IEEE P802.11
Wireless LANs

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| Clause 27.1 Comment Resolution |
| Date: 2017-08-15 |
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Abstract

Thius submission includes proposed resolutions to CIDs 3141, 5166, 7070, 7792, 7793, 8317, 8333, 8692, 9436, 9437, and 9517. All CIDs are in the **MAC** group.

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| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** | **Owning Ad-hoc** |
| 3141 | 149.11 | 27.1 | The HE MAC introduction would benefit from an explanation of the relationship of this clause to Clauses 10-11. | Add a more general description. For example you might state that an HE STA that supports a feature described in 27, supports that form of the feature if the feature is also described in Clause 10 or 11. | RevisedTGax Editor to make changes in <this document> | MAC |
| 5166 | 149.10 | 27.1 | is "are banned" normative? | change sentence to a "shall not" | RevisedTGax Editor to make changes in <this document> | MAC |
| 7070 | 149.08 | 27.1 | In "Introduction", general explanations for HE MAC should be added first as written in 28.1 (Introduction for HE PHY) | as in comment | RevisedTGax Editor to make changes in <this document> | MAC |
| 7792 | 149.10 | 27.1 | What does "are banned" mean? | Replace with "An HE STA shall not support HCCA or TSPECs." | RevisedTGax Editor to make changes in <this document> | MAC |
| 7793 | 149.10 | 27.1 | Backward compatibility problems around TSPEC. Since an HE STA is also a VHT STA (per 4.3.14a), to disallow any use of TSPEC by an HE STA means that any peer pre-HE (VHT or older STA) that sends a TSPEC in to the HE STA will get indeterminate and incompatible results. | Clarify the expected behavior for an HE STA when in peer communication with a pre-HE STA, when TSPEC use is attempted. | RevisedThe “ban” on using TSPEC by an HE STA is deleted.See changes in <this document> | MAC |
| 8317 | 149.10 | 27.1 | It is useful for the reader to in 27.1 state which clause 27 procedures are mandatory and optional like 28.1.1 Introduction to the HE PHY. 300+ 'SHALL's (out of 430) can be removed within clause 27. | Write MAC introduction with Shalls in 27.1 and remove > 300 'SHALL's from remaining Clause 27 text. | RejectedIt is not clear how adding few SHALLs in the 27.1 would save on the 300+ SHALLs counted by the commenter in Clause 27.Additionally a list of MAC features and mandatory/option designation is given in clause 4.3.14a and there is no reason to repeat this list in more than one place in the draft. | MAC |
| 8333 | 149.10 | 27.1 | The MAC clause should have a regulatory requirements paragraph just after the introduction, as channel access might have regulatory constraints, e.g., EN 301 893 in Europe. | Insert "Regulatory requirements that do not affect interoperability are not addressed in this standard. Implementers are referredto the regulatory sources in Annex D for further information. Operation in countries within defined regulatory domains may be subject to additional or alternative national regulations." | Rejected.802.11-2016 includes the statement “*Compliance with the provisions**of any IEEE Standards document does not imply compliance to any applicable regulatory requirements. Implementers of**the standard are responsible for observing or referring to the applicable regulatory requirements*” under Laws and regulations. This statement seems to achieve the same understanding as proposed by the commenter.Additionally other MAC clauses (Clause 10 in particular) doesn’t include a specific regulatory statement in the form proposed by the commenter. The proposed changes seems to be generic and the commenter may try to add it to the baseline as part of the REVmd process. | MAC |
| 8692 | 149.08 | 27.1 | Shouldn't section called "Introduction" briefly summarize the purpose of the Clause? Now all it says is that "The use of HCCA and TSPEC are banned at HE STAs." | Provide brief summary of Clause 27 as part of 27.1. | RevisedTGax Editor to make changes in <this document> | MAC |
| 9436 | 149.10 | 27.1 | the language of "banned" seems not appropriate for specification language and should be revised. | change the sentence into "HE STAs shall not use HCCA and the TSPEC mechanism.". | RevisedTGax Editor to make changes in <this document> | MAC |
| 9437 | 149.10 | 27.1 | The introduction section should contain descriptions and summaries for HE MAC instead of banning of certain behavior. Such descriptions and summaries should be added. | Provide descriptions and summaries for HE MAC in this section. | RevisedTGax Editor to make changes in <this document> | MAC |
| 9517 | 149.10 | 27.1 | "The use of HCCA and TSPEC are banned at HE STAs."Two thoughts:(1) This sentence is ambiguous. If we ban HCCA, it will be reasonable to disallow TSPEC negotiation for HCCA. However the TSPEC negotiation can be used for admission control for the EDCA which will be beneficial for the schduling purpose at the AP. Therefore, I do not think it will be good to disallow all of the TSPEC negotiation.(2) This sentence is not the introduction of HE MAC. It should be stated somewhere in 27.2. | (1) The sentence should be modified to:"The use of HCCA is banned at HE STAs."(2) Move this sentence somewhere in 27.2. | RevisedTGax Editor to make changes in <this document>The use of TSPEC by HE STAs is allowed. | MAC |

***TGax Editor: change clause 27.1 as follows***

* Introduction

Clause 27 (High Efficiency (HE) MAC specification) specifies MAC functional sublayer specific to HE STA. Unless otherwise stated an HE STA supports MAC functions defined in Clause 10 (MAC sublayer functional description).

MAC functions introduced specifically for HE STAs include:

* Updating two NAVs and differentiating between Intra-BSS and Inter-BSS frames.
* MU-RTS/CTS for protecting MU UL transmissions.
* Dynamic Fragmentation.
* Introducing a new BlockAck type, Multi-STA BlockAck.
* Multi-TID A-MPDU
* Spatial resue operation

The remainder of Clause 27 describes the operation of the MUCF introduced in 10-2.5a (Multi-User Coordination Function).

***TGax Editor: change clause 10.22.1 as follows***

* **General**

Under HCF, the basic unit of allocation of the right to transmit onto the WM is the TXOP. Each TXOP is defined by a starting time and a defined maximum length. In a non-DMG BSS, the TXOP may be obtained by a STA winning an instance of EDCA contention (see 10.22.2 (HCF contention based channel access (EDCA))) during the CP or by a STA receiving a QoS (+)CF-Poll frame (see 10.22.3 (HCF controlled channel access (HCCA))) during the CP or CFP. The former is called *EDCA TXOP*, while the latter is called *HCCA TXOP* or *polled TXOP*.

In a DMG BSS, the EDCAF operates only during CBAPs. Operation of the EDCAF is suspended at the end of a CBAP and is resumed at the beginning of the following CBAP. See 10.36.5 (Contention based access period (CBAP) transmission rules) and 10.36.5 (Contention based access period (CBAP) transmission rules) for additional rules regarding contention based access in DMG BSSs.

HCCA is not used by DMG and HE STAs.

**References:**