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|  | **Radiocommunication Study Groups** | |  |
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| Institute of Electrical and Electronics Engineers, Inc. | | | |
| Technical Characteristics on RLAN Systems within 66-76 GHz frequency range 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 Introduction**

The purpose of this contribution is to propose that WP 5A provides technical characteristics, including protection criteria, for WAS/RLAN services operating in the 57-71 GHz frequency range to TG 5/1. Section 4 suggests relevant Standards from IEEE operating in the 57-71 GHz frequency range and Section 5 enumerates relevant ITU-R Recommendations to this work.

**3 Background**

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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 May 2016. TG 5/1 met on 23-24 May 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 which is contained in Document 5A/124.

**4 Standards in IEEE 802 relevant to 66-76 GHz frequency range**

Among the bands under study per Resolution 238, IEEE here calls particular attention to the 66-76 GHz frequency band, which, as noted in Resolution 238, has an allocation to the mobile service, subject to footnotes 5.553 and 5.558.

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:

1. 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.   
   IEEE Project 802.11-REVmc (Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications) addresses operation in 66-71GHz to support administrations which are extending the use of Multiple Gigabit Wireless Systems above 66 GHz.   
   IEEE Std 802.11ad-2012 and 802.11-REVmc may be considered as inputs to the development of the technical characteristics.
2. IEEE Project P802.11aj (Enhancements for Very High Throughput to support Chinese millimeter wave frequency bands) addresses operation in the 59-64 GHz band.
3. IEEE Project P802.11ay (Enhanced Throughput for Operation in License-Exempt Bands above 45 GHz) addresses operation above 45 GHz.
4. 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.
5. IEEE 802.16-2012 (Air Interface for Broadband Wireless Access Systems) includes the WirelessMAN-SC PHY specification addressing operation at 10–66 GHz.

**5 Relevant ITU-R recommendations and reports**

The ITU-R Recommendations and Reports in this section may be considered as inputs to the development of the technical characteristics.

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

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

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.

**6 Proposal**

IEEE proposes that WP 5A provides technical characteristics, including protection criteria, for WAS/RLAN services operating in the 57-71 GHz frequency range to TG 5/1 by 31 March 2017, considering the relevant standards in section 4 above.

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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