UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VOLKSWAGEN GROUP OF AMERICA, INC.,
Petitioner

v.

NEO WIRELESS, LLC
Patent Owner

Case IPR2023-00426
U.S. Patent No. 8,467,366

DECLARATION OF RICHARD M. BEMBEN

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P.O. Box 1450
Alexandria, VA 22313-1450

I, Richard M. Bemben, declare the following:

1. I am a Director in the Electronics Practice Group at Sterne, Kessler, Goldstein & Fox, P.L.L.C. Unless otherwise stated, the facts stated in this Declaration are based on my personal knowledge. If called as witness, I could and would testify competently to the information set forth in this Declaration.

2. Attachments 1-8 are true and correct copies of printouts I personally obtained using a web browser from the Internet Archive (https://archive.org/). Other than adding page numbers to the bottom of every page, to my knowledge, no other alterations were made to Attachments 1-8.

3. Attachment 1 is a true and correct copy of a printout of a webpage titled "Using The WayBack Machine," available at https://help.archive.org/help/using-the-wayback-machine/, that I personally obtained using a web browser. This webpage explains the date code that is embedded in URL archived by the Internet Archive's WayBack Machine: "This is the list of numbers in the middle; it translates as yyyymmddhhmmss. For example in this url http://web.archive.org/web/20000229123340/http://www.yahoo.com/ the date the site was crawled was Feb 29, 2000 at 12:33 and 40 seconds." Attachment 1 at 9.

4. Attachment 2 is a true and correct copy of a printout of the IEEE 802.16 working group's homepage that was archived on June 5, 2002

("20020605"), and is available at the URL: https://web.archive.org/web/20020605074528/https://www.ieee802.org/16/. I personally obtained Attachment 2 using a web browser.

5. Attachment 3 is a true and correct copy of a printout of the webpage titled "Search 802.16 Webspace" that was archived on June 15, 2002 ("20020615"), and is available at the URL: https://web.archive.org/web/20020615102517/http://ieee802.org/16/search.html. I personally obtained Attachment 3 using a web browser by selecting the link titled "Search 802.16 Webspace" at the bottom of the webpage shown in Attachment 2. Attachment 2 at 13.

6. Attachment 4 is a true and correct copy of a printout of the webpage titled "IEEE Standards Websearch: Search" that was archived on July 9, 2000 ("20000709"), and is available at the URL: https://web.archive.org/web/20000709175956/http://odysseus.ieee.org/?rq=0&col=stds&op0=+&fl0=url:&ty0=w&tx0=802/16&op1=+&fl1=&ty1=w&tx1=author:&op2=-&fl2=&ty2=w&tx2=&dt=an&inthe=604800&amo=10&ady=6&ayr=1999&bmo=10&bdy=13&byr=1999&nh=10&rf=1&lk=1&qp=&qt=&qs=&qc=stds+allieee&pw=100%&qm=0&st=1&oq=&rq=0&ql=a. I personally obtained Attachment 4 using

a web browser by selecting the link titled "Search By Document Author" in the webpage shown in Attachment 3. Attachment 3 at 15.

7. Attachment 5 is a true and correct copy of a printout of the webpage titled "IEEE 802.16 News" that was archived on March 5, 2002 ("20020305"), and is available at the URL: https://web.archive.org/web/20020305043248/http://ieee802.org/16/news.html. I personally obtained Attachment 5 using a web browser by selecting the link titled "802.16 News Archive" in the webpage shown in Attachment 2 (the IEEE 802.16 working group's homepage). Attachment 2 at 13. The webpage shown in Attachment 5 includes a link ("*Letter from ETSI BRAN*") to a letter dated October 26, 2001, a copy of which was provided as Exhibit 1016 in this proceeding. Attachment 5 at 19.

8. Attachment 6 is a true and correct copy of a printout of the webpage that was archived on June 15, 2002 ("20020615"), and is available at the URL: https://web.archive.org/web/20020615102532/http://ieee802.org/16/tgs.html. I personally obtained Attachment 6 using a web browser by selecting the link titled "Task Groups and Committees" in the webpage shown in Attachment 2 (the IEEE 802.16 working group's homepage). Attachment 2 at 13.

9. Attachment 7 is a true and correct copy of a printout of the webpage titled "IEEE 802.16 Task Group 3" that was archived on June 11, 2002

("20020611", and is available at the URL:

https://web.archive.org/web/20020611183108/http://ieee802.org/16/tg3/index.html

. I personally obtained Attachment 7 using a web browser by selecting the link titled "Task Group 3: Licensed Bands" in the webpage shown in Attachment 6. Attachment 6 at 25.

10. Attachment 8 is a true and correct copy of a printout of the webpage titled "IEEE 802.16 Task Group 3/4 Documents" that was archived on June 18, 2002 ("20020618"), and is available at the URL:

https://web.archive.org/web/20020618005409/http://www.ieee802.org/16/tg3_4/index.html. I personally obtained Attachment 8 using a web browser by selecting the link titled "Task Group 3/4 Joint Documents" in the webpage shown in Attachment 7. Attachment 7 at 27. In the webpage shown in Attachment 8, the last link under the heading "Documents" is to "802.16ab-01/01r2." Attachment 8 at 35.

11. I declare and state that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed on this 20th day of January 2023, in Arlington, VA,

Richard M. Bemben

ATTACHMENT 1

INTERNET ARCHIVE

USING THE WAYBACK MACHINE

0 198 95

This introduction video provides an overview for how to use the Wayback Machine, including information about searching by URL or keyword, understanding provenance, and saving your own pages, along with other features.

Can I link to old pages on the Wayback Machine?

Yes! The Wayback Machine is built so that it can be used and referenced. If you find an archived page that you would like to reference on your Web page or in an article, you can copy the URL. You can even use fuzzy URL matching and date specification… but that's a bit more advanced.

How can I use the Wayback Machine's Site Search to find websites?

The Site Search feature of the Wayback Machine is based on an index built by evaluating terms from hundreds of billions of links to the homepages of more than 350 million sites. Search results are ranked by the number of captures in the Wayback and the number of relevant links to the site's homepage.

Can I search the Archive?

Using the Internet Archive Wayback Machine, it is possible to search for the names of sites contained in the Archive (URLs) and to specify date ranges for your search. We hope to implement a full text search engine at some point in the future.

Why isn't the site I'm looking for in the archive?

Some sites may not be included because the automated crawlers were unaware of their existence at the time of the crawl. It's also possible that some sites were not archived because they were password protected, blocked by robots.txt, or otherwise inaccessible to our automated systems. Site owners might have also requested that their sites be excluded from the Wayback Machine.

How can I exclude or remove my site's pages from the Wayback Machine?

If you would like to submit a request for archives of your site or account to be excluded from web.archive.org, send us a request to info@archive.org and indicate:

- the URL or URLs of the material
- the time period that you wish to have excluded
- the time period during which you had control of the site or relevant user account (if applicable) and
- any other information that you think would be helpful for us to better understand your request.

This will initiate a review by our team. We do not make any guarantees beforehand about the outcome of a request.

How can I use the Wayback Machine's Site Search to find websites?

The Site Search feature of the Wayback Machine is based on an index built by evaluating terms from hundreds of billions of links to the homepages of more than 350 million sites. Search results are ranked by the number of captures in the Wayback and the number of relevant links to the site's homepage.

How can I get a copy of the pages on my Web site? If my site got hacked or damaged, could I get a backup from the Archive?'

Our terms of use do not cover backups for the general public. However, you may use the Internet Archive Wayback Machine to locate and access archived versions of a site to which you own the rights. We can't guarantee that your site has been or will be archived. We can no longer offer the service to pack up sites that have been lost.

Can I add pages to the Wayback Machine?

On https://archive.org/web you can use the "Save Page Now" feature to save a specific page one time. This does not currently add the URL to any future crawls nor does it save more than that one page. It does not save multiple pages, directories or entire sites.

Where is the rest of the archived site? Why am I getting broken or gray images on a site?

Broken images occur when the images are not available on our servers. Usually this means that we did not archive them.

You can tell if the image or link you are looking for is in the Wayback Machine by entering the image or link's URL into the Wayback Machine search box. Whatever archives we have are viewable in the Wayback Machine.

The best way to see all the files we have archived of the site is: http://web.archive.org/*/www.yoursite.com/*

There is a 3-10 hour lag time between the time a site is crawled and when it appears in the Wayback Machine.

Why are some sites harder to archive than others?

If you look at our collection of archived sites, you will find some broken pages, missing graphics, and some sites that aren't archived at all. Some of the things that may cause this are:

Robots.txt — A site's robots.txt document may have prevented the crawling of a site.
Javascript — Javascript elements are often hard to archive, but especially if they generate links without having the full name in the page. Plus, if javascript needs to contact the originating server in order to work, it will fail when archived.
Server side image maps — Like any functionality on the web, if it needs to contact the originating server in order to work, it will fail when archived.
Orphan pages — If there are no links to your pages, the robot won't find it (the robots don't enter queries in search boxes.)
As a general rule of thumb, simple html is the easiest to archive.
Can I find sites by searching for words that are in their pages?

No, at least not yet. Site Search for the Wayback Machine will help you find the homepages of sites, based on words people have used to describe those sites, as opposed to words that appear on pages from sites.

Can I still find sites in the Wayback Machine if I just know the URL?

Yes, just enter a domain or URL the way you have in the past and press the "Browse History" button.

Why are some of the dots on the calendar page different colors?

We color the dots, and links, associated with individual web captures, or multiple web captures, for a given day. Blue means the web server result code the crawler got for the related capture was a 2nn (good); Green means the crawlers got a status code 3nn (redirect); Orange means the crawler got a status code 4nn (client error), and Red means the crawler saw a 5nn (server error). Most of the time you will probably want to select the blue dots or links.

How does the Wayback Machine behave with Javascript turned off?

If you have Javascript turned off, images and links will be from the live web, not from our archive of old Web files.

How did I end up on the live version of a site? or I clicked on X date, but now I am on Y date, how is that possible?

Not every date for every site archived is 100% complete. When you are surfing an incomplete archived site the Wayback Machine will grab the closest available date to the one you are in for the links that are missing. In the event that we do not have the link archived at all, the Wayback Machine will look for the link on the live web and grab it if available. Pay attention to the date code embedded in the archived url. This is the list of numbers in the middle; it translates as yyyymmddhhmmss. For example in this url http://web.archive.org/web/20000229123340/http://www.yahoo.com/ the date the site was crawled was Feb 29, 2000 at 12:33 and 40 seconds.

You can see a listing of the dates of the specific URL by replacing the date code with an asterisk (*), ie: http://web.archive.org/*/www.yoursite.com

How do I cite Wayback Machine urls in MLA format?

