Minutes of 802.18 (RR-TAG) Meeting

(Waikoloa, HI, USA, 11-13 Sept 2018)

IEEE 802.18

Radio Regulatory-TAG

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| Radio Regulatory Technical Advisory Group Minutes |
| Date: 11-13 Sept 2018 |
| Name | Affiliation | Address | Phone | email |
|  |
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|  |
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Abstract

Minutes of IEEE 802 RR-TAG Wireless Interim meeting in Waikoloa Hilton, Kona, HI, September 2018

**Tuesday, 11 September 2018, AM2**

1. The Chair, Jay Holcomb, Itron Inc., called the meeting to order at 10:34 local.
	1. About 27 people in the room
2. The Chair used the agenda meeting plan document 18-18/0111r01.
3. Chair reviewed slide 2, Call to Order / Administrative Items
4. Chair reviewed slides 3-4, Other Guidelines for IEEE WG Meetings and Participation in IEEE 802 Meetings.
5. Chair reviewed slide 5, the agenda
	1. Call to Order
		1. Attendance server is open
	2. Administrative items
		1. Request for a recording secretary
	3. Approve agenda & last minutes
		1. Any interest in being the 802.18 Vice-Chair?
	4. Discussion items
		1. Congratulations
		2. EU Items
		3. Google waiver request
		4. General Discussion Items
	5. Actions required
		1. TBD – TAG to decide based on discussion items
	6. AOB and Adjourn.
6. Request for a recording secretary
	1. Ben Rolf, affiliation of BlindCreek consulting and UWB Alliance, volunteered.
7. Motion passed to approve the meeting agenda on Slide 6
	1. Motion: To approve the agenda as presented on previous slide
	2. Moved by: John Notor (Notor Research)
	3. Seconded by: Billy Verso (Decawave)
	4. Discussion?
	5. Vote: Approved by Unanimous consent
8. Motion passed to approve March 2018 meeting minutes on Slide 6
	1. Motion: To approve the minutes from the IEEE 802.18 Plenary on 10-12 July 2018 in San Diego, CA, USA in document: <https://mentor.ieee.org/802.18/dcn/18/18-18-0110-00-0000-meeting-minutes-july-2018-f2f-san-diego.docx> Posted: 08-Sep-2018 11:30:35 ET
	2. Moved by: John Notor (Notor Research)
	3. Seconded by: Tim Godfrey (EPRI)
	4. Discussion?
	5. Vote: Approved by Unanimous consent
9. Chair asked the group if anyone has an interest in being the 802.18 Vice-Chair?
	1. Requirements and responsibilities of WG Vice Chair are listed on Slide 7 and 8.
	2. No one stood up at the meeting.
10. Chair went through slide 9; Congratulations
	1. Want to Congratulate Rich Kennedy for being awarded:
	2. IEEE-SA Standards Medallion
	3. *“For being a driving force to achieve the worldwide harmonization of spectrum for IEEE 802TM Wireless Networks (e.g. Wi-Fi).”*
11. Chair reviewed Slide 10-12, EU Items
	1. General EU news?
		1. General (from telecons): Issues with bottleneck in publication of ETSI standards.
		2. TG28, TG11, TG-UWB are joining up to work this problem. Putting a document together. E.g. do all receive parameters have to be met in all standards? More to it.
		3. Chair of the ETSI group on receivers is getting all the inputs from all the different groups affected; which is most all groups.
		4. There is technical and political issues.
		5. E.g. it is more than the receiver parameters, there is the manufacturers declarations questions also.
		6. Spectrum utilization is the key, not efficiency, so clarity from the RE-D expectations.
		7. There is an ERM workshop coming up on 12 October that will be working on this issue.
	2. ETSI – BRAN – meeting #99 – 18-21 Sept.
		1. Push to publish message to CEPT to open 60 GHz band up to 66 GHz and begin study of raising to 71 GHz. It is needed for other activities to move forward.
	3. ETSI - ERM - TG-11 – meeting #54 – 15-19 Oct.
		1. Nothing new.
	4. CEPT – ECC SE45 - Next f2f 2-3 October in Maisons-Alfort, Paris (France)
		1. Minutes finally came out last night from the previous meetings.
		2. Included the discussions of SE45 and FM57 on UWB. FM57 document 8 has the details.
		3. 6 technical contributions coming in.
		4. The report for all this will not make this year, will slide into first of the 2019.
	5. CEPT – ECC FM57 - Next f2f 4 October in Maisons-Alfort, Paris (France)
		1. Call tonight and more calls before October meeting
12. Chair went through slide #13-14, on Google Wavier
	1. Latest Google submission did attempt to answer some of our questions.
		1. <https://mentor.ieee.org/802.18/dcn/18/18-18-0080-00-0000->[**google-**s-waiver-request-supplement-to-coexist-with-802-11-with-motion-sensing-57-64ghz.pdf](https://mentor.ieee.org/802.18/dcn/18/18-18-0080-00-0000-google-s-waiver-request-supplement-to-coexist-with-802-11-with-motion-sensing-57-64ghz.pdf)
		2. Note: The waiver is to allow the marketing and certification of equipment / production.
	2. Reminder on our 4 Points
		1. Our comments; <https://mentor.ieee.org/802.18/dcn/18/18-18-0032-05-0000-google-s-waiver-request-ieee-802-comments-motion-sensing-57-64-ghz.pdf>

