Thunderboard EFM32PG22

EFM32PG22C200F512IM40-C

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Revision History

Rev.	Description
A00	Initial version
A01	Changed LF crystal (X2), ESD diodes (D902), and updated PCB revision

PCB1

PCB2503A

Designed: FM	Approved: JSH	Schematic Title: Thunderboard EFM32PG22	
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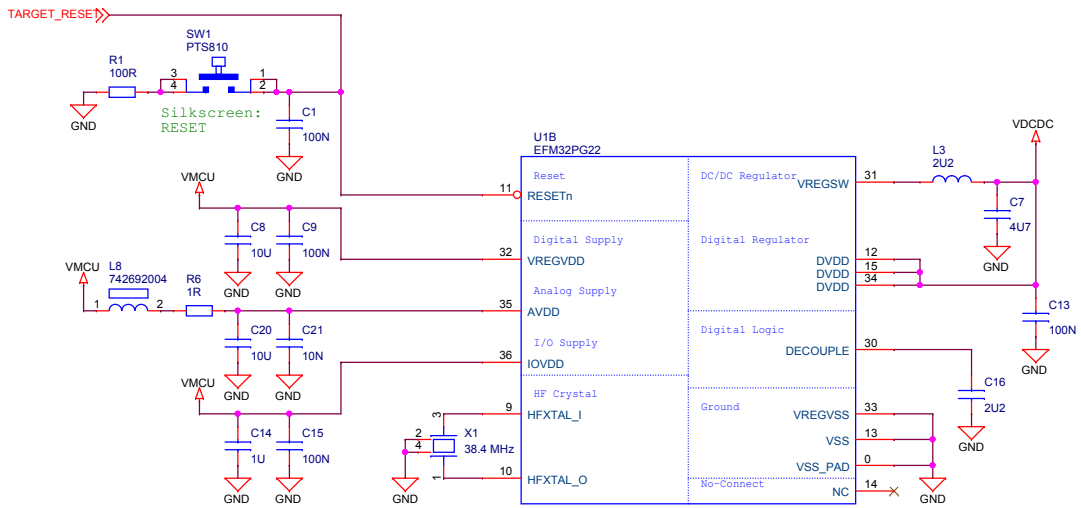
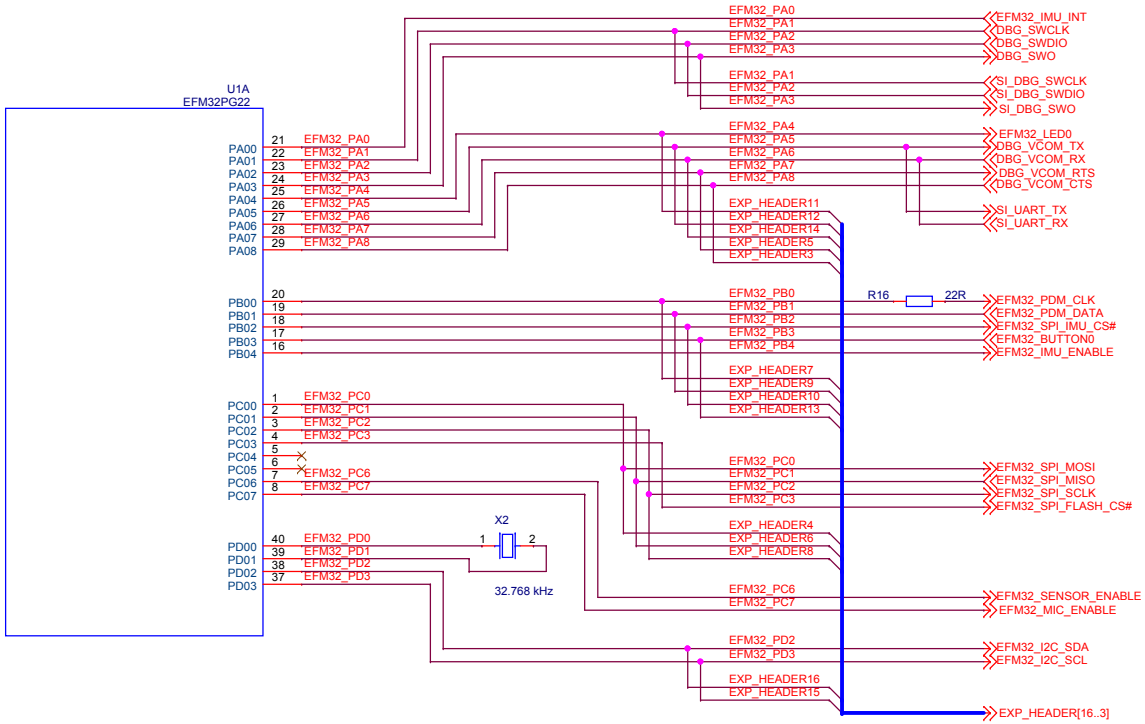
EFM32PG22 Power Section



