IEEE P802.11
Wireless LANs

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| IEEE 802.11 MAC/MU Ad hocMarch 2018 TGax MAC/MU Ad hoc Meeting Minutes |
| Date: 2018-03-06 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Kiseon Ryu | LG Electronics |  |  | kiseon.ryu@lge.com |
| Sigurd Schelstraete | Quantenna |  |  | sschelstraete@quantenna.com |
| David Xun Yang | Huawei |  |  | david.yangxun@huawei.com |

Abstract

TGax, MAC/MU Ad Hoc meeting minutes from the IEEE 802.11, March 5th – 9th, 2018.

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

**March 2018 Meeting, Chicago O’hare, ILL**

**Mar 5th – 9th, 2018**

**Tuesday, March 6th, 2018, AM1 TGax Session (8:00-10:00AM)**

1. **The meeting called to order at 08:02am by Chao-Chun Wang (MediaTek), the co-chair of the TGax MAC Ad hoc**
	1. 33 people are in the room.
2. **Announcement**
	1. Agenda Doc.11-18/0537 on the server. Rev. 0 is the working document.
	2. Meeting Protocol: The Chair asked for 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 called for presentations**
	1. 11-18/27r3 was added by request from George Cherian
2. **The Chair asked for approval of the agenda**
	1. No objection raised
3. **Presentation of contributions**
	1. **11-18/0027r3, “Ack related CIDs Section 27.4”**

CID 11092, 11740, 11757, 11758, 11759, 11760, 11761, 11762, 11763, 11810

12143, 12486, 12487, 12488, 12489, 12630, 12631, 12826, 12827, 12828

12829, 12831, 12832, 12887, 12888, 12889, 12891, 12892, 12893, 12894

12895, 12896, 12897, 12898, 12899, 12900, 12902, 12904, 12905, 12906

12907, 12908, 12909, 12911, 13517, 13518, 13519, 13520, 13734, 13735

13736, 13737, 13738, 13739, 13740, 13741, 13742, 13743, 11086, 11089

11091, 11754, 11755, 11756, 11807, 12015, 12285, 12478, 12479, 12481

12482, 12483, 12484, 12485, 12491, 12636, 12721, 12739, 12745, 12750

12820, 12821, 12822, 12823, 12847, 12866, 12867, 12910, 12912, 12913,

12914, 13022, 13023, 13036, 13150, 13189, 13252, 13254, 13255, 13256

13257, 13258, 13260, 13262, 13263, 13264, 13265, 13266, 13269, 13270

13272, 13276, 13278, 13279, 13515, 13516, 13521, 13663, 13664, 13665

* + 1. Presented by George Cherian (Qualcomm)

Strawpoll#1: Do you agree to accept resolutions in doc 11-18/0027r4 to following CIDs?

* CID 11092, 11740, 11757, 11758, 11759, 11760, 11761, 11762, 11763, 11810

12143, 12486, 12487, 12488, 12489, 12630, 12631, 12826, 12827, 12828

12829, 12831, 12832, 12887, 12888, 12889, 12891, 12892, 12893, 12894

12895, 12896, 12897, 12898, 12899, 12900, 12902, 12904, 12905, 12906

12907, 12908, 12909, 12911, 13517, 13518, 13519, 13520, 13734, 13735

13736, 13737, 13738, 13739, 13740, 13741, 13742, 13743, 11086, 11089

11091, 11754, 11755, 11756, 11807, 12015, 12285, 12478, 12479, 12481

12482, 12483, 12484, 12485, 12491, 12636, 12721, 12739, 12745, 12750

12820, 12821, 12822, 12823, 12847, 12866, 12867, 12910, 12912, 12913,

12914, 13022, 13023, 13036, 13150, 13189, 13252, 13254, 13255, 13256

13257, 13258, 13260, 13262, 13263, 13264, 13265, 13266, 13269, 13270

13272, 13276, 13278, 13279, 13515, 13516, 13521, 13663, 13664, 13665 (120 CIDs)

Results: passed unanimously.

