Thunderboard Sense 2

EFR32MG12P332F1024GL125

Board Function	Page

Revision History

Rev.	Description
A00	Initial prototype version.
B00	Updated EFR32 and debugger IC revisions. Replaced analog microphone with an I2S-based digital one.
B01	Changed microphone to Knowles SPH0645LM4H-B

PCB1

PCB4166

SCHEMATIC1

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Size: A3	BOM Doc No: <Cage Code>
Design Created Date: Wednesday, November 30, 2016	
Schematic Title: **Thunderboard Sense 2**	
Page Title: **Title Page**	
Document number: **BRD4166A**	Revision: B01
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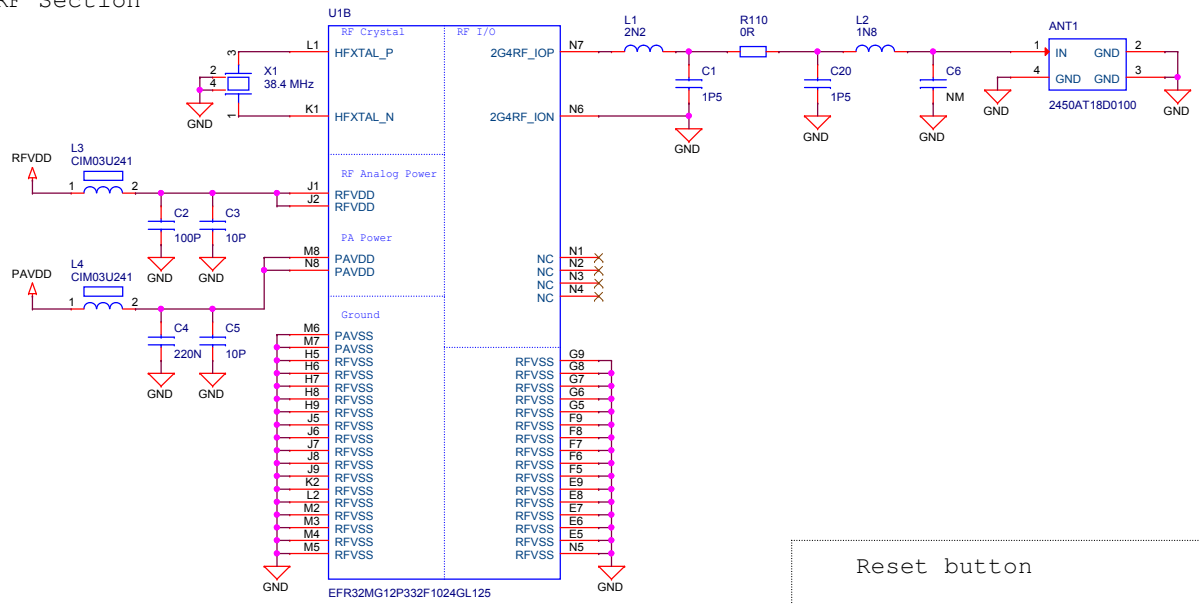
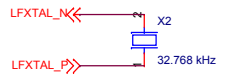
RF Section

