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On Licensed and Unlicensed Spectrum for Future 5G/B5G Wireless Systems

CALL FOR PAPERS

The incredible increase in connected appliances and downloaded applications has pushed mobile operators to the edge limits of their licensed spectrum bands. This has triggered the idea of evolving the current radio access network to use the underutilized unlicensed spectrum, and extending spectrum resources beyond current usage charts. Nevertheless, unlicensed access is gaining acceptance as one of the most significant solutions to improve the resource availability and system scalability in future 5G/B5G networks. The local contiguous access of spectrum using ultra-dense deployment of small cells enables the utilization of every single Hertz of spectrum, including the unlicensed band. The millstones for such technology have been verified with the emergence of licensed-assisted access and LTE-WiFi aggregation technologies. The interoperability between licensed and unlicensed spectrums allows the transfer of higher data volumes with the additional airtime obtained from the unlicensed spectrum. However, this interoperability needs to be investigated from two perspectives: radio access and backbone management. The aggregation of two wireless interfaces at the RAN side is still shaping up for efficient and fair spectrum sharing. The Third Generation Partnership Project and WiFi Alliance are the leading bodies debating such technologies. Supporting interoperability from the backbone segment to enable multi-connectivity and packet forwarding between dynamic clusters has gained more attention within the IEEE 5G Initiative and the creation of the IEEE 1932.1 Standard WG. Therefore, the IEEE 5G Initiative is looking at the opportunity to provide a deep technical analysis through a new CFP for IEEE Network to provide a forum for such discussions. Since 5G development is moving from the connection stage to alpha-level testbeds, the IEEE 5G Initiative is launching a new CFP to cover the spectrum extension challenges and related technologies. Prospective authors are invited to submit original manuscripts on topics including, but not limited to:

- Licensed and unlicensed spectrum interoperability
- Capacity of multi-interface networks
- Shared usage of unlicensed band

- Time alignment in multi-interface technologies
- End-to-end communications and service optimization
- Interfaces to the core network for standalone and non-standalone networks
- Network stability, scalability, and optimization
- Integration of various platforms onto a single network
- Provisioning, monitoring, and diagnostic solutions for licensed and unlicensed spectrum
- Management solutions for licensed and unlicensed spectrum
- Licensed and unlicensed spectrum for IoT networks
- Licensed and unlicensed spectrum for V2X networks

SUBMISSION GUIDELINES

Submission Guidelines
Manuscripts should conform to the standard format as indicated in the Information for Authors section of the Paper Submission Guidelines.

All manuscripts to be considered for publication must be submitted by the deadline through Manuscript Central. Select the “July 2019: On Licensed and Unlicensed Spectrum for Future 5G/B5G Wireless Systems” topic from the drop-down menu of Topic/Series titles.

IMPORTANT DATES

Manuscript Submission Deadline: November 1, 2018
First Revisions/Reject Notification: January 1, 2019
Decision Notification: March 1, 2019
Final Manuscript Due: April 1, 2018
Publication Date: July 2019

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