IEEE P802.11  
Wireless LANs

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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | CC35 Delta SNR Comments | | | | | | Date: 2021-05-12 | | | | | | Author(s): | | | | | | Name | Affiliation | Address | Phone | email | | Youhan Kim | Qualcomm |  |  | [youhank@qti.qualcomm.com](mailto:youhank@qti.qualcomm.com) | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

Abstract

This submission proposes resolutions for the following comments from comment collection on P802.11-REVme D0.0:

176, 601

NOTE – Set the Track Changes Viewing Option in the MS Word to “All Markup” to clearly see the proposed text edits.

**Revision History:**

R0: Initial version.

R1: Updated per offline input.

# CID 176, 601

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| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page.Line** | **Comment** | **Proposed Change** |
| 176 | 9.4.1.51 | 949.28 | "Each Delta SNR subfield contains [...] using Equation (9-2) and quantized to 4 bits in the range -8 dB to 7 dB with 1 dB granularity." is not clear. It might mean that it's encoded as a two's complement integer, so -1 is 0b1111 and 0 is 0b0000 etc., or it might mean that it's a transposition, so that -8 is 0b0000 and 7 is 0b1111 | Change the cited text to "Each Delta SNR subfield is a 2s complement signed integer that contains [...] in dB, computed using Equation (9-2)" |
| 601 | 9.4.1.51 | 949.29 | "Delta SNR ... quantized to 4 bits in the range -8 dB to 7 dB with 1 dB granularity"  What is the encoding? E.g., 2's complement?  Note that the delta SNR is an additive term on top of the Average SNR in the VHT Compressed Beamforming report. And that Average SNR is represented using the 2s complement format (see P947L2), hence it makes sense for the Delta SNR to also use the 2s complement format.  Furthermore, the range "-8 dB to 7 dB" matches the biased range representable by a 2s complement format, further showing that the intension is for the Delta SNR to use the 2s complement format. | At REVme D0.0 P949L29, change  "with 1 dB granularity."  to  "with 1 dB granularity using the 2s complement format." |

**Discussion**

As the commenter of CID 601 has pointed out, the the delta SNR is an additive term on top of the Average SNR in the VHT Compressed Beamforming report. And that Average SNR is represented using the 2s complement format (see P947L2), hence it makes sense for the Delta SNR to also use the 2s complement format.

Furthermore, the range "-8 dB to 7 dB" matches the biased range representable by a 2s complement format, further showing that the intension is for the Delta SNR to use the 2s complement format.

Following are the redlined versions of the proposed text changes by the two commenters:

CID 176:

|  |
| --- |
| Each Delta SNR subfield is a 2s complement signed integer that contains the Δ*SNRk,i* in dB, computed using Equation (9-2). The structure of the MU Exclusive Beamforming Report field is shown in Table 9-78 (MU Exclusive Beamforming Report information). |

CID 601:

|  |
| --- |
| Each Delta SNR subfield contains the Δ*SNRk,i* computed using Equation (9-2) and quantized to 4 bits in the range –8 dB to 7 dB with 1 dB granularity using the 2s complement format. The structure of the MU Exclusive Beamforming Report field is shown in Table 9-78 (MU Exclusive Beamforming Report information). |

**Proposed Resolution: CIDs 176, 601**

**Revised**.

**Note to Commenter:**

The instruction to Editor below clarifies that the format is 2s complement.

**Instruction to Editor:**

Implement the proposed text updates for CIDs 176 and 601 in <https://mentor.ieee.org/802.11/dcn/21/11-21-0822-01-000m-cc35-delta-snr-comments.docx>

**Proposed Text Updates: CIDs 176, 601**

*Instruction to Editor: Update D0.0 P949L29 as shown below.*

Each Delta SNR subfield is a 2s complement signed integer that contains the Δ*SNRk,i* in dB (in the range of –8 to 7 dB), computed using Equation (9-2).

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