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| Title | **Proposed Contribution to ITU-R WP 5A:** ***RLAN Protection in 66-76 GHz Band under Resolution 238*** |
| Date Submitted | **2016-08-01** |
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| Re: | ITU-R WP 5A participation in ITU-5 TG 5/1 |
| Abstract | This document proposes a contribution to ITU-R Working Party 5A, as an alternative to IEEE 802.18-16-0062-02, which was not approved by the IEEE 802 Executive Committee. |
| Purpose | This contribution requests review by the IEEE 802.18 Technical Advisory Group and submittal of a version, revised to suit the TAG, to the IEEE 802 Executive Committee for approval under OM Subclause 8.2.1 as an intended contribution from IEEE to ITU-R Working Party 5A **for submission by IEEE by the deadline of 31 October 2016, 16:00 hours UTC**. |
| Notice | *This document 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.* |
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**Proposed Contribution to ITU-R WP 5A: *RLAN Protection in 66-76 GHz Band under Resolution 238***

This document proposes a contribution to ITU-R Working Party 5A, as an alternative to IEEE 802.18-16-0062-02, which was considered by not approved by the IEEE 802 Executive Committee on 29 July 2016.

This contribution is intended to address the following deficiencies in IEEE 802.18-16-0062-02:

* The status of the source, as implied by the title (“Draft Liaison Statement to WP5A”), is faulty. This input should not be submitted as a liaison statement. IEEE is a member of ITU-R and has a right to contribute as such. It need not participate at arm’s length with a outside liaison statement, which may be easily noted and dismissed. On the other hand, a contribution from a member implies an expectation that the contributor will be well informed about the facts.
* The title lacks any information regarding the subject. A clear and relevant title increases the likelihood that the intent of the contribution will be correctly understood and that the participants will take note of it.
* The Discussion section repeats information that is old news and that ITU-R knows far batter than IEEE, without drawing attention to the relevant aspects of that old news. The resolution is referenced by an obsolete identifying number, and the text fails to cite a critical element of the resolution; namely, it ignores the fact that the studies are to include services in adjacent bands.
* By failing to introduce any progress made by ITU-R since the cited WRC-15 resolution, the Discussion would suggest that IEEE is oblivious to the progress that has occurred since then. For example, the text ignores the fact that the involved Working Parties, including WP 5A, have specific assignments and deadlines to provide material toward the TG 5/1 studies. This is directly relevant to the proposal that WP 5A take some action in regard to TG 5/1.
* The Discussion includes no proposal for specific ITU-R action and communicates no expected future actions on behalf of IEEE. It simply makes a request for “consideration.”
* The submission template is obsolete.

One problem with IEEE 802.18-16-0062-02 that is not addressed in this contribution is that, while it would propose that WP 5A provides technical characteristics to TG 5/1 according to the established deadline, it does not propose those technical characteristics. Even if WP 5A agreed with the proposal, and even if its members decided to undertake the development of those characteristics, the timing is not favorable, since WP 5A’s meeting of 7-17 November 2016 is expected to be its only meeting prior to the 31 March 2017 deadline. The expectation in ITU-R, as in IEEE 802, is that a member proposing the preparation of technical content should prepare a draft of that technical content. Accordingly, IEEE participants who want to see WP 5A submit technical content to TG 5/1 should prepare a contribution to WP 5A specifying that content, for submission by the contribution deadline of 31 October 2016, 16:00 hours UTC.

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|  | **Radiocommunication Study Groups** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
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| Received: Date 2016Subject:  | **Document -E** |
| **Date 2016** |
| **English only** |
| Institute of Electrical and Electronics Engineers, Inc. |
| RLAN Protection in 66-76 GHz Band under Resolution 238 |
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**1 Source information**

This contribution from IEEE was developed by IEEE 802®, the Local and Metropolitan Area Network Standards Committee, an international standards development committee organized under the IEEE and the IEEE Standards Association (“IEEE-SA”), and represents the view of IEEE 802.

**2 Background**

In accordance with Annex 9 of Administrative Circular CA/226, representing the decision of the first session of the Conference Preparatory Meeting for WRC-19, ITU-R Task Group 5/1 is tasked to conduct sharing and compatibility studies for a number of bands, per Resolution 238, towards WRC-19 agenda item 1.13, addressing identification of frequency bands for the future development of IMT. Annex 9 also specifies that “technical characteristics including protection criteria for existing services allocated in, or adjacent to, the bands identified” in Resolution 238**,** are to be provided by the involved Working Parties to TG 5/1 by 31 March 2017. Per Annex 7 of CA/226, WP 5A is a contributing Working Party.

