IEEE P802.11
Wireless LANs

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| D4.0 CR for 6GHz channelization |
| Date: 2019-07-01 |
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Abstract

This submission proposes resolutions for the following comments on 6GHz channelization of TGax D4.0:

* 20452, 20453, 20518, 20519

Revisions:

* Rev 0: Initial version of the document. Use D4.0 as baseline spec text.
* Rev 1: Modify the discussion. Add document number and revision version
* Rev 2: Add comments, 20518, 20519
* Rev 3: Some editorial change
* Rev 4: Modify discussion based on offline discussion. No changes to proposed change.

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** | **Clause Number** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 20452 | 26.17.2.3.3 | 432 | Add parens, for clarity of operator precedence | Change the equation to: channel starting frequency + (5 ├ù 16 ├ù (n - 1)) | Revised –Agree in principle with the comment. Proposed resolution accounts for the suggested change.TGax editor to make the changes shown in 11-19/1017r4 under all headings that include CID 20452. |
| 20453 | 26.17.2.3.3 | 432 | Eq 27-134 clearly indicates the channel starting frequency of 5.940 GHz, and the equation results in channel #1 being the lowest frequency, and centered on 5.945 Ghz. However, the equation on P432.7 (for the PSCs) doesn't explicilty list the channcel starting frequency, so we assume it is 5.940 GHz per Annex E, and thus the lowest PSC is 5.940 GHz. | Replace the PSC equation with: (channel starting frequency + 5) + (80 ├ù (n - 1)) | Revised –The comment and proposed change are not consistent with each other. The proposed resolution addresses the comment, which mentions that the equation here does not clearly state the channel starting frequency. To fix this the resolution clarifies that the channel starting frequency is defined in 27.3.22.2. In addition to that, there are problem in current PSC equation. Hence, modification is necessary. See discussion in 11-19/1017r1. TGax editor to make the changes shown in 11-19/1017r4 under all headings that include CID 20453. |
| 20518 | 26.17.2.3.3 | 432 | "The set of 20 MHz channels in the 6 GHz band, with channel center frequency, ch\_a = channel starting frequency + 5 x 16 x (n - 1), where n = 1, ..., 15, are referred to as preferred scanning channels (PSCs)." -- normally channel 0 refers to the channel at the channel starting frequency | Change "(n - 1)" to "n" and change "1, ..., 15" to "0, ..., 14" | Revised –Modified equation based on similar way defined in section 27.3.22.2.TGax editor to make the changes shown in 11-19/1017r4 under all headings that include CID 20518. |
| 20519 | 26.17.2.3.3 | 432 | "The set of 20 MHz channels in the 6 GHz band, with channel center frequency, ch\_a = channel starting frequency + 5 x 16 x (n - 1), where n = 1, ..., 15, are referred to as preferred scanning channels (PSCs)." -- normally channel 0 refers to the channel at the channel starting frequency. See 27.3.22.2 | Change the cited text at the referenced location to "The set of 20 MHz channels in the 6 GHz band with channel numbers 12 + 16 <mult> n, where n = 0, ..., 14, are referred to as preferred scanning channels (PSCs)." | Revised –Modified equation based on similar way defined in section 27.3.22.2.TGax editor to make the changes shown in 11-19/1017r4 under all headings that include CID 20519. |

**Discussion:**

There are two issues in current 6 GHz band channelization.

1. Center frequency equation discrepancy

2. Preferred scanning channel (primary channel for 6 GHz-only AP) in the first 20MHz in the 80MHz band which may have some issue under ETSI regulation

First, center frequency equation discrepancy.

*Equation (27-134),*

*Channel center frequency = Channel starting frequency + 5 × nch (MHz) (27-134)*

*Where nch = 1, ..., 253 Channel starting frequency is 5.940 GHz*

*In annex E,*

*20MHz channel center frequency can be 1, 5, 9, 13, … with channel starting frequency 5.940GHz.*

*In section 26.17.2.3.3,*

*The set of 20 MHz channels in the 6 GHz band, with channel center frequency, ch\_a = channel starting frequency + 5 × 16 × (n - 1), where n = 1, ..., 15, are referred to as preferred scanning channels (PSCs).*

Thus, the equation in section 26.17.2.3.3 should be

*ch\_a = channel starting frequency + 5 × (16 × (n - 1) +1), where n = 1, ..., 15,*

It is more desiable to transmit a PPDU inner side of channel bandwidth.

So, we further propose to move the PSC to one of center 20MHz channel.

**Proposed Changes:**

***TGax Editor: Modify text in 26.17.2.3.3 (Non-AP STA scanning behaviour):***

The set of 20 MHz channels in the 6 GHz band, with channel center frequency, *ch\_a* = Channel starting frequency – 55 + 80 × *n* (MHz) are referred to as preferred scanning channels (PSCs). Channel starting frequencyis defined in 27.3.22.2, and *n = 1, ..., 15*. *(#20452, 20453, 20518, 20519)*

**End of proposed changes.**

**References**

**[ 1]** **5 GHz RLAN Harmonised Standard covering the essential equirementsof article 3.2 of Directive 2014/53/EU**