2.4 GHz matching network



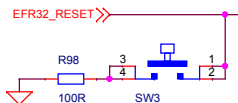
Mounting Holes

Low Frequency Crystal

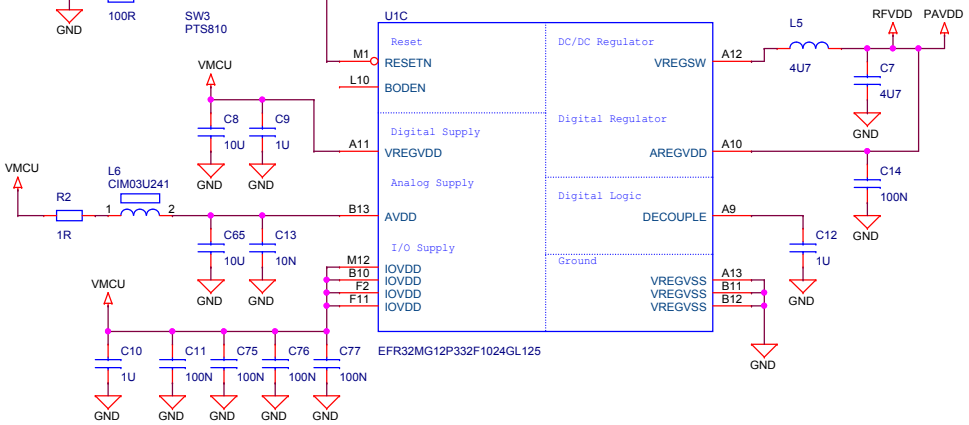


GPIO Pins

Reset button



Power & Decoupling



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EFR32 - RF, power & IO

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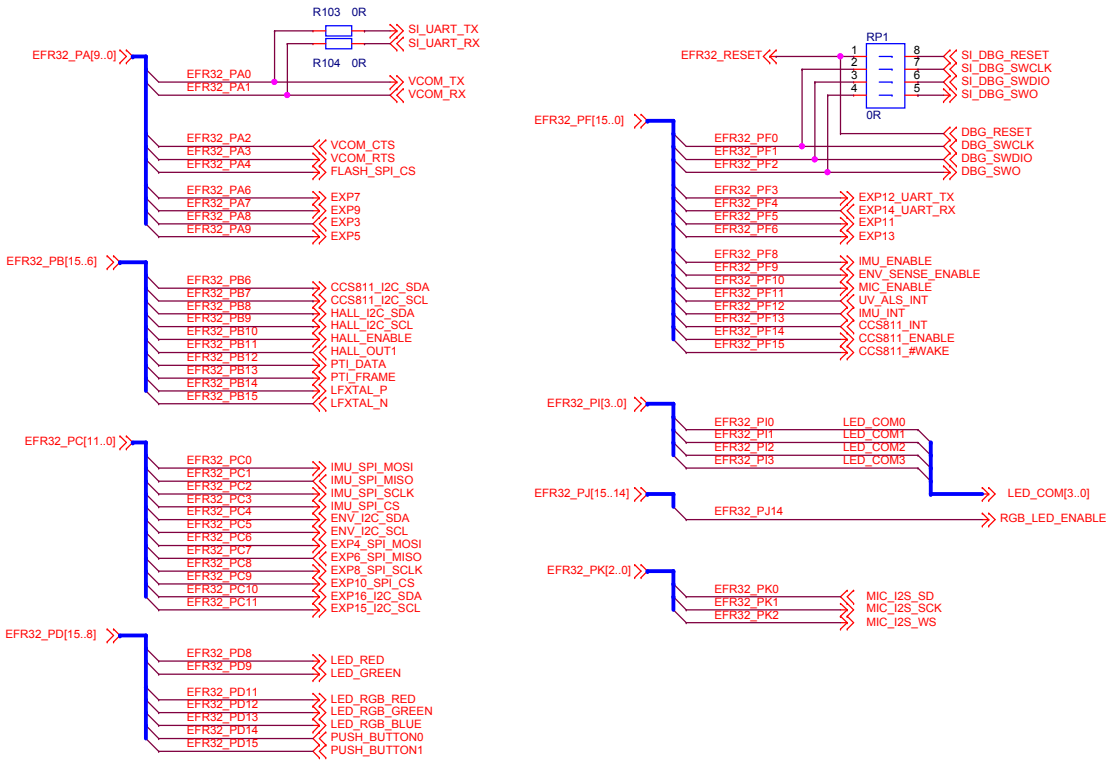
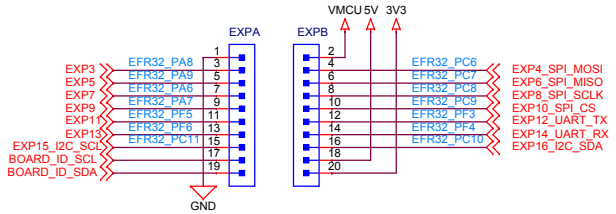
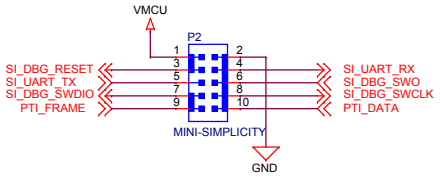
EFR32 I/O Connections



