IEEE P802.11
Wireless LANs

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| CC40 CR for Instance CIDs – Part 1 |
| Date: 2022-11-xx |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Narengerile | Huawei | Shenzhen, China |  | narengerile@huawei.com |
| Rui Du |  |  |
| Mengshi Hu |  |  |
| Ali Raissinia | Qualcomm |  |  |  |

**Abstract**

This document proposes comment resolutions for CID 153, 154, 127 and 789.

R0: initial version.

R1: revised modifications for CID 153, 154 and 127, and changed resolution for CID 789.

R2: revised modifications for CID 153, 154 and 789.

R3: revised modifications for CID 153, 154 and 789, updated the reference of 11bf draft to D0.5.

R4: editorial change on texts for CID 153, 154

# CID 153, 154

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| **CID** | **Subclause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 153 | 11.21.18.6 | 68.16 | "It includes one or more of the following phases: Polling phase, NDPA sounding phase, Trigger frame (TF) sounding phase, and reporting phase.". This sentence is confusing and open for many interpretations some of which may be wrong and not intended by the specification text:1- Would we interpret 'one or more' as one or more of each phase or one and only one of each phase but many phases in the same instance? | Rephrase the sentence to clarify the intended meaning, one suggestion is " It includes one or more of each phase of the following phases ..." | REVISED. Please incorporate the changes in 11/22-1914r2 under “Modification” for CIDs 153, 154. |
| 154 | 11.21.18.6 | 68.16 | "It includes one or more of the following phases:" This sentence reads as if each instance shall have at least one of each phase, which is not true. In some scenarios there may be only the polling phase, but no other phases. When no STAs respond to the polling trigger, there should be no other phases in this TB instance. | Rephrase the sentence to " It includes one or more Polling phase, and zero or more of each phase of the following phases: ..." |

**Discussion:**

I agree with the commenter in principle that this sentence may cause confusion. By “one or more of the following phases”, one interpretation is one or multiple different phases of the following phases. Another interpretation is like the comment that one or more of each phase of the following phases. It might be worthwhile to list all possible scenarios. Based on some of the discussions we had earlier,

* Polling phase:
	1. The polling phase is present if at least one non-AP STA is assigned to be polled.
	2. For non-AP STAs that participate in NDPA sounding but do not send measurement reports, the polling phase is needed. Otherwise, the AP does not receive any response from the non-AP STA. This may mislead the AP that the non-AP STA is not responding. In this case, we need the polling to make sure that the AP knows the participance of the non-AP STA.
* Sounding phase:
	1. If the sounding phase is present, there should be only one TF sounding phase or one NDPA sounding phase, or one TF sounding phase and one NDPA sounding phase. One TF sounding phase can consist of multiple sounding trigger frames.
* Reporting phase:
	1. The reporting phase is present if the Sensing Measurement Report Requested subfield within the Sensing Measurement Setup Request frame is set to 1. (D0.4)
	2. The reporting phase shall be coupled with the sounding phase in a TB sensing measurement instance. (Ad-hoc discussion)

Exception cases about the polling phase:

* A TB sensing measurement instance consists of a single polling phase. – If no non-AP STA responds in the polling phase, the AP can choose not to proceed with sounding.
* A TB sensing measurement instance contains multiple polling phases. – If no non-AP STA responds in the first polling phase, the AP can choose to send another Sensing Polling Trigger frame.

To make the protocol low-complexity, it is preferred to exclude those abnormal behaviours/corner cases from the normative text, such as a single polling phase, a single sounding phase. When corner cases occur, the AP has the flexibility to decide what to proceed next. To show all combinations of phases in a TB sensing measurement instance, we can replace the text with a table.

