

ABSTRACT

Photoplethysmograph (PPG) is a method used to determine the condition of the cardiovascular system by measuring changes in blood volume in skin tissue. In its application, this method uses an optical sensor to capture electrical signals from light sources that pass or reflect. The latest research is photoplethysmography monitoring which has the ability to send via Bluetooth HC-05 but the tools and display are separated it is not practical.

So this module was made, it can display PPG signals with SpO₂ (saturation oxygen peripheral capillary) BPM (Beat per Minutes) values displayed on the TFT LCD so we can monitor PPG signal easily.

This tool is tested by comparing the module with an oxymeter which produces an average% error of measurement of SpO₂ of 0.486% with a maximum permissible tolerance of $\pm 1\%$, whereas in the BPM parameter it is obtained an average% error of 0.683% with a maximum permitted tolerance of $\pm 5\%$.

Keyword : Photoplethysmograph, SpO₂,BPM