ABSTRACT

HEAT MEASURING DESIGN OF ELECTRIC TOOLS WITH
THERMOPILLE ARRAY* MLX 90620 BASED ON *MICROCONTROLLER
ATMEGA 2560 AND RASPBERRY PI

By

AKHMAD HARRY SUSANTO

Nowadays, technology of Infra red is developing in every sector rapidly. One of it's function is to monitor electric tools. It can detect heat caused by the use of electric tools. The main focus of this research is to know the effective distance using the measurement of built systems and to get the real heat image of electric tools measurable object.

The system having been built resembles *embeded* system which is a merger of some processing tools. It consists of *hardware* and *software*. *Hardware* is a device consisting some sensors and controlers like Arduino Mega, then data processing like Raspberry Pi. Furthermore, *software* is in the form of data processing that becomes colored image, Python 2.7.

A testing also had been done on *hardware* and *software*. Based on the result of measurement system test using *thermopille array*, MLX 90620 has an effective range of measurement of 35 cm and it also can identify the measured heat spot. Besides that, the system that is developing has been capable to represent the heat pattern resulted from electric tools.