عنوان مقاله:

Outage Probability Analysis of Wireless Energy Harvesting-Assisted Networks Considering Dual Energy-Data Channel Models

محل انتشار:

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خلاصه مقاله:

In this paper, an energy harvesting assisted wireless network is considered where a source, contrary to the conventional networks, harvests its required energy via two independent energy channels. In addition, we assume a destination terminal, which receives interference signals along with the data transferred by the source. In this model, the source is considered to scavenge energy from the destination's broadcasted signal and ambient interference signal. We model the energy and data channels via Rayleigh-Racian channel model. Then, the system outage probability is obtained after analyzing the outage probability of energy and data channels. Moreover, another scenario in which the source is assumed to harvest energy from only the destination terminal is investigated. Computer simulations are conducted to evaluate the effectiveness of the proposed approach, and the impacts of different system parameters on the system outage probability are investigated. The results indicate the outperformance of the scenario in which energy harvests via two channels compared to the case where only one energy harvesting channel exists. In addition, the overall system outage highly degrades when outage in energy channels decreases, especially .in the first scenario

کلمات کلیدی:

Energy harvesting, Outage probability, Radio frequency, Wireless energy transfer