MG24 Dev Kit

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Revision History

Rev.	Description
A00	Initial version.
A01	U1 with new factory calibrations

PCB1

PCB2601A

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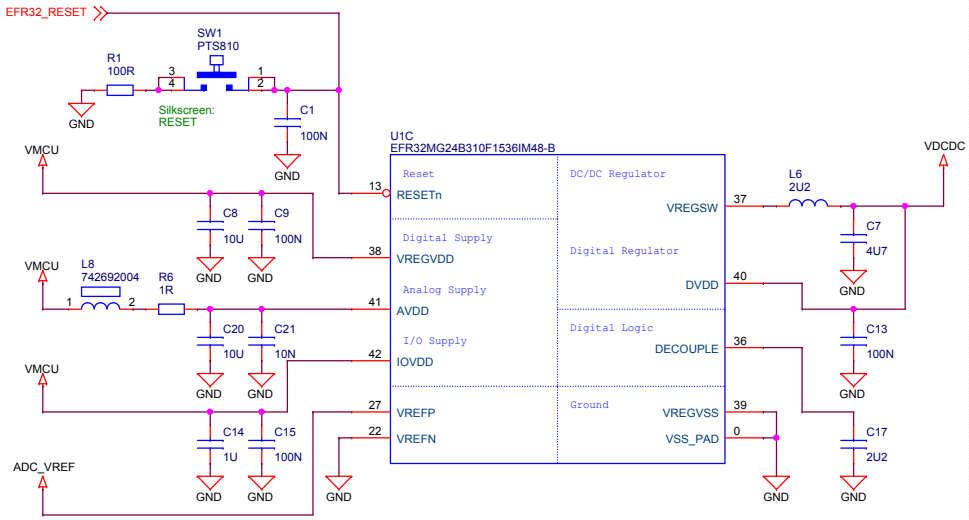
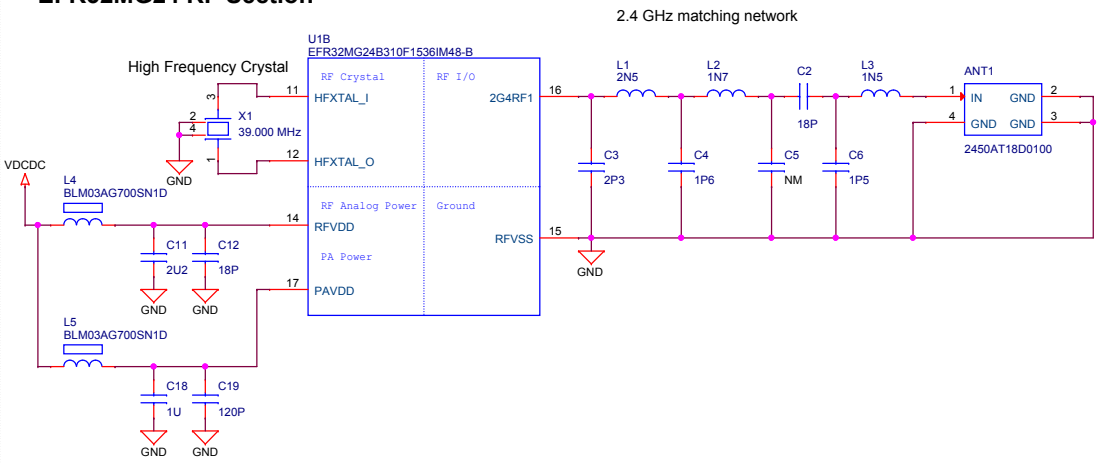
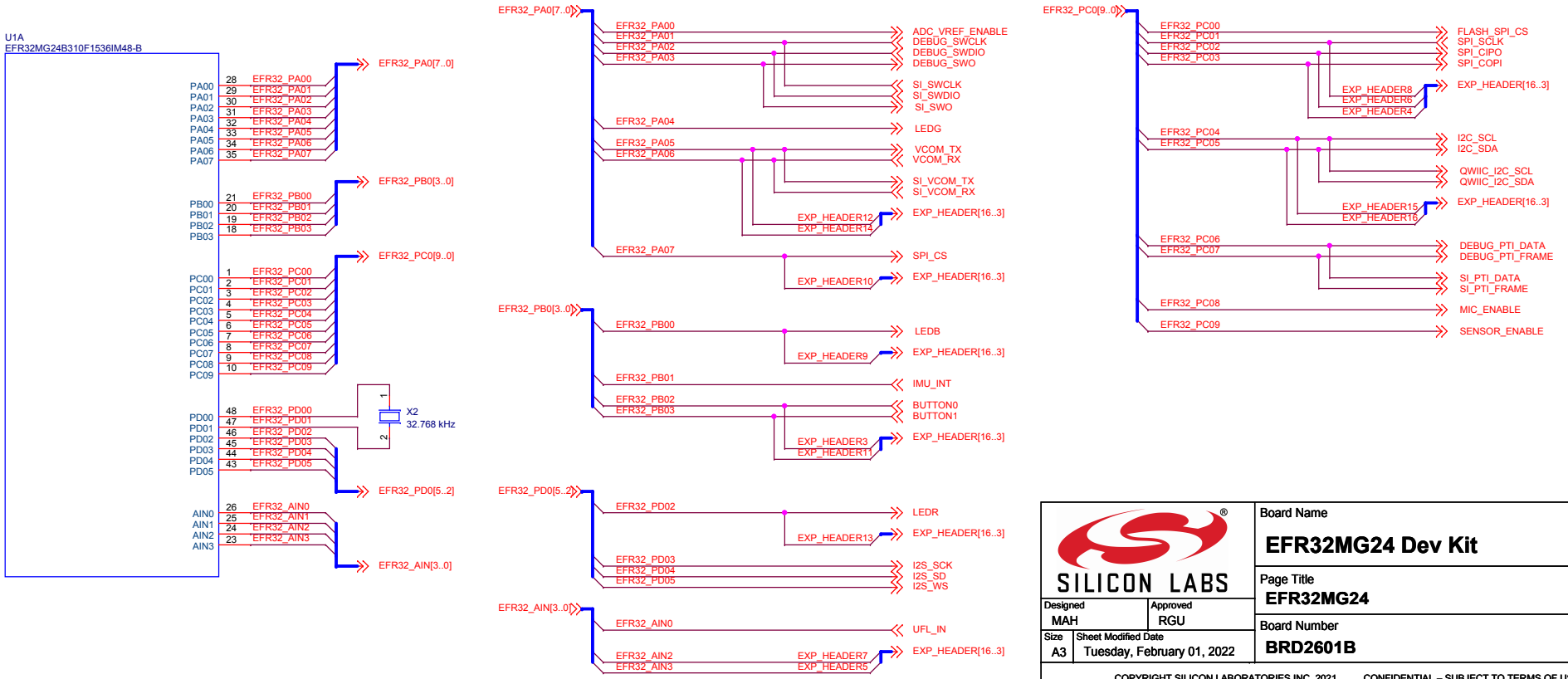
EFR32MG24 Power Section



