INTERNATIONAL STANDARD

ISO/IEC/ IEEE 8802-11

First edition 2012-11-01 **AMENDMENT 2** 2014-03-15

Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements —

Part 11: **iTeh STWireless LAN medium access control** (st(MAG) and physical layer (PHY) specifications

ISO/IEC/IEEE 8802-11:2012/Amd 2:2014

https://standards.iteh. AMENDMENT 2: MAC enhancements for 1516c2dcd1 ///so-ec-cee-8802-11-2012-and 2-2014 robust audio video streaming (adoption of IEEE Std 802.11aa-2012)

> Technologies de l'information — Télécommunications et échange d'information entre systèmes — Réseaux locaux et métropolitains — Exigences spécifiques —

Partie 11: Spécifications du contrôle d'accès du milieu sans fil (MAC) et de la couche physique (PHY)

AMENDEMENT 2: Améliorations du MAC pour une lecture en transit robuste de fichier sonore ou visuel (adoption de la norme IEEE Std 802.11aa-2012)



iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>ISO/IEC/IEEE 8802-11:2012/Amd 2:2014</u> https://standards.iteh.ai/catalog/standards/sist/49bf95e5-0385-4efe-b436-1516c2dcd1e7/iso-iec-iece-8802-11-2012-amd-2-2014



COPYRIGHT PROTECTED DOCUMENT

© IEEE 2012

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from ISO, IEC or IEEE at the respective address below.

ISO copyright office Case postale 56 CH-1211 Geneva 20 Tel. + 41 22 749 01 11 Fax + 41 22 749 09 47 E-mail copyright@iso.org Web www.iso.org Published in Switzerland IEC Central Office 3, rue de Varembé CH-1211 Geneva 20 Switzerland E-mail inmail@iec.ch Web www.iec.ch

Institute of Electrical and Electronics Engineers, Inc. 3 Park Avenue, New York NY 10016-5997, USA E-mail stds.ipr@ieee.org Web www.ieee.org

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

IEEE Standards documents are developed within the IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association (IEEE-SA) Standards Board. The IEEE develops its standards through a consensus development process, approved by the American National Standards Institute, which brings together volunteers representing varied viewpoints and interests to achieve the final product. Volunteers are not necessarily members of the Institute and serve without compensation. While the IEEE administers the process and establishes rules to promote fairness in the consensus development process, the IEEE does not independently evaluate, test, or verify the accuracy of any of the information contained in its standards.

The main task of ISO/IEC JTC 1 is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is called to the possibility that implementation of this standard may require the use of subject matter covered by patent rights. By publication of this standard, no position is taken with respect to the existence or validity of any patent rights in connection therewith. ISO/IEEE is not responsible for identifying essential patents or patent claims for which a license may be required, for conducting inquiries into the legal validity or scope of patents or patent claims for determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance or a Patent Statement and Licensing Declaration Form, if any, or in any licensing agreements are reasonable or non-discriminatory. Users of this standard are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information may be obtained from ISO or the IEEE Standards Association.

Amendment 2 to ISO/IEC/IEEE 8802-11 was prepared by the LAN/MAN Standards Committee of the IEEE Computer Society (as IEEE Std 802.11aa-2012). It was adopted by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*, in parallel with its approval by the ISO/IEC national bodies, under the "fast-track procedure" defined in the Partner Standards Development Organization cooperation agreement between ISO and IEEE. IEEE is responsible for the maintenance of this document with participation and input from ISO/IEC national bodies.

iTeh STA(blank page) D PREVIEW (standards.iteh.ai)

IEEE 🔅

IEEE Standard for Information technology— Telecommunications and information exchange between systems Local and metropolitan area networks— Specific requirements

Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications

Amendment 2: MAC Enhancements for Robust Audio Video Streaming

ISO/IEC/IEEE 8802-11:2012/Amd 2:2014 IEEE Computer Society 2:012/Amd 2:2014 Society 2:012/Amd 2:2014 IEEE Computer Society 2:012/Amd 2:2014

Sponsored by the LAN/MAN Standards Committee

IEEE 3 Park Avenue New York, NY 10016-5997 USA

IEEE Std 802.11aa[™]-2012 (Amendment to IEEE Std 802.11™-2012,

as amended by IEEE Std 802.11ae[™]-2012)

