ABSTRACT

Wireless sensor networks (Wireless Sensor Network) has been applied to sensing and monitoring. One of the sensing application is in the field of health, especially for monitoring the heart. Human heart health monitoring is essential to enhancing the safety for people who work, people who live in rural areas, especially the elderly. For monitoring the human heart health, keep in mind the characteristics of the activities conducted by humans, the health characteristics of organs especially the heart in healthy people and sick people, and the design of human health monitoring systems.

In this final project will be designed and implemented a system that can perform health monitoring of the human heart using a wireless sensor network that is connected with an interface to a PC (personal computer) that can function like ECG (electrocardiogram). Human health monitoring performed by attaching electrodes to the body Enthoven triangle. The system is designed in accordance with the need to consider the existing equipment specifications. Implementation is done by using Analog to Digital Converter (ADC) found on the sensorboard MDA300CA and microcontroller. With certain sampling rate of heart signals will be processed and then transmitted from sensor nodes to the gateway and then connected to a PC as the destination. System design was tested with the heart signal to give input on different objects. Found that the human heart in a healthy state is 60 to 150 Hz.

Keyword: wireless sensor network, electrocardiograph, electrode, enthoven