* 1. **11-18/0380r0, “LB230-MAC-CR-Some CIDs in 9.4.2.237”**

CID 11015, 11860, 13410, 13411

* + 1. Presented by Alfred Asterjadhi (Qualcomm Inc.)

Strawpoll#2: Do you agree to accept resolutions in doc 11-18/0380r1 to following CIDs?

* CID 11015, 11860, 13410, 13411 (4 CIDs)

Results: passed unanimously.

* 1. **11-18/0200r2, “Decouple Channel Width Capabilities Between VHT and HE Modes”**

No CID

* + 1. Presented by Huizhao Wang (Quantenna)

Discussion:

C: OMI can be used for decoupling VHT and HE channel width capabilities.

C: Both the broadcast capability signaling in a Beacon frame and the individual unicast OMN signaling for HE STA is inefficient.

The meeting recesses at 10:02am.

**Tuesday, March 6th, 2018, AM2 TGax Session (10:30-12:30AM)**

1. **The meeting called to order at 10:31am by Chao-Chun Wang (MediaTek), the co-chair of the TGax MAC Ad hoc**
	1. 49 people are in the room.
2. **Announcement**
	1. Agenda Doc.11-18/0537 on the server. Rev. 0 is the working document.
	2. Meeting Protocol: The Chair asked for 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 called for presentations**
	1. No further request received
2. **The Chair asked for approval of the agenda**
	1. No objection raised
3. **Presentation of contributions**
	1. **11-18/0200r2, “Decouple Channel Width Capabilities Between VHT and HE Modes”**

No CID

* + 1. Presented by Huizhao Wang (Quantenna)

Strawpoll: Do you agree to decouple VHT and HE channel width capabilities advertisements in VHT and HE Capabilities elements, and the resolution text presented in this contribution?

SP deferred for further discussion.

* 1. **11-18/0423r0, “D2.0 comment-resolution-CID 14318”**

CID 14318

* + 1. Presented by Liwen Chu (Marvell)

Strawpoll#3: Do you agree to accept resolutions in doc 11-18/0423r0 to following CID?

* CID 14318 (1 CID)

Results: passed unanimously.

* 1. **11-18/0078r3, “D2.0 comment resolution 27.6.4”**

CID 12508, 13292

* + 1. Presented by Liwen Chu (Marvell)

Strawpoll#4: Do you agree to accept resolutions in doc 11-18/0078r4 to following CIDs?

* CID 12508, 13292 (2 CIDs)

Results: passed unanimously.

* 1. **11-18/0455r2, “lb230-cr-txop-duration-based-rts-cts”**

CID 11483, 11789, 11790, 11791, 12087, 13053, 13055, 13188, 14228, ~~14326~~

* + 1. Presented by Yongho Seok (MediaTek)

Strawpoll#5: Do you agree to accept resolutions in doc 11-18/0455r2 to following CIDs?

* CID 11483, 11789, 11790, 11791, 12087, 13053, 13055, 13188, 14228, ~~14326~~ (9 CIDs)

Results: passed unanimously.

* 1. **11-18/0369r5, “CR for various CIDs in Clause 9”**

CID 13975

* + 1. Presented by Abhishek Patil (Qualcomm)

Strawpoll#6: Do you agree to accept resolutions in doc 11-18/0369r5 to following CID?

* CID 13975 (1 CID)

Results: passed unanimously.

* 1. **11-18/0363r3, “CR for CID 13136”**

CID 13136

* + 1. Presented by Abhishek Patil (Qualcomm)

Strawpoll#7: Do you agree to accept resolutions in doc 11-18/0363r1 to following CID?

* CID 13136 (1 CID)

Results: passed unanimously.

* 1. **11-18/0546r0, “Resolutions to CIDs in clause 27.5.3.x” (MU)**

CID 11096, 14109, 13281, 13970, 12608, 13972, 12499, 11313, 12504, 11315

* + 1. Presented by Abhishek Patil (Qualcomm)

Strawpoll#8: Do you agree to accept resolutions in doc 11-18/0546r0 to following CIDs?

* CID 11096, 14109, 13281, 13970, 12608, 13972, 12499, 11313, 12504, 11315 (10 CIDs)

Results: passed unanimously.

