ABSTRACT

Vital Signs is a measurement of the most basic functions of the body to find out clinical signs and is useful for diagnosing a disease and determining the good medical treatment plan. There are four parameters in examining vital signs are body temperature, heart rate, respiratory rate, and blood pressure. The purpose of this study was to provide real-time remote monitoring of the health condition of the patient which to prevent the critical conditions for patients. The blood pressure is obtain by placing the cuff strapped to the arm. While the body temperature is obtained by putting the sensor into the patient's axilla. The calibration is performed using standard sphygmomanometer and digital thermometer. So the authors made a medical device to detect blood pressure using the MPX53DP sensor and DS18B20 sensor for body temperature. Data from the sensor sending by Internet via ESP32 and displayed on the ThingSpeak Web Internet of Things (IoT). Based on the results of testing and measurement of the comparison, it was found that the average % systole error was 1.11%, error diastole 1.82% and temperature error 0.29%.

Keywords: Vital Signs, Blood Pressure, MPX53DP, Temperature, DS18B20, ESP32, ThingSpeak