IEEE P802.11
Wireless LANs

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| IEEE 802.11 TGax, MU Ad hocMarch 2016 Macao TGax MU Ad hoc Meeting Minutes |
| Date: 2016-03-16 |
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Abstract

The meeting minutes from the MU Ad Hoc group meeting of TGax in the IEEE 802.11 Macao session March 14th – 18nd, 2016.

**IEEE 802.11 Task Group ax, MU Ad hoc**

**March 2016 Macao Meeting**

**March 14th – 18nd, 2016**

**MU Adhoc Session #1**

**Monday, March 14th, 2016, PM3 TGax Session (7:30 – 9:30PM)**

1. **The meeting called to order by Kaushik Josiam (Samsung), the co-chair of the TGax MU Ad hoc**
	1. At 8:05 pm, 59 people are present.
2. **Announcement**
	1. Agenda Doc.11-16/0419 on the server. Rev. 0 is the working document.
	2. Meeting Protocol: The Chair asked to state name and affiliation when speaking for the first time.
	3. Attendance reminder.
		1. The attendance server: https://imat.ieee.org/
3. **The chair reviewed the mandatory 5 slides of P&P.**
	1. Instructions from the WG Chair. [reviewed~~, did not review~~]
	2. Participants, Patents, and Duty to Inform. [reviewed~~, did not review~~]
	3. Patent Related Links. [reviewed, ~~did not review~~]
	4. Call for potentially essential patents.
		1. Chair asked if anyone is aware of potentially essential patents

 [Asked. ~~Did not ask~~]

* + 1. Potentially essential patents

 [None reported. ~~Reported as follows~~]

* 1. Other Guidelines for IEEE WG Meetings.
1. **The Chair identified 6 presentations assigned by the TGax chair to be treated in MU Ad hoc**
	1. No new presentations, other than those listed in the agenda, were requested.
2. **The Chair asked for approval of the agenda**
	1. No objection raised
3. **Presentation of contributions**
	1. 0331r1 Power Control for Multi-User Transmission in 802.11ax
		1. Strawpoll #1 (pre-motion): ***Do you agree to add to the TG Specification Framework:***

*In an HE trigger-based PPDU transmission, power pre-correction mechanism is needed.*

Y/N/A:32/0/4

SP passes

* + 1. Strawpoll #2 (pre-motion): ***Do you agree to add to the TG Specification Framework:***

*The mechanism shall be flexible enough to allow for scheduling both class A and class B devices in the same HE trigger-based PPDU transmission.*

Y/N/A: 34/0/11

SP passes

* + 1. Strawpoll #3 (pre-motion): ***Do you agree to add to the TG Specification Framework:***

*In a DL HE-MU-PPDU, the AP may set different transmit powers for different resource units.*

Y/N/A: 17/0/13

SP passes

* 1. 0413r0 Power Control for UL MU
		1. Strawpoll #1 (pre-motion): ***Do you agree to add the following power control mechanism for UL MU transmission to the SFD?***
	+ AP signals the following in the Trigger frame that schedules the UL MU transmission
		- In the common info field: AP Tx Power: $Tx\_{pwr}^{AP}(dBm)$
		- In the per user info field: $Target\_{RSSI}(dBm)$ for each STA that is scheduled in the Trigger frame
			* The number of bits in the Target RSSI is TBD
	+ STA sets its Tx power per the following equation
		- $Tx\_{pwr}^{STA}\left(dBm\right)=PL\_{DL}\left(dB\right)+Target\_{RSSI}(dBm)$
			* where $PL\_{DL}(dB)$ is the DL path loss computed by the STA based on the AP transmit power signaled in the Trigger message and the measured RSSI of the Trigger message
			* $Target\_{RSSI}(dBm)$ is signaled by the AP in the trigger message

Y/N/A: 37/0/9

SP passes

* + 1. Strawpoll #2 (pre-motion):***Do you agree to add the following text to the SFD?***
	+ STAs that participate in HE trigger-based PPDU transmit the power headroom in triggered UL MU transmissions to assist in the AP’s MCS selection
		- Details of STA headroom definition are TBD.

Y/N/A: 35/0/7

SP passes

* + 1. Strawpoll #3 (pre-motion):***Do you agree to add the following text to the SFD?***
	+ STAs that participate in HE trigger-based PPDU shall support +/-3dB Relative Tx power requirements for Class B devices.
		- Relative Tx power accuracy is defined as the accuracy of the change of the transmit power in consecutive UL MU transmissions.

