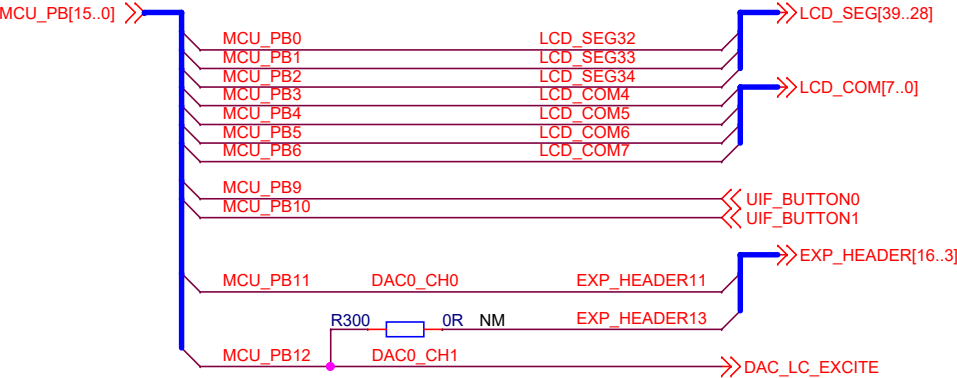
PA Connections



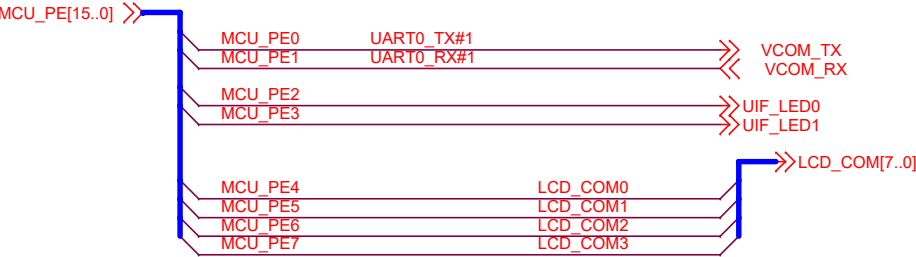
PD Connections



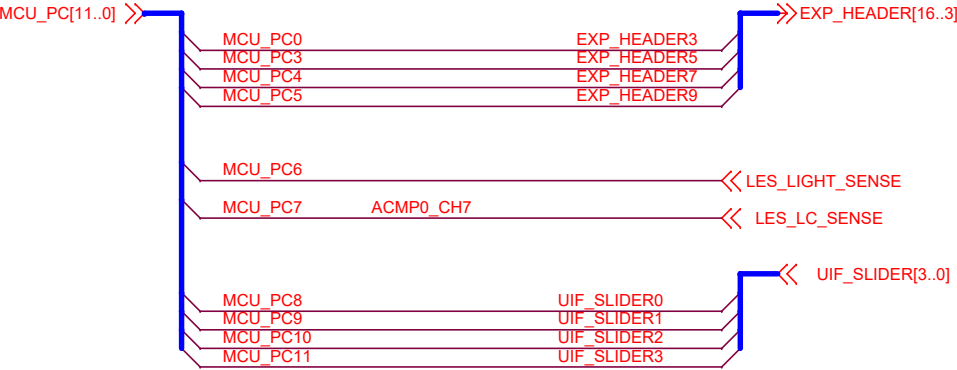
PB Connections



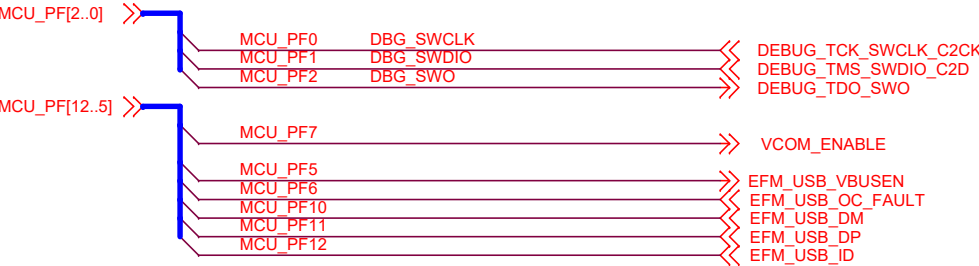
PE Connections



PC Connections

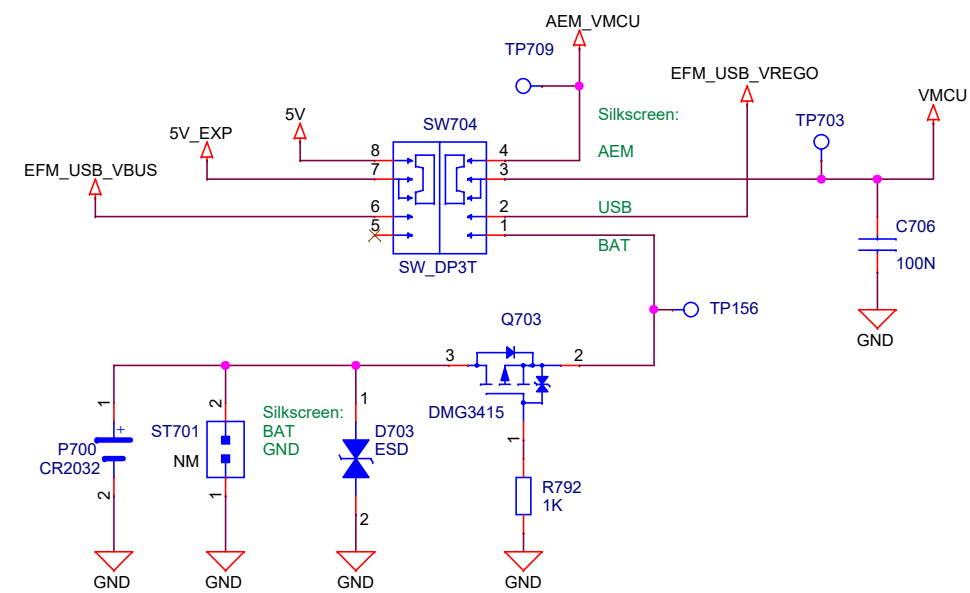


PF Connections



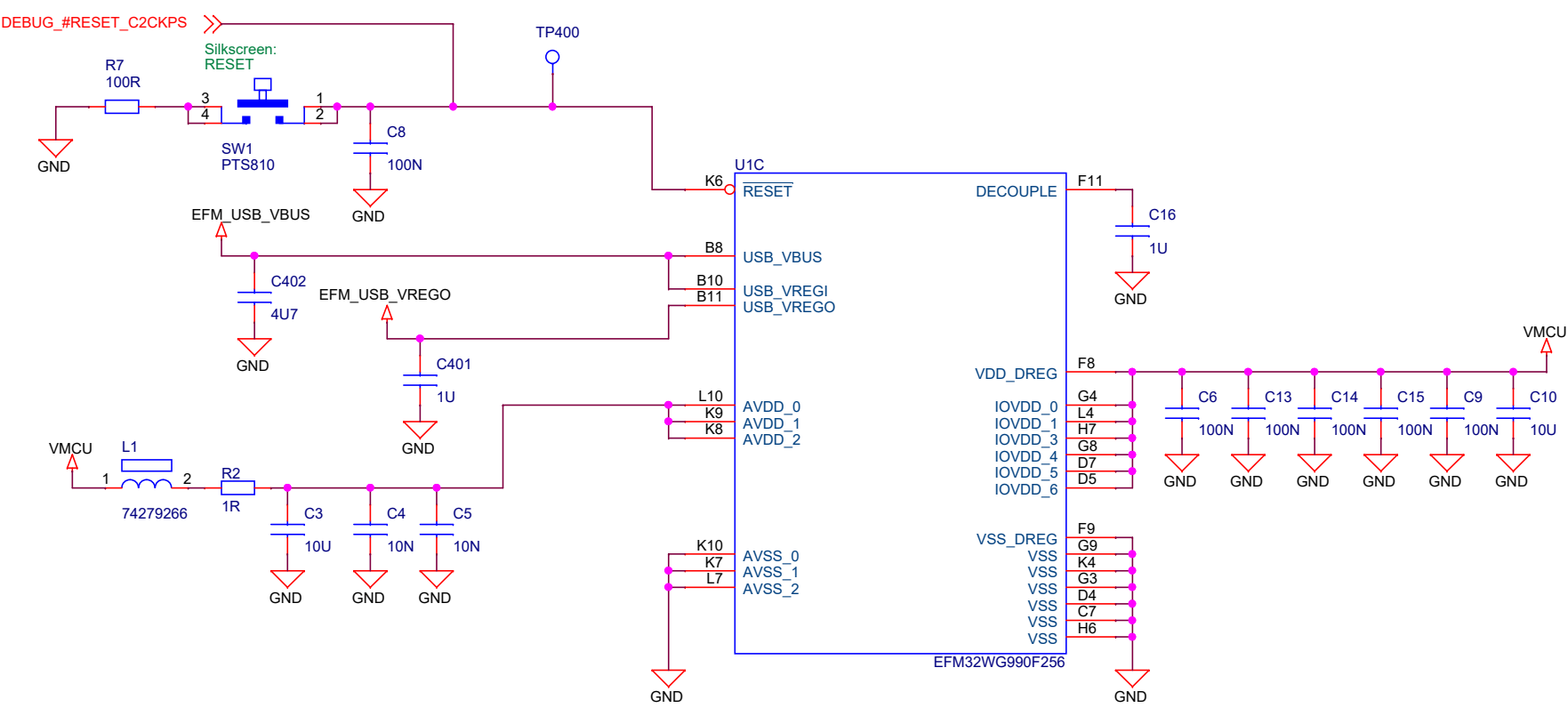
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		EFM32 Signal Assignments	
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Power Selection Switch: AEM/USB/BAT