This question is a newer one. We asked MLA to help us with how to cite an archived URL in correct format. They did say that there is no established format for resources like the Wayback Machine, but it's best to err on the side of more information. You should cite the webpage as you would normally, and then give the Wayback Machine information. They provided the following example: McDonald, R. C. "Basic Canary Care." _Robirda Online_. 12 Sept. 2004. 18 Dec. 2006 [http://www.robirda.com/cancare.html]. _Internet Archive_. [http://web.archive.org/web/20041009202820/http://www.robirda.com/cancare.html]. They added that if the date that the information was updated is missing, one can use the closest date in the Wayback Machine. Then comes the date when the page is retrieved and the original URL. Neither URL should be underlined in the bibliography itself. Thanks MLA!

How can I get pages authenticated from the Wayback Machine? How can I use the pages in court? While the Wayback Machine tool was not expressly designed with legal use in mind, we receive regular requests for certified records for use in legal proceedings. Our affidavit request procedure can be found here. Please review that information including our standard affidavit and the legal request FAQ section linked there to prior to contacting us.

Some sites are not available because of robots.txt or other exclusions. What does that mean?

Such sites may have been excluded from the Wayback Machine due to a robots.txt file on the site or at a site owner's direct request.

How can I get my site included in the Wayback Machine?

Much of our archived web data comes from our own crawls or from Alexa Internet's crawls. Neither organization has a "crawl my site now!" submission process. Internet Archive's crawls tend to find sites that are well linked from other sites. The best way to ensure that we find your web site is to make sure it is included in online directories and that similar/related sites link to you.

Alexa Internet uses its own methods to discover sites to crawl. It may be helpful to install the free Alexa toolbar and visit the site you want crawled to make sure they know about it.

Regardless of who is crawling the site, you should ensure that your site's 'robots.txt' rules and in-page META robots directives do not tell crawlers to avoid your site.

What is the Archive-It service of the Internet Archive Wayback Machine?

For information on the Archive-It subscription service that allows institutions to build and preserve collections of born digital content, see https://www.archive.org/about/faqs.php#Archive-It

Was this helpful? Yes No

198 / 95

Search

Search

Accounts
Archive-it Service
Archive.org
Archive.org General Information
Audio and Music Items Information
Books and Texts Information
Borrow a Book from Archive.org
Charges & Refunds
Collections
Company Matching & Amazon Smile
Disability Access
Donating Physical Items to the Archive
Donating to the Internet Archive
Donations
Downloading
Favorites
Files, Formats, and Derivatives
Forums
General Interest
Kid-Friendly
Managing and Editing Your Items
Media Players
Most Frequently Asked Questions
Movies and Videos
Organization Information
Reporting problems or errors
Search
Software
Tax Information
Technical Information
The Wayback Machine
Uploading

Wayback Machine & Web Archiving

Recent Posts

How to archive your Tweets with the Wayback Machine
Media Types for Donations
Does the Internet Archive Have My Media
File Formats
How do I request to remove something from archive.org?

ATTACHMENT 2

The Wayback Machine - https://web.archive.org/web/20020605074528/http://www.ieee802.org:80/16/

The IEEE 802.16 Working Group on Broadband Wireless Access Standards

creating the IEEE 802.16 **WirelessMAN**™ Standard for Wireless Metropolitan Area Networks

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The IEEE 802.16 Working Group on Broadband Wireless Access Standards develops standards and recommended practices to support the development and deployment of broadband Wireless Metropolitan Area Networks. 802.16 is a unit of the IEEE 802 LAN/MAN Standards Committee, the premier transnational forum for wireless networking standardization.

> *People often take the view that standardization is the enemy of creativity. But I think that standards help make creativity possible -- by allowing for the establishment of an infrastructure, which then leads to enormous entrepreneurialism, creativity, and competitiveness.*
> -Vint Cerf, TCP/IP co-developer and Internet pioneer, in Fast Company, April 2000.

News

- Session #19 took place in Calgary, Canada on 20-24 May 2002. The Session #19 Report overviews the highlights.
- Session #20: 7-12 July in Vancouver, BC, Canada
- IEEE Standard 802.16 published on 8 April 2002
- IEEE Std 802.16.2 now available as free download
- 802.16 Project Status Summary
- 802.16 News Archive
- IEEE 802 News Bulletin

General Information

- New: Technical Tutorial Article on IEEE Std 802.16
- Background Information on IEEE 802.16
- What People Are Saying about IEEE 802.16
- Published IEEE 802.16 Standards and Drafts
- Free IEEE 802 Standards

Details for Participants

- Upcoming Meetings (and previous ones)
- Task Groups and Committees
- Participants, Participation, and Membership
- Internet Resources
- Editorial Resources
- Legal Issues
- Working Group Documents (also see TG & Liaison pages)
- Tutorials
- Liaisons
- Submitting Documents
- Important Links
- Search 802.16 Webspace

This site was updated on 4 June 2002 by:

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Chair, IEEE 802.16 Working Group on Broadband Wireless Access Standards
National Wireless Electronic Systems Testbed (N-WEST)
National Institute of Standards and Technology, U.S. Department of Commerce
Boulder, CO, USA tel: +1-303-497-3037 fax: +1-303-497-7828

ATTACHMENT 3

The Wayback Machine - https://web.archive.org/web/20020615102517/http://ieee802.org:80/16/search.html

Search 802.16 Webspace

This is a full-text search of all formats, including HTML, PDF, & DOC!

- General Search
- Search by Document Number {*enter data at colon*}
- Search by Document Author {*enter data at colon*}

Return to 802.16 Page

ATTACHMENT 4

The Wayback Machine - https://web.archive.org/web/20000709175956/http://odysseus.ieee.org:80/?rq=0&col=stds&op0=+&fl0=url:&ty0=w&tx0=…

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and on or before October 13, 1999

and show

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(IEEE Standards Systems/Network Staff)

ATTACHMENT 5

The Wayback Machine - https://web.archive.org/web/20020305043248/http://ieee802.org:80/16/news.html

The IEEE 802.16 Working Group on Broadband Wireless Access Standards

IEEE 802.16 News

This news compilation is not exhaustive but covers key highlights. For additional unofficial reports, see N-WEST News.

26 February 2002
P802.16/D2 offered for sale in IEEE catalog
25 February 2002
Recirculation Ballot #4a Reply Comment Period opens
25 February 2002
Working Group Recirculation Ballot #4a closed
21 February 2002
IEEE issues Invitation to Ballot on P802.16a
14 February 2002
IEEE-SA Standards Board approves merger of 802.16b PAR into 802.16a
08 February 2002
Issue P802.16/D2 and initiate WG Recirculation Ballot #4a
04 February 2002
Request that IEEE issue Invitation to Ballot on P802.16a
04 February 2002
IEEE-SA NesCom approves PAR merger
24 January 2002
Working Group Letter Ballot #4 declared passed, pending comment resolution and recirculation.
21-25 January 2002
Session #17 was held in Levi, Finland. The Session #17 Report provides the details.
16 January 2002
Reply Comment Period in Working Group Letter Ballot #4 closed.
7 January 2002
Reply Comment Period opened following Working Group Letter Ballot #4.
4 January 2002
Working Group Letter Ballot #4 closed. See the details.
6 December 2001
IEEE Standard 802.16 is now an IEEE Standard, following approval by the IEEE-SA Standards Board on 6 December 2001. See the press release (or the IEEE version) for more details. Until publication, the final balloted draft remains available in IEEE Catalog.
5 December 2001
Standards Review Committee (RevCom) of the IEEE-SA Standards Board recommends approval of IEEE P802.16/D5 by the full board as IEEE Standard 802.16.
30 November 2001
Working Group Letter Ballot on P802.16a/D1 opens; runs through 4 January 2002.
16 November 2001
IEEE 802 SEC passes motion to affirm submission of P802.16/D5 to RevCom.
16 November 2001
The Working Group (with the concurrence of IEEE 802 Executive Committee) approved a merger of Project P802.16b into an expanded P802.16a.
16 November 2001
A Working Group motion elevated P802.16a/D1 to Draft Standard status, with a Working Group Letter Ballot to start the week of 26 November.
12-16 November 2001
Session #16 was held in Austin, Texas, USA. The Session #16 Report provides the details.
7 November 2001
A Letter from ETSI BRAN informed IEEE 802.16 that, following consideration of several base-line proposals (based on IEEE 802.16, BWIF, and DVB-RCT), its HIPERMAN group has decided to choose, as its MAC baseline, the MAC-related clauses from IEEE P802.16/D5-2001 and IEEE P802.16ab-01/01r2. The same group made a "working assumption" that its baseline PHY would be the OFDM PHY from IEEE P802.16ab-01/01r2. ETSI BRAN noted that "These conclusions were motivated by the goal to provide one interoperable worldwide standard for the 2-11 GHz licensed bands."
2 November 2001
Reply-Comment Resolution Phase of Working Group Review underway through 8 November
2 November 2001
Reply-Comment Phase of Working Group Review closes
28 October 2001
Ballot of IEEE P802.16 WirelessMAN™ Air Interface Closes Successfully
28 October 2001
Confirmation Ballot of IEEE P802.16 WirelessMAN™ Air Interface Closes
26 October 2001
New P802.16a&b; Ballot Schedule shows complete timeline through final approval
22 October 2001
Reply-Comment Phase of Working Group Review underway through 2 November
22 October 2001

IEEE P802.16 WirelessMAN™ Air Interface (Draft 5) now available in IEEE Catalog

19 October 2001

Working Group Review of 2-11 GHz document closed

19 October 2001

Confirmation Ballot of IEEE P802.16 WirelessMAN™ Air Interface Opens

18 October 2001

Draft 5 of IEEE P802.16 WirelessMAN™ Air Interface released

4 October 2001

Recirculation Ballot of IEEE P802.16 WirelessMAN™ Air Interface Closed with 97% Approval

28 September 2001

Latest version of 2-11 GHz Working Document released; Working Group Review underway through 19 October

25 September 2001

Recirculation Ballot of IEEE P802.16 WirelessMAN™ Air Interface Opens

10-14 September 2001

Session #15 was held in Denver, Colorado, USA. The Session #15 Report provides the details.

