



June 11, 2015

Ms. Marlene Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: ET Docket No. 15-105: Office of Engineering and Technology and Wireless Telecommunications
Bureau Seek Information on Current in LTE-U and LAA Technology

Dear Ms. Dortch:

Microsoft applauds the Commission for seeking public comment on LTE-Unlicensed (LTE-U) and Licensed Assisted Access (LAA) technologies. Today, there is insufficient information about how LTE-U and LAA protocols will manage coexistence with Wi-Fi and other devices that operate in unlicensed spectrum. We are hopeful that comments filed in response to the Commission's Public Notice will shed light on these important details.

Although seemingly a highly technical matter, the question of how such coexistence is defined, implemented, and enforced in unlicensed spectrum bands is a critically important issue for literally billions of consumers globally who use voice, video, and data applications over wireless devices leveraging unlicensed spectrum. The extent to which consumers rely on unlicensed spectrum is well documented in many of the Commission's proceedings. It is widely accepted that consumers' reliance on unlicensed spectrum will continue to grow for the foreseeable future.

Microsoft's customers increasingly depend on Wi-Fi and other unlicensed technologies when using our devices and accessing our diverse cloud-based services. We are concerned that any technology that makes use of a licensed control channel will use that channel to give it priority access to the medium, and in this case degrade the performance of services delivered over Wi-Fi and other technologies that rely exclusively on unlicensed spectrum. Even assuming that the exclusively unlicensed device is able to access the channel, under such a scenario, the unlicensed device could be subject to increased latency, jitter, and packet loss.

To be clear, Microsoft doesn't oppose deployment or use of LTE-U or LAA per se. Microsoft continues to advocate for spectrum sharing between and among licensed and unlicensed users as a means to make more efficient use of finite spectrum resources. And sharing among unlicensed technologies requires implementation of fair coexistence mechanisms, where fairness is not left up to the discretion of the user of either unlicensed or licensed spectrum.



Ideally, the relevant standards organizations – 3GPP and IEEE – and other stakeholders – such as the LTE-U Forum and the Wi-Fi Alliance – will come together, develop a series of technical solutions for fair coexistence, and then commit to implementing them in unlicensed frequencies. However, we are concerned that the asymmetrical nature of this problem may be getting in the way of such collaboration. The Commission should encourage groups to work cooperatively on fair coexistence mechanisms that enable complementary technologies, such as LTE and Wi-Fi, to co-exist. If these efforts do not prove fruitful, we believe the Commission has a role to play as a convener, a facilitator, and a regulatory backstop.

Should you have any questions regarding this submission please do not hesitate to contact the undersigned parties.

Sincerely,

/s/

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