1. Sharing is not clear with 100% duty cycle, it is a 10x e.i.r.p. level, 802.11 has LBT, etc.

* + - * Google says 10% now, where the new analysis was done with negligible degradation, along with 100% duty cycle showing 8% degradation. Also, the Soli is out side the WiFi channel 75% of the time.

2. Didn’t test with 802.11ad with single carrier modulation which is the majority of users. (OFDM is more tolerant which is what they did test with.)

* + - * In the new analysis, they did with single carrier.

3. Didn’t test in the same device, like a phone.

* + - * In the new analysis they did what they say is atypical close proximity to WiFi client and again with 10% duty cycle there was no negative affects. With 100% duty cycle no harm on Wi-Fi through put 80% to 95% of the time.

4. Didn’t test with 802.15.3e (which is different from 3c which Google mentions).

* + - * IEEE 802.15.3e made some footnotes that it has a closer intended range than the 11ad so concerns are less likely to materialize.
	1. In our view, does it resolve some of the concerns that IEEE 802 raised?
		1. Not completely.
	2. The proceeding:
		1. ECFS: <https://www.fcc.gov/ecfs/search/filings?proceedings_name=18-70&sort=date_disseminated,DESC>
	3. We reviewed Google’s response to us & Facebook’s excellent rebuttal:
		1. <https://mentor.ieee.org/802.18/dcn/18/18-18-0080-00-0000-google-s-waiver-request-supplement-to-coexist-with-802-11-with-motion-sensing-57-64ghz.pdf>
		2. <https://mentor.ieee.org/802.18/dcn/18/18-18-0089-00-0000-google-s-waiver-request-facebook-letter-after-reply-comments-motion-sensing-57-64-ghz.pdf>
	4. Again, no one has stepped forward to work on an ex parte.
		1. Though we still do not agree with Google’s answers to our comments.
	5. An option is word on street is Google is working on a response to FaceBook.
		1. Learned last night, a joint letter with Google and FaceBook was posted in the FCC filing.
			+ <https://mentor.ieee.org/802.18/dcn/18/18-18-0113-00-0000-google-facebook-2018-09-07-joint-letter-et-18-70.>[pdf](https://mentor.ieee.org/802.18/dcn/18/18-18-0113-00-0000-google-facebook-2018-09-07-joint-letter-et-18-70.pdf)
		2. Looks like some compromise / clarity on the request;
			+ Lower EIRP of +13dBm from original request and duty cycle limits of 10% over 33mS.
		3. No concerns or questions by the RR-TAG were brought up after this review.
	6. If no further requests from the group to do an ex parte, after f2f this week, we will move to monitor.
1. Chair reviewed Slide 15**,** Additional Fixed Service (FS) Protection ex parte
	1. An ex parte filing given to the FCC on July 31st on sharing
		1. <https://mentor.ieee.org/802.18/dcn/18/18-18-0097-00-0000-ex-parte-next-data-base-6-ghz-additional-fs-protection-discussion.pdf>
	2. The proposal is to add a third database to the current TVWS & CBRS databases.
		1. Automatic Frequency Coordination.
	3. Anyone familiar with the Frankenstein mess of automotive emissions controls knows that a piecemeal approach has a troubled future. Now is the time for us to plan for spectrum management for the next 20 years.
		* + We don’t need to stop current database developments, but must keep an eye to a future where all spectrum is controlled this way
	4. So far: 11y, TVWS, CBRS, this one at 6 GHz, and maybe a 5th at 3.7-4.2GHz?
	5. What are thoughts from all on adding another coordination data base?
		1. A paper is being worked to cover this more completely.
	6. The FCC is looking at 3rd parties to manage the different data bases, so they would not be having to deal with them directly.
	7. Definition of a service: “whatever we say it is” [where “we” is the regulating authority]. This definition is “without bounds”.
	8. It does seem early to minimize data bases, need to let the technologies stabilize.
2. Chair reviewed Slide 16, 6 GHz and single voice from IEEE 802.
	1. Should see the NPRM ‘draft’ text 3 weeks before the FCC Open meeting this is on the agenda. (Open meeting dates: 26 Sept, 23 Oct, 15 Nov)
		1. The time frame for comments and reply comments should be in this.
	2. Next step continues on where the 11ax CoEx document goes.
		1. There is a draft of the CoEx document comment resolutions and status:
