IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TGaz Meeting Minutes  January 14-17th, 2019  St Louis, Missouri, USA | | | | |
| Date: 2019-01-14 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | Email |
| Roy Want | Google | 1541 Morton Ave, Los Altos, CA 94024 | +1-650-691-3600 | roywant@google.com |

Abstract

Minutes for the TGaz meeting, beginning on January 14th, 2019.

**IEEE 802.11 Task Group AZ**

**January 14th – 17th, 2019**

1. **TGaz – January 14th, 2018 – Slot #1 PM1**
   1. Called to order by TGaz chair, Jonathan Segev (Intel Corporation) at **01.30pm CST**; Vice Chair Assaf Kasher (Qualcomm), Technical Editor, Chao Chun (MediaTek); Secretary, Roy Want (Google Inc.).
   2. Agenda Doc. **IEEE 802.11-18/2086r1**
   3. Review Patent Policy and logistics
      1. Chair reviewed the IEEE-SA Patent Policy, and, and logistics – no clarifications requested.
      2. Chair called for any potentially essential patent, no one stepped up.
      3. Chair reviewed IEEE 802 WG participation as individual professional and anti-trust requirements – no clarification requested.
      4. Chair reminded all to record their attendance
      5. Recorded Participation requirement
         1. Headcount: ~25 present
   4. Review Agenda
      1. Called for any additional submissions for the week.
      2. Agenda review and setting:
         1. Reviewed submissions for the week.
      3. Chair called for any additional feedback and changes to agenda.
         1. None given. Agenda set.
      4. Motions to ratify session and telecon minutes.
      5. **Motion  
         Move to approve document 11-18/780 r0 as TGaz meeting minutes for the Nov. meeting.   
           
         Moved by:** Roy Want  
         **Seconded by:** Assaf Kasher  
         **Results (Y/N/A):** 18/0/1; **Motion passes.**
      6. **Motion**:  
         **Move to approve document 11-18/2152r0 as TGaz meeting minutes for the Dec. 19th Telecon.**   
           
         **Moved by**: Roy Want  
         **Seconded by**: Assaf Kasher  
         **Results (Y/N/A):** 16/0/2; **Motion passes.**
      7. Reviewed status of TGaz, and reviewed goals for the end-of-week.
   5. Chao-Chun (MediaTek) presented document **11-19/0125r0**
      1. **Title**: Editor’s Report
      2. **Summary**: Update on status:   
         -R6 was released and comment database r08 was uploaded.

-Plan to go to D1.0 letter ballot after the Jan. 2019 meeting

-All submissions must be references to the latest standards:

REVmd 2.0; 11ax r3.3; 11ay r2.2

-Clean up all TBDs

There are 64 TBDs in R0.6 – contributors must submit

-All unresolved CIDs in 1544 r8 will be rejected

* + 1. C. To review document comments that are outstanding
    2. R. Agreed to cover this in the agenda (item added)
    3. C. Discussion of procedure for editing draft – various clarifications of process.
    4. R. Will add these clarifications to a revised version of the doc (r1).
  1. Chao-Chun (MediaTek) presented D0.6
     1. Reviewing which TBDs that are outstanding or who is/will-be working on it.
     2. Chair recorded TBDs and will aggregate them into a spreadsheet, and later distribute through the reflector.
  2. Reminder to do attendance
  3. Session in recess at ~3.34pm.

1. **TGaz – January 15th, 2018 – Slot #2 AM2**
   1. Called to order by TGaz chair, Jonathan Segev (Intel Corporation) at **10.30pm CST**; Vice Chair Assaf Kasher (Qualcomm), Technical Editor, Chao Chun (MediaTek); Secretary, Roy Want (Google Inc.).
   2. Agenda Doc. **IEEE 802.11-18/2086r3 (in progress)**
   3. Review Patent Policy and logistics
      1. Chair reviewed the IEEE-SA Patent Policy, and, and logistics – no clarifications requested.
      2. Chair called for any potentially essential patent, no one stepped up.
      3. Chair reviewed IEEE 802 WG participation as individual professional and anti-trust requirements – no clarification requested.
      4. Chair reminded all to record their attendance
      5. Recorded Participation requirement
         1. Headcount: ~19 present
   4. Review Agenda
      1. Called for any additional submissions for the week.
      2. Agenda review and setting – several new presentations added for the week
      3. TGaz agreed to ask for an additional slot this week.
   5. Assaf Kasher (Qualcomm) presented document **11-18/2152r2**
      1. **Title**: CC28 Clause 3-4 CIDs (74 189 60 183 185 186 197)
      2. **Summary**: Presented comment resolution (this is on-top of what was presented during an earlier telecon).
      3. C. Asked for comments for each CID provided.
      4. R. Page 5: Should the text be more specific? General conclusion it’s okay.
      5. **Motion**

**Move to adopt the resolutions depicted by document 11-18-2152r2 for CIDs 74,189,60,183,185,186,197, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**

* + 1. **Mover**: Assaf Kasher
    2. **Seconder:** Ganesh Venkatesan
    3. **Results (Y/N/A):** 15/0/0; **Motion passes**
  1. Assaf Kasher (Qualcomm) presented document **11-18/2157r2 (updates in r3)** 
     1. **Title**: PDMG PICS Changes
     2. **Summary**: Updates to the PICS with regard to DMG
     3. Discussion of the presentation – None
     4. **Motion**  
        **Move to adopt document 11-18-2157r3 to the 802.11az draft, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.  
          
