

802.16h Issues

IEEE 802.16

Document Number: IEEE C802.16-09/0007

Date Submitted:

2009-07-16

Source:

Ron Murias

802.16 Affiliation: InterDigital Communications, LLC

Purpose:

Discuss ongoing issue with the 802.16h PAR and unresolved comments.

Notice:

This document does not represent the agreed views of the IEEE 802.16 Working Group or any of its subgroups. It represents only the views of the participants listed in the "Source(s)" field above. It is offered as a basis for discussion. It is not binding on the contributor(s), who reserve(s) the right to add, amend or withdraw material contained herein.

Release:

The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE's name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE's sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16.

Patent Policy:

The contributor is familiar with the IEEE-SA Patent Policy and Procedures:

<<http://standards.ieee.org/guides/bylaws/sect6-7.html#6>> and <<http://standards.ieee.org/guides/opman/sect6.html#6.3>>.

Further information is located at <<http://standards.ieee.org/board/pat/pat-material.html>> and <<http://standards.ieee.org/board/pat>>.

802.16h Issues

Ron Murias

Editor's View

Member's View

Group View

Chair's View



Record # 35 Found 36 Total 860

Sort # Sort P Find Find All Find X X Found

Ballot ID: 802.16h



Comment #: 777

Comment by:

Murias, Ronald G

Doc: IEEE 802.16-08/047r4

Type General

Dis

Satis

Export Satisfied

Page 2

Line 1

Fig/Table

Subclause 1.3.3

Date: 5-Sep-2008

Comment

It's not clear why "Non-exclusively assigned" is used instead of "License exempt". "License exempt" is defined on page 2 in the paragraph starting on line 22, and in the definitions section, subclause 3.117

Suggested Remedy

Revert text to "License exempt"

Group Resolution

Decision of Group: Agree

1. Revert back to "license-exempt" instead of "non-exclusively assigned" in all the document.
2. Replace 3.117 text with

" 3.117 License-exempt (LE): A generic term to imply the designation of a band in which devices with similar and/or different wireless technologies are permitted to operate with no guarantee of either exclusivity or interference free operation. Under a license-exempt regime,neighbouring users operating in the same band have a need to coexist, whether or not mandatory coexistence rules are imposed by regulation. Light-licensing in the UK or operation in 3.65-3.7GHz in US, where operating sites

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions a) done

Editor's Tag

Editor's Questions and Concerns

Editor's Action Items

Editor's View

Member's View

Group View

Chair's View



Record # 69 Found 288 Total 860

Sort # Sort P Find Find All Find X X Found

Ballot ID: 802.16h



Comment #: 786

Comment by: Murias, Ronald G

Doc: IEEE 802.16-08/047r4

Type General Dis Satis Export Satisfied Page 8 Line 1 Fig/Table Subclause 3.125 Date: 5-Sep-2008

Here "Non-exclusive Assignment" is defined. It seems the amendment is for co-existence in unlicensed bands, but there is a great deal of material in the amendment related to non-exclusive licensing, which is NOT license exempt. It appears that the group has gone beyond its scope and produced a great deal of text regarding these non-excluded licensed bands, which should be removed. Note also that under the non-exclusive licensing definition (3.126), the amendment states that non-exclusive licensed operators may or may not be required to coexist. So it seems we are often talking about licensed bands that do not require any coexistence measures, and that kind of material seems completely unrelated to the goal of the amendment.

Remove material not related to license-exempt operation. The PAR only covers coexistence in license exempt (LE) operation for IEEE 802.16 fixed wireless systems

Group Resolution Decision of Group: Agree

Remove 3.125 and 3.126.

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions a) done

Editor's Tag

Editor's Questions and Concerns

Editor's Action Items

51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

1.3.3 License-exempt bands frequencies below 11 GHz (primarily 5-6 GHz)

The physical environment for the license-exempt bands below 11 GHz is similar to that of the licensed bands in the same frequency range, as described in 1.3.2. However, the ~~license-exempt~~ non-exclusive nature of the spectrum usage introduces additional interference and coexistence issues, whereas regulatory constraints limit the allowed radiated power as well as imposing other restrictions. In addition to the features described in 1.3.2, the PHY and MAC introduce mechanisms to facilitate the detection and avoidance of interference and the prevention of harmful interference into other users including *Specific Spectrum Users (SSUs)* identified by regulation. This includes a mechanism for regulatory compliance called dynamic frequency selection (DFS). This is specified in subclause 6.4.1.2 concerning coexistence with *Specific Spectrum Users (SSUs)*.