EFM32PG22 IOs & Signal Assignments



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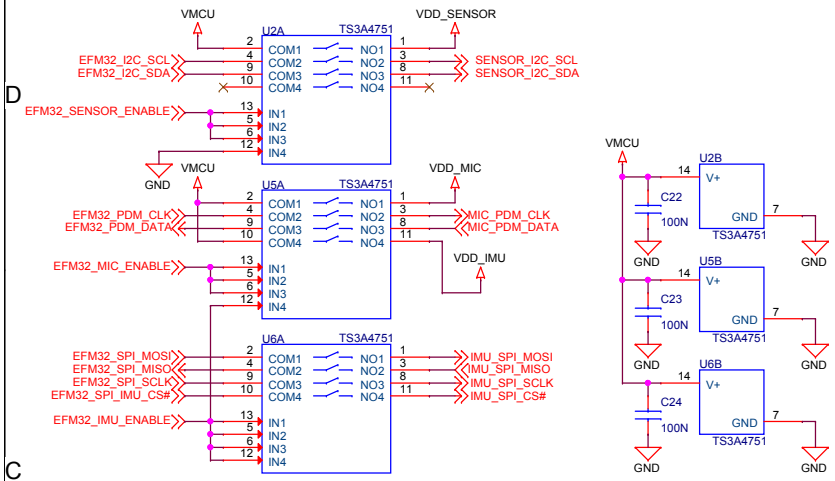
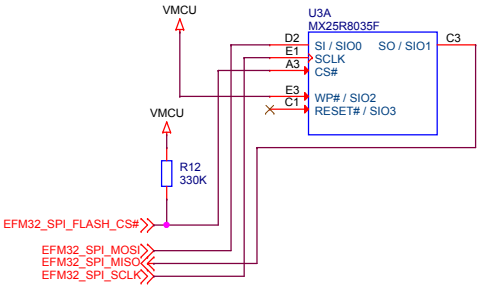
Sensor Power/Isolation

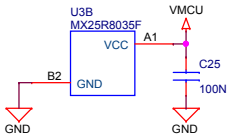
There are no pull-down resistors on the enable pins, and software should therefore immediately drive the lines to prevent the pins from floating.



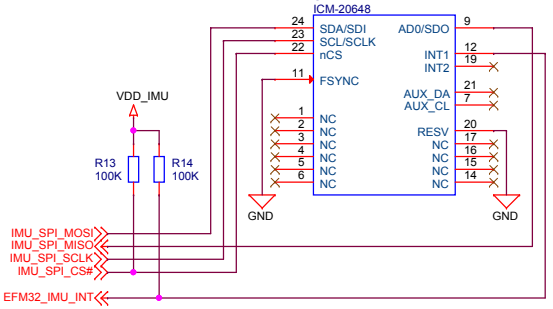
SPI Flash



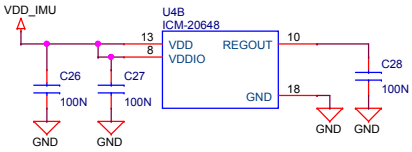
The SPI bus is shared with the IMU.