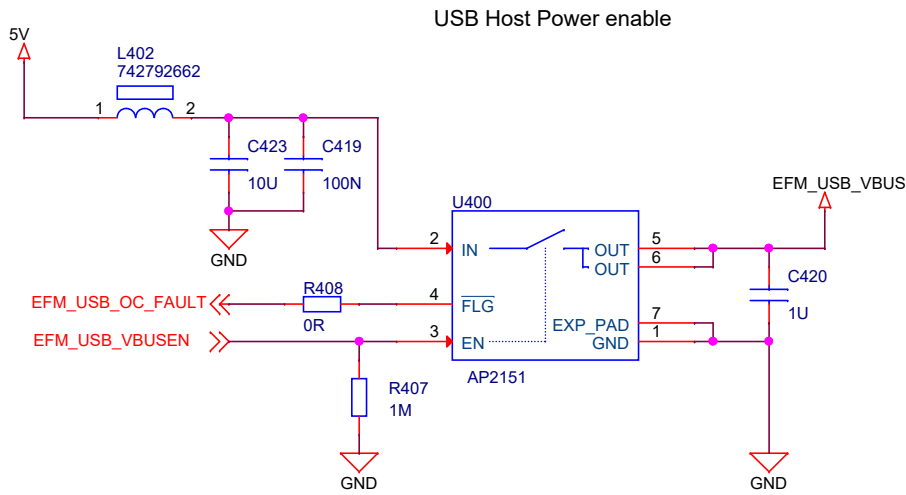
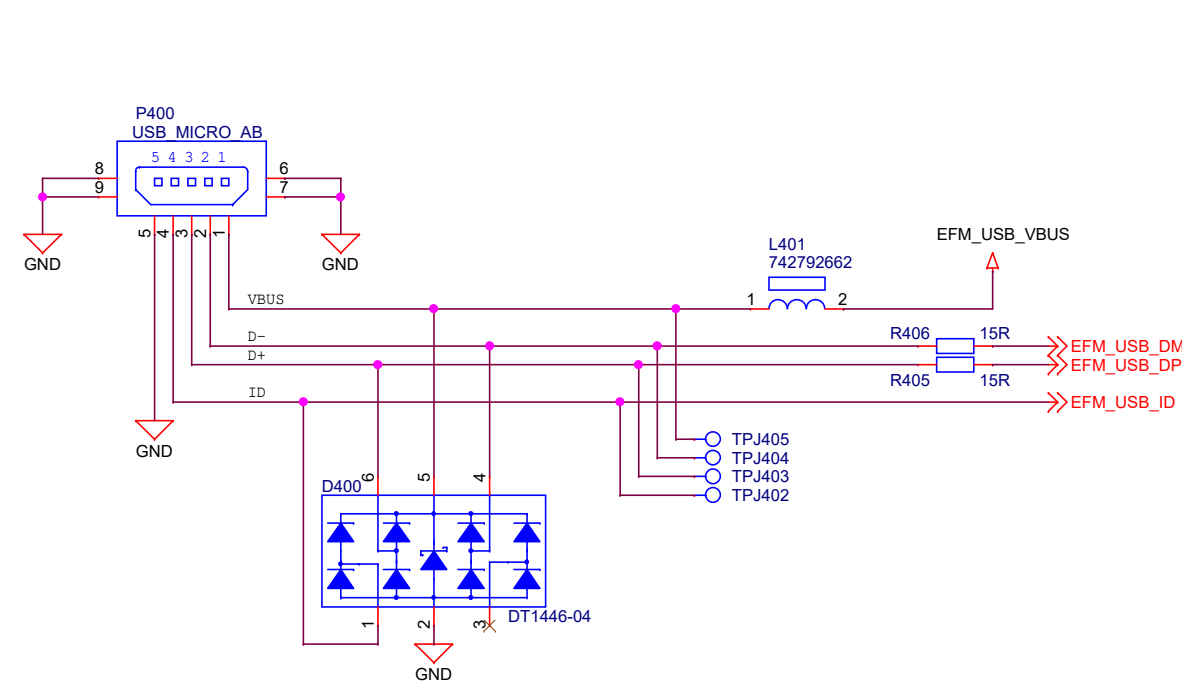


SWITCH POS	MODE DESCRIPTION
AEM	AEM Enabled, VMCU sourced from external 3.3V LDO powered by BC USB 5V supply
USB	AEM Disabled, VMCU sourced from internal 3.3V LDO powered by MCU USB 5V supply, EXP header and breakout 5V sourced from MCU USB 5V supply
BAT	AEM Disabled, VMCU sourced from coin-cell battery or external power supply