1
2
3
4
5
6

It is recognized that some administrations require notification of ~~terminal~~ device location for certain services in some ~~license-exempt~~ bands, which is a form of licensing. Conversely, it is possible to have uncoordinated usage within a licensed allocation. In these and other similar cases the pertinent issues for ~~license-exempt~~ non-exclusive assignment usage remain as described in the preceding paragraph.

47
48
49
50
51
52
53
54
55
56
57
58
59

change the last paragraph in 1.3.4 as indicated:

Implementations of this standard for ~~license-exempt~~ frequencies subject to *non-exclusive assignment* below 11 GHz (such as those listed in B.1) use the designations WirelessHUMAN, WirelessMAN-CX and WirelessMAN-UCP, and shall, where appropriate, comply with the WirelessMAN-OFDM PHY as described in 8.3, or the WirelessMAN-OFDMA PHY as described in 8.4. WirelessMAN-UCP provides uncoordinated coexistence mechanisms (6.4) and WirelessMAN-CX provides coordinated coexistence mechanisms(15). They shall further comply with the DFS protocols (~~6.3.15~~ 6.4.1.2) (where mandated by regulation) and with 8.5.

26
27
28
29
30
31
32
33

3.155 Exclusive Assignment: A situation whereby a channel is occupied by a single (licensed) known operator. This is synonymous with exclusively licensed operation.

3.156 Exclusive License: A situation the same as Exclusive Assignment whereby a channel is occupied by a single (licensed) known operator.

30
31
32
33
34
35

3.172 Shared Band: A generic term used to describe bands in which more than one wireless service or application operates in the same geographical location. This term is generally applied to both exclusively assigned and license-exempt bands, including License-Exempt bands.

Editor's View

Member's View

Group View

Chair's View



Record # 249 Found 288 Total 860

Sort # Sort P Find Find All Find X X Found

Ballot ID: 802.16h



Comment #: 606

Comment by: Ecclesine, Peter

Doc: IEEE 802.16-08/047r4

Type: Technical

Dis:

Satis:

Export Satisfied

Page: 207

Line: 36

Fig/Table

Subclause: 15.7

Date: 3-Sep-2008

Comment

Explain why regulatory domains that do not allow license-exempt operation are "Relevant" to 16h, or remove them from the draft.

Suggested Remedy

Per comment

Group Resolution

Decision of Group: Agree

Remove 15.7 from the draft (see also resolution to comment 605)

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions: a) done

Editor's Tag

Editor's Questions and Concerns

Editor's Action Items

Editor's View

Member's View

Group View

Chair's View



Record # 264 Found 288 Total 860

Sort # Sort P Find Find All Find X X Found

Ballot ID: 802.16h



Comment #: 591

Comment by: Ecclesine, Peter

Doc: IEEE 802.16-08/047r4

Type: Technical

Dis:

Satis:

Export Satisfied

Page:

Line:

Fig/Table:

Subclause:

General

Date: 3-Sep-2008

Comment

"License-exempt" does not equal "Licensed". 802.16h PAR scope: "This amendment specifies improved mechanisms, as policies and medium access control enhancements, to enable coexistence among license-exempt systems based on IEEE Standard 802.16 and to facilitate the coexistence of such systems with primary users." 16h PAR scope does not include licensed and license-exempt bands, yet draft text is devoted to bands that do not permit license-exempt (as legally defined, not 3.117) operation. Change 16h/D7a text to make ALL discussion of such bands informative, not normative.

Per comment

Group Resolution

Decision of Group: Principle

Instructions to Editor:

1. Transform clause 15.7 into an Annex
2. State that the Annex is informative

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions: b) none needed

Editor's Tag

superceded by 606, 824, 826, 828, 610, 609, 581, 506. indicate the deletion of 15.7.

Editor's Questions and Concerns

Editor's Action Items

13. Scope of Proposed Project:

This amendment specifies improved mechanisms, as policies and medium access control enhancements, to enable coexistence among license-exempt systems based on IEEE Standard 802.16 and to facilitate the coexistence of such systems with primary users.

14a. Reason for the standardization project:

This standard will improve the coexistence in license-exempt (LE) operation for IEEE 802.16 fixed wireless systems. It will reduce the potential for interference caused by such systems sharing the same LE bands. The mechanisms specified need to be widely implemented and interoperable for their benefits to be realized, so standardization is required. As result there will be improved user service experience and increased robustness and efficiency of spectrum use. This will expand the market opportunities for enterprise, service provider, and consumer applications.