        Mover**: Assaf Kasher  
        **Seconder**: Ganesh Venkatesan  
        **Results (Y/N/A):** 14/0/0; **Motion passes.**
  2. Ganesh Venkatesan presented document **11-19/0037r1**
     1. **Title**: 11az Negotiation of LTF Repetitions in IFTMR/IFTM Exchange
     2. **Summary**: In this presentation, we extend the Negotiation to set an upper bound for the values in the UL Rep and DL Rep values in the Ranging NDP Announcement.
     3. C. For trigger based ranging it’s not going to be used. R. Yes.
     4. C. In the secure case > 0, the Max DL Rep subfield in the RSTA and ISTA should be equal (the number that was asked for by the ISTA)
        1. Edits were made during the meeting to reflect this, and for the UL case.
     5. **Motion**  
        **Move to adopt document 11-19-037r1 to the 802.11az draft, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**  
          
        **Mover**: Ganesh Venkatesan  
        **Seconder:** Assaf Kasher  
        **Results (Y/N/A):** 18/0/0; **Motion passes:**

* 1. Yongho Seok (MediaTek) presented document **11-18/1782r2**
     1. **Title**: CC28 CR of Secure TB Ranging Measurement Exchange Protocol
     2. **Summary**: This submission proposes resolutions of comments received from TGaz CC28. (The proposed change is based on TGaz Draft 0.5.). CIDs: 542, 54, 55, 105, 106 (5 CIDs)
     3. C. When a trigger is received, parameters are programmed in the receiver, are parameters also set in the PHY/transmitter?
     4. R. Yes.
     5. **Motion  
        Move to adopt the resolutions depicted by document 11-18-1782r2 for CIDs 542,54,55,105 and106 instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.  
          
        Mover**: Yongho Seok  
        **Seconder**: Ganesh Venkatesan  
        **Results (Y/N/A):** 16/0/0; Motion passes.
  2. Reminder to do attendance
  3. Session ends at 12.30pm

1. **TGaz – January 15th, 2018 – Slot #3 PM2**
   1. Called to order by TGaz chair, Jonathan Segev (Intel Corporation) at **04.00pm CST**; Vice Chair Assaf Kasher (Qualcomm), Technical Editor, Chao Chun (MediaTek); Secretary, Roy Want (Google Inc.).
   2. Agenda Doc. **IEEE 802.11-18/2086r4 (in progress)**
   3. Review Patent Policy and logistics
      1. Chair reviewed the IEEE-SA Patent Policy, and, and logistics – no clarifications requested.
      2. Chair called for any potentially essential patent, no one stepped up.
      3. Chair reviewed IEEE 802 WG participation as individual professional and anti-trust requirements – no clarification requested.
      4. Chair reminded all to record their attendance
      5. Recorded Participation requirement
         1. Headcount: ~17 present
   4. Review Agenda
      1. Called for any additional submissions for the week.
      2. Agenda reviewed and rearranged to address speaker availability.
   5. Ganesh Venkatesan (Intel) presented document **11-19/0136r1**
      1. **Title**: 11az related bits in the Extended Capabilities element
      2. **Summary**: In this presentation, we
      3. Identify the bits that need to be added to Extended Capabilities element.

The criteria for a bit to be added to the Extended Capabilities element is “does the ISTA need this information in order to determine if an 802.11az negotiation should be initiated with the corresponding RSTA?”