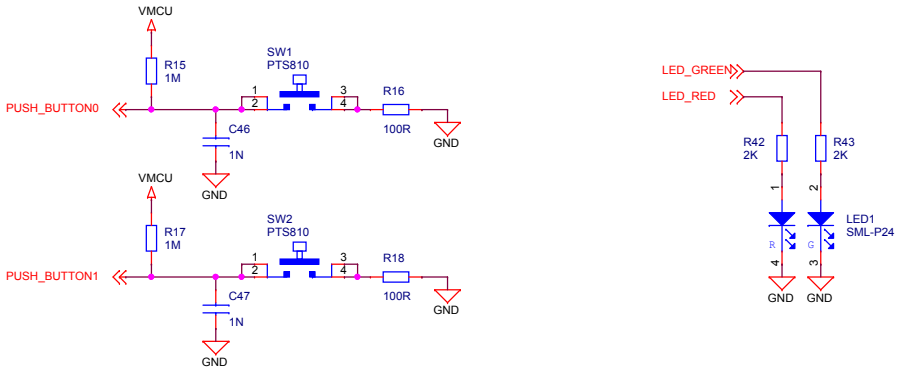
Breakout Pads - EXP Header



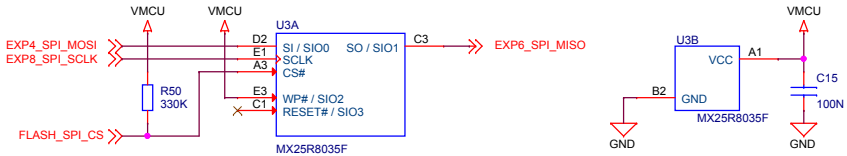
Mini Simplicity Connector



Push Buttons & LEDs



SPI Flash



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Thunderboard Sense 2

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EFR32 connections & interfaces

