Abstract

Wireless sensor networks (WSN) consists of light-weight, low-power and small size sensor nodes (SNs). They have ability to monitor, calculate and communicate wirelessly. In this paper we present a performance evaluation of ZigBee which is IEEE 802.15.4 standard, including the Physical (PHY) layer and Media Access Control (MAC) sub-layer, which allow a simple
interaction between the sensors. We provide an accurate simulation model with respect to the specifications of IEEE 802.15.4 standard. We simulate and analyzed two different scenarios, where we examine the topological features and performance of the IEEE 802.15.4 standard using OPNET simulator. We compared the three possible topologies (Star, Mesh and Tree) to each other.

Reference

Overview and Analysis of the Performances of ZigBee-based Wireless Sensor Networks

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Index Terms

Computer Science

Wireless

Key words

Wireless Sensor Networks
ZigBee
routing

protocols

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