IEEE P802.18  
Radio Regulatory Technical Advisory Group (RR-TAG)

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| Radio Regulatory Technical Advisory Group Minutes  July 2024 Mixed-Mode IEEE 802 Plenary Session 16 July 2024 | | | | |
| Date: 14 August 2024 | | | | |
| Author: | | | | |
| Name | Company | Address | Phone | email |
| Al Petrick | Skyworks Solutions |  |  | Apetrick123@gmail.com |
| Gaurav Patwardhan | Hewlett Packard Enterprise |  |  | gauravpatwardhan1@gmail.com |
| Edward Au | Huawei |  |  | Edward.ks.au@gmail.com |

Abstract

This document constitutes the minutes of the IEEE 802.18 Radio Regulatory Technical Advisory Group for the July 2024 Mixed Mode IEEE 802 Plenary Session, with on-site participants in Montreal QC, Canada and remote participants through Webex. "Local time" in this document means local time “Eastern Daylight Time” (EDT) zone.

**C:** means question or comment from participant.

**Chair:** means statement by the chair as chair.  
Highlight means action point.

Chair: Edward Au (Huawei)

Co-Vice-chairs: Gaurav Patwardhan (Hewlett Packard Enterprise) and Al Petrick (Skyworks Solutions)

Secretary: VACANT (Open position)

IEEE SA Program Manager: Jodi Hassz (IEEE SA)

IEEE 802.18, RR-TAG website: <https://www.ieee802.org/18/> .

Chair: Edward Au (Huawei)

Co-Vice-chairs: Stuart Kerry (OK-Brit/Self) and Al Petrick (Skyworks Solutions)

Secretary: Amelia Andersdotter (Comcast)

IEEE SA Program Manager: Jodi Hassz (IEEE SA)

* IEEE 802.18, RR-TAG website: <https://www.ieee802.org/18/>

**Opening meeting – July 16, 2024**

1. **Opening formalities**
2. Chair calls the meeting to order at 10:30AM EDT local time. Quorum is asserted.
3. Agenda spreadsheet document [**18-24/0060r1**](https://mentor.ieee.org/802.18/documents?is_dcn=60&is_group=0000&is_year=2024) with supplementary materials in [**18-24/0061r1**](https://mentor.ieee.org/802.18/documents?is_dcn=61&is_group=0000&is_year=2024)**.**
4. Group officers are present. Al Petrick Co-Vice Chair, volunteered as secretary for the   
   July 2024 IEEE 802.18 plenary session meeting minutes.
5. This meeting is part of the mixed mode IEEE 802 plenary session located in Montreal QC, Canada, held at the Sheraton Le Centre on July14-19, 2024.

* You **must** pay the registration fee to attend.
* If you have not already done so, you can register w/F2F Events – Registration website at:
* [**https://web.cvent.com/event/64f6931c-b20d-44af-a54e-4830fa2f7097/summary**](https://web.cvent.com/event/64f6931c-b20d-44af-a54e-4830fa2f7097/summary)
* If you do not intend to register for this session you must leave this meeting and, if you have logged attendance on IMAT, please email the 802.18 chair or a vice chair to have your attendance canceled. <https://imat.ieee.org/my-site/home>
* At conclusion of each of the 802.18 calls, the Webex log and IMAT will be reviewed.
* No payment, become a deadbeat and lose voting rights in all groups, after 60-day grace.
* Chair presents and reviews Agenda (RR-TAG Opening tab) in document [**18-24/0060r1**](https://mentor.ieee.org/802.18/documents?is_dcn=60&is_group=0000&is_year=2024).
  + - * **Motion #1 (Procedural):** To approve the agenda as shown in the “RR-TAG Opening Agenda” tab of the document[**18-24/0060r1**](https://mentor.ieee.org/802.18/documents?is_dcn=60&is_group=0000&is_year=2024)**.**

Moved by: Al Petrick

Seconded by: Marc Emmelmann

Discussion: None

Vote: Approved with unanimous consent.

