

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554**

In the Matter of) IB Docket Nos. 11-109, 12-340
)
Modification Applications of Ligado Networks) IBFS File Nos. SES-MOD-20151231-
Subsidiary, LLC) 00981, SAT-MOD-20151231-00090, SAT-
) MOD-20151231-0091, SES-AMD-
) 20180531-00856

**SUPPORT OF COMPETITIVE CARRIERS ASSOCIATION
TO LICENSE MODIFICATION APPLICATION AS AMENDED**

Competitive Carriers Association (“CCA”)¹ hereby submits the following comment in support of Ligado’s recent Amendment to its License Modification Applications (“Amended Applications”) to provide a terrestrial service in frequency bands allocated for satellite operations.² To address the growing demand for high-capacity spectrum for mobile use and to advance 5G and next-generation technology deployments, the Federal Communications Commission (“FCC” or the “Commission”) should approve Ligado’s Amended Applications to repurpose 35 MHz of mid-band spectrum, ensuring more efficient use of highly desirable mid-band spectrum.

¹ CCA is the leading association for competitive wireless providers and stakeholders across the United States. CCA’s membership includes nearly 100 competitive wireless providers ranging from small, rural carriers serving fewer than 5,000 subscribers to regional and national providers serving millions of customers. CCA also represents associate members consisting of small businesses, vendors, and suppliers that provide products and services throughout the mobile communications supply chain.

² See Amendment to License Modification Applications of Ligado at 1–3, IB Docket No. 11-109 (filed May 31, 2018), *available at* [https://ecfsapi.fcc.gov/file/1053120688074/Ligado%20License%20Modification%20Cover%20Letter%20and%20Amendment%20\(5-31-2018\).pdf](https://ecfsapi.fcc.gov/file/1053120688074/Ligado%20License%20Modification%20Cover%20Letter%20and%20Amendment%20(5-31-2018).pdf).

CCA applauds the Commission for its efforts to make more spectrum available to inspire next-generation broadband deployment.³ Consumers' demand for mobile data is steadily increasing.⁴ For example, Ericsson's June 2018 Mobility Report forecasts a 43% compound annual growth in global data traffic over the next five years. This indicates that mobile data traffic will experience an eight-fold increase over the next six years, due to billions of new Internet of Things ("IoT") connected devices and increased consumer reliance on mobile connections to fuel these devices.⁵ For these reasons, CCA further applauds the Commission's efforts to maximize spectrum resources, including through efficient use of 35 MHz of mid-band spectrum to ensure the United States is at the forefront of the emerging IoT and 5G markets.

Mobile wireless operators increasingly require more spectrum to meet booming consumer demand for faster, more advanced mobile broadband services. Besides being a cornerstone of good spectrum policy, efficient spectrