IEEE P802.11  
Wireless LANs

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| TGaz Teleconference Minutes  October 2nd, 2019 | | | | |
| Date: 2019-08-28 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Assaf Kasher | Qualcomm |  |  | akasher@qti.qualcomm.com |
| Ganesh Venkatesan | Intel Corporation | 2111 NE 25th Avenue, Hillsboro, OR 97124 | 503 334 6720 | [Ganesh.venkatesan@intel.com](mailto:Ganesh.venkatesan@intel.com) |

Abstract

Minutes for the TGaz Teleconference: Ocotber 2nd , 2019.

**IEEE 802.11 Task Group AZ**

**August 28th , 2019**

1. **TGaz – 2nd October, 2019** 
   1. Called to order by TGaz Chair, Jonathan Segev (Intel Corporation) and Vice Chair and secretery (active), Assaf Kasher (Qualcomm), at **10:05am PT,**
   2. Agenda Doc. **IEEE 802.11-19/1712 (in progress - slide 14)**
   3. Review Patent Policy and logistics
      1. Chair reviewed the IEEE-SA Patent Policy, additional guidelines about IEEE-SA meeting and logistics – no clarifications requested.
      2. Chair called for any potentially essential patents, no one spoke up.
      3. Chair reviewed IEEE 802 WG participation as an individual professional, and anti-trust requirements – no clarification requested.
      4. Chair reminded all participants that they could record their attendance by email to the secretary (optional)
      5. Recorded Participation requirement
         1. Any questions comments or feedback – none
         2. Headcount: ~8 participants on telecon.
   4. Agenda
      1. Reviewed the proposed agenda
      2. Proposed Time setting:   
         11-19-1563R1 CR for Miscellaneous CIDs in LB240\_part 2 (Feng)   
         11-19-1686r0 – resolutions to a set of LB240 CIDs (part-7) (Ganesh)   
         11-19-1368r2 -- resolutions to a set of LB240 CIDs (part-8) (Ganesh)   
         11-19-1572r4, Secure-LTF: Unintentional Beamforming Problem and A Solution Proposal (Rethna)  
         11-19-1584 CR Ranging Parameters field (Dibakar) – as time permits
      3. Chair called for any additional feedback and changes to agenda: none
   5. Ad Hoc meeting announcement
      1. Nov 6-8 09:00-17:00
      2. Hosted by Apple – 250s Mathilda Avenue
   6. Current CID resolution status – Chair
      1. 266 CIDs left
      2. 207 Technicla CIDs.
      3. List of Paticipants with CIDs assigned to them presented
   7. Feng Jiang continued presentation of 11-19-1563-cr for miscellaneous cids in lb240 part2
      1. CDI 1586 - Revise
      2. CID 1341, 2483 – Reject
      3. Cid 1380 – Reject
      4. CID 2312 – Reject
      5. Starwpoll: Agree to adopt the resolution depictec by document 1-019-1563r2 for CID 1341, 2483, 1380, 2312
      6. Results (9/0/1)
   8. Ganesh Venkatesan presented 11-19-1686r0
      1. CID 1143: Revise as in 11-19-466r4
      2. CID 1693: Revise as in 11-19-466r4
      3. CID 1698: Revise as in 11-19-466r4
      4. CID 1916: Revise as in 11-19-466r4
      5. CID 1764: Revise
      6. CID 1781: Reject
      7. CID 1911: Revise – already resolaved by chane in 11-19-1559r1
      8. CID 1915: Reject
      9. Strawpoll: Agree to adopt the resolutions depicted by document 11-1-1686r1 for CID 1143, 1693, 1698, 1916, 1764, 1781, 1911, 1915
      10. Results (
   9. Attendance:

Dibakar Das

Jonathan Segev

Ganesh Venkatesan

Erik Lindskog

Ali Raissinia

Assaf Kasher

Qi Wang

Earl W Grimes

Lisa (R&S)