EFR32MG24 RF Section



EFR32MG24 I/O & Signal Assignments



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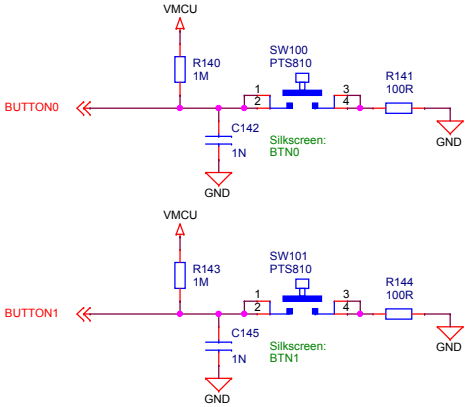
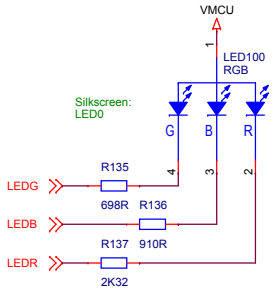
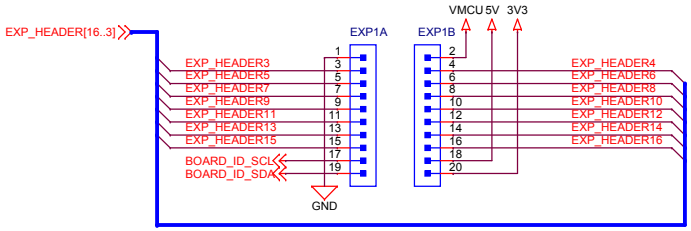
Push Buttons