11 September 2001

IEEE P802.16 WirelessMAN™ Air Interface Draft available for sale in IEEE catalog

10 September 2001

IEEE Std 802.16.2 published by IEEE

09 September 2001

IEEE P802.16 WirelessMAN™ Air Interface Completes IEEE Sponsor Ballot

27 August 2001

Comments collected in Final Task Group Review of 802.16a/802.16b Working Document

17 August 2001

Project Authorization Request P802.16.2a, to enhance 802.16.2, approved by IEEE-SA Standards Board

10 August 2001

IEEE P802.16 WirelessMAN™ Air Interface Proceeds to IEEE Sponsor Ballot

09 August 2001

IEEE 802 Sponsor Executive Committee forwards P802.16 for Sponsor Ballot

04 August 2001

Open of IEEE 802 SEC Email Ballot motion to forward P802.16/D4-2001 for Sponsor Ballot

03 August 2001

P802.16/D4 Approved by Working Group as Letter Ballot Concludes Successfully

02 August 2001

IEEE 802.16 Confirmation Ballot #3b closed.

30 July 2001

802.16a/802.16b Working Document released; in Final Task Group Review through August 27

23 July 2001

Confirmation Ballot #3b began on IEEE P802.16/D2-2001.

13 July 2001

The Sponsor Executive Committee of the IEEE LAN MAN Standards Committee approved the initiation of a Sponsor Ballot (the final balloting stage) of the base 802.16 draft, conditional on successful completion of a confirmation ballot. The Working Group expects to initiate Sponsor Ballot by early August and continues to expect publication of the standard in the fourth quarter of 2001.

13 July 2001

The Sponsor Executive Committee of the IEEE LAN MAN Standards Committee approved Project Authorization Request P802.16.2a to initiate work to enhance Recommended Practice 802.16.2 by including licensed bands from 2-11 GHz and expanding the recommendations for coexistence of point-to-multipoint with point-to-point communications at millimeter-wave bands. The request has been forwarded to the IEEE Standards Board for final approval, which is expected on August 16.

9-13 July 2001

Session #14 was held in Portland, Oregon, USA. The Session #14 Report provides the details.

06 July 2001

Document IEEE 802.16.2/D3-2001 ("Recommended Practice for Coexistence of Broadband Wireless Access Systems") was formally approved by the IEEE-SA Standards Board.

14 June 2001

Document IEEE 802.16.2/D3-2001 ("Recommended Practice for Coexistence of Broadband Wireless Access Systems") was approved by the IEEE-SA Standards Board. The approval was conditional on completing a few formalities.

7-8 June 2001

Task Groups 3 and 4 held an editorial meeting to unite their working documents.

14-18 May 2001

Session #13 was held in Orlando, Florida, USA. The Session #13 Report provides the details.

4 May 2001

Document IEEE 802.16.2/D3-2001 ("Recommended Practice for Coexistence of Broadband Wireless Access Systems") was submitted for approval to the IEEE-SA Standards Board's Review Committee. The document was in the final stages of Sponsor Ballot, which it completed, with 100% approval, on 16 May 2001.

20 March 2001

IEEE-SA News Release: IEEE 802.16 Group Achieves Key Milestones

17 March 2001

IEEE 802.16 is now working to create a unified Working Group air interface document with a common, flexible medium access control (MAC) platform supporting multiple physical layers (PHYs). The base document, entitled IEEE 802.16, will include the basic MAC and the 10-66 GHz PHY. Amendment 802.16a will include enhancements for 2-11 GHz licensed bands, and Amendment 802.16b will include enhancements for

license-exempt operation. The new project alignment was given final approval by the IEEE-SA Standards Board following a decision by the Working Group on 12 March, approved by the IEEE 802 Executive Committee on 15 March and the IEEE-SA New Standards Committee on 16 March.

12-15 March 2001

Session #12 was held in Hilton Head, South Carolina, USA. 178 people attended. The session was marked by final agreement to create a unified Working Group air interface document with a common, flexible medium access control (MAC) platform supporting multiple physical layers (PHYs). The Session #12 Report provides the details.

15 March 2001

IEEE Working Group 802.16 formed a Study Group to investigate future enhancements to "Coexistence of Broadband Wireless Access Systems". Phil Whitehead is the Chair.

14 March 2001

The 802.16a group agreed to incorporate both a single-carrier mode (based on 802.16.3c-01/32) and an OFDM mode (based on 802.16.3c-01/33r2). Drafting has been initiated on both PHY and MAC documents.

14 March 2001

Sponsor Ballot opened on "Coexistence of Broadband Wireless Access Systems", following 100% approval in Working Group Letter Ballot. The ballot will close on 12 April.

13 March 2001

Working Group Letter Ballot #3 closed. "Draft Standard Air Interface for Fixed Broadband Wireless Access Systems" was approved, pending comment resolution.

17 February 2001

IEEE 802.16 Recirculation Ballot #2b closed, with 100% approval of proceeding to Sponsor Ballot with "Coexistence of Broadband Wireless Access Systems".

07 February 2001

IEEE 802.16 Recirculation Ballot #2b seeks approval to close IEEE 802.16 Letter Ballot #2.

6 February 2001

"Draft Standard Air Interface for Fixed Broadband Wireless Access Systems" went to ballot as Working Group Letter Ballot #3 opened, with a closing date of 13 March.

30 January 2001

EE Times provided a full report on 802.16's Session #11 in the article IEEE group gains ground on wireless standards.

22-26 January 2001

Session #11 was held in Ottawa, Ontario, Canada. 167 people registered and attended. The session was marked by an agreement to create a unified Working Group air interface document, with a common, flexible MAC platform supporting multiple spectrum-dependent physical layers. The first stage (the 10-66 GHz physical layer and MAC to support it) was approved for a Working Group Letter Ballot. In the development of the 2-11 GHz physical layer, the focus was narrowed and consolidation is underway. The WirelessHUMAN™ Task Group held its first formal meetings to address licensed-exempt operations and found general consensus. A Recommended Practice on Coexistence was readied for Sponsor Ballot (its final round of balloting). The Session #11 Report provides the details.

20 January 2001

IEEE 802.16 Recirculation Ballot #2a closed.

18 January 2001

IEEE 802.16 held a "Meet and Greet" session, handing out literature and showing current drafts, at the 7th Annual Technical Symposium of the Wireless Communications Association.

16 January 2001

IEEE-SA News Release: New IEEE WirelessHUMAN™ Project Developing Standards for Fixed Wireless Access in License-Exempt Bands

10 January 2001

IEEE 802.16 Recirculation Ballot #2a seeks to approve resolution of the comments received in IEEE 802.16 Letter Ballot #2.

2 January 2001

Task Group 1 issued a Call for Comments on IEEE 802.16.1/D1-2000 with a deadline of 16 January.

30 December 2000

Task Group 1 issued Draft 1 of its Draft Standard for Air Interface for Fixed Broadband Wireless Access Systems (IEEE 802.16.1/D1-2000). The file is password-protected.

27 December 2000

Document IEEE 802.16.2/D1-2000 ("Recommended Practice for Coexistence of Broadband Wireless Access Systems") was approved, pending comment resolution and recirculation, in IEEE 802.16 Letter Ballot #2

15 December 2000

Five focused 802.16 email reflectors have been launched, for TG1, TG2, TG3, TG4, and the MAC. Details are available.

14 December 2000

Task Group 3 issued a Call For Contributions on Proposed MAC Enhancements, Key Characteristics, and Evaluation Criteria with a 17 January deadline.

12-14 December 2000

Task Group 1 Only held a Session #10.5 in San Diego, CA, USA.

7 December 2000

The IEEE-SA Standards Board approved 802.16's WirelessHUMAN™ PAR for License-Exempt Bands. Task Group 4 has issued a Call for Contributions with a deadline of 13 January 2001.

2 December 2000

Task Group 3 issued an Invitation To Contribute PHY Proposals with a 17 January deadline.

21 November 2000

The Session #10 Report was published.

20 November 2000

IEEE-SA News Release: IEEE 802.16 Group Makes Key Decisions on Fixed Broadband Wireless Access

17 November 2000

The Draft Recommended Practice for Coexistence of Broadband Wireless Access Systems went to ballot as Working Group Letter Ballot #2 opened, with a closing date of 27 December 2000.

6-9 November 2000

Session #10 was held in Tampa, Florida, USA. 211 people attended. A report is available.

25-26 October 2000

An Interim Meeting of TG2 (Coexistence Task Group) was held in Ottawa, Ontario, Canada.

2 October 2000

802.16 initiated a Marketing Committee, with Dean Chang of Aperto Networks as Chair.

1 October 2000

The 802.16 web site served up 432,351 file downloads during September. Revisions 1 and 2 of the IEEE 802.16.1 Air Interface for Broadband Wireless Access Systems (10-66 GHz) were downloaded 19749 times in August and September. Revisions 3 and 4 of the "Functional Requirements for the 802.16.3 Interoperability Standard" were downloaded 4329 times in August and September.

20 September 2000

The Session #9 Report was published.

11-15 September 2000

Session #9 was held in Denver, Colorado, USA. 144 people attended. 126 people attended during enough meeting intervals to receive credit for having "participated" in the session for membership purposes; this was just shy of the record 128 set at Session #8.

1 September 2000

The 802.16 web site served up 356,963 file downloads during August.

8 August 2000

Task Group 1 initiated a Final Task Group Review of the current version of the 802.16.1 Air Interface for Fixed Broadband Wireless Access Systems. The process is open to all, with comments due 1 September 2000. The intent is to use Session #9 to ready the document for a Working Group Letter Ballot.

1 August 2000

The 802.16 web site served up 350,020 file downloads during July.

25 July 2000

The IEEE Computer Society Standards Activities Board adopted the following motion: "Resolved that the IEEE Computer Society Standards Activities Board affirms the IEEE 802 Position Statement on IEEE 802.16 Broadband Wireless Access (BWA) Working Group Conflict of Interest with recent IEEE-ISTO announcement."

21 July 2000

IEEE 802.16 was mentioned in an EE Times article entitled Wireless Coalition Prompts IEEE Eruption.

20 July 2000

The Wireless Communications Association International (WCA) reported on the progress of 802.16 in an article entitled IEEE Groups Promote BWA Standards Planning, Dispute Overlapping Role.

17 July 2000

IEEE 802 issued a IEEE 802 Position Statement on IEEE 802.16 Broadband Wireless Access (BWA) Working Group Conflict of Interest with recent IEEE-ISTO announcement

21 July 2000

The Session #8 Report was published.

10-14 July 2000

Session #8 was held in La Jolla, California, USA. 165 people attended.

1 July 2000

IEEE's Computer Magazine (July 2000 issue) featured an article entitled "Broadband Fixed Wireless Travels the Last Mile" including a highlight box on "IEEE 802.16: A Fixed-Wireless Standard".

1 July 2000

The 802.16 web site served up 248,299 file downloads during June.