Christian Berger

Feng Jiang

Rethna

1. **TGaz – 9th October, 2019** 
   1. Called to order by TGaz Chair, Jonathan Segev (Intel Corporation) and Vice Chair and secretery (active), Assaf Kasher (Qualcomm), at **10:05am PT,**
   2. Agenda Doc. **IEEE 802.11-19/1712r3 (in progress - slide 14)**
   3. Review Patent Policy and logistics
      1. Chair reviewed the IEEE-SA Patent Policy, additional guidelines about IEEE-SA meeting and logistics – no clarifications requested.
      2. Chair called for any potentially essential patents, no one spoke up.
      3. Chair reviewed IEEE 802 WG participation as an individual professional, and anti-trust requirements – no clarification requested.
      4. Chair reminded all participants that they could record their attendance by email to the secretary (optional)
      5. Recorded Participation requirement – e-mail to chairman or secretery
         1. Any questions comments or feedback – none
         2. Headcount: ~8 participants on telecon.
   4. Agenda
      1. Reviewed the proposed agenda
      2. Proposed Time setting
      * 11-19-1733r0 – resolutions to a set of LB240 CIDs (part-7) (Ganesh – ?min completion from Oct. 2nd
      * 11-19-1368r2 – resolutions to a set of LB240 CIDs (part-8) (Ganesh) - ?
      * 11-19-1572r4, Secure-LTF: Unintentional Beamforming Problem and A Solution Proposal (Rethna – 30min)
      * 11-19-1584 CR Ranging Parameters field (Dibakar – 1hr) – as time permits
   5. Ganesh Venkatesan presented 11-19-1733
      1. Title: Resolutios to a few LB240 comments Part 7a
      2. CID 2013 – Revise – fixed in 11-19-1325
      3. CID 2115 – Revise – issue removed in D1.4
      4. CID 2128 – Revised – fixed in D1.4, no text changes are required
      5. CID 2426 – Revised
      6. **Strawpoll:**Agree with the resolutions depicted by document 11-19-1733r0 for CID 2013, 2115, 2128 and 2426.
      7. Results (Y/N/A) (11/0/0)
   6. Ganesh Venkatesn Presented 1638r3
      1. **Title** Resolutios to a few LB240 comments Part 8
      2. CID 1432 – Revise – resolved by e.g. 2381
      3. CDI 1433 – Already resolved by 11-19-1726
      4. CID 2155 – Reject - solved in D1.0
      5. CID 2124 - reassingn to Assaf Kasher
      6. CID 2126, 2127 – revise as in document – some fixed in the discussion
      7. CID 2129 – revised – fixed in D1.0
      8. CID 2130 – revised
      9. **Strawpoll:** Strawpoll
      10. Agree with the resolutions depicted by document 11-19-1368r4 for CID 1432, 1433, 2125, 2126, 2127, 2129 and 2130.
      11. **Results:** (Y/N/A) : (10/0/1)
   7. Attendance

Dibakar Das

Jonathan Segev

Ganesh Venkatesan

Erik Lindskog

Ali Raissinia

Assaf Kasher

Qi Wang

Christian Berger

Feng Jiang

Rethna Pulikkoonattu

Liwen Chu

Nehru Bandahru

Nabil Loghin

1. TGaz – October 16, 2019
   1. Called to order by TGaz Chair, Jonathan Segev (Intel Corporation) and Vice Chair and secretery (active), Assaf Kasher (Qualcomm), at 10.04AM PDT,
   2. Agenda Doc. IEEE 802.11-19/1712r5 (in progress – edits during the teleconference will be posted as r6)
   3. Review Patent Policy and logistics
      1. Chair reviewed the IEEE-SA Patent Policy, additional guidelines about IEEE-SA meeting and logistics – no clarifications requested.
      2. Chair called for any potentially essential patents, no one spoke up.
      3. Chair reviewed IEEE 802 WG participation as an individual professional, and anti-trust requirements – no clarification requested.
      4. Chair reminded all participants that they could record their attendance by email to the secretary (optional)
      5. Recorded Participation requirement
         1. Any questions comments or feedback – none
         2. Headcount: 11 participants on telecon.
   4. Agenda
      1. Reviewed the proposed agenda
      2. Proposed Time setting:
         1. 11-19-1572r4: Secure LTF: Unintentional Beamforming Problem and a Solution Proposal (Rethna Pulikkoonattu, Broadcom)
         2. 11-19-1584 CR Ranging Parameters field (Dibakar Das, Intel Corporation) – as time permits
      3. Chair called for any additional feedback and changes to agenda: none
   5. Rethna Pulikkoonattu (Broadcomm) presented document 11-19/1572r4.
      1. Title: Unintentional Beamforming Problem and a Solution Proposal
      2. Summary: identifies a potential issue with Secure LTF processing specifically in low-cost receiver implementations; and proposes a potential solution.
      3. Discussion
         1. Q: Raises a valid concern. Slide #15 why do we show A1, -A2 instead of A1, A2.
         2. A: We could use A1, A2 as well. The only constraint is to maintain orthogonality
         3. Q: Slide #5: Fail to see the concern (on null and boost). Channel Estimation is over two time slots and hence should not be affect by the null/boost issue identified here. Should not cause any PA issues. Should not cause any unintentional beamforming issues.
         4. A: In an noiseless scenario, it may not be a problem. In real environments, the transition from nulled to boosted is a dynamic range issue for the receiver. Will be a more serious issue with increased number of streams.   
            in noisy channels causes channel estimation errors -- need some offline discussion  
            potential breach of regulatory constraints -- prior analysis indicated no such issues. May need to revisit this   
            burden on the receiver (dynamic range) -- This would be an issue in some low-cost designs
         5. Q: Slide #6. TGnB Channel model used here is not the right one. We need to study with TGnD model. Ranging is useful in large spaces. TGbB applies to small office space only.
         6. A: no analysis on TGnD. But TGnB channel model analysis is useful.
         7. Q: The issue described in Slide #6 is not real when average power is considered. Have you considered the PE power (as shown in slide 6 is in line with the power of the LTF).
         8. A: Need to think about the effect of PE power level on the null/boost issue.
         9. A: High end implementations (12-bit AGC, for instance) may not suffer from this issue. Low-cost implementations are the ones that may suffer the most.
         10. Q: isn't 12-bit AGC a common assumption?
         11. A: not in low cost implementations
         12. Q; Slide #9: Not sure if the PE magnitude would remain the same.
         13. A: Need to study PE.
         14. Q: Slide #16; Do we mean that we need almost twice the number of sequences? Increases buffer size. Would this not affect low-cost designs?
         15. A: Agree. Additional sequences are from higher layers.
      4. More discussion needed on this submission. Author and commenters plan on more offline discussions.
   6. Dibakar Das (Intel Corporation) presented 11-19-1584 CR Ranging Parameters field
      1. Title: CR Ranging Parameters field
      2. Summary: Resolutions to a few comments related to the Ranging Parameters field.
      3. Discussion:
         1. CID 1115: Revise based on feedback from the straw poll at the Sep ad hoc
            1. C: Remove 'a ISTA that supports .11az'.
            2. C: TB Ranging Measurement Session should be TB Ranging Measurement Exchange
         2. CID 1475, 1710, 2073: follow up from the September ad hoc
            1. C: The min value of Max Session Exp field is 256 msec. An error of a 100 usec should not be a problem
            2. C: Should we describe when the session expires instead of when the next measurement should happen?
            3. R: Need to discuss, if a session termination condition need to be stated for both TB and non-TB based on the value in the corresponding fields. Need more discussion.
            4. C: Does this parameter apply to both TB and non-TB. The author will review proposed changes with what is mentioned for non-TB ranging; and make a decision.
      4. Will continue discussion in the next teleconference
   7. Review CID resolution status
      1. The chair presented a summary of comment resolution status
      2. The summary is based on CID spreadsheet r11 (and additional CIDs that were resolved in the last two teleconferences)
   8. Review of the submission pipeline
      1. The chair presented a list of submissions in the pipeline
      2. Chair requested members to send a note if additional submissions are ready to be added to the pipeline
   9. Next teleconference /ad hoc
      1. The next teleconference is scheduled for Oct 30th, 2019
      2. The ad hoc in the Bay Area is in the following week.
   10. Telecon ended at 11.31AM PDT.