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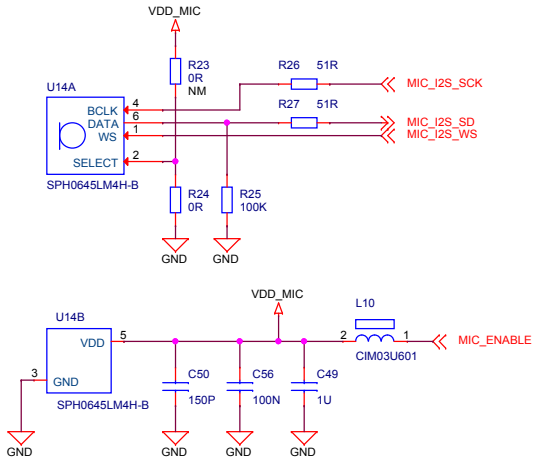
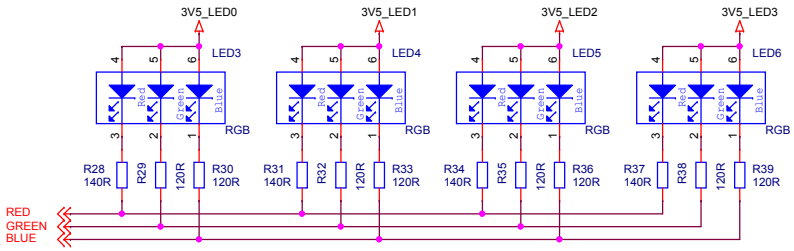
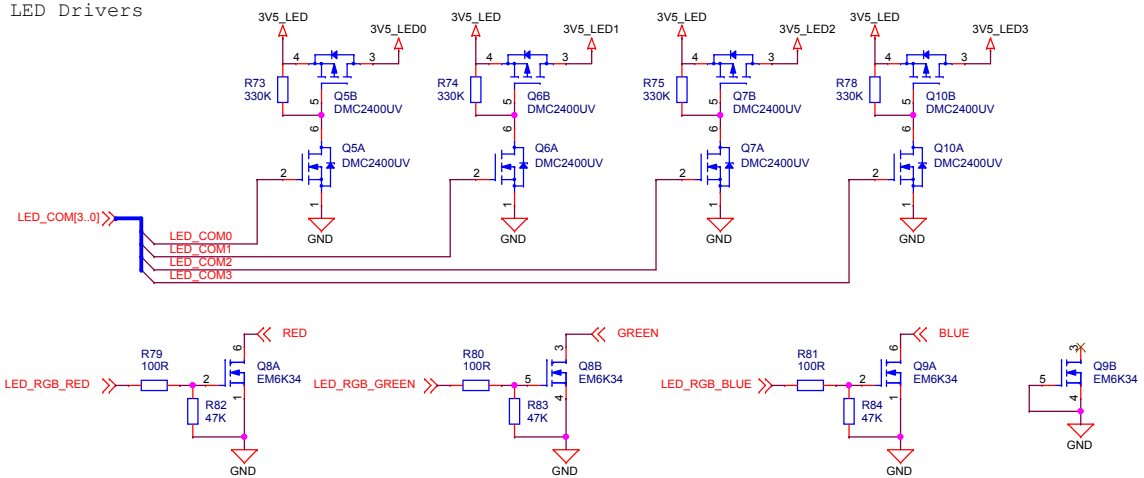
MEMS Microphone



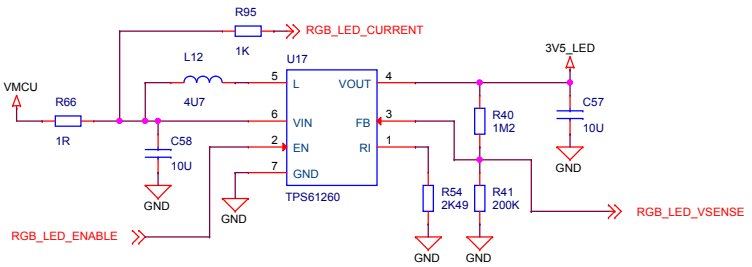
RGB LEDs



RGB LED Drivers



RBG LED power supply



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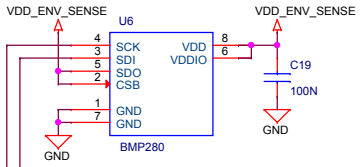
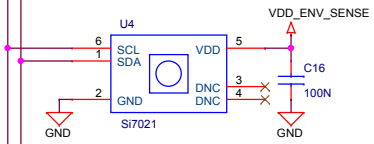
Environmental Sensors

