IEEE P802.11  
Wireless LANs

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| OMI comment resolutions | | | | |
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Abstract

The submission provides comment resolutions to six CIDs:

4784, 5949, 7404, 7613, 9938 and 9724.

These CIDs are related to clause 27.8.

The normative text changes are shown to IEEE802.11ax D1.3.

R0 intial draft

R1 the resolution text for the CIDs 4872, 9724 is harmonized with 11-17-1053.

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| **CID** | **Comment** | **Proposed Change** | **Resolution** |
| 4784 | "Rx Channel Width" => "Channel Width". "To sent PPDUs" => "as transmit parameters for sending PPDUs" | As in comment. | Revised. The RX Channel Width is changed to Channel Width already in D1.3. The second comment on transmit parameters changes the clarification text. Instructions to the ax editor: Make the changes as shown in submission 11-17-1072r1. The same changes are also proposed in submission 11/17/1053r1. |
| 5949 | The spec says "The OMI responder shall use the values indicated by the Rx Channel Width and Rx NSS subfields of the most recently received OMI A-Control field sent by the OMI initiator to send PPDUs to the OMI initiator in subsequent TXOP". It seems the channel availability information obtained from BQR is not considered here. | Please clarify. | Revised. The Channel Width defines the channel width in which the STA is able to receive and transmit. The bandwidth query report (BQR) carries results of the CCAs on 20 MHz channels. The STA shall be able to perform CCA on each 20 MHz channel within the bandwidth of the STA. Optionally, the STA may be capable to perform CCA on other 20 MHz channels. This may provide additional information for AP on the availability of the other channels.  Instructions to the ax editor: Make the changes as shown in submission 11-17-1072r1. |
| 7404 | The spec says: "An HE STA can change its operating mode setting either using the procedure described in 11.42 (Notification of operating mode changes), or the procedure described in this subclause. " The 2 procedures should be harmonized so that they provide the same capabilities (same changes of mode of operation) | Modify the notification of operating mode changes using omn frames so that the transmit operating mode changes are also supported. | Rejected. The Comment does not provide reasoning why the Operating Mode Notification and Operating Mode Indication should provide the same capabilities and should be harmonized. The Operating Mode Notification and Operating Mode Indication have fundamental differences in their capabilities. For instance, Operating Mode Notification enables an AP to indicate its operating mode change signaling by using Beacon frames.  Also, the signaling in Operating Mode Notification, 9.4.2.166(Operating Mode Notification element) and signaling in Operating Mode Indication, 9.2.4.6.4.3(Operating Mode) are different. For instance, No LDPC field and RX NSS Type field are not present in OMI. Similarly, TX NSTS and UL MU Disallow fields are not present in OMN element. |
| 7613 | Why management frmae is not mentioned here? | Add management frame. | Revised. Agree in principle. CID5023 and CID5125 allow the use layer 3 Management frames to carry ROM signaling. L3 management frames may be used after association that simplifies AP implementation. |
| 9938 | Main purpose of including Tx NSS in OMI is to use less number of Tx RF chains for power savings. However, different from Rx NSS, the number of Tx RF chains is more closely related with the number of space-time streams (N\_STS) compared to the number of spatial streams (N\_SS). For example, even in case a STA indicates Tx NSS to be 1, an serving AP can still allocate the STA single spatial stream with STBC, which requires at least two transmit RF chains to be turned on. Because this is still possible, even if a STA supporting STBC indicates Tx NSS = 1 to the serving AP, the STA shall have at least two Tx RF chains on, which defeats the original purpose of having Tx NSS subfield in OMI. For this issue, a simple remedy is to change Tx NSS subfield to indicate the maximum number of space-time streams (N\_STS) and modify the related operation accordingly. | As in the comment. | Revised. Agree in principle with the comment. D1.3 already changed the TX NSS to TX NSTS as a resolution to CID 9804. |
| 9724 | "The OMI responder shall use the values indicated by the Rx Channel Width and Rx NSS subfields of the most recently received OMI A-Control field sent by the OMI initiator to send PPDUs to the OMI initiator in subsequent TXOP." Please specify how to use the values indicated by the Rx Channel Width and Rx NSS subfields of the most recently received OMI A-Control field. | Replace the corresponding paragraph with the following: "The OMI responder shall not transmit non-OFDMA PPDUs to the OMI initator in subsequent TXOP that uses a bandwidth that is greater than the channel width indicated by Rx Channel Width subfield in the most recently received OMI A-Control field from that OMI initator. The OMI responder shall not transmit OFDMA PPDUs to the OMI initator in subsequent TXOP that allocates an RU outside of the channel width indicated by Rx Channel Width subfield in the most recently received OMI A-Control field from that OMI initator. The OMI responder shall not transmit PPDUs to the OMI initator in subsequent TXOP that uses a greater number of spatial streams than indicated by Rx NSS subfield in the most recently received OMI A-Control field from that OMI initator." | Revised. Agree in principle with the comment. The OMI responder use of NSS and bandwidth should be further clarified.  Instructions to the ax editor: Make the changes as shown in submission 11-17-1072r1. The same changes are also proposed in submission 11/17/1053r1. |

Normative text changes:

***Instructions to the ax Editor: Make the changes as shown below.***

* Operating mode indication
* General

The OMI initiator supports receiving PPDUs with a bandwidth up to the value indicated by the Channel Width subfield(#7198) and with a number of spatial streams up to the value indicated by the Rx NSS subfield of the OM Control subfield(#7617) as defined in 27.8.1(Receive operating mode (ROM) indication). A STA that supports BQROptionImplemented shall assess CCA for Bandwidth Query Report (BQR) at the bandwidth defined in Channel Width subfield. Optionally the STA may assess CCA for BQR on larger bandwidth. (#5949)

* + 1. Receive operating mode (ROM) indication

(#3219)The OMI responder shall use the values indicated by the Channel Width(#7200) and Rx NSS subfields of the ~~most recently received OM Control subfield(#7507) sent by the OMI initiator to send PPDUs to the OMI initiator in subsequent TXOP.~~

The OMI responder shall update the operating channel width and the maximum *NSS* values as indicated by the Channel Width and Rx NSS subfields, respectively, of the most recently received OM Control subfield sent by the OMI initiator to send SU PPDUs and to assign an RU allocation in sent MU PPDUs, subject to restrictions defined in 28.3.3 (OFDMA and SU tone allocation), addressed for the OMI initiator in subsequent TXOPs *(#Ed) (#5851, 7249, 9803, 7192, 4872, 9724)*