IEEE 802.18

Radio Regulatory-TAG

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| Radio Regulatory Technical Advisory Group Minutes | | | |
| Date: 13-20may21 | | | |
| Name | Affiliation | Address | Email |
|  |  |  |  |
| Author and Officer presiding: | | | |
| Jay Holcomb,  Chair, RR-TAG | Itron | Liberty Lake, (Spokane) WA | jholcomb@ieee.org |

Co-Vice-chairs are [Stuart Kerry (OK-Brit/Self)](mailto:stuart@ok-brit.com) and [Al Petrick (Skyworks Solutions)](mailto:apetrick@ieee.org)

Abstract

Minutes of the IEEE 802 RR-TAG teleconference

These are the Minutes of the IEEE 802 RR-TAG teleconference Thursday, 13-20may21

Chair calls the meeting to order at 15:02 et

1. Chair presents slides 2 – 6 of 802.18-21/0053r01, the call to order and administrative items
   1. Includes IEEE 802 meeting and participant’s guidelines and requirements.
2. Chair presents slides 7, the agenda:
   1. Call to Order.
      1. Attendance is on IMAT (VC & webex checks)
      2. Remember to mute when not speaking, thanks.
      3. Please request Q in the chat window.
   2. Administrative items
      1. Someone to take some notes, Peter E.
      2. Attendance & monitor chat window, Stuart K
   3. Approve agenda, last minutes & announcements.
   4. Discussion items
      1. EU Items
      2. Other Regions Items
      3. ITU-R Items
      4. MSG 6 GHz
      5. IEEE 802 Stds Table of Frequency Bands
      6. FCC NPRM Wireless mics
      7. FCC FNPRM 5.9 GHz (ITS)
      8. General Discussion Items
   5. Actions required.
      1. All – any action/text on 5.9 GHz FNPRM
      2. All – any action/text on Wireless mic NPRM
      3. All-ongoing input external influence (restructuring ad hoc)
      4. All-ongoing-WRC-23 AIs viewpoints, & restructure ext. influence
      5. Anything new today
   6. AOB and Adjourn
3. Chair presents slides 8 - 9 Administrative – Motions and more
   1. **Motion: To approve the agenda as presented on previous slide**

Moved by: Stuart Kerry (OK-Brit, self)

Seconded by: Hassan Yaghoobi (Intel)

Discussion? None

Vote: Approved by unanimous consent

* 1. **Motion:** To approve the minutes in document <https://mentor.ieee.org/802.18/dcn/21/18-21-0026-00-0000-minutes-electronic-plenary-11-17mar21-rr-tag-dia.docx> 23-Mar-2021 12:50:39 ET, with editorial privilege for the 802.18 chair.

Moved by: Stephen Palm (Broadcom)

Seconded by: Al Petrick (Skyworks)

Discussion? None

Vote: Approved by unanimous consent

* 1. **Administrative moving forward** 
     1. For **May 2021,** that was at the Hilton in Panama City, Panama, the WCSC on 03Feb21 approved to cancel the in-person 802W interim. This leaves the WGs and TAGs to hold interims as they wish.
        1. At this point still no participation credit, no word from EC yet.
        2. Other WGs/TAGs
           1. No overlap with: .11: 10-18May21; .15: 11-20(early)May21; .19:\_n/a\_ .24: \_wed\_
           2. For .18 will plan on: 13 & 20May21 (normal Thursday’s call-in, 1500et, 55 mins)
     2. For **July 2021,** that wasin Madrid, Spain, the LMSC(EC) on 05Mar21 approved to cancel the in-person 802 Plenary. It will be electronic like the past ones.
        1. At the EC teleconference Tuesday (06Apr), approved electronic plenary form 09-23 July 21 dates.
        2. Also, the registration fee was approved. The plan:
           1. $50 – till 30June $75 registration fee after 30june.
           2. registration opens: 10 May 21<<< after the meeting, of the 13th, the registration did come out.
           3. reminder sent on 28june (2 days, before fee increases) and on 30june last day before fee increases.
           4. reminder sent on 05 july – notifying of $75 fee started 01july
        3. For .18 will plan on: 15 & 22Jul21 (normal Thursday’s 1500et, looking at 2-hour slot for one, possibly the 22nd. )
           1. Do not want to overlap with .19 with the 2 hr slot.
           2. The extra hour will focus on IEEE 802 WRC-23 AIs viewpoints.
     3. For Sept **2021,** it will be an electronic Wireless Interim, with a registration fee.

