

XBee wireless sensor networks for heart rate monitoring in sport training

Abstract

Heart Rate Monitors (HRMs) have become widely used since the last two decades. It used as training aid for various types of sports. And the development of new HRMs has evolved rapidly. Thus, in order to determine the exercise intensity of training session or race, HRMs are mainly used. Compared to the other indication of exercise intensity, Heart rate is easy to monitor, compatible to use in most situation and relatively cheap. Thus, it is most beneficial if wireless sensor network can be implementing into the system. Other than monitored their condition by themselves, this system may allowed a number of athletes being monitored simultaneously. Arduino-Nano board was used to interface with nRF24AP1 and XBee. The wireless sensor network consists of a microcontroller on Arduino-Nano board, nRF24AP1 and the XBee wireless communication module which is based on the IEEE 802.15.4. This system will involve peer to peer communication of ANT+ and mesh networking among the XBee.