

**From:** "Shellhammer, Steve" <sshellha@QUALCOMM.COM>  
**Subject:** [802SEC] Updated PAR/5C and Responses to Comments  
**Date:** 18 November 2009 4:27:45 PM EST  
**To:** STDS-802-SEC@LISTSERV.IEEE.ORG  
**Reply-To:** "Shellhammer, Steve" <sshellha@QUALCOMM.COM>

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Executive Committee Members,

The PAR/5C has been revised in response to comments we received.

The revised PAR is available at,

<https://mentor.ieee.org/802.19/dcn/09/19-09-0078-05-tvws-tvws-coexistence-par.doc>

The revised 5C is available at,

<https://mentor.ieee.org/802.19/dcn/09/19-09-0081-02-tvws-5cs-with-text-agreed-on-by-the-sg.doc>

The responses to the comments we received is available is at,

<https://mentor.ieee.org/802.19/dcn/09/19-09-0096-00-tvws-responses-to-comments-on-the-802-19-1-par.ppt>

Steve

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This email is sent from the 802 Executive Committee email reflector. This list is maintained by Listserv.

**From:** Wendong HU <wendong.hu@ST.COM>  
**Subject:** [802SEC] Response to comments on 802.22 PAR/5c and 802.22 PAR/5C (resent with links)  
**Date:** 18 November 2009 5:32:35 PM EST  
**To:** STDS-802-SEC@LISTSERV.IEEE.ORG  
**Reply-To:** Wendong HU <wendong.hu@ST.COM>  
3 Attachments, 143 KB

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EC,  
Please see the responses contained in the attached documents and/or pointed to by the following URLs:

Doc: 22-09-236 (<https://mentor.ieee.org/802.22/dcn/09/22-09-0236-00-0000-responses-to-comments-on-802-22-par-modification.ppt>)

Doc: 22-09-237  
(<https://mentor.ieee.org/802.22/dcn/09/22-09-0237-00-0000-comment-response-for-802-22-and-802-22-3-par-5c.ppt>)

Regards,

Wendong

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[Response to ...oc \(37.5 KB\)](#) [80216-09\\_0...doc \(47.5 KB\)](#) [80216-09\\_0...doc \(58.5 KB\)](#)

## Comments of IEEE 802.16 Working Group on Proposed P802.22 PAR Modification

The IEEE 802.16 Working Group has reviewed the draft P802.22 PAR modification (IEEE 802.22-09/0159r7) and offers the following comments.

**Comment 1:** In Section 13 (Scope of Proposed Project):

The VHF/UHF bands include both licensed and unlicensed spectrum in the 54 MHz and 862 MHz range. Some of this licensed spectrum has been auctioned by the FCC to Mobile operators. We believe the P802.22 project is intended for unlicensed applications in the TV Whitespace (TVWS) bands.

Also, as P802.22 was originally intended for fixed base station installations and now portable devices need to be supported, we propose to clarify this distinction. So we would like the scope to be clarified as follows (see blue text):

“This standard specifies the air interface, including the medium access control layer (MAC) and physical layer (PHY), of **fixed** point-to-multipoint wireless regional area networks **comprised of a fixed base station with ~~for~~ fixed and portable user terminals** operating in the **unlicensed** VHF/UHF TV broadcast bands between 54 MHz and 862 MHz (**TV Whitespace**).”

Resolution: 802.22 WG disagrees with the reinsertion of the word “fixed”. By supporting portable user terminals in 802.22, the wireless regional area networks can not be considered as fixed from the regulatory point of view. 802.22 WG agrees with the rest of the suggested changes.

**Comment 2:** In Section 19. Additional Explanatory Notes:

The following statement is not clear.

“Item 4: “Wireless Regional Area Network” (“WRAN”) - a **point-to-multipoint** network for operation over large, potentially sparsely populated areas (e.g. rural areas) **for fixed user terminals**, taking advantage of the favorable propagation characteristics in the VHF and low UHF TV bands **as well as for portable user terminals operating over a likely smaller area with sufficient margin to the fixed base station.**”

1. What does “sufficient margin to the fixed base station” imply?

Resolution: change “as well as for portable user terminals operating over a likely smaller area with sufficient margin to the fixed base station” to “as well as for portable user terminals operating over a likely smaller area around the base station.”

2. Shouldn't *Item 4* also address interference requirements for portable devices as well?

Resolution: the interference requirements for portable devices to protect incumbent need to be the same as those for the fixed devices.

