IEEE P802.11  
Wireless LANs

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| 802.11 TGac WG Letter Ballot LB190  Proposed resolutions on MAC Comments | | | | |
| Date: 12 Nov 2012 | | | | |
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These comments were submitted on LB190 on 802.11ac draft 4.0. The proposed resolutions are relative to 802.11ac draft 4.0 (as indicated in each resolution). Changes are indicated by a mixture of Word track-changes and editing instructions.

The following CIDs are covered in this document (total 7): MAC 7325, 7371, 7364, 7388, 7326, 7394, 7385, 7366.

History:

R0 - initial revision

R1: added CID 7326

R2: changed CID 7365 to 7371 as it should be

R3: added CIDs 7385, 7366

R4: added Brian as co-author and updated the document header

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| **CID** | **Comment** | **Proposed Change** |
| 7325 | Nothing stops a BFee from generating a huge-duration BF response, totally wrecking the purpose of the TXOP Limit, which is to ensure no one device can hog the medium for too long | Put some constraint on BFees' BF report duration, so that BFers can estimate the worst-case duration. Require BFers to take measures to ensure the TXOP Limit is not violated in this worst case |
| 7371 | Steps should be taken to ensure that a BFee does not violate a non-zero TXOP Limit, else the whole point of the TXOP Limit is lost | One of more of the following options, among other options, might be suitable:  Option 1: a BFee shall not transmit any response if it would not fit in the remaining TXNAV duration (from the Duration field(s) of the frame(s) transmitted by the BFer), suitably selecting the grouping, codebook and (for SU) Nc. If no combination will fit, then the BFee shall send a "null" beamforming report. If this won't fit, then the BFee shall not transmit any response  Option 2: same as option 1 but just a "should use grouping etc. to make it fit"  Option 3: the BFer shall use the BFee's BF response history to determine what request is likely to result in a response which fits (a bit wooly!)  Option 4: the BFer shall, unless the duration estimate is such that the TXOP Limit cannot be violated, only do BF frame exchanges (NDPA NDP VCB [BRP VCB]\*) at the start of a TXOP and shall not transmit a frame if the TXOP Limit has been violated (e.g. need to do the [BRP VCB] in a subsequent TXOP)  Option 5: the BFee shall not choose MCS/grouping/codebook/Nc which would result in a duration greater than that which the BFee would estimate (based on the 8.2.5.2 rules)  Note the resolution to CID 6448 failed to address this, as it focused on the BFer behaviour, but it is the BFee behaviour which is the topic here |

**Proposed Resolution:**

Rejected. This comment was already addressed in LB188, where the BFee behavior is addressed when referring to the responder.

(LB188 CID6448 - REJECTED (MU: 2012-09-18 15:09:20Z): Existing baseline indicates that responder is not responsible for correctness of TXOP limits; baseline also enables transmitter to do smart adaptation of the NAV settings based on the expected response; baseline also allows BFer to set a conservative NAV and cancel it. Implementation should choose the preferred approach.)

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| **CID** | **Comment** | **Proposed Change** | |
| 7364 | PCPs and IBSS STAs have sometimes been forgotten in the new P/PC/OC stuff | | A proposal will be brought to effect this, based on 12/1037r4 | |

**Proposed Resolution:**

Rejected. The comment needs a presentation and discussion to make progress but no presentation made; commenter is invited to submit a comment and bring a presentation.

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| **CID** | **Comment** | **Proposed Change** |
| 7388 | Some things with bandwidth selection could do with being clarified, but this margin is too small to hold them | One or more submissions will be made to address these issues |

**Proposed Resolution:**

Rejected. The comment needs a presentation and discussion to make progress but no presentation made; commenter is invited to submit a comment and bring a presentation.

