IEEE P802.11
Wireless LANs

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| S1G MAC Resolution to CID5017 |
| Date: 2020-09-11 |
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Abstract

This submission shows

* 1 CID: 5017

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Reworded proposed resolution for clarity. Added a sentence to cover the case where the NDP\_1M Ack frame Idle Indication field is equal to 1.
* Rev 2: Applied similar changes to the text for NDP\_2M Ack and NDP\_2M PS-Poll-Ack to cover the cases where the Idle Indication field is equal to 0 or 1.
* Rev 3: Added a sentence to cover the NDP\_1M PS-Poll-Ack duration field case.

#  CID 5017

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| **CID** | **Clause** | **Page.Line** | **Comment** | **Proposed Change** |
| 5017 | 9.2.5.1 | 821.57 | The paragraph states that duration values for the 1MHz NDP ACK, CTS and CF-end are calculated in units of 40 milliseconds, which is incorrect. Section 23.3.12.2.1.1 NDP\_1M CTS requires units of 40 microseconds. Section 23.3.12.2.2.1 NDP\_1M CF-End also requires units of 40 microseconds. Section 23.3.12.2.4.2 NDP\_1M Ack requires units of 40 microseconds or milliseconds in the case where the Idle Indication field is set to 1. | Change the paragraph to: The value in the Duration field for the NDP\_1M Ack frame when the Idle Indication field is set to 0, the NDP\_1M CTS frame and the NDP\_1M CF-End frame is calculated in multiples of 40 us. If a calculated duration is not a multiple of 40 us, the value inserted in the Duration field is rounded up to the next higher integer so that the contained duration is a multiple of 40 us. If a calculated duration results in a negative value, the Duration field is 0. |

## Background

The length of the duration field in the 1 MHz NDP ACK, CTS and CF-End frames is limited to 10 bits. This is long enough to represent duration as the number of 40 microsecond symbols in a maximum length packet sent at MCS10 in a 1 MHz channel. The 2MHz NDP frames have longer fields which can represent duration in microseconds.

**Section 23.3.12.2.1.1 NDP\_1M CTS states:**

The Duration field is expressed in units of OFDM symbol duration (40 us) (Table 23-4 (Timing-related

constants (11ah))) and follows the definitions in 9.3.1.3 (CTS frame format).

**Section 23.3.12.2.2.1 NDP\_1M CF-End states:**

The Duration field is expressed in units of OFDM symbol time (40 us) and follows the definitions in 9.3.1.6 (CF-End frame format).

**Section 23.3.12.2.4.2 NDP\_1M Ack states:**

If the Idle Indication field is 0, the Duration field is set as described in 9.2.5.7 (Setting for control response frames) where the value is expressed in units of 40 us. If the Idle Indication field is 1, the Duration field is set to the duration of time, in milliseconds, during which an idle period (during which there is no frame transmission) is expected from the STA that elicited the response, starting from the end of the NDP Ack frame response.

In contradiction to the above sections, **Section 9.2.5.1 General states:**

The value in the Duration field for NDP\_1M Ack, NDP\_1M CTS and NDP\_1M CF-End frames are calculated in multiples of 40 ms. If a calculated duration is not a multiple of 40 ms, the value inserted in the Duration field is rounded up to the next higher integer so that the contained duration is a multiple of 40 ms. If a calculated duration results in a negative value, the Duration field is 0.

From the above it is apparent that the instances of 40 ms in Section 9.2.5.1 should be 40 us. In addition, the Idle Indication field value in the NDP\_1M Ack, NDP\_2M Ack and NDP\_2M PS-Poll-Ack frames also needs to be accounted for.

# Proposed Resolution: CID 5017

**Revised.**

Instruction to Editor:

At D4.0 P821L56, modify the original text as below

***------------- Begin Text Changes ---------------***

(11ah)The value in the Duration field for the NDP\_1M Ack frame when the Idle Indication field is 0, the NDP\_1M CTS frame and the NDP\_1M CF-End frame is calculated in multiples of 40 ms. If a calculated duration is not a multiple of 40 ms, the value inserted in the Duration field is rounded up to the next higher integer so that the contained duration is a multiple of 40 ms. If a calculated duration results in a negative value, the Duration field is 0. See 23.3.12.2.4.2 (NDP\_1M Ack) for the value in the Duration field for the NDP\_1M Ack frame when the Idle Indication field is 1. See 23.3.12.2.5.2 (NDP\_1M PS-Poll-Ack) for the value in the Duration field for the NDP\_1M PS-Poll-Ack frame.

(11ah)The value in the Duration field for the NDP\_2M Ack frame when the Idle Indication field is 0, the NDP\_2M PS-Poll-Ack frame when the Idle Indication field is 0, the NDP\_2M CTS frame , and the NDP\_2M CF-End frame is calculated in microseconds. If a calculated duration includes a fractional microsecond, the value inserted in the Duration field is rounded up to the next higher integer. If a calculated duration results in a negative value, the Duration field is 0. See 23.3.12.2.4.3 (NDP\_2M Ack) for the value in the Duration field for the NDP\_2M Ack frame when the Idle Indication field is 1. See 23.3.12.2.5.3 (NDP\_2M PS-Poll-Ack) for the value in the Duration field for the NDP\_2M PS-Poll-Ack frame when the Idle Indication field is 1.

***------------- End Text Changes ------------------***