

Test Setup for Determining the Efficiency of a Water Cooled Heat sink

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ABSTRACT:

The primary purpose of this experiment was to test a heat sink using a water cooling method and assess how well it could cool a high power, high current MOSFET or IGBT. Heat is a major problem for many electrical devices, so finding an effective and low impact method of cooling key components of these devices is key the development of smaller and more powerful devices.

My focus in assisting with the project setup was to fabricate driver circuits, gather materials, and put together test equipment. During my two weeks assisting with this project, we started from a testing concept to, in the end, a full test setup with sensors, water pump, and driver circuits. I was not present for any of the actual testing of the device; however, I left with tools valuable to my success. I gained a better insight into the real world of Electrical Engineering. As well, I gained a better insight into the research a development that goes into the devices that make it into our Army.

My overall goal in attending ARL this past summer was to gain an inside view of Electrical Engineering at its finest, and I accomplished this mission. I not only had an opportunity to get some hands on work, but I was able to see the influence that electrical engineering and ARL have in the Army and its future. This experience has enhanced my motivation to continue to learn about Electrical Engineering and the opportunities that exist in my military career.

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