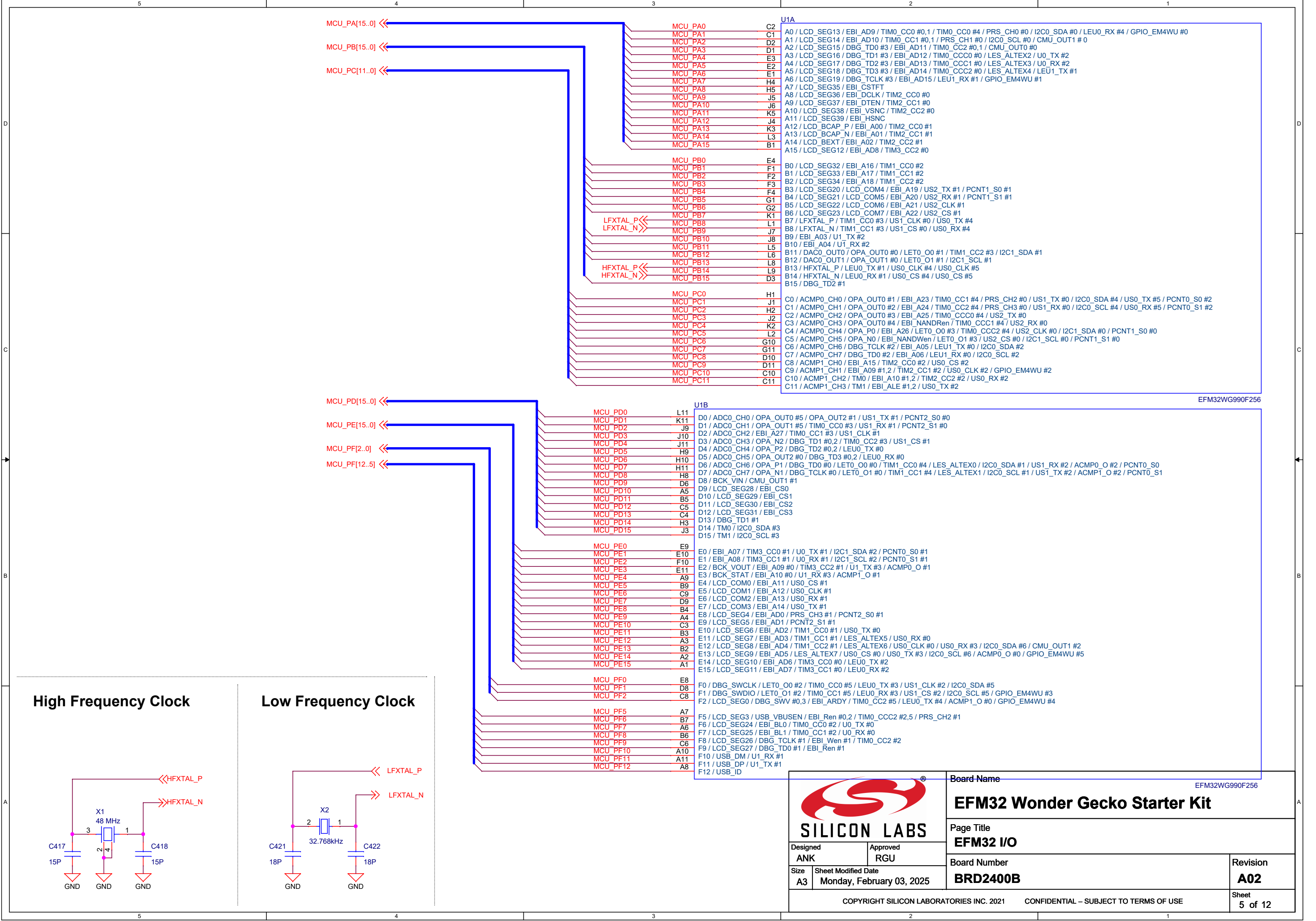
EFM32 Power and Decoupling



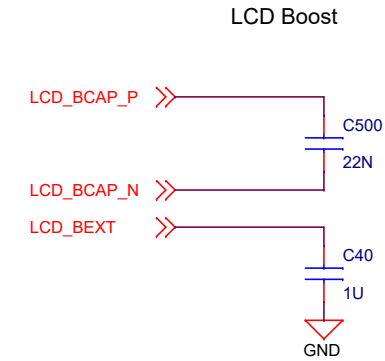
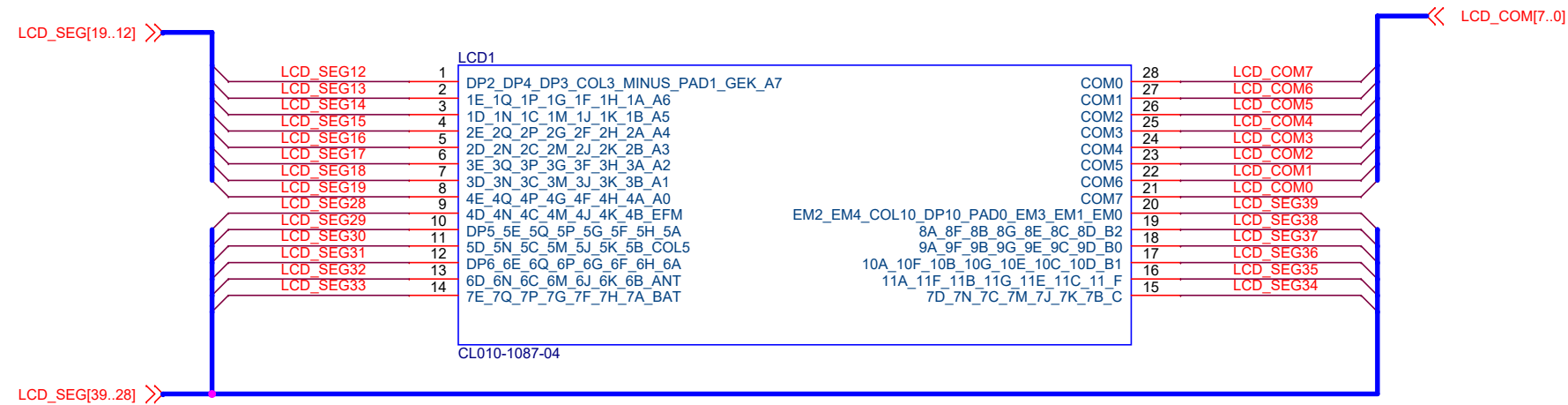
EFM32 USB Interface



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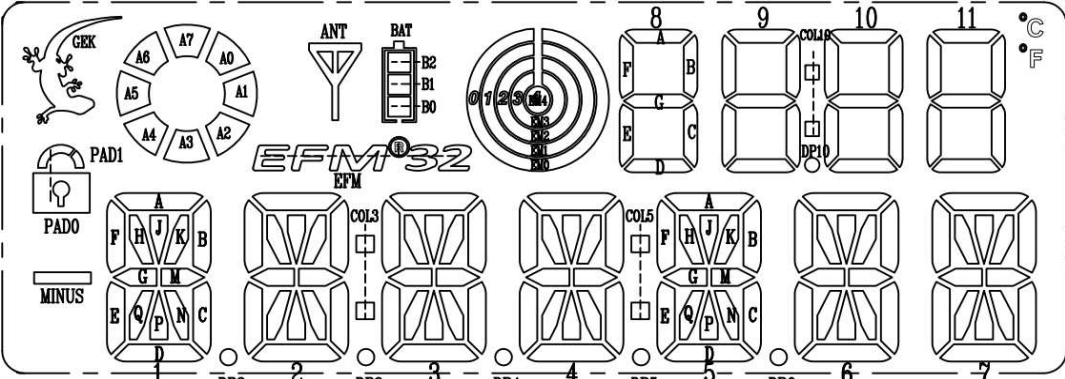
Segment LCD Signal Connections



Segment Names

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14
---	S0	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13
COM0	DP2	1 E	1 D	2 E	2 D	3 E	3 D	4 E	4 D	DP5	5 D	DP6	6 D	7 E
COM1	DP4	1 Q	1 N	2 Q	2 N	3 Q	3 N	4 Q	4 N	5 E	5 N	6 E	6 N	7 Q
COM2	DP3	1 P	1 C	2 P	2 C	3 P	3 C	4 P	4 C	5 Q	5 C	6 Q	6 C	7 P
COM3	COL3	1 G	1 M	2 G	2 M	3 G	3 M	4 G	4 M	5 P	5 M	6 P	6 M	7 G
COM4	MINUS	1 F	1 J	2 F	2 J	3 F	3 J	4 F	4 J	5 G	5 J	6 G	6 J	7 F
COM5	PAD1	1 H	1 K	2 H	2 K	3 H	3 K	4 H	4 K	5 F	5 K	6 F	6 K	7 H
COM6	GEK	1 A	1 B	2 A	2 B	3 A	3 B	4 A	4 B	5 H	5 B	6 H	6 B	7 A
COM7	A7	A6	A5	A4	A3	A2	A1	A0	EFM	5 A	COL5	6 A	ANT	BAT

PIN	15	16	17	18	19	20	21	22	23	24	25	26	27	28
---	S14	S15	S16	S17	S18	S19	COM7	COM6	COM5	COM4	COM3	COM2	COM1	COM0
COM0	7 D	11 A	10 A	9 A	8 A	EM2								COM0
COM1	7 N	11 F	10 F	9 F	8 F	EM4							COM1	
COM2	7 C	11 B	10 B	9 B	8 B	COL10						COM2		
COM3	7 M	11 G	10 G	9 G	8 G	DP10					COM3			
COM4	7 J	11 E	10 E	9 E	8 E	PAD0				COM4				
COM5	7 K	11 C	10 C	9 C	8 C	EM3			COM5					
COM6	7 B	11 D	10 D	9 D	8 D	EM1		COM6						
COM7	°C	°F	B1	B0	B2	EM0	COM7							