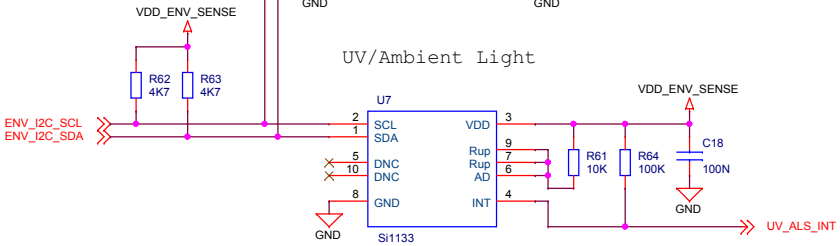
Pressure



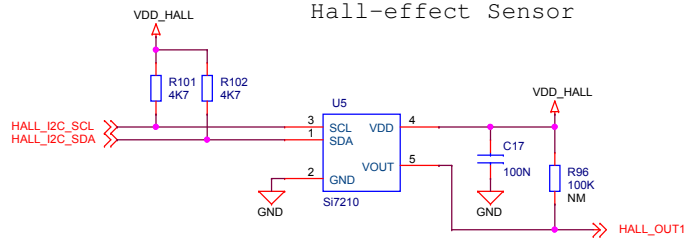
RH/Temp



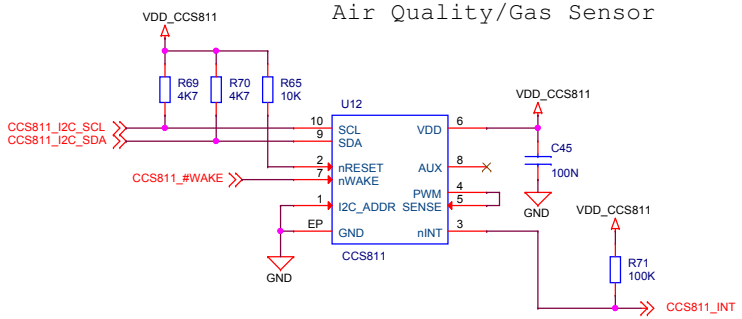
UV/Ambient Light



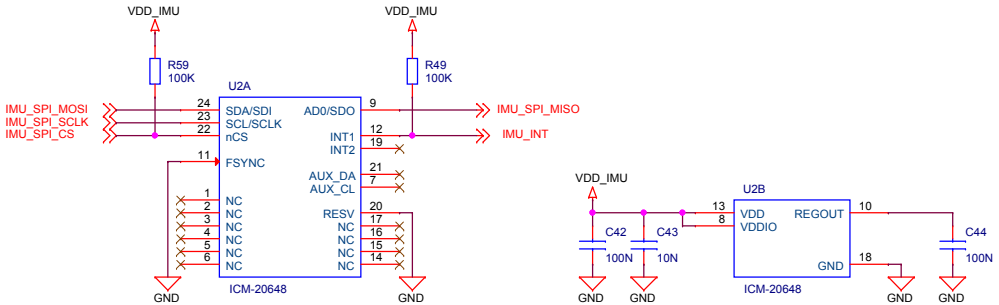
Hall-effect Sensor



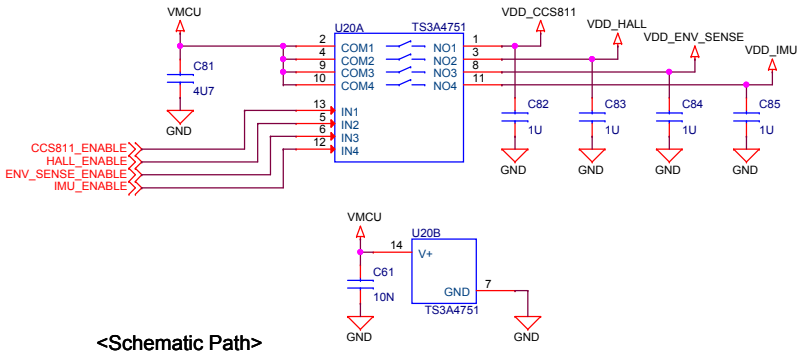
