

A Multifrequency MAC Specially Designed for Wireless Sensor Network Applications

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Algorithm 1: Frequency Number Computation

Input: Node α 's ID (ID_α), and node α 's neighbors' IDs within two communication hops.
Output: The frequency number ($FreNum_\alpha$) node α gets assigned.
 $index = 0; FreNum_\alpha = -1;$
repeat
 $Rnd_\alpha = \text{Random}(ID_\alpha, index);$
 $Found = TRUE;$
 for each node β in α 's two communication hops **do**
 $Rnd_\beta = \text{Random}(ID_\beta, index);$
 if ($Rnd_\alpha < Rnd_\beta$) or ($Rnd_\alpha == Rnd_\beta$ and $ID_\alpha < ID_\beta$);
 then
 $Found = FALSE; \text{break};$
 end
end
if $Found$ **then**
 $FreNum_\alpha = index;$
else
 $index ++;$
end
until $FreNum_\alpha > -1;$

CCS Concepts: • **General and reference** → **Computing standards, RFCs and guidelines.**

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1 INTRODUCTION

2 MMSN PROTOCOL

2.1 Frequency Assignment

A natural candidate is an increasing geometric sequence, in which

$$P(t) = \frac{b^{\frac{t+1}{T+1}} - b^{\frac{t}{T+1}}}{b - 1} \quad (1)$$

where $t = 0, \dots, T$, and b is a number greater than 1.

2.1.1 Exclusive Frequency Assignment. In exclusive frequency...

3 SIMULATOR

If the model checker requests ...

Name	Phone	Age
Peter	1234	17
Anna	4321	25

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