12-14 June 2000

802.16.2 Interim Meeting was held in Ottawa, Ontario, Canada.

2 June 2000

The 802.16 Working Group created Observer Status

1 June 2000

802.16.1 added a detailed MAC description to the invitation to a team of 36 individuals from 21 companies to present a unified MAC proposal at Session #8

1 June 2000

The 802.16 web site served up 230,777 file downloads during May. This was more than double the previous month.

30 May - 2 June 2000

802.16 Session #7.5 was held in Boulder, Colorado, USA; 18 people attended. This was a meeting only of the 802.16.1 Task Group, with a focus on the MAC.

8 May 2000

WirelessHUMAN™ Study Group participated at IEEE 802.11/802.15 session in Seattle

5 May 2000

802.16.1 decided to meet on 30 May - 2 June 2000 in Boulder, Colorado, USA in Session #7.5.

5 May 2000

802.16 agreed to proposal for cooperation agreement with ETSI standardization group

4 May 2000

802.16.1 accepted plans to withdraw two MAC proposals and instead invite a unified MAC proposal from team of 36 individuals from 21 companies

4 May 2000

802.16.1 selected initial draft physical layer based on merged proposal submitted by team of 27 people from 20 companies

1-5 May 2000

Session #7 was held in Gaithersburg, Maryland, USA; 158 people attended. The HIPERACCESS group of ETSI BRAN held a co-located session, and joint meetings were held.

19-20 April 2000
802.16.2 Meeting was held in Montreal, PQ, Canada
18 April 2000
New 802.16 Patent Policy and Procedures and Contribution Release incorporated in Revision 8 of the IEEE 802.16 Document Submission Template and Presentation Submission Template
30 March 2000
802.16.3 Project was approved by the IEEE-SA Standards Board
9 March 2000
802.16.3 Task Group created by 802.16 to develop air interface for Licensed Frequencies from 2-11 GHz; project was approved by IEEE 802
9 March 2000
The new WirelessHUMAN™ Study Group created for License-Exempt Bands
9 March 2000
New Regulatory Affairs Committee created.
6-9 March 2000
Session #6 held in Albuquerque, New Mexico, USA; 126 people attended
10-14 January 2000
Session #5 held in Richardson, Texas, USA; 119 people attended.
28 December 1999
IEEE 802.16 began formation of a Sponsor Balloting Pool [^]. Future 802.16 draft standards will be balloted by a Balloting Group drawn from members of the Balloting Pool. Participation in 802.16 in not a requirement for becoming a member of the Balloting Pool or Balloting Group.
17 December 1999
IEEE 802.16 published 802.16.1 Functional Requirements, Rev. 1 [^], which provides functional requirements for developing an interoperable 802.16.1 air interface. The document had been approved by 802.16 on November 11 during Session #4.
8-11 November 1999
Session #4 held in Koloa, Hawaii, USA
13-17 September 1999
Session #3 held in Boulder, Colorado, USA
4-6 August 1999
Session #2 held in Denver, Colorado, USA
6-8 July 1999
Session #1 held in Montreal, Quebec, Canada
10-12 May 1999
Session #0 held in Boulder, Colorado, USA
19 April 1999
IEEE-SA News Release: IEEE P802 LMSC Launches New Working Group, P802.16, on Broadband Wireless Access
15 April 1999
Final Report of the IEEE 802 Executive Committee Study Group on Broadband Wireless Access issued.
30 March 1999
802.16 email reflector "stds-802-16@ieee.org" goes on-line
22 March 1999
802.16 Web Site goes online
11 March 1999
IEEE 802.16 Working Group on Broadband Wireless Access created by IEEE 802. PAR for air interface (10-66 GHz) approved by IEEE 802.
9-11 March 1999
Second Session of IEEE 802 Study Group on Broadband Wireless Access. 54 people participated. Project Authorization Request (PAR) edited and submitted.
13-15 January 1999
First Session of IEEE 802 Study Group on Broadband Wireless Access, concurrently with meetings of IEEE 802.11 (Wireless LANs) and ETSI BRAN. Draft Project Authorization Request (PAR) developed.
12 November 1998
IEEE 802 creates Executive Committee Study Group on Broadband Wireless Access by unanimous vote.
10 November 1998
Nearly 50 people participated in an N-WEST Standardization Meeting held in conjunction with the Plenary Meeting of the IEEE "802" LAN/MAN Standards Committee.
9 November 1998
An N-WEST-organized Tutorial on Broadband Wireless Access Technology and Standards was presented to more 200 attendees at the IEEE "802" LAN/MAN Standards Committee Plenary Meeting.
9-10 August 1998
The N-WEST Kickoff Meeting was held, with 45 people in attendance.

This news compiled by:

Roger Marks (marks@nist.gov)
Chair, IEEE 802.16 Working Group on Broadband Wireless Access Standards

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ATTACHMENT 6

The Wayback Machine - https://web.archive.org/web/20020615102532/http://ieee802.org:80/16/tgs.html

802.16 Task Groups

- Task Group a: Developing P802.16a (2-11 GHz).
  Formerly organized as two Task Groups:
  - Task Group 3: Licensed Bands
  - Task Group 4: License-Exempt Bands
- Task Group c:Developing P802.16c (10-66 GHz Profiles)
- Task Group 2:Developing P802.16.2a (Coexistence)
- IEEE 802.16 Study Group on Mobile Broadband Wireless Access

802.16 Completed Projects

- IEEE Standard 802.16: Air Interface for 10-66 GHz
- IEEE Standard 802.16.2: Coexistence for 10-66 GHz

802.16 Committees

- Regulatory Affairs
- Publicity
- Ad Hoc IF Interface (expired)

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ATTACHMENT 7

The Wayback Machine - https://web.archive.org/web/20020611183108/http://ieee802.org:80/16/tg3/index.html

IEEE 802.16 Task Group 3

Task Group 3 has been merged into IEEE 802.16 Task Group a.

IEEE 802.16's Task Group 3 had been developing, under IEEE PAR 802.16a, an amendment to IEEE Standard 802.16 ("Air Interface for Fixed Broadband Wireless Access Systems"). This portion of the amendment covers "MAC Modifications and Additional Physical Layer for 2-11 GHz" in licensed bands.

- IEEE-SA Project Authorization Request (PAR) 802.16a (revision approved 2001-03-17)
- Archives of the 802.16 TG3 email reflector
- Subscribing to the 802.16 focused email reflectors
- Functional Requirements Document

Documents

- See also **Task Group 3/4 Joint Documents**
- 802.16.3-01/26
  IEEE 802.16a Task Group 3 Session #15 Minutes (01/09/14)
- 802.16.3-01/25
  TG3 Closing Plenary Report, Session 15 (01/07/13)
- 802.16.3-01/24
  IEEE 802.16 TG3 Session #14 Minutes (01/07/13)
- 802.16.3-01/23
  Call for Contributions on the Preamble Design for the OFDM-Based PHY (01/07/13)
- 802.16.3-01/22
  IEEE 802.16a Session #14 Closing Report (01/07/13)
- 802.16.3-01/21r1
  TG3 Agenda for Session #14 (01/07/09)
- 802.16.3-01/20
  IEEE 802.16a Session #13 Closing Report (01/05/18)
- 802.16.3-01/19r1 [Draft: 01/05/18]
  IEEE 802.16 TG3 Session #13 Minutes, Approved (01/07/17)
- 802.16.3-01/18
  Call for Comments and Improvements to Physical Layer Specifications [DRAFT] (01/05/17)
- 802.16.3-01/17
  Outline: Air Interface for Fixed Broadband Wireless Access Systems (2-11 GHz) (01/05/16)
- 802.16.3-01/16r1
  MAC Topics Identified by PHY Group (802.16.3) (01/05/15)
- 802.16.3-01/15
  TG3 Agenda for Session #13 (Draft) (01/05/14)
- 802.16.3-01/14
  Call for Comments: TG3 Draft Physical Layers (01/05/07)
- 802.16.3-01/13
  TG3 PHY Draft TOC
- 802.16.3-01/12
  TG3 MAC Draft TOC
- 802.16.3-01/11
  IEEE 802.16 TG3 Session #12 Closing Report
- 802.16.3-01/10
  IEEE 802.16 TG3 Session #12 Minutes
- 802.16.3-01/09r2
  TG3 Agenda for Session #12
- 802.16.3-01/08
  Call for Improvements and Mergers, TG3 PHY
- 802.16.3-01/07
  PHY Evaluation Criteria for Session #12
- 802.16.3-01/06
  802.16 Task Group 3 Call For Contributions: Proposed MAC Enhancements, Session #12
- 802.16.3-01/05
  802.16 Task Group 3 Invitation To Contribute PHY Proposals: Session #12
- 802.16.3-01/04
  IEEE 802.16.3 Session #11 Minutes
- 802.16.3-01/03
  IEEE 802.16.3 Session #11 Closing Report
- 802.16.3-01/02 (private)
  Individual Voter Records - IEEE 802.16.3 Session #11 PHY Evaluation
- 802.16.3-01/01
  Report of IEEE 802.16.3 Session #11 PHY Evaluation
- 802.16.3-00/26r1 [update of 802.16.3-00/26] (private)
  Individual Voter Records - IEEE 802.16.3 Session #10 PHY Evaluation