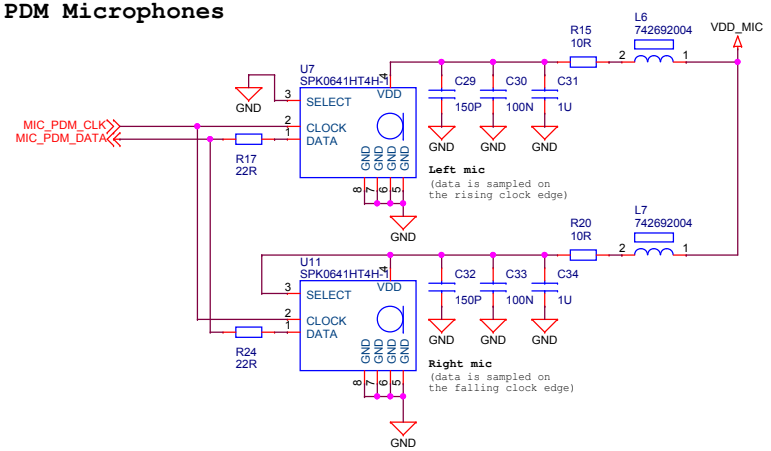
6-axis Inertial Sensor (IMU)



The SPI bus is shared with the flash memory.



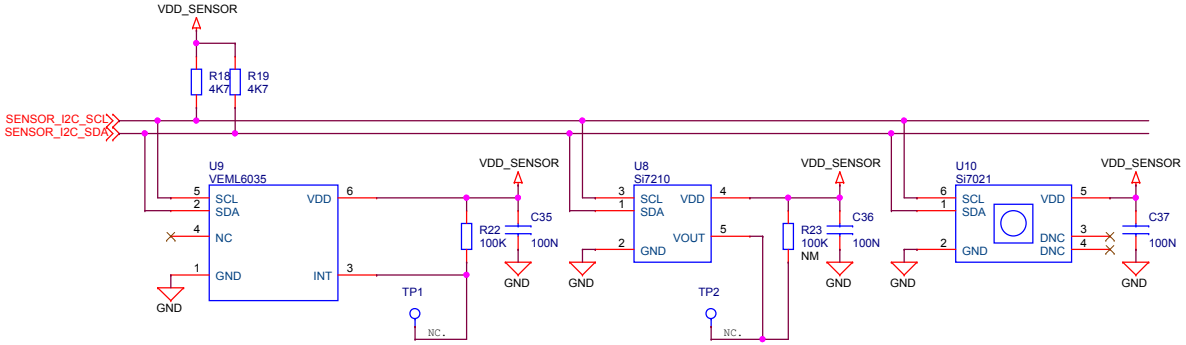
PDM Microphones



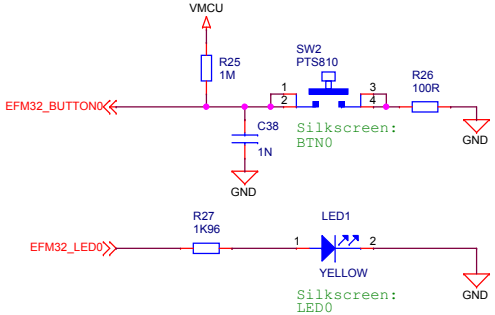
Ambient Light Sensor

Hall-effect Sensor

RH/Temp Sensor

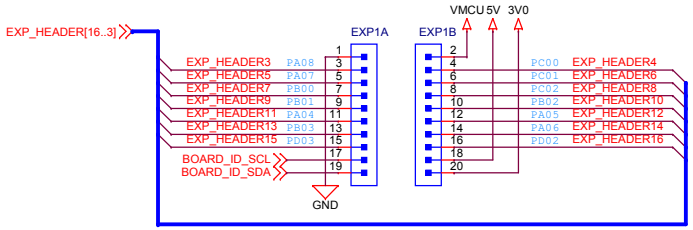


Push Buttons & LEDs



Breakout Pads - EXP Header

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).



