

ABSTRACT

Pulse oximetry is a tool with a method without injuring parts of the body (non-invasive) to measure levels of hemoglobin (Hb) in the blood. Tools pulse oximetry using different wavelengths of red light (660 nm) and infrared light (940 nm) are captured by the sensor detection after passing through the veins and capillaries at the tip of the index finger. Microcontroller ATmega 16 is used to process the data, while the LCD is used to display the measurement results of the sensor. Data from the detection sensor is sent to the microcontroller and then directly to the LCD display. The microcontroller, the data is processed and then processed to obtain the data of oxygen saturation (SpO₂). The normal range of oxygen saturation in the blood is above 70%. Hemoglobin test results with tools made to have an error rate of 1.5% compared to the standard measuring devices.

Keywords: Pulse Oximetry, Non-invasive, and Microcontroller