* + 1. C. This is the capability indicated by the RSTA in the beacon.
    2. R. Yes, if the RSTA beacon advertises a requirement, and an ISTA decides to range with it, the RTSA will expect the ISTA to follow what is advertised.
    3. C. Parameter name suggested, and some typos to fix.
    4. R. These will be included in the revision
    5. C. This is only for the RSTA, what about the ISTA
    6. R. The ISTA will only start a station range request, if it finds a capable RSTA.
    7. C. Issue of RSTARequiresLMRActivated .
    8. R. Cons: Privacy; Pros: Its optional to set it, and The LMR could be false.
  1. Ganesh Venkatesan (Intel) presented document **11-19/0005r0**
     1. **Title**: 802.11az Annex-C (relative to IEEE REVmd D1.0, 802.11ax D3.0 and 802.11az D0.6)
     2. **Summary**: This submission proposes Annex-C entries corresponding to P802.11az features. This submission is based on recommendations in document 15-355r13.
     3. Discussion– none.
     4. **Strawpoll**  
        Do you support the inclusion of ‘RSTA requires ISTA2RSTA LMR’ in the extended capabilities element as described in submission 11-19-005?
     5. **Results (Y/N/A)**: 11/4/1
     6. **Motion**  
        **Move to add an ‘RSTA requires ISTA2RSTA LMR’ field in the extended capabilities element as described in submission 11-19-005**.
     7. **Mover**: Ganesh Venkatesan
     8. **Seconder**: Ali Raissinia
     9. **Results (Y/N/A):** 12/4/0; **Motion passes**.
  2. Girish Madpuwar (Broadcom) presented document **11-18/2104r4**
     1. **Title**: CR for Location
     2. **Summary**: This submission proposes resolutions of comments received from TGaz CC28. CIDs: 36, 61, 62, 63, 65, 98, 99, 100, 154, 155, 156, 157, 158, 159, 160, 161, 164, 166, 173, 174, 296, 301, 302, 303, 304, 306, 309, 311, 312, 317, 319, 320, 325, 326, 338, 366, 367, 368, 369, 370, 371, 373, 374, 375, 376, 377, 378, 383, 385, 469, 529, 531, 532, 537, 544 (total 55 CIDs). The comments are based on TGaz Draft 0.4 and the proposed changes are relative to TGaz Draft 0.5 and TGmd Draft 1.0.
     3. C. Protocol should ensure security is indicated on both sides, or else will fail.
     4. R. The result is invalid, so the negotiation will fail.
     5. C. Is this table going to be included?
     6. R. Yes
     7. C. Why do we have a table only for the security table, what about other fields.
     8. R. Okay we can avoid representing it as a table.
     9. C. MU vs SU, is it recommended or mandated behaviour in subclause 9.3.1.23.9
     10. R. It’s Recommended
     11. **Motion  
         Move to adopt the resolutions depicted by document 11-18-2104r5 for CIDs 36, 61, 62, 63, 98, 99, 100, 154, 155, 156, 157, 158, 164, 166, 173, 174, 296, 301, 302, 303, 304, 306, 312, 317, 319, 320, 325, 326, 338, 366, 367, 368, 369, 370, 371, 373, 374, 375, 376, 377, 383, 385, 469, 529, 531, 532, 537, 544   
         instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
     12. **Mover**: Dash Debashis
     13. **Seconder**: Ganesh Venkatesan
     14. **Results (Y/N/A):** 15/0/0; **Motion passes.**
  3. Chao-Chun (MediaTek) presented **D0.6 Tracking spreadsheet**.
     1. Iterated through the action list, reporting the status of how each one will be resolved.
     2. The status of each person was recorded in the tracking sheet.
  4. Reminder to do attendance
  5. Session in recess at 6.03pm

1. **TGaz – January 16th, 2018 – Slot #4 PM1**
   1. Called to order by TGaz chair, Jonathan Segev (Intel Corporation) at **01.30pm CST**; Vice Chair Assaf Kasher (Qualcomm), Technical Editor, Chao Chun (MediaTek); Secretary, Roy Want (Google Inc.).
   2. Agenda Doc. **IEEE 802.11-18/2086r5 (in progress)**
   3. Review Patent Policy and logistics
      1. Chair reviewed the IEEE-SA Patent Policy, and, and logistics – no clarifications requested.
      2. Chair called for any potentially essential patent, no one stepped up.
      3. Chair reviewed IEEE 802 WG participation as individual professional and anti-trust requirements – no clarification requested.
      4. Chair reminded all to record their attendance
      5. Recorded Participation requirement
         1. Headcount: ~20 present
   4. Review Agenda
      1. Additional slot was added for the week (#8) in PM1 on Thursday
      2. Agenda reviewed and rearranged to address speaker availability.
   5. Chao-Chun (MediaTek) provided updates on the D0.6 TBD Tracking
      1. Reviewed TBDs with the group.
   6. Christian Berger (Marvell) presented document **11-19/0154r2**
      1. **Title**: 11az Ranging Parameters Element Amendment Text
      2. **Summary**: This submission adds to the Ranging Parameters Element.
      3. C. Do we use the full bandwidth of the UL MU-MIMO
      4. R. Yes.
      5. C. TBD still in the text on page 5.
      6. R. Removed on fly.
      7. C. ISTA – RSTA LMR – the only change is remove the word “estimate”.
      8. C. Where is the ISTA-RSTA LMR feedback subfield
      9. R. It was not named, correctly in table.
      10. C. Is device class needed for non-TB ranging?
      11. R. Perhaps not, leave here for now; we can figure out if we really need it a later.
      12. Note added: TGaz Insert the definition of Max UL Rep and Max DL Rep from submission 11-19-0037 adopted by TG.
      13. **Motion**  
          **Move to adopt document 11-19-154r3 to the 802.11az draft, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
      14. **Mover**: Erik Lindskog
      15. **Seconder**: Dash Debashis
      16. **Results (Y/N/A):** 14/0/0; **Motion passes**
   7. Ganesh Venkatesan (Intel) presented document **11-19/038r0**
      1. **Title**: Resolutions to comment collection #28 CIDs

(relative to IEEE 802.11 REVmd D1.0 and P802.11az D0.6

* + 1. **Summary**: This submission proposes resolutions to MLME related CIDs from Comment Collection #28 (6, 7, 8, 14, 16, 18, 24).
    2. C. This is describing the behavior on the RSTA, and takes the values defined in the ISTA negotiation.
    3. R. Confirmed.
    4. **Motion  
       Move to adopt the resolutions depicted by document 11-19-038r1 for CIDs 8,16 and 24.  
       instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
    5. **Mover**: Ganesh Venkatesan
    6. **Seconder**: Qinghua Li
    7. **Results (Y/N/A)**: 17/0/0; **Motion passes.**