Air Quality/Gas Sensor



6-axis inertial sensor



Sensor Power Control



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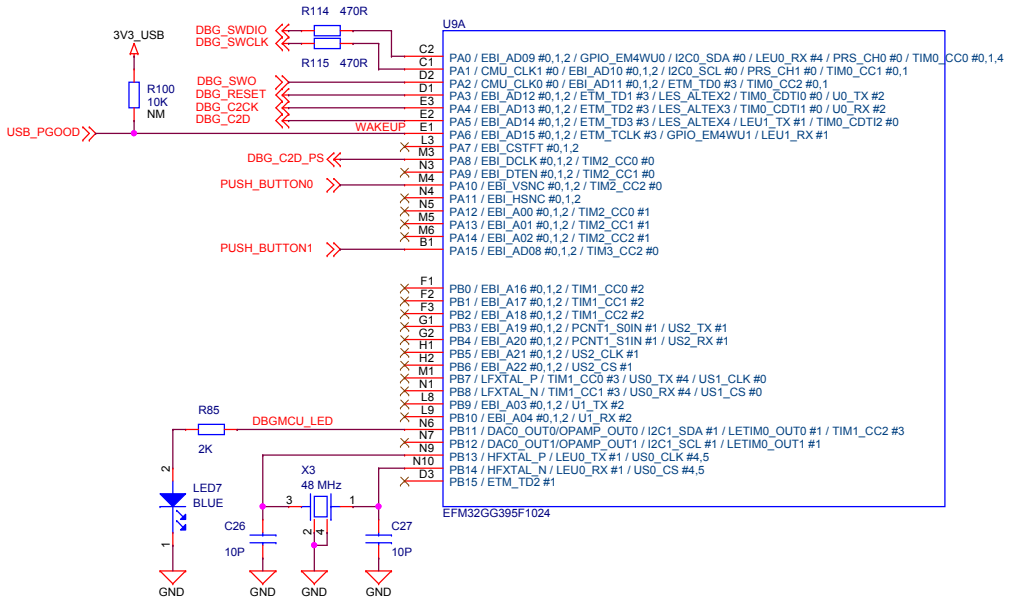
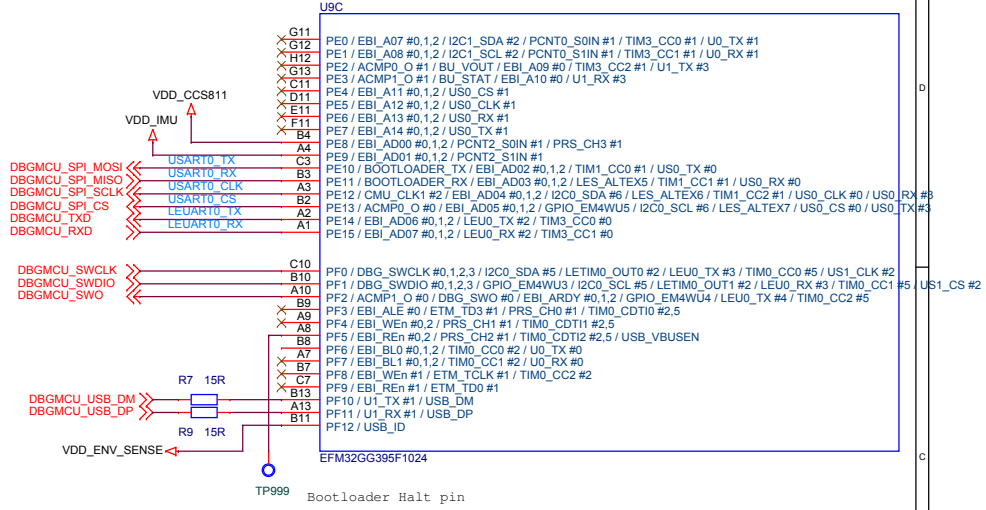
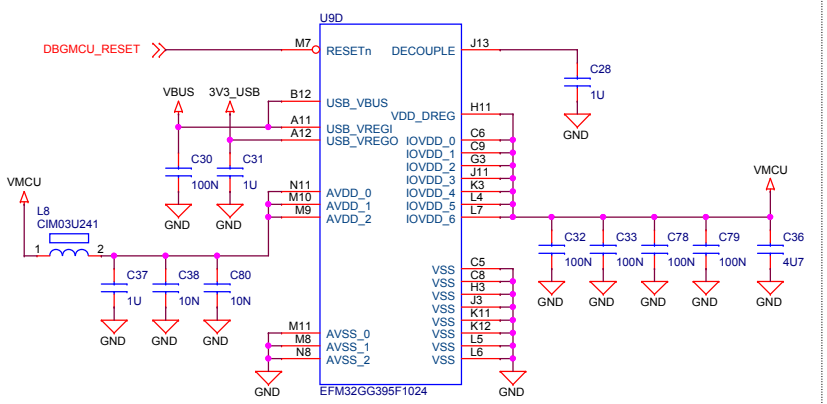
Debug MCU Connections