1. Chair presents slides 10 & 11, **EU items to share**
   1. **General EU info:** [**<ojeu>**](https://eur-lex.europa.eu/oj/direct-access.html)[**<HStds>**](https://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/)[**https://www.etsi.org/deliver/etsi\_en/**](https://www.etsi.org/deliver/etsi_en/)
   2. **Remember – BRAN documents can be found in the 802.11 private area documents (daily refresh)**
   3. **ETSI –** [**<BRAN>**](https://portal.etsi.org/tb.aspx?tbid=287&SubTB=287) **next call #110 18-25jun21**
      1. nothing shared
      2. 06May: 6 GHz draft std. is standing by, so no new draft from the #109e meeting, see BRAN(21)109e006r6. Watch for more on this one.
         1. TVWS standard adding UAR is moving forward toward ENAP, other regions and the process.
      3. 15apr: 109a-Agenda has comments from ENAP on, multi-GB, RLAN 302 567 (60GHzAN) and if needed a revised draft for ENAP again.
      4. 25mar: In BRAN(21)109061, ETSI TC BRAN ad hoc meeting #109e (26 thru 30Apr21) will focus on
         1. EN 301 893 (5 GHz), and • EN 303 687 (6 GHz), and User Access Restrictions (UAR).
   4. **CEPT – ECC** [**<WGSE>**](https://cept.org/ecc/groups/ecc/wg-se/client/introduction/) **next call #89 27Sep-01Oct21**
      1. 29apr: Minutes are in [SE(21)079](https://cept.org/Documents/wg-se/64177/se-21-079_minutes-of-88th-wg-se-meeting). WI 63 for SE 24 – short term interference into fixed systems, like into uWave stations at 6GHz. Need to watch this one close.
      2. 15apr: SE21 – ECC recommendation on receiver performance. This is also with ERM, on the ETSI side.
         1. New phases of the RED are coming and will have new rules that will be adding more to the receiver standards.
   5. **CEPT – ECC** [**<SE45>**](https://cept.org/ecc/groups/ecc/wg-se/se-45/client/introduction/) **next call #13, 01-02Jun21 (13:30-18:30CEST)**
   6. **CEPT – ECC** [**<WGFM>**](https://cept.org/ecc/groups/ecc/wg-fm/client/introduction/) **next call #99, 24-28May21**
   7. **CEPT – ECC** [**<FM57>**](https://cept.org/ecc/groups/ecc/wg-fm/fm-57/client/introduction/) **calls #15 10-12May21; #16 12-13Jul21 (provisional)**
      1. These are not public yet.
      2. TEMP005R1 Table of resolution of comments from public consultation on draft revision of ECC Decision (04)08
      3. TEMP004 draft ECC Report for National Measures WAS-RLAN 5725 - 5850 MHz [end Wednesday with track changes]
      4. This may require another meeting (#16) , could not get to a compromise, so will also move up to WGFM in a week.
      5. Phrases in public consultation, some wanted to change to these and others did not noy and let original stand.
      6. Remember FM groups do not do studies, that is for SE groups and to ETSI; this came up in the country determination discussion………..
      7. 29apr: Meeting last week progressed the draft ECC Report on enabling WAS/RLAN on a national basis in the 5.8 GHz.
         1. Temp Doc TEMP 004 (CEPT login) outdoor operation and registration for outdoor operation, inputs from from Czech and UK.
      8. 15apr: Contributions have been posted, e.g. [FM57(21)007](https://cept.org/Documents/fm-57/64031/fm57-21-007_revisions-to-draft-ecc-report-on-national-measures-for-wasrlan-zip-file-cover-plus-annex) on 5.8 GHz. Also, [FM57(21)008](https://cept.org/Documents/fm-57/64032/fm57-21-008_country-determination-capability-cdc-requirements-for-was-rlan-operating-in-58-ghz) France has country determination capability input, it is back again.
      9. 08apr: Only topic at #14, is on 5.8 GHz sharing EC 04(08). Other docs are not through public EC consultations yet, so nothing to discuss.
2. Chair presents slides 12, **Other regions (outside EU-Stds and USA), items to share**
   1. nothing shared
   2. **Saudi Arabia, CITC**, released a 3-year outlook for commercial and innovative use of spectrum there:
      1. Mentor: <https://mentor.ieee.org/802.18/dcn/21/18-21-0041-00-0000-citc-spectrum-outlook-for-commercial-innovative-use-2021-23.pdf>
      2. One of the items:
      3. Unlicensed consultation (5925 – 7125 MHz and 66 – 71 GHz) Detailed plans for the 6 GHz and 66 – 71 GHz bands including power levels and any restrictions Consultation Q2 2021
      4. Looking for the consultation, not out yet.
      5. Is there a link to watch for consultations?
3. Chair presents slide 13, **ITU-R items to share**
   1. We have just received liaisons from WP 5A on M.1450, M.1801 and ITS, they will be posted on Mentor.
   2. From WP 5A recent meeting, here is an update on the 2 contributions, on M.1801and M.1450 (6 GHz):
      1. 802.11 ITU-R ad hoc meets later today and there will be more details there.
      2. There was a request from a country to stay with frequency ranges already in recommendations for now until sharing studies are done and then not add all we were asking for was worked on.
      3. From the email discussion groups mentioned below, there is a package of documents from them however they are not formal agreements, just information and reference that can be used on working drafts…..
      4. Did get inputs from other countries for some of the tables that will be put in the working drafts.
      5. More detail from the .11 ad hoc here: <https://mentor.ieee.org/802.11/dcn/21/11-21-0713-02-0itu-itu-ahg-agenda-for-may-2021-interim.pptx>
      6. 06may: Still some concerns, one email discussion going on M.1801 and IEEE 802 text was accepted in a new draft. No final agreement yet.
         1. M.1450 email discussion group formed May 6. Will also work on LS if there is agreement on base doc, third doc is the work plan.
         2. The concerns are what has been brought before, by the same countries. And it is on license exempt use in 6 GHz.
         3. Chair of 5A is leading the email discussions of each, but emails close Friday CET midnight and may move to next WP 5A call in November, tbd.
