IEEE P802.11
Wireless LANs

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| CID480, 481, 1562 |
| Date: 2011-04-26 |
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Abstract

This document provides resolution for the comments listed below.

Notes on this document:

* Comments are from: 11-11-0276-00-00ac-tgac-d0-1-comments.xls.
* Comments refer to: Draft P802.11ac\_D0.1.pdf.
* In providing instruction for spec editing, the following conventions are used.
	+ Red text indicates changes to be applied to existing text in Draft P802.11ac\_D0.1.pdf.
	+ Text in blue is text copied from the 802.11n-2009 baseline that was not shown in the 11ac draft and that need be added to the draft, with the modifications shown in green.
	+ Text in black is unmodified text from Draft P802.11ac\_D0.1.pdf.
	+ Italic light gray text indicates instruction to the editor.

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| 480 | Hart, Brian | 22.3.13 | 134 | 32 | TR | "NDP shall be the only VHT sounding format" is too simplified to appear in the PHY section, epsecially as normative language. VHT APs may talk to HT clients, and use HT sounding formats with them. It is fair to say NDP is the only VHT sounding format defined in clause 22, but the "shall" is redundant since it is true by inspection, and the "shall" is inappropriate since it seems to constrain the spec not implementations. | "The NDP is the only sounding format defined in Clause 22". And to limit sounding exchanges between VHT STAs to the NDP, write/refer to MAC text | Agree in principle | PHY |
| 481 | Hart, Brian | 22.3.13 | 134 | 37 | TR | The VHT NDP format … has the following properties … it has the same the VHT PPDU format" reads badly | Rewrite: "The format of a VHT NDP PPDU is shown in fig xxx. The VHT NDP PPDU has the following properties: - uses the VHT PPDU format without the Data field/element/portion - is a SU PPDU, as indicated by VHT-SIG-A - has the data bits of VHT-SIG-B set to a fixed bit pattern (see xxx)." And, actually, VHT-SIG-A introduces confusion: for other language (e.g. 22.3.22) it would beneficial if GID=63 was a synonym for SU, and the sub-list rewritten to allow this terminology | Agree in principle | PHY |
| 1562 | Sun, Bo | 22.3.13 | 134 | 44 | TR | The number of VHT-LTFs in NDP is not clear. The number of VHT-LTFs in NDP is indicated by Nsts in VHT-SIG-A. | Insert the description below line 43:"The number of VHT-LTFs in NDP is indicated by Nsts in VHT-SIG-A." | Agree in principle | PHY |

Discussion

**Discussion on TR 481, 1562:**

Per comment ID 480, as pointed out in the comment, the NDP is the only sounding format when used in VHT STA sounding exchanges, as a result of current 11AC specification. And to make the statement clear enough, we need to add normative description in sounding protocol to enforce the using of NDP in the sounding exchanges between VHT STAs.

Comments ID 481 suggested a clearer description of a VHT NDP format.

Comments ID 1562 suggested a clarification for the number of VHT-LTF in Figure 22-15. The number of VHT-LTF is determined by the total number of space time streams across all users being transmitted in the frame, as already defined in 22.3.2.

**Proposed Resolution:**

Agree in principle and propose the following spec text changes.

Proposed spec text changes

*Instructions for the Editor:*

 *Red text indicates changes to be applied to existing text in Draft P802.11ac\_D0.1.pdf.*

*Text in blue is text copied from the 802.11n-2009 baseline that was not shown in the 11ac draft and that need be added to the draft, with the modifications shown in green.*

***Text in black is unmodified text from Draft P802.11ac\_D0.1.pdf***

***Italic light gray text indicates instruction to the editor***

## 9.30.5 VHT sounding protocol

## *============Start of modification A, insert below text in ln47/pg73 in D0.4========*

A VHT STA shall not transmit an HT NDPA frame, HT NDP, CSI frame, Non-compressed Beamforming frame, or Compressed Beamforming frame to another VHT STA.

*=======================End of modification A=============================*

## 22.3.13 VHT preamble format for sounding PPDUs

## *============Start of modification B, modify the text as following================*

NDP ~~shall be~~is the only VHT sounding format used in sounding exchanges between VHT STAs as defined in 9.30.5.

The format of a VHT NDP PPDU~~format~~ is shown in Figure 22-15. The VHT NDP PPDU~~and~~ has the following properties:

- uses~~it has the same~~ the VHT PPDU format ~~but with no data portion~~without the Data field

- ~~has a VHT-SIG-A indicating a SU packet~~is a SU PPDU, as indicated by VHT-SIG-A

- ~~and has VHT-SIG-B carrying a fixed bit pattern~~has the data bits of VHT-SIG-B set to a fixed bit pattern (see 22.3.9.2.6)

NOTE: the number of VHT-LTFs in NDP in Figure 22-15 is determined by *Nsts* field in VHT-SIG-A.

## *====================End of modification B======================*