IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Clause 10.2 Comment Resolution | | | | |
| Date: 2017-08-02 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Osama Aboul-Magd | Huawei Technologies Canada Co. Ltd. | 303 Terry Fox Drive  Ottawa, ONT, CANADA  K2K-3J1 |  | [Osama.aboulmagd@huawei.com](mailto:Osama.aboulmagd@huawei.com) |
|  |  |  |  |  |

Abstract

This submission includes resolutions to CIDs 4746, 5373, and 8207. The three CIDs belong to the **MAC** Group.

R0: Initial draft

R1: Changed Figure 10-2 to keep UL access only. Accommodated comments received during the TG telecon 20170803.

R2: Included comments received during the 20170824 telecon.

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.***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 4746 | 113.03 | 10.2.1 | Need to update the MAC architecture (Figure 10-1) and respective definitions to host the enhancements for HE (UL MU, etc). | As in comment. | Revised.  TGax Editor to make changes proposed in <this document> |
| 5373 | 113.05 | 10.2.1 | Update Figure 10-1--Non-DMG STA MAC architecture with new 11ax features (OFDMA, HE PHY, etc) | As in comment | Revised.  TGax Editor to make changes proposed in <this document> |
| 8207 | 113.04 | 10.2 | The 802.11ax amendment introduces MU transmissions which is not supported by any of the control functions in Figure 10-1 of the 802.11-2016. There is a need to introduce a ne MU access function and add to the Figure. | as in comment. | Revised.  TGax Editor to make changes proposed in <this document> |

***TGax Editor: replace Figure 10-1 (Non DMG STA MAC Architecture) with the Figure in the embedded power point slide***.



* **MAC architecture**
* **General**

The MAC architecture is shown in Figure 10-1 (Non-DMG STA MAC architecture) and Figure 10-2 (DMG STA MAC architecture)

In a non-DMG STA:

* The MAC provides the PCF, HCF, MCF and MUCF service using the services of the DCF.
* The PCF is optionally present in nonmesh STAs and absent otherwise.
* The HCF is present in QoS STAs and absent otherwise.
* The MCF is present in mesh STAs and absent otherwise.
* The MUCF is present in HE STAs and absent otherwise. (#4746, #5373, #8207)
* **Mesh coordination function (MCF)**

The mesh facility includes an additional coordination function called *MCF* that is usable only in an MBSS. A mesh STA shall implement the MCF only. MCF has both a contention based channel access and contention free channel access mechanism. The contention based mechanism is EDCA and the contention free mechanism is called the *MCF controlled channel access (MCCA)*. MCF uses the default values for the PTKSA, GTKSA and STKSA Replay Counters. The operation rules of the EDCA are defined in 10.22.2 (HCF Contention based channel access (EDCA)). The operation rules of the MCCA are defined in in 10.23.2 (MCF controlled channel access (MCCA)).

***TGax Editor: Create new subclause 10.2.5a***

### 10.2.5a Multi-User coordination function (MUCF)

MUCF has a contention based channel access, and two UL multi-user access methods. The UL MU TB access UMTA (UMTA) allows an HE AP to trigger a group of HE non-AP STAs to transmit a TB PPDU. The UORA allows an HE non-AP STA to access one of a number of resource units designated for random access by the HE AP.

* The operation rules of the EDCA are defined in 10.22.2 (HCF contention based channel access) and 27.2.5 (obtaining an EDCA TXOP for HE non-AP STAs using MU EDCA parameters). The operation of UMTA is described in 27.5.2 (UL MU operation). The operation of UORA is described in 27.5.4 (UL OFDMA-based random access (UORA)).**Combined use of DCF, PCF, HCF, and MUCF**

The DCF and a centralized coordination function (either PCF,HCF, or MUCF) are defined so they may operate within the same BSS. When a PC is operating in a BSS, the PCF and DCF access methods alternate, with a CFP followed by a CP. This is described in greater detail in10.4 (PCF). When an HC is operating in a BSS, it may generate an alternation of CFP and CP in the same way as a PC, using the DCF access method only during the CP. The HCF access methods (controlled and contention based) operate sequentially when the channel is in CP. Sequential operation allows the polled and contention based access methods to alternate, within intervals as short as the time to transmit a frame exchange sequence, under rules defined in 10.22 (HCF)

**References:**