* 1. Debashis Dash (Quantenna) presented document **11-19/124r1**
     1. **Title**: CR for FTM Procedure and MLME CIDs
     2. **Summary**: This submission addresses the following CIDs from TGaz CC28 and based on TGaz draft 0.6: CID 162, 283, and 284 (3 CIDs).
     3. **Motion  
        Move to adopt the resolutions depicted by document 11-19-124r1 for CIDs 283 and 284, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
     4. **Mover**: Erik Lindskog
     5. **Seconded**: Ganesh Venkatesan
     6. **Results (Y/N/A):** 16/0/0; **Motion passes**
  2. Debashis Dash (Quantenna) presented document **11-19/123r1**
     1. **Title**: CR for Editorial CIDs
     2. S**ummary**: This submission addresses the following editorial CIDs from TGaz CC28 and based on TGaz draft 0.6: CID 38, 290, 292, 365, 379, 380, 490, and 492 (8 CIDs).
     3. **Motion**:  
        **Move to adopt the resolutions depicted by document 11-19-123r1 for CIDs 38, 290, 292, 365,379, 390,490 and 492, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
     4. **Mover**: Ganesh Venkatesan
     5. **Seconded**: Qinghua Li
     6. **Results (Y/N/A):** 14/0/0; **Motion passes.**
  3. Erik Lindskog (Samsung) presented document **11-19/0131r1**
     1. **Title**: Passive Location Ranging LCI Reporting
     2. **Summary**: This submission addresses the Passive Location Ranging LCI reporting. The proposed changes are relative to TGaz Draft 0.6 and TGmd Draft 2.0.
     3. Discussion
     4. C. What is the relative compact part of the LCI?
     5. R. This is a compressed version with only relative info and no uncertainty information.
     6. C. Is the LCI report required?
     7. R. Yes, a line has been added ‘it shall be included’.
     8. **Motion**

**Move to adopt document 11-19-131r1 to the 802.11az draft, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**

* + 1. **Mover:** Dash Debashis
    2. **Seconded:** Assaf Kasher
    3. **Results (Y/N/A):** 13/0/0; **Motion passes**
  1. Ganesh Venkatesan (Intel) document **11-19/0005r1**
     1. **Title**: 802.11az Annex-C: relative to IEEE REVmd D1.0, 802.11ax D3.0 and 802.11az D0.6
     2. **Summary**: This submission proposes Annex-C entries corresponding to P802.11az features. This submission is based on recommendations in document 15-355r13.
     3. **Motion**  
        **Move to adopt document 11-19-005r1 to the 802.11az draft, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
     4. **Mover:** Ganesh Venkatesan
     5. **Seconded:** Qinghua Li
     6. **Results (Y/N/A):** 13/0/2; **Motion passes**
  2. Erik Lindskog (Samsung) presented document **11-19/130r1**
     1. **Title**: CFO reporting Accuracy Requirements.
     2. **Summary**: This submission proposes corrections to the IEEE 802.11\_D0.6 amendment text for CFO Reporting Accuracy Requirements.
     3. Discussion: None.
     4. **Motion**

**Move to adopt document 11-19-130r2 to the 802.11az draft, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**

* + 1. **Mover:** Erik Lindskog
    2. **Seconder:** Qinghua Li
    3. **Results (Y/N/A):** 15/0/1; **Motion passes.**
  1. Reminder to do attendance.
  2. Session ended at 4pm.

1. **TGaz – January 17th, 2018 – Slot #5 AM1**
   1. Called to order by TGaz chair, Jonathan Segev (Intel Corporation) at **08.00am CST**; Vice Chair Assaf Kasher (Qualcomm), Technical Editor, Chao Chun (MediaTek); Secretary, Roy Want (Google Inc.).
   2. Agenda Doc. **IEEE 802.11-18/2086r6 (in progress)**
   3. Review Patent Policy and logistics
      1. Chair reviewed the IEEE-SA Patent Policy, and, and logistics – no clarifications requested.
      2. Chair called for any potentially essential patent, no one stepped up.
      3. Chair reviewed IEEE 802 WG participation as individual professional and anti-trust requirements – no clarification requested.
      4. Chair reminded all to record their attendance
      5. Recorded Participation requirement
         1. Headcount: ~17 present
   4. Review Agenda
      1. Agenda reviewed and rearranged to address speaker availability.
   5. Chao-Chun (MediaTek) reviewed CID TBD list
      1. Brief review of the outstanding to-do list.
   6. Qi Wang (Apple) presented document **11-19/0072r1**
      1. **Title**: Text Proposal for Ranging Priority
      2. **Summary**: This submission contains a proposal to resolve CID-497 received during TGaz CC#28. The proposal enables an ISTA to indicate to the RSTA how quickly a ranging operation needs to complete, and enables an RSTA to indicate to the ISTA whether the RSTA intends to accommodate the ISTA’s request.
      3. Discussion – None
      4. **Motion**  
         **Move to adopt the resolutions depicted by document 11-19-072r1 for CIDs 497, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**  
           
