IEEE P802.11  
Wireless LANs

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| TGaz Teleconference Minutes  October 16th, 2019 | | | | |
| Date: 2019-10-16 | | | | |
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Abstract

Minutes for the TGaz Teleconference: October 16th, 2019.

**IEEE 802.11 Task Group AZ**

**October 16th , 2019**

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

* + - 1. 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.
      2. 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.
         1. -- in noisy channels causes channel estimation errors -- need some offline discussion
         2. -- potential breach of regulatory constraints -- prior analysis indicated no such issues. May need to revisit this
         3. -- burden on the receiver (dynamic range) -- This would be an issue in some low-cost designs

* + - 1. 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.
      2. A: no analysis on TGnD. But TGnB channel model analysis is useful.

* + - 1. 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).
      2. A: Need to think about the effect of PE power level on the null/boost issue.

* + - 1. 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.

* + - 1. Q: isn't 12-bit AGC a common assumption?
      2. A: not in low cost implementations

* + - 1. Q; Slide #9: Not sure if the PE magnitude would remain the same.
      2. A: Need to study PE.

* + - 1. 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?
      2. A: Agree. Additional sequences are from higher layers.
    1. More discussion needed on this submission. Author and commenters plan on more offline discussions.
  1. 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
  2. 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)
  3. 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
  4. 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.
  5. 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