IEEE P802.11
Wireless LANs

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| Resolution for CID 24114 |
| Date: May 26, 2020 |
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 Abstract

This submission proposes resolutions for CID 24114 received for TGax SA Ballot 1:

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Revised based on offline feedback
* Rev 2: Added NOTE to 9.4.2.45 to clarify that RNR IE is not allowed in nonTxBSSID profile

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGax Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGax Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGax Editor: Editing instructions preceded by “TGax Editor” are instructions to the TGax editor to modify existing material in the TGax draft. As a result of adopting the changes, the TGax editor will execute the instructions rather than copy them to the TGax Draft.***

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| **CID** | **Commenter** | **Pg/Ln** | **Section** | **Comment** | **Proposed Change** | **Resolution** |
| 24114 | Patil, Abhishek | 307.25 | 11.5 | 11ax expanded the format of RNR and extended its functionality to 6 GHz discovery and advertisement of nonTxBSSID profiles. Therefore, it is likely that an AP is unable to fit all the information in a single RNR IE. | Update the spec (11.50 and frame formats) to allow more than one RNR IE in relevant mgmt. frames. Provide clear rules to prevent abuse (e.g., an AP shall include more than one RNR only if it is unable to carry information of its co-located 6 GHz AP(s), nonTxBSSIDs, and/or neighboring AP(s) in a single RNR element). | **Revised**Agree with the comment. TGax has extended the functionality of RNR element to report co-located APs (which includes BSSIDs in an MBSSID set on another band/channel (e.g., 6 GHz) and on the reporting channel). Based on offline discussions with several members affiliated with different AP vendors, it was determined that a Multiple BSSID set can have up to 16 BSSID on a lower band (2.4 or 5 GHz) and same numbers on 6 GHz (i.e., up to 32 BSSIDs in all). TGax has mandated to include certain fields when reporting co-located APs – e.g., BSSID, Short SSID (if different from reporting AP) and BSS Parameters. Therefore, it is possible that a single RNR IE is unable to fit all the reported APs.Further as part of the resolution, the condition when FILS Discovery frame includes RNR is fixed (dot11ColocatedRNRImplemented is equal to true) in table 9-382 and clause 11.50.The resolution also includes additional clarifications added to clause 11.50.**TGax editor, please make changes as shown in doc 11-20/0818r3** |

* Beacon frame format

*TGax editor, please make changes to the following table in this sub-clause as shown below*

Change the following rows in Table 9-34 (Beacon frame body) maintaining row order:

|  |
| --- |
| * Beacon frame body
 |
| **Order** | Information | Notes |
| 63 | Reduced Neighbor Report | One or more Reduced Neighbor Report elements are optionally present if dot11TVHTOptionImplemented or dot11FILSActivated or dot11ColocatedRNRImplemented is true; otherwise not present. |

* Probe Response frame format

*TGax editor, please make changes to the following table in this sub-clause as shown below*

Change the following rows in Table 9-41 (Probe Response frame body) maintaining numeric order:

|  |
| --- |
| * Probe Response frame body
 |
| **Order** | Information | Notes |
| 65 | Reduced Neighbor Report  | One or more Reduced Neighbor Report elements are optionally present if dot11TVHTOptionImplemented, ~~or~~ dot11FILSActivated or dot11ColocatedRNRImplemented is true; otherwise not present. |

* FILS Discovery frame format

*TGax editor, please make changes to the following table in this sub-clause as shown below*

|  |
| --- |
| * FILS Discovery frame format
 |
| Order | Information | Notes |
| 4 | Reduced Neighbor Report element | One or more Reduced Neighbor Report element is optionally present if dot11FILSActivated or dot11ColocatedRNRImplemented is true, otherwise it is not present. |

* Reduced neighbor report

*TGax editor, please make changes to the 1st and 2nd paragraph in this sub-clause as shown below*

In Beacon and Probe Response frames, a Reduced Neighbor Report element may be transmitted by an AP with dot11TVHTOptionImplemented, ~~or~~ dot11FILSActivated or dot11ColocatedRNRImplemented equal to true. In FILS Discovery frames, a Reduced Neighbor Report element is optionally sent by an AP with dot11FILSActivated or dot11ColocatedRNRImplemented equal to true. An AP that operates in the 2.4 GHz or 5 GHz band and that is in the same co-located AP set as one or more 6 GHz APs shall follow the rules in 26.17.2.4 (Out of band discovery of a 6 GHz BSS) for including a Reduced Neighbor Report element in Beacon and Probe Response frames. A Reduced Neighbor Report element contains information on neighbor APs or co-located APs or a combination of both. A Reduced Neighbor Report element might not be exhaustive either by choice or by the fact that there may be neighbor APs not known to the reporting AP. An AP may include more than one Reduced Neighbor Report element in the Beacon or a Probe Response or a FILS Discovery frame that it transmits if the AP is unable to fit all reported APs in a single element due to element size considerations.

An AP with dot11MultiBSSIDImplemented equal to true shall not include Reduced Neighbor Report element in the Nontransmitted BSSID Profile subelement of the Multiple BSSID element.

NOTE—The Beacon, Probe Response or FILS Discovery frame of an AP with dot11MultiBSSIDImplemented equal true can carry the Reduced Neighbor Report element. In such case, the content carried in the fields of the Reduced Neighbor Report element have the same value for all the BSSIDs in the multiple BSSID set except for the Same SSID subfield(s); whose value applies only for the transmitted BSSID.

* **Multiple BSSID element**

*TGax editor, please add a NOTE after the 5th bullet in the 7th paragraph in this sub-clause as shown below*

***Change the 7th paragraph as follows:***

* The Timestamp and Beacon Interval fields, TIM, DSSS Parameter Set, IBSS Parameter Set, Country, Channel Switch Announcement, Extended Channel Switch Announcement, Wide Bandwidth Channel Switch, Transmit Power Envelope, Supported Operating Classes, IBSS DFS, ERP Information, HT Capabilities, HT Operation, VHT Capabilities, ~~and~~ VHT Operation, S1G Beacon Compatibility, Short Beacon Interval, S1G Capabilities, ~~and~~ S1G Operation, HE Capabilities, HE 6 GHz Band Capabilities, HE Operation, BSS Color Change Announcement, and Spatial Reuse Parameter Set elements are not included in the Nontransmitted BSSID Profile subelement; the values of these elements for each nontransmitted BSSID are always the same as the corresponding transmitted BSSID element values.

NOTE – A Reduced Neighbor Report element is not carried in the Nontransmitted BSSID Profile subelement. When present in the frame, the values of fields in the element except the Same SSID subfield(s), apply to all the BSSIDs in the multiple BSSID set.

* When included in the Nontransmitted BSSID Profile subelement for this nontransmitted BSSID, the Non-Inheritance element (see 9.4.2.240 (Non-Inheritance element)) appears as the last element in the profile and carries a list of elements that are not inherited by this nontransmitted BSSID from the transmitted BSSID.

Each Nontransmitted BSSID Profile subelement contains only elements for a BSS with a nontransmitted BSSID.