1. **Voter list update**Group officers and voting membership (at the opening meeting on 27 May 2024).   
   Voters: 57 (including 10 on LMSC)

Nearly Voters: 10

Aspirant members: 12

1. **Administrative items** 
   * + **Policies and procedures:** Gaurav Patwardhan, presented slides 8 -17 in document [**18-24/0061r1**](https://mentor.ieee.org/802.18/documents?is_dcn=61&is_group=0000&is_year=2024)**.**
   1. RR-TAG Policies & Procedures [[802 LMSC WG P&P](https://mentor.ieee.org/802-ec/dcn/21/ec-21-0207-23-0PNP-ieee-802-lmsc-working-group-policies-and-procedures.pdf)]

IEEE 802 meeting and participant’s guidelines and requirements [[link](http://www.ieee802.org/devdocs.shtml)]

IEEE policies and procedures [[link](https://standards.ieee.org/about/policies/opman/)]

* 1. Reciprocal credit with IEEE 802.11 Working Group (WG) is granted for only the two meeting slots scheduled for IEEE 802.18 as per the agreement between the IEEE 802.11 and IEEE 802.18 chairs.   
       
     Gaurav Patwardhan, asked for any press in the room to announce their presence.   
     No response, no comments from the group or WebEx.
  2. **Reminder that IMAT is being used for attendance.**

Online meeting procedures reminder.

Walk-through of session schedule.

* Gaurav Patwardhan, asked the group if there are any questions relating to the IEEE policies.

No response, no comments from the group or WebEx.

1. **General business**  
   * **Minutes**  
     + Chair presents meeting minutes document [**18-24/0057r1**](https://mentor.ieee.org/802.18/documents?is_dcn=57&is_group=0000&is_year=2024) from RR-TAG 2024 May interim session.
     + Chair asked the group if there are any questions. No response, no comments from the group or WebEx.

**Motion #2 (Procedural):** To approve the meeting minutes of the RR-TAG 2024 May interim session as shown in the document [**18-24/0057r1**](https://mentor.ieee.org/802.18/documents?is_dcn=57&is_group=0000&is_year=2024) ,with editorial privilege for the IEEE 802.18 Chair.

Moved by: Al Petrick

Seconded by: Ben Rolfe

Discussion: None.

Vote: Approved with unanimous consent.

* + **Opening reports**
    - **Presentation of 802.18 opening report** [**18-24/0062r0**](https://mentor.ieee.org/802.18/documents?is_dcn=62&is_group=0000&is_year=2024) **,** Edward Au (Chair)  
      Chair presents progress on consultations since the interim meeting in May 2024.
      * The IEEE 802 LMSC approved 4 submissions. For details and document links see document [**18-24/0062r0**](https://mentor.ieee.org/802.18/documents?is_dcn=62&is_group=0000&is_year=2024) slide 3.
      * Discussed latest topics related to spectrum and regulation in Europe, North America, and Asia Pacific.
    - Chair reviewed **objectives for the week**: See document[**18-24/0062r0**](https://mentor.ieee.org/802.18/documents?is_dcn=62&is_group=0000&is_year=2024).
      * Review consultations, petitions for rulemaking and liaison statements: CEPT ECC, Canada RABC and EU RSPG. See document[**18-24/0062r0**](https://mentor.ieee.org/802.18/documents?is_dcn=44&is_group=0000&is_year=2024)side 4.
      * Invited presentation (remote) on Thursday July 18, 2024: Topic: Hybrid sharing on the upper 6 GHz band. Author: Dr. Steve Leach (Principal, Spectrum Engineering team, Ofcom). Document: [**18-24/0070r0**](https://mentor.ieee.org/802.18/documents?is_dcn=70&is_group=0000&is_year=2024).See document [**18-24/0062r0**](https://mentor.ieee.org/802.18/documents?is_dcn=62&is_group=0000&is_year=2024) slide 5.

* + - Chair asked the group if there are any questions relating to the objectives for the week.   
      No questions or comments from the group or WebEx.

1. **New business**
   * **Announcements: Designation of individual experts.** See document [**18-24/0061r0**](https://mentor.ieee.org/802.18/documents?is_dcn=61&is_group=0000&is_year=2024) slide 22.

* Chair reviews a list of two individual experts Dr, Steve Leach (Principal, Spectrum Engineering team, Ofcom) and Alberto Fernandes (Principal, Policy Advisor, Ofcom) with the group. On Thursday 18 July, 2024, Dr. Steve Leach, presents document [**18-24/0070r0**](https://mentor.ieee.org/802.18/documents?is_dcn=70&is_group=0000&is_year=2024)Title: Hybrid Sharing in the Upper 6 GHz Band to the group.
* Chair asked the group if there are any comments or questions relating to individual experts.   
  No questions or comments from the group or WebEx.

