### Project

### Title
Switching Gaps in H-FDD Operation

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### Re:
IEEE 802.16 Working Group Letter Ballot Recirc #26b

### Abstract
Clarifications and signaling mechanisms are provided for efficient operation of H-FDD in 802.16e.

### Purpose
Accept the proposed specification changes on IEEE P802.16Rev2/D3.

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Switching Gaps in H-FDD Operation

1. Introduction

In a H-FDD system, proper switching gaps need to be defined between the reception and transmission period of a MS. Additional constraint arise from the duration of the frame and the location of the gap in the DL and UL frames in H-FDD. Contribution IEEE S802.16maint-08/122 describes some of these constraints.

In this contribution, we propose a mechanism to ensure proper spectral utilization while observing these constraints.

2. Proposed Text

I: Add the following text after line 49 pg 678 Section 8.4.4.1

The time gap between the DL transmission period for the first group and the DL transmission period for the second group is:

\[ DL_{gap} = T_r + DL_{gapSym} T_s \]

where \( DL_{gapSym} \) is an integer number of OFDMA symbols and \( T_r \) is the remaining time after the maximum number of integer symbols are accommodated in a OFDMA frame, i.e.,

\[ T_r = T_f - \left\lfloor \frac{T_f}{T_s} \right\rfloor T_s \]

II: Add the row shown in Red to Table 543 pg 1067 Section 11.4.1

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Length</th>
<th>Value(variable length)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available DL Radio Resources</td>
<td>23</td>
<td>1</td>
<td>Indicates the average ratio of non-assigned DL radio resources to the total usable DL radio resources. The average ratio shall be calculated over a time interval defined by the DL_radio_resources_window_size parameter (Table 524). The reported average ratio will serve as a relative load indicator. This value can be biased by the operator provided it reflects a consistent representation of the average loading condition of BSs across the operator network. 0x00 : 0% 0x01 : 1% ... 0x64 : 100% 0x65 - 0xFE : reserved, 0xFF indicates no information available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Length</th>
<th>Value(variable length)</th>
</tr>
</thead>
<tbody>
<tr>
<td>( DL_{gapSym} )</td>
<td>24</td>
<td>1</td>
<td>Indicates the number of integer OFDMA symbols between the two OFDMA DL subframes in H-FDD</td>
</tr>
</tbody>
</table>