   3. IEEE 802 viewpoints on WRC-23 agenda items. **ad hoc: 5 folks stepped up. Are there any others to help?** 
      1. Doc for viewpoints: <https://mentor.ieee.org/802.18/dcn/21/18-21-0039-00-0000-ieee-802-viewpoints-on-wrc-23-agenda-items.pptx>
      2. Key item was to review what we can on responses to consultations many countries are doing on topics related to WRC-23 AIs, e.g. on 6 GHz that is included in AI 1.2
      3. Though this process could work for other Agenda Items that maybe of interest to us also.
         1. It does seem the Arab states are engaging quicker than other regions, e.g. on 6 GHz.
         2. Oman has a consultation out on Wi-Fi 6;
            1. <https://www.tra.gov.om/En/ViewPublicConsultations.jsp?code=33>
         3. FCC WAC has a *preliminary* view on AI 1.2, we should look at this.
            1. <https://www.fcc.gov/us-contributions-sent-citel-pccii-wrc-23>
         4. Don’t forget the actual ITU-R WPs will be working AIs they have.
         5. **Next discussions will be during July 2021 electronic plenary**.
      4. Reference:
         1. Updated WRC-23 Agenda Item list: [https://mentor.ieee.org/802.18/dcn/20/18-20-0107-01-0000-res-811-wrc-19-wrc-23-agenda-items.docx](https://mentor.ieee.org/802.18/dcn/20/18-20-0107-00-0000-res-811-wrc-19-wrc-23-agenda-items.docx)
         2. btw- the initial AIs to consider IEEE 802 viewpoints:
            1. 1.1 -800-4 990 MHz and Resolution 223. Connection w/ITS going there?
            2. 1.2 -300-3 400MHz, 3 600-3 800MHz, 6 425-7 025MHz, 7 025-7 125MHz and 10.0-10.5GHz for International Mobile Telecommunications (IMT) and resolution 245.
            3. 1.5 -470-960 MHz in Region 1-consider possible regulatory actions, Resolution **235.**
            4. 10 **-**recommend to the Council items for inclusion in the agenda for the next WRC
4. Chair presents slide 14, **MSG 6 GHz**
   1. **The WInnforum “6 GHz Committee”, all groups meet every 2 weeks except interference-weekly (168people)** 
      * 1. <https://www.wirelessinnovation.org/6ghz-multistakeholder-committee>
        2. For access to documents from the committee, can request to be an observer from the MSG below.
      1. New org: 2 (now) focus areas:
         1. 1) AFC Functional Specification -WG – includes: Interference-TG, Incumbent Info-TG, security (new) and 3GPP-TG
         2. 2) AFC Test and Certification-WG
      2. There is more interfacing between WFA and WInnforum. That is deepening the agreement between the 2 groups, which will help when taking results to the FCC.
   2. **From the FCC R&O, an informal MSG (“Group”) has also been formed. (260+ people)** 
      1. <https://groups.wirelessinnovation.org/wg/6MSG/dashboard>.
         1. **Work stream 1 - interference protection and resolution (CableLabs, EPRI, Lake Cty, APCO) Meets biweekly, from 28Jan21-10:00 et,**
         2. Work stream 2 - correct incumbent data (ULS) (Comsearch, APCO)
         3. Work stream 3 - AFC and how it provides protection, etc. (Charter, Google, UTC)
         4. Overall Co-chairs: NPSTC, UTC, WFA, WISPA.
      2. nothing to share
      3. 06may: WS1 on 06may, adopted an outline for final WS1 report. Some controversy but did get to outline of record.
      4. Here are links to two good reports, you may need to request username/password which is open to anyone.
         1. Nokia <https://groups.wirelessinnovation.org/wg/6GHz-MSG-WS1/document/16057> (extended spectrum analyzer software network platform.)
         2. Aviat <https://groups.wirelessinnovation.org/wg/6GHz-MSG-WS1/document/16060> (dribbling 2nds, most 10dB off noise floor**)**
5. Chair presents slide 15, **Table of IEEE 802 Stds Frequency Bands**
   1. **Problem statement**
      1. It is difficult for 802 wireless standards developers to quickly and accurately identify all the frequency bands by the family of 802 wireless standards in a regularly maintained database.
      2. The primary application is to simplify identification of potential frequency bands for coexistence assessment.
   2. **Initial Audiences:** 
      1. 1) 802 wireless standards developers
      2. 2) 802.19 wireless coexistence working group
   3. **Ad hoc calls** 
      1. **The spreadsheet is going, always look for latest:**
      2. <https://mentor.ieee.org/802.18/dcn/21/18-21-0036-04-0000-frequency-table-template.xlsx>
      3. Made a few updates to the Table of Frequency Bands at the ad hoc, 27apr21. A few include:
         1. Added worksheet Frequency Range for frequency range additional info, like names.
         2. Added a column, Standard or Project, to the Stds (new name) worksheet.
         3. Updated the instructions for above.
         4. Then added a worksheet (will call them worksheets not tabs), for notes, e.g. pull in the future items from the .18 meeting a few weeks ago.
         5. Moving forward try to get going adding in frequency ranges from the different WGs.
   4. Nothing new, probably not till the next ad hoc call.
   5. **The next meeting will be 25may21. (call-in in backup slides here)**
6. Chair presents slide16, FCC NPRM for Wireless Mics
   1. FCC Notice of Proposed Rulemaking (FCC 21-46)., ET Docket No. 21-115; RM-11821
      1. <https://www.fcc.gov/document/fcc-looks-open-door-new-wireless-microphone-technologies-0>
      2. Or <https://mentor.ieee.org/802.18/dcn/21/18-21-0046-00-0000-fcc-nprm-new-wireless-microphone-technologies-fcc-21-46a1.docx> (40 seek comments)
      3. “Wireless Multi-Channel Audio System” (WMAS) in the US (FCC 21-46)
      4. Wireless Microphones are authorized 6875-6900 MHz and 7100-7125 MHz and more bands.
      5. **1W per microphone plus 1W per microphone channel = 2W in the air in the band per microphone**
      6. Digitally combining multiple microphone signals