- 802.16.3-00/25
  IEEE 802.16 Task Group 3 Call For Contributions: Proposed MAC Enhancements, Key Characteristics, and Evaluation Criteria: Session #11
- 802.16.3-00/24
  802.16.3 Task Group: Invitation To Contribute PHY Proposals: Session #11
- 802.16.3-00/23r1 [update of 802.16.3-00/23]
  Report of IEEE 802.16.3 Session #10 PHY Evaluation
- 802.16.3-00/22
  IEEE 802.16.3 Session #10 Minutes
- 802.16.3-00/21
  802.16.3 Closing Plenary Report
- 802.16.3-00/20r1
  Voting Instructions for TG3 Initial PHY Proposals
- 802.16.3-00/19r1
  IEEE 802.16.3 Session #10 Evaluation Scoresheet
- 802.16.3-00/18
  802.16.3 Midweek Plenary Report
- 802.16.3-00/17r1
  IEEE 802.16.3 Session #10 Agenda - Tampa, FL
- 802.16.3-00/16
  IEEE 802.16.3 Session #9 Minutes
- 802.16.3-00/15
  802.16.3 Functional Requirements Comments Resolved at Session #9
- 802.16.3-00/14
  802.16.3 Task Group: Call for Contributions for Session #10 (inviting initial PHY proposals)
- 802.16.3-00/13
  802.16.3 Task Group: Call for Contributions for Session #10 (Traffic, Deployment, and Channel Models)
- 802.16.3-00/12
  802.16.3 Functional Requirements Comments for Session #9
- 802.16.3-00/11r0
  Call for Comments on IEEE 802.16.3-00/02r3 (Functional Requirements for the 802.16.3 Air Interface Standard)
- 802.16.3-00/10
  IEEE 802.16.3 Session #8 Minutes
- 802.16.3-00/09r1
  802.16.3 Invitation to Contribute: Session #9
- 802.16.3-00/08
  802.16.3 Task Group reactions to a press release from the IEEE-ISTO
- 802.16.3-00/07r1
  Key Characteristics of 802.16.3 Air Interface Standard
- 802.16.3-00/06
  Call for Comments on IEEE 802.16.3-00/02r2,Functional Requirements for the 802.16.3 Air Interface Standard
- 802.16.3-00/05r1
  IEEE 802.16.3 Session #7 Minutes
- 802.16.3-00/04
  IEEE 802.16.3 Session #7 Tentative Agenda
- 802.16.3-00/03r2
  Development Plan for 802.16.3 Air Interface Standard - Task Group Revision
- 802.16.3-00/02r4 [also ZIPed Word and figure source]
  Functional Requirements for the 802.16.3 Interoperability Standard
  Note: the current version is dated 00-09-26. The version dated 00-09-22 has a figure error.
- 802.16.3-00/01
  Proposed PAR for Broadband Wireless Access Systems in Licensed Bands from 2 to 11 GHz - Five Criteria
- 802.16.3-00/00r1
  Project Authorization Request (PAR): Air Interface for Fixed Broadband Wireless Access Systems in Licensed Bands from 2 to 11 GHz [*obsolete*]

Contributions, 2001

- See also **Task Group 3/4 Joint Contributions**
- 802.16.3c-01/81
  New Adaptive Antenna MAC Section (substitute for section 6.2.7.13) (Einan Regev and Huanchun Ye, 01/09/06)
- 802.16.3c-01/80
  Propagation models for coexistence studies (Avi Freedman and Ofer Kelman, 01/09/06)
- 802.16.3c-01/79
  Channel models for 30km and 50km range (Avi Freedman, et al., 01/09/06)
- 802.16.3c-01/78
  Proposed Revision to Section 8.3.5.12 (Unique Word Specification) (Brian Eidson and Russell McKown, 01/09/02)
- 802.16.3c-01/77
  Options and results for reducing FEC complexity in 802.16a OFDM modes (Einan Regev, 01/08/12)
- 802.16.3c-01/76 [Presentation 802.16.3p-01/76]
  Channel models for long range deployments (Avi Freedman, 01/07/09)
- 802.16.3c-01/75
  Proposal to Amend Section 8.3.5.11.4 of TG3&4 Draft Document (Brian Eidson, 01/07/06)

- 802.16.3c-01/74
  Proposal to Add a New Section between 8.3.5.11 and 8.3.5.12 of TG3&4 Draft Document (Brian Eidson, 01/07/06)
- 802.16.3c-01/73
  Proposal to Amend Section 8.3.5.5.2.1 of TG3&4 Draft Document (Brian Eidson, 01/07/06)
- 802.16.3c-01/72r1 [Rev. 0, 01/07/06]
  Proposal to Amend Section 8.3.5.16 of TG3&4 Draft Document (Russell McKown, Wayne Music, Brian Eidson, 01/07/06)
- 802.16.3p-01/71
  802.16.3 MAC Synchronization (Robert L. Phenicie, Jr., 01/07/02)
- 802.16.3c-01/70
  TG3 Channel Model - Protested Status and Voting (David Trinkwon, 01/07/02)
- 802.16.3c-01/69
  802.16 Improvements in Optional FEC for TG3 (Dave Williams, Garik Markarian, Allen Risley, Sean Sonander, Neil McSparron, Zion Hadad, Yossi Segal, Jose Kukielka, Andrew Middleton, 01/06/29)
- 802.16.3c-01/68 [Presentation 802.16.3p-01/68]
  Outline: Air Interface for Fixed Broadband Wireless Access Systems (2-11 GHz) (Vladimir Yanover, 01/05/16)
- 802.16.3p-01/67
  IEEE 802.16.3 Turbo Product Code Performance Under Multipath Channels (Vladimir Yanover, 01/05/11)
- 802.16.3c-01/66 {also for TG4}
  Changes in the 802.16 Fragmentation and Packing Function (Vladimir Yanover, 01/05/11)
- 802.16.3c-01/65
  A Proposal for ARQ Procedures Based on the IEEE 802.2 Standard (Huanchun Ye, 01/05/11)
- 802.16.3c-01/64
  TG3 MAC Support for Advanced Antenna Technologies (Huanchun Ye, 01/05/11)
- 802.16.3c-01/63 {also for TG4}
  A Contribution to the TG3 and TG4 MAC: Ranging/Timing Control (Lei Wang, Brian Gieschen, and Nghi Lao, 01/05/11)
- 802.16.3c-01/62 {also for TG4}
  Contribution to the TG3 and TG4 MAC: MPDU Formats (Lei Wang, Brian Gieschen, and Nghi Lao, 01/05/10)
- 802.16.3c-01/61r1 {also for TG4} [Rev. 1: 05/10]
  Proposed TG3 MAC Document (Vladimir Yanover, 01/05/17)
- 802.16.4c-01/31 {also for TG4}
  Proposal for Integrating TG3 and TG4
  (Anader Benyamin-Seeyar, et al., 01/05/08)
- 802.16.3c-01/60
  Detailed ARQ Proposal for 802.16a and 802.16b MAC (Vladimir Yanover, 01/05/04)
- 802.16.3c-01/59r2 [Rev. 1: 05/01]
  OFDM mode for the IEEE 802.16a PHY draft standard (Nico van Waes, et al., 01/05/17)
- 802.16.3c-01/58r2 [Rev. 1: 05/09; Rev. 0: 04/30]
  Draft Document for SC-FDE PHY Layer System for Sub 11 GHz BWA (Anader Benyamin-Seeyar, et al., 01/05/17)
- 802.16.3c-01/57 {also for TG4}
  OFDMA\OFDM Considerations in TG3 and TG4 (Itzik Kitroser, Yossi Segal, Zion Hadad, Vladimir Yanover, 01/04/30)
- 802.16.3c-01/56 {also for TG4}
  MAC-PHY Interface for TG3 (Subir Varma, 01/04/26)
- 802.16.3c-01/55 {also for TG4}
  Bandwidth Request Using CDMA Codes in OFDMA(OFDM) Base PHY (Itzik Kitroser, Yossi Segal, Zion Hadad, 01/04/25)
- 802.16.3c-01/54 {also for TG4}
  OFDM based Ranging Enhancement for the TG3 and TG4 (Itzik Kitroser, Yossi Segal, Zion Hadad, 01/04/25)
- 802.16.3c-01/53
  Simulating the SUI Channel Models (Daniel S. Baum, 01/04/11)
- 802.16.3p-01/52
  Merger of ARQ Proposals for 802.16 TG3 and 802.16 TG4 (Vladimir Yanover, 01/03/14)
- 802.16.3c-01/51
  Reconciliation proposal for joint OFDM-SC 802.16a PHY (Naftali Chayat, 01/03/14)
- 802.16.3c-01/50
  An Operator's Perspective (Anthony Klinkert, 01/03/14)
- 802.16.3c-01/49
  Performance aspects of OFDM PHY proposal (Tal Kaitz, 01/03/13)
- 802.16.3c-01/48 [Presentation 802.16.3p-01/48]
  Examples of uncoded BER performance for proposed 802.16.3 OFDM Phy layer in Multipath (Robert M. Ward, 01/03/12)
- 802.16.3c-01/47
  Proposed Enhancement to Framing Structure in OFDM proposal (Anish Tolia, Yonatan Manor, Chet Shirali, Menashe Shahar, 01/03/09)
- 802.16.3c-01/46
  Analysis of PHY waveform Peak to Mean Ratio and Impact on RF Amplification (Paul Struhsaker, Kirk Griffin, 01/03/09)
- 802.16.3c-01/45
  Proposed MAC Enhancements to support adaptive antenna array processing in 802.16.3 (Einan Regev, 01/03/09)
- 802.16.3c-01/44 [Presentation 802.16.3p-01/44]
  Spectral Mask and Preliminary Field Trials of a COFDM Modem (Jonathan Labs, Yvon Belec, J. Pierre Lamoureux, Stephan Leclerc, Rainer Ullmann, Donovan Young, Xiaode Yu 01/03/09)
- 802.16.3c-01/43
  IEEE 802.16 TG3: Possible Strategies for the development of the PHY layer (Zion Hadad, 01/03/09)
- 802.16.3c-01/42 [Presentation 802.16.3p-01/42]
  802.16a PHY Proposals - Proposed Improvements and Mergers (David Trinkwon, 01/03/08)

