Emma Blatt

emmablatt.com
emmablatt@gmail.com

EXPERIENCE

onsemi • Analog Design Intern

Sept 2021 - Dec 2021

- Investigated methods to reduce switching point variance in zero-cross detection circuit for synchronous buck IC.
- Designed constant-Gm current reference and compared it to the existing design across process, variation, and corners.

Apple • iPhone System Integration EE

Sept 2020 - Dec 2020

- Validated system functionality of ambient light sensor module and led flex PCB revision to mitigate power supply noise.
- Developed MATLAB tool to reduce manual testing for algorithm selection, optimizing power consumption and UX.
- Verified power integrity spec for NAND chip using HSPICE, PowerDC, and PowerSI.

Sept 2019 - Apr 2020

- EE integration of camera sensor including system validation and debugging electrical issues cross-functionally.
- Tested and fixed bugs for battery protection circuitry.
- Measured wireless charging efficiency of competitor devices in comparison to iPhone.

Nytric • Electrical Product Development Intern

May 2018 - Aug 2018

- Created schematics and PCB layouts for 31.5” infrared-based multi touch frame with mixed signal PCB layout using Altium.
- Designed and simulated a fixed dead-time, discrete synchronous switching regulator which improved full-load efficiency by 10%.

UW Mars Rover Team • Electrical Co-Lead

May 2018 - Aug 2019

- Managed 15+ people to design and assemble electrical systems for the University Rover Challenge.
- Designed schematics + PCBs for rover controller boards.

ABOUT ME

I’m a 4th year electrical engineering student who is passionate about analog IC design, electronic circuits, and systems integration.

SKILLS

Design

Cadence Design Suite
Altium Designer
Analog circuit design
Prototyping + bring-up
Component sourcing

Simulation

Cadence Virtuoso
ADS, LTSPICE, HSPICE, PowerDC, PowerSI
PCB layout extraction

Lab

Debug + failure analysis
Soldering + PCB assembly
Power + signal integrity, spectral analysis, jitter, timing measurements

Languages

Python + MATLAB scripting
Familiar with Verilog-A

EDUCATION

University of Waterloo

Expected April 2022

Candidate for B.A.Sc in Electrical Engineering

Emma Blatt

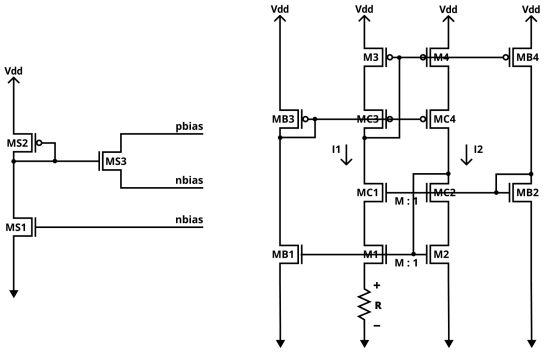
emmablatt.com
emmablatt@gmail.com

PROJECTS

Here are some examples of my design work. Please visit my website, **emmablatt.com**, for process work (ideation, calculations, prototyping, debugging) and full schematics.

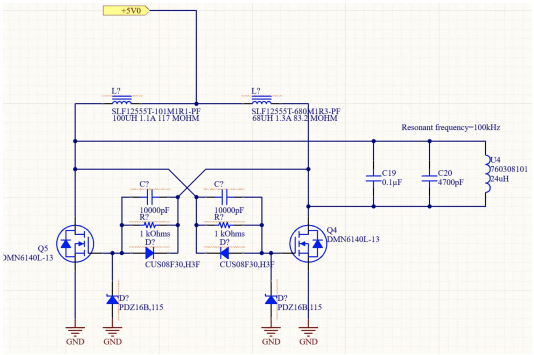
Constant-Gm Current Reference (Simplified)

Current reference derived from on-chip bandgap reference. Measured the performance over process, temperature, and corners compared to the existing design.

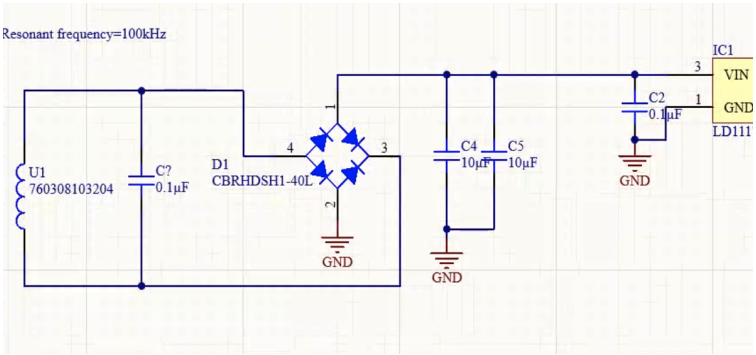


Inductive Charger, Winter 2020 (WIP)

Wireless transmitter/receiver link with resonant inductive coupling and offline power conversion



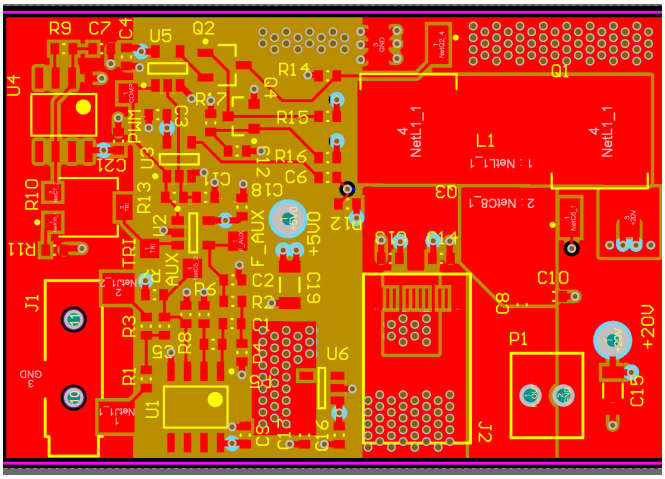
Transmit Coil



Receive Coil

Class-D Amplifier, Winter 2019

18W amplifier with discrete MOSFET gate-driver



Mars Rover Control Board, Fall 2019

Interface motors and actuators with I2C + CAN