      7. NPRM seeks public comment allowing WMAS shared with incumbents under Part 74 licensed devices
      8. NPRM seeks public comment should permit WMAS to operate unlicensed under Part 15 rules
      9. WMAS on a licensed basis in frequency bands where wireless microphones already are currently authorized, including the TV bands, the 600 MHz duplex gap, and in portions of the 900 MHz, 1.4 GHz, and 7 GHz bands
      10. FCC does not intend to impact incumbents of the bands
      11. WMAS is permitted in EUROPE under ETSI
      12. All – please review the FCC wireless mic action and is there anything .18 should review further or act upon?
      13. Any interest? **Will move to monitor.**
   2. Current ETSI standard, 2017:
   3. <https://www.etsi.org/deliver/etsi_en/300400_300499/30042201/02.01.02_60/>
   4. For UK: <https://www.gov.uk/government/publications/designated-standards-radio-equipment>
7. Chair presents slide 17, **FCC FNPRM 5.9 GHz (ITS)**
   1. **Proposed Rules, Use of the 5.850-5.925 GHz Band**, FR Document: [2021-08801](https://urldefense.com/v3/__https:/www.federalregister.gov/documents/2021/05/03/2021-08801/use-of-the-5850-5925-ghz-band?utm_source=federalregister.gov&utm_medium=email&utm_campaign=subscription*mailing*list__;Kys!!F7jv3iA!jqS68X-_tLlwEGW4shkEjeLvGvz3AHIcSUlv8diJBD2EAMcZGUiekBvywVJZcbQ_7w$),   
      Citation: 86 FR 23323, [PDF](https://urldefense.com/v3/__https:/www.govinfo.gov/content/pkg/FR-2021-05-03/pdf/2021-08801.pdf?utm_campaign=subscription*mailing*list&utm_source=federalregister.gov&utm_medium=email__;Kys!!F7jv3iA!jqS68X-_tLlwEGW4shkEjeLvGvz3AHIcSUlv8diJBD2EAMcZGUiekBvywVIJqtBPgw$) Pages 23323-23340 *(18 pages),* [Permalink](https://urldefense.com/v3/__https:/www.federalregister.gov/d/2021-08801?utm_medium=email&utm_campaign=subscription*mailing*list&utm_source=federalregister.gov__;Kys!!F7jv3iA!jqS68X-_tLlwEGW4shkEjeLvGvz3AHIcSUlv8diJBD2EAMcZGUiekBvywVJWlNAKuw$)
   2. Abstract: In this document, the Commission addresses issues remaining to finalize the restructuring of the 5.9 GHz band. Specifically, the Commission addresses: The transition of ITS operations in the 5.895- 5.925 GHz band from Dedicated Short Range Communications DSRC) based technology to Cellular Vehicle-to-Everything (C-V2X) based technology; the codification of C-V2X technical parameters in the Commission's rules; other transition considerations; and the transmitter power and emissions limits, and... 53 seek comments.
   3. This would include UNII-4 band for outdoor use.
   4. Comments must be filed on or before June 2, 2021 and reply comments on or before June 17, 2021.
      * 1. We would need to approve any comments today, 13May, but could maybe squeeze in if approved 20May.
        2. All – provide some initial text if we want to provide comments on the FCC FNPRM on 5.9 GHz.
        3. There are concerns on different interference in the band, depending on point of view, e.g. unlicensed .vs. ITS.
        4. Any interest? **Will move to monitor.**
8. Chair presents slide 18, **General Discussion.**
   1. **From 802.11 and 802.15 WNGs great proposal on how to be proactive on spectrum planning. A few things from the Prezo:**
   2. Meeting spectrum needs is a complex and an excruciatingly time consuming process. This presentation explores how IEEE 802 could better manage the process by being proactive.
      1. Survey existing spectrum bands
      2. Set up a task force
      3. Build a coalition of industry leaders
   3. <https://mentor.ieee.org/802.11/dcn/21/11-21-0665-00-0wng-proactive-spectrum-planning.pptx>
   4. **Any input from others that were in the .11 or .15 WNGs?** 
      1. There was a lot of interest from both WGs. Will update 802.19 in July.
      2. There will be updates to the proposal and presentation moving forward, e.g. for July plenary.
      3. Will schedule for a summary next week, then can spend a little more time on it here.
9. Chair presents slide 19, **Actions / AOB / Recess**
   * Chair, send to 18 about Proactive Spectrum Planning prezo next week.
   * All – if you have any actionable possibilities to update/improve/etc. our external influence on regulatory bodies, as part of the IEEE 802 restricting, please pass along to the chair. \
   * All – ongoing – bring to RR-TAG info they hear, e.g. different country consultations, on the WRC-23 AIs we are interested in.
   1. **AOB before recess to next Thursday, 20May21**
      1. FCC NPRM - T-Mobile asking for 12.2GHz. Add to next week.
         1. Flexible use = Private spectrum (w/o an auction)
      2. FCC PN – 6 GHz C to C should look again, new ex partes
         1. Theses are in FCC 18.295
         2. This is on Mentor: [18-21-0004-00](https://mentor.ieee.org/802.18/dcn/21/18-21-0004-00-0000-fcc-pn-client2client-in-6ghz-band-et-18-295.p)
      3. VC asks for attestation of affiliation in iMAT. VC to verify affiliation. MyProject has a place for employer, but does not transfer to iMAT.
   2. **Recessed at 15:52 until Thursday 20May21, 15:00et**
10. Chair presents slide 20, **2nd -meeting Thursday 20May21, 15:00et Agenda**
    1. Chair calls the meeting to order at 15:02 et
    2. **Reminder we are still under all IEEE policies as shown last Thursday (05Nov20)**
       1. Attendance is on IMAT (VC and webex checks)
       2. Remember to state your name, affiliation, employer and/or clients first time you speak.
       3. Someone to take a few notes: jay.
       4. Attendance and request queue in chat window, Stuart K.
    3. **Items from last week or new**
    4. **Discussion items** 
       1. Proactive Spectrum Planning Presentation(20-30mins)
       2. EU Items
       3. Other Regions Items
       4. ITU-R Items
       5. MSG 6 GHz
       6. IEEE 802 Stds Table of Frequency Bands
       7. General Discussion Items
    5. **Actions Required**