## Comments of IEEE 802.16 Working Group on Proposed P802.22.3 PAR

The IEEE 802.16 Working Group has reviewed the draft P802.22.3 PAR (802.22-09/0165r5) and offers the following comments.

### General Comments:

1. This is a clearly immature document, with significant level of self-inconsistency and ambiguity. It has not reached the level of clarity that is required for acceptance of a PAR at NesCom.  
Response: 802.22 WG believes the revised document meets the requirements as an acceptable PAR at NesCom.
2. The PAR needs to be self-contained, and terminology (examples: Mode 1, Mode II, Scalable, Seamless handoff, ....) should be clearly defined and not require the use of external references except for background information.  
Response: 802.22 WG believes the revised document addresses the concerns.
3. The Working Group Chair's name is misspelled in Section 3.1  
Response: This is corrected in the revised document.

### Specific Comments/Suggested Remedies:

#### Comment 1: Distinct Identity issue

We have questions on distinct identity of Portable 802.22.3 WRAN cells versus 802.11 WLANs operating in the TV Whitespace. We believe that Wireless Local Area Networks are addressed better by IEEE Std 802.11. We also note that this statement in the notes section (8.1) indicates a violation of distinct identity: "*Scalable WRAN services may include: 1) wireless broadband access, 2) WiFi-like services to end-users, and 3) seamless integrations of the above 1) and 2)*".

Response: One distinct identity of Portable 802.22.3 WRANs versus 802.11 WLANs is the capability of 802.22.3 devices to communicate with 802.22 WRAN devices in an interoperable manner. 802.22 WG believes that 802.22.3 WRAN is an appropriate alternative to 802.11 WLAN to address wireless broadband access over small communication ranges in the TV bands especially when 802.22 WRANs are to be operated. The quoted statement has been revised.

#### Comment 2: In Section 5.2 (Scope of Proposed Standard )

We see no text indicating that this P802.22.3 standard would support compatibility with the P802.22 project, except for the vague statement "*The IEEE 802.22.3 standard is intended to be integrated to IEEE 802.22 standard*" in the notes.

To maintain distinct identity, it would be appropriate to support backward compatibility with P802.22 instead of defining a completely incompatible PHY or MAC specification.

Response: 802.22 WG agrees that P802.22.3 technology be compatible with the 802.22 technology. This is indicated in the 5C. New text has been added in section 8.1 (additional explanatory notes) to highlight the interoperability between 802.22.3 and 802.22 technologies.

**Comment 3:** In Section 5.2 (Scope of Proposed Standard):

What does “*scalable operations*” imply? What is not within such a scope? We believe it is too broad and unclear. Perhaps it would be beneficial to itemize those aspects that are not included within the concept of “scalability”.

Response:

The following definition of scalable WRAN operations has been added to the revised PAR document:

Scalable WRAN operations: deployments and communications of WRAN devices in flexible network topologies and network coverage with flexible communication range for a variety of in-door and our-door wireless broadband access services.

We don't believe enumerating what “scalability” is not would be helpful.

**Comment 4:** In Section 8.1 Additional Explanatory Notes:

1. What does “*Scalable WRAN communication ranges*” mean? Does it include typical ranges of WMANs, WLANs, WPANs, and Wireless Body Area Networks?

Response: “*Scalable WRAN communication ranges*” refers to variable ranges of communications as allowed for fixed and personal/portable devices in the FCC rules. It includes typical ranges of from 10s of meters to 10s of kilometers.

2. What does the phrase “*seamless handoff*” imply here? Does this mean handoff within the fixed WRAN network (intra-network) or across fixed and portable WRAN cells (inter-network)? We believe the term “seamless” in connection to handoff is superfluous. Also, is handoff to P802.22 supported?

Response: The phrase “seamless handoff” means inter-network handoff between fixed and the portable WRAN cells as well as between different portable WRAN cells. We agree “seamless” is superfluous. Text has been modified accordingly.

**From:** Bruce Kraemer <bkraemer@MARVELL.COM>  
**Subject:** [802SEC] responses to comments on 802.11 PARs corrected link  
**Date:** 18 November 2009 5:23:37 PM EST  
**To:** STDS-802-SEC@LISTSERV.IEEE.ORG  
**Reply-To:** Bruce Kraemer <bkraemer@MARVELL.COM>

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Dear SEC,  
I included a bad link previously.

