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Title: Mean LQI and RSSI based link evaluation algorithm and the application in frequency hopping mechanism in wireless sensor networks

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Abstract: The evaluation of communication link is crucial to wireless sensor networks. A link evaluation algorithm based on mean LQI and mean RSSI is proposed by analysis of a large amount of data collected from communication tests. This algorithm can improve the speed and precision of evaluation for communication link, and improve the reliability of wireless sensor networks. Then EPA based Frequency Hopping Metric(EPA-FHM) is presented, and applied to frequency-hopping algorithm. The performance of EPA-FHM is tested with the CC2420 as the platform, and the results show the reliability is improved. © 2011 IEEE.

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