		2. <https://mentor.ieee.org/802-ec/dcn/18/ec-18-0169-00-WCSG-2018-waikoloa-802-11ax-coexistence-comment-status.docx>
		3. Plan is to have CoEx document in place by the November Plenary.
	3. If the NPRM comes out before IEEE 802 has a single voice, the .18 chair will call teleconference (s?) to work on the plan for NPRM response.
	4. Here is the link to the document discussed at the July Plenary with several of the EC Chairs, that talks to some options.
		1. <https://mentor.ieee.org/802-ec/dcn/18/ec-18-0133-00-00EC-how-can-ieee-802-get-to-a-single-voice-for-6ghz-band.pptx>
3. Chair reviewed Slide 17, IEEE EU spectrum management statement
	1. Summary was the IEEE EU should consider using the IEEE SA Intelligent Spectrum Allocation and Management statement:
	2. <https://mentor.ieee.org/802.18/dcn/18/18-18-0010-10-0000-sa-use-of-spectrum-draft-position-06dec17.docx>
	3. Email sent to GPPC and cc:’d the IEEE EU spectrum group contact.
		1. No reply at this point.
4. Chair reviewed Slide 18, Since July Plenary:
	1. Uganda Consultation Approved and sent to UCC.
		1. The (Uganda) Commission has developed TV White Spaces (TVWS) guidelines to guide its management of the TVWS radio spectrum use in Uganda.
		2. As a stakeholder in the use of the radio spectrum in Uganda, the Commission invites your comments on the proposed guidelines with reference to the topics highlighted in the guideline document.
		3. EC approved: <https://mentor.ieee.org/802.18/dcn/18/18-18-0086-04-0000-uganda-tvws-comments-to-guidelines-for-consultation.docx>
	2. Ofcom Consultation, RR-TAG approved, EC Ballot done this week
		1. This consultation calls on stakeholders to help us play an important part in shaping the regulations that govern how the world’s radio spectrum is used. It sets out the key issues to be discussed at next year’s World Radiocommunications Conference (WRC-19) – and spells out our early thinking on the outcomes we’d like to achieve. It also explains the engagement process which Ofcom manages in order to allow stakeholders to feed into the development of UK positions for the WRC
		2. RR-TAG approved: . <https://mentor.ieee.org/802.18/dcn/18/18-18-0088-03-0000-ofcom-consultation-comments-on-prep-for-wrc19.docx> ;
5. Chair reviewed Slide 19, FCC – Flexible Use of the 3.7 to 4.2 GHz Band, Order & NPRM
	* 1. ECFS: <https://www.fcc.gov/ecfs/search/filings?proceedings_name=18-122&sort=date_disseminated,DESC>
		2. Mentor: [https://mentor.ieee.org/802.18/dcn/18/18-18-0076-01-0000-nprm-3-7-4-2ghz-gn-18-122.pdf](https://mentor.ieee.org/802.18/dcn/18/18-18-0076-01-0000-nprm-3-9-4-2ghz-gn-18-122.pdf)
	1. The Commission then seeks comment on various proposals for transitioning all or part of the band for flexible use, terrestrial mobile spectrum, with clearing for flexible use beginning at 3.7 GHz and moving higher up in the band as more spectrum is cleared. The Commission also seeks comment on potential changes to the Commission's rules to promote more efficient and intensive fixed use of the band on a shared basis starting in the top segment of the band and moving down the band. To add a mobile, except aeronautical mobile, allocation and to develop rules that would enable the band to be transitioned for more intensive fixed and flexible uses, the Commission encourages commenters to discuss and quantify the costs and benefits associated with any proposed approach along with other helpful technical or procedural details.
	2. Questions were brought up in 802.24 meeting at the plenary and 802.22 at the leadership meeting that Saturday, to watch this one.
	3. NPRM came out in Federal Register on 29 Aug: [<click here>](https://www.federalregister.gov/documents/2018/08/29/2018-18288/expanding-flexible-use-of-the-37-to-42-ghz-band?utm_campaign=subscription%20mailing%20list&utm_source=federalregister.gov&utm_medium=email)
		1. Comments are due on or before October 29, 2018;
		2. Reply comments are due on or before November 27, 2018.
		3. .18 chair sent to .11, .15, .22 and .24 chairs.
	4. If no contributions will plan to move to monitor. (At the Thursday meeting we decided to drop.)
6. Chair reviewed Slide 20, AOB for today
7. We recessed at 11:35