RGB LED



Breakout Pads - EXP Header



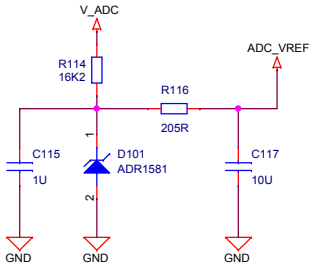
EXP Header Functionality

2	VMCU	
4	PC03	SPI_COPI
6	PC02	SPI_CIPO
8	PC01	SPI_SCK
10	PA07	SPI_CS
12	PA05	UART_TX
14	PA06	UART_RX
16	PC05	I2C_SDA
18	5V	
20	3V3	

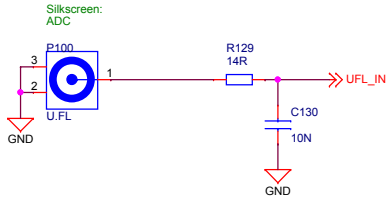
1	GND	
3	PB02	GPIO
5	AIN3	ADC_INN
7	AIN2	ADC_INP
9	PB00	GPIO
11	PB03	GPIO
13	PD02	GPIO
15	PC04	I2C_SCL
17	Reserved for EXP Board Identification	
19	Reserved for EXP Board Identification	

All signals routed to the EXP header are used on the board as well.
Take care to avoid signal conflicts (see page 2 for signal assignments).

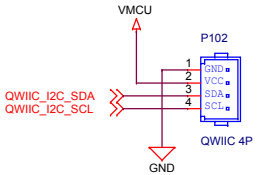
ADC VREF



U.FL ADC Connector



Qwiic Connector



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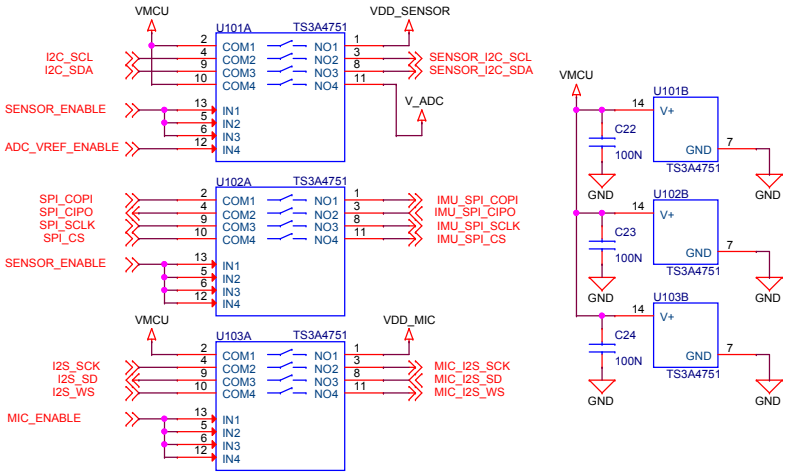
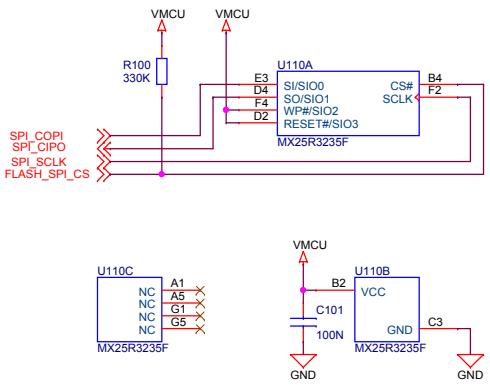
Sensor Power/Isolation