29 May 2012

iTeh STANDARD PREVIEW (standards.iteh.ai)

IEEE Std 802.11aa[™]-2012 (Amendment to IEEE Std 802.11[™]-2012,

as amended by IEEE Std 802.11ae[™]-2012)

IEEE Standard for Information technology— Telecommunications and information exchange between systems Local and metropolitan area networks— Specific requirements

Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications

Amendment 2: MAC Enhancements for Robust Audio Video Streaming ai)

<u>ISO/IEC/IEEE 8802-11:2012/Amd 2:2014</u> https://standards.iteh.ai/catalog/standards/sist/49bf95e5-0385-4efe-b436-1516c2dcd1e7/iso-iec-iece-8802-11-2012-amd-2-2014

Sponsor

LAN/MAN Standards Committee of the IEEE Computer Society

Approved 29 March 2012 IEEE-SA Standards Board **Abstract:** This amendment specifies enhancements to the IEEE 802.11 medium access control (MAC) for robust audio video (AV) streaming, while maintaining coexistence with other types of traffic.

Keywords: audio, IEEE 802.11aa, medium access control, video, wireless LAN

iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>ISO/IEC/IEEE 8802-11:2012/Amd 2:2014</u> https://standards.iteh.ai/catalog/standards/sist/49bf95e5-0385-4efe-b436-1516c2dcd1e7/iso-iec-iece-8802-11-2012-amd-2-2014

The Institute of Electrical and Electronics Engineers, Inc. 3 Park Avenue, New York, NY 10016-5997, USA

Copyright O 2012 by The Institute of Electrical and Electronics Engineers, Inc. All rights reserved. Published 29 May 2012. Printed in the United States of America.

IEEE and 802 are registered trademarks in the U.S. Patent & Trademark Office, owned by The Institute of Electrical and Electronics Engineers, Incorporated.



IEEE prohibits discrimination, harassment and bullying. For more information, visit http://www.ieee.org/web/aboutus/whatis/policies/p9-26.html. No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.

Notice and Disclaimer of Liability Concerning the Use of IEEE Documents: IEEE Standards documents are developed within the IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association (IEEE-SA) Standards Board. IEEE develops its standards through a consensus development process, approved by the American National Standards Institute, which brings together volunteers representing varied viewpoints and interests to achieve the final product. Volunteers are not necessarily members of the Institute and serve without compensation. While IEEE administers the process and establishes rules to promote fairness in the consensus development process, IEEE does not independently evaluate, test, or verify the accuracy of any of the information or the soundness of any judgments contained in its standards.

Use of an IEEE Standard is wholly voluntary. IEEE disclaims liability for any personal injury, property or other damage, of any nature whatsoever, whether special, indirect, consequential, or compensatory, directly or indirectly resulting from the publication, use of, or reliance upon any IEEE Standard document.

IEEE does not warrant or represent the accuracy or content of the material contained in its standards, and expressly disclaims any express or implied warranty, including any implied warranty of merchantability or fitness for a specific purpose, or that the use of the material contained in its standards is free from patent infringement. IEEE Standards documents are supplied "AS IS."

The existence of an IEEE Standard does not imply that there are no other ways to produce, test, measure, purchase, market, or provide other goods and services related to the scope of the IEEE standard. Furthermore, the viewpoint expressed at the time a standard is approved and issued is subject to change brought about through developments in the state of the art and comments received from users of the standard. Every IEEE standard is subjected to review at least every ten years. When a document is more than ten years old and has not undergone a revision process, it is reasonable to conclude that its contents, although still of some value, do not wholly reflect the present state of the art. Users are cautioned to check to determine that they have the latest edition of any IEEE standard.

In publishing and making its standards available, IEEE is not suggesting or rendering professional or other services for, or on behalf of, any person or entity. Nor is IEEE undertaking to perform any duty owed by any other person or entity to another. Any person utilizing any IEEE Standards document, should rely upon his or her own independent judgment in the exercise of reasonable care in any given circumstances or, as appropriate, seek the advice of a competent professional in determining the appropriateness of a given IEEE standard.