1. **Old Business**
   * **Status of Ongoing Consultations.** See documents [**18-24/0061r0**](https://mentor.ieee.org/802.18/documents?is_dcn=61&is_group=0000&is_year=2024) slide 24 and [**18-24/0001**](https://mentor.ieee.org/802.18/documents?is_dcn=0001&is_group=0000&is_year=2024).
     + **EC RSPG:** [**Questionnaire on long-term vision for the upper 6 GHz band**](https://radio-spectrum-policy-group.ec.europa.eu/document/download/c87dc40a-3221-4842-98af-eb625d3557d2_en?filename=Questionnaire_U6GHz-2024.pdf)**.**
       - Chair reviews Sections A and B of the [**Questionnaire on long-term vision for the upper 6 GHz band**](https://radio-spectrum-policy-group.ec.europa.eu/document/download/c87dc40a-3221-4842-98af-eb625d3557d2_en?filename=Questionnaire_U6GHz-2024.pdf)document. There was some discussion on Section B on incumbent services in the upper 6 GHz band including UWB. Members suggested the group (IEEE 802.18) should respond to Sections A and B. Chair suggested to include Section B 1.1 for UWB comments.
       - Chair reminds the group of the response deadline is 3PM EDT, Thursday, 1 August 2024.

* **Canada RABC:** [**RSS-248, issue 3, “Radio Local Area Network (RLAN) Devices Operating in the 5925-7125 MHz Band”**](https://www.rabc-cccr.ca/ised-radio-standards-specification-rss-248-issue-3-june-2024-radio-local-area-network-rlan-devices-operating-in-the-5925-7125-mhz-band/)document.
  + Chair gives a brief overview of sections 4.5.6 Power limits for VLP and 4.8.5 describing VLP restrictions for RLAN devices.
  + Chair reminds those interested in providing comment the response deadline is 3PM EDT Thursday 22 August 2024.
* Chair asked the group if there are any questions or comments. No questions or comments from the group or WebEx.
  + **General discussion items**
    - **EC RSPG**
      * Chair informs the group that on 18, June 2024 the EC [**published**](https://radio-spectrum-policy-group.ec.europa.eu/document/download/3d8d393b-2067-48c4-98f9-b95f4d8ed960_en?filename=RSPG24-017final-RSPG_Report_%20WRC23.pdf) the RSPG final report (doc: RSPG24-017 FINAL) which is based on the results from the ITU-R World Radiocommunication Conference (WRC) 2023. The report covers a wide range of spectrum for various regions.
    - **ETSI BRAN**
      * Document [**11-24/1233r0**](https://mentor.ieee.org/802.11/documents?is_dcn=1233&is_group=0000&is_year=2024)ETSI TC BRAN meeting #124, July 2024 update was presented by Guido Hiertz (Ericsson GmbH). Updates included status of EN 301 893 (5GHz), EN 303 687 requirements for addressing NB FH and, modern weather radars. There was some discussion. Hassan Yaghoobi is a member of WP 5A and expected to respond on DFS. See slide 8 for scheduled meeting dates and time.
    - **FCC** 
      * The Chair informs the group that the Open Commission Meeting is scheduled at 10:30AM EDT on 18 July 2024. The FCC OET issued a public notice seeking [**comments**](https://docs.fcc.gov/public/attachments/DA-24-665A1.pdf) on Kontur as petition for waiver of rules related to UWB. The Chair asked the group those interested in this petition to provide comments.
    - Chair asked the group for AOB. No response from the group or WebEx.

1. **Recess at 11:49 AM EDT local time (until Thursday AM 1, July 18, 2024)**

**Closing meeting – July 18, 2024**

1. **Opening formalities**
   * Chair calls meeting to order at 08:00AM EDT local time. Quorum is declared.
     + Agenda spreadsheet document [**18-24/0060r1**](https://mentor.ieee.org/802.18/documents?is_dcn=60&is_group=0000&is_year=2024)with supplementary materials in [**18-24/0061r1**](https://mentor.ieee.org/802.18/documents?is_dcn=61&is_group=0000&is_year=2024).
   * Officer introduction.
   * Reminder of registration fee was presented.
   * Reminder of recording attendance. IMAT is used for this session.
   * Chair presents and reviews Agenda (RR-TAG Closing tab).

* **Motion #3 (Procedural):** To approve the agenda as shown in the “RR-TAG Closing Agenda” tab of the document [**18-24/0060r1**](https://mentor.ieee.org/802.18/documents?is_dcn=60&is_group=0000&is_year=2024)**.**

Moved by: Guido Hiertz

Seconded by: Al Petrick

Discussion: None

Vote: Approved with unanimous consent.