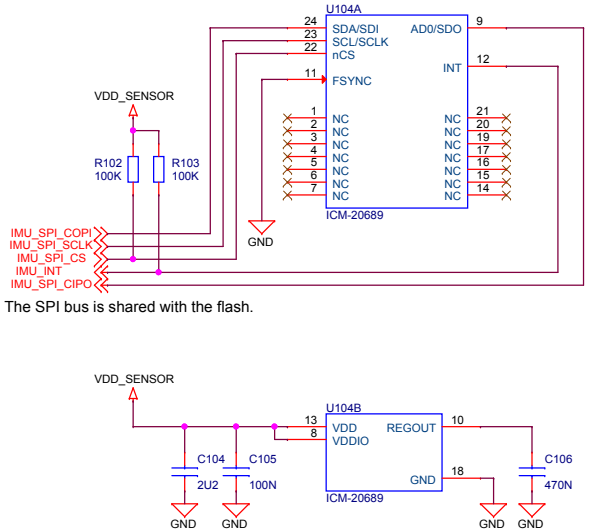


There are no pull-down resistors on the enable pins, and software should therefore immediately drive the lines to prevent the pins from floating.

SPI Flash



6-axis Inertial Sensor (IMU)



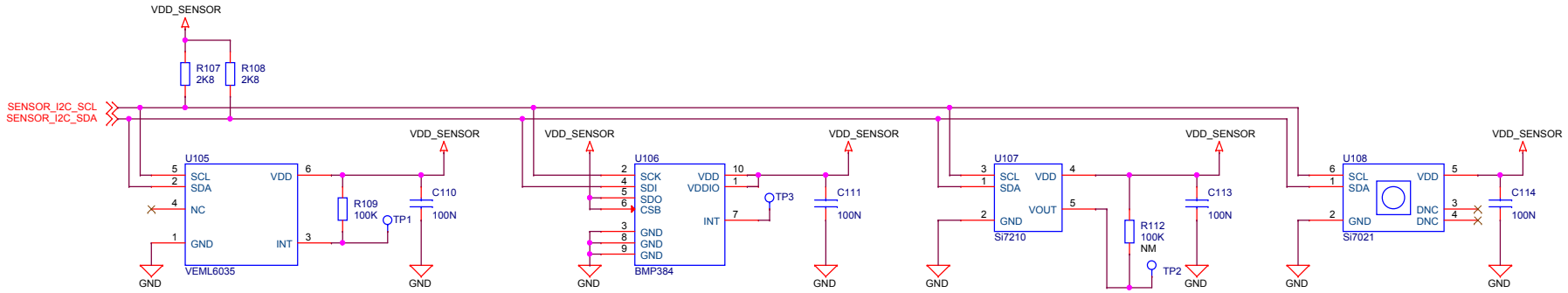
The SPI bus is shared with the flash.