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Segment LCD

Board Number

BRD2400B

Revision

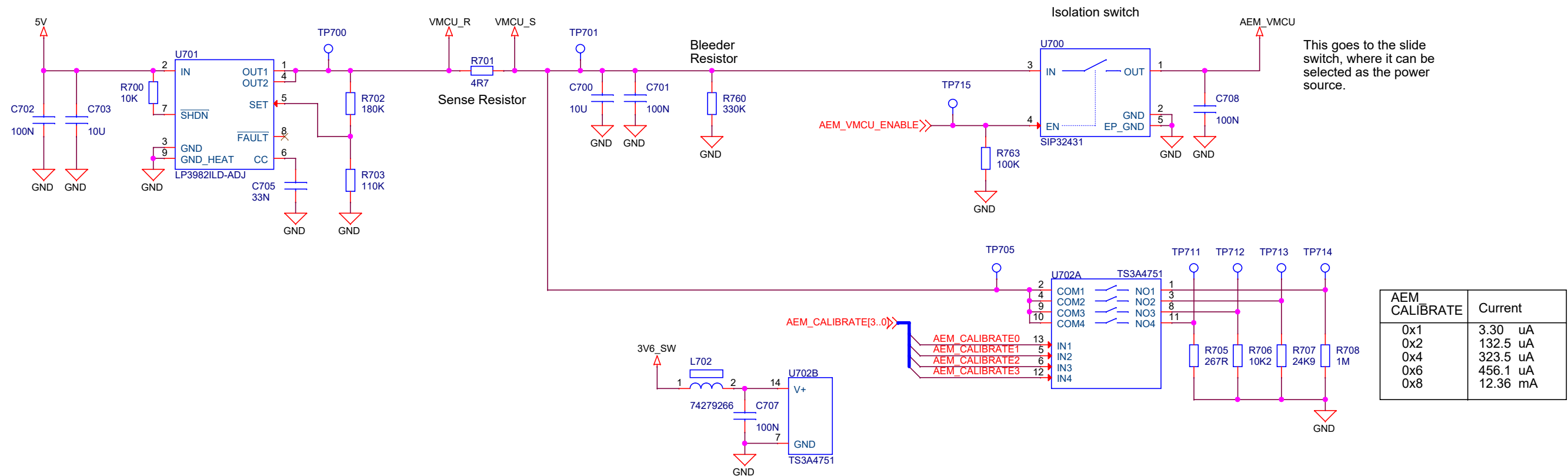
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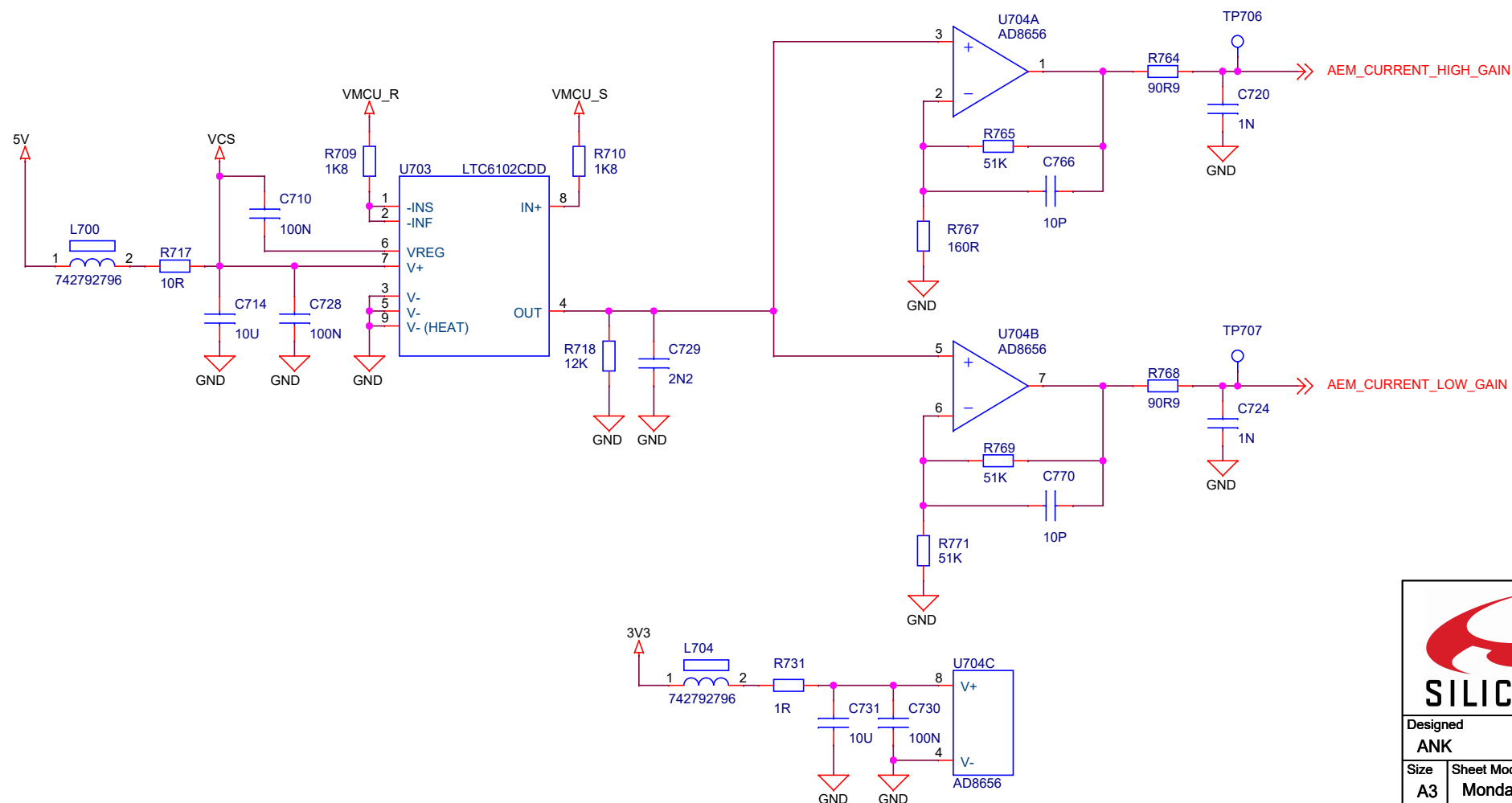
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MCU Power Regulator



Advanced Energy Monitoring



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Target Voltage Supply & AEM

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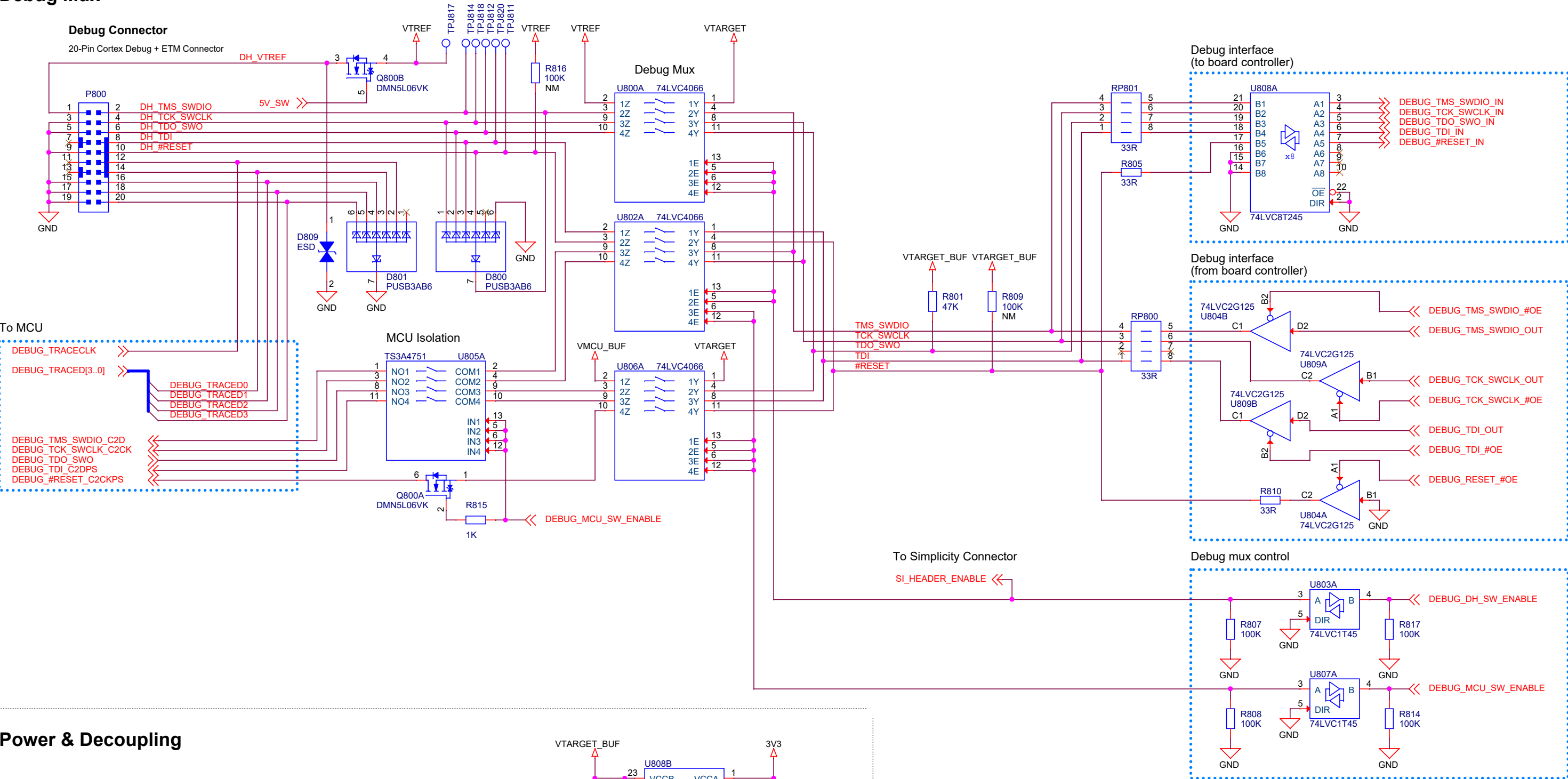
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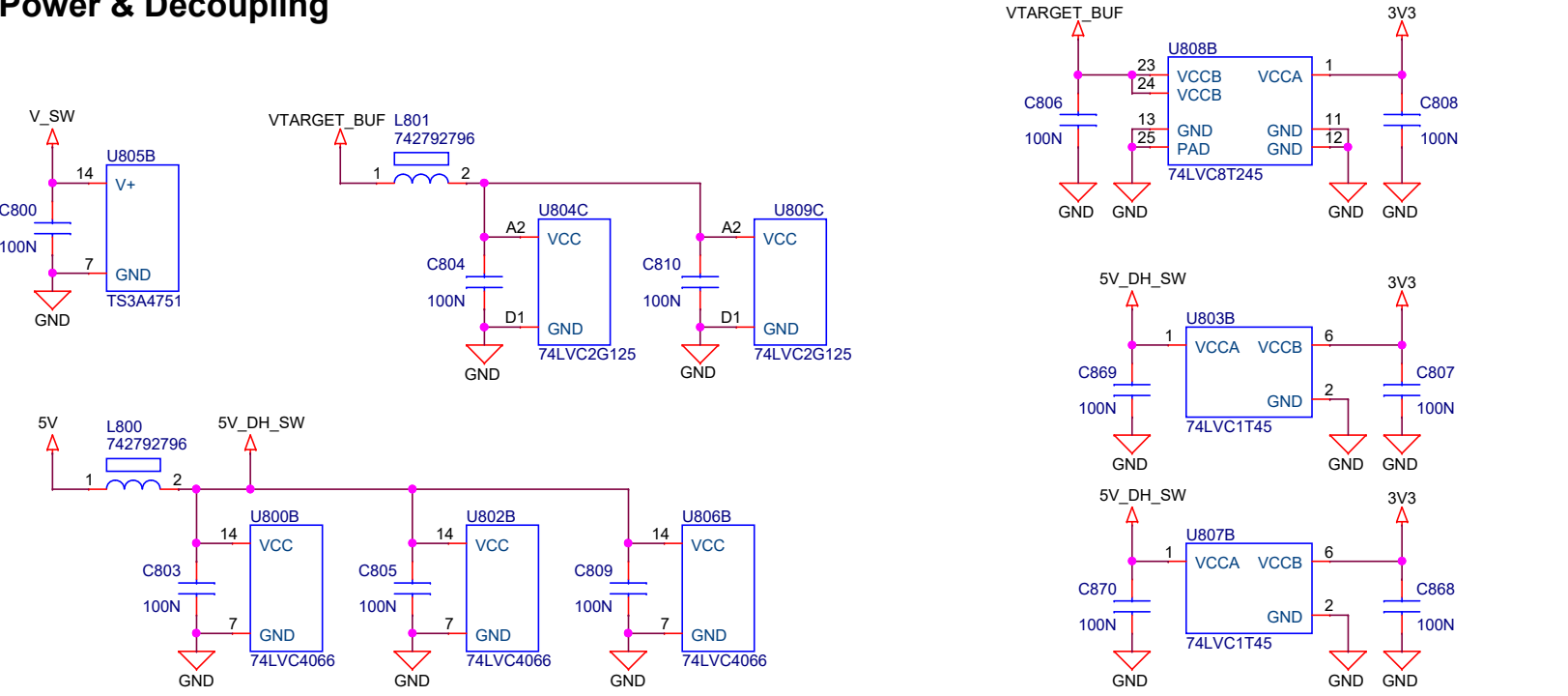
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Debug Mux