Y/N/A: 29/1/7

SP passes

* 1. 0333r0 Issue related to unused UL OFDMA RUs

Strawpoll: ***Do you agree that some configurations of unused OFDMA RUs are potentially critical for MU OFDMA TXOP, and that a further study is required?***

Y/N/A: 11/0/many

* 1. 0340r1 Random Access UL MU Resource Allocation and Indication
		1. Strawpoll#1(pre-motion): ***Do you agree to add the following in the SFD?***

*The spec shall support regular UL MU transmission for unassociated STAs.*

Y/N/A: 2/2/many

SP fails

* + 1. Strawpoll#2(pre-motion): ***Do you agree to add the following in the SFD?***

*For unassociated STAs, a TBD function of the STA’s MAC address shall be used as a user ID in the trigger frame*

Y/N/A: 2/9/many

SP fails

* + 1. Strawpoll#3: ***Do you agree to add a user ID type in the per User info field of the Trigger frame to distinguish between associated STAs, unassociated STAs, and random access user IDs?***

Y/N/A: 4/3/many

* 1. 0371r0 Further consideration for MU-RTS/CTS
		1. Strawpoll #1 (pre-motion): ***Do you agree to add the following sentence in blue to Section 4.4 of TGax Specification Framework Document:***

*4.4.z The indicated 20 MHz channel(s) can be either Primary20, Primary40, Primary80 or 160/80+80 MHz. (Other indications are TBD. ) The 20 MHz channels needs not be contiguous to the primary 20.*

 SP deferred.

* 1. 0379r0 Trigger Frame Format

Not presented.

1. The Chair announced the recess of the MU ad hoc session at 9:28 pm.

**MU Adhoc Session #2**

**Wednesday, March 16th, 2016, PM2 TGax Session (4:00 – 6:00PM)**

1. **The meeting called to order by Kiseon Ryu (LG), the co-chair of the TGax MU Ad hoc**
2. **Announcement**
	1. Agenda Doc.11-16/0419 on the server. Rev. 1 is the working document.
	2. Meeting Protocol: The Chair asked to state name and affiliation when speaking for the first time.
	3. Attendance reminder.
		1. The attendance server: https://imat.ieee.org/
3. **The chair reviewed the mandatory 5 slides of P&P.**
	1. Instructions from the WG Chair. [reviewed~~, did not review~~]
	2. Participants, Patents, and Duty to Inform. [reviewed~~, did not review~~]
	3. Patent Related Links. [reviewed, ~~did not review~~]
	4. Call for potentially essential patents.
		1. Chair asked if anyone is aware of potentially essential patents

 [Asked. ~~Did not ask~~]

* + 1. Potentially essential patents

 [None reported. ~~Reported as follows~~]

* 1. Other Guidelines for IEEE WG Meetings.
1. **The Chair identified 1 remaining presentations assigned by the TGax chair to be treated in MU Ad hoc**
	1. No new presentations, other than those listed in the agenda, were requested.
2. **The Chair asked for approval of the agenda**
	1. No objection raised
3. **Presentation of contributions**
	1. 0379r0 Trigger Frame Format
		1. SP1: Do you agree to amend the Trigger Frame format in the SFD, as shown in this document?

Y/N/A: 27/0/2

SP passes

* 1. 0371r2 Further consideration for MU-RTS/CTS
		1. Strawpoll #1 (pre-motion):
* **Do you agree to add the following sentence which is marked in blue to the 4.4 of 11ax TG SFD:**
	+ MU-RTS will carry signaling for each STA to indicate the 20 MHz channel(s) for transmitting CTS responses when CTS is sent in (duplicate) non-HT PPDU
		- When a STA sends CTS in response to MU-RTS, the CTS response shall be transmitted in the 20 MHz channel(s) indicated in MU-RTS provided other transmission conditions TBD are met (e.g. channel idleness)
		- The indicated 20 MHz channel(s) can be either Primary20, Primary40, Primary80 or 160/80+80 MHz. For an STA, the one or more secondary 20 MHz channels need not be contiguous to the primary 20 MHz channel. The secondary 40 MHz channel needs not be contiguous to the primary 40MHz channel.
		- Other indications are TBD.
		- Exact Signaling TBD

Y/N/A: 5/3/Many

SP fails