



ABSTRACT IDE1010

A Snoozing Frequency Binary Tree Protocol

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Abstract

In this paper we describe and evaluate an enhanced version of an active RFID wake-up and tag ID extraction radio communication protocol. The enhanced protocol further reduces the transponder power consumption (prolonging their battery life-time). The protocol uses a frequency binary tree method for extracting the identification number of each transponder. This protocol is enhanced by extending it with a framed slotted medium access control method which decreases the number of activations of each transponder during tag ID extractions. Using this medium access method, the average number of transponder activations is decreased with a factor of 2.5 compared to the original protocol. The tag ID read-out delay is increased by 0.9% on average.

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