Power & Decoupling



Debug Mode	DH_SW_ENABLE	MCU_SW_ENABLE	Debug Mode	VTARGET Source	VTREF Source
MCU	0	1	MCU	VMCU	None
Debug Out	1	0	Debug Out	VTREF (EXT)	External
Debug In	1	1	Debug In	VMCU	VMCU_BUF
Debug Off	0	0	Debug Off	None	None



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Debug Interface

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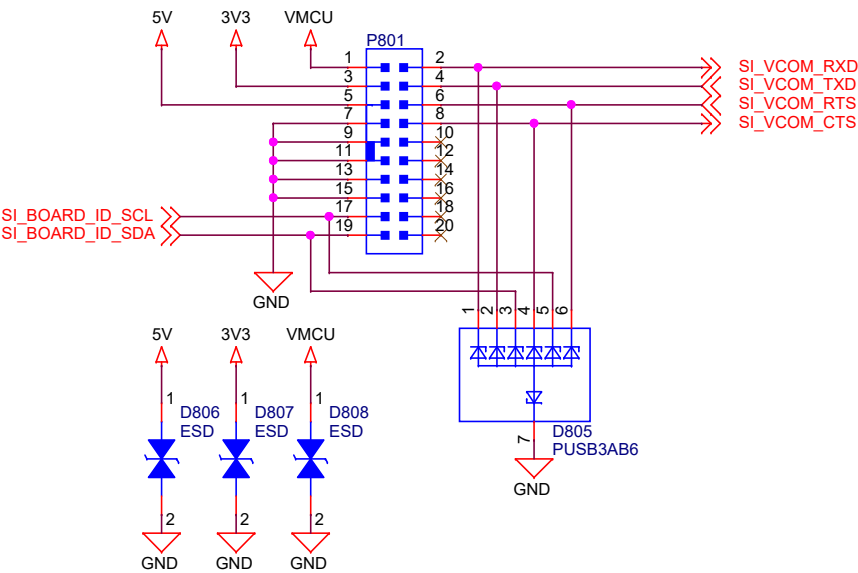
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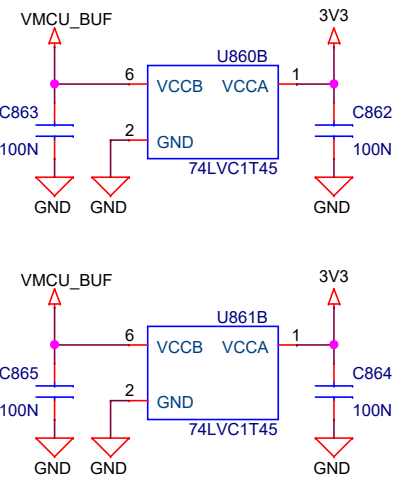
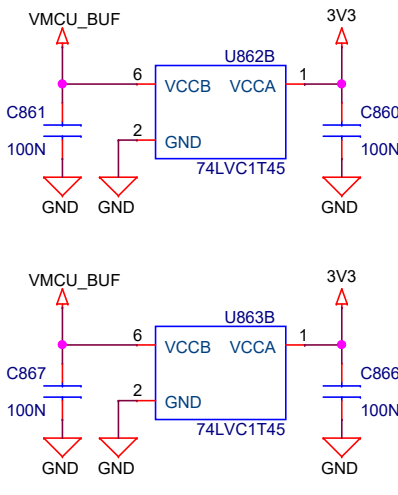
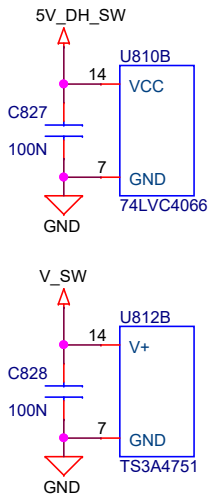
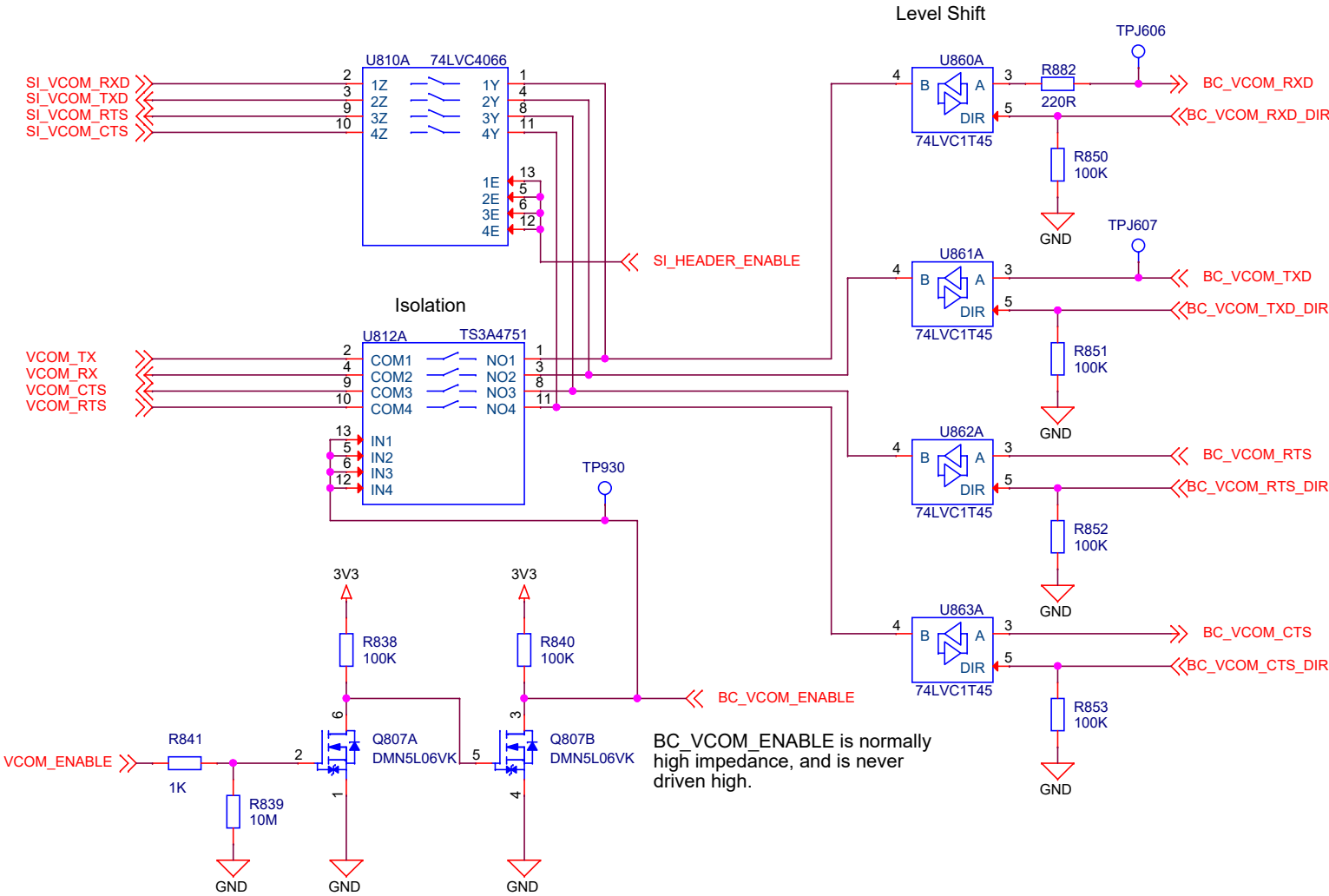
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Simplicity Connector

