

MICHAEL BELLA

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TECHNICAL STRENGTHS

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| Design Experience | High Precision Analog Measurement and Design, PCB Layout Verilog, I2C, SPI, JTAG, RF Matching Network & Amplifiers Design |
| Lab Skills | Experienced with Oscilloscopes, Network Analyzers, 4Wire LCR Meters Multimeters, Root Cause Analysis, SMD Soldering, Prototyping |
| Software Tools | JMP, Spice, AWR Microwave Office, CADSoft Eagle, IAR Code Composer Studio, Eclipse, Git, SVN |
| Programming Languages | Python, Matlab, C, LabView |

WORK EXPERIENCE

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| Apple Inc. – Hardware Test Engineering | October 2013 - Present |
| <i>Electrical Engineer</i> | <i>Cupertino, CA</i> |

- Manage test vendors working on fast paced projects in order to provide test coverage for new product designs.
- Work with cross functional engineering teams and vendors to expedite the root cause of test line issues.
- Automate functional testing and data processing tasks using Python.
- Design and implement test plans for component and system level testing on upcoming iOS and accessory projects.

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| KLA-Tencor – SensArray Group | December 2011 - October 2013 |
| <i>Electrical Engineer</i> | <i>Milpitas, CA</i> |

13.56MHz Displacement Current Calibration System

- Improved existing resonant LC circuit calibration system by reducing the total DC resistance.
- Built a higher quality factor LC circuit with a Q of 500 using a silver plated inductor and capacitor.
- Designed and built a matching network to couple power into the higher Q inductor.
- Designed a 13.56MHz Class E amplifier for the higher Q system.

RF Current Measurement Probe

- Worked on the design of the RF current probe and the detector circuit.
- Developed firmware for an MSP430 to take differential measurements from the RF detector circuit.

Automated Curve Tracer Fault Detector

- Built a curve tracer using an Agilent U3606A power supply/DMM combo and an 34970A DMM and chassis.
- Wrote a LabView application to increase the compliance voltage while measuring the current, and to control the switch matrix in the 34970A.
- LabView application identified shorts between the silicon substrate and the thin film aluminum traces based on the shape and amplitude of the IV curve.

Custom RFID System Improvements

- Designed a band pass filter to isolate the 8120Hz data from the output of the envelope detector.
- Built a proof of concept prototype using the band pass filter and a comparator to recover the digital data.
- Characterized the existing 1MHz RFID communication system in order to identify areas for improvement.
- Developed spice model of a newer thin film aluminum RFID antenna to predict the differences due to the added parasitic capacitance.

High Density Plasma Chamber

- Maintained legacy LabView based control software handling the machine safety and system automation.
- Diagnosed issues with the high vacuum systems used on the plasma chamber.
- Performed maintenance on the full system including the high voltage generator, RF generators

Embedded Measurement System Shielding

- Designed experiments to identify the primary interference sources.
- Built and tested experimental setups to test the shielding efficacy at from 1MHz up to 100MHz.
- Identified the primary methods of action

MSP430 DIO Pin Resistance Characterization

- Used LabView to control an Agilent U3606A to

KLA-Tencor/SensArray Internship

June 2005 - December 2011

Electrical Engineering Intern

Milpitas, CA

- Debugged and performed failure analysis on test systems, embedded hardware, and plasma systems.
- Developed LabView applications to interface with test equipment and embedded systems for automated testing.

PERSONAL & STUDENT PROJECTS

Class D Amplifier - SJSU EE124 Final Project

2012

- Designed a 10W class D amplifier using discrete components and operational amplifiers ICs.
- Built my design and demonstrated my amplifier as my final project in my analog design class.

Bike Light - 1000 lm Headlamp and RGB Tail Lamp

2012

- Designed a controller using an MSP430 MCU to manage the battery and control the LEDs.
- Calculated power budget and selected appropriate LED drivers for my application.

Formula Hybrid Vehicle Team - SJSU

2010 - 2011

- Developed battery management firmware for a PIC to perform pack safety monitoring and cell balancing.
- Worked with teammates to debug their 10kW switching power converter stability and ringing issues.
- Managed the EE team, developed project time lines, and drove schedule.

EDUCATION

San Jose State University

December 2011

B.S. in Electrical Engineering