IEEE P802.11
Wireless LANs

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| Comment resolutions for fast passive scanning-part 2 |
| Date: 2019-06-01 |
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Abstract

This submission proposes resolutions for multiple comments related to TGax D4.0 with the following CIDs (4 CIDs):

* 20206, 20207, 20208, 20212

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Some changes to the resolution text. No technical changes.

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** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 20206 | Gaurav Patwardhan | 432.07 | Not all countries and/or regulatory domains currently have or will be expected in the near future to have most of the 20MHz channels operational in the 6 GHz spectrum. For example, with the NPRM rules as currently proposed by the FCC there are four or five 20MHz channels in U-NII-6 and about twelve 20MHz channels in U-NII-8 depending on how the channel frequency masks are defined. Other regulatory bodies like CEPT have even lesser channels available. The existence of incumbents operating with different channel frequency masks makes the availability of the channels even less. The whole point of using preferred scanning channels is to make scanning the whole spectrum more efficient. Therefore due to less availability of the channels, having one channel in four as a preferred scanning channel would make the STAs take a hit on performance without the apparent benefits of using a preferred scanning channel. | Propose to change it to one preferred 20MHz scanning channel in two 20MHz channels to have enough preferred scanning channels which still halves the time required for scanning the whole 6 GHz spectrum but allows the flexibility of channel availability in different regulatory domains. | Rejected –The preferred scanning channels periodicity (once every four channels) is independent of regulatory allowances/restrictions. A STA is always expected to respect them. The selection was based on the pros and cons of different values from a scanning time perspective and amount of spectrum that was desirable to be kept clean from active probing traffic. This was discussed at length and different periodicities have different pros and cons. Please refer to the following contribution for more information:<https://mentor.ieee.org/802.11/dcn/18/11-18-1624-00-00ax-discovery-channels-for-6-ghz-band.pptx> The group ended up converging on a PSC periodicity of 4. |
| 20207 | Gaurav Patwardhan | 432.08 | The equation for preferred scanning channels is too restrictive and not extensible for when different regulatory bodies (independent of each other) will open up the spectrum in the future. This also sets a precedent for any other frequency band opening up in the future. | Add an annex with tabulated form of preferred channels which is easily extensible in the future. | Rejected –The equation specifies that one every 4 20 MHz channels, equally spaced, are defined as preferred scanning channels, and are pre-defined so that their location is independent of regulatory bodies decisions in different regions. This pre-defined setting allows future compliance and is easily extensible if more spectrum is to be opened in the future (by simply expanding the range of the index N). |
| 20208 | Gaurav Patwardhan | 431.55 | Similar to a beacon interval, the FILS Discovery frame interval should not be fixed to 20 TUs in the standard. | Keep it open for interpretation and fix it in the certification process. | Rejected –The comment fails to identify a technical issue. The FILS Discovery frame interval is not fixed to 20 TUs but rather the maximum value is 20 TUs. The CRC discussed this issue at length and decided that using this same value as OCE is a good trade-off between over-the-air overhead and scanning delay. |
| 20212 | GEORGE CHERIAN | 431.00 | 6GHz scanning: Extend FILS Discovery Frame to advertise whether Probe Requests are allowed in SU PPDU format, or if Probe Requests are not allowed at all on that channel for certain duration | As in the comment. | Rejected –Discussed earlier (September 2018) and could not reach consensus. Couple of options are currently available:1. AP does not send FILS Discovery frame, hence STAs are not polled to send Probe Request (best if in a controlled environment so that all APs are cooperating so that the channel remains clean from active scanning traffic.
2. AP sends RNR IE with 20 TU Unsolicited Probe Response Active field set to 1, hence STAs cannot send PR to the AP/SSID identified in the RNR.
3. AP sends a NAV-setting frame together with/or in alternative to (Probe Response) for the 20 TU period. Drawback being that all traffic is suspended (in BSS (okay since the AP can trigger all its STAS), and O-BSS (only okay if APs coordinate their NAV reservations as well).
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**Discussion: *None.***