**Thursday, July 12th, 2018, AM1**

1. The Chair, Jay Holcomb, called the meeting to order at 8:03 local.
	1. About 15 people in the room
2. The Chair used the agenda meeting plan document 18-18/0111r02
3. The Chair presented Slide 21, Thursday Agenda
	1. Reminder of IEEE policies we are under.
		1. Attendance server is open.
		2. Remember to state your name, affiliation, employer and/or clients first time you speak.
	2. Need a recording secretary
		1. Peer Ecclesine (Cisco Systems) volunteered.
	3. Items from Tuesday or new.
		1. Anything we can do to prepare for 6 GHz NPRM?
	4. Actions Required
	5. AOB
	6. Adjourn
4. Chair reviewed Slide 22 - 25, 6 GHz and single voice from IEEE 802
	1. See above for history and related links.
	2. Is there anything we could do ahead of time to prepare for the calls?
	3. There are just a few of the many filings posted we should look at it that is indicating the direction(s) of the overall proceeding.
		1. See next couple of slides.
	4. .18 chair will add to agenda for 27 September teleconference to get feedback from members on these filings and if or how they may help IEEE 802 get to a single voice.
		1. We will also define some color coding on triage of the NPRM as many folks will be reviewing the NPRM and trying to help coordinate.
	5. If the draft NPRM comes out on 03 October, the agenda for our weekly teleconference on 04 October will focus on the NPRM.
		1. Side note, the .18 chair will be sure a good word document is on the .18 Mentor site.
	6. Remember, NPRMs have 2 primary categories to consider.
		1. Actual proposed rules to comment on.
		2. And answering appropriate ‘seek comment’ questions. There could be many.
	7. There is 2+ weeks before the FCC open meeting for initial feedback to the FCC, which could update the final NPRM.
	8. **Here are some of the more important filings to help show the direction the filing is going, considering the different interest groups.**
		1. [https://ecfsapi.fcc.gov/file/109113089205438/SPA%20Comments%20(Sep%2011%202018)(FINAL).pdf](https://ecfsapi.fcc.gov/file/109113089205438/SPA%20Comments%20%28Sep%2011%202018%29%28FINAL%29.pdf)
			* Response to FWCC and Comscope.
		2. <https://ecfsapi.fcc.gov/file/109112152615349/Wi-Fi%20Alliance%20Comments%20on%20Spectrum%20Pipeline%20Act%20Report.pdf>
			* This is the refined position, with some changes.
		3. <https://ecfsapi.fcc.gov/file/1090794008994/WInnForum%20Comments%20on%20Spectrum%20Pipeline%20Act%20PN%20-%20Final.pdf>
			* Wanting to make 6 GHz like the 3.5 GHz for sharing.
		4. [https://ecfsapi.fcc.gov/file/1082899870012/2018-08-28%20ExP%20RLAN%20issues%20AS%20FILED%20(01229194xB3D1E).pdf](https://ecfsapi.fcc.gov/file/1082899870012/2018-08-28%20ExP%20RLAN%20issues%20AS%20FILED%20%2801229194xB3D1E%29.pdf)