       2. All-ongoing input external influence (restructuring)
       3. All-ongoing-WRC-23 AIs viewpoints, & restructure ext. influence
       4. Anything new today
    6. **AOB**
    7. **Adjourn**
    8. Any objections to accepting the agenda?
       1. None heard

**Results:** Approved by unanimous consent

1. Chair presents slide 21, **Proactive Spectrum Planning.**
   1. **From 802.11 and 802.15 WNGs great proposal on how to be proactive on spectrum planning. A few things from the Prezo:**
   2. Meeting spectrum needs is a complex and an excruciatingly time consuming process. This presentation explores how IEEE 802 could better manage the process by being proactive.
      1. Survey existing spectrum bands
      2. Set up a task force
      3. Build a coalition of industry leaders
   3. **The Presentation:**  <https://mentor.ieee.org/802.11/dcn/21/11-21-0665-00-0wng-proactive-spectrum-planning.pptx>
   4. **Send author any ideas you have to be proactive on spectrum planning, as he will enhancing, etc, over the next months.**
   5. Some of the comments:
   6. 6GHz has been 4+ years in the making and still going, can we start sooner?
   7. The basic process used by regulators has not changed in decades, so work with them on what can or needs to be done in today’s environment.
   8. A good comprehensive spectrum inventory is needed, it is not like back in the beginning of the FCC in 1934, with the sharing that is needed now.
      1. Need to work with the incumbents not just cellular, but all users in the spectrum.
      2. Work on a 6GHz + map of incumbents is being done and may see some at July Plenary.
      3. Could/Will there be a tie of some sorts to the ad hoc going on to develop a table of all frequency ranges in our current IEEE 802 standards?
   9. Regulators are accepting the fact 25mW outdoors is not a problem for others, but what is needed?
   10. 1-We need spectrum, and some is not being used, how do we approach the regulators on this?
   11. 2–Indoor and outdoor, how to get to use more freely or portable between the two? And/or how to define more useful operation for indoor and outdoor.
       1. Portable, nomadic and fixed is being addressed.
   12. 1-Practically, too soon for a task force, thought keep visible in .18 so any proposals for 802 is available for all.
       1. Seems an ad hoc needs to be formed for more detailed discussion and focus with regular meetings.
   13. 2-Lots here, bring down to manageable steps, e.g. near term – for WLAN spectrum already allocated, improve outdoor in the bands we have.
   14. 3-Looking back at 6GHz, for pre-work on spectrum needs study, seems this would be good to do here.
   15. From author – .18 has been more reactive not proactive.
       1. With such a long process expected, seems it is not too early to get going on it.
   16. History perspective: yes, the basic regulatory process has not really changed, maybe compressed some. And must keep in mind about National sovereignty, you cannot tell me what to do.
   17. Yes, even the complexity of people and personalities need to be understood and worked with, when working with regulators.
2. Chair presents slides 22 & 23, **EU items to share**
   1. **General EU info:** [**<ojeu>**](https://eur-lex.europa.eu/oj/direct-access.html)[**<HStds>**](https://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/)[**https://www.etsi.org/deliver/etsi\_en/**](https://www.etsi.org/deliver/etsi_en/)
   2. **Remember – BRAN documents can be found in the 802.11 private area documents (daily refresh)**
   3. **ETSI –** [**<BRAN>**](https://portal.etsi.org/tb.aspx?tbid=287&SubTB=287) **calls are #110 18-25jun21**
      1. Expect in call #110, a modified proposal on Country Determination Requirements
      2. 06May: 6 GHz draft std. is standing by, so no new draft from the #109e meeting, see BRAN(21)109e006r6. Watch for more on this one.
         1. TVWS standard adding UAR is moving forward toward ENAP, other regions and the process.
      3. 15apr: 109a-Agenda has comments from ENAP on, multi-GB, RLAN 302 567 (60GHzAN) and if needed a revised draft for ENAP again.
      4. 25mar: In BRAN(21)109061, ETSI TC BRAN ad hoc meeting #109e (26 thru 30Apr21) will focus on
         1. EN 301 893 (5 GHz), and • EN 303 687 (6 GHz), and User Access Restrictions (UAR).
   4. **ETSI** [**<ERM>**](https://portal.etsi.org/tb.aspx?tbid=286&SubTB=286) **next meeting #73b, 23Feb21-07Jun21, correspondence** 
      1. There is a liaison from WGSE (ERM(21)73b008) and encourage interested ETSI members to support SE21 in their work on draft ECC Recommendation on “Receiver resilience to transmission on adjacent frequency ranges”.
   5. **CEPT – ECC** [**<FM57>**](https://cept.org/ecc/groups/ecc/wg-fm/fm-57/client/introduction/) **calls #15 10-12May21; #16 12-13Jul21 (provisional)**
      1. nothing shared
      2. 13may: These are not public yet.
         1. TEMP005R1 Table of resolution of comments from public consultation on draft revision of ECC Decision (04)08
         2. TEMP004 draft ECC Report for National Measures WAS-RLAN 5725 - 5850 MHz [end Wednesday with track changes]
         3. This may require another meeting (#16) , could not get to a compromise, so will also move up to WGFM in a week.
         4. Phrases in public consultation, some wanted to change to these and others did not noy and let original stand.
         5. Remember FM groups do not do studies, that is for SE groups and to ETSI; this came up in the country determination discussion………..
      3. 29apr: Meeting last week progressed the draft ECC Report on enabling WAS/RLAN on a national basis in the 5.8 GHz.
         1. Temp Doc TEMP 004 (CEPT login) outdoor operation and registration for outdoor operation, inputs from from Czech and UK.
      4. 15apr: Contributions have been posted, e.g. [FM57(21)007](https://cept.org/Documents/fm-57/64031/fm57-21-007_revisions-to-draft-ecc-report-on-national-measures-for-wasrlan-zip-file-cover-plus-annex) on 5.8 GHz. Also, [FM57(21)008](https://cept.org/Documents/fm-57/64032/fm57-21-008_country-determination-capability-cdc-requirements-for-was-rlan-operating-in-58-ghz) France has country determination capability input, it is back again.
      5. 08apr: Only topic at #14, is on 5.8 GHz sharing EC 04(08). Other docs are not through public EC consultations yet, so nothing to discuss.
3. Chair presents slides 24, **Other regions (outside EU-Stds and USA), items to share**
   1. Government of Canada announces their decision to triple the spectrum available for Wi-Fi, bringing faster Internet to Canadians shown in SMSE-006-21, link below:
      1. <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf11698.html> [<<the pdf>>](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/SMSE-006-21-2021-05EN.pdf/$file/SMSE-006-21-2021-05EN.pdf)
      2. Canadian Table of Frequency Allocations - 2018 - from Doc: SMSE-006-21
