This contribution proposes to describe RS uplink regions in UCD, which periodically appear in frames.

Abstract

This contribution proposes to describe RS uplink regions in UCD, which periodically appear in frames.

Purpose

Text proposal for 802.16j Baseline Document.

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Patent Policy

Describe RS uplink region in UCD

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1. Introduction

In 11.3.1 of P80216_Cor2_D4, it has been proposed to describe the UL region of ranging, HARQ, fast feedback, and sounding in the UCD message instead of UL-MAP. This contribution proposes the same approach for RS in order to reduce the overheads of R-MAP messages.

In order to facilitate the incorporation of this proposal into IEEE 802.16j standard, specific changes to the baseline working document IEEE 802.16j-06/026r4 are listed below.

2. Spec Changes

This section contains the suggested text for the 802.16 specification changes.

[Insert the following text at end of Table 601 in line24 of page 172]

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Length</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS Ranging Region</td>
<td>TBA</td>
<td>5/10/15/20</td>
<td>The value of TLV consists of up to 4 concatenated sections (one section per Ranging method), each having the following structure: Bit #0<del>31, Contains the following fields to describe ranging region: OFDMA symbol offset (8 bits), Subchannel offset (7 bits), No. OFDMA symbols (7 bits), No. subchannels (7 bits), Ranging method (2 bits), Dedicated ranging indicator = ‘0’ Bit #31</del>34, Parameter d that defines periodicity of $2^d$ frames Bit #35~39, Allocation phase expressed in frames</td>
</tr>
<tr>
<td>RS HARQ Ack Region</td>
<td>TBA</td>
<td>4</td>
<td>Bit #0<del>23, Contains the following fields as in the HARQ ACKCH region allocation IE OFDMA Symbol offset (8 bits), Subchannel offset (7 bits), No. OFDMA symbols (5 bits), No. subchannels (4 bits) Bit #32</del>34, Parameter d that defines periodicity of $2^d$ frames Bit #35~39, Allocation phase expressed in frames</td>
</tr>
<tr>
<td>RS Fast Feedback Region</td>
<td>TBA</td>
<td>5</td>
<td>Bit #0<del>31, Contains the following fields as in the FAST FEEDBACK Allocation IE: OFDMA symbol offset (8 bits), Subchannel offset (7 bits), No. OFDMA symbols (7 bits), No subchannels (7 bits), Reserved (3 bits) Bit #32</del>34, Parameter d that defines periodicity of $2^d$ frames Bit #35~39, Allocation phase expressed in frames</td>
</tr>
<tr>
<td>RS Sounding Region</td>
<td>TBA</td>
<td>5/10</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>-----</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

For 5 bytes per each sounding region
Bit #0~31, Contains the following fields as in the PAPR reduction/Safety zone/Sounding zone allocation IE:
OFDMA symbol offset (8 bits), Subchannel offset (7 bits), No. OFDMA symbols (7 bits), No. subchannels (7 bits), PAPR Reduction/Safety Zone (1 bit), Sounding Zone bit = ‘1’, Reserved (1 bit)
Bit #32~34, Parameter d that defines periodicity of $2^d$ frames
Bit #35~39, Allocation phase expressed in frames