IEEE P802.11
Wireless LANs

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|  Comment Resolution on CID 4610 and 5275 |
| Date: 2011-11-08 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Jianhan Liu | MediaTek |  |  | jianhan.liu@mediatek.com |
| Tianyu Wu | Huawei Technologies | F1-17, Bantian, Longgang District, Shenzhen, P.R.China | +86-13715288322 | wutianyu@huawei.com |
| James Wang | MediaTek |  |  | james.wang@mediatek.com |
| Tom Pare | MediaTek |  |  | thomas.pare@mediatek.com |
| Edward Au | Huawei Technologies |  |  | edward.au@huawei.com |

The document proposes resolutions for the following CIDs:

##### CID 4610, 5275

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| --- | --- | --- | --- |
| 4610 | 9.31 | NDP sounding in 11ac allows AP to obtain channel information and SNR from STAs via feedback. The channel information and SNR are used for pre-coding and link adaptation in Downlink MU-MIMO transmission. However, such channel information and SNR do not include inter-STA interference during the pre-coded downlink MU-MIMO transmission because sounding NDP is not MIMO pre-coded. Channel estimation errors, channel aging and channel variations can introduce inter-STA interference. Dealing inter-STA interference should not be put on STAs only. AP should have capability to alleviate performance degradation caused by inter-STA interference too. Inter-STA interference can cause performance degradation and even frequent channel re-sounding. Re-sounding overhead is significant because of channel feedback.  |  |
| 5275 | 8.1.3.9 | In MU-MIMO, AP may not know the accurate SINR at each STA. This is because the SINR at each STA is very sensitive to the varying of channel state of the STAs participated in the MU-MIMO transmission. Channel estimation errors, channel aging and channel variations may all lead to inaccuracy of SINR. |  |

**Discussion:**

Refer to document “11-12-0395-00-00ac\_SINR and Inter-STA Interference Indication Feedback in MU-MIMO”.

**Proposed resolution:**

**8.3.1.9 BlockAck frame format**

**8.3.1.9.1 Overview**

**Change Figure 8-22 as shown**

**Insert the following as the ninth paragraph of 8.3.1.9.1:**

MU\_INT field contains six bits. The first four bits (B3 to B6) indicate the average delta Signal-to-Interference-Noise-Ratio ($∆\overbar{SINR}$) feedback defined as

where $\overbar{SINR}$ and $\overbar{SNR}$ are the average SINR and SNR over all subcarriers and spatial streams.

The four bits, B3 to B6 indicate 0-14dB of delta SINR in one dB step as follows.

* MU\_INT (B3 to B6) =‘0000’ represents $∆\overbar{SINR}$ is not provided;
* Otherwise, MU\_INT (B3 to B6) =$ ∆\overbar{SINR}+1$

The last two bits (B7 to B8) indicate the largest interference source (LIS) within the MU group. LIS is defined as follows.

* 00: indicates there is no information on LIS
* 01: indicates LIS is the STA in the first position within the MU group except the STA itself
* 10: indicates LIS is the STA in the second position within the MU group except the STA itself
* 11: indicates LIS is the STA in the third position within the MU group except the STA itself

The bits in MU\_INT field are reserved in SU case.