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April 10, 2015

Ms. Marlene Dortch,
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: GN Docket No. 12-354-- Ex parte meeting

Dear Ms. Dortch:

On April 8, 2015, Paula Boyd and Michael Daum, of Microsoft Corp., and the undersigned, participated in a telephone call with Travis Litman, Legal Advisor to Commissioner Rosenworcel, to discuss the Commission's plans to allow wireless broadband devices to operate on the 3.5 GHz band in a Citizen Band Radio Service (CBRS). On April 10, 2015, Paula Boyd and Michael Daum joined Rick Chessen of NCTA and Michael Calabrese of New America Foundation in meetings with Commissioner Mignon Clyburn and Louis Pereatz, Commissioner Clyburn's senior legal advisor. Also on April 10, Paula Boyd joined Michael Calabrese in meeting with Travis Litman, Legal Advisor to Commissioner Rosenworcel.

Microsoft shares the Commission's enthusiasm for unlicensed, opportunistic General Authorized Access (GAA) on this band. Microsoft reiterated its support for a CBRS on the 3550-3700 MHz band, the allocation of at least 50 percent of the band to GAA within each census tract, that spectrum sharing between the three tiers of access occurs across the entire 150 MHz, and that GAA devices are permitted to utilize PAL channels at times and places within a census tract when the spectrum is not being used by the licensee.

Microsoft explained that allowing the use of LTE-U and Licensed Assisted Access (LAA) in the CBRS[1] would be contrary to what the Commission has stated it wants to accomplish in this proceeding: a new Citizens Broadband Radio Service that is based on *promoting spectrum sharing* to enable more efficient use of radio spectrum.[2] LTE-U is not designed for spectrum

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[1] *See* Ex Parte Letter of Qualcomm, GN Docket No. 12-354 (April 3, 2015).

[2] Notice of Proposed Rulemaking and Order, *In the Matter of Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, GN Docket No. 12-354 ¶ 1 (Dec. 12, 2012) ("With this Notice of Proposed Rulemaking (Notice), we propose to create a new Citizens Broadband Service in the 3550-3650 MHz band (3.5 GHz Band) currently (continued...)

sharing. Rather, it is designed to enable licensed users of LTE technology to control access to unlicensed frequencies. Quite simply, allowing LTE-U to operate on the CBRS would undermine the goal of promoting spectrum sharing. Unless action is taken, there is nothing to prevent licensees in the CBRS or in lower frequency bands from aggregating their licensed spectrum with GAA spectrum, so that in the extreme, all available GAA spectrum in a given census tract can effectively be accessed only by licensees. We believe this will be the likely outcome in many urban census tracts.

Microsoft would not object to introduction of LTE-U or LAA technologies in the 3.5 GHz band (or other bands) *provided that* they share access to spectrum fairly with other unlicensed technologies, like Wi-Fi. Unfortunately, LAA is a standard still under development by 3GPP. Whether or not an LAA standard would incorporate coexistence mechanisms and therefore would provide Wi-Fi and other unlicensed devices with fair and reasonable access to open channels when competing with LAA devices is completely speculative at this point.

We are aware of the argument that allowing LTE-U devices to operate in the CBRS would be consistent with the notion of "technology neutrality." Technology neutrality is sometimes defined as the regulatory approach where similar technologies should be regulated similarly or regulators should not adopt regulations that effectively dictate technology choices. Either way, technology neutrality is a means to a desired policy outcome, which is almost always about increasing competition in the marketplace. If the Commission chooses to focus on the process (technology neutrality) rather than the outcome, given the significant differences in how LTE-U and Wi-Fi access channels, the result will be limited spectrum sharing at best, with no increase in competition. In this case it is clear that one technology has such a built-in advantage over the other by effectively requiring a license to access the unlicensed-like GAA spectrum, the market won't really get a fair chance to decide which it prefers. Additionally, it will create a higher barrier to investment in the development of non LTE-U technologies for the CBRS as uncertainty over spectrum access combined with the still large proportion of the U.S. population within the exclusion zones may prove too high a hurdle.

The Commission should not be distracted from its goal of spectrum sharing by this canard. The Commission should ignore the most recent iteration of these false arguments and should achieve its goal of promoting spectrum sharing by adopting rules that promote that goal, since without such rules the incentives of certain parties to use their technology to thwart the goal of the proceeding is so great.

Accordingly, the FCC should not allow GAA spectrum from being accessed through transmissions sent over licensed spectrum. This would mean that in the immediate term, LTE-U devices would not be allowed to operate in the CBRS. Ideally, the Commission should use its power of the bully pulpit to convene LTE-U/LAA and Wi-Fi interests and work with the parties to ensure there is a good faith and successful effort to develop fair and reasonable co-existence mechanisms in the 3.5 GHz band and other bands using the most current technology. At a

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utilized for military and satellite operations, which will promote two major advances that enable more efficient use of radio spectrum: small cells and spectrum sharing.").

minimum, the Commission should ask several questions in the Further Notice of the item seeking further comment on how LTE-U and other unlicensed use of the band can co-exist. For example, there needs to be a record developed on how LTE-U devices could be a 'good neighbor' to Wi-Fi devices in the CBRS band, which includes providing sufficient details of LTE-U and Wi-Fi operating parameters to allow for third party testing. Additionally, the Commission needs to understand the technical differences between pre-standard LTE-U, what is being discussed in studies for the LAA standard, and whether LTE-U equipment can or cannot be updated once deployed solely through a software update when the LAA standard comes out.

Please direct any questions to the undersigned.

Sincerely,

/s/

Gerard J. Waldron
Counsel to Microsoft Corp.

cc: Travis Litman
Louis Paeraetz
Rene Gregory
Erin McGrath