



TECHNOLOGY
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INSTITUTE

July 5, 2018

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

**Re: Ligado Networks LLC Amendments to License Modification Applications
SAT-AMD-20180531-00044 and SAT-AMD-20180531-00045**

Dear Ms. Dortch:

I am writing to urge the Commission to approve the license modification applications submitted in December 2015 by Ligado Networks and recently amended on May 31, 2018. The need for additional spectrum for mobile broadband and emerging 5G technologies is well established. Allowing the Ligado spectrum to lie fallow represents a waste of a valuable resource that could provide substantial benefits for consumers in the form of new Internet of Things and other uses. Beginning in 2010, I and colleagues have written extensively about the options available for increasing spectrum for broadband, stressing the important role the Ligado spectrum can play in that effort.¹

The attempt to allow the L-band to be used for terrestrial services has been ongoing for many years. Ligado (and its predecessor LightSquared) have proposed major operational restrictions and license modifications to address interference concerns raised by the Global Positioning System (GPS) industry and users of GPS receivers.

I have submitted comments at various stages urging the Commission to move forward expeditiously to permit Ligado to productively deploy this spectrum so that the economy can finally benefit from what has been a wasted resource:

¹ See Thomas M. Lenard, Lawrence J. White, and James L. Riso, “Increasing Spectrum for Broadband: What are the Options?,” Technology Policy Institute, February 2010, available at <https://techpolicyinstitute.org/commentary/increasing-spectrum-for-broadband-what-are-the-options/>; and Thomas M. Lenard and Lawrence J. White, “The Spectrum Crunch, MSS Spectrum and LightSquared,” Technology Policy Institute, April 2013, available at https://techpolicyinstitute.org/policy_paper/the-spectrum-crunch-mss-spectrum-and-lightsquared/.

- In 2012, to address interference concerns, LightSquared proposed to permanently vacate the 10 MHz closest to GPS receivers (1545-1555 MHz) and delay deployment on another nearby band (1526-1536 MHz).²
- In 2013, the Commission requested comments on a report LightSquared submitted providing technical analyses of the potential interaction of LightSquared terrestrial wireless devices with GPS devices and responding to questions raised by several government agencies.³
- In 2016, I submitted comments urging the Commission to move forward on Ligado’s proposal to modify licenses for 1526-1536 MHz, 1545-1555 MHz, 1627.5-1637.5 MHz, 1646.5-1656.5 MHz, and 1670-1675 MHz as well as reallocate 1675-1680 MHz for shared use.⁴
- I submitted comments again in 2017 subsequent to the February, 2017 National Advanced Spectrum and Communications Test Network (NASCTN) report on the impact of LTE Signals on GPS receivers that was prepared at the request of Ligado.⁵

The latest amendments satisfy the commitment Ligado made to follow the Federal Aviation Administration’s recommendations to protect certified aviation GPS receivers by limiting its power in the 1526-1536 MHz Band (the “Lower Downlink Band”).

All this illustrates the extraordinary efforts Ligado has undertaken to be able to use its spectrum to deliver next-generation network services. Ligado has entered into spectrum use coexistence agreements with five leading GPS manufacturers. The most recent license modification proposal to lower the maximum power of transmissions in the Lower Downlink Band adopts the FAA’s recommended power level. In addition, Ligado has agreed to relinquish use of part of the Lower Downlink Band, creating a 23 MHz guardband for satellite navigation systems.

The 35 MHz of mid-band Ligado spectrum represents a significant potential contribution to U.S. leadership in 5G. The Commission, together with the National Telecommunications and Information Administration, have been attempting to move more spectrum into the private sector, particularly by freeing up government spectrum. Failure to approve the Ligado license modifications would have the opposite effect, transferring a large block of spectrum from the commercial sector back to the government. The Commission should avoid this outcome by approving Ligado’s license modifications as soon as possible.

² Comments of Thomas M. Lenard, PH.D, President and Senior Fellow, Technology Policy Institute, In the Matter of LightSquared Request to Modify its ATC Authorization, December 17, 2012, available at <https://techpolicyinstitute.org/wp-content/uploads/2012/12/comments-filed-with-the-federa-2007658.pdf>.

³ Comments of Thomas M. Lenard, PH.D, President and Senior Fellow, Technology Policy Institute, In the Matter of LightSquared Subsidiary LLC Ex Parte Filing. September 6, 2013, available at <https://techpolicyinstitute.org/wp-content/uploads/2013/09/comments-filed-with-the-federa-2007653.pdf>.

⁴ February 17, 2016 letter to Marlene H. Dortch, Re: IB Docket No. 12-340 and IB Docket No. 11-109, available at <https://techpolicyinstitute.org/wp-content/uploads/2016/02/LenardSpectrumLetter.pdf>; and Comments of Thomas M. Lenard, PH.D, In the Matter of Ligado’s Modification Applications, May 19,2016, available at https://techpolicyinstitute.org/wp-content/uploads/2016/05/Lenard_ligadolicensmodification.pdf.

⁵ Letter to the Honorable Ajit Pai, Re: Ligado’s License Modification Applications IB Docket No. 12-340, IB Docket No. 11-109, March 2, 2017, available at <https://techpolicyinstitute.org/wp-content/uploads/2017/03/Lenard-Ligado-comments-020317.pdf>.

Respectfully submitted,

A handwritten signature in black ink that reads "Thomas M. Lenard". The signature is written in a cursive style with a large initial 'T' and a distinct 'L'.

Thomas M. Lenard
Senior Fellow and President Emeritus
Technology Policy Institute