IEEE P802.11  
Wireless LANs

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| D0.4 Comment Resolution STBC indication | | | | |
| Date: 2011-05-04 | | | | |
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##### Baseline draft 11ac D0.4.

PHY CIDs addressed: 109, 111, 1027, 1327, 1412, 1457, 1479, 139, 1142.

***PHY***

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| --- | --- | --- | --- | --- | --- | --- | --- |
| 109 | Au, Edward (Kwok Shum) | 7.3.2.61.2 | 29 | 31~50 | TR | In order to indicate clearly the STBC receiving capability of the STA, we propose to extend the Rx STBC field to 3 bits. | Extend the Rx STBC field to 3 bits. The original bits at its right hand side are then shifted to the right by 2 bits, and the number of reserved bits should be reduced by 2. Definition of the bits can be found in our comment related to line 33 of page 30. |
| 111 | Au, Edward (Kwok Shum) | 7.3.2.61.2 | 30 | 33 | TR | Clarify the encoding of Rx STBC field. | Change "Indicates support for the reception of PPDUs using STBC" to: "Indicates the number of spatial streams supported for the reception of PPDUs using STBC" Change TBD to:  " Set to 0 for not supporting reception of PPDUs using STBC.   Set to 1 for supporting 1 spatial stream.   Set to 2 for supporting 1 or 2 spatial stream(s).  Set to 3 for supporting 1 or 2 or 3 spatial stream(s).   Set to 4 for supporting 1 or 2 or 3 or 4 spatial stream(s).   The values 5,6,7 are reserved." |
| 1027 | Seok, Yongho | 7.3.2.61.2 | 30 | 34 | TR | TBD in the Encoding of Rx STBC | Add value |
| 1327 | van Zelst, Allert | 7.3.2.61.2 | 30 | 34 | TR | Fill in the TBD for Rx STBC | Change TBD to "Set to 0 if not supported; Set to 1 if supported" |
| 1412 | Kang, Byeongwoo | 7.3.2.61.2 | 30 | 34 | TR | TBD' is remained. | Add value |
| 1457 | Lee, Daewon | 7.3.2.61.2 | 30 | 34 | TR | TBD in the Encoding of Rx STBC | finalize |
| 1479 | Lv, Kaiying | 7.3.2.61.2 | 30 | 34 | TR | In Table 7-16，Encoding of Rx STBC is TBD | add “Set to 0 if not supported Set to 1 if supported” for Encoding of Rx STBC |
| 139 | Banerjea, Raja | 7.3.2.61.2 | 30 | 34 | TR | Rx STBC value is not defined. | Define  0 - RX STBC not supported 1 -1 stream RX STBC supported 2 - 2 stream Rx STBC supported 3 - 3 stream Rx STBC supported 4 - 4 stream Rx STBC supported |
| 1142 | Stacey, Robert | 7.3.2.61.2 | 30 | 33 | TR | Rx STBC: Replace TBD in encoding column with something meaningful | "Set to 0 if not supported. Set to 1 if supported" |

**Proposed resolution: Accept in principle**

**Discussion:**

1. IEEE 802.11n used 2 bits to indicate support for Rx STBC. It is set to 0 for no support, Set to 1 for support of one spatial stream, Set to 2 for support of one and two spatial streams Set to 3 for support of one, two and three spatial streams.
2. VHT includes support of space time streams up to 4.
3. VHT only allows NSTS=2NSS.

***Change:***

**8.4.2.94.2 VHT Capabilities Info field**

**Change Figure 8-ac11—VHT Capabilities Info field as follows**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0-B1 | B2-B3 | B4 | B5 | B6 | B7 | B8-B10 | B11 | B12 |
|  | Maximum A-MPDU Length | Supported Channel Width Set | LDPC Coding Capability | Short GI for 80 MHz | Short GI for 160 and 80 + 80 MHz | Tx STBC | Rx STBC | SU Beamformer Capable | SU Beamformee Capable |
| Bits: | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 1 | 1 |

***Change* Table 8-ac18—Subfields of the VHT Capabilities Info field as follows**

|  |  |  |
| --- | --- | --- |
| Rx STBC | Indicates support for the  reception of PPDUs using  STBC | Set to 0 for no support  Set to 1 for support of one spatial stream  Set to 2 for support of one and two spatial streams  Set to 3 for support of one, two and three spatial streams  Set to 4 for support of one, two, three and four spatial streams  The values 5,6,7 are reserved. |