

BEFORE THE
Federal Communications Commission

WASHINGTON, DC 20554

In the Matter of)	
)	
LightSquared Subsidiary LLC)	IB Docket No. 12-340
)	SAT-MOD-20120928-00160
Applications for Modification of Ancillary)	SAT-MOD-20120928-00161
Terrestrial Authority Associated With Its)	SES-MOD-20121001-00872
Mobile-Satellite Service L-Band Licenses)	
To: Chief, Satellite Division		
International Bureau		

REPLY COMMENTS OF THE DEERE & COMPANY

Deere & Company (“Deere”), by its undersigned counsel, hereby submits these reply comments to address certain issues raised in comments filed by LightSquared on January 4, 2013, with respect to the above-captioned Applications for Modification of Ancillary Terrestrial Authority Associated with Its Mobile-Satellite Service L-band Licenses (“*Modification Applications*”).¹ At the outset, Deere shares the Commission’s and LightSquared’s goal of expanding wireless broadband services, particularly in rural areas. Although LightSquared’s revised proposal which identifies new spectrum bands for its proposed terrestrial network is still quite preliminary, we agree that aspects of LightSquared’s new proposal merit further evaluation and reemphasize that Deere remains committed to working with the Commission and LightSquared to explore options for introducing appropriate supplemental services into portions of the mobile satellite service (“MSS”) L-band and elsewhere that can accommodate them

¹ See Public Notice, Report No. SPB-245, DA 12-1863 (released November 16, 2012) (inviting comments and petitions to deny the modification applications).

without creating harmful interference to Global Positioning System (“GPS”) or alternative Global Navigation Satellite System (“GNSS”) receivers. The technical issues raised by LightSquared’s proposal should be addressed in a notice and comment rulemaking, with appropriate procedures for analyzing the potentially complex interference issues that are raised by LightSquared’s new approach. In the absence of that process, it is premature to consider a modification to LightSquared’s current satellite license.

I. DEERE’S INTEREST

Deere is a strong supporter of expanded broadband services, in particular services in rural areas that help address the growing bandwidth demands of Deere’s operations and its customers in agricultural and other sectors. Deere’s rural customers increasingly utilize data intensive applications to enhance their farming and agricultural activities in ways that would have been unimaginable even a decade ago. As a result, the American farmer needs broadband connectivity at the farm and also wireless broadband access for in-motion tractors and implements in the field. Rural broadband and wireless infrastructure today is woefully inadequate to meet Deere’s growing data needs and the needs of the American farmer. Deere appreciates and supports the Commission’s ongoing efforts to improve rural broadband access, and looks forward to contributing in a constructive and meaningful way to such initiatives going forward.

Deere has been heavily involved over the last two (2) years during the Commission’s effort to evaluate LightSquared’s original proposal for terrestrial service in L-band mobile satellite spectrum. Deere’s primary interest in LightSquared’s network proposal is to ensure that the network deployment will not cause interference with high-precision GPS-based navigation

systems that are essential to virtually all modern agricultural enterprises today. With that interest in mind, Deere contributed extensive resources to the Technical Working Group (“TWG”) jointly chaired by LightSquared and the USGIC evaluating the interference impact of LightSquared’s original MSS L-band terrestrial network proposal, and served as the chair of the sub-group evaluating interference from terrestrial base stations and handsets into high-precision and augmented GPS receivers. Deere’s participation in the TWG testing and evaluation of LightSquared’s original network proposal, and Deere’s other direct contributions to the FCC helped to develop a greater understanding among policymakers and a more comprehensive technical record of the serious interference threat to many classes of GPS receivers and important GPS end users. Deere remains committed going forward to working with the Commission, LightSquared and other stakeholders to evaluate future proposals and solutions for supplemental terrestrial services in the L-band and elsewhere.

II. THE NEW PROPOSAL SHOULD BE ADDRESSED UNDER RULEMAKING PROCEDURES

The technical issues raised by LightSquared’s proposal should be addressed in a notice and comment rulemaking, with appropriate procedures for analyzing the potentially complex interference issues that are raised by LightSquared’s new approach. In the absence of that process, it is premature to consider a modification to LightSquared’s current satellite license. Deere agrees that the Commission should not pre-judge LightSquared’s instant proposal for supplemental terrestrial service in the MSS L-band. Any rulemaking should be open and transparent and ensure that all stakeholders have an opportunity to evaluate and contribute input concerning the specific timing of any proposed supplemental terrestrial network buildout and equipment deployment in the MSS L-band.