As invited by CPM19-1, ITU-R Study Group 5 formed TG 5/1 on 9 June 2016. TG 5/1 met on 23-24 June 2016. Per the Chairman’s Report (Document 5-1/15) of that meeting, TG 5/1 organized four Working Groups, drafted a high-level work plan, and prepared a liaison statement to the contributing Working Parties reiterating the actions and deadlines. Per Document 5-1/15, the next meeting of TG 5/1 will occur sometime between April and July of 2017.

**3 Standards in IEEE 802 relevant to 66-76 GHz band**

Among the bands under study per Resolution 238, IEEE here calls particular attention to the 66-76 GHz band, which, as noted in Resolution 238, has allocation to the mobile service on a primary basis. Technical studies for this band are assigned to TG 5/1 Working Group 4.

Within the IEEE 802 LAN/MAN Standards Committee, several standards have been developed or are under development for operation in or adjacent to this band. In particular:

IEEE Std 802.11ad-2012 (Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications – Enhancements for Very High Throughput in the 60 GHz Band) addresses operation in the 57–66 GHz band. As some administrations are extending the use of Multiple Gigabit Wireless Systems above 66 GHz, extension of the standard above 66 GHz are under consideration.

IEEE Project P802.11aj (Enhancements for Very High Throughput to support Chinese millimeter wave frequency bands) addresses operation in the 59-64 GHz band as well as in the 43.5-47 GHz band.

IEEE Project P802.11ay (Enhanced Throughput for Operation in License-Exempt Bands above 45 GHz) addresses operation above 45 GHz.

IEEE Std 802.15.3c-2009 (Wireless Medium Access Control (MAC) and Physical Layer (PHY) Specifications for High Rate Wireless Personal Area Networks (WPANs) – Millimeter-wave-based Alternative Physical Layer Extension) specifies operation in the 57–66 GHz band.

IEEE 802.16-2012 (Air Interface for Broadband Wireless Access Systems) includes the WirelessMAN-SC PHY specification addressing operation at 10–66 GHz.

**4 Relevant ITU-R recommendations and reports supported by WP 5A**

Recommendation ITU-R M.1450-5 (Characteristics of broadband radio local area networks), considering that broadband RLANs are used for fixed, nomadic and mobile wireless access applications, recommends the use of two broadband RLAN standards for the 57–66 GHz band:

(1) IEEE Std 802.11ad-2012

(2) ETSI EN 302 567, which is based on IEEE Std 802.15.3c-2009

Recommendation ITU-R F.1763-1 (Radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz) recommends the broadband radio local area networks standards in ITU-R M.1450 among those that should be used for fixed broadband wireless access operations below 66 GHz.

Recommendation ITU-R M.2003 (Multiple gigabit wireless systems in frequencies around 60 GHz), considering fixed, semi-fixed (transportable), and portable computer equipment for a variety of broadband applications, recommends the use of IEEE Std 802.11ad-2012, IEEE Std 802.15.3c-2009, WiGig MAC and PHY Specification v1.2 (based on IEEE Std 802.11ad-2012), and ETSI EN 302 567 (based on IEEE Std 802.15.3c-2009). System characteristics are also recommended.

Report ITU-R M.2227-1 (Multiple Gigabit Wireless Systems in frequencies around 60 GHz) provides additional information on Multiple Gigabit Wireless Systems, excluding fixed service systems.

**5 Protection criteria for wireless access systems, including RLANS**

Recommendation ITU-R M.1739 (Protection criteria for wireless access systems, including radio local area networks, operating in the mobile service in accordance with Resolution 229 (WRC-03) in the bands 5 150–5 250 MHz, 5 250–5 350 MHz and 5 470–5 725 MHz) provides protection criteria for certain wireless access systems, including radio local area networks (WAS/RLAN), for the purposes of carrying out compatibility studies with services or applications from which WAS/RLAN systems are to be protected. Likewise, Annex 24 to the Working Party 5A Chairman’s Report (5A/114) of the most recent meeting of WP 5A (10-19 May 2016) includes material relevant to the technical characteristics and operational requirements of WAS/RLAN, again addressing the 5 GHz band. While these documents are not directly applicable to the work of TG 5/1, they may inform the development of the necessary technical characteristics including protection criteria for existing services allocated in, or adjacent to, the 66-76 GHz band.

**6 Proposal**

IEEE proposes that WP 5A provides technical characteristics, including protection criteria, characteristic of WAS/RLAN services in the 66-76 GHz band, and in the adjacent band of 57-66 GHz, to TG 5/1 by 31 March 2017 for consideration by TG 5/1 Working Group 4.

IEEE anticipates that technical experts working in association with IEEE 802 will prepare supporting technical contributions. If so, IEEE expects to submit those results to WP 5A in due course.

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