         **Mover**: Nehru Bhandaru  
         **Seconder**: Qi Wang  
         **Results (Y/N/A):** 15/0/0; **Motion passes**
   7. Erik Lindskog (Samsung) presented document **11-19/0132r0**
      1. **Title:** Corrections to Passive Location Ranging Amendment Text
      2. **Summary:** This submission proposes corrections to the IEEE 802.11\_D0.6 amendment text for Passive Location**.**
      3. Discussion – clarification edits made to text to generate revision **r1**.
      4. **Motion  
         Move to adopt document 11-19-132r1 to the 802.11az draft, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
      5. **Mover**: Erik Lindskog
      6. **Seconder**: Ganesh Venkatesan
      7. **Results (Y/N/A):** 15/0/0; **Motion passes**
   8. Debashis Dash (Quantenna) presented document **11-19/0122r1**
      1. **Title**: Debashis Dash
      2. **Summary**: This submission addresses the following CIDs from TGaz CC28 and based on TGaz draft 0.5: CID 111, 112, 113, 114, 151, 152, 260, 268, 270, 271, 272, and 273 (12 CIDs).
      3. **Motion  
         Move to adopt the resolutions depicted by document 11-19-122r1 for CIDs 111, 112, 151, 152, 260, 268, 270, 271, 272, and 273, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
      4. **Mover:** Nehru Bhandaru
      5. **Seconder:** Ganesh Venkatesan
      6. **Results (Y/N/A):** 14/0/0; **Motion Passes**
   9. Christian Berger (Marvell) presented document **11-18/0155r3**
      1. **Title**: 11az HE PHY Formats Amendment Text
      2. **Summary**: This submission proposes the text for the ranging NPD-A format.
      3. Discussion:
      4. C. Page 9. Option “(d) There is no spatial mapping, the Q matrix is a full or partial identity matrix.” Is there a better name for the matrix?
      5. R. changed to “…is a block identity matrix”.
      6. C. Figure 4 is inconsistent with text. (1 stream two repetitions).
      7. R. Text edited on the fly to be consistent.
      8. **Motion**  
         **Move to adopt document 11-19-155r4 to the 802.11az draft, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
      9. **Mover**: Feng Jiang
      10. **Seconder**: Ganesh Venkatesan
      11. **Results (Y/N/A):** 15/0/0; **Motion Passes**
   10. Yongho Seok (MediaTek) presented document **11-19/0093r0**
       1. **Title**: CC28 CR of MAC Miscellaneous
       2. **Summary:** This submission proposes resolutions of comments received from TGaz CC28. (The proposed change is based on TGaz Draft 0.6.) CIDs: 134, 200, 202, 203, 441, 180, 494, 51, 52, 181, 442 (11 CIDs) .
       3. C.We might need an additional parameter whichcombines the N STS fields.
       4. C. We’ll motion this text after the break in **Session #6**
   11. Reviewed remaining items for the day and readiness of Initial Working Group ballot.
   12. Reminder to do attendance
   13. Session at recess at 10.02am.

1. **TGaz – January 17th, 2018 – Slot #6 AM2**
   1. Called to order by TGaz chair, Jonathan Segev (Intel Corporation) at **10.30am CST**; Vice Chair Assaf Kasher (Qualcomm), Technical Editor, Chao Chun (MediaTek); Secretary, Roy Want (Google Inc.).
   2. Agenda Doc. **IEEE 802.11-18/2086r7 (in progress)**
   3. Review Patent Policy and logistics
      1. Chair reviewed the IEEE-SA Patent Policy, and, and logistics – no clarifications requested.
      2. Chair called for any potentially essential patent, no one stepped up.
      3. Chair reviewed IEEE 802 WG participation as individual professional and anti-trust requirements – no clarification requested.
      4. Chair reminded all to record their attendance
      5. Recorded Participation requirement
         1. Headcount: ~15 present
   4. Review Agenda
      1. Agenda reviewed and rearranged to address speaker availability.
   5. Yongho Seok (MediaTek) continued document **11-19/0093r1** with a motion.
      1. C.We also need something that says how the spatial parameters are set (currently a hole in the spec.).
      2. R. Ack. This can be done later.
      3. **Motion**  
         **Move to adopt the resolutions depicted by document 11-19-093r1 for CIDs 134, 200, 202, 203, 441, 180, 494, 51, 52, 181, and 442, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
      4. **Mover**: Yongho Seok
      5. **Seconder**: Qinghua Li
      6. **Results (Y/N/A):** 15/0/0; **Motion passes**