			* The 4 big mobile operators. 1000 new receivers that are activated per year, now, under current rules. Doesn’t include all the changes also going on.
		5. <https://ecfsapi.fcc.gov/file/10824085329605/Commscope%208.22.18%20Mtg%20Ex%20Parte.pdf>
			* Primary frequency coordination, so has lots of history/experience for frequency coordination..
		6. <https://ecfsapi.fcc.gov/file/108080219920074/WFA%20Ex%20Parte%20Letter.pdf>
			* How to protect incumbents.
		7. <https://ecfsapi.fcc.gov/file/10717207604667/17-183%20FWCC%20ExP%20Notice%202018-07-17%20--%20AS%20FILED.pdf>
			* Read attachment.
		8. <https://ecfsapi.fcc.gov/file/1070541429397/7-5-18%20SES-Intelsat%20ex%20parte%20for%20McGrath%20and%20Javed.pdf>
			* Other 2 satellite operators.
		9. [https://ecfsapi.fcc.gov/file/104120372328746/6%20GHz%20OET%20and%20Bureaus%20Ex%20Parte%20(Apr.%2012%2C%202018).pdf](https://ecfsapi.fcc.gov/file/104120372328746/6%20GHz%20OET%20and%20Bureaus%20Ex%20Parte%20%28Apr.%2012%2C%202018%29.pdf)
			* OET debriefing, lots of points covered. Gets you up to April 2018.
		10. This came in later.
		11. [https://ecfsapi.fcc.gov/file/101261169015803/6%20GHz%20Ex%20Parte%20(Bureaus).pdf](https://ecfsapi.fcc.gov/file/101261169015803/6%20GHz%20Ex%20Parte%20%28Bureaus%29.pdf)
			* For 6 GHz interest, we should begin with the RKF Study for sharing 1200 MHz above 5925 MHz
		12. Some of the primary interest groups.
			* Broadcast
			* Satellite
			* Coordinator
			* Skipped over utilities (will be protected; looking further asking for protection) [<see latest>](https://ecfsapi.fcc.gov/file/1072827774513/UTC%20ex%20parte%207-27-2018.doc)
			* Skipped over public safety (going to First Net) (some discussion how backbone will work)
			* No federal government uses
		13. Some additional notes.
			* This band with 9 sets of rules is a very unique band in that respect.
			* To add to the possible list of option for a single voice for IEEE 802: have a view on spectrum management of the band. (and maybe more silent on the rest).
5. Chair reviewed Slide 26, Actions Required
	1. .18 chair to send out note for 27 September teleconference to remind all to review 6 GHz filings so we all can be on same page where the proceeding is heading.
		1. Remember some previous options for 6 GHz and single voice from IEEE 802 is at: [<doc>](https://mentor.ieee.org/802-ec/dcn/18/ec-18-0133-00-00EC-how-can-ieee-802-get-to-a-single-voice-for-6ghz-band.pptx)
	2. .18 chair to send out special notice for 04 October teleconference if the draft NPRM does come out 03 October.