Attendance:

Dibakar Das

Jonathan Segev

Ganesh Venkatesan

Erik Lindskog

Ali Raissinia

Qi Wang

Feng Jiang

Chittabrate Ghosh

Rethna Pulikkoonattu

Christian Berger

Qinhua Li

1. **TGaz – 30th October, 2019** 
   1. Called to order by TGaz Chair, Jonathan Segev (Intel Corporation) and Vice Chair and secretery (active), Assaf Kasher (Qualcomm), at **10:05am PT,**
   2. Agenda Doc. **IEEE 802.11-19/1712r6(in progress - slide 14)**
   3. Review Patent Policy and logistics
      1. Chair reviewed the IEEE-SA Patent Policy, additional guidelines about IEEE-SA meeting and logistics – no clarifications requested.
      2. Chair called for any potentially essential patents, no one spoke up.
      3. Chair reviewed IEEE 802 WG participation as an individual professional, and anti-trust requirements – no clarification requested.
      4. Chair reminded all participants that they could record their attendance by email to the secretary (optional)
      5. Recorded Participation requirement – e-mail to chairman or secretery
         1. Any questions comments or feedback – none
         2. Headcount: ~8 participants on telecon.
   4. Agenda
      1. Reviewed the proposed agenda
      2. 11-19-1584 CR Ranging Parameters field (Dibakar) – 70 min
      3. 11-19-1717-00-00az - Strongest Tap FTM for PDMG\_PEDMG (Nabil) – as time permits
   5. Dibakar Das Presented 11-19-1584
      1. Title CR-misc\_CIDs-ranging parameters
      2. CID 1467, 2073, 1475 – to be discussed over e-mail
      3. CID 1710 – Revised – agreed
      4. CID 2434 – Revised
      5. CID 1874, 1124 – Revised
      6. CID 1384 – Discussion should we avoid fields that cross 8 bit boundaries -agreement to reject the comment.
      7. CID 1468 – Revised
      8. CID 1729 – pulled out, need some check how padding is described in the baseline
      9. CID 1333 – Rejected
      10. CID 1334 - Rejected
      11. CID 1478, CID 1479 revised
      12. CID 2249, 1103, 2311 – revised
      13. **Strawpoll:** Agree with the resolutions depicted by document 11-19-1584r2 for CIDs 1115, 1710, 2434, 1847, 1124, 1384, 1468,1333, 1334, 1478, 1479, 2249, 1103 and 2311
      14. **Results (**Y/N/A): (11/0/0)
   6. Attendance

Dibakar Das

Jonathan Segev

Ganesh Venkatesan

Erik Lindskog

Ali Raissinia

Assaf Kasher

Qi Wang

Christian Berger

Nabil Loghin

Fellix Fellhauer

Jerome Henry

Giris Madpuwar

Nehru Bandahru

**References:**