Project	IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>
Title	LDPC coding for OFDMA PHY
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Re:	IEEE P802.16e/D6, sponsor ballot
Abstract	This contribution contains editorial corrections to the LDPC text that differ from the related contributions.
Purpose	Editorial corrections related to LDPC.
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Overview

Contribution IEEE C802.16e-05/066r3 (2005-01-27) was adopted to complete the definition of the low-density parity-check code (optional) for OFDMA. Several LDPC text changes were not accurately reflected in IEEE P802.16e/D6 (2005-02-18). This contribution corrects these editorial issues.

Recommended Text Changes

Modify the text in 802.16e_D6 as follows, adjusting the numbering as required:

<In section 8.4.9.2.5.1, p. 444, line 41, in the equation, remove '<' and '>', so that the $\mathbf{H}_b$ equation is "$\mathbf{H}_b = \left[\left(\mathbf{H}_{b1}\right)_{m_b \times k_b} \vdots \left(\mathbf{H}_{b2}\right)_{m_b \times m_b} \right]$".>

<In section 8.4.9.2.5.1, p. 445, line 3, a left bracket '(' is misplaced in the mod expression of Equation (129b). Move a '(' forward so that "mod$(p(i,j), z_f)$".>

<In section 8.4.9.2.5.1, move the line "Direct Encoding (Informative)" (p. 446, line 12 only) to line 26 p. 447,
- after line 25 "The following informative subsection shows two such methods."
- before line 27 "Method 1".>

<In section 8.4.9.2.5.1, p. 446, line 15, "~~For the two methods, described below, S~~section $\mathbf{H}_{b2}$ is…">

<In section 8.4.9.2.5.1, move the paragraphs between p. 446 line 14 "~~For the two methods, described below, S~~section $\mathbf{H}_{b2}$ is further partitioned into two sections …" and line 49 "…an unpaired shift size. The unpaired shift size is 0." to p. 444, line 42,
- after the paragraph starting with "$\mathbf{H}_b$ is partitioned into two sections",
- before the paragraph starting with "A base model matrix is defined for the largest code length".>

<In section 8.4.9.2.5.1, move the paragraph starting at p. 446, line 52, "The permutations used are circular right shifts" to p. 444, line 39,
- after the paragraph ending with "The base matrix n_b is an integer is an integer multiple of 24",
- before the paragraph starting with "$\mathbf{H}_b$ is partitioned into two sections".>

<In section 8.4.9.2.5.2, p. 447, line 48, remove the extra right bracket ')' in the subscript, so that the last term in the equation is "$s_{(i+1)z-1}$".>

<In section 8.4.9.2.5.2, p. 448, line 33, raise "$= \mathbf{P}_{z-p(x,k_b)}$"to regular font size (i.e., not subscript) so that the equation is "$\mathbf{P}^{-1}_{p(x,k_b)} = \mathbf{P}_{z-p(x,k_b)}$".

<In section 8.4.9.2.5.2, p. 448-450, line up Equation labels (129c), (129d), (129e), (129i), (129j), (129k), (129l) with the corresponding equations to avoid confusion.>

<In section 8.4.9.2.5.2, p. 448-449, adjust the Equation reference according to the new labels.
- In p. 448, line 31, "Equation ~~(1)~~ (129c)";
- In p. 449, line 1, "Equation ~~(2)~~" (129d)";
- In p. 449, line 52, "~~e~~Equations ~~(2)~~ (129i) and ~~(3)~~ (129j)".>

<In section 8.4.9.2.5.2, p. 449, line 5, make "(j)" regular size (i.e., not subscript) so that the expression is "$\mathbf{P}_{p(i,j)}\mathbf{u}(j)$".>

<In section 8.4.9.2.5.2, p. 449, line 16, Equation (129f), change '<' and '>' to '(' and ')', so that the equation is

$$v(0) = \sum_{j=0}^{k_b-1} \left(\sum_{q=0}^{m_b-1} P_{p(q,j)} \right) u(j)$$

<In section 8.4.9.2.5.2, p. 449, line 19, "2) Parallel computation. The parity check bit vectors ~~)1(~)1(-bmvv)~~ $v(1) \sim v(m_b - 1)$ are concurrently computed by …">