         1. <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10759.html> [<<the pdf>>](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/SMSE-07-18-CTFA-2018.pdf/$file/SMSE-07-18-CTFA-2018.pdf)
      3. Highlights: Follow-on update report released in November 2020.
      4. Very good summary of the Canadian 6 GHz, and current 6 GHz eco-system WW; references key specifications, FCC R&O, AFC, Table of Frequencies etc.
      5. Next steps: As a result of the decisions made in this document, ISED will update the CTFA. CTFA (Canadian Table of Frequency Allocations). Furthermore, in consultation with the RABC and other stakeholders, ISED will develop the applicable technical standards for the equipment described above and the standards and procedures related to AFC systems and AFCSAs.
   2. **Saudi Arabia, CITC**, released a 3-year outlook for commercial and innovative use of spectrum there:
      1. Mentor: <https://mentor.ieee.org/802.18/dcn/21/18-21-0041-00-0000-citc-spectrum-outlook-for-commercial-innovative-use-2021-23.pdf>
      2. One of the items:
      3. Unlicensed consultation (5925 – 7125 MHz and 66 – 71 GHz) Detailed plans for the 6 GHz and 66 – 71 GHz bands including power levels and any restrictions Consultation Q2 2021
      4. Looking for the consultation, not out yet.
      5. Is there a link to watch for consultations?
4. Chair presents slide 25, **ITU-R items to share**
   1. We have received liaisons from WP 5A on M.1450, M.1801 and ITS, they are on Mentor.
      1. <https://mentor.ieee.org/802.18/dcn/21/18-21-0057-00-0000-request-for-input-itu-r-m-1450-5.docx>
      2. <https://mentor.ieee.org/802.18/dcn/21/18-21-0058-00-0000-request-for-input-itu-r-m-1801-2.docx>
      3. <https://mentor.ieee.org/802.18/dcn/21/18-21-0059-00-0000-request-for-input-itu-r-m-2121-its.docx>
   2. WP 5A - 2 contributions, on M.1801and M.1450:
      1. More detail from the .11 ad hocs is here: <https://mentor.ieee.org/802.11/dcn/21/11-21-0713-02-0itu-itu-ahg-agenda-for-may-2021-interim.pptx>
      2. WP 5A next meeting is 15-26nov21 and .11 ad hoc next call 17jun21, 0900et
   3. Anything else on ITU-R? none heard
   4. IEEE 802 viewpoints on WRC-23 agenda items. **ad hoc: 5 folks stepped up. Are there any others to help?** 
      1. Doc for viewpoints: <https://mentor.ieee.org/802.18/dcn/21/18-21-0039-00-0000-ieee-802-viewpoints-on-wrc-23-agenda-items.pptx>
      2. Key item was to review what we can on responses to consultations many countries are doing on topics related to WRC-23 AIs, e.g. on 6 GHz that is included in AI 1.2
      3. Though this process could work for other Agenda Items that maybe of interest to us also.
         1. It does seem the Arab states are engaging quicker than other regions, e.g. on 6 GHz.
         2. Oman has a consultation out on Wi-Fi 6;
            1. <https://www.tra.gov.om/En/ViewPublicConsultations.jsp?code=33>
         3. FCC WAC has a *preliminary* view on AI 1.2, we should look at this.
            1. <https://www.fcc.gov/us-contributions-sent-citel-pccii-wrc-23>
         4. Don’t forget the actual ITU-R WPs will be working AIs they have.
         5. **Next discussions will be during July 2021 electronic plenary**.
      4. Reference:
         1. Updated WRC-23 Agenda Item list: [https://mentor.ieee.org/802.18/dcn/20/18-20-0107-01-0000-res-811-wrc-19-wrc-23-agenda-items.docx](https://mentor.ieee.org/802.18/dcn/20/18-20-0107-00-0000-res-811-wrc-19-wrc-23-agenda-items.docx)
         2. btw- the initial AIs to consider IEEE 802 viewpoints:
            1. 1.1 -800-4 990 MHz and Resolution 223. Connection w/ITS going there?
            2. 1.2 -300-3 400MHz, 3 600-3 800MHz, 6 425-7 025MHz, 7 025-7 125MHz and 10.0-10.5GHz for International Mobile Telecommunications (IMT) and resolution 245.
            3. 1.5 -470-960 MHz in Region 1-consider possible regulatory actions, Resolution **235.**
            4. 10 **-**recommend to the Council items for inclusion in the agenda for the next WRC
5. Chair presents slide 26, **MSG 6 GHz**
   1. **The WInnforum “6 GHz Committee”, all groups meet every 2 weeks except interference-weekly (168people)** 
      * 1. <https://www.wirelessinnovation.org/6ghz-multistakeholder-committee>
        2. For access to documents from the committee, can request to be an observer from the MSG below.
      1. New org: 2 (now) focus areas:
         1. 1) AFC Functional Specification -WG – includes: Interference-TG, Incumbent Info-TG, security (new) and 3GPP-TG
         2. 2) AFC Test and Certification-WG
      2. Nothing to share
      3. 13may: There is more interfacing between WFA and WInnforum. That is deepening the agreement between the 2 groups, which will help when taking results to the FCC.
   2. **From the FCC R&O, an informal MSG (“Group”) has also been formed. (260+ people)** 
      1. <https://groups.wirelessinnovation.org/wg/6MSG/dashboard>.
         1. **Work stream 1 - interference protection and resolution (CableLabs, EPRI, Lake Cty, APCO) Meets biweekly, from 28Jan21-10:00 et,**
         2. Work stream 2 - correct incumbent data (ULS) (Comsearch, APCO)
         3. Work stream 3 - AFC and how it provides protection, etc. (Charter, Google, UTC)
         4. Overall Co-chairs: NPSTC, UTC, WFA, WISPA.
      2. Nothing to share
      3. 06may: WS1 on 06may, adopted an outline for final WS1 report. Some controversy but did get to outline of record.
      4. Here are links to two good reports, you may need to request username/password which is open to anyone.
         1. Nokia <https://groups.wirelessinnovation.org/wg/6GHz-MSG-WS1/document/16057> (extended spectrum analyzer software network platform.)
         2. Aviat <https://groups.wirelessinnovation.org/wg/6GHz-MSG-WS1/document/16060> (dribbling 2nds, most 10dB off noise floor**)**
6. Chair presents slide 27, **Table of IEEE 802 Stds Frequency Bands**
   1. **Problem statement**
      1. It is difficult for 802 wireless standards developers to quickly and accurately identify all the frequency bands by the family of 802 wireless standards in a regularly maintained database.
      2. The primary application is to simplify identification of potential frequency bands for coexistence assessment.
   2. **Initial Audiences:** 
      1. 1) 802 wireless standards developers
      2. 2) 802.19 wireless coexistence working group
   3. **Ad hoc calls** 
      1. **The spreadsheet is going, always look for latest:**
      2. <https://mentor.ieee.org/802.18/dcn/21/18-21-0036-04-0000-frequency-table-template.xlsx>
      3. Made a few updates to the Table of Frequency Bands at the ad hoc, 27apr21. A few include:
         1. Added worksheet Frequency Range for frequency range additional info, like names.
         2. Added a column, Standard or Project, to the Stds (new name) worksheet.
         3. Updated the instructions for above.
         4. Then added a worksheet (will call them worksheets not tabs), for notes, e.g. pull in the future items from the .18 meeting a few weeks ago.
         5. Moving forward try to get going adding in frequency ranges from the different WGs.