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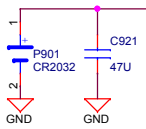
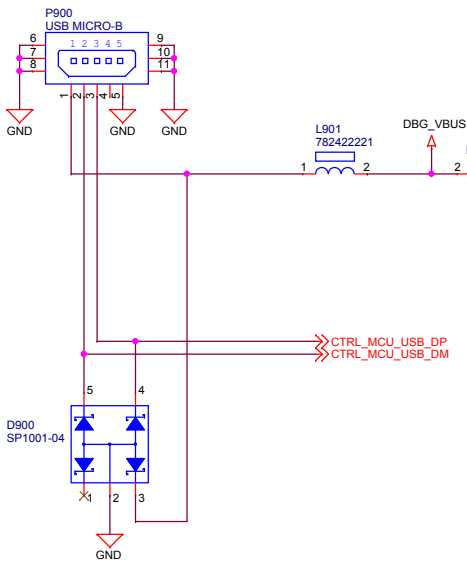
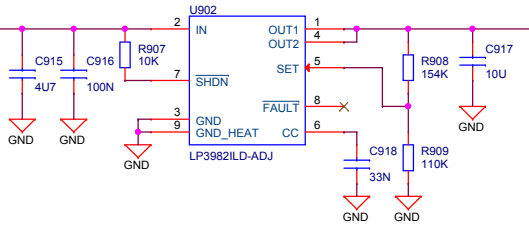
CR2032 Coin Cell Holder



Debug USB Connection



3.0 V Regulator

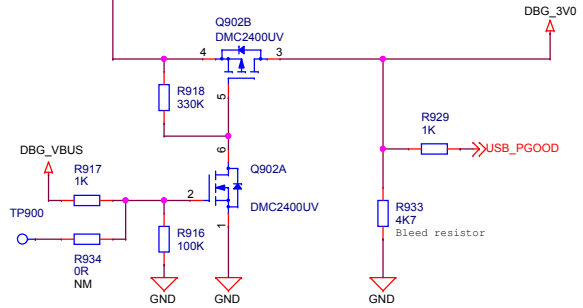


Q901 switches from battery power to USB when USB is plugged in.

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

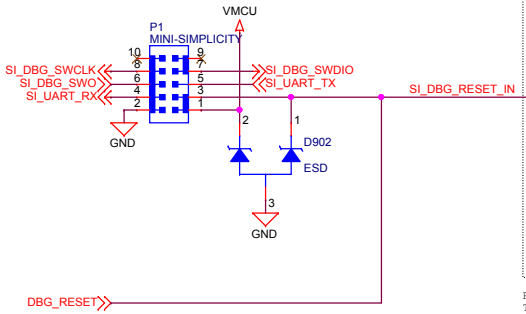
Mini Simplicity Connector (VMCU)

Target Voltage Domain

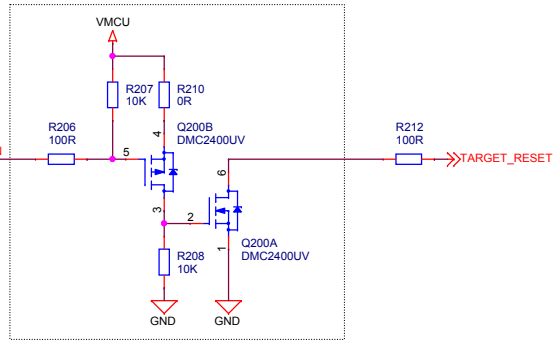


USB Cable Detection and Power Isolation

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-up if a connected debugger has a pull-up resistor from reset to VMCU.

