IEEE P802.11  
Wireless LANs

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| IEEE 802.11 TGbb Task Group on Light Communications  November, 2019  Hilton Waikoloa Village, Kona HI  Meeting Minutes | | | | |
| Date: 2019-11-15 | | | | |
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Abstract

This document contains the Task Group on Light Communications (TGbb) meeting minutes from the IEEE 802.11 Kona meeting, November 2019.

**IEEE 802.11 Task Group TGbb**

**Monday, November 11, 2019, AM1 Session**

Attendance: around 15 people.

1. The IEEE 802.11 TGbb meeting was called to order at by the Chair, Nikola Serafimovski (pureLiFi) at 8:09am. Harry Bims (Bims Laboratories, Inc.) as a temporary Secretary recorded the minutes.

1. The Chair reviewed the IEEE-SA patent policy, logistics, and reminders, including meeting guidelines and attendance recording procedures.
   * It is reminded all to record their attendance.
2. The Chair introduced the overall agenda in doc. 11-19/1734r1 for the week. There was some discussion about releasing unused meeting slots to accommodate the needs of the 802.11 WG.

* Agenda Items to be discussed on Monday AM1
  + Approve the agenda for the week
  + Discuss initial text input for mandatory LC PHY for TGbb draft D0.1
* Agenda Items to be discussed on Monday PM1
  + Approve the minutes from September
  + Discuss initial text input for mandatory LC PHY for TGbb draft D0.1
  + Discussion of submitted PHY proposals
* Agenda Items to be discussed for the remainder of the week
  + Discuss initial text input for mandatory LC PHY for TGbb draft D0.1
  + Conference call schedule
  + Timeline

1. **TGbb Motion** to approve the agenda for the week in document 11-19/1734r1.

**Approve the proposed agenda in doc. 11-19/1734r1 for the week**

**Move: Tuncer Baykas**

**Second: Matthias Wendt**

**It was approved with unanimous consent.**

1. There was discussion and development of Document 11-19/1820/r1 “Proposed Mandatory LC Phy Text”. The group consulted Draft P802.11ax\_D5.1 for guidance on developing the document.
2. The meeting recessed at 9:48am.

**Monday, November 11, 2019, PM1 Session**

Attendance: around 15 people.

1. 13:32 The Chair, Nikola Serafimovski (pureLiFi), called the meeting to order and asked for attendance check. Harry Bims (Bims Laboratories, Inc.) as a temporary Secretary recorded the minutes.

1. The Chair reviewed the IEEE-SA patent policy, logistics, and reminders, including meeting guidelines.
2. The Chair introduced the overall agenda for the week again, and then some of schedule was changed from 11-19/1413r2. The Chair will upload the updated agenda document 11-19/1413r3 after the session.

* Submissions to be discussed on Monday PM1 session
  + Approve the modified agenda
  + Approve the minutes from September
  + Draft D0.1 ToC and text
  + Discussion of submitted PHY text proposals

1. **TGbb Motion** to approve the agenda for the week in document 11-19/1734r2.

**Approve the proposed agenda in doc. 11-19/1734r2 for the week**

**Move: Tuncer Baykas**

**Second: Andrew Myles**

**Motion passed with unanimous consent.**

1. **TGbb Motion** to approve the September Interim meeting minutes.

**Approve the minutes from the September 2019 session in doc. 11-19/1704r0**

**Move: Matthias Wendt**

**Second: Marc Emmelmann**

**Motion passed with unanimous consent.**

1. Volker (Jungnickel) presented Document 11-19/1791r1 on Draft text for LC-optimized PHY for TGbb D0.1 at 1:50pm. There was some discussion about possible combinations of modulation rate and LDPC code rate.
2. The meeting recessed at 3:25pm.

**Tuesday, November 12, 2019, PM1 Session**

Attendance: around 15 people.

1. The IEEE 802.11 TGbb meeting was called to order at by the Chair, Nikola Serafimovski (pureLiFi) at 1:30pm. Harry Bims (Bims Laboratories, Inc.) acting as temporary Secretary recorded the minutes.

1. The Chair reviewed the IEEE-SA patent policy, logistics, and reminders, including meeting guidelines and attendance recording procedures.
   * The meeting attendees were reminded to record their attendance.
2. The Chair reviewed the agenda for this meeting slot.

Discussions for Tuesday PM1

* + Draft D0.1 availability
  + Review PHY text proposals
  + Hear PHY proposals
    - Doc. 11-19/1791r1
    - Doc. 11-19/1820r1

1. The Group discussed how to forward with the draft preparation. Group decided to use Word to prepare the document.

C: Group shouldn’t copy 802.11ax directly but use references.

C: In 19/1820r1 many of the information was available. In 19/1820r2 most of the repeated information is removed.

Q: The lengths of the preamples are redefined in 802.11ax.

A: There are some waveform differences. It is pretty much the same.

C: Group discussed the use of 802.11ax.

C: Group discussed which the effect of using 802.11a and 802.11ax MAC layers.

C: Most basic capabilities could be use as a low barrier to entry.

C: There two different modes of discovery. Active scaning and passive scanning. LC will have only one channel. As a result the DEV can join after carrier sense.

C: Even if the DEV have 802.11ax capabilities, 802.11a DEVs can communicate.

C: 802.11a will be supported by 802.11ax devices in RF

C: Channel access done per time slot basis

C: Passive scanning prevents new devices coming to the coverage areas.

C: A contention time is required.

C: Use of 802.11a common mode PHY wont affect the performance.

