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| Project | IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 > | |
| Title | Multi-level DIUC encoding in the Chase HARQ Sub-Burst | |
| Date Submitted | 2005-03-09 | |
| Source(s) | Mark Cudak Motorola Inc. | Mark.Cudak@motorola.com |
| Re: | Proposes a resolution to inefficient feedback control | |
| Abstract | The normal map extension for HARQ was added in the previous meeting. The contribution consolidated the functionality of the HARQ_MAP and within the normal map. However, the per sub-burst encoding of the DIUC flexibility was lost. The contribution proposes a method to regain that functionality at minimal cost. | |
| Adoption | | |
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Introduction

The normal map extension for HARQ was added in the previous meeting. The contribution consolidated the functionality of the HARQ_MAP and within the normal map. However, the per sub-burst encoding of the DIUC flexibility was lost. The contribution proposes a method to regain that functionality at minimal cost.

Editorial Instructions

On page 259, section 8.4.5.3.22 HARQ DL MAP IE make the following edits to Tables 285n

Table 306c DL H-ARQ Chase Sub-Burst IE Format

| | | | |
|-------------------------------------|--|----------|---|
| DL H-ARQ Chase Sub-Burst IE { | | | |
| Sub-Burst DIUC Indicator | | 1 bit | Indicates that each sub burst will be assigned a unique DIUC. |
| If(Sub-Burst DIUC Indicator == 0){ | | | |
| __DIUC | | 4 bits | |
| __Repetition Coding Indication | | 2 bits | 0b00 – No repetition coding 0b01 – Repetition coding of 2 used 0b10 – Repetition coding of 4 used 0b11 – Repetition coding of 6 used |
| } | | | |
| N sub burst | | 5 bits | Number of sub-bursts in 2D region |
| For (j=0; j< N sub burst; j++){ | | | |
| RCID_IE() | | Variable | |
| Duration | | 10 bits | Duration in slots |
| If(Sub-Burst DIUC Indicator == 1){ | | | |
| DIUC | | 4 bits | |
| Repetition Coding Indication | | 2 bits | 0b00 – No repetition coding 0b01 – Repetition coding of 2 used 0b10 – Repetition coding of 4 used 0b11 – Repetition coding of 6 used |
| } | | | |
| ACID | | 4 bits | |
| AI_SN | | 1 bit | |
| CQICH Control Indicator | | 1 bits | |
| If(CQICH Control Indicator == 1){ | | | |
| Allocation Index | | 6 bits | Index to the channel in a frame the CQI report should be transmitted by the SS |

| | | | |
|---|--|----------|--|
| Period (p) | | 3 bits | A CQI feedback is transmitted on the CQI channels indexed by the (CQI Channel Index) by the SS in every 2^p frames. |
| Frame offset | | 3 bits | The MSS starts reporting at the frame of which the number has the same 3 LSB as the specified frame offset. If the current frame is specified, the MSS should start reporting in 8 frames. |
| Duration (d) | | 4 bits | A CQI feedback is transmitted on the CQI channels indexed by the (CQI Channel Index) by the SS for $2^{(d-1)}$ frames. If d is 0b0000, the CQICH is de-allocated. If d is 0b1111, the MSS should report until the BS command for the MSS to stop |
| } | | | |
| Dedicated DL Control Indicator | | 1 bit | |
| If (Dedicated DL Control Indicator ==1) { | | | |
| Dedicated DL Control IE () | | Variable | |
| } | | | |
| } | | | |
| } | | | |