ABSTRACT

Heart signal monitoring carried out for twenty hours will help doctors to diagnose heart disease. The aim of this research is to develop a portable and inexpensive ECG monitoring system such as the so-called Holter monitor. The type of method used in the manufacture of this module uses the after only design method. The main design consists of the AD8232 ECG module, DS3231 RTC module, Arduino microcontroller, and SD card memory. ECG signals are collected from the body based on standard LEAD II measurements. To record the raw data of the ECG signal, the SD card memory is used to store the data for further data analysis. Calibration is performed using a phantom ECG. The average result of measuring the BPM module parameter is 11 times. The data taken has a minimum error value of 0%, the largest error value is 0.74%, and the average error value is 0.35%. In measuring the parameters of the ECG chart with a comparison, measurements were made 6 times. The data taken has a minimum error value of 166.66%, has the largest error value of 700%, and the average error value is 319.67%. From the results obtained, the Holter Monitor tool can be made with a PC interface and storage on an SD card.

Keywords : ECG, Holter, AD8232, RTC AD3231, SD Card