* 1. **Nothing new, probably not till the next ad hoc call.**
  2. **The next meeting will be 25may21. (call-in in backup slides here)**

1. Chair presents slides 28 and 29, **General Discussion.**
   1. FCC NPRM FCC-21-13 Expanding flexible use of the 12.2-12.7 GHz band WTB 20-443

Part of : Expanding flexible use in Mid-Band Spectrum in 3.7-24 GHz GN 17-183

* + 1. Comments were due on or before April 7, 2021
    2. FCC ECFS: [https://www.fcc.gov/ecfs/search/............wtb 20-443](https://www.fcc.gov/ecfs/search/............wtb%2020-443)
    3. We initiate this proceeding to seek comment on how best to maximize efficient use of 500 megahertz of mid-band spectrum between 12.2-12.7 GHz (12 GHz band). In recent years, the Commission has made significant progress in ensuring that spectrum is put to its highest-value and most efficient use. Rather than adopting a one-size-fits-all approach, the Commission has carefully examined the characteristics of each spectrum band under consideration-including its propagation and capacity characteristics, the nature of in-band and adjacent band incumbent use, and the potential for international harmonization-before deciding whether and, if so, how to make it available for more intensive terrestrial or satellite use. We undertake a similar inquiry here for the 12 GHz band.
    4. We seek comment on whether the Commission could add a new or expanded terrestrial Mobile allocation in the 12 GHz band without causing harmful interference to incumbent licensees
  1. 14-28jan21: **FCC Public Notice: SEEKS ADDITIONAL INFORMATION REGARDING CLIENT-TO-CLIENT DEVICE COMMUNICATIONS IN THE 6 GHZ BAND**
     1. …unlicensed proponents requested that the Commission modify its low-power indoor device rules to permit client-to-client device communications.
     2. … if they can decode an enabling signal transmitted by a low-power indoor access point within the last four seconds.
     3. **Office of Engineering and Technology Seeks Additional Information Regarding Client-to-Client Device Communications in the 6 GHz Band** FR Document: [2021-01404](https://urldefense.com/v3/__https:/www.federalregister.gov/documents/2021/01/22/2021-01404/office-of-engineering-and-technology-seeks-additional-information-regarding-client-to-client-device?utm_campaign=subscription*mailing*list&utm_source=federalregister.gov&utm_medium=email__;Kys!!F7jv3iA!g505zKyorT2virPotapBCijbIH2BD45AhKr7RkAfu5OwolFP1X9GKl87NaV8GjE0Kg$), Citation: 86 FR 6644, [PDF](https://urldefense.com/v3/__https:/www.govinfo.gov/content/pkg/FR-2021-01-22/pdf/2021-01404.pdf?utm_source=federalregister.gov&utm_medium=email&utm_campaign=subscription*mailing*list__;Kys!!F7jv3iA!g505zKyorT2virPotapBCijbIH2BD45AhKr7RkAfu5OwolFP1X9GKl87NaV1QbC4Fw$) Pages 6644-6645 *(2 pages)* [Permalink](https://urldefense.com/v3/__https:/www.federalregister.gov/d/2021-01404?utm_campaign=subscription*mailing*list&utm_source=federalregister.gov&utm_medium=email__;Kys!!F7jv3iA!g505zKyorT2virPotapBCijbIH2BD45AhKr7RkAfu5OwolFP1X9GKl87NaVRBTaaIA$)
     4. **Abstract:** In this document, the Office of Engineering and Technology seeks additional information to supplement the record on whether the Commission should permit direct communications between unlicensed 6 GHz band client devices.
     5. Mentor: <https://mentor.ieee.org/802.18/dcn/21/18-21-0004-00-0000-fcc-pn-client2client-in-6ghz-band-et-18-295.pdf>
     6. FCC ECFS: [https://www.fcc.gov/ecfs/search/............18-295](https://www.fcc.gov/ecfs/search/filings?q=((proceedings.name:((18%5C-295*))%20OR%20proceedings.description:((18%5C-295*))))&sort=date_disseminated,DESC)
  2. **802.18 activity since March Plenary**
     1. Approvals:
        1. none
     2. Other discussions:
        1. ETSI and CEPT most weeks
        2. IEEE 802 viewpoints WRC-23 AIs
        3. USA 6 GHz MSGs
        4. IEEE 802 Stds Frequency Band table
        5. IEEE 802 3 contributions to ITU-R WP 5A
        6. Costa Rica and 6 GHz
        7. Peru and 6GHz
        8. UK Ofcom SRD s
        9. Australia exploring RLAN in 5 and 6 GHz
        10. Saudi Arabia CITC consultations
        11. FCC PAG update
        12. ITU-R WP 5D – 6-8 GHz IMT