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| **CID** | **Comment** | **Proposed Change** |
| 7326 | A few places don't seem to require the signalled bandwith to match the actual bandwidth:  - non-HT (including duplicate) CTS response to dynamic RTS (9.3.2.6)  - non-CTS response to non-HT (including duplicate) signalling control (9.7.6.6) | Remove the "shall set the TXVECTOR parameters CH\_BANDWIDTH\_IN\_NON\_HT and CH\_BANDWIDTH to the same value"s scattered around the place and make a global statement to that effect |

**Proposed Resolution:**

Reject. The requirement for the CTS bandwidth is in 9.3.2.6 (CTS and DMG CTS) procedure:

"The CTS frame's TXVECTOR parameters CH\_BANDWIDTH and CH\_BANDWIDTH\_IN\_NON\_HT shall be set to the same value as the RTS frame's RXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT."

Non-CTS response frames do not signal BW and therefore do not require the related statement.

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| **CID** | **Comment** | **Proposed Change** |
| 7394 | The new stuff in 9.3.2.6 refers to PIFS, but nothing in the PIFS summary in 9.3.2.3.4 refers to it | Add a reference to 9.3.2.3.4 |

**Proposed Resolution:**

Reject. A PIFS rule for RTS is present in 9.3.2.3.4 with a reference to 9.19.2.4 (which is where PIFS is used for channel access). Commenter is not clear on why there is a need for a reference to 9.3.2.3.4 in 9.3.2.6 (or vice versa).

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| 7385 | Mark RISON | 101.21 | 8.4.2.161 | Table 8-183x -- didn't we make the CCFS0 not reserved for 40 MHz, so that it could be used for 40 MHz CSAEs in Beacons? | Add 40 MHz to the first sentence of the Encoding cell | Reject. Agreed that \*WBCSse\* in beacons and probe responses need to express a switch to 40 MHz (e.g see the tables in 12/105r3). This affects the WBCSse only, and the exception for 40 MHz is already called out in 8.4.2.165 Channel Switch Wrapper element. |

***Discussion:***

8.4.2.165 Channel Switch Wrapper element

The Wide Bandwidth Channel Switch subelement is present when channel switching to a BSS Operating

Channel Width of 40 MHz or wider; if switching to a 20 MHz BSS Operating Channel Width then this subelement

is not present. The format of the Wide Bandwidth Channel Switch subelement is the same as the

Wide Bandwidth Channel Switch element (see 8.4.2.163 (Wide Bandwidth Channel Switch element)) except

that

— a value 0 in the New Channel Width field signifies a 40 MHz BSS Operating Channel Width only,

and

— when switching to a 40 MHz BSS operating channel width, the New Channel Center Frequency Segment

0 field indicates the channel center frequency index for the 40 MHz channel after the channel

switch

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| 7366 | Mark RISON |  |  | It would be desirable to ensure the regulatory constraints expressed in the Country element are always honoured, unless an explicit (VHT) Transmit Power Envelope element is present | A proposal will be brought to effect this, based on 12/1037r4 | Reject. The issue raised by the commenter could not verified as a concern, given that the text in 10.8.4 seems to cover the concern. See discussion in <motionedDoc#>r<motionedrev#> |

***Discussion:***

If the VHT TPE element is not present, the first bullet applies and the country element is in force (see below).

If the VHT TPE element is present, for non-VHT STAs, the first bullet applies and the country element is in force.

If the VHT TPE element is present, for VHT STAs, the second bullet applies and the VHT TPE is in force.

**10.8.4 Specification of regulatory and local maximum transmit power levels**

***Change the 2nd and 3rd paragraph and insert a subsequent paragraph as follows:***

A STA shall determine a local maximum transmit power for the current channel by selecting the minimum

of the following:

— Unless the STA is a VHT STA and has received a VHT Transmit Power Envelope element for a

channel width of 20 MHz and 40 MHz, ~~A~~any local maximum transmit power received in the combination

of a Country element and a Power Constraint element from the AP in its BSS, PCP in its

PBSS, another STA in its IBSS, or a neighbor peer mesh STA in its MBSS ~~and~~,

— Any local maximum transmit power received in a VHT Transmit Power Envelope element from the

AP in its BSS, another STA in its IBSS, or a neighbor peer mesh STA in its MBSS, and

— Any local maximum transmit power for the channel regulatory domain known by the STA from

other sources.