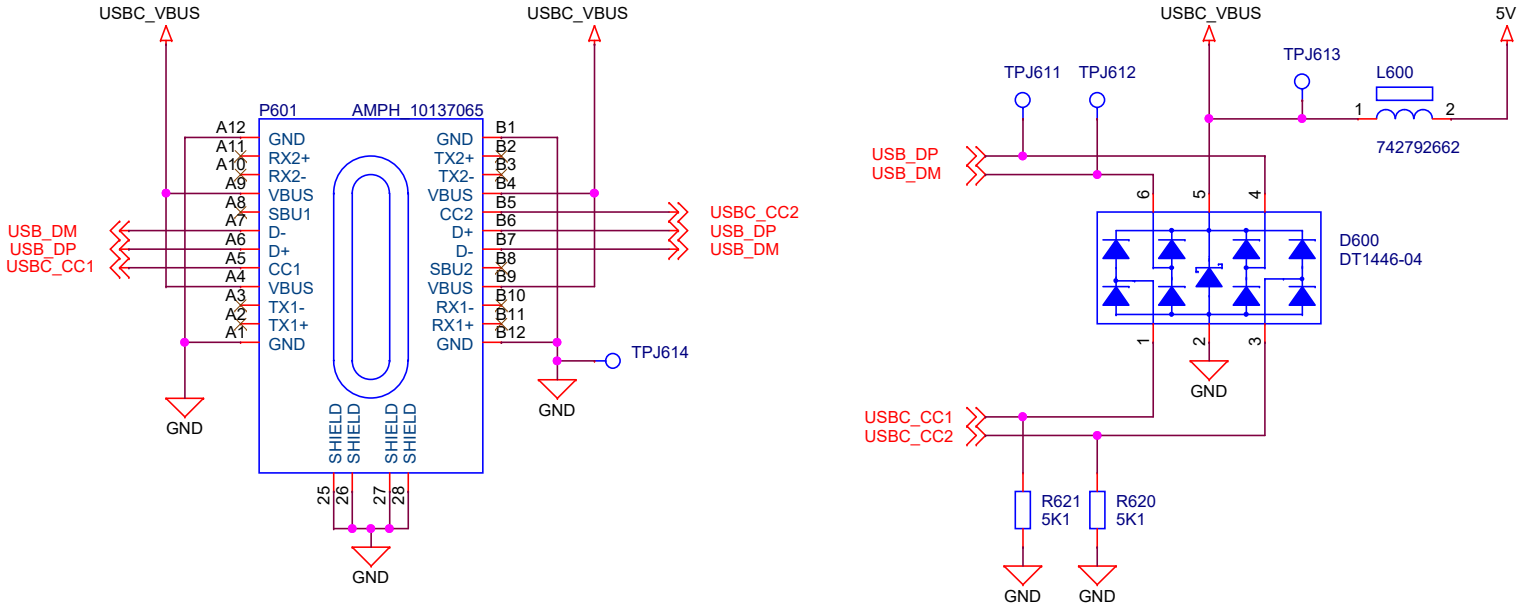


VCOM Interface

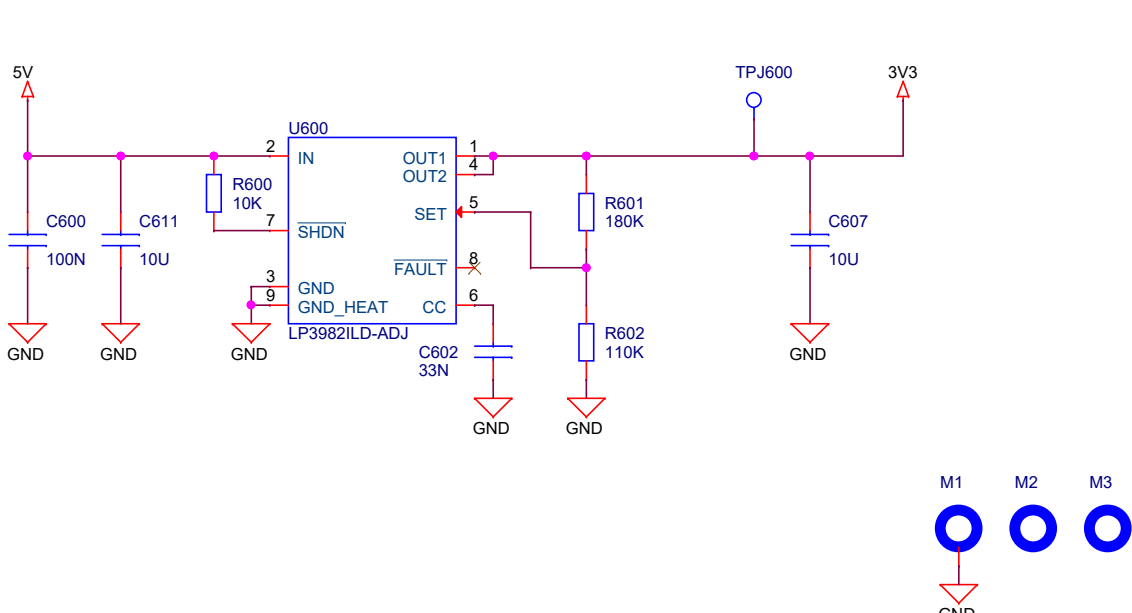


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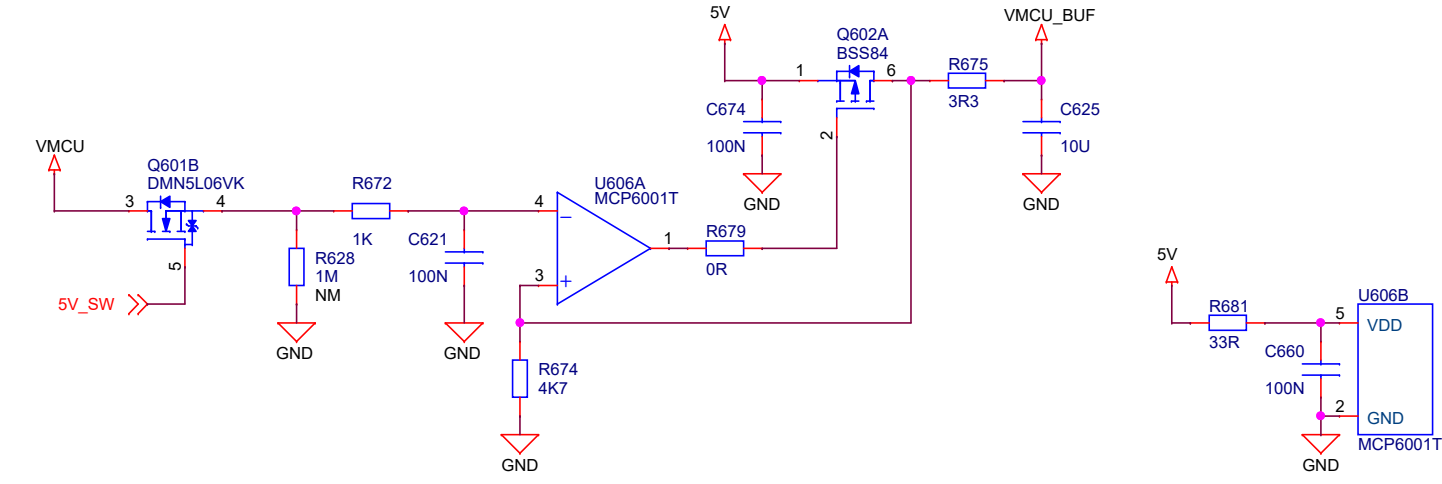
J-Link USB Port