Translations: The IEEE consensus development process involves the review of documents in English only. In the event that an IEEE standard is translated, only the English version published by IEEE should be considered the approved IEEE standard. 1516c2dcd1e7/iso-iec-ieee-8802-11-2012-amd-2-2014

Official Statements: A statement, written or oral, that is not processed in accordance with the IEEE-SA Standards Board Operations Manual shall not be considered the official position of IEEE or any of its committees and shall not be considered to be, nor be relied upon as, a formal position of IEEE. At lectures, symposia, seminars, or educational courses, an individual presenting information on IEEE standards shall make it clear that his or her views should be considered the personal views of that individual rather than the formal position of IEEE.

Comments on Standards: Comments for revision of IEEE Standards documents are welcome from any interested party, regardless of membership affiliation with IEEE. However, IEEE does not provide consulting information or advice pertaining to IEEE Standards documents. Suggestions for changes in documents should be in the form of a proposed change of text, together with appropriate supporting comments. Since IEEE standards represent a consensus of concerned interests, it is important to ensure that any responses to comments and questions also receive the concurrence of a balance of interests. For this reason, IEEE and the members of its societies and Standards Coordinating Committees are not able to provide an instant response to comments or questions except in those cases where the matter has previously been addressed. Any person who would like to participate in evaluating comments or revisions to an IEEE standard is welcome to join the relevant IEEE working group at http://standards.ieee.org/develop/wg/.

Comments on standards should be submitted to the following address:

Secretary, IEEE-SA Standards Board 445 Hoes Lane Piscataway, NJ 08854 USA

Photocopies: Authorization to photocopy portions of any individual standard for internal or personal use is granted by The Institute of Electrical and Electronics Engineers, Inc., provided that the appropriate fee is paid to Copyright Clearance Center. To arrange for payment of licensing fee, please contact Copyright Clearance Center, Customer Service, 222 Rosewood Drive, Danvers, MA 01923 USA; +1 978 750 8400. Permission to photocopy portions of any individual standard for educational classroom use can also be obtained through the Copyright Clearance Center.

Notice to users

Laws and regulations

Users of IEEE Standards documents should consult all applicable laws and regulations. Compliance with the provisions of any IEEE standards document does not imply compliance to any applicable regulatory requirements. Implementers of the standard are responsible for observing or referring to the applicable regulatory requirements. IEEE does not, by the publication of its standards, intend to urge action that is not in compliance with applicable laws, and these documents may not be construed as doing so.

Copyrights

This document is copyrighted by the IEEE. It is made available for a wide variety of both public and private uses. These include both use, by reference, in laws and regulations, and use in private self-regulation, standardization, and the promotion of engineering practices and methods. By making this document available for use and adoption by public authorities and private users, the IEEE does not waive any rights in copyright to this document.

Updating of IEEE documents

Users of IEEE standards should be aware that these documents may be superseded at any time by the issuance of new editions or may be amended from time to time through the issuance of amendments, corrigenda, or errata. An official IEEE document at any point in time consists of the current edition of the document together with any amendments, corrigenda, or errata then in effect. In order to determine whether a given document is the current edition and whether it has been amended through the issuance of amendments, corrigenda, or errata, visit the IEEE-SA website or contact the IEEE at the address listed previously. For more information about the IEEE Standards Association or the IEEE standards development process, visit the IEEE-SA websiteSO/IEC/IEEE 8802-112012/And 2:2014

https://standards.iteh.ai/catalog/standards/sist/49bf95e5-0385-4efe-b436-1516c2dcd1e7/iso-iec-ieee-8802-11-2012-amd-2-2014

Errata

Errata, if any, for this and all other standards can be accessed at the following URL: http:// standards.ieee.org/findstds/errata/index.html. Users are encouraged to check this URL for errata periodically.

Patents

Attention is called to the possibility that implementation of this standard may require use of subject matter covered by patent rights. By publication of this standard, no position is taken by the IEEE with respect to the existence or validity of any patent rights in connection therewith. A patent holder or patent applicant has filed a statement of assurance via an Accepted Letter of Assurance, then the statement is listed on the IEEE-SA website http://standards.ieee.org/about/sasb/patcom/patents.html. Letters of Assurance may indicate whether the Submitter is willing or unwilling to grant licenses under patent rights without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination to applicants desiring to obtain such licenses.

