This paper presents the network output load at the Fully Functional Device (FFD) and Reduced Functional Devices (RFD's) of IEEE 802.15.4 for different modulation schemes. From the simulations it is revealed that Minimum Shift Keying (MSK) is best suited for all types of devices in 802.15.4 for wireless sensor networks (WSNs) if the network output load is to be maximized as more is the output load, more will be the net throughput. Simulations also reveal that Binary Phase Shift keying (BPSK) at all type of devices and Quadrature Amplitude Modulation of 64 bits (QAM_64) at the PAN (Personal Area Network) coordinator are unsuitable.
- IEEE 802.15.4 OPNET Simulation Model, http://www.open-zb.net/
- Jan Magne Tjensvold, “Comparison of the IEEE 802.11, 802.15.1, 802.15.4 and 802.15.6 wireless standards”; September 18, 2007.

Index Terms

Computer Science
Wireless Networks

Key words

Network output load

RFD
FFD
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QAM_64
Enhancing network output load in IEEE 802.15.4 with different modulations for wireless sensor networks