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Update on Wireless Access Standards and Spectrum in ITU-R

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Since the article published in the March 2015 issue of IEEE Standards News, significant progress has been made in ITU-R. The ITU Radiocommunication Assembly 2015 (RA-15), 26-20 October 2015, and the World Radiocommunication Conference 2015 (WRC-15), 2-27 November 2015, set the pace for the new study period, 2015-2019. In particular, Resolution ITU-R 56 “Naming for International Mobile Telecommunications” was updated to include

IMT-2020, the next generation of mobile systems, referred to as 5G, and Resolution ITU-R 65 “Principles for the process of future development of IMT for 2020 and beyond”, defines the process on the basis of submissions from members and invited external organizations, to be evaluated against the requirements for the future development of IMT.

The ITU Radiocommunication Study Group 5 and its working parties and task group have already held one meeting in 2016. As a result of the work conducted in Working Party 5D (WP 5D), ITU-R issued Circular Letter 5/LCCE/59 with an invitation for submission of proposals for candidate radio interface technologies for the terrestrial components of the radio interface(s) for IMT-2020, and an invitation to participate in their subsequent evaluation. The evaluation guidelines, including the criteria and methodology, are to be finalized by WP 5D in June 2017, in accordance with the detailed timeline and process for IMT-2020 in ITU-R.

WRC-15 considered additional spectrum allocations to the mobile service on a primary basis, and some bands below 6 GHz were newly identified for IMT in various footnotes in Article 5 of the ITU Radio Regulations for those countries wishing to implement IMT (including 470-698 MHz, 1427-1518 MHz, 3300-3400 MHz, 3600-3700 MHz, and 4800-4990 MHz, in a number of countries). Consequentially, WP 5D initiated the development of a draft revision of Recommendation ITU-R M.1036-5 to include the frequency arrangements for the new bands.

WRC-15 also agreed on an agenda item for WRC-19 to study the following bands above 6 GHz for IMT identification: 24.25-27.5 GHz, 37-40.5 GHz, 42.5-43.5 GHz, 45.5-47 GHz, 47.2-50.2 GHz, 50.4-52.6 GHz, 66-76 GHz, and 81-86 GHz, which have allocations to the mobile service on a primary basis; and 31.8-33.4 GHz, 40.5-42.5 GHz, and 47-47.2 GHz, which may require additional allocations to the mobile service on a primary basis. Study Group 5 established Task Group 5/1 to rapidly progress this work. Furthermore, some administrations see opportunities in other bands, for example in the 28 GHz band, and may pursue it outside the WRC process on a national and regional basis.

Other important agenda items for WRC-19 that are relevant for wireless standards include radio local area networks (RLANs) between 5150 and 5925 MHz, intelligent transport systems (ITS), and railway radiocommunication systems. This work has been assigned to Working Party 5A (WP 5A).