- 802.16.3c-01/41 [Presentation 802.16.3p-01/41]
  Key System Characteristics and Evaluation Criteria for the TG3 Air Interface Standard (David Trinkwon, 01/03/08)
- 802.16.3c-01/40 {also for TG4}
  ARQ for TG3 and TG4 Systems (Subbu Ponnuswamy and Jacob Jorgensen, 01/03/08)
- 802.16.3c-01/39 [Presentation 802.16.3p-01/39]
  Analysis and calculations of re-use factors and ranges for OFDMA in comparison to TDMA systems (Avi Freedman, Zion Hadad, and Dan Haimov, 01/03/08)
- 802.16.4c-01/21 {also for TG4} [Presentation 802.16.4p-01/21]
  Proposed MAC ARQ Mechanism for the proposed 802.16.4 Standard
  (Demos Kostas, 01/03/06)
- 802.16.3c-01/38 {also for TG4}
  ARQ Proposal for TG3/TG4 Systems (Subir Varma, 01/03/07)
- 802.16.3c-01/37
  Proposed Enhancements to 802.16 TG1 MAC for 802.16 TG3 Applications (Menashe Shahar, 01/03/07)
- 802.16.3c-01/36 {also for TG4} [Presentation 802.16.3p-01/36]
  ARQ Proposal for 802.16 TG3/4 MAC (Vladimir Yanover et al., 01/03/07)
- 802.16.3c-01/35
  Proposed 802.16.3 Standard's Responsiveness to ETSI BRAN HIPERMAN Requirements (Demosthenes Kostas, 01/03/05)
- 802.16.3c-01/34
  C-Program for 2IRP Streaming Video Model (T. Wen, N. Molligoda, and J. Huang, 01/03/05)
- 802.16.3c-01/33r2 [Presentation 802.16.3p-01/33]
  OFDM proposal for the IEEE 802.16a PHY draft standard (Garik Markarian, Dave Williams, Vincente Quilez, Phil Kelly, Bernard Aboussouan, Randall Schwartz, Dale Branlund, Amir Sarajedini, Huanchun Ye, Naftali Chayat, Marianna Goldhammer, Tal Kaitz, Michael Stewart, Gregory Caso, Avi Freedman, Eric Jacobsen, Val Rhodes, Ron McCallister, John Liebetreu, Steven Smith, Fernando Lopez de Victoria , Jim Nadeau, Jacob Jorgensen, Ken Pierce, Subbu Ponnaswamy, Nico van Waes, Jori Arrakoski, Mika Kasslin, Yonatan Manor, Anish Tolia, Hikmet Sari, Burcak Beser, Chao-Chun Wang, Val Liva, Zion Hadad, Yossi Segal, Itzik Kitroser, Olivier Seller, Bob Ward, Chet Shirali, Menashe Shahar, Keith Doucet, Baruch Buskila, Shawn Taylor, Lei Wang, Brian Gieschen, Gordon Antonello, Arthur Wang, Don Leimer, Adam Efron, 01/03/09)
- 802.16.3c-01/32 [Presentation 802.16.3p-01/31r2]
  SC-FDE PHY Layer System Proposal for Sub 11 GHz BWA (An OFDM Compatible Solution) (Anader Benyamin-Seeyar, David Falconer, David Shani, Moshe Ran, Vacit Arat, Eran Gerson, Demos Kostas, Micheal Yang, Todd Carothers, Remi Chayer, Juan-Carlos Zuniga, Malik Audeh, Frederick Enns, Bob Furniss, Joe Hakim, Subir Varma, Dean Chang, Brian Eidson, Yoav Hebron, J-P Devieux, Sirikat Lek Ariyavisitakul, John Langley, David Fisher, Jerry Krinock, Arvind Lonkar, Chin-Chen Lee, Manoneet Singh, Anthony Tsangaropoulos, Paul Struhsaker, Russel McKown, Garik Markarian, David Williams, Igor Perlitch, Ed Kevork, Ray Anderson, Robert Malkemes, Allen Klein, 01/03/05)
- 802.16.3c-01/31r2 [Presentation 802.16.3p-01/31r2]
  PHY Layer System Proposal for Sub 11 GHz BWA Having SC-FDE and OFDM Modes (John Langley, David Falconer, David Shani, Moshe Ran, Vacit Arat, Eran Gerson, Demos Kostas, Micheal Yang, Todd Carothers, Anader Benyamin-Seeyar, Remi Chayer, Juan-Carlos Zuniga, Malik Audeh, Frederick Enns, Bob Furniss, Joe Hakim, Subir Varma, Dean Chang, Brian Eidson, Yoav Hebron, J-P Devieux, Sirikat Lek Ariyavisitakul, David Fisher, Paul Struhsaker, Russel McKown, Garik Markarian, David Williams, Igor Perlitch, Ed Kevork, Ray Anderson, Robert Malkemes, Allen Klein, 01/03/12)
- 802.16.3c-01/30r1 [Rev. 0: 01/01/22]
  Traffic Model for 802.16 TG3 MAC/PHY Simulations (C.R. Baugh, Jun Huang, et al., 01/03/02)
- 802.16.3c-01/29r4 {accepted by TG3} (Rev. 3: 01/07/11; Rev. 2: 01/07/05; Rev. 1: 01/02/23; Rev. 0: 01/01/22)
  Channel Models for Fixed Wireless Applications (V. Erceg, K.V.S. Hari, M.S. Smith, D.S. Baum, K.P. Sheikh, C. Tappenden, J.M. Costa, C. Bushue, A. Sarajedini, R. Schwartz, D. Branlund, S. Kaitz, D. Trinkwon, 01/07/13)
- 802.16.3p-01/28
  PHY Proposal (Randall Schwartz, 01/01/19)
- 802.16.3p-01/27
  Proposal on Traffic Models (Randall Schwartz, 01/01/19)
- 802.16.3c-01/26
  802.16 Issues with previously proposed channel models for Broadband Fixed Wireless Applications (Amir Sarajedini, Phil Kelly, Dale Branlund, Randall Schwartz, 01/01/19)
- 802.16.3c-01/25 [Presentation 802.16.3p-01/25]
  Proposed Enhancements to 802.16.1 MAC to Accommodate OFDMA PHY (Itzik Kitroser, Zion Hadad, Yossi Segal, 01/01/17)
- 802.16.3c-01/24 [Presentation 802.16.3p-01/24]
  Proposal for MAC protocol modification for 802.16.3 Application (Burcak Beser, Victor Hou, Chao-Chun Wang, 01/01/17)
- 802.16.3c-01/23 [Presentation 802.16.3p-01/23]
  Proposal for Layer Separation (Burcak Beser, Victor Hou, Chao-Chun Wang, 01/01/17)
- 802.16.3c-01/22
  Comments on the Time Base Structure of TG3 (Subir Varma, 01/01/17)
- 802.16.3c-01/21
  A MAC Transport Layer Structure for TG3 Systems (Subir Varma, 01/01/17)
- 802.16.3c-01/20
  Increasing Link Robustness in TG3 Systems (Subir Varma, 01/01/17)
- 802.16.3c-01/19
  Proposed Enhancements to 802.16.1 MAC for 801.16.3 Applications (George R. Fishel et al., 01/01/17)
- 802.16.3c-01/18
  MAC enhancements for VoIP delay minimization (Marianna Goldhammer, 01/01/17)
- 802.16.3c-01/17 [Presentation 802.16.3p-01/17]
  Reservation Tools for the 802.16.3 MAC (Vladimir Yanover et al., 01/01/17)
- 802.16.3c-01/16 [Presentation 802.16.3p-01/16]
  Data Integrity in 802.16. MAC (Vladimir Yanover et al., 01/01/17)

- 802.16.3c-01/15 [Presentation 802.16.3p-01/15]
  MAC Headers Structure for 802.16 MAC (Vladimir Yanover, 01/01/17)
- 802.16.3c-01/14
  Turbo Code Comparison (TCC v TPC) (Brian Edmonston, 01/01/17)
- 802.16.3c-01/13 [Presentation 802.16.3p-01/13]
  Air Interface Proposal Using OFDM with SDM/TDM and OFDMA/TDMA (Eric Jacobsen, 01/01/17)
- 802.16.3c-01/12
  RM Wavelet Based (WOFDM) PHY Proposal for 802.16.3, Rev.0.0 (Miller, Nasserbakht, Klesensk, 01/01/17)
- 802.16.3c-01/11 [Presentation 802.16.3p-01/11]
  OFDMA PHY proposal for the 802.16.3 PHY layer (Yossi Segal, Zion Hadad, Itzik Kitroser, Olivier Seller, Dave Williams, 01/01/17)
- 802.16.3c-01/10r2 [Presentation 802.16.3p-01/10] [Rev, 1: 01/01/22; Rev. 0: 01/01/17]
  OFDM based 802.16.3 PHY Proposal (Nico Van Waes, 01/01/24)
- 802.16.3c-01/09
  A "Block" Adaptive Modulation and Coding PHY (John Langley, Demos Kostas, Garik Markarian, David Williams, Igor Perlitch, Ed Kevork, Joe Hakim, Subir Varma, Dean Chang, Sirikat Lek Ariyavisitakul, David Falconer, Brian Eidson, Yoav Hebron, Remi Chayer, Anader Benyamin-Seeyar, Frederick Enns, Malik Audeh, David Fisher, David Shani, Moshe Ran, Vacit Arat, 01/01/17)
- 802.16.3c-01/08
  PHY Layer System Proposal for Sub 11 GHz BWA (Anader Benyamin-Seeyar, David Falconer, David Shani, Moshe Ran, Vacit Arat, Demos Kostas, Remi Chayer, Frederick Enns, Malik Audeh, Joe Hakim, Subir Varma, Dean Chang, Brian Eidson, Yoav Hebron, Chet Shirali, Sirikat Lek Ariyavisitakul, John Langley, David Fisher, Garik Markarian, David Williams, Igor Perlitch, Ed Kevork, Ray Anderson, 01/01/17)
- 802.16.3c-01/07 [Presentation 802.16.3p-01/07]
  802.16.3 2G OFDM System for Broadband Wireless Access Development, Session #11 Presentation (Robert M. Ward Jr, 01/01/17)
- 802.16.3c-01/06 [Presentation 802.16.3p-01/06]
  Overview of Physical Layer Proposal for IEEE 802.16.3 (F. Sun, A. Macdonald, L. Lee, A. R. Hammons, 01/01/17)
- 802.16.3c-01/05 [Presentation 802.16.3p-01/05]
  IEEE 802.16.3 PHY Utilizing Turbo Product Codes (Dave Williams, Sean Sonander, Neil McSparron, Garik Markarian, Keith Pickavance, 01/01/17)
- 802.16.3c-01/04 [Presentation 802.16.3p-01/04]
  802.16.3 PHY Ottawa Proposal (Ron McCallister and John Liebetreu, 01/01/17)
- 802.16.3c-01/03
  W-OFDM Submission to IEEE 802.16.3 PHY, Rev. 2.0 (Bob Heise and Shawn Taylor, 01/01/17)
- 802.16.3c-01/02
  PHY Proposal for MMDS Communications (Yonatan Manor, Howard Sandler, Chris Tappenden, Chet Shirali, Menashe Shahar, John Sanford, Sanjay Moghe, Randy Howell, George Fishel, Baruch Buskila, Amos Dotan, 01/01/17)
- 802.16.3c-01/01 [Presentation 802.16.3p-01/01]
  OFDM-based Physical Layer submission to 802.16.3 FWA (Marianna Goldhammer, Naftali Chayat, Tal Kaitz, Garik Markarian, Sean Sonander, David Williams, Neil McSparron, Jose F. Kukielka, 01/01/17)
- 802.16.4c-01/12 [also TG4]
  A Proposal for the Enhancement of the 802.16.1 MAC: Multiple Higher Layer PDUs per MAC Encapsulation
  (Jacob Jorgensen, Ken Peirce, Subbu Ponnuswamy, 01/01/13)
- 802.16.4c-01/11 [also TG4]
  A Proposal for the Enhancement of the 802.16.1 MAC: MAC Header Optimization
  (Jacob Jorgensen, Ken Peirce, Subbu Ponnuswamy, 01/01/13)
- 802.16.4c-01/10 [also TG4]
  A Proposal for the Enhancement of the 802.16.1 MAC to Provide a per-Service Flow Reliable Connection Service
  (Jacob Jorgensen, Ken Peirce, Subbu Ponnuswamy, 01/01/13)

