

802.11j™

**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 7: 4.9 GHz–5 GHz Operation in Japan

IEEE Computer Society

Sponsored by the
LAN/MAN Standards Committee

This amendment is an approved IEEE
Standard. It will be incorporated into the
base standard in a future edition.



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Amendment 7: 4.9 GHz–5 GHz Operation in Japan

Sponsor
LAN/MAN Committee
of the
IEEE Computer Society

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Abstract: This amendment specifies the extensions to IEEE Std 802.11 for wireless local area networks (WLANs) providing mechanisms for operation in the 4.9 GHz and 5 GHz bands in Japan.

Keywords: LAN, local area network, regulatory class

The Institute of Electrical and Electronics Engineers, Inc.
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Introduction

[This introduction is not part of IEEE Std 802.11j-2004, 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 7: 4.9 GHz–5 GHz Operation in Japan.]

IEEE Std 802.11j-2004 provides mechanisms for signalling compliance with regulatory domain requirements of the USA, Europe, and Japan; for extending 5 GHz orthogonal frequency division multiplexing (OFDM) physical layer (PHY) operation outdoors; and for 5 GHz OFDM PHY operation in nonoverlapping 10 MHz channel spacing.

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Duncan Kitchen, Vice-Chair Task Group e
David Halasz, Chair Task Group i
Richard Paine, Chair Task Group k
Bob O'Hara, Chair Task Group m
Bruce Kramer, Chair Task Group n

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

Sheung Li, Chair

Peter Ecclesine, Editor

Albert Garrett, Christopher Hansen, Andrew Myles, and Stephen P. Pope, Secretaries

Osama Aboul-Magd	Harry Bims	Simon Duggins
Tomoko Adachi	Bjorn Bjerke	Baris Dundar
Jaemin Ahn	Simon Black	Bryan Dunn
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Sanjiv Nanda	Shoji Sakurai	Wai-Cheung Tang
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Robert Neilsen	Sumeet Sandhu	James Taylor
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Sean O'Hara	Matthew Sherman	Marcos Tzannes
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Timothy Olson	Matthew Shoemake	Naoki Urano
Hiroshi Ono	William Shvodian	Hidemi Usuba
Peter Oomen	D. J. Shyy	Chandra Vaidyanathan
Lior Ophir	Thomas Siep	Hans Van Leeuwen
Satoshi Oyama	Floyd Simpson	Richard van Leeuwen
Richard Paine	Manoneet Singh	Richard Van Nee
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Stephen Palm	Efstratios (Stan) Skafidas	Allert van Zelst
Jong Ae Park	David Skellern	Narasimhan Venkatesh
Jonghun Park	Roger Skidmore	Madan Venugopal
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Vijay Patel	V. Somayazulu	Brad Wallace
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Sebastien Perrot	Robert Soranno	Vivek Wandile
Al Petrick	Gary Spiess	Huaiyuan (Stephen) Wang
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James Portaro	William Steck	Fujio Watanabe
Al Potter	Greg Steele	Mark Webster
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Anuj Puri	William Stevens	Bryan Wells
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Charles Wright
Gang Wu

Yang Xiao
James Yee
Jung Yee
Kazim Yildiz
Jijun Yin
Kit Yong
Wonyong Yoon

Heejung Yu
Hon Yung
Erol Yurtkuran
Zhun Zhong
Glen Zorn
James Zyren

Major contributions were received from the following individuals:

Tomoko Adachi
Peter Ecclesine
Darwin A. Engwer
Albert Garrett
Christopher Hansen

Yasuhiko Inoue
Uriel Lemberger
Sheung Li
William McFarland
Andrew Myles

Gunnar Nitsche
Tomoki Ohsawa
Kazuhiro Okanoue
Stephen P. Pope
Masahiro Takagi

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

Tomoko Adachi
Toru Aihara
Wole Akpose
Thomas Alexander
Butch Anton
Eladio Arvelo
Jennifer Bray
William Byrd
Clint Chaplin
Keith Chow
Terry L. Cole
Javier del Prado Pavon
Thomas Dineen
Sourav Dutta
Peter Ecclesine
Darwin A. Engwer
Theodore Georgantas
Ron Greenthaler
Qiang Guo
Jose Gutierrez
Zion Hadad
David Halasz
Atsushi Ito
Yasuhiko Inoue
Peeya Iwagoshi
Raj Jain
David James

