IEEE P802.11
Wireless LANs

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| LB188 Comments Resolution (Clause 22.1) |
| Date: 10 Sep 2012 |
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Abstract

This document provides resolutions for following CIDs: 6400, 6401, 6402, 6328, 6329, 6640, 6504

**Comments:**

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| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 6400 | 180.43 | 22.1.1 | As specified above, the VHT STA shall support mandatory feature defined for HT STA | Add one bullet to say mandatory features defined in Clause 20 and Clause 18 (Except RIFS) | Revised. Suggest TGac editor to accept the proposed modification as below the discussion of CID6400/6410 in document 11-12/1055r1  |
| 6401 | 180.61 | 22.1.1 | As specified above, the VHT STA may support optional features defined for HT STA. | Add one bullet to say optional features defined in Clause 20 and Clause 18 | Revised. Suggest TGac editor to accept the proposed modification as below the discussion of CID6400/6410 in document 11-12/1055r1 |

**Discussion:**

As stated in previous paragraph of the same clause, “In addition to the requirements in Clause 22, a VHT STA shall be capable of transmitting and receiving PPDUs that are compliant with the mandatory PHY specifications defined in Clause 20”. The commented list should reflect the consistent information.

**Suggested Modification:**

**TGac editor: please insert the following text in D3.0 line 37/page180:**

“A VHT STA shall support the following clause 22 features: ”

**TGac editor: please insert the following text in D3.0 line 44/page180:**

“A VHT STA may ~~optionally~~ support the following clause 22 features:”

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| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 6402 | 181.40 | 22.1.1.3 | Is 11ac supposed to cover the spectrum even below 1GHz by the claim "...below 6GHz frequency bands excluding the 2.4GHz frequency band using OFDM modulation as described in 22.3 (VHT PLCP sublayer)"? While the defined PMD may not be suitable to directly implement on low frequency, e.g. S1G. | Please clarify the spectrum range on which 11ac is supposed to implement. | Rejected. The sentence is copied from the VHT in <6GHz PAR. In reply to the commenter, while the current specs describe operation in only 5GHz bands, there is no fundamental reason why some later amendment should not change this. 3.65 and 5.9GHz already have 20MHz operating classes defined so VHT operation here is not disallowed. |
| 6640 | 181.40 | 22.1.3.2 | "with the below 6 GHz frequency bands excluding the 2.4 GHz frequency band" maybe it would be more precise to say 5 GHz band, below 6 GHz may mean also 2 Hz band. | As in comment | Rejected. The sentence is copied from the VHT in <6GHz PAR. In reply to the commenter, while the current specs describe operation in only 5GHz bands, there is no fundamental reason why some later amendment should not change this. 3.65 and 5.9GHz already have 20MHz operating classes defined so VHT operation here is not disallowed. |

**Discussion:**

Although the spec states to cover frequency bands below 6GHz, excluding 2.4GHz, it specifically focuses on 4~5GHz frequency band during the development. Besides, with this unclear statement, 11ac might have theoretical confliction with 11ah on implementation scope. So it is better to clearly limit 11ac implementation on 4~5GHz frequency band.

But similar comments have been raised before and the group decision is to reject such comments since current is consistent with PAR content.

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| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 6328 | 180.16 | 22.1.1 | This sentence defines that transmitting and receiving 40 MHz HT PPDUs are optional features for a VHT STA. On the other hands, as decribed in P180L39, supporting 40MHz channel width is a mandatory feature for a VHT STA. To avoid any confusion, a NOTE is needed to notify that it is not mandatory for a VHT STA to support 40 MHz HT PPDU. | Add NOTE "Supporting 40 MHz HT PPDU is not mandatory for a VHT STA." on P180L31. | Rejected. The spec is clear enough with the commented issue and proposed change is redundant description. |

**Discussion:**

The spec clearly defines 40MHz HT PPDUs are optional and 40MHz channel width is mandatory for a VHT STA. Therefore I don’t think there’s misunderstanding of the addressed sentence.

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| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 6329 | 180.26 | 22.1.1 | The definitions of SU PPDU and MU PPDU are ambiguous. From the NOTE on P180L26, it is seemed that SU PPDUs is one of the following PPDUs:- VHT SU PPDU- Non-HT PPDU- Non-HT duplicate PPDUOn the other hands, it is seemed that MU PPDU is equivalent to VHT MU PPDU. | Add the definitions of SU PPDU and replace MU PPDU with VHT MU PPDU throughout the Draft. | Revised. Suggest TGac editor to modify the text as suggested after the discussion of CID6329 in 11-12/1055r2. |

**Discussion:**

The comment is correct that a SU PPDU could be a VHT SU PPDU, a Non-HT PPDU or a Non-HT duplicated PPDU. The general conception of “SU PPDU” and “MU PPDU” are already defined as in Ln32/Pg2 in 11ac spec draft D3.0. The note here is helping to clarify that “SU PPDU” doesn’t mean a PPDU transmitted to a single user.

But it’s true that in the spec both terms “SU PPDU” and “VHT SU PPDU” are used when it actually only refers to SU PPDU in VHT case. So it is better to unify the terms of “SU PPDU” and “VHT SU PPDU” to “VHT SU PPDU” in 11ac spec. It’s the same case to “MU PPDU” and “VHT MU PPDU”.

**TGac editor: please change throughout the spec (global search):**

“SU PPDU” to “VHT SU PPDU” in clause 22

“MU PPDU” to “VHT MU PPDU” through the whole spec except clause 3.1 and 3.2

**No changes needed in the rest clauses**

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| 6504 | 182.23 | 22.1.4 | What's an independent PSDU? | Delete "independent" | Agree. Please TGac Editor to modify the D3.0 text as the commenter proposed. |