Abstract

This research work is based on IEEE 802. 15. 4/ Zigbee wireless sensor network. The main aim of this research is to analyze the performance of Zigbee network topologies in beacon enable mode by giving the random waypoint mobility model to its nodes. The scenarios have investigated the performance of network by varying speed and mobility of nodes. Results are evaluated using parameters throughput, data traffic sent and data traffic received and number of hops. The simulation is done by OPNET modeler 14. 5. The results conclude that tree topology give good performance in case of data traffic sent and data traffic received, the throughput is also efficient. Hence tree topology constructs a robust network using mobile nodes.

References

- Chiraz Chaabane1, Alain Pegatoquet, Michel Auguin, Maher Ben Jemaa "An Efficient Mobility Management Approach For IEEE 802. 15. 4/ZigBee Nodes"; HPCC-2012: The 14th IEEE International Conference on High Performance Computing and Communications.
- Francesca Cuomo, Anna Abbagnale, Emanuele Cipollone "Cross-layer network formation for energy-efficient IEEE 802. 15. 4/ZigBee Wireless Sensor Networks"; Ad Hoc Networks ELSEVIER.
- Boris Mihajlov and Mitko Bogdanoski "Overview and Analysis of the Performances of ZigBee based Wireless Sensor Networks"; IJCA Volume 29– No. 12, September 2011.

Index Terms

Computer Science

Communications
Keywords

WSN  Zigbee  CSMA/CA  Mobility  Topologies.