

ABSTRACT

Photoplethysmography is non-invasive technique that measures relative blood volume changes in the blood. Information from this blood volume change signal can be used to calculate the heartbeat per minute (BPM) Because each wave peak that occurs correlates with one heartbeat.

There are two types of PPG, transmittance and reflectance. Transmission method that is infrared b photodiode , While reflectan infrared and photodiode parallel. Data from the finger sensor transmittance and reflektance goes into the signal conditioning circuit, then sent to the microcontroller to be processed so as to produce a percentage of BPM value which is then displayed on the PC.

Testing is done by comparing the module with standard gauge which gives the biggest %error 1,08% reflektance and 0,38% Trasnmittance. From the results obtained, the tool is worthy of use because in the "Health Testing Guidance and Calibration Tool" DEPKES RI in 2001, the maximum limit in BPM fault tolerance is 5%.

Keywords: Photoplethysmograf, Transmittance, Reflektance