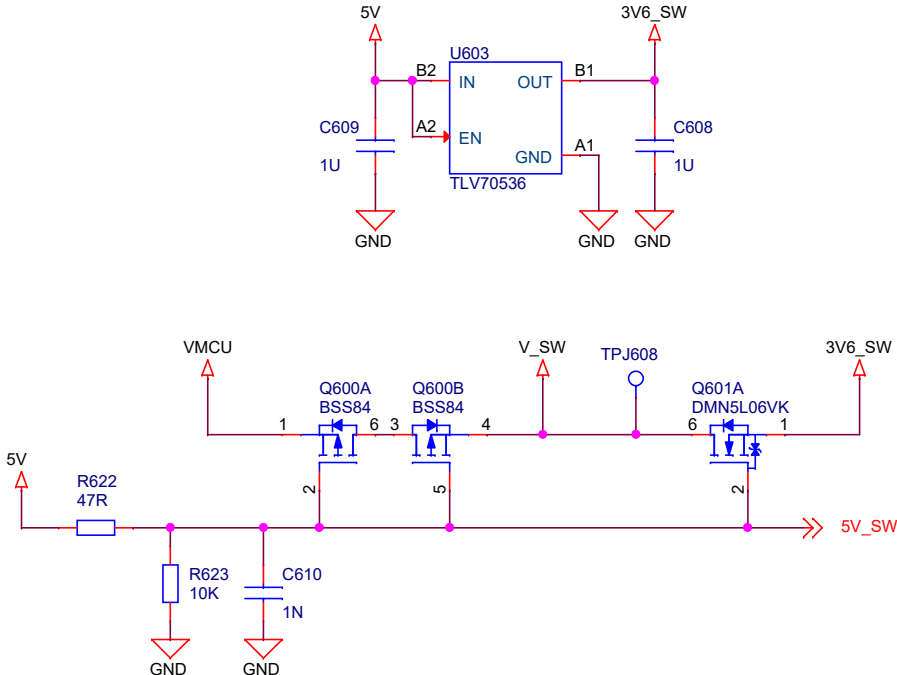
3V3 Regulator



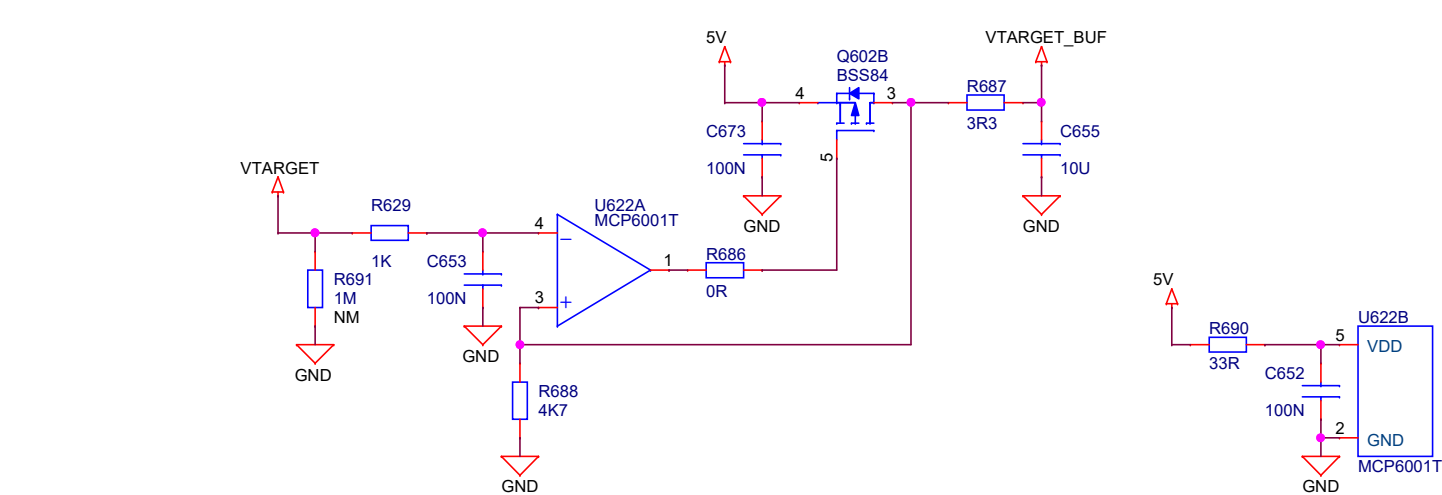
VMCU Voltage Mirror



Power Supply for Analog Switches



VTarget Voltage Mirror



J-Link USB Cable	Q600 State	Q601A State	V_SW	VMCU_SENSE
Connected	OFF	ON	3.6V	VMCU
Disconnected	ON	OFF	VMCU	Isolated

Isolation switches are powered by 3V6_SW when the USB cable is connected, otherwise by VMCU.