Contributions, 2000

- 802.16.3c-00/58 [Presentation 802.16.3p-00/58]
  Generalizing 4IPP Traffic Model for IEEE 802.16.3 (Jun Huang, 00/12/12)
- 802.16.3p-00/57
  Channel estimation issues for TDD and FDD OFDM (Carl Scarpa, 00/12/12)
- 802.16.3p-00/56
  Using the TG1 MAC for TG3 purposes (Vladimir Yanover, Subir Varma, Huanchun Ye, 00/11/07)
- 802.16.3p-00/55
  Wireless Connection Oriented Polling Protocol (WCOPP) Overview (Jon Barton Shields, Jason Krasnow, Larry Butler, 00/11/07)
- 802.16.1c-00/17 [Presentation 802.16.3p-00/54]
  Proposal for MAC enhancements to 802.16.1 MAC for 802.16.3 Application (George Fishel, Chet Shirali, Menashe Shahar, Chris Tappenden, Jose Costa, Mike Rude, Eric Jacobsen, John Sanford, 00/11/03)
- 802.16.3c-00/53
  Additional enhancements to Interim Channel Models for G2 MMDS Fixed Wireless Applications (802.16.3c-00/49) (Chris Tappenden and Martin Smith, 00/11/02)
- 802.16.3c-00/52
  Propagation of 5.3 GHz through the Urban Foliated Environment: Summary of Propagation Path Loss and Signal de-Polarization Data (John Sydor, 00/11/02)
- 802.16.3c-00/51
  4IPP Traffic Model for IEEE 802.16.3 (C. R. Baugh, 00/10/31)
- 802.16.3c-00/50
  Ad-Hoc Group Output on Evaluation Criteria for Sub 11 GHz PHY Proposals (Anader Benyamin-Seeyar, 00/10/31)
- 802.16.3c-00/49r2 [Presentation 802.16.3p-00/49]
  Interim Channel Models for G2 MMDS Fixed Wireless Applications (K.V.S. Hari, and Carl Bushue, 00/11/15 [Rev. 1: 00/11/03; Rev. 0: 00/10/30])

- 802.16.3c-00/48 [Presentation 802.16.3p-00/48]
  Initial PHY proposal for the IEEE 802.16.3 Air Interface Standard (Moshe Ran, 00/10/30)
- 802.16.3c-00/47 [Presentation 802.16.3p-00/47]
  Channel Models for Broadband Fixed Wireless Systems (Vinko Erceg, 00/10/30)
- 802.16.3c-00/46
  A Proposal to Standardize Directive Antennas and Highly Sectored Cellular Hub Systems For Outdoor Point to Multipoint Applications: IEEE 802.16.3 PHY Layer (John Sydor, 00/10/30)
- 802.16.3c-00/45 [Presentation 802.16.3p-00/45]
  Enhanced Error Coding Scheme (Dave Williams, Sean Sonander, Peter Close, Keith Pickavance, 00/10/30)
- 802.16.3c-00/44 [Presentation 802.16.3p-00/44]
  Proposal for an OFDM-based 802.16.3 Air Interface Physical Layer (José Francia, 00/10/30)
- 802.16.3c-00/43 [Presentation 802.16.3p-00/43]
  Overview of Physical Layer Proposal for IEEE 802.16.3 (A. R. Hammons, 00/10/30)
- 802.16.3c-00/42
  OCDMA Proposal for IEEE 802.16.3 PHY (Arthur W. Wang, 00/10/30)
- 802.16.3c-00/41r1 [Presentation 802.16.3p-00/41]
  OFDM based 802.16.3 PHY Proposal (Nico van Waes, 00/11/06 [Rev. 0: 00/10/30])
- 802.16.3c-00/40r1 [Presentation 802.16.3p-00/40]
  Initial PHY Layer System Proposal for Sub 11 GHz BWA (Anader Benyamin-Seeyar, 00/11/02 [Rev. 0: 00/10/30])
- 802.16.3c-00/39 [Presentation 802.16.3p-00/39]
  A "Block" Adaptive Modulation and Coding PHY (Brian Eidson, Frederick Enns, David Fisher, John Langley, David Williams, 00/10/30)
- 802.16.3c-00/38 [Presentation 802.16.3p-00/38]
  802.16.3 2G OFDM System for Broadband Wireless Access Development (Robert M.Ward Jr., 00/10/30)
- 802.16.3c-00/37r1 [Presentation 802.16.3p-00/37]
  Outline of PHY Proposal for MMDS Communications (Yonatan Manor, Anish Tolia, Alan Frank, Chet Shirali, Menashe Shahar, Howard Sandler, Chris Tappenden, Eric Jacobsen, John Sanford, 00/11/03 [Rev. 0: 00/10/30])
- 802.16.3c-00/36 [Presentation 802.16.3p-00/36]
  Initial PHY Proposal for 802.16.3 (Ron McCallister, John Liebetreu, 00/10/30)
- 802.16.3c-00/35 [Presentation 802.16.3p-00/35]
  802.16.3 Air Interface: An Outline PHY Proposal (Huanchun Ye, 00/10/30)
- 802.16.3c-00/34 [Presentation 802.16.3p-00/34]
  Initial OFDMA/OFDMA PHY proposal for the 802.16.3 BWA (Yossi Segal, Zion Hadad, and Itzik Kitroser, 00/10/30)
- 802.16.3c-00/33 [Presentation 802.16.3p-00/33]
  Initial OFDM/OFDMA PHY proposal for the 802.16.3 BWA (Yossi Segal, Zion Hadad, and Itzik Kitroser, 00/10/30)
- 802.16.3c-00/32 [Presentation 802.16.3p-00/32]
  Synchronous, DS-CDMA/FDMA PHY Proposal for IEEE 802.16.3 (Eric Hall, Richard Ertel, Thomas R. Giallorenzi, and Randy Sylvester, 00/10/30)
- 802.16.3c-00/31 [Presentation 802.16.3p-00/31]
  PHY proposal for IEEE 802.16.3 (C. Grimault and O. Seller, 00/10/30)
- 802.16.3c-00/30r1 [Presentation 802.16.3p-00/30]
  OFDM-based 802.16.3 sub-11 GHz BWA Air Interface Physical Layer proposal (Naftali Chayat and Tal Kaitz, 00/10/30)
- 802.16.3c-00/29 [Presentation 802.16.3p-00/29]
  W-OFDM Proposal for the IEEE 802.16.3 PHY (Bob Heise, 00/10/29)
- 802.16.3c-00/28 [Presentation 802.16.3p-00/28]
  PHY Proposal for IEEE 802.16.3 (M. Sellars, B. Freeman, G. Athanasiadou, 00/10/29)
- 802.16.3c-00/27
  802.16.3 Air Interface : Proposed System Characteristics - Relative Deployment Costs (David Trinkwon, 00/09/12)
- 802.16.3p-00/26
  Report on the ETSI BRAN "FWA Below 11 GHz" Group Meeting in Helsinki (8/25/00) (Demos Kostas, 00/09/09)
- 802.16.3c-00/25
  802.16.3 Air Interface: Report of inaugural ETSI BRAN "FWA below 11 GHz" Meeting (Helsinki) (David Trinkwon, 00/09/09)
- 802.16.3c-00/24
  Evaluation Criteria for Duplex Schemes, RF Propagation Characteristic and Diversity Techniques (Chris Tappenden, et al., 00/09/08)
- 802.16.3c-00/23
  Comparison of QPSK/QAM OFDM and Spread Spectrum for the 2-11 GHz PMP BWAS (Malcolm Sellars and Demos Kostas, 00/09/02)
- 802.16.3c-00/22
  Evaluation Criteria for 802.16.3 Physical Layer (Tal Kaitz, 00/09/01)
- 802.16.3c-00/21
  Evaluation Criteria for FEC Coding and Interleaving Techniques (Anader Benyamin-Seeyar, 00/09/01)
- 802.16.3c-00/20
  Evaluation Criteria for Frame Structure, Timing and Synchronization Schemes (Anader Benyamin-Seeyar, 00/09/01)
- 802.16.3c-00/19
  Evaluation Criteria for Duplex Techniques (Anader Benyamin-Seeyar, 00/09/01)
- 802.16.3c-00/18r1
  Evaluation Criteria for Modulation Techniques (Anader Benyamin-Seeyar, 00/09/06 [Rev. 0: 00/09/01])
- 802.16.3c-00/17
  Evaluation Criteria for RF Propagation and Diversity Techniques (Anader Benyamin-Seeyar, 00/09/01)
- 802.16.3c-00/16
  Selection Criteria pertinent to Modulation, Equalization, Coding for the for 2-11 GHz Fixed Broadband Wireless Systems (Robert M. Ward, Jr., 00/08/31)
- 802.16.3c-00/15
  TG3 Functional Requirements vs. TG1 Air Interface draft standard - MAC (Marianna Goldhammer, 00/08/31)

- 802.16.3c-00/14
  Evaluation Criteria for Multiple Access Techniques (Anader Benyamin-Seeyar, 00/08/30)
- 802.16.3c-00/13 [Presentation 802.16.3p-00/13]
  Modulation and Equalization Criteria for 2-11 GHz Fixed Broadband Wireless Systems (David Falconer and Sirikiat Lek Ariyavisitakul, 00/08/24)
- 802.16.3c-00/12
  802.16.3 Functional Requirements Comment Resolution Status, Output from Session #8 (Brian Petry, 00/08/08)
- 802.16.3p-00/11
  Space-Time Codes and Signal Processing for Slow Fading Channels (Roger Hammons, 00/07/07)
- 802.16.3p-00/10
  ETSI TM4 3-11GHz standards (Marianna Goldhammer, 00/07/11)
- 802.16.3p-00/09
  HiperLan 2 for FWA Below 11 GHz (Jamshid Khun-Jush, 00/07/11)
- 802.16.3c-00/08
  Report of an 802.16.3 ad hoc group that considered a press release from the IEEE-ISTO (Brian Petry, 00/07/12)
- 802.16.3c-00/07
  802.16.3 Functional Requirements Comments for Session #8 (Brian Petry, 00/07/09)
- 802.16.3c-00/06
  Proposed Key Characteristics of 802.16.3 Air Interface Standard (Brian Kiernan, 00/06/30)
- 802.16.3c-00/05
  802.16.3 Functional Requirements Editing Status Following Session #7 (Brian Petry, 00/06/23)
- 802.16.3p-00/04
  ADAMAS (ADAptive Multicarrier Access System) (Panos I. Dallas, 00/05/02)
- 802.16.3c-00/03 [Presentation 802.16.3p-00/03]
  Development of 802.16.3 as an open PHY standard (Avi Freedman, 00/04/30)
- 802.16.3c-00/02 [Presentation 802.16.3p-00/02]
  The use of the 3.4-3.8 (4.2) GHz band for FWA (Avi Freedman, 00/04/30)
- 802.16.3c-00/01
  802.16.3 Functional Requirements Comment Database Report for Session #7 (Brian Petry, 00/04/28)
- 802.16.3c-00/00
  Changes between 802.16.1 Functional Requirements (IEEE 802.16s-99/00r1) and 802.16.3 Functional Requirements (Proposed) (IEEE 802.16.3-00/02r0) (Brian Petry, 00/03/30)