1. **Administrative Items**
   * + **Policies and procedures** Gaurav Patwardhan, presented slides 34 - 40 in document [**18-24/0061r1**](https://mentor.ieee.org/802.18/documents?is_dcn=61&is_group=0000&is_year=2024)**.**   
       - IEEE 802 required notices
       - Declaration of affiliation
       - Anti-trust notices
       - IEEE 802 WG policies and procedures
     + Guidelines for IEEE SA meetings were introduced.
       - Reminder to object when inappropriate topics are discussed.
       - IEEE 802 Code of Conduct and Code of Ethics were introduced.
       - Reminder of the IEEE SA individual process applied in IEEE 802 Committee.
       - Reminder of IEEE SA board bylaws specifying fair and equitable consideration of all viewpoints.
     + Gaurav Patwardhan asked the group for comments, questions, or concerns. No response from the group or WebEx.
       - Reminder of housekeeping and meeting decorum.
       - IMAT is used for this session. <https://imat.ieee.org/my-site/home>
       - Reminder of Reciprocal credit.
     + Chair asked the group if there are any questions or comments. No response from the group or WebEx.
2. **New Business** 
   * **Invited presentation**
     + Chair introduces guest speaker (remote) Dr. Steve Leach (Principal, Spectrum Engineering team, Ofcom) Title: Hybrid Sharing in the Upper 6 GHz Band presented by Dr. Steve LeachSee document: [**18-24/0070r1**](https://mentor.ieee.org/802.18/documents?is_dcn=70&is_group=0000&is_year=2024) for details.
     + The content of the presentation included an overview of the following topics: introduction to Ofcom, Hybrid sharing mechanisms (indoor / outdoor split and dynamic band split) using the 3.5 GHz cellular band and 6 GHz band in future studies and consultations in the UK.
       - Slide 7: Upper 6 GHz using Wi-Fi is important to the UK
       - Slide 8: Wi-Fi in the UK is mainly indoors. The 3.5 GHz band is reused for Wi-Fi.
       - Slide 13: Dynamic band split - Gives Wi-Fi priority in the lower 6 GHz band and priority to Cellular in the upper 6 GHz band, the priority is set by using cellular to broadcast a Wi-Fi “preamble” to ensure Wi-Fi clears the channel. At this time, it’s unclear what the Wi-Fi preamble will include. Needs further study and consultations.
       - Slide 14: This is work in progress. Ofcom is working on the outdoor-indoor cellular coverage and looking at how to improve integration between mobile and Wi-Fi.

* Chair asked the group if there are any questions for Dr. Steve Leach.
* Discussion:
* Licensing: timing for licensing – (2027-2028) expected during the deployment of 6 G. If congestion in the band exists, then deployment will be slow. It may take 3 – 4 years for full deployment.
* C: Do you have any insight on the 6 GHz band will be used, with putting 802.11 in the   
  3.5 GHz band. Current macro cells at 3.5 GHz are 20% of the basestation market. 3.5 GHz has limited range. Is this a good business opportunity?
* C: How much power can be transmitted indoors with 3.5 GHz?
* C: Assumption is that mobile devices are a slow growth market at 3.5 GHz.
* C: The core of the network is 5G, should the UK look at indoor cellular?
* C: Any other activities in Ofcom? The UK has 4.4 GHz and 4.8 GHz for government bands and is currently considering the upper 6 GHz.
* Dr. Steve Leach encouraged the group to stay involved and engage in upcoming UK consultations on hybrid sharing!
  + - Chair asked the group if there are any further questions. No questions or comments from the group or WebEx.
    - Chair thanked Dr. Steve Leach for his presentation and discussion with participants of IEEE 802.18 and looks forward to follow-up discussions.

1. **Closing formalities**
   * **Future RR-TAG meeting**Chair refers to document [**18-24/0061r1**](https://mentor.ieee.org/802.18/documents?is_dcn=61&is_group=0000&is_year=2024)slides 47 - 48 for details on weekly conference calls and September 2024 interim dates, and registration.

* + Chair reminds group a motion is needed to continue weekly teleconference calls through 21 November 2024. See document [**18-24/0061r2**](https://mentor.ieee.org/802.18/documents?is_dcn=61&is_group=0000&is_year=2024) slide 50.
    - **Motion #4 (Procedural):** The 802.18 Chair or Chair designee is directed to conduct, as necessary, the following weekly teleconference calls through 21 November 2024
      * RR-TAG calls on Thursdays at 15:00 ET for 55 mins.

Moved by: Gaurav Patwardhan

Seconded by: Dorothy Stanley

Discussion: None

Vote: Approved with unanimous consent.

1. **Any other business**
   * Chair asked the group for any other business. Chair opened discussion.