III. DEERE SUPPORTS LIGHTSQUARED'S PROPOSAL TO RELINQUISH THE "UPPER 10 MHZ"

Although LightSquared has not provided sufficient information to fully evaluate its revised terrestrial network proposal, particularly in advance of the completion of rulemaking proceedings that would examine LightSquared's new proposed uses of the lower 10 MHz L-band and 1675-1680 MHz band, Deere acknowledges that it has made some encouraging and very productive initial commitments. In particular, LightSquared's commitment to permanently relinquish the 1545-1559 MHz ("Upper 10 MHz") is a productive development. TWG testing confirmed that terrestrial use of Upper 10 MHz for terrestrial service would create devastating interference for many classes of GPS user, including avionics and other safety of life systems. Deere wholeheartedly supports the decision to permanently prohibit high-power terrestrial service in this band immediately adjacent to the 1559-1610 MHz GNSS band.

IV. AMONG OTHER ISSUES, THE IMPACT OF DEPLOYING HANDSETS IN THE UPLINK BAND NEEDS FURTHER EVALUATION

With respect to using the 1626.5-1660.5 MHz earth-to-space portion of the MSS L-band for terrestrial handset transmissions, TWG testing confirmed that such use would result in overload interference into legacy GPS receivers.² Although the severity of such interference was meaningful, and could be exacerbated by a terrestrial use model where multiple handsets transmit in close proximity to GPS receivers and create elevated aggregate levels of electromagnetic energy,³ Deere is open to further evaluating the introduction of terrestrial

² See Working Group Final Report, SAT-MOD-20101118-00239, at 142, Figure 3.3.8 (dated June 30, 2011) ("*TWG Final Report*") (For example, the General Location/Navigation sub-team found that GPS receivers began to experience harmful interference at a maximum range of nearly 10 meters from a LightSquared handset).

³ Relative to mobile satellite handsets, terrestrial handsets are more likely to be operated concurrently in multiples and in close proximity to GPS receivers. For example, it is unlikely that a mobile satellite user would attempt to communicate with an overhead spacecraft while traveling within an in-motion motor vehicle (the roof of the vehicle generally creates too much attenuation to establish robust duplex connectivity with the spacecraft). In

handsets into these frequencies in the course of a rulemaking that considers whether such devices could be introduced under particular technical parameters and timing.

Although some information regarding the impact of introducing supplemental terrestrial handset operations in the 1626.5-1660.6 MHz earth-to-space MSS L-band based is in the existing record, there is insufficient technical information and analysis in the record to justify a modification of LightSquared's license at this time.⁴ TWG testing regarding the interference potential for handsets operating in the 1626.5-1660.5 MHz band was limited in scope and scale relative to the extensive effort focused on evaluating base station transmissions in the 1525-1559 MHz band. A more comprehensive technical record is needed to confirm the real-world interference impact of terrestrial handsets in the 1626.5-1660.5 MHz. The very limited instant technical record is a wholly inadequate basis for granting LightSquared the additional authority it desires.

V. CONCLUSION

Deere supports the Commission's and LightSquared's efforts to advance wireless broadband, particularly rural broadband. Modification of LightSquared's license is premature at this time, but Deere supports further evaluation of LightSquared's proposal in one or more rulemakings to analyze LightSquared's revised terrestrial network proposal as described in its September 28, 2012 petition, and will continue to contribute in a constructive and meaningful way going forward to ensure that any future Commission decision regarding supplemental terrestrial services in the MSS L-band is based on a comprehensive technical record.

contrast, it is common for multiple passengers in motor vehicles to communicate simultaneously with terrestrial base stations.

⁴ See *In the Matter of LightSquared Subsidiary LLC Request for Modification of its Authority for an Ancillary Terrestrial Component*, Order and Authorization, at ¶¶ 42-43, SAT-MOD-20101118-00239 (rel. Jan. 26,

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Tim Bransford, hereby certify that on January 11, 2013, I have caused a copy of Deere & Company's Reply Comments to be served via U.S. Mail on the following:

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