Please find two files on the mentor regarding the WG11 approved responses to comments on our TVWS and QoSMAN PARs.

<https://mentor.ieee.org/802.11/dcn/09/11-09-1240-02-tvws-compiled-comments-on-802-11-tvws-par-and-5c-with-replies.doc>

<https://mentor.ieee.org/802.11/dcn/09/11-09-1241-02-00qm-qosman-par-comment-resolutions.xls>

Regards,  
Bruce Kraemer  
Chair 802.11

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This email is sent from the 802 Executive Committee email reflector. This list is maintained by Listserv.

**From:** "Richard Kennedy" <rikennedy@rim.com>  
**Subject:** 802.16 Comments to 802.11 TVWS SG  
**Date:** 19 November 2009 12:22:34 PM EST  
**To:** "Roger B. Marks" <r.b.marks@ieee.org>  
**Cc:** "Bruce Kraemer" <bkraemer@MARVELL.COM>

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Roger:

During our comment review process, the 802.11 TVWS SG reviewed and wrote responses to all of the 802.16 comments you had forwarded to me. Unfortunately, when I compiled all of our responses into the document that was uploaded, I failed to cut and paste the results of our review of you comments into the document that was uploaded yesterday at 5:00. Compounding my error, when the Study Group made the changes to the PAR and 5C we worked from that document.

I have since revised both the comment responses document (11-09/1240r4) and our PAR and 5C document (11-09/934r7) to incorporate those responses.

I take full responsibility for the error and hope that it does not affect your deliberations on our PAR. The group has worked very diligently on understanding and providing meaningful responses to a large number of comments, and I would hate to have this error minimize in any way that effort.

Thank you.

**Rich Kennedy**  
Standards Manager  
Research In Motion  
+1 (972) 207-3554  
[rikennedy@rim.com](mailto:rikennedy@rim.com)

IEEE 802.11 TVWS Study Group Chair  
IEEE 802.11 to 802.18 Liaison  
IEEE 802.11 Regulatory Ad Hoc Committee Chair  
Wi-Fi Alliance Regulatory Task Group Chair

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**From:** Bruce Kraemer <bkraemer@MARVELL.COM>  
**Subject:** [802SEC] Revised comment replies, PAR & 5C for 802.11 TVWS  
**Date:** 19 November 2009 11:35:26 AM EST  
**To:** STDS-802-SEC@LISTSERV.IEEE.ORG  
**Reply-To:** Bruce Kraemer <bkraemer@MARVELL.COM>

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Dear EC,

802.11 has further reviewed and modified its reply to comments received on its TV White Space PAR and 5C.

As a result of this extended discussion we offer a new compilation of replies that more thoroughly responds to comments and more broadly complies with suggested changes:

<https://mentor.ieee.org/802.11/dcn/09/11-09-1240-04-tvws-compiled-comments-on-802-11-tvws-par-and-5c-with-replies.doc>

Based upon the updated thoughts we have also revised the Par and 5C.

<https://mentor.ieee.org/802.11/dcn/09/11-09-0934-07-tvws-draft-par-and-5c.doc>

Let me know if you have any further questions or comments that the working group needs to consider prior to the Friday afternoon EC meeting.

Regards,  
Bruce

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**From:** Bruce Kraemer <bkraemer@MARVELL.COM>  
**Subject:** [802SEC] Revised comment replies, PAR & 5C for 802.11 TVWS  
**Date:** 19 November 2009 4:45:38 PM EST  
**To:** STDS-802-SEC@LISTSERV.IEEE.ORG  
**Reply-To:** Bruce Kraemer <bkraemer@MARVELL.COM>

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Dear EC,

During this afternoon 802.11 again reviewed and modified its reply to comments received on its TV White Space PAR and 5C.

The compilation of replies sent to you earlier today was not changed:

<https://mentor.ieee.org/802.11/dcn/09/11-09-1240-04-tvws-compiled-comments-on-802-11-tvws-par-and-5c-with-replies.doc>

However we have made further changes to the PAR & 5c based upon the updated the above.

<https://mentor.ieee.org/802.11/dcn/09/11-09-0934-08-tvws-draft-par-and-5c.doc>

I apologize for what might be viewed as churn but we are working as hard and fast as we can to constructively respond to comments received and develop improved PAR & 5C documents.

Let me know if you have any further questions or comments that the working group needs to consider prior to the Friday afternoon EC meeting.

Regards,  
Bruce

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