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**Modification (#153, #154):**

## *TGbf Editor: Please modify the text at P148L49 in subclause 11.55.1.5.2.1 in D0.5 as follows.*

**11.55.1.5.2 TB sensing measurement instance**

**11.55.1.5.2.1 General**

TB sensing measurement instance is the trigger-based variant of a sensing measurement instance. It is applicable to scenarios where an AP is the sensing initiator, and one or more non-AP STAs are the sensing responders. A TB sensing measurement instance ~~It~~ includes ~~one or more of the following phases:~~ Polling phase, NDPA sounding phase, Trigger frame (TF) sounding phase, and ~~reporting~~ Reporting phase with relevant combinations as shown in Table 11-xx – Combinations of different phases present in a TB sensing measurement instance.

## *TGbf Editor: Please insert the following table after L53 on P148 in subclause 11.55.1.5.2.1 in D0.5.*

**Table 11-xx—Combinations of different phases present in a TB sensing measurement instance (#153, #154)**

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| **Polling phase** | **NDPA sounding phase** | **TF sounding phase** | **Reporting phase** |
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## *TGbf Editor: Please add the following text after L54 on P148 in D0.5.*

NOTE – In a TB sensing measurement instance that starts with Polling phase and receives no CTS-to-self frame from any of the non-AP STAs can proceed without NDPA and/or TF sounding phase. In this case, the AP can also start a new backoff to access the channel and send another Sensing Polling Trigger frame. (#153, #154)

## *TGbf Editor: Please add the following text after L8 on P147 in 11.55.1.4 Sensing measurement setup in D0.5.*

If a sensing initiator assigns in a Sensing Measurement Setup Request frame only the role of sensing receiver to the sensing responder and sets the Sensing Measurement Report Requested subfield to 0, the sensing initiator shall also assign the sensing responder to be polled in the TB sensing measurement instance by setting Poll Assigned subfield of the Sensing Measurement Parameters field in the Sensing Measurement Setup Request frame to 1. (#153, #154)

# CID 789

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| **CID** | **Subclause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 789 | 11.21.18.6.1 | 69.44 | In order for the AP to unambigously determine presence of a STA in the availability period, the CTS frames need to be sent in a TB PPDU | Reuse the 11az Ranging Poll TF as Sensing Polling TF and clarify that the CTS-t-0-self frames are sent in TB PPDU. | REVISED. Please incorporate the changes in 11/22-1914r2 under “Modification” for CIDs 789. |

**Discussion:**

Since the TGbf have agreed to reuse Ranging Poll TF as Sensing Polling TF, it would be clear that the CTS-to-self is sent in an HE TB PPDU in response to a trigger frame sent by AP.



In the current text in 11bf, we use “may” to indicate that there are non-AP STAs that intend or intend not to participate in TB measurement instance. For those who intend to, they shall respond with CTS-to-self. For those who intend not to, they shall not respond. We could follow similar texts as in 11az to make the normative behaviours clear: specify behaviours for non-AP STAs that respond and specify behaviours for non-AP STAs that do not respond.

**Modification (#789):**

## *TGbf Editor: Please modify the text at P150L43 in subclause 11.55.1.5.2.2 in D0.5 as follows.*

The AP shall send a Sensing Polling Trigger frame to one or more STAs and shall allocate each RU indicated in the Polling Trigger frame to only one STA(#163). Any STA addressed by a User Info field in a Sensing Polling Trigger frame that intends to ~~may request to~~ participate in the TB sensing measurement instance shall ~~by~~ respond~~ing~~ with a CTS-to-self frame in its designated RU allocation as identified in the Sensing Polling Trigger frame(#760)~~.~~, otherwise shall not send a CTS-to-self to avoid resource allocation in this measurement instance.(#789)

# CID 127

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| **CID** | **Subclause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 127 | 11.21.18.6.4 | 70.43 | "multiple sensing measurement setups of a sensing responder may be included in a single Sensing Measurement Report frame.". What does it mean to include a "measurement setup" in a Measurement Report? | Clarify | REJECTED.The text was describing the behaviour of aggregating measurement reports, which was already removed from the 11bf protocol based on the consensus that this feature is not needed.  |

**Discussion:**



**SP**

Do you support the proposed resolutions for the following CIDs in document 11-22/1914r4 and incorporate the changes into the latest TGbf draft:

153, 154, 789, 127

Y/N/A