* 1. **11-18/0149r0, “CR for 27.5.6”**

CID 11894, 12388, 13863, 12380, 13540, 11542, ~~13415~~, 14197, 13646, 11886, 11471, 14268, ~~12300~~, 13199, 14130, ~~12301~~, 12298, 13412, 13547, 14198, 12297, 13768, 12296, 11552, 12063, 11553, 14270, 11554, 11555, 14132

* + 1. Presented by laurent cariou (Intel)

The text with any color will be removed in revision 1.

Strawpoll#: Do you agree to accept resolutions in doc 11-18/0149r0 to following CIDs?

* CID 11894, 12388, 13863, 12380, 13540, 11542, ~~13415~~, 14197, 13646, 11886, 11471, 14268, ~~12300~~, 13199, 14130, ~~12301~~, 12298, 13412, 13547, 14198, 12297, 13768, 12296, 11552, 12063, 11553, 14270, 11554, 11555, 14132 (30 CIDs)

SP deferred and comeback with revision 1.

* 1. **11-18/0429r0, “D2.0 Comment Resolution 27.5.3.2.4 remaining CIDs”**

CID 11316, 12505, 12506

* + 1. Presented by Liwen Chu (Marvell)

Strawpoll#9: Do you agree to accept resolutions in doc 11-18/0429r0 to following CIDs?

* CID 11316, 12505, 12506 (3 CIDs)

Results: passed unanimously.

The meeting recesses at 12:20pm.

**Tuesday, March 6th, 2018, PM2 TGax Session (4:00-6:00PM)**

1. **The meeting called to order at 04:01pm by David Xun Yang (Huawei), the co-chair of the TGax MU Ad hoc**
	1. 40 people are in the room.
2. **Announcement**
	1. Agenda Doc.11-18/0537 on the server. Rev. 0 is the working document.
	2. Meeting Protocol: The Chair asked for 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 called for presentations**
	1. No further request received
2. **The Chair asked for approval of the agenda**
	1. No objection raised
3. **Presentation of contributions**
	1. **11-18/0056r1, “CR CID 14328”**

CID 14328

* + 1. Presented by Zhou Lan (Broadcom Ltd.)

Discussion:

C: The contribution contains the detailed text of which high level concept did not pass in Jan. meeting.

Q: In the figure, Doesn’t the response to the Trigger frame solicit acknowledgement frame?

A: QoS Null frame can be the response to Trigger frame, which does not solicit acknowledgement frame.

C: After a Trigger frame and a HE TB PPDU exchange, MU-RTS/CTS can be exchanged if needed. We don’t need a new procedure.

C: Timing synchronization problem (2SIFS + HE TB PPDU) should be clarified.

C: The gain of the proposal is only omission of single MU-RTS frame which is not significant.

Strawpoll deferred for further discussion.

* 1. **11-18/0512r1, “CR for CID 14207”**

CID 14207

* + 1. Presented by Yunbo Li (Huawei)

Discussion:

C: Need to consider the fairness issue.

SP deferred

* 1. **11-18/0557r0, “CR CID 11682”**

CID 11682

* + 1. Presented by Jarkko Kneckt (Apple)

Strawpoll#10: Do you agree to accept resolutions in doc 11-18/0557r1 to following CID?

* CID 11682 (1 CIDs)

Results: passed unanimously.

* 1. **11-18/0338r2, “LB230-MAC-CR-27.16.1”**

CID 13836

* + 1. Presented by Alfred Asterjadhi (Qualcomm Inc.)

Strawpoll#11: Do you agree to accept resolutions in doc 11-18/0338r2 to following CIDs?

* CID 13836 (1 CID)

Results: passed unanimously.

* 1. **11-18/0371r1, “LB230-MAC-CR-27.7.4”**

CID 12228, 12531, 11041, 11350, 11351, 11352, 11853, 12538, 13792

* + 1. Presented by Alfred Asterjadhi (Qualcomm Inc.)

Strawpoll#12: Do you agree to accept resolutions in doc 11-18/0371r2 to following CIDs?

