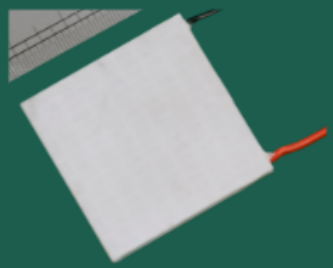
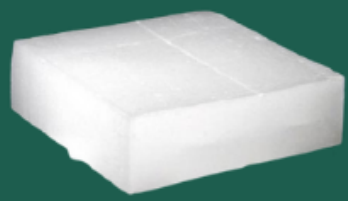
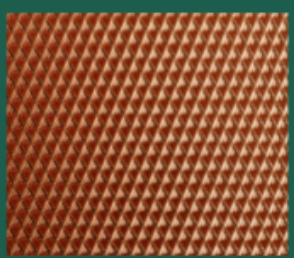
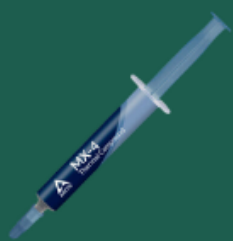
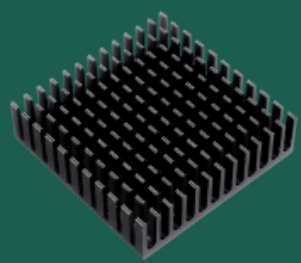
General Design

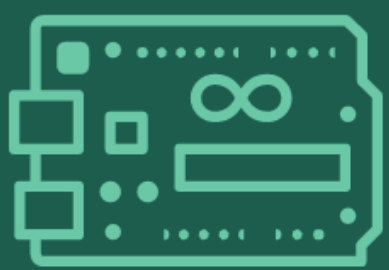
The device consists of a cubic container for the phase change material, which in this case is paraffin wax. The electrical generation is conducted through the use of thermoelectric generators connected to the container

Design Enchancement

The design can be enhanced in multiple ways, such as though the inclusion of a metal mesh, a thermal interface material for increased conductivity, or the use of heatsinks on the cold plate side of the thermoelectric generators to increase the temperature difference

Testing


The computer will be put under a stress test, and the heatsink will be used as the only cooling method. The temperature of the CPU and the wax will be recorded, as well as the voltage produced by the generators. The CPU temperature data will be collected using the HWiNFO Software, while the voltage and wax temperature will be recorded using an Arduino. A resistor will be connected to a breadboard, so that the voltage & known resistance can be used to calculate the power output of the generators.