Essential Patent Claims may exist for which a Letter of Assurance has not been received. The IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of Patents Claims, or determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or nondiscriminatory. Users of this standard are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information may be obtained from the IEEE Standards Association.

Participants

At the time this amendment was sent to sponsor ballot, the IEEE 802.11 Working Group had the following officers:

Bruce P. Kraemer, Chair Adrian P. Stephens and Jon Walter Rosdahl, Vice-Chairs Stephen McCann, Secretary Peter Ecclesine, Technical Editor

The following were officers of Task Group aa:

Graham K. Smith, Chair Alex Ashley, Vice-Chair Ganesh Venkatesan, Secretary Alex Ashley, Technical Editor

When the IEEE 802.11 Working Group first approved this amendment, Task Group aa had the following membership:

| Ganesh Venkatesan, Chair | | |
|-------------------------------|--|--------------------|
| Alex Ashley, Vice Chair | | |
| Hang Lui, Technical Editor | | |
| iTob | STANDADD DDFVIFY | X |
| Osama S. Aboul-Magd | John Coffey | Chris Hartman |
| Santosh P. Abraham | Charles I. Cook | Amer A. Hassan |
| Carlos H. Aldana | (StalCarlos Cordeiro tell.al) | Robert F. Heile |
| David C. Andrus | Xavier P. Costa | Guido R. Hiertz |
| Lee R. Armstrong | Subir Das | Garth D. Hillman |
| Yusuke Asai | Rolf J. de Vegt | Seungeun Hong |
| Geert A. Awaterhttps://standa | rds.iten.ai/catTheodorusaDenteneer0195e5-0385-4ete | - Ju-Dan Hsu |
| David Bagby 1516 | c2dcd1e7/iscSusani@ickey02-11-2012-amd-2-2014 | Wendong Hu |
| Michael Bahr | John Dorsey | Tian-Wei Huang |
| Gabor Bajko | Offie Drennan | David Hunter |
| Raja Banerjea | Roger P. Durand | Brima Ibrahim |
| Kaberi Banerjee | Donald E. Eastlake | Akio Iso |
| John R. Barr | Marc Emmelmann | Wynona Jacobs |
| Gal Basson | Vinko Erceg | Avinash Jain |
| Tuncer Baykas | Leonardo Estevez | Lusheng Ji |
| John L. Benko | Matthew J. Fischer | Sunggeun Jin |
| Ted Booth | Wayne K. Fisher | Junho Jo |
| Daniel Borges | Atsushi Fujimoto | Vince Jones |
| Andre Bourdoux | Wen Gao | Padam Kafle |
| Gregory Breit | Matthew Gast | Carl W. Kain |
| Walter Buga | James P. Gilb | Naveen K. Kakani |
| G. Bumiller | Jeffrey Gilbert | Jeyhan Karaoguz |
| Nancy Cam-Winget | Claude Giraud | Assaf Y. Kasher |
| Necati Canpolat | Ronald Glibbery | Shuzo Kato |
| Laurent Cariou | Reinhard Gloger | Tatsuya Kato |
| Philippe Chambelin | Michelle Gong | Richard H. Kennedy |
| Kapseok Chang | David Goodall | John Kenney |
| Clint F. Chaplin | Sudheer A. Grandhi | Stuart J. Kerry |
| Lidong Chen | Michael Grigat | Eung S. Kim |
| Minho Cheong | Mark Grodzinsky | Joonsuk Kim |
| Woong Cho | David Halasz | Kyeongpyo Kim |
| Chang-Soon Choi | Mark Hamilton | Yongsun Kim |
| Inhwan Choi | Christopher J. Hansen | Youhan Kim |
| In-Kyeong Choi | Hiroshi Harada | Youngsoo Kim |
| Jee-Yon Choi | Dan N. Harkins | Yunjoo Kim |
| Liwen Chu | Brian D. Hart | Shoichi Kitazawa |
| | | |