* 1. Considering Moving to Initial WG Ballot
     1. Chair Reviewed timelines of TGaz, and proposed a motion.
     2. **Motion**   
        **Instruct the editor to prepare TGaz Draft 1.0.   
        Approve a 30 day Working Group Technical Letter Ballot asking the question “Should TGaz Draft 1.0 be forwarded to Sponsor Ballot”?**
     3. **Mover**: Chitto Ghosh
     4. **Seconder:** Assaf Kasher
     5. **Results (Y/N/A):** 15/0/0; **Motion passes**
  2. Assaf Kasher (Qualcomm) presented document **11-18/2153r0**
     1. Title: CID73 – LOS likelihood subelement
     2. Summary: This document proposes resolution to CID 73
     3. C. What is the likelihood ratio using e.g. dB power or dB amplitude?
     4. R. Will be resolved later at comment resolution.
     5. C. Is there text describing how this will be used
     6. R. We’ll need to do that in Clause 11.
     7. **Motion  
        Move to adopt the resolutions depicted by document 11-18/2153r0 for CIDs 73, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
     8. **Mover**: Ganesh Venkatesan
     9. **Seconder**: Assaf Kasher
     10. **Results (Y/N/A):** 13/0/0; **Motion passes**
  3. Assaf Kasher (Qualcomm) presented document **11-19/0145r0** (session edits made to **r1**)
     1. **Title**: Miscellaneous CIDs
     2. **Summary**: This document proposed resolution to several CIDs:
     3. C. Christian has comment resolution that includes part of what is proposed here.
     4. R. He will present later today (resolved by **11-18/1818**)
     5. **Motion**   
        **Move to adopt the resolutions depicted by document 11-19-145r1 for CIDs 210, 213, 484,485, 518, 536 and 501, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
     6. **Mover:**  Assaf Kasher
     7. **Seconder:** Ganesh Venkatesan
     8. **Results (Y/N/A):** 12/0/1; **Motion passes**
  4. Christian Berger (Marvell) presented document **11-19/159r1** (session edits made to **r2**)
     1. **Title**: 11az Location Measurement Report frame format Amendment Text
     2. **Summary**: This submission adds to the Ranging Parameters Element.
     3. C. This Dialog file is the same field as described in passive ranging; 132 copied text from this.
     4. C. Remove the shall statement under 9.6.7.1
     5. C. Keep different ranging modes so they all have a similar definition.
     6. C. In secured location we don’t want anybody to measure against the secured LTF, because of the word ‘represents’ here.
     7. **Motion**

**Move to adopt document 11-19-159r2 to the 802.11az draft, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**

* + 1. **Mover:** Niranjan Grandhe
    2. **Seconder:** Ganesh Venkatesan
    3. **Results (Y/N/A):** 13/0/0; **Motion passes.**
  1. Dibakar Das (Intel) presented document **11-19/153r1**
     1. **Title**: CR for Misc. CIDs in Section
     2. **Summary**: This submission addresses the resolution of TBDs in 9.3.1.23.9 and 9.4.2.279
     3. Discussion: - none
     4. **Motion**  
        **Move to adopt document 11-19-153r1 to the 802.11az draft, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
     5. **Mover**: Chitto Ghosh
     6. **Seconder:** Feng Jiang
     7. **Results (Y/N/A):** 15/0/0; **Motion passes**.
  2. Feng Jiang (Intel) presented **11-19/150r0 (revision r1 in progress)** 
     1. **Title**: 802.11az Spec Text for Phase Shift Feedback in LMR (relative to 11az D0.6).
     2. **Summary**: This submission proposes P802.11az draft amendment text for the phase shift feedback in RSTA-to-ISTA and ISTA-to-RSTA LMR. The baseline documents that this proposal depends on are: D0.6 of 802.11az
     3. C. Need to change some variables: dot11FineTimingMsmtRespActivated and dot11FineTimingMsmtInitActivated. Change to “dot11notiggerbasedRSPIMPLEMENTED or dot11Triggerbased RSPIMPLEMENTED is true supports:”
     4. C. Clarify what can be measured and feedback.
     5. C. Difference between activated and implemented (should be implemented).
  3. Reminder to do attendance.
  4. Recess at 12.29pm until next session at 1.30pm.

1. **TGaz – January 17th, 2018 – Slot #7 PM1**
   1. Called to order by TGaz chair, Jonathan Segev (Intel Corporation) at **01.30pm CST**; Vice Chair Assaf Kasher (Qualcomm), Technical Editor, Chao Chun (MediaTek); Secretary, Roy Want (Google Inc.).
   2. Agenda Doc. **IEEE 802.11-18/2086r9 (in progress)**
   3. Review Patent Policy and logistics
      1. Chair reviewed the IEEE-SA Patent Policy, and, and logistics – no clarifications requested.
      2. Chair called for any potentially essential patent, no one stepped up.
      3. Chair reviewed IEEE 802 WG participation as individual professional and anti-trust requirements – no clarification requested.
      4. Chair reminded all to record their attendance
      5. Recorded Participation requirement
         1. Headcount: ~16 present
   4. Review Agenda
      1. Agenda reviewed and rearranged to address speaker availability.
   5. Feng Jiang (Intel) presented document **11-19/0150r0**
      1. Title: 802.11az Spec Text for Phase Shift Feedback in LMR: (relative to 11az D0.6)
      2. Summary This submission proposes P802.11az draft amendment text for the phase shift feedback in RSTA-to-ISTA and ISTA-to-RSTA LMR. The baseline documents that this proposal depends on are: D0.6 of 802.11az
      3. C. A number of the paragraphs seem to mix concepts.
         1. 1st para now uses negotiate, rather than activate.
         2. 2nd para states that STA can give it to you, indicated in STAs capabilities (added text to make it clearer).
         3. Ordering of paragraph 3 and 4 was debated.
         4. Needs a top to bottom edit (and remove ‘STA is willing’).
   6. Christian Berger (Marvell) presented document **11-19/0158r2 (with r3 in progress)**
      1. **Title**: 11az Comment Resolution CID 5
      2. **Summary**: This submission proposes the comment resolution of CID 5.
      3. C. In 11.22.6.4.4.3.3 the use of the dialog token for each TB-Ranging session - should each one be separate.
      4. R. Debated, and TBD.
      5. C. Several suggested edits were added on the fly in r3.
      6. **Motion**  
         **Move to adopt the resolutions depicted by document 11-19-158r3 for CID 5, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
      7. **Mover:** Erik Lindskog
      8. **Seconder:** Qinghua Li
      9. **Results (Y/N/A):** 12/0/0; **motion passes**
   7. Girish Madpuwar (Broadcom) presented document **11-19/0163r5**
      1. **Title**: TBD resolution for secure non-TB and TB ranging
      2. **Summary**: This submission proposes resolutions of TBD on draft 0.6. with CIDs: none
      3. C. if you don’t have a SAC, replace it by a predetermined sequence that is published in the spec (ideally something that is already published in the 802.11 spec.
      4. We’ll bring the motion to the next session.
   8. Reminder to do attendance.
   9. Recess at ~3.31pm, return in PM2 at 4pm.