David Johnston
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Kevin Karcz
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Thomas M. Kurihara
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Randolph Little
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Ben Manny
Justin McNew
Ingolf Meier
Yinghua Min
Leo Monteban
Mike Moreton
Narayanan Murugesan
Andrew Myles
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Roger Pandanda
Subbu Ponnuswamy
Vikram Punj
Maximilian Riegel
Randal Roebuck
Osman Sakr
Vaughn Sheline
Gil Shultz
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Tom Wandeloski
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Menzo Wentink
Filip Weytjens
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Harry R. Worstell
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Oren Yuen
Surong Zeng

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NOTE—The editing instructions contained in this amendment define how to merge the material contained herein into the existing base standard and its other amendments to form the comprehensive standard.

The editing instructions are shown in ***bold italic***. Four editing instructions are used: change, delete, insert, and replace. ***Change*** is used to make small corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed either by using ~~strike through~~ (to remove old material) or underscore (to add new material). ***Delete*** removes existing material. ***Insert*** adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instructions. ***Replace*** is used to make large changes in existing text, subclauses, tables, or figures by removing existing material and replacing it with new material. Editorial notes will not be carried over into future editions.

3. Definitions

Insert the following definition in alphabetical order into Clause 3, renumbering as necessary:

3.122 channel spacing: Nonoverlapping, adjacent channel, center frequency spacing for radio transmitters.

End of changes to Clause 3.

7. Frame formats

7.3 Management frame body components

7.3.2 Information elements

7.3.2.12 Country information element

Replace Figure 42a with the following:

Element ID	Length
Country String (Octets 1, 2)	
Country String (Octet 3)	First Channel Number/ Regulatory Extension Identifier
Number of Channels/ Regulatory Class	Maximum Transmit Power Level/ Coverage Class
First Channel Number/ Regulatory Extension Identifier	Number of Channels/ Regulatory Class
Maximum Transmit Power Level/ Coverage Class	...
First Channel Number	Number of Channels
Maximum Transmit Power Level	Pad (if needed)

Figure 42a—Country information element

Change the second paragraph of 7.3.2.12 as shown:

The element identifier for this information element shall be 7. The length of the information element is variable, as the element may contain more than one triplet comprising the First Channel Number, Number of Channels, and Maximum Transmit Power Level fields and referred to as subband triplets. Alternatively, where dot11RegulatoryClassesRequired is true and the First Channel Number/Regulatory Extension Identifier octet has a positive integer value of 201 or greater, then that triplet comprises the Regulatory Extension Identifier, Regulatory Class, and Coverage Class fields. Together they are referred to as a regulatory triplet. The minimum length of the information element is 8 octets.

Change the fourth paragraph of 7.3.2.12 as shown:

The First Channel Number/Regulatory Extension Identifier field shall be 1 octet in length. If the field has a positive integer value less than 201, then it shall contain a positive integer value that indicates the lowest channel number in the subband described in this information element. The group of channels described by each pair of the First Channel Number and the Number of Channels fields shall not have overlapping channel identifiers. [For example, the pairs (2,4) and (5,2) overlap and shall not be used together.] The First Channel Number field shall be monotonically increasing where dot11RegulatoryClassesRequired is not true.

Where dot11RegulatoryClassesRequired is true, consecutive subband triplets following a regulatory triplet shall have monotonically increasing First Channel Number fields.

After the sixth paragraph in 7.3.2.12, insert the following text and renumber tables as necessary:

A regulatory class is an index into a set of values for radio equipment sets of rules. The Regulatory Class field shall be 1 octet in length.

A coverage class is an index into a set of values for aAirPropagationTime. The Coverage Class field shall be 1 octet in length.

The Coverage Class field of the regulatory triplet specifies the aAirPropagationTime characteristic used in basic service set (BSS) operation, as shown in Table 20.1a. The characteristic aAirPropagationTime describes variations in actual propagation time that are accounted for in a BSS and, together with maximum transmit power level, allow control of BSS diameter.

Table 20.1a—Coverage Class field parameters

Coverage class value	aAirPropagationTime (μs)
0	≤ 1
1	3
2	6
3	9
4	12
5	15
6	18
7	21
8	24
9	27
10	30
11	33
12	36
13	39
14	42
15	45
16	48
17	51
18	54
19	57
20	60
21	63
22	66