Jarkko Kneckt Marm M. Kobayashi Fumihide Kojima Tom Kolze Thomas M. Kurihara Joseph Kwak Hyoungjin Kwon Ui K. Kwon Ismail Lakkis Paul Lambert Zhou Lan Leonardo Lanante Jeremy A. Landt Joseph P. Lauer Jae S. Lee Wooyong Lee Yuro Lee Pei Liu Peter Loc Artyom Lomayev Hui-Ling Lou Bradley Lynch Michael Lynch Alastair Malarky Jouni K. Malinen Alexander Maltsev Hiroshi Mano Bill Marshall Roman M. Maslennikov en S A Richard Roy Justin P. McNew Murat Mese Sven Mesecke Robert R. Miller Jochen Miroll Apurva Mody Michael Montemurro Rajendra T. Moorti Hitoshi Morioka Yuichi Morioka Daniel C. Mur Anthony Murabito Peter Murray Andrew Myles Yuhei Nagao Hiroki Nakano Sai S. Nandagopalan

Paul Nikolich Yujin Noh Jong-Ee Oh Youko Omori Satoshi Oyama Richard H. Paine Jaewoo Park Minyoung Park Bemini H. Peiris Eldad Perahia James E. Petranovich Albert Petrick John Petro Vishakan Ponnampalam James D. Portaro Henry S. Ptasinski Rene Purnadi Ivan Pustogarov Emily H. Oi Huyu Qu Jim E. Raab Mohammad Rahman Harish Ramamurthy Stephen G. Rayment Ivan Reede Alex Reznik Sandrine Roblot Randal Roebuck PREVIE Ali Sadri starKazuyuki Sakoda eh.ai) Hemanth Sampath Hirokazu Sawada Huairong Shao Stephen J. Shellhammer Bazhong Shen Ian Sherlock Nobuhiko Shibagaki Ashish Shukla Francois Simon

ISO/IEC/IHean Schwoerer 012/Amd 2:2014 https://standards.iteh.ai/catXlongho.Seoks/sist/49bf95e5-0385-4efe-Harry R. Worstell 1516c2dcd1e7/is Shubhranshu Singh Sudhir Srinivasa Robert Stacey Dorothy Stanley

David S. Stephenson John Stine Guenael T. Strutt Chin-Sean Sum Mohammad H. Taghavi Mineo Takai Yasushi Takatori Teik-Kheong Tan Alireza Tarighat Geoffrey Thompson Allan Thomson Jerry Thrasher Eric Tokubo Ichihiko Toyoda Jason Trachewsky Solomon B. Trainin Jean Tsao Yung-Szu Tu Masahiro Umehira Richard D. Van Nee Allert Van Zelst Prabodh Varshney Sameer Vermani George A. Vlantis Jesse R. Walker Chao-Chun Wang Haiguang Wang Junyi Wang Vi Wang Craig D. Warren Fujio Watanabe Menzo M. Wentink Pyo C. Woo James Worsham Fonchi Wu Liuyang Yang James Yee Peter Yee Su K. Yong Christopher Young Artur Zaks Hongyuan Zhang Ning Zhang Meiyuan Zhao Shiwei Zhao Chunhui Zhu

Major contributions were received from the following individuals:

Osama Aboul-Magd Alex Ashley Yonghwan Bang Matilda Benveniste Douglas Chan Liwen Chu Todor Cooklev Yacine Ghamri Doudane Mark Hamilton Dan N. Harkins Brian D. Hart David Hunter Naveen K. Kakani

Chiu Ngo

Jun Li Hang Liu Xiaoiun Ma Ishan Mandrekar Bill Marshall Saurabh Mathur Jochen Miroll Andrew Myles Sanjiv Nanda Ivan Pustogarov Satish Putta Luke Qian Raghuram Rangarajan Ed Reuss Kevin Rhee Alexander Safonov John Simons Graham K. Smith Robert Stacey Rohit Suri Allan Thomson Ganesh Venkatesan George A. Vlantis Qi Wang Mingquan Wu Jing Zhu

The following members of the individual balloting committee voted on this amendment. Balloters may have voted for approval, disapproval, or abstention.