Ambient Light Sensor

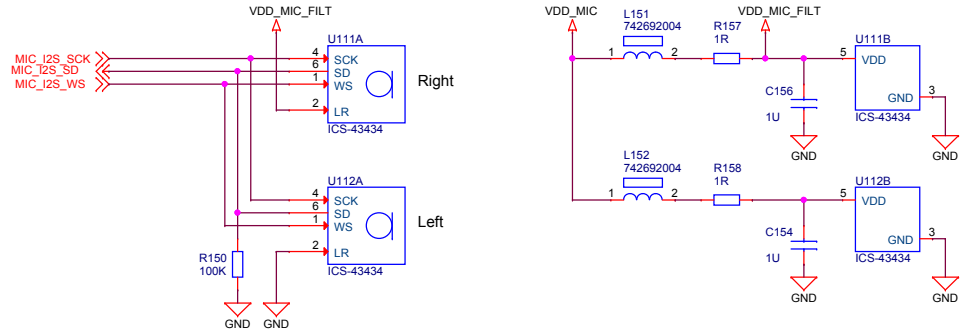
Pressure Sensor

Hall-effect Sensor

RH/Temp Sensor



Stereo Microphones



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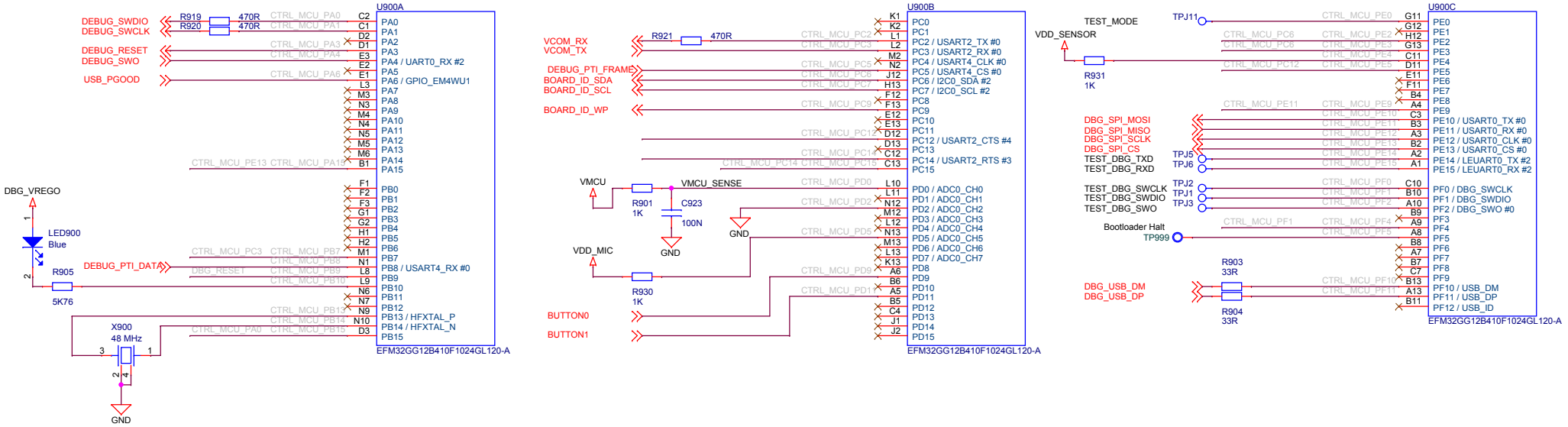
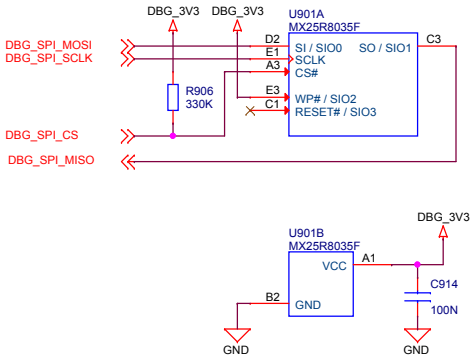
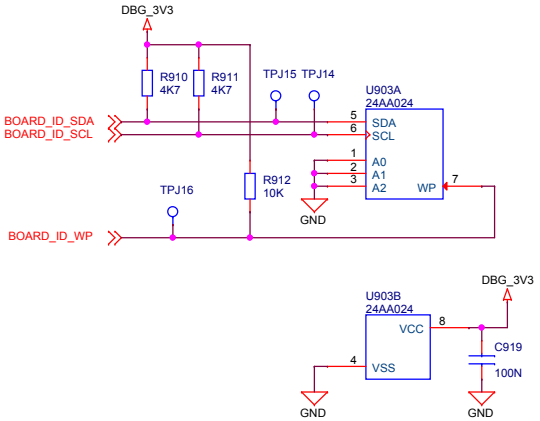
On-board Debugger



