HENRY MESA

Las Vegas, NV | (702) 513-5451 | mesah1@unlv.nevada.edu | www.linkedin.com/in/HenryMesa

PROFESSIONAL EXPERIENCE

Hardware Designer/Engineering Technician | AMI GLOBAL LLC, Las Vegas, NV **August 2018 – Present**

- Production review and preparation of electronic hardware for cellular gateways (IiOT).
- Production review, validation, and release of firmware.
- Design, development, and execution of production programming fixtures and test benches.
- Selection and sourcing of electronic components.
- Evaluation and validation of production components.
- Production, review, and release of hardware BOM's.
- Application of predictive failure analysis of electronic hardware.
- Evaluation and analysis of failure of returned product.
- Develop/support manufacturing processes and procedures.
- Participate in KAIZEN process for improvement and efficiency.

ENGINEERING PROJECTS

Pulse Sensor

- Created a sensor that captured the pulse rate.
- The circuit was based on an infrared LED, a photo transistor, and multiple operational amplifiers that were used as filters to block and allow certain signals to obtain a clear view of the heartbeat.

Fixtures

- Engineered, designed, and fabricated production battery pack tester.
- Engineered, designed, and developed in-process circuit board tester.

Project Channel

- https://www.youtube.com/channel/UCU4AC5AlxoSk9t7tD5r4xWQ

RESEARCH EXPERIENCE

Wireless Power Transfer

- Wireless power transfer (WPT) is the transmission of electrical power from a power source to a consuming device without using discrete manmade conductors.
- Created a system that transferred power with the help of three coils and two independent circuits. The system consisted on creating enough power with the help of transistors, diodes, and passive components to separate the VDC and VAC to drive the components and amplify the VAC signal at the receiver circuit.

Signal Inverter using Operational Amplifiers (DC TO AC)

- An inverter contains a circuit commonly build with p-type and n-type transistors and mostly intended to go from an AC signal to DC. I conducted a series of experiments creating a circuit to go from DC to an AC signal using op-amps and transistors. The circuit succeeded obtaining the desired output signal and with the integration of an amplifier circuit the experiment was successful on outputting enough current to support a load.

EDUCATION

University of Nevada, Las Vegas | Bachelor of Science in Electrical Engineering **August 2015 - December 2020**

RELEVANT SKILLS

- **Mastered:** Altium Designer, LTspice, Intel Quartus II, Altera, AVR Studio.
- **Extensive experience with lab tools.** BGA Rework Stations, Oscilloscopes, Function Generators, Multimeters, etc.
- **Experience** with creation of work instructions and technical reports.
- **Proficient:** Cadence, MATLAB, Simulink.