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Title	**Informative: LDPC parallel processing in IEEE802.16e**	
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Re:	IEEE P802.16-REVe/D6, BRC	
Abstract	In this contribution, some additional descriptions are provided for LDPC in IEEE802.16e.	
Purpose	Provide informative specification text.	
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Informative: LDPC parallel processing in IEEE802.16e

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1. Introduction

Optional advanced codes for the OFDMA PHY, LDPC codes are in the document, P80216e_D6, the section for LDPC(Low Density Parity Check) code is specified. It is clear that LDPC codes in P80216e_D6 have excellent flexibility and performance, as well as low encoding and decoding complexity. In addition to these good features, in this contribution, we provide short description for layered decoding as informative LDPC specification text.

2. Proposed Changes

<Add two sentences to section 8.4.9.2.5.1 Code Description as follows.>

Rate 1/2:

-1 94 73 -1 -1 -1 -1 -1 55 83 -1 -1 7 0 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1

-1 27 -1 -1 -1 22 79 9 -1 -1 -1 12 -1 0 0 -1 -1 -1 -1 -1 -1 -1 -1 -1

-1 -1 -1 24 22 81 -1 33 -1 -1 -1 0 -1 -1 0 0 -1 -1 -1 -1 -1 -1 -1 -1

61 -1 47 -1 -1 -1 -1 -1 65 25 -1 -1 -1 -1 -1 0 0 -1 -1 -1 -1 -1 -1 -1

-1 -1 39 -1 -1 -1 84 -1 -1 41 72 -1 -1 -1 -1 -1 0 0 -1 -1 -1 -1 -1 -1

-1 -1 -1 -1 46 40 -1 82 -1 -1 -1 79 0 -1 -1 -1 -1 0 0 -1 -1 -1 -1 -1

-1 -1 95 53 -1 -1 -1 -1 -1 14 18 -1 -1 -1 -1 -1 -1 -1 0 0 -1 -1 -1 -1

-1 11 73 -1 -1 -1 2 -1 -1 47 -1 -1 -1 -1 -1 -1 -1 -1 -1 0 0 -1 -1 -1

12 -1 -1 -1 83 24 -1 43 -1 -1 -1 51 -1 -1 -1 -1 -1 -1 -1 -1 0 0 -1 -1

-1 -1 -1 -1 -1 94 -1 59 -1 -1 70 72 -1 -1 -1 -1 -1 -1 -1 -1 -1 0 0 -1

-1 -1 7 65 -1 -1 -1 -1 39 49 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 0 0

43 -1 -1 -1 -1 66 -1 41 -1 -1 -1 26 7 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 0

Note that the R=1/2 code is designed such that after a model matrix row permutation of [0, 2, 4, 11, 6, 8, 10, 1, 3, 5, 7, 9] consecutive rows do not intersect, which may be used to increase decoding throughput in some layered decoding architectures.

Rate 2/3 A code:

3 0 -1 -1 2 0 -1 3 7 -1 1 1 -1 -1 -1 -1 1 0 -1 -1 -1 -1 -1 -1

-1 -1 1 -1 36 -1 -1 34 10 -1 -1 18 2 -1 3 0 -1 0 0 -1 -1 -1 -1 -1

-1 -1 12 2 -1 15 -1 40 -1 3 -1 15 -1 2 13 -1 -1 -1 0 0 -1 -1 -1 -1

-1 -1 19 24 -1 3 0 -1 6 -1 17 -1 -1 -1 8 39 -1 -1 -1 0 0 -1 -1 -1

20 -1 6 -1 -1 10 29 -1 -1 28 -1 14 -1 38 -1 -1 0 -1 -1 -1 0 0 -1 -1

-1 -1 10 -1 28 20 -1 -1 8 -1 36 -1 9 -1 21 45 -1 -1 -1 -1 -1 0 0 -1

35 25 -1 37 -1 21 -1 -1 5 -1 -1 0 -1 4 20 -1 -1 -1 -1 -1 -1 -1 0 0

-1 6 6 -1 -1 -1 4 -1 14 30 -1 3 36 -1 14 -1 1 -1 -1 -1 -1 -1 -1 0

Rate 2/3 B code:

2 -1 19 -1 47 -1 48 -1 36 -1 82 -1 47 -1 15 -1 95 0 -1 -1 -1 -1 -1 -1

-1 69 -1 88 -1 33 -1 3 -1 16 -1 37 -1 40 -1 48 -1 0 0 -1 -1 -1 -1 -1

10 -1 86 -1 62 -1 28 -1 85 -1 16 -1 34 -1 73 -1 -1 -1 0 0 -1 -1 -1 -1

-1 28 -1 32 -1 81 -1 27 -1 88 -1 5 -1 56 -1 37 -1 -1 -1 0 0 -1 -1 -1

23 -1 29 -1 15 -1 30 -1 66 -1 24 -1 50 -1 62 -1 -1 -1 -1 -1 0 0 -1 -1

-1 30 -1 65 -1 54 -1 14 -1 0 -1 30 -1 74 -1 0 -1 -1 -1 -1 -1 0 0 -1

32 -1 0 -1 15 -1 56 -1 85 -1 5 -1 6 -1 52 -1 0 -1 -1 -1 -1 -1 0 0

-1 0 -1 47 -1 13 -1 61 -1 84 -1 55 -1 78 -1 41 95 -1 -1 -1 -1 -1 -1 0

Note that the R=2/3 B code is designed such that after a model matrix row permutation of [0, 3, 6, 1, 4, 7, 2, 5] consecutive rows do not intersect, which may be used to increase decoding throughput in some layered decoding architectures.