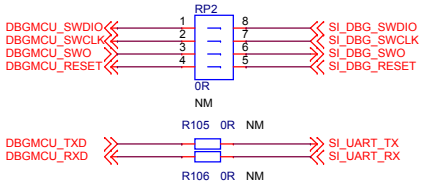


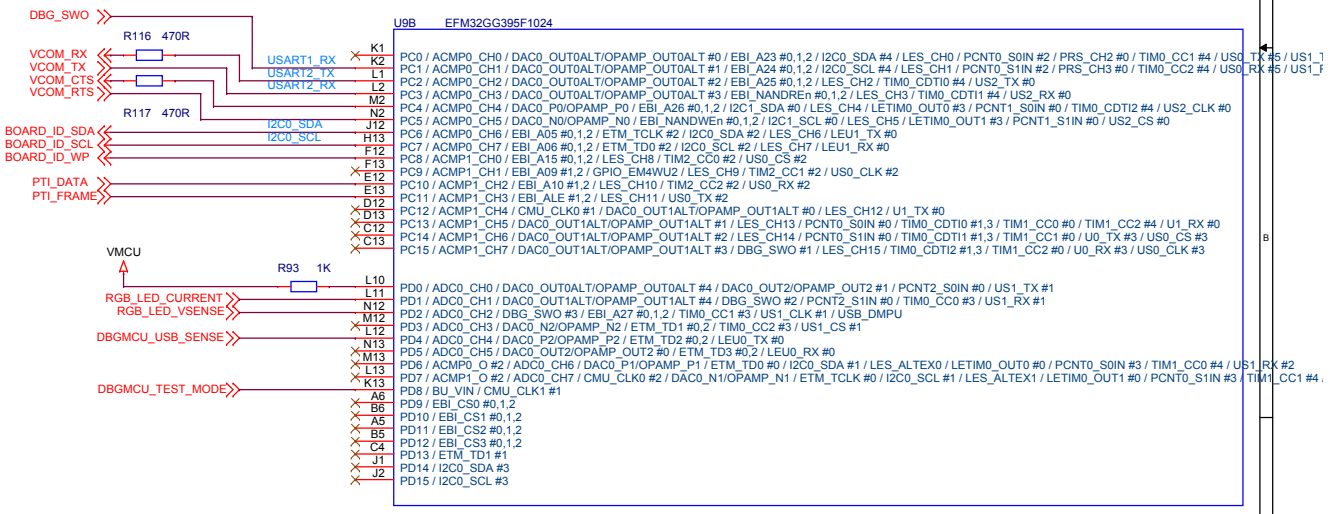


Debug MCU Decoupling



Debug MCU Connections to Mini Simplicity Header





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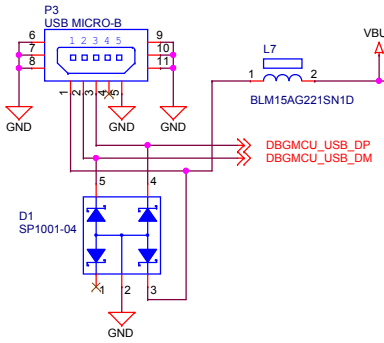
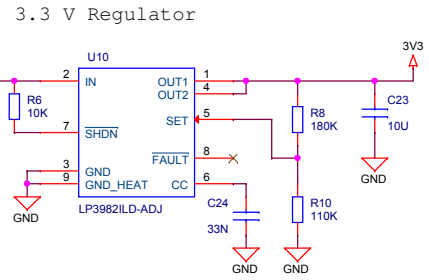
USB Connector