* CID 12228, 12531, 11041, 11350, 11351, 11352, 11853, 12538, 13792 (9 CIDs)

Results: passed unanimously.

* 1. **11-18/0379r2, “LB230-MAC-CR-9.3.3.x”**

CID 12383

* + 1. Presented by Alfred Asterjadhi (Qualcomm Inc.)

Strawpoll#13: Do you agree to accept resolutions in doc 11-18/0379r2 to following CID?

* CID 12383 (1 CIDs)

Results: passed unanimously.

* 1. **11-18/0161r2, “CR CID 13754”**

CID 13754

* + 1. Presented by Zhou Lan (Broadcom Ltd.)

Strawpoll: Which option do you prefer?

**Option 1:**

Using all **zero** to indicate this a control that can be ignored and change the length field without minus 1.

**Option 2:**

Using all **ones** to indicate this a control that can be ignored.

 **Option 3: No Change**

**Option 4: Using one value for the reserved value, which is 15**

 **SP result:** Option1=11, Option2=2, Option3=8, Option4=6

Strawpoll#14: Do you agree to accept resolutions (with option1) in doc 11-18/0161r2 to following CID?

* CID 13754 (1 CIDs)

**Y/N/A = 11/6/9**

The meeting recesses at 6:00pm.

**Tuesday, March 6th, 2018, EVE TGax Session (7:30-9:30PM)**

1. **The meeting called to order at 10:31am by Chao-Chun Wang (MediaTek), the co-chair of the TGax MAC Ad hoc**
	1. 13 people are in the room.
2. **Announcement**
	1. Agenda Doc.11-18/0545 on the server. Rev. 2 is the working document.
	2. Meeting Protocol: The Chair asked for 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 called for presentations**
	1. No further request received
2. **The Chair asked for approval of the agenda**
	1. No objection raised
3. **Presentation of contributions**
	1. **11-18/75r1 D2.0 comment resolution 27.5.3.2.2**

CIDs: 11030, 11100, 11312, 11313, 11697, 12591, 13194, 13195, 13828, 13971

Strawpoll #15: Do you agree to accept resolutions in doc 11-18/075r1 to following CID?

* CIDs ~~11030~~, 11100, ~~11312~~, ~~11313~~, 11697, 12591, ~~13194~~, ~~13195~~, 13828, 13971 (5 CIDs)

Results: passed unanimously.

* 1. **11-18/558 Proposed resolution for CIDs for 27-2-2**

 CIDs: 11488, 11735,11737,11792,12132,12133,12180,12262,12264,12456,12459,12809,14095,12177

Strawpoll : Do you agree to accept resolutions in doc 11-18/0558 to following CID?

* CIDs 11488, 11735, 11737, 11792, 12132, 12133, 12180, 12262, 12264, 12456, 12459, 12809, 14095, 12177 (14 CIDs)

SP deferred

* 1. **11-18/75r2 D2.0 comment resolution 27.5.3.2.2**

CIDs: 11030, 11312, 13194, 13195 (4 CIDs)

Strawpoll #16: Do you agree to accept resolutions in doc 11-18/075r3 to following CID?
11030, 11312, 13194, 13195 (4 CIDs)

Results: passed unanimously.

**Wendesday, March 7th, 2018, PM2 TGax Session (4:00-6:00PM)**

1. **The meeting called to order at 04:00pm by Chao-Chun Wang (Mediatek), the co-chair of the TGax MAC Ad hoc**
	1. 43 people are in the room.
2. **Announcement**
	1. Agenda Doc.11-18/0537 on the server. Rev. 3 is the working document.
	2. Meeting Protocol: The Chair asked for 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 called for presentations**
	1. The following requests received
		1. New doc 11-18/155
		2. Two SPs are requested
2. **The Chair asked for approval of the agenda**
	1. No objection raised
3. **Presentation of contributions**
	1. **11-18/0446r1, “11-18-0446-01-00ax-su-cqi-feedback-discussuion”**

CID 12699, 13220

* + 1. Presented by Zhou Lan (Broadcom Ltd.)