Tomoko Adachi Iwan Adhicandra Thomas Alexander Richard Alfvin Mark Anderson Butch Anton Lee R. Armstrong Alex Ashley Arthur Astrin Kwok Shum Au Michael Bahr Nancy Bravin John Buffington William Byrd William Carney Clint F. Chaplin Keith Chow Charles I. Cook Ray Davis Wael Diab Patrick Diamond Thomas Dineen Sourav Dutta Peter Ecclesine Richard Eckard Richard Edgar Dennis Edwards Matthew J. Fischer Andre Fournier Avraham Freedman Geoffrey Garner Pieter-Paul Giesberts Gregory Gillooly Reinhard Gloger David Goodall Sudheer A. Grandhi Randall Groves Michael Gundlach C. Guy Rainer Hach Mark Hamilton Rodney Hemminger Jerome Henry Marco Hernandez

David Hunter Tetsushi Ikegami Noriyuki Ikeuchi Yasuhiko Inoue Sergiu Iordanescu Akio Iso Atsushi Ito Mitsuru Iwaoka Raj Jain Junghoon Jee Tal Kaitz Naveen K. Kakani Shinkyo Kaku Ruediger Kays Stuart J. Kerry Brian Kiernan Yongbum Kim Youhan Kim Bruce P. Kraemer Thomas M. Kurihara Geoff Ladwig Richard Lancaster Jeremy A. Landt Jan-Ray Liao iTeh STA William Lumpkins PREVIE Greg Luri StarElvis Maculuba ten.ai Jouni K. Malinen Stephen McCann ISO/IEC/IIMichael McInnisl 2/Amd 2:2014 Matthew Gast https://standards.iteh.ai/catGarysMichels/sist/49bf95e5-0385-4efe-lMark-Rene Uchida 1516c2dcd1e7/isoApurya_Mody02-11-2012-amd-2-2014 Michael Montemurro Rick Murphy Peter Murray Nabil Nasser Michael S. Newman Paul Nikolich Kevin Noll John Notor Satoshi Obara Robert O'Hara Satoshi Oyama Stephen Palm Oren Yuen

Brian Phelps Clinton Powell Venkatesha Prasad Michael Probasco Henry S. Ptasinski Jayaram Ramasastry Ivan Reede Maximilian Riegel Robert Robinson Jon Rosdahl Randall Safier Shigenobu Sasaki Bartien Savogo Shusaku Shimada John Short Gil Shultz Graham K. Smith Kapil Sood Robert Stacey Dorothy Stanley Kevin B. Stanton Thomas Starai Adrian P. Stephens Walter Struppler Guenael T. Strutt Mark Sturza Bo Sun Joseph Tardo Michael Johas Teener Ichihiko Toyoda Solomon B. Trainin Dmitri Varsanofiev Prabodh Varshney Ganesh Venkatesan John Vergis Bhupender Virk George A. Vlantis Khurram Waheed Lei Wang Stanley Wang Stephen Webb Karl Weber Hung-Yu Wei

When the IEEE-SA Standards Board approved this amendment on 29 March 2012, it had the following membership:

Richard H. Hulett, Chair John Kulick, Vice Chair Robert M. Grow, Past Chair Judith Gorman, Secretary

Satish Aggarwal Masayuki Ariyoshi Peter Balma William Bartley Ted Burse Clint Chaplin Wael Diab Jean-Philippe Faure Alexander Gelman Paul Houzé Jim Hughes Young Kuyn Kim Joseph L. Koepfinger* David J. Law Thomas Lee Hung Ling Oleg Logvinov Ted Olsen Gary Robinson Jon Walter Rosdahl Mike Seavey Yatin Trivedi Phil Winston Yu Yuan

*Member Emeritus

Also included are the following nonvoting IEEE-SA Standards Board liaisons:

Richard DeBlasio, *DOE Representative* Michael Janezic, *NIST Representative*

Don Messina

IEEE Standards Program Manager, Document Development Lisa Perry IEEE Standards Program Manager, Technical Program Development

Introduction

This introduction is not part of IEEE Std 802.11aa-2012, IEEE Standard for Information technology— Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements—Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications— Amendment 2: MAC Enhancements for Robust Audio Video Streaming.

This amendment defines enhancements to the IEEE 802.11 medium access control (MAC) to support robust audio video (AV) streaming.

The amendment specifies enhancements to the following standard and amendment to support robust AV streaming:

— IEEE Std 802.11-2012

— IEEE Std 802.11ae-2012

iTeh STANDARD PREVIEW (standards.iteh.ai)