1. **TGaz – January 17th, 2018 – Slot #8 PM2**
   1. Called to order by TGaz chair, Jonathan Segev (Intel Corporation) at **04.00pm CST**; Vice Chair Assaf Kasher (Qualcomm), Technical Editor, Chao Chun (MediaTek); Secretary, Roy Want (Google Inc.).
   2. Agenda Doc. **IEEE 802.11-18/2086r10 (in progress)**
   3. Review Patent Policy and logistics
      1. Chair reviewed the IEEE-SA Patent Policy, and, and logistics – no clarifications requested.
      2. Chair called for any potentially essential patent, no one stepped up.
      3. Chair reviewed IEEE 802 WG participation as individual professional and anti-trust requirements – no clarification requested.
      4. Chair reminded all to record their attendance
      5. Recorded Participation requirement
         1. Headcount: ~12 present
   4. Review Agenda
      1. Agenda reviewed and rearranged to address speaker availability
      2. Set closing item list.
   5. Girish Madpuwar (Broadcom) motion relative to **11-19/0163r6**
      1. **Motion**  
         **Move to adopt submission 11-19-163r6, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
      2. **Mover:** Ganesh Venkatesan
      3. **Seconder:** Assaf Kasher
      4. **Results (Y/N/A):** 12/0/0; **Motion passes**.
   6. Feng Jiang (Intel) presented document **11-19/150r5**
      1. **Title**: 802.11az Spec Text for Phase Shift Feedback in LMR (relative to 11az D0.6).
      2. **Summary**: This submission proposes P802.11az draft amendment text for the phase shift feedback in RSTA-to-ISTA and ISTA-to-RSTA LMR. The baseline documents that this proposal depends on are: D0.6 of 802.11az
      3. **Discussion**: – None.
      4. **Motion**  
         **Move to adopt submission 11-19-150r5, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
      5. **Mover:** Feng Jiang
      6. **Seconder**: Erik Lindskog
      7. **Results (Y/N/A):** 11/0/0; **Motion passes**
   7. Assaf Kasher (Qualcomm) presented document **11-19/0191r1**
      1. **Title**: Clause 29 fixes
      2. **Summary**: This document presents fixes to TBDs and incorrect header field usage
      3. Discussion: None
      4. **Motion  
         Move to adopt submission 11-19-191r1, instruct the technical editor to incorporate it in the 802.11az draft amendment text and grant editorial rights to the technical editor.**
      5. **Mover**: Assaf Kasher
      6. **Seconder**: Ganesh Venkatesan
      7. **Results (Y/N/A**): 9/0/0; **Motion passes.**
   8. Assaf Kasher (Qualcomm) presented document **11-19/**0147r0 (technical)
      1. **Title**: Mutliband-60GHz-Location-Capability-Publishing
      2. **Summary**: In a Mall or in other places where 60GHz location services are available, a mobile device, even though capable of using 60GHz for data or location, may not have the 60GHz part active. Even if it is active, it may not be aware of location services that are available, and their locations.

The assumption is that the mobile device has the <7GHz network device always operating. The <7GHz APs may publish the existence of the 60HGz location services

* + 1. C. Why Civic-Location rather than LCI information?
    2. R. Because of more accurate Z.
    3. C. I think that’s in the LCI, using the Z-subelement.
    4. R. Will Check.
  1. Erik Lindskog (Samsung) presented document **11-19/0039r1** (technical)
     1. **Title**: Phase Roll Based TOA in Passive Location Ranging
     2. **Summary**: Enables simple design of passive location ISTAs
     3. Simplifies immediate feedback for ISTAs. With a ‘powerful enough’ RSTA that, in addition to calculating its on TOAs, is capable to immediately turn around and broadcast the ISTAs corrected PR-TOAs, we have enabled immediate feedback of all time-stamps
     4. C. Do you think there is enough time to correct and turn around the timing information so it can be put in the ISTA LMR feedback?
     5. R. Maybe – needs more investigation.
  2. Task Group Stats and Work Completed.
     1. Publish a new draft P802.11az D0.6.
     2. Group met for 8-timeslots and reviewed a total of 32 submissions.
     3. Closed 64 identified TBDs in the spec.
     4. TG approached Sponsor for Working Ballot.
        1. Instructed Tech Editor to produced D1.0 out of this meeting.
        2. On track for plan goals.
  3. Goal Toward the March Meeting and Beyond
     1. Conduct initial WG ballot and technical comment collection.
     2. Review initial WG ballot results.
     3. Consider any comment resolution generated by the March meeting.
  4. Telecon Schedule
     1. Mar 6th Telecon - plan assignment of comments
        1. C. Possible WFA date contention.
        2. R. Need to check.
     2. Do we need additional calls? – Will leave it at one for now.
  5. Continued process
     1. Review Initial WF ballot results
     2. Conduct CID assignment to the extent possible.
  6. AOB? – None
  7. TGaz is adjourned at 5.22pm

