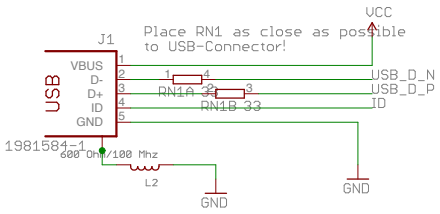
USB-Connector

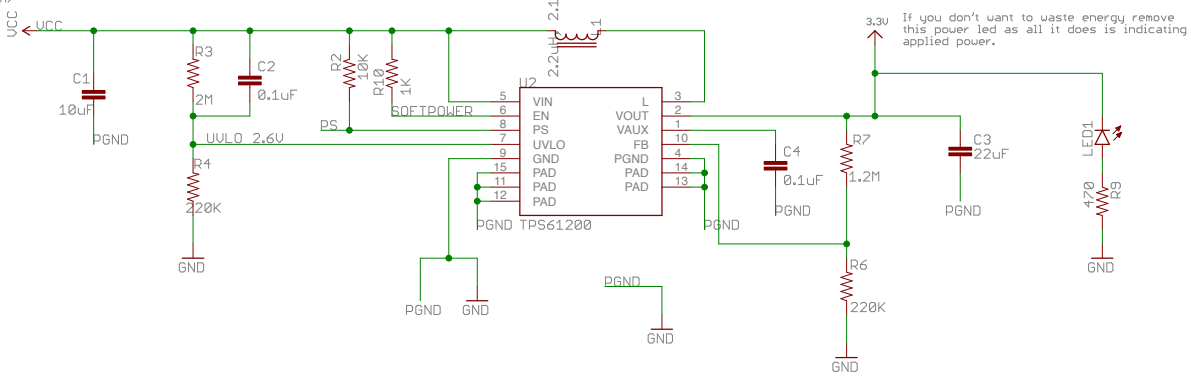


USB_D+ and USB_D- must be routed as a differential pair. By naming them with _N and _P Eagle automatically routes both traces when placing traces in board layout. It uses the DRU and/or net class values. See EAGLE-Menu Edit->Net classes for the values in this example board

Switching Regulator

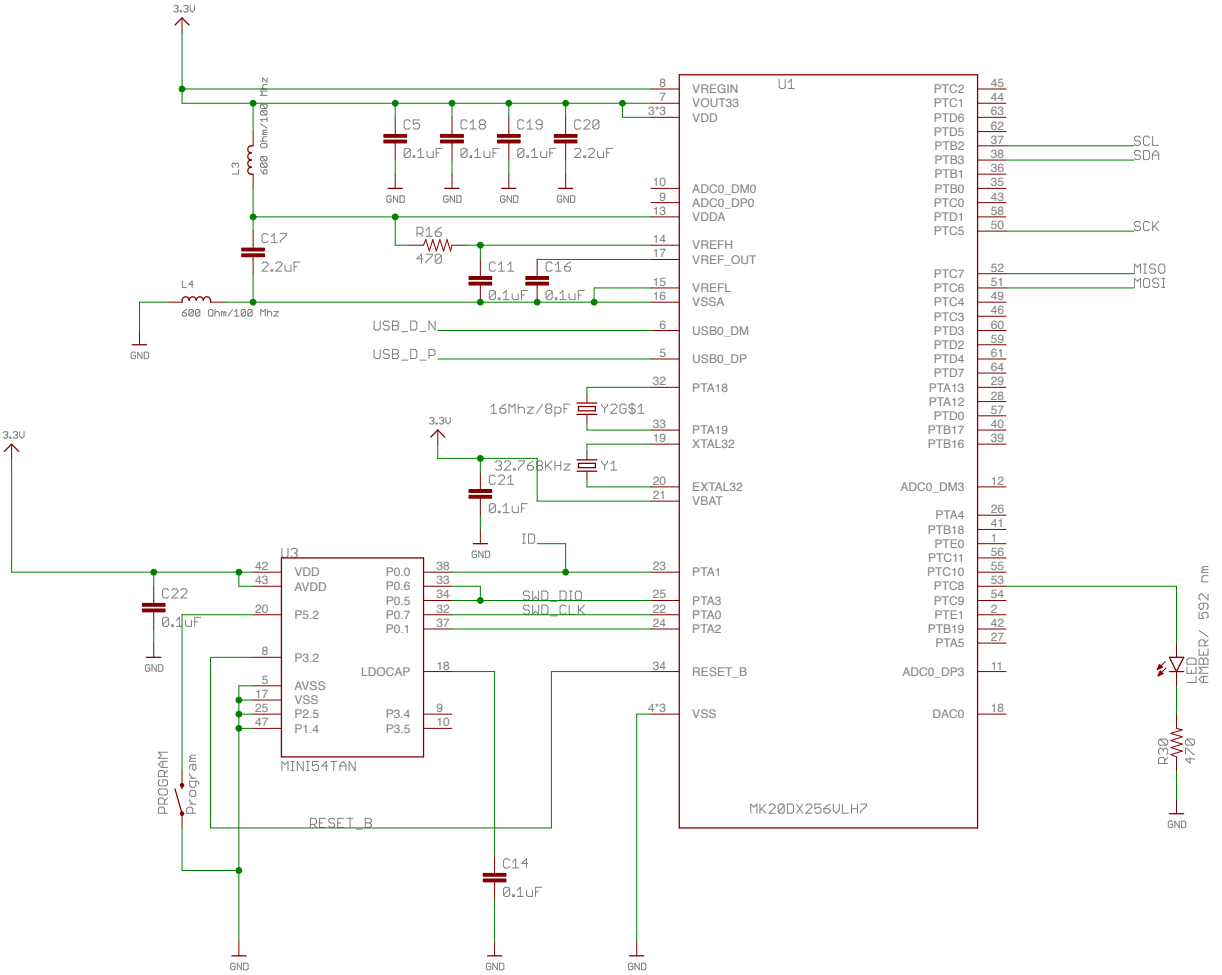
Switching regulator 3.3V based on Sparkfuns Power Cell Schematics: https://www.sparkfun.com/products/11231

This switching regulator has been used in a LIPO based project. If you are running your board only USB-connected this circuit is overkill, use a simple 3.3V Low dropout regulator in a SOC 223 package for easier soldering and board layout. But it's important to get a clean, noise free 3.3V power supply and it should be able to provide a minimum of 150mA (this circuit is able to provide 300 mA)



MCU

MCU based on the amazing Teensy 3.1, developed by Paul J Stoffregen and pjrc.com.



Parts of this these schematics were inspired/taken from Teensy 3.1 schematics published by Paul J. Stoffregen at www.pjrc.com and Sparkfuns Power Cell schematics (https://www.sparkfun.com/products/11231) These schematics have been successfully working in a real world project and are provided as a reference for your own custom board.

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