1. Chair presents slide 31 Actions Required

   * All – ongoing - if you have any actionable possibilities to update/improve/etc. our external influence on regulatory bodies, as part of the IEEE 802 restructuring, please pass along to the chair.
   * All – ongoing – bring to RR-TAG info they hear, e.g. different country consultations, on the WRC-23 AIs we are interested in.
2. Chair presents slide 32 Any Other Business
   1. none heard
3. Chair presents slide 33, Adjourn.
   1. **Next “weekly” teleconference (sched’d to 02sep21): 27may21–*15:00–<15:55* et** 
      1. New - Call in info: [https://mentor.ieee.org/802.18/dcn/16/18-16-0038-18-0000-teleconference-call-in-info.pptx](https://mentor.ieee.org/802.18/dcn/16/18-16-0038-17-0000-teleconference-call-in-info.pptx)
      2. Also, see back up slide in this agenda.
      3. All late changes/cancellations will be sent out to the 802.18 list server.
   2. Overall IEEE 802 schedule: <http://ieee802.org/802tele_calendar.html>
      1. or only 802.18: [IEEE 802.18 TAG Calendar](https://calendar.google.com/calendar/embed?src=c2gedttabtbj4bps23j4847004%40group.calendar.google.com&ctz=America%2FNew_York)
   3. Adjourn:
      1. Any objection to Adjourn.
      2. None heard, Adjourn at 15:55et
   4. The next face to face meeting is tbd.
   5. **The next IEEE 802 plenary will be electronic in July 2021**
   6. **The next IEEE 802.18 (wireless) interim will be electronic in Sept 2021**
   7. Thank You
4. Attendance

Voting members:

13th 20th

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Auluck** | Vijay | Self | **x** | **x** |
| **Boldy** | David | Broadcom Corporation | **x** | **x** |
| **Ecclesine** | Peter | Cisco Systems, Inc. | **x** |  |
| **Holcomb** | Jay | Itron Inc. | **x** | **x** |
| **Jeffries** | Timothy | FutureWei Technologies, Inc. |  | **x** |
| **Kain** | Carl | Noblis, Inc. | **x** |  |
| **Kenney** | John | TOYOTA InfoTechnology Center U.S.A. | **x** | **x** |
| **Kerry** | Stuart | OK‐Brit, Self | **x** | **x** |
| **Lepp** | James | Self-Funded | **x** | **x** |
| **Levy** | Joseph | InterDigital, Inc. | **x** | **x** |
| **Lynch** | Michael | MJ Lynch & Associates, LLC. | **x** | **x** |
| **Nikolich** | Paul | Self, HPE, Huawei, Wyebot, UNH BCoE, YAS BBV, Origin Wireless |  | **x** |
| **Palm** | Stephen | Broadcom Corporation | **x** | **x** |
| **Petrick** | Al | Skyworks Solutions Inc. | **x** | **x** |
| **Robert** | Joerg | TU Ilmenau, Fraunhofer IIS | **x** | **x** |
| **Rolfe** | Benjamin | Blind Creek Associates |  | **x** |
| **Sand** | Stephan | German Aerospace Center (DLR) | **x** |  |
| **Sherlock** | Ian | Texas Instruments | **x** |  |
| **Stanley** | Dorothy | Hewlett Packard Enterprise |  | **x** |
| **Verso** | Billy | Qorvo | **x** | **x** |
| **Wang** | Lei | FutureWei Technologies, Inc. | **x** | **x** |
| **Yaghoobi** | Hassan | Intel Corporation | **x** | **x** |
| **Yucek** | Tevfik | Qualcomm |  | **x** |
| **Non-Voting (Nearly Voters, Aspirant Members, Observers & Other Attendees)** | | | | |
| **Baykas** | Tuncer | Tohoku University | **x** |  |
| **Haasz** | Jodi | IEEE SA | **x** |  |
| **Hamilton** | Mark | Ruckus/CommScope |  | **x** |
| **Harrington** | Timothy | UWB Alliance; Pro-ID Consulting | **x** |  |
| **Kennedy** | Richard | Self | **x** | **x** |
| **Kuerner** | Thomas | TU Braunschweig | **x** | **x** |
| **Lumbatis** | Kurt | CommScope |  | **x** |
| **Pirhonen** | Riku | NXP Semiconductors | **x** | **x** |
| **Scott** | Andy | NCTA | **x** | **x** |