IEEE P802.11
Wireless LANs

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| Spec Text on LDPC for 1024QAM  |
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Abstract

This submission contains spec text to be incorporated in P802.11ax D0.3 related to LDPC for 1024QAM as discussed per 11/16-891r0.

***Editing instructions formatted like this are intended to be copied into the TGax Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGax Editor: Editing instructions preceded by “TGax Editor” are instructions to the TGax editor to modify or insert material in the TGax draft. As a result of adopting the changes, the TGax editor will execute the instructions rather than copy them to the TGax Draft.***

**TGax Editor: *Instruction:*** *change the paragraph in 26.1.1 in 69~70 of D0.2.*

An HE STA shall support the following Clause 26 features:(#351)

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—LDPC coding for 40 MHz, 80 MHz, 160 MHz and 80+80 MHz HE SU PPDUs

—LDPC when declaring support for more than 4 spatial streams

—LDPC when declaring support for MCS10 and MCS11

An HE STA may support the following Clause 26 features:(#351)

—LDPC coding for 26-, 52-, 106- and 242-tone RUs (transmit and receive) for MCS0~MCS9 when the number of spatial streams is less than or equal to 4

—LDPC coding for a 20 MHz HE SU PPDU (transmit and receive) for MCS0~MCS9 when the number of spatial streams is less than or equal to 4

—LDPC (transmit and receive) when declaring support for less than or equal to 4 spatial streams and when declaring not supporting MCS10 and MCS11

**TGax Editor: *Instruction:*** *change the paragraph in 26.3.10.4 in 139 of D0.2.*

**26.3.10.4 Coding**

The Data field shall be encoded using either the binary convolutional code (BCC) defined in 26.3.10.4.1 (Binary convolutional coding and puncturing) or the low density parity check (LDPC) code defined in 26.3.10.4.2 (LDPC coding)(#2803). The encoder is selected by the Coding field in HE-SIG-A in an HE SU PPDU or an HE extended range SU PPDU, or HE-SIG-B per-user subfield(s) in an(#2829) HE MU PPDU, as defined in 26.3.9.7 (HE-SIG-A) and 26.3.9.8 (HE-SIG-B) respectively.

When conducting BCC FEC encoding for an HE PPDU, the number of encoders is always 1.

LDPC is the only FEC coding scheme in the HE PPDU Data field for a 484-, 996-, and 2996-tone RU(#838). LDPC is the only FEC coding scheme in the HE PPDU Data field for MCS10 and MCS11 in a 242- 484-, 996-, and 2X996-tone RU. Support of BCC code is limited to less than or equal to four spatial streams and MCS0~MCS9 (per user in case of MU-MIMO), and is mandatory (for both transmit and receive) for RU sizes less than or equal to a 242-tone RU(#838). Support of LDPC code (for both transmit and receive) is mandatory for HE STAs declaring support for at least one of HE 40/80/160/80+80 SU PPDU bandwidths, ~~or~~ for HE STAs declaring support for more than 4 spatial streams, or for HE STAs declaring support for MCS10 and MCS11, according to HE capabilities field as defined in 9.4.2.213 (HE Capabilities element). Otherwise, support of LDPC code for either transmit or receive is optional.