IEEE P802.11  
Wireless LANs

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| Draft LS from 802.11 to 3GPP RAN and SA on ITM-2020 | | | | |
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Abstract

This document contains draft text for a possible liaison by IEEE 802.11 to 3GPP RAN and SA in relation to the inclusion of 802.11 radio interfaces in the 3GPP proposal to IMT-2020.

To: 3GPP RAN

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CC: 3GPP SA

802 EC

Subject: IEEE 802.11 Working Group Liaison on IMT-2020

Date: 2016-09-16

The IEEE 802.11 working group (WG) invites 3GPP RAN to consider including the IEEE 802.11 radio interface(s) as a radio interface(s) in the 3GPP RAN IMT-2020 proposal. Given the current 3GPP need for radio interfaces to address high data rate, indoor hotspot use case and other high data rate use cases for IMT-2020 and the long history of the 802.11 radio interface in providing high data rate offload capability for existing 3GPP networks, IEEE 802.11 believes that the inclusion of the 802.11 radio interfaces in the 3GPP IMT-2020 proposal will be mutually beneficial. The IEEE 802.11 WG is willing to work with 3GPP RAN to find ways to work together towards this goal. The IEEE 802.11 WG is hopeful that 3GPP RAN also sees the benefit in working with the IEEE 802.11 WG towards the inclusion of the 802.11 radio interface(s) to meet requirements for some of the IMT-2020 use cases and invites 3GPP to respond to this liaison.

*Additional content to be developed:*

<Technical details based on IMT-2020 use cases and data rates/ranges that 802.11 currently supports, eMBB hotspot, indoor and outdoor?>  
**“Enhanced Mobile Broadband**: Mobile Broadband addresses the human-centric use cases for access to multi-media content, services and data. The demand for mobile broadband will continue to increase, leading to enhanced Mobile Broadband. The enhanced Mobile Broadband usage scenario will come with new application areas and requirements in addition to existing Mobile Broadband applications for improved performance and an increasingly seamless user experience. This usage scenario covers a range of cases, including wide-area coverage and hotspot, which have different requirements. For the hotspot case, i.e. for an area with high user density, very high traffic capacity is needed, while the requirement for mobility is low and user data rate is higher than that of wide area coverage. For the wide area coverage case, seamless coverage and medium to high mobility are desired, with much improved user data rate compared to existing data rates. However the data rate requirement may be relaxed compared to hotspot.”[1]

Enhancement of key capabilities from IMT-Advanced to IMT-2020 for eMBB [1]:

Network energy efficiency: 100x  
Area traffic capacity: 10 Mbit/s/m2Peak data rate: 20 Gbit/S  
User experienced data rate: 100 Mbit/s  
Spectrum efficiency: 3x  
Mobility: 500 km/h

<Technical status of 802.11 current capabilities 11ac wave 2/3 and planned capabilities. 11ax target>

<Suggested way to work together. Agragation, Off-load, HO? Flow Control, Intergration,3GPP LWA/ LWIP/eLWA, ???. Performace Data>

<Information on IEEE 802.11 WG commitment to this effort: formation of the Standing Committee, summary of the 802 EC 5G/IMT-2020 SC report, commitment to provide inputs to 3GPP for the IMT-2020 proposal, specification, and validation.>

Sincerely,

Adrian Stephens  
IEEE 802.11 Working Group Chair

**References:**

1. **Recommendation ITU-R M.2083-0 (09/2015), “IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond”, M Series, Mobile, radiodetermination, amateur and related satellite services**