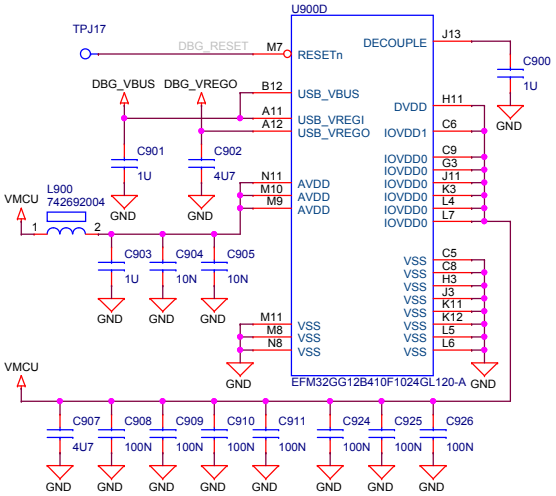
Serial Flash



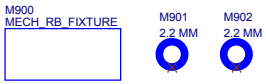
Board ID



Power & Decoupling



Mechanical



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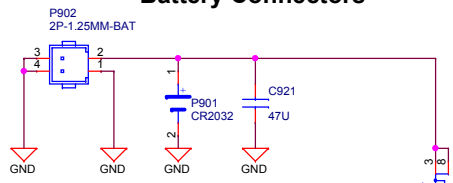
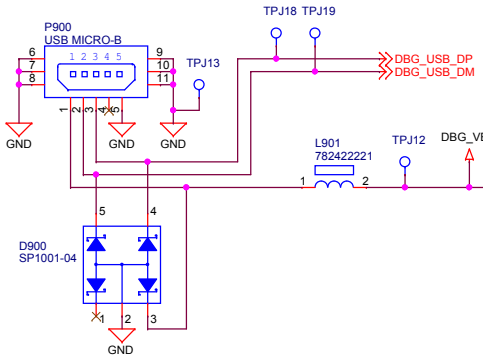
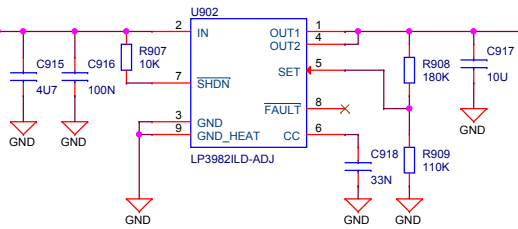
Battery Connectors



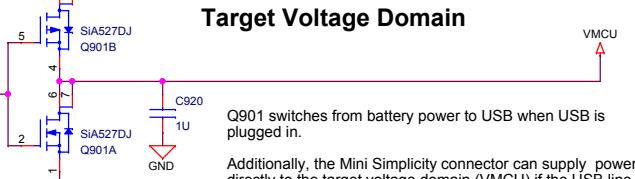
Debug USB Connection



3.3V Regulator



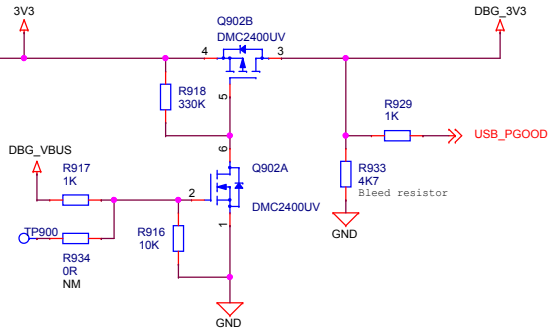
Target Voltage Domain



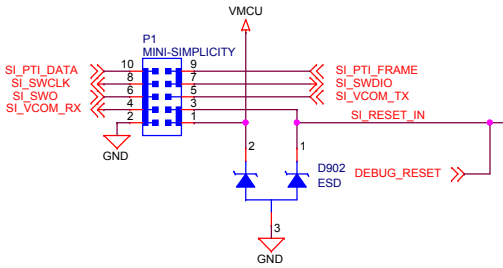
Q901 switches from battery power to USB when USB is plugged in.

Additionally, the Mini Simplicity connector can supply power directly to the target voltage domain (VMCU) if the USB line and battery is removed.

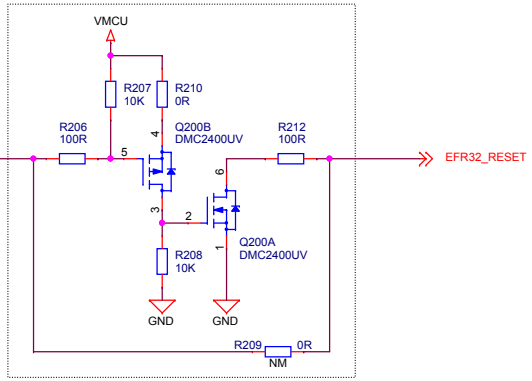
Debugger Power Isolation



Mini Simplicity Connector



Non-inverting open drain buffer



RESETn on U1 has an internal pull-up to DVDD. The purpose of this circuit is to prevent current flowing from VMCU to DVDD through this pull-upif a connected debugger has a pull-up resistor from reset to VMCU.

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