* + Friebert Berns, provided an update on the following topics: CEPT UWB, ECC (VLP vs CBCT) and meeting dates.
    - CEPT UWB
      * WI79 is active in CEPT SE24: <https://cept.org/ecc/groups/ecc/wg-se/se-24/client/meeting-documents>
      * Draft version of report is available: <https://api.cept.org/documents/se-24/84197/se24_wi79-02_02_draft_ecc_report_wi79_july_2024>
      * Main incumbent: Met Radar, Military X-Band Radar.
      * Please review use cases in the draft report.
      * Next meeting in SE24.9.9 – 11.9.2024
      * WI79 on indoor higher power UWB in the band 4.2 GHz to 4.8 GHz has been established and will begin work at the next SE24 meeting.
    - VLP out of band discussion versus CBCT:
      * New ECC focus group has been established.
      * CEPT ECC FG VLP#1 meeting is scheduled on 22 July 2024.

* + Chair asked are there any further comments.
  + C: Several members thanked the Chair for inviting Dr. Steve Leach - Ofcom to present. Excellent content and discussion.
  + Chair: A reminder to register and log into IMAT.
  + Chair: Any objection to Adjourn? None heard.

**Adjourn at 9:05 AM EDT local time.**

1. **Final administrative items**

**ATTENDANCE LIST (Plenary Attendance Names and Affiliations):**

|  |  |  |
| --- | --- | --- |
| **Asai** | Yusuke | NTT ASLabs |
| **Au** | Edward | Huawei Technologies Co., Ltd |
| **Berens** | Friedbert | FBConsulting Sarl |
| **Boldy** | David | Broadcom Corporation |
| **de Vegt** | Rolf | Qualcomm Incorporated |
| **Emmelmann** | Marc | Self |
| **Fang** | Yonggang | MediaTek Inc. |
| **Guimond** | Raphael | Spark Microsystems |
| **Halasz** | Dave | Morse Micro |
| **Hiertz** | Guido | Ericsson GmbH |
| **Ikegami** | Tetsushi | Meiji University |
| **Islim** | Mohamed Sufyan | pureLiFi |
| **Jeffries** | Timothy | FutureWei Technologies, Inc. |
| **Ji** | Chenhe | Huawei Technologies Co., Ltd. |
| **Kain** | Carl | USDOT, Noblis, Inc. |
| **Kennedy** | Richard | Bluetooth SIG; Self |
| **Kenney** | John | TOYOTA InfoTechnology Center U.S.A. |
| **Kitazawa** | Shoichi | Muroran Institute of Technology |
| **Lalam** | Massinissa | Sagemcom Broadband SAS |
| **Lansford** | James | FaraFir Consulting |
| **Leong** | Frank | NXP Semiconductors |
| **Li** | Huan‐Bang | National Institute of Information and Communications Technology (NICT) |
| **Mamam** | Mickael | ST |
| **Mano** | Hiroshi | Koden Techno Info K.K. |
| **Morioka** | Hitoshi | SRC Soft |
| **Nabki** | Frederick | Spark Microsystems |
| **Nagai** | Yukimasa | Mitsubishi Electric Corporation |
| **Neirynck** | Dries | Ultra Radio Ltd |
| **Palm** | kiwin (Stephen) | Broadcom Corporation |
| **Patwardhan** | Gaurav | Hewlett Packard Enterprise |
| **Petrick** | Al | Skyworks Solutions Inc. |
| **Pirhonen** | Riku | NXP Semiconductors |
| **Rahmani** | Mohammad | Spark Microsystems |
| **Rolfe** | Benjamin | Blind Creek Associates |
| **Salem** | Pein | Cisco |
| **Sand** | Stephan | German Aerospace Center (DLR) |
| **Sherlock** | Ian | Texas Instruments |
| **Stanley** | Dorothy | Hewlett Packard Enterprise |
| **Sumi** | Takenori | Mitsubishi Electric Research Laboratories (MERL) |
| **Takai** | Mineo | Space-Time Engineering |
| **Takatori** | Yasushi | Nippon Telegraph and Telephone Corporation (NTT) |
| **Verso** | Billy | Qorvo |
| **Wang** | Lei | FutureWei Technologies, Inc. |
| **Ward** | Lisa | Rohde & Schwarz |
| **Wendt** | Matthias | Signify |
| **Yaghoobi** | Hassan | Intel Corporation |
| **Yang** | Shang-Te | Apple Inc. |
| **Yu** | Ross (Jian) | Huawei Technologies Co., Ltd |
| **Zakaib** | Larry | Spark Microsystems |

**End.**