IEEE P802.11  
Wireless LANs

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| Channel measurement feedback element | | | | | |
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Abstract

This document provides bug fixes for CID 9001.

**Comment**

Packing of the fields in the Channel Measurement Feedback element requires heavy bit processing on the beam refinement responder side. Since the response BRP frame containing the channel information must be sent back to the initiator within BRPIFS time, we propose to make channel information fields all 8 bits and eliminate bit processing.

The resulting overhead is small, and the following measurements can still be supported.

Current field widths 16 measurements, 63 taps

64 measurements, 17 taps

Increased widths 16 measurements, 63 taps

64 measurements, 15 taps

**Proposed changes**

*-- (8.4.2.132) Page 186 Line 31 (Table 8-183g)*

*Change the values for Number of Taps Requested to 1, 5, 15 (instead of 17) and 63*

*-- (8.4.2.132) Page 187 Line 8 (Table 8-183h)*

*Change the values for Number of Taps Present to 1, 5, 15 (instead of 17) and 63*

*-- (8.4.2.138) Page 195 Line 25 (Table 8-183m)*

* *Make all the entries byte-oriented:*
  + *SNR values in the SNR subfield 🡪 8 bits (instead of 6 bits)*
  + *Channel measurements in the Channel measurement subfield 🡪 Ntaps×16 bits (instead of Ntaps×14 bits)*
  + *Relative delays in Tap Delay subfield 🡪 8 bits (instead of 7 bits)*
* *Remove the last row of the table (the zero pad row).*

*-- (8.4.2.138) Page 196 Line 12*

*Revise as following:*

The SNR subfield levels are unsigned integers referenced to a level of -8 dB. Each step is 0.25 dB. SNR values less than or equal to -8 dB are represented as 0. SNR values greater than or equal to 55.75 dB are represented as 0xFF.

*-- (8.4.2.138) Page 196 Line 18 (Table 8-183n)*

*Make all I and Q entries 8 bits.*

*-- (8.4.2.138) Page 197 Line 6*

*Revise as following:*

Each channel tap is reported as an in-phase and quadrature component pair, with each component value represented as a two’s complement number between -128 and 127. Unless all in-phase and quadrature component values are reported as zero, they should be scaled such that the two most significant bits for at least one of the component values equal 01 or 10 (binary).

*-- (8.5.22.3) Page 257 Line 29*

*Revise as following:*

The BRP frame contains more than one Channel Measurement Feedback element if the measurement information exceeds 255 bytes. The content of each Channel Measurement Feedback element that follows the first one in a single BRP frame is a continuation of the content in the previous element. The Channel Measurement, Tap Delay, and Sector ID Order subfields can be split between several elements. Each Channel Measurement Feedback element that is not the last Channel Measurement Feedback element in the frame is 257 bytes long. Channel measurement information for a single channel measurement is always contained within a single BRP frame.

NOTE–The BRP frame size can limit the choice of channel measurement parameters such as the number of measurements and the number of taps.