IEEE P802.11
Wireless LANs

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| Minutes 802.11 be PHY ad hoc Telephone Conferences, March 2020 |
| Date: 2020-03-16 |
| Author(s): |
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Abstract

This document contains the PHY ad hoc meeting minutes for TGbe teleconferences held on:

* March 16, 2020
* March 18, 2020

**Monday March 16th, 2020 19:00 – 22:00 ET**

**Introduction**

1. The Chair (Tianyu Wu, Apple) calls the meeting to order at 19:00 ET.
2. The Chair follows the agenda in 11-20/0425r1
	* Adjustments to agenda will be made per member’s request
3. The Chair goes through the IPR policy and asks if anyone is aware of any potentially essential patents. Nobody speaks up.
4. The Chair reminds everyone to report their attendance by sending an e-mail to the Co-chair, Sigurd Schelstraete (Quantenna/ON Semiconductor) or the Chair himself.

**Attendance**

The following people recorded their attendance for this call:

* Eugene Baik (Qualcomm)
* Rui Cao (NXP)
* Alice Chen (Qualcomm)
* Sean Coffey (RealTek)
* Roya Doostnejad (Intel)
* Ruchen Duan (Samsung)
* Hung Tao Hsieh (MTK)
* Feng Jiang (Intel)
* Myeongjin Kim (Samsung)
* Youhan Kim (Qualcomm)
* Wook Bong Lee (Samsung)
* Qinghua Li (Intel)
* Dandan Liang (Huawei)
* Jianhan Liu (MediaTek)
* Yunping Lv (Huawei)
* Miguel Lopez (Ericsson)
* Lily Yunping Lyu (Huawei)
* Khashayar Mirfakhraei (Cisco)
* Yujin Noh (Newracom)
* Al Petrick (InterDigital)
* Ron Porat (Broadcom)
* Oded Redlich (Huawei)
* Sigurd Schelstraete (Quantenna/On Semiconductor)
* Steve Shellhammer (Qualcomm)
* Shimi Shilo (Huawei)
* Sudhir Srinivasa (NXP)
* Junghoon Suh (Huawei)
* Bo Sun (ZTE)
* Bin Tian (Qualcomm)
* Genadiy Tsodik (Huawei)
* Kiran Uln (Cypress)
* Prabodh Varshney (Nokia)
* Sameer Vermani (Qualcomm)
* Tianyu Wu (Apple)
* Yan Xin (Huawei)
* Bo Yang (Huawei)
* Rui Yang (InterDigital)
* Ross Yu (Huawei)
* Hongyuan Zhang (NXP)
* Yan Zhang (NXP)

**Deferred Straw Polls**

20/0020 Consideration for EHT-SIG transmission

* Do you agree that EHT-SIG field of MU PPDU consists of more than one EHT-SIG content channel in 80MHz?
	+ The EHT SIG content channel is similar to HE-SIG-B content channel
	+ The number of content channel is TBD.

There is some discussion as to the exact meaning of the term “content channel” in this context.

SP is deferred for further discussion.

20/279 considerations on EHT-SIG compression modes

* Do you agree that in an EHT PPDU used for punctured SU or MU-MIMO transmission, U-SIG comprises punctured channel info and EHT-SIG may comprise supplemental punctured channel info?

Several submissions have similar or related proposals. SP is deferred until these have been presented.

20/285 SU PPDU SIG Contents Consideration

SPs are Deferred

**New Submissions**

373 RU Allocation Subfield Design for Multi-RU Support

Proposal for signalling of multi-RU combinations.

SP deferred till other options have been discussed.

400 Multi-RU combination and signalling for OFDMA transmission

Three options are discussed for signalling multi-RU allocation:

* Indication in user-specific fields, reusing current framework
* Indicate multi-RU in common field
* Redefine RU allocation field with new combinations

SP deferred till other options have been discussed.

401 Preamble puncture signalling for non-OFDMA transmission

Three options are discussed for signalling punctured BW transmissions:

* Bitmap per 20 MHz
* RU segment: sequence of 2 bit patterns used to indicate series of RU segments.
* Use 8 bits to indicate puncture pattern

**Adjourn**

The meeting is adjourned at 10:00 PM ET

**Wednesday March 18th, 2020 19:00 – 22:00 ET**

**Introduction**

1. The Chair (Tianyu Wu, Apple) calls the meeting to order at 19:00 ET.
2. The Chair follows the agenda in 11-20/0425r1
3. The Chair goes through the IPR policy and asks if anyone is aware of any potentially essential patents. Nobody speaks up.
4. The Chair reminds everyone to report their attendance by sending an e-mail to the Co-chair, Sigurd Schelstraete (Quantenna/ON Semiconductor) or the Chair himself.

