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Authors:

Mian Hammad Nazir

Shahid Mehmood

Nathirulla Sheriff

Ahsan Adeel

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Abstract

DFSA (Dynamic Frame Slotted Aloha) based anti-collision algorithms resolve the collision among the RFID (Radio frequency-ID) tags by adjusting the frame size for the incoming frame according to the number of un-identified tags. The system efficiency directly depends upon the estimated number of tags that contribute towards the frame size adjustment. In this paper, we propose an improved scheme for DFSA which accurately estimates the tags that have to participate in the incoming frame. The scheme also adjusts the incoming frame size according to the estimated tags and keeps the system efficiency very close to the optimal. The simulation results show that for the proposed scheme the tag estimation time and the estimation error rate is far less compared to conventional methods and system efficiency is close to optimal.

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Index Terms

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Keywords

Passive Uhf Rfid Tag Estimation Scheme Epc Global Class 1 Gen 2 Maximum System Efficiency

