

Wireless Remote Control System

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Abstract

This paper presents the design of a wireless remote control system based on the ZigBee communication protocol. Gathering data from sensors or performing control tasks through wireless communication is advantageous in situations in which the use of cables is impractical. The ZigBee standard is suitable for low-cost, low-data-rate and low power wireless networks implementations. The XBee-PRO module, designed to meet ZigBee standards, requires minimal power for reliable data exchange between devices over a distance of up to 1600m outdoors. A key component of the ZigBee protocol is the ability to support networking and this can be used in a wireless remote control system. This system may be employed to control temperature and humidity(SHT11) and light intensity(TSL230) levels inside a commercial greenhouse. An Atmega328 microcontroller is used for gathering data from the sensors and transmitting it to a coordinator device with the help of the XBee modules.