IEEE P802.11  
Wireless LANs

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| Resolution for comments received for CC on D0.1 for subclause 38.3.19-part2 | | | | |
| Date: 2025-05-09 | | | | |
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Abstract

This document contains proposed resolutions to comments received on 802.11bn D0.1. The changes are based on P802.11bn D0.2.

The submission provides resolutions to the following 5 CIDs in the subclause 38.3.19

353, 354,905,1654, 3753

Revisions:

* Rev 0: Initial version of the document.

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| **CID** | **Commenter** | **Clause Number(C)** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 353 | Sigurd Schelstraete | 38.3.19.1 | 204.54 | "A sharing AP may solicit simultaneous DL Co-BF MU PPDU transmissions from the sharing and shared APs using a triggering frame...(TBD)" | Recommend creating a separate subsection to deal with requirements for coordinated operation | Revised  Insruction to editor:  Apply the proposed change marked as [#353, 905, 1654] in 11-25/0778r0 |
| 354 | Sigurd Schelstraete | 38.3.19.2 | 204.58 | Is anything in "38.3.19.2 Power pre-correction" different from EHT? If not, do not duplicate section - just include reference. | See comment | Rejected.  There may be some description for Co-SR transmission, kept this subcluse for now. |
| 905 | Pascal VIGER | 38.3.19.1 | 204.37 | The introduction does not provide guidance for PPDUs sent by AP(s) in response to a triggering AP | please fix requirements for the MAP triggering | Revised  Duplicate of CID 353 and resolved through the proposed change in that resolusion. |
| 1654 | Jian Yu | 38.3.19.1 | 204.54 | Define TBD | as in comment | Revised  Duplicate of CID 353 and resolved through the proposed change in that resolusion. |
| 3753 | Leonardo Lanante | 38.3.19.2 | 205.47 | The local maximum transmit power enforced by an AP may hinder with the accurate power precorrections in TB PPDU transmissions. An AP should be able to know whenever the local maximum transmit power needs to be adjusted during TB PPDU transmissions. | Define a mechanism for an AP to solicit feedback from TB PPDU transmitting STAs whether the local maximum transmit power is being triggered or not. | Rejected  There is already a rule defined in 26.5.2.4 that a STA includes its UL power headroom in the UHR TB PPDU. |

* Transmit requirements for PPDUs sent in response to a triggering frame
* Introduction

An AP may solicit simultaneous UHR TB PPDU transmissions, or simultaneous non-HT or non-HT duplicate PPDU transmissions from multiple non-AP STAs using a triggering frame. Since there are multiple transmitters (non-AP STAs) in the above simultaneous transmissions, the pre-corrections of transmission time, frequency, sampling symbol clock, and power (in the case of a UHR TB PPDU) by the non-AP STAs are necessary to mitigate synchronization and interference issues at the AP. Frequency and sampling clock pre-corrections are needed to prevent inter-carrier interference. Power pre-correction is necessary to control interference between UHR TB PPDU transmissions from the non-AP STAs. An AP may solicit simultaneous UHR TB PPDU transmissions from both Class A and Class B devices. A non-AP STA that supports UHR TB PPDU transmission shall support power pre-correction as described in 38.3.19.2 (Power pre-correction) and shall meet the pre-correction accuracy requirements described in 38.3.19.3 (Pre-correction accuracy requirements).

[#353, 905, 1654] A sharing AP may solicit simulationeous DL non-OFDMA Co-BF transmissions from the sharing and shared APs using a Co-BF triggering frame. Since there are multiple transmitters (sharing and shared APs) in the DL non-OFDMA Co-BF transmissions, the pre-corrections of transmission time, frequency and sampling symbol clock by the shared AP are necessary to mitigate synchronization and interference issues at the non-AP STAs. Frequency and sampling clock pre-corrections are needed to prevent inter-carrier interference.

A sharing AP may solicit simultaneous Co-SR transmissions from the sharing and shared APs using a triggering frame.

All the participating APs that transmit DL MU PPDUs using Co-SR shall start and end the transmission simultaneously

* Pre-correction accuracy requirements

38.3.19.3.1 Pre-correction accuracy requirements at STA in response to a triggering PPDU[#353, 905, 1654]

A STA that transmits a UHR TB PPDU shall support per chain  dBm as the minimum transmit power, where *P* is the maximum power, in dBm, that the STA can transmit at the antenna connector of that chain using UHR-MCS 0 while meeting the transmit EVM and spectral mask requirements. A STA transmitting at and above the minimum power, but below , shall support the EVM requirements for UHR-MCS 7 even if the UHR-MCS used for the transmission is lower than UHR-MCS 7 or is equal to UHR-MCS x1, x2 or x3, where  is the maximum transmit power supported by the STA for UHR-MCS 7 in a UHR TB PPDU.