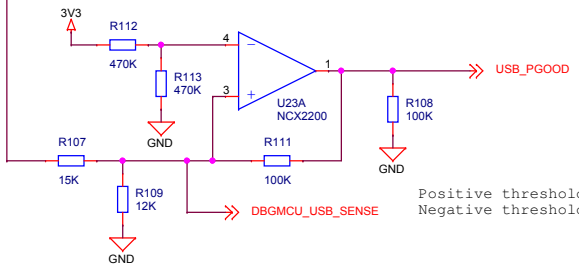


User can supply 3.6 - 5.5 on "5V" pin instead of using the USB cable

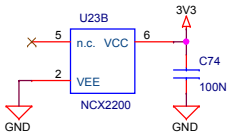
3.3 V Regulator



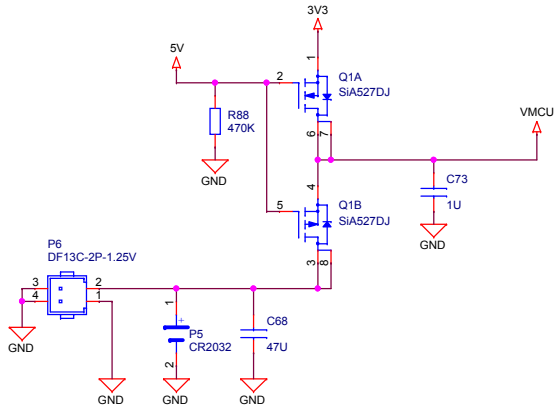
USB Cable Detect



Positive threshold: 3.96 V
Negative threshold: 3.47 V



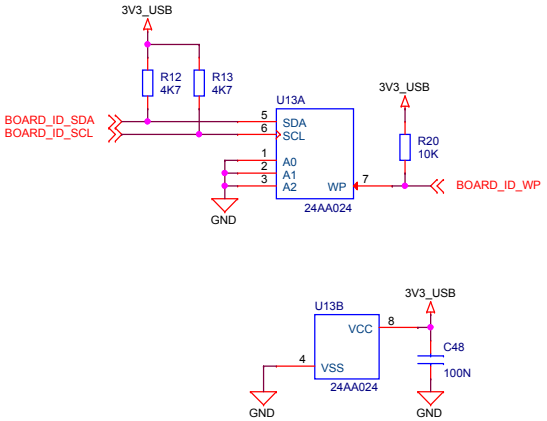
Board power select circuit



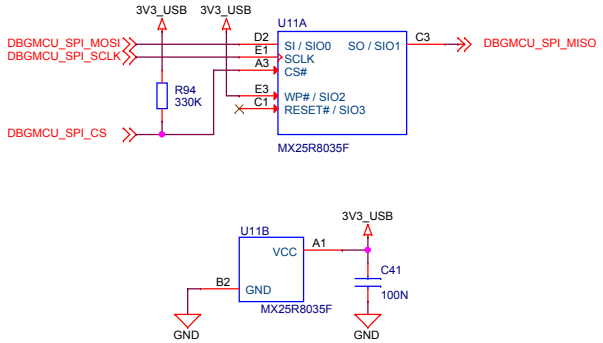
Q1 switches from battery power to USB when USB is plugged in.

Additionally, the Mini Simplicity Debug connector can supply power directly to the target voltage domain.

Board ID EEPROM

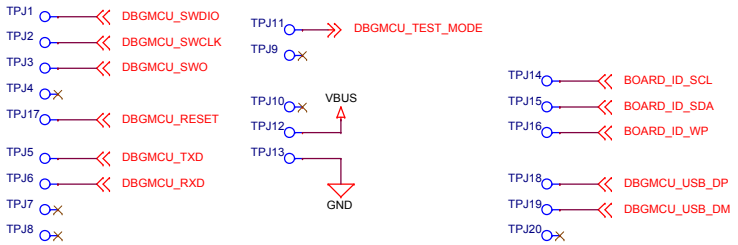


SPI Flash



Note: The SPI flash is only available to the debug mcu when the USB cable is plugged in!

Test Points



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