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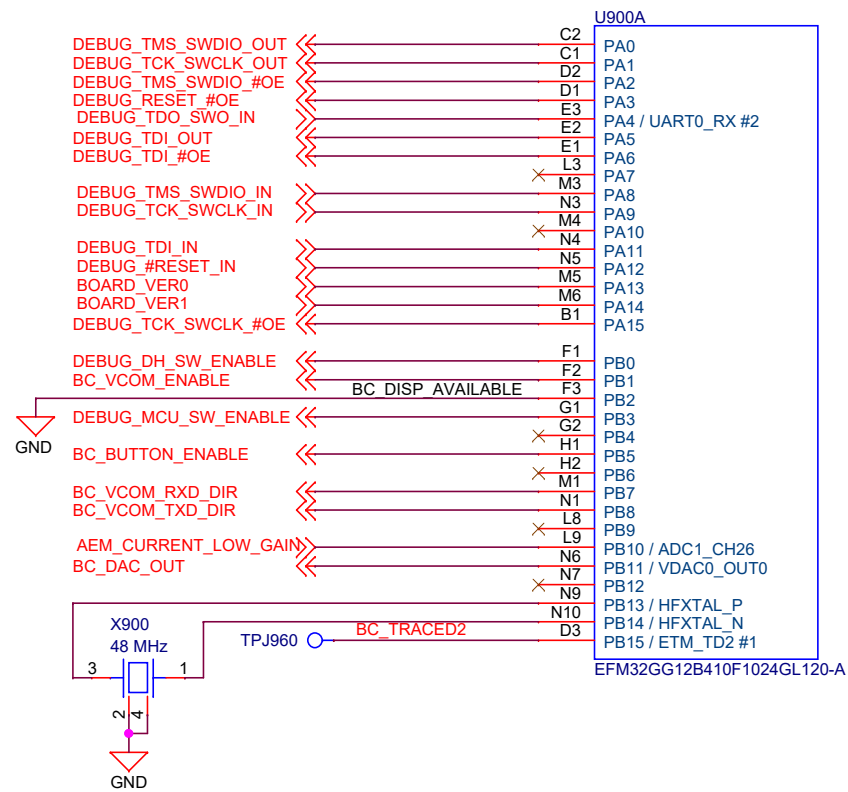
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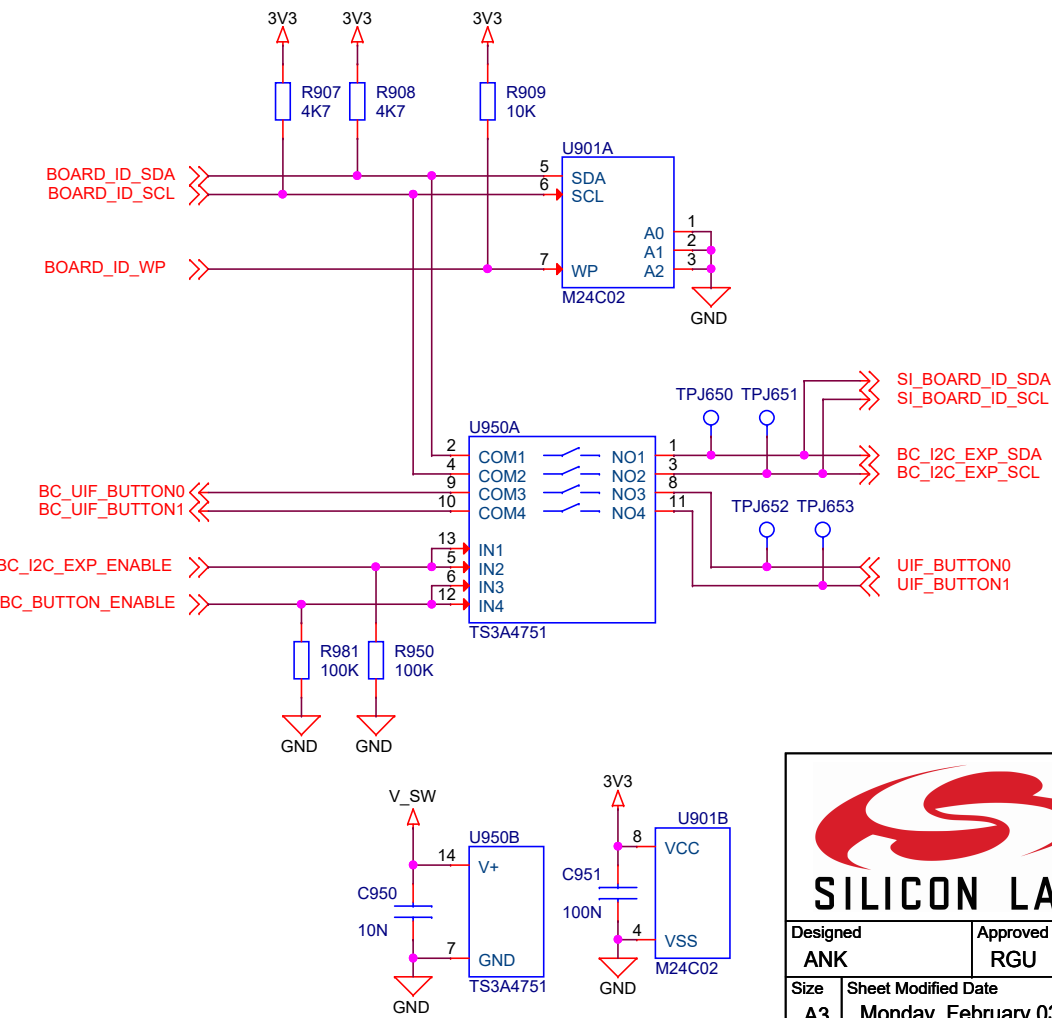
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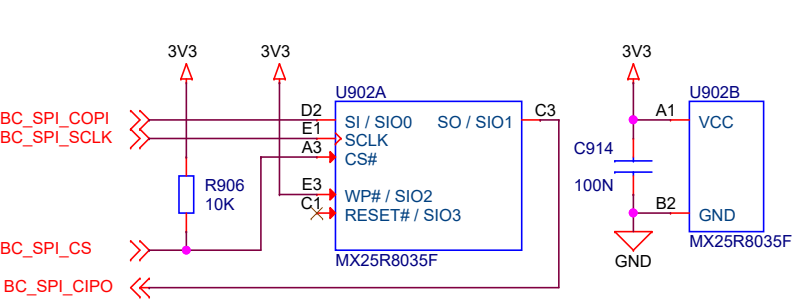
Board Controller



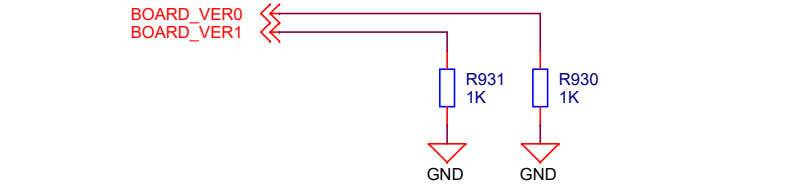
Board ID & Button Isolation



BC Serial Flash

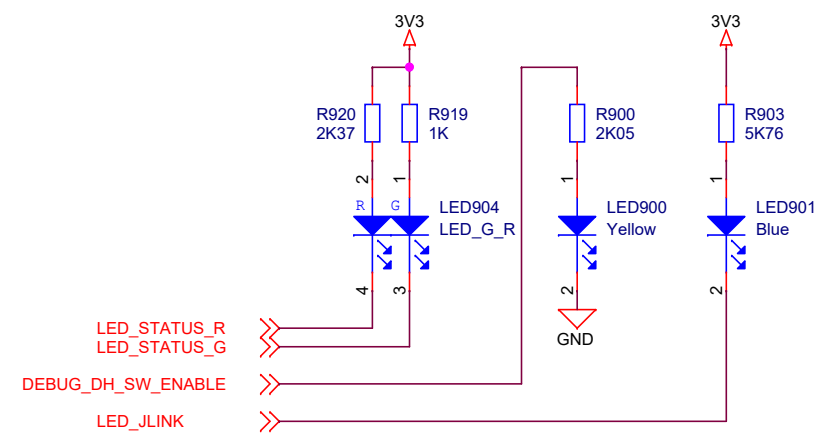


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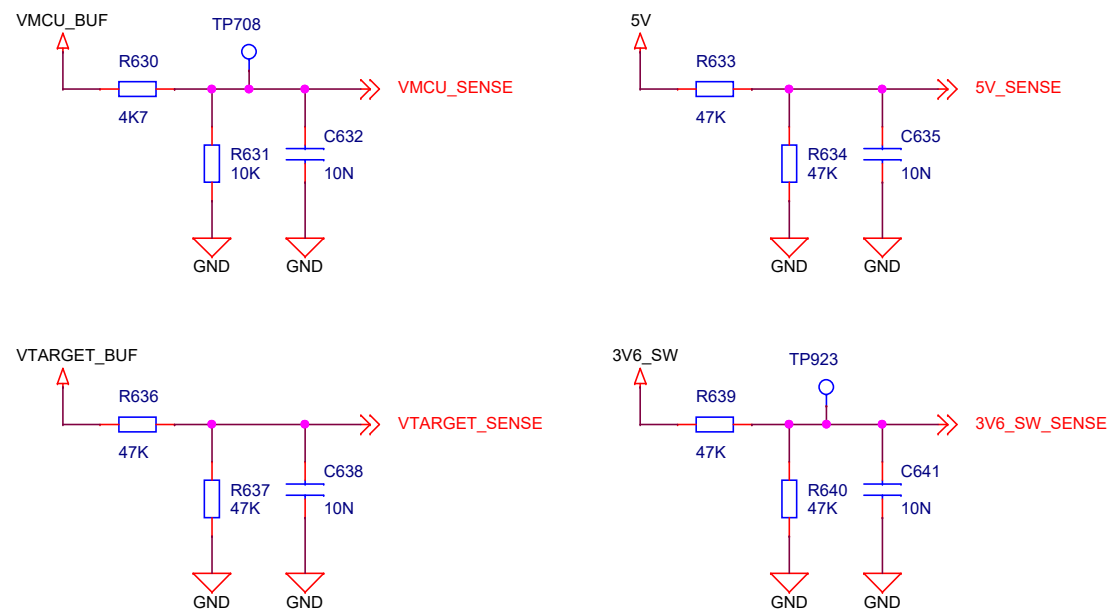


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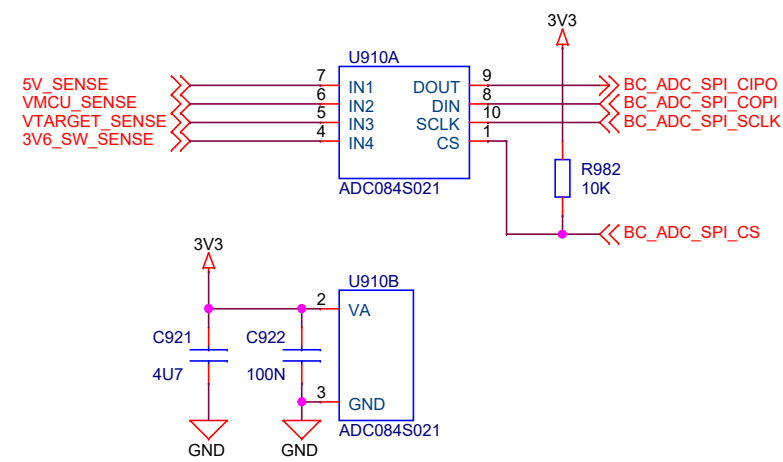
Indicator LEDs



BC Voltage Sense



BC Voltage Sense ADC



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