**References:**

1. <https://mentor.ieee.org/802.11/dcn/18/11-18-2086-11-00az-tgaz-jan-meeting-agenda.pptx>
2. <https://mentor.ieee.org/802.11/dcn/18/11-18-0780-00-00az-meeting-minutes-november-2018-session.docx>
3. <https://mentor.ieee.org/802.11/dcn/18/11-18-2152-02-00az-cc28-clause-3-4-cids.docx>
4. <https://mentor.ieee.org/802.11/dcn/19/11-19-0125-00-00az-editor-s-report.pptx>
5. <https://mentor.ieee.org/802.11/dcn/18/11-18-2152-02-00az-cc28-clause-3-4-cids.docx>
6. <https://mentor.ieee.org/802.11/dcn/18/11-18-2157-03-00az-pdmg-pics-changes.docx>
7. <https://mentor.ieee.org/802.11/dcn/19/11-19-0037-01-00az-negotiating-ltf-repetition-values-in-iftmr-iftm-exchange.docx>
8. <https://mentor.ieee.org/802.11/dcn/18/11-18-1782-02-00az-cc28-cr-secure-tb-ranging-measurement-exchange-protocol.docx>
9. <https://mentor.ieee.org/802.11/dcn/19/11-19-0136-02-00az-802-11az-related-bits-in-the-extended-capabilities-element.pptx>
10. <https://mentor.ieee.org/802.11/dcn/19/11-19-0005-01-00az-annex-c-for-11az.docx>
11. <https://mentor.ieee.org/802.11/dcn/18/11-18-2104-05-00az-11az-cr-for-chapter-11-mlme.docx>
12. <https://mentor.ieee.org/802.11/dcn/19/11-19-0154-03-00az-ranging-parameters-element-amendment-text.docx>
13. <https://mentor.ieee.org/802.11/dcn/19/11-19-0038-01-00az-resolutions-to-a-few-cc-28-cids.docx>
14. <https://mentor.ieee.org/802.11/dcn/19/11-19-0124-01-00az-cr-for-ftm-procedure-and-mlme-cids.docx>
15. <https://mentor.ieee.org/802.11/dcn/19/11-19-0123-01-00az-cr-for-editorial-cids.docx>
16. <https://mentor.ieee.org/802.11/dcn/19/11-19-0038-01-00az-resolutions-to-a-few-cc-28-cids.docx>
17. <https://mentor.ieee.org/802.11/dcn/19/11-19-0130-02-00az-cfo-reporting-accuracy-requirements.docx>
18. <https://mentor.ieee.org/802.11/dcn/19/11-19-0072-01-00az-text-proposal-for-ranging-priority-for-cccid-497-resolution.doc>
19. <https://mentor.ieee.org/802.11/dcn/19/11-19-0132-01-00az-corrections-to-passive-location-ranging-amendment-text.docx>
20. <https://mentor.ieee.org/802.11/dcn/19/11-19-0122-01-00az-cr-for-secure-ltf-parameter-cids.docx>
21. <https://mentor.ieee.org/802.11/dcn/19/11-19-0155-04-00az-he-phy-formats-amendment-text.docx>
22. <https://mentor.ieee.org/802.11/dcn/19/11-19-0093-01-00az-cc28-cr-mac-miscellaneous.docx>
23. <https://mentor.ieee.org/802.11/dcn/18/11-18-2153-00-00az-cid73-los-likelihood-element.docx>
24. <https://mentor.ieee.org/802.11/dcn/19/11-19-0145-01-00az-cc28-miscellaneous-cids.docx>
25. <https://mentor.ieee.org/802.11/dcn/19/11-19-0159-02-00az-location-measurement-report-frame-format.docx>
26. <https://mentor.ieee.org/802.11/dcn/19/11-19-0153-01-00az-resolution-for-misc-tbds.docx>
27. <https://mentor.ieee.org/802.11/dcn/19/11-19-0150-06-00az-phase-shift-feedback-in-lmr.docx>
28. <https://mentor.ieee.org/802.11/dcn/19/11-19-0158-03-00az-comment-resolution-cid-5.docx>
29. <https://mentor.ieee.org/802.11/dcn/19/11-19-0163-06-00az-tbd-resolution-for-secure-non-tb-and-tb-ranging-protocol.docx>
30. <https://mentor.ieee.org/802.11/dcn/19/11-19-0191-01-00az-clause-29-fixes.docx>
31. <https://mentor.ieee.org/802.11/dcn/19/11-19-0147-00-00az-multiband-60ghz-loc-capability-publishing.pptx>
32. <https://mentor.ieee.org/802.11/dcn/19/11-19-0039-01-00az-phase-roll-based-toa-in-passive-location-ranging.pptx>