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| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>** | |
| Title | **R-FCH pointer** | |
| Date Submitted | **2008-03-13** | |
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| Re: | IEEE 802.16-08/007: "IEEE 802.16 Working Group Letter Ballot Recirc #28b: Announcement" | |
| Abstract | This contribution proposes clarification on timing & frequency offset issues for transparent mode | |
| Purpose | Text proposal for 802.16j Draft Document. | |
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# R-FCH pointer

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# Introduction

When a non-transparent RS lost the R-FCH, it must re-synchronize to the frame-start DL preamble, acquire the location of the R-FCH, and then enter the relay zone. There are two scenarios to acquire the location of the R-FCH.

1. If the location of R-FCH is semi-static, the location had been indicated by the latest RCD message. Therefore, the RS could acquire the location of the R-FCH from its memory.

2. In the 2-hop non-transparent RS scenario, the location of R-FCH may be dynamically changed to increase the efficiency of the relay zone. Therefore, we propose an R-FCH pointer IE in DL-MAP to indicate the location.

In order to facilitate the incorporation of this proposal into IEEE 802.16j standard, specific changes to the draft standard P802.16j/D3 are listed below.

# Specification Changes

*[Modified the following text in line 32 of page 100 as indicated:]*

After registration, the transparent RS receives the R-MAP and RCD messages in the access zone from the access station in order to obtain the R-link parameters (see Figures 94g and 94h). The non-transparent RS shall obtain the location of the relay zone containing the R-FCH from the R-FCH pointer IE or the RCD message. MR-BS or non-transparent RS shall send either DL-MAP_IE with DIUC = 13 or STC_DL_Zone_IE with dedicated pilots bit set to 1 in the DL-MAP message in the access zone to ensure the MS does not process the signal transmitted in the relay zone. Afterward, the RS shall decode the R-FCH and R-MAP messages within the relay zone. In order to obtain the R-link parameters, the RS shall first search for the R-MAP message. Once the RS has received at least one R-MAP message and is able to decode a burst in the R-link successfully, the RS will achieve R-link MAC synchronization.

*[Modified the Table 321 as following indicated:]*

Table 321—Extended DIUC code assignment for DIUC = 15 (REV2/D3)

| Extended DIUC | (hexadecimal) Usage |
|---|---|
| 00 | Channel_Measurement_IE |
| 01 | STC_Zone_IE |
| 02 | AAS_DL_IE |
| 03 | Data_location_in_another_BS_IE |
| 04 | CID_Switch_IE |
| 05 | *Reserved* |
| 06 | *Reserved* |
| 07 | HARQ_Map_Pointer_IE |
| 08 | PHYMOD_DL_IE |
| 09 | ~~*Reserved*~~ R-FCH pointer IE |

| | |
|---|---|
| 0A | Broadcast Control Pointer IE |
| 0B | DL PUSC Burst Allocation in Other Segment |
| 0C | DL_Relaying_IE |
| 0D-0E | Reserved |
| 0F | UL_interference_and_noise_level_IE |

8.4.5.3.3.xx R-FCH pointer IE

Table xxx —R-FCH pointer IE

| Syntax | Size | Note |
|---|---|---|
| R-FCH pointer IE () { | | |
| Extended DIUC | 4 bits | DL_Relaying = 0x0B |
| Length | 4 bits | Length = 1 |
| R-Zone_Location | 8 bits | The field indicates the location of the first transmit relay zone relative to the first OFDM symbol in the same frame. The unit is 1 OFDM symbol. The first OFDM symbol in each frame is indexed as 0. |
| } | | |