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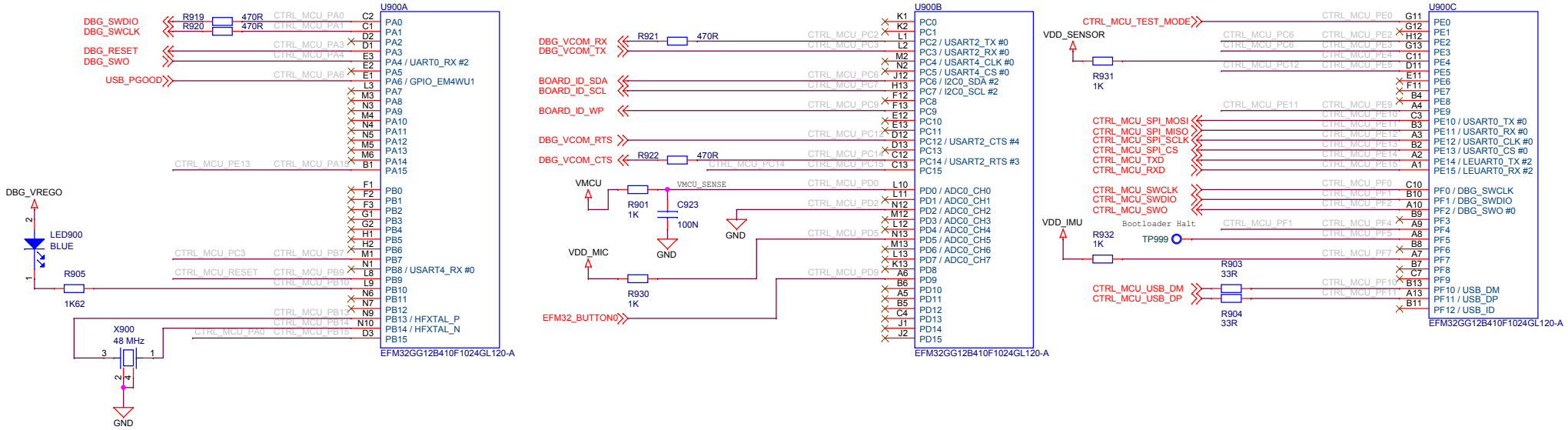
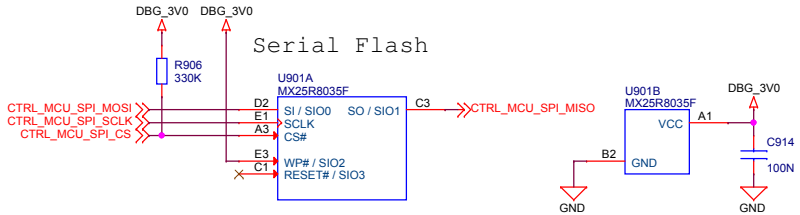
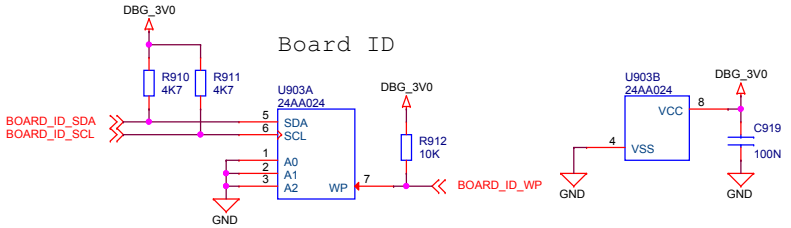
On-board Debugger



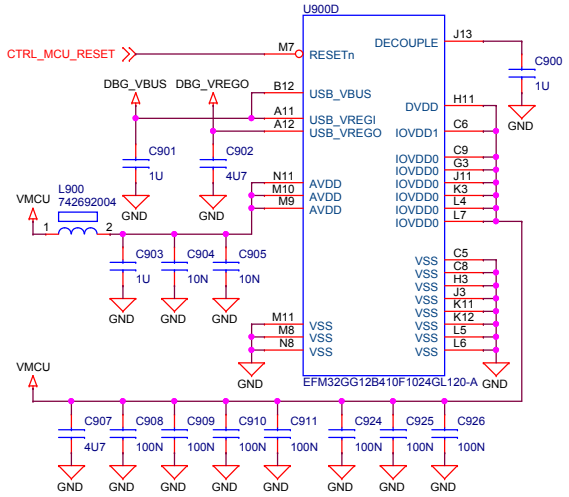
Serial Flash



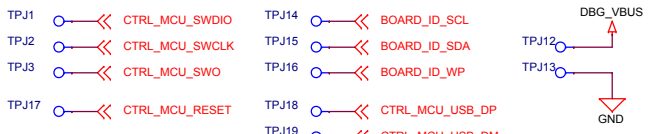
Board ID



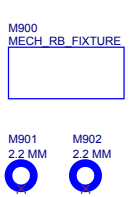
On-board Debugger Power



Test Points



Mech



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