As an external input, The AC-DC wall adapter provides direct current to the battery cells, allowing for easily rechargeable functionality from any standard 120V or 240V AC outlet. As an external output, the six 18650 lithium ion battery cells shown in the diagram of the device outputs 24V at a max of 10A and 12V at a max of 5A to the AER race car’s low-voltage electronics. Internally, these cells also supply 3.3V to power the ESP32 microcontroller through the ground and header pins as well as supplying 3.3V to the TI-BQ769 series BMS IC through the wires outlined in the diagram. The BMS outputs digital data encompassing voltage and current levels as well as temperature to the data bus from which the microcontroller reads and processes using the I2C protocol. The microcontroller then outputs this digital data to a micro SD breakout board using the serial peripheral interface (SPI) protocol. This micro-SD card stores power supply information that can be extracted and read through an external computer. The microcontroller is also responsible for outputting the digital data to the lcd screen for display using the I2C protocol once again.