A STA that transmits a UHR TB PPDU shall support the absolute and relative transmit power requirements and the RSSI measurement accuracy requirements defined in Table38-46 (Transmit power and RSSI measurement accuracy).

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| * Transmit power and RSSI measurement accuracy | | | |
| Parameter | Minimum requirement | | Comments |
| Class A | Class B |
| Absolute transmit power accuracy | ±3 dB | ±9 dB | Accuracy of achieving a specified transmit power. |
| RSSI measurement accuracy | ±3 dB | ±5 dB | The difference between RSSI and the received power.  Requirements are valid from minimum receive to maximum receive input power. |
| Relative transmit power accuracy | N/A | ±3 dB | Accuracy of achieving a change in transmit power for consecutive UHR TB PPDU.  The relative transmit power accuracy is applicable only to Class B device. |

The absolute transmit power accuracy is applicable for the entire range of transmit power that the STA is intending to use for the current band of operation. The RSSI accuracy requirements shall be applied to          receive signal power level range from –82 dBm to –20 dBm in the 2.4 GHz band and from –82 dBm to         –30 dBm in the 5 GHz and 6 GHz bands. The requirements are for nominal (room) temperature conditions. The RSSI shall be measured during the reception of the non-UHR portion of the UHR PPDU preamble.

A STA compensates for carrier frequency offset (CFO) error and symbol clock error with respect to the corresponding triggering PPDU when transmitting the following types of PPDUs:

* UHR TB PPDU
* Non-HT or non-HT duplicate PPDU with the TXVECTOR parameter TRIGGER\_RESPONDING set to true

NOTE 3—The MU-RTS Trigger frame solicits transmission of a non-HT or non-HT duplicate PPDU and not a UHR TB PPDU. The non-HT or non-HT duplicate PPDU transmitted as a response to an MU-RTS Trigger frame carries a CTS frame.

After compensation, the absolute value of residual CFO error with respect to the corresponding triggering PPDU shall not exceed the following levels when measured at the 10% point of the complementary cumulative distribution function (CCDF) of CFO errors in AWGN at a received power of –60 dBm in the primary 20 MHz channel:

* 350 Hz for the data subcarriers of a UHR TB PPDU
* 2 kHz for a non-HT PPDU or non-HT duplicate PPDU

The residual CFO error measurement on a UHR TB PPDU shall be made after the U-SIG field. The residual CFO error measurement on the non-HT or non-HT duplicate PPDU shall be made after the L-STF field. The symbol clock error shall be compensated by the same ppm amount as the CFO error.

A STA that transmits a UHR TB PPDU, non-HT PPDU, or non-HT duplicate PPDU in response to a triggering PPDU shall ensure that the transmission start time of the UHR TB PPDU, non-HT PPDU, or    non-HT duplicate PPDU is within ±0.4 µs + 16 µs from the end, at the STA’s transmit antenna connector, of the last OFDM symbol of the triggering PPDU (if it contains no PE field) or of the PE field of the triggering PPDU (if the PE field is present).

NOTE 4—This end instant is before any signal extension, so this is equivalent to UHR TB PPDU transmission within 0.4 µs of SIFS after the end of the triggering PPDU including signal extension.

38.3.19.3.2 Pre-correction accuracy requirements at a shared AP in response to a Co-BF triggering PPDU [#353, 905, 1654]

A shared AP compensates for carrier frequency offset (CFO) error and symbol clock error with respect to a Co-BF trigger frame when transmitting a DL non-OFDMA Co-BF PPDU.

After compensation, the absolute value of residual CFO error with respect to the corresponding Co-BF triggering PPDU shall not exceed 350 Hz for the data subcarriers of a DL non-OFDMA Co-BF PPDU when measured at the 10% point of the complementary cumulative distribution function (CCDF) of CFO errors in AWGN at a received power of –60 dBm in the primary 20 MHz channel:

The residual CFO error measurement on a DL non-OFDMA Co-BF PPDU shall be made after the U-SIG field.

A shared AP that transmits a DL non-OFDMA Co-BF PPDU in response to a Co-BF triggering PPDU shall ensure that the transmission start time of the DL non-OFDMA Co-BF PPDU is within ±0.4 µs + 16 µs from the end, at the shared AP’s transmit antenna connector, of the PE field of the Co-BF triggering PPDU.

NOTE 5—This end instant is before any signal extension, so this is equivalent to DL non-OFDMA Co-BF transmission within 0.4 µs of SIFS after the end of the Co-BF triggering PPDU including signal extension.