

0.0.1 Appendix F1: Michael Maline

Principles Throughout this project Michael demonstrated his ability to solve engineering problems by designing tests that proved the product meets the project specific success criteria laid out at the beginning of the project. The tests included frequency analysis for the PWM status LED, as well as data integrity tests for our various storage devices on board. The PWM was measured using an oscilloscope and the data integrity was proven using both randomly generated inputs as well as blocks of the same values.

Design In this project Michael demonstrated his design capabilities by designing the the USB to UART interface. This made the project more accessible to personal computers. The USB C port is one of the most common connections available.

Communication Michael demonstrated his ability to communicate during this project through several methods. He demonstrated his ability to communicate with management through his meetings with the Senior Project Officer, and his Project Sponsor. Michael demonstrated his ability to communicate with his peers through the in-class presentation. Finally, he demonstrated his ability to communicate with the general public during his final presentation.

Professionalism Michael demonstrated his ability to make ethical decisions during selection of the project. The project focuses on aiding agricultural research, specifically to increase sustainability and decrease pollution and other negative effects of current agricultural practices.

Teamwork Michael demonstrated his ability to work in a team by meeting multiple times per week. Michael also effectively delegated tasks that he didn't have the most experience with to more experienced teammates.

Analysis Michael demonstrated his ability to analyze data the testing processes that he designed and oversaw. He was able to correctly diagnose issues that the USB hub faced during development and provide feedback on how to fix these issues in a timely manner.

Learning Throughout the course of the project Michael had to learn different techniques for meeting deliverables specified in their project plan. Michael had to learn the specific

timing for the USB startup protocol in order to analyze and debug issues with the subsystem. He also learned how to step down small DC voltages in an efficient and effective manner.