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June 10, 2019

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: **ET Docket No. 14-165 - COMMENTS OF DEERE & COMPANY**

Dear Ms. Dortch:

Deere & Company (“Deere”) hereby submits these brief comments in response to the petition for rulemaking filed by Microsoft seeking changes to the White Space Device (“WSD”) rules.¹ Deere takes no position on the merits of Microsoft’s petition, but submits these comments (1) to correct the record with respect to certain statements in the petition regarding Deere’s operations pursuant to a 2016 limited Commission waiver of certain WSD rules,² and (2) to clarify the limited scope of Deere’s waiver with respect to mobile operations.

I. DEERE’S OPERATIONS UNDER ITS 2016 LIMITED WAIVER SHOULD NOT BE CITED AS SUPPORT FOR MICROSOFT’S PETITION

In its petition for rulemaking, Microsoft asks the Commission to modify the fixed WSD rules so that, among other things, fixed WSDs, which operate at power levels higher than those permitted for personal/portable WSDs, can operate on “moveable platforms such as school buses, agricultural equipment, and even livestock.”³ Microsoft claims that allowing such operations “would be a natural outgrowth of the waiver granted to Deere & Company for the use of fixed WSDs installed on mobile agricultural machinery”⁴ and further asserts that “Deere’s operations [under the waiver] are remarkably similar” to the operations Microsoft hopes to conduct, and that “no harmful interference has been reported in connection with Deere’s use of mobile WSDs” under the waiver.⁵ Finally, Microsoft claims “[t]he success of Deere’s operations ... illustrate[s] that the risk of harmful interference in adopting a fixed geofencing rule is low.”⁶

¹ *In re Petition to Amend Part 15 of the Commission’s Rules for Unlicensed Operations in the Television Bands, Repurposed 600 MHz Guard Bands and Duplex Gap and Channel 37*, Microsoft Corp., Petition for Rulemaking, ET Docket No. 14-165 (filed May 3, 2019) (“Microsoft Petition”).

² *Deere & Company Request for Limited Waiver of Part 15 Rules for Fixed White Spaces Device*, Order, 31 FCC Rcd. 2131 (2016) (“Deere Waiver Order”).

³ Microsoft Petition at 22.

⁴ *Id.*

⁵ *Id.*, at 24.

⁶ *Id.*

At the outset, while Deere is grateful to the Commission for having granted the limited waiver, Deere decided in 2016 for certain business reasons not to proceed with operations under the limited waiver (and so advised the Commission staff of this decision.) Accordingly, it is not accurate to point to the success of Deere's operations under the limited waiver or of the absence of harmful interference from those operations as supporting evidence for Microsoft's Petition when in fact Deere has not operated any transmitters under the limited waiver.

II. THE LIMITED WAIVER EXCLUSIVELY APPLIED TO SLOW MOVING, OFF-ROAD AGRICULTURAL EQUIPMENT

Deere reiterates that it takes no position on the merits of Microsoft's Petition but Deere points out the limited scope of authorization the Commission granted in the 2016 WSD waiver. Deere sought, and was granted, a carefully drawn limited waiver that only applied to off-road agricultural equipment operating with Deere's StarFire™ onboard geolocation guidance system in "less congested" rural areas. The limited waiver imposed rigorous requirements for re-registration in the white space database and service shut down if the equipment were to move more than 50 meters from its prior location without re-registering and/or if the connection with the database is broken.

Equipment operating pursuant to this waiver was subject to a technical limit of maximum conducted power of 1W (30 dBm) and 4 W (36 dBm) EIRP power per 6 MHz. The limited waiver specified that Deere would be the responsible party including for the purpose of correcting all instances of interference that may arise including disabling operations of the device. Finally, the limited waiver permitted no more than 300 units during the first twelve month period.⁷

Microsoft noted that, under the terms of the Deere waiver, "devices are attached to mobile vehicles that operate within a pre-defined area" and referred to Deere's proposed machinery as "mobile WSDs."⁸ For the avoidance of confusion, Deere clarifies that the 2016 limited waiver specifically authorized farm equipment moving at relatively slow speeds and, in contrast to the request in the Microsoft Petition, did not apply to fully mobile vehicles operating on commercial roads at all speeds including up to highway speeds. In fact, part of the reason Deere believed its request for waiver was warranted was that it only intended to operate WSDs on farm equipment such as tractors and combine harvesters that would be "moving at relatively slow speeds" off-road.⁹ Therefore, the limited Deere waiver did not set forth technical or other justification for fixed WSDs operating on a fully mobile platform.

⁷ Deere Waiver Order, ¶ 1.

⁸ *Id.*

⁹ *See Deere & Company Request for Limited Waiver of Part 15 Rules for Fixed White Spaces Device*, filed July 13, 2015, ET Docket No. 15-184 at 2. *See also id.*, at 3 ("In light of the slow moving nature of the in-motion agricultural equipment to which the [WSD] will be affixed, the [WSDs] will be able to comply with the fixed [WSD] reregistration and channel list requirement in contrast to a fast-moving, fully mobile on-road vehicle.").

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Respectfully Submitted,

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