Strawpoll#17: Do you agree to accept resolutions in doc 11-18/0446r2 to following CID?

* 12699, 13220

Results: SP passes unanimously

* 1. **11-18/0512r2, “11-18-0512-02-00ax-cr-for-cid-14207”**

CID 14207

* + 1. Presented by Yunbo Li (Huawei Technologies Co.,Ltd.)

Strawpoll#18: Do you agree to accept resolutions in doc 11-18/0512r3 to following CID?

* 14207

Results: SP passes unanimously

* 1. **11-18/0012r2, “LB230-MAC-CR-27.15.2”**
* CID 11261, 11495, 11504, 11563, 11687, 11689, 11690, 11902, 12003, 12061, 12532, 12533, 12553, 12554, 12627, 12649, 12650, 12656, 12865, 13639, 13947, 13948, 14123, 14329, 14124, 14126, 12099, 12100, 13640 (29 CIDs)
	+ 1. Presented by Alfred Asterjadhi (Qualcomm)

Strawpoll#19: Do you agree to accept resolutions in doc 11-18/0012r3 to following CIDs?

* 11261, 11495, 11504, 11563, 11687, 11689, 11690, 11902, 12003, 12061, 12532, 12533, 12553, 12554, 12627, 12649, 12650, 12656, 12865, 13639, 13947, 13948, 14123, 14329, 14124, 14126, 12099, 12100, 13640 (29 CIDs)

Results: SP passes unanimously

* 1. **11-18/0149r2, “CR for 27.5.6”**
* CID 11894, 12388, 13863, 12380, 13540, 11542, 14197, 13646, 11886, 11471, 14268, 13199, 14130, 12298, 13412, 13547, 14198, 12297, 13768, 12296, 11552, 12063, 11553, 14270, 11554, 11555, 14132 (27 CIDs)
	+ 1. Presented by Laurent Carious (Intel)

Strawpoll#20: Do you agree to accept resolutions in doc 11-18/0149r3 to following CIDs?

* 11894, 12388, 13863, 12380, 13540, 11542, 13415, 14197, 13646, 11886, 11471, 14268, 12300, 13199, 14130, 12301, 12298, 13412, 13547, 14198, 12297, 13768, 12296, 11552, 12063, 11553, 14270, 11554, 11555, 14132 (27 CIDs)

Results: SP passes unanimously

* 1. **11-18/0527r1, “Revisit CR on 27.6.2”**
* CID 12511, 12668, 13203, 13204, 13205, 13206, 13209, 13210, 13212, 13213, 13214, 13215, 13216, 13217, 14271 (15 CIDs)
	+ 1. Presented by Robert Stacey (Intel)

Strawpoll#21: Do you agree to accept resolutions in doc 11-18/0527r2 to following CIDs?

* 12511, 12668, 13203, 13204, 13205, 13206, 13209, 13210, 13212, 13213, 13214, 13215, 13216, 13217, 14271 (15 CIDs)

Results: SP passes unanimously

* 1. **11-18/0312r1, “LB230-MAC-CR-27.6.3”**
* CID 11432, 11433, 11766, 11767, 11768, 12513, 12515, 12516, 12697, 12698, 12699, 12779, 13218, 13219, 13220, 13222, 13223, 13224, 13225, 13226, 13227, 13228, 13287, 13288, 13289, 13290, 13291, 13550, 13553, 13556, 13712, 13776, 14274 (33 CIDs)
	+ 1. Presented by Alfred Asterjadhi (Qualcomm)

Strawpoll#22: Do you agree to accept resolutions in doc 11-18/0312r1 to following CIDs?

* 11432, 11433, 11766, 11767, 11768, 12513, 12515, 12516, 12697, 12698, 12699, 12779, 13218, 13219, 13220, 13222, 13223, 13224, 13225, 13226, 13227, 13228, 13287, 13288, 13289, 13290, 13291, 13550, 13553, 13556, 13712, 13776, 14274 (33 CIDs)

Results: SP passes unanimously

The MAC/MU ad hoc session is adjourned at 6:01pm.