		1. (.18 Chair will post NPRM on mentor)
	3. Outline on spectrum management / multiple data bases, for .18 discussion.
	4. Monitor:
		1. 6 GHz and single voice from IEEE 802. [<doc>](https://mentor.ieee.org/802-ec/dcn/18/ec-18-0133-00-00EC-how-can-ieee-802-get-to-a-single-voice-for-6ghz-band.pptx)
		2. Sharing and license-exempt;
			* Additional Fixed Service (FS) Protection ex parte [<doc>](https://mentor.ieee.org/802.18/dcn/18/18-18-0097-00-0000-ex-parte-next-data-base-6-ghz-additional-fs-protection-discussion.pdf)
			* Next Generation Spectrum Management (NGSM) [<doc>](https://mentor.ieee.org/802.11/dcn/18/11-18-1386-00-0wng-ngsm-next-generation-spectrum-management.pptx)
			* 802.11 WNG proposal on Future of Unlicensed Spectrum [<doc>](https://mentor.ieee.org/802.11/dcn/18/11-18-1055-03-0wng-a-future-for-unlicensed-spectrum.pptx)
			* A perspective on regardless of everything we do, the available spectrum has a hard limit [<doc>](https://mentor.ieee.org/802.18/dcn/18/18-18-0060-02-0000-a-future-for-unlicensed-spectrum.pptx)
			* Including push to bi-directional sharing [<doc>](https://mentor.ieee.org/802-ec/dcn/18/ec-18-0155-00-00EC-push-to-bi-directional-spectrum-sharing.pptx)
	5. Other:
		1. EU Spectrum Management Statement
		2. FCC NPRM on 3.7-4.2 GHz, any inputs [<doc>](https://mentor.ieee.org/802.18/dcn/18/18-18-0076-01-0000-nprm-3-7-4-2ghz-gn-18-122.pdf)
		3. Google waiver
6. Chair reviewed Slide 24, Any Other Business
	1. **Note, the November Plenary meeting in Bangkok announcement is out.**
		1. If we need additional sessions, will do Ad Hocs.
		2. (Will leave Thursday AM2, as an extra time slot due to NPRM possibility)
	2. Straw Poll: How many people would like to come back to this venue?
		1. Yes -- # 7
		2. No – # 5
		3. Like the Social – # 9
		4. Disliked the Social – # 0
		5. Did not go to Social – # 2
7. Chair reviewed Slide 25, Adjourn
	1. Next teleconference: 27 Sept 2018 – *15:00 – <15:55* ET
		1. Note: No teleconference on 20 September.
		2. Call in info: <https://mentor.ieee.org/802.18/dcn/16/18-16-0038-10-0000-teleconference-call-in-info.pptx> (*or latest)*
		3. Note: If the call-in link doesn’t work send the Chair an email right away.
		4. All changes/cancellations will be sent out to the 802.18 list server.
	2. The next face to face meeting of the 802.18 RR-TAG will be at the IEEE 802 Plenary 11-16 Nov 2018 at the, Marriott Marquis Bangkok, Thailand.
		1. Time slots, Tuesday AM2 and Thursday AM1 only
	3. Adjourn:
		1. We are the end of our agenda, any objection to Adjourn.
		2. None heard, we are Adjourned at 09:17local time, 13 Sept 2018
8. Thank You
9. The Thursday AM2 extra meeting was cancelled.