

ABSTRACT

The processor is an IC that controls a computer system. Therefore, the processor temperature has increased higher than other components. The high temperature should be anticipated by computer users to avoid damage to the CPU itself. Therefore, in this study a cooling system was created on the CPU using a thermoelectric module. Basically, the thermoelectric module used utilizes the principle of Peltier effect in which the thermoelectric module undergoes temperature changes at the junction of two different materials when electrical current flow across the junction. In this experiments, the TEC1-12715 thermoelectric module is used to reduce the temperature of the processor in idle and stressing conditions. The maximum temperature obtained at the processor under stressing conditions reaches 50 °C and the minimum temperature is 33 °C. In case of idle condition, the processor temperature cooled by using thermoelectric module, is stable at the initial set point of 25 °C until three hours. When using a heatsink and fan are applied in stressing condition, the maximum temperature of the processor is stable at 35 °C and a minimum temperature is stable at 31 °C for three hours. Furthermore, in the test under idle conditions, the maximum processor temperature reaches 33 °C and the minimum temperature is 27°C in the span of 3 hours

Keywords : Processor, Temperature, Thermoelectric Module, Peltier Effect