Session #10 TG1 Contributions related to 802.16.3 MAC Issues

- 802.16.1c-00/17 (2000-11-03)
  Proposal for MAC enhancements to 802.16.1 MAC for 802.16.3 Application (George Fishel, Chet Shirali, Menashe Shahar, Chris Tappenden, Jose Costa, Mike Rude, Eric Jacobsen, John Sanford)
- 802.16.1c-00/13 (2000-10-30)
  Comments related to using the TG1 MAC for TG3 purposes (Huanchun Ye)
- 802.16.1c-00/11 (2000-10-26) [Presentation 802.16.1p-00/11]
  Comments on the use of the TG1 MAC for TG3 Purposes (Subir Varma)
- 802.16.1c-00/10 (2000-10-22) [Presentation 802.16.1p-00/10]
  Some Issues of Accommodation of TG1 MAC at TG3 (Vladimir Yanover)
- 802.16.1c-00/09 (2000-10-22)
  MAC to PLCP sublayers interface for 802.16 (Vladimir Yanover)

The 802.16 TG3 Leadership Team was:

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InterDigital Communications Corp.

Carl Bushue (Vice Chair)
Sprint

Dean Chang (Secretary)
Aperto Networks

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ATTACHMENT 8

The Wayback Machine - https://web.archive.org/web/20020618005409/http://www.ieee802.org:80/16/tg3_4/index.html

IEEE 802.16 Task Group 3/4 Documents

This page lists the documents **prior to the year 2002** which were common to Task Group 3 (developing P802.16a) and Task Group 4 (developing P802.16b).

For documents beginning in 2002, see IEEE 802.16 Task Group a.

Documents

- 802.16ab-01/12
  Joint TG3/TG4 MAC Minutes for Session #15 (Draft) (01/11/15)
- 802.16ab-01/11
  Joint TG3/TG4 Agenda for Session #16 (Approved) (01/11/12)
- 802.16ab-01/10
  P802.16a&b; Ballot Schedule (01/10/26)
- 802.16ab-01/09
  Call for Comments: Measurement of RSSI and CCI in the 802.16ab PHY (01/09/25)
- 802.16ab-01/08
  TG3/4 MAC Agenda for Session #15 (01/09/11)
- 802.16ab-01/07r5
  Comment Resolution Report: Final Task Group Review of IEEE 802.16ab-01/01 {including Editor's Notes} [use "Import Full Records" script in Commentary] (01/09/28)
- 802.16ab-01/07r4
  Comment Resolution Report: Final Task Group Review of IEEE 802.16ab-01/01 [use "Import Full Records" script in Commentary] (01/09/14)
- 802.16ab-01/07r1 (rev. 0: 01/08/28)
  Comment Report: Final Task Group Review of IEEE 802.16ab-01/01r1 [use "Import Full Records" script in Commentary] (01/09/05)
- 802.16ab-01/06r1
  Final Task Group Review of IEEE 802.16ab-01/01r1 (01/07/30)
- 802.16ab-01/04r1
  Resolution Report: Task Group Review of IEEE 802.16ab-01/01 [use "Import Full Records" script in Commentary] (01/07/13)
- 802.16ab-01/04 (obsoleted by 802.16ab-01/04r1)
  Comment Report: Task Group Review of IEEE 802.16ab-01/01 [use "Import Full Records" script in Commentary] (01/07/04)
- 802.16ab-01/03
  Report of Joint TG3 and TG4 Interim Editing Session, June 7-8, 2001 (01/06/28)
- 802.16ab-01/02
  Task Group Review of IEEE 802.16ab-01/01 (01/06/18)
- 802.16ab-01/01r2 [Rev. 1: 01/07/30; Rev. 0: 01/06/18]
  IEEE 802.16ab merged document (01/09/28)

Contributions Before or During Session #16

- 802.16abc-01/63
  Channel Quality Measurements (Walt Roehr, 01/11/14)
- 802.16abc-01/62r1
  Baseline 802.16a/802.16b Merged PAR (Nico van Waes, 01/11/14)
- 802.16abc-01/61 [Presentation]
  Fast and Efficient BW Request Mechanism for IEEE 802.16a OFDM PHY (Jerry Krinock, Manoneet Singh, Mike Paff, Vincent Tien, Arvind Lonkar, and Lawrence Fung, 01/11/12)
- 802.16abc-01/60
  FEC Performance with ARQ and Adaptive Burst Profile Selection (Lingjie Li, Octavian Sarca, 01/11/10)
- 802.16abc-01/59 [Presentation]
  Novel Design of STBC for OFDM/OFDMA using Frequency Diversity (PanYuh Joo, JungJe Son, and DaeEop Kang, 01/11/09)
- 802.16abc-01/58
  MAP Format for Single Carrier Systems (Subir Varma, 01/11/09)
- 802.16abc-01/57r1 [Rev. 0: 01/11/09]
  Physical Layer ARQ: Discussion Items (Joe Kwak, 01/11/15)
- 802.16abc-01/56r1 [Presentation]
  Interpolation effects for OFDM preamble (Tal Kaitz, 01/11/10)
- 802.16abc-01/55r1 [Rev. 0: 01/11/07]
  Preamble Design for 802.16a/b SISO and MIMO OFDM Systems (Apurva N. Mody, 01/11/09)
- 802.16abc-01/54
  Example Uplink Encoding (Mike Paff and Jim Brown, 01/11/07)
- 802.16abc-01/53
  Proposed Revision to Section 8.3.5.13.1 (Alamouti Transmit Diversity Specification) (Brian Eidson, 01/11/07)
- 802.16abc-01/52
  Simulation results for FEC in 802.16 OFDM system (Bonghyuk Park, Jaeho Lee, Haewon Jung, Seongsu Park, Hyeong Ho Lee, 01/11/02)
- 802.16abc-01/51r1
  Proposed Addition of Section 8.3.3.1.7 ["Channel Quality Measurements at the Subscriber Station"] to Document 80216ab_01/01r2 (Brian Eidson and Anader Benyamin-Seeyar, 01/10/25)
- 802.16abc-01/50
  FDD Frame Structure for OFDM PHY (Vladimir Yanover, 01/10/22)

- 802.16abc-01/49
  Attachment relating to comments on document 802.16ab-01/01r2 (Yigal Leiba, Itzik Kitroser, Yossi Segal, Zion Hadad, Moshe Levinson, 01/10/18)
- 802.16abc-01/48
  Rewrite of IEEE 802.16ab-01/01 Sec. 8.3.5.3.5, "Mode B - OFDMA" (Jerry Krinock), 01/10/19)
- 802.16abc-01/47 [Presentation]
  Proposed Revision to Section 8.3.4.15 [System Throughput and Modulation Efficiency] (Anader Benyamin-Seeyar and Brian Eidson), 01/10/19)
- 802.16abc-01/46r1
  Preamble design in (MIMO) Multiple Input/ Multiple Output antenna systems for OFDM/OFDMA systems (Amir Sarajedini), 01/10/22)
- 802.16abc-01/45
  Channel Quality Measurement Method for 802.16ab PHY Layers (Kim J. Olszewski), 01/10/19)
- 802.16abc-01/44r1
  OFDM preamble Ad Hoc interim voting results (Preamble Ad Hoc Group), 01/10/22)
- 802.16abc-01/43r1 [Rev. 0: 01/10/18]
  Attachment relating to comments on Document 802.16ab-01/01r2 (Yigal Leiba, Itzik Kitroser, Yossi Segal, Zion Hadad, Moshe Levinson), 01/11/15) **Before or During Session #15**
- 802.16abc-01/42
  DFS: Primary user detection (Mika Kasslin), 01/09/13)
- 802.16abc-01/41
  ARQ Proposal for TG3/TG4 MAC (Itzik Kitroser, Yigal Leiba, Subbu Ponnuswamy, Juha Salokannel, Vladimir Yanover, Huanchun Ye), 01/09/13)
- 802.16abc-01/40
  Preamble Specification for 802.16a OFDM PHY (Preamble Ad Hoc Group), 01/09/13)
- 802.16abc-01/39
  Preamble Specification for 802.16a OFDM PHY (Manoneet Singh, Lek Ariyavisitakul, Nico van Waes), 01/09/13)
- 802.16abc-01/38
  OFDM Preamble Ad Hoc Report (Preamble Ad Hoc Group), 01/09/13)
- 802.16abc-01/37
  Reflections on FEC Ad-Hoc group resolutions (Tal Kaitz, Brian Edmonston, Octavian Sarca), 01/09/13)
- 802.16abc-01/36
  Changes To Sec.6.2 and 8.3.4.1 Proposed by MAC-PHY Ad Hoc Group (Jerry Krinock (Editor)), 01/09/13)
- 802.16abc-01/35
  MAC Support of PHY Layers (Subir Varma), 01/09/10)
- 802.16abc-01/34r1
  Report of the MAC-PHY Interface Ad Hoc Group (Vladimir Yanover), 01/09/10)
- 802.16abc-01/33
  TG3/TG4 FEC Ad-Hoc Group Progress Report (Garik Markarian, Chair, Ad Hoc FEC Committee), 01/09/09)
- 802.16abc-01/32
  OFDMA MAC-PHY Section Details (Itzik Kitroser and Yigal Leiba), 01/09/09)
- 802.16abc-01/31
  Multiple antenna systems for 802.16 systems (Jaehak Chung, Yungsoo Kim, and Eungsun Kim, 01/09/07)
- 802.16abc-01/30 [Presentation 802.16abp-01/30]
  Subcarrier Based Polling for 802.16ab OFDM PHY (Tal Kaitz and Rafi Halfon, 01/09/07)
- 802.16abc-01/29
  Channel Estimation, Diversity and Preamble Requirements for Broadband Wireless Using OFDM (Lek Ariyavisitakul, 01/09/05)
- 802.16abc-01/28
  Report of the TG3/4 Ad Hoc Committee (Huanchun Ye [Ad Hoc Chair], 01/09/05)
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