**Announcements**

Results of online SP:

* Individual votes can be shown during the conference call, but will typically not be included in the meeting minutes
* Participants can contact the meeting chair to request the details of the voting results to allow them to understand who supported to SP and to make further progress
* Results can be included in the minutes if a member asks for a roll call vote

**Attendance**

The following people recorded their attendance for this call:

* Rui Cao (NXP)
* Roya Doostnejad (Intel)
* Ruchen Duan (Samsung)
* Hung Tao Hsieh (Mediatek)
* Mengshi Hu (Huawei)
* Feng Jiang (Intel)
* Myeongjin Kim (Samsung)
* Youhan Kim (Qualcomm)
* Wook Bong Lee (Samsung)
* Qinghua Li (Intel)
* Dongguk Lim (LG)
* Jianhan Liu (MediaTek)
* Miguel Lopez (Ericsson)
* Khashayar Mirfakhraei (Cisco)
* Eunsung Park (LG)
* Al Petrick (InterDigital)
* Ron Porat (Broadcom)
* Steve Shellhammer (Qualcomm)
* Shimi Shilo (Huawei)
* Sigurd Schelstraete (Quantenna/ON Semiconductor)
* Junghoon Suh (Huawei)
* Kiran Uln (Cypress)
* Prabodh Varshney (Nokia)
* Sameer Vermani (Qualcomm)
* Tiany Wu (Apple)
* Rui Yang (InterDigital)
* Ross Yu (Huawei)
* Yan Zhang (NXP)

**New Submissions**

403 Signaling of Multiple RU aggregation in OFDMA

This submission discusses three candidates to indicate the allocated multiple RU aggregation to STAs:

* Option 1: enhance RU allocation subfield
* Option 2: leverage the STA-ID
* Option 3: leverage the reserved bits of RU allocation subfield

It does not consider cases with MU-MIMO.

During discussion, it is suggested to agree on a general method first and discuss the details later. Further discussion on the 802.11 email reflector is encouraged.

SPs are deferred pending further discussion.

404 Further Proposals for Multiple RU Aggregation

Some new combinations for multi-RU are proposed:

* + For small RU aggregation, it is proposed to combine the middle or center 26-tone RU with other adjacent RUs
	+ For large RU aggregation, several additional combinations for non-OFDMA are proposed.

There is discussion on whether the extra complexity is justified for the expected gains. Some people believe the number of options should be limited, while others support the proposed additions. Pros and cons to adding new modes are debated for some time.

SP#1

* **Do you agree to add the following text to the TGbe SFD?**
	1. For the OFDMA transmission in the bandwidth larger than or equal to 80MHz, combinations of middle 26-tone RU and one of its adjacent 106-tone RUs are allowed within 20MHz boundary

Y/N/A: 26/24/10

SP#2

* **Do you agree to add the following text to the TGbe SFD?**
	1. For the OFDMA transmission in the bandwidth larger than or equal to 80MHz, combinations of center 26-tone RU and one of its adjacent 106-tone RUs are allowed

Y/N/A: 20/30/11

SP#3

* **Do you agree to add the following text to the TGbe SFD?**
	1. For the 80MHz non-OFDMA transmission, the following RU combinations are allowed
		1. 242+242, 4 options



Y/N/A: 12/28/16

SP#4

* **Do you agree to add the following text to the TGbe SFD?**
	1. For the 320MHz non-OFDMA transmission, the following RU combinations are allowed
		1. (484)+(484)+(996)+(996), 3 options
		2. Note that () means the RU used in each 80MHz channel



Y/N/A: 15/33/12

380 U-SIG structure and Preamble Processing

The submission proposes the following:

1. Allow U-SIG content to be different for different 80 MHz channels
2. Specify that a device only needs to monitor 80 MHz to decode its required information

During discussion, it is acknowledged that additional MAC mechanisms are needed to fully support the proposal. It is argued that this does not preclude agreeing to the PHY mechanism.

SP#5

* **Do you agree that a STA only needs to process up to one 80MHz segment of the pre-EHT preamble (up-to and including EHT-SIG) to get all the assignment information for itself?**
	+ - No 80MHz segment change is needed while processing L-SIG , U-SIG and EHT-SIG

Y/N/A: 31/8/14[[1]](#footnote-1)

**Adjourn**

The meeting is adjourned at 10:00 PM ET

1. This includes a correction received after the end of the call of a participant wanting to change their vote form “No” to “Yes” due to a mistake during the actual vote [↑](#footnote-ref-1)