C: Consequence to the PHY is clear 802.11a PHY and some subset 802.11 MAC should be supported.

C: Group will decide which 2.4 and 5 MHz MAC layer parts will be used.

C: Security could be used.

C: Channel Access and OBSS can be used.

C: Group should work on MAC requirements.

C: There are many options to choose MAC capabilities.

C: 802.11a PHY have many vendors.

C: PHY will be simple and MAC will be complex enough for good performance.

C: 802.11ax devices can use OFDMA while there is 802.11 device.

C: AP can schedule different users for fair use.

C: Muting clients can be used.

C: All 802.11ax will support 802.11a

C: Fast session transfer could be considered

1. The meeting recessed at 3:14pm.

**Wednesday, November 13, 2019, AM1 Session**

Attendance: around 15 people.

1. The IEEE 802.11 TGbb meeting was called to order by the Chair, Nikola Serafimovski (pureLiFi) at 8:10am. Harry Bims (Bims Laboratories, Inc.) acting as the Recording Secretary recorded the minutes.

1. The Chair reviewed the IEEE-SA patent policy, logistics, and reminders, including meeting guidelines and attendance recording procedures.
   * It is reminded all to record their attendance.
2. The Chair introduced the overall agenda for the meeting as contained in doc. 11-19/1734rr.

* Submissions to be discussed on Wednesday AM1 session
  + Review MAC text proposals
    - Doc. 11-19/2034r0
  + Review PHY text proposals
    - Doc. 11-19/1820r1

1. The Chair runs a motion to approve the amended Agenda.

**Approve the proposed agenda in doc. 11-19/1734r4 for the week**

**Move: Tuncer Baykas**

**Second: Matthias Wendt**

**The motion was approved by unanimous consent.**

Harry Bims (Bims Laboratories, Inc.) presented “802.11 MAC layer support for LC PHY operation”. This presentation was supported by Document. 11-19/2034r0, which was made available on the Mentor server. There was discussion and comment from the group on the following topics:

* It is suggested to use 802.11ac PHY, which supports many important feature
* 802.11ac could be a good idea since it is the most advanced which does not use OFDMA
* There is a fundamental problem. G.hn have bit loading whoch does not supported by 802.11 MAC.
* The use different PHYs should be considered, the PHY capabilities should be stated
* Group doesn't know the MAC feature set yet since PHY layer is not specified
* A possible scope change of the PAR could be necessary
* This is a good starting point, more detailed discussion is necessary
* Until 11ax there are no specific MAC layer for specific PHY
* 802.11ac is good starting point

1. Volker Jungnickel presented on the subject of “draft text for LC Optimized PHY”, as found in Document 11-19/1791/r2. The group discussed the need for the MAC layer to support a runtime BAT feedback protocol in the LC PHY.
2. Chair Serafimovski initiated a group discussion regarding the use of remaining meeting time slot for the week. The group decided by consensus that a Thursday AM1 meeting time slot was not necessary.

1. The group discussed the development timeline and the work items for the January 2020 meeting. Any teleconferences between now and the January 2020 meeting that are needed will be scheduled with 10-day notice.
2. The TGbb meeting recessed at 9:39 am.

**Wednesday, November 13, 2019, PM1 Session**

1. Attendance: around 10 people.
2. The IEEE 802.11 TGbb meeting was called to order at by the Chair, Nikola Serafimovski (pureLiFi). Tuncer Baykas (Vestel) recorded the minutes.

1. The Chair reviewed the IEEE-SA patent policy, logistics, and reminders, including meeting guidelines and attendance recording procedures.
   * It is reminded all to record their attendance.

1. **TGbb Motion** to approve PHY text for the Draft 0.1.

**Instruct the editor to add the content in doc. 11-19/1791r2 to the IEEE 802.11bb draft, granting the technical editor freedom to make editorial changes.**

**Move: Matthias Wendt**

**Second: Volker Jungnickel**

**Y/N/A: 7 / 0 / 0**

**Motion passed**

1. C: Group discussed how to add additional text.
2. Q: Why are we having this addition at the moment?
3. A: To indicate which sections are needed
4. **TGbb Motion** to approve PHY text for the Draft 0.1.

**Instruct the editor to add the following text to the IEEE 802.11bb draft:**

**“***32.3.2 Light Communication (LC) common mode*

*All LC STAs shall support the mandatory features defined in Clause 17, except:*

*17.3.8.3 – Regulatory requirements*

*17.3.8.4 – Operating channel frequencies*

*17.3.9.3 – Transmit spectrum mask*

*17.3.9.7.2 – Transmitter center frequency leakage*

*17.3.10.3 – Adjacent channel rejection*

*17.3.10.4 – Nonadjacent channel rejection*

**“**

**Move: Nikola Serafimovski**

**Second: Peter Yee**

**Y/N/A: 2 /0 / 5**

**Motion passed**

1. C: SU MIMO and MU MIMO beamforming should not be added.
2. C: MU MIMO is a type of beamforming
3. C: Space Time coding should be removed
4. **TGbb Motion** to approve PHY text for the Draft 0.1.

**Instruct the editor to add the following text to the IEEE 802.11bb draft:**

**“***32.3.3 Light Communication (LC) High Efficiency mode*

*An LC STA that supports the HE-based PHY may support the features defined in Clause 27.***”**

**Move: Nikola Serafimovski**

**Second: Matthias Wendt**

**Y/N/A: 6 / 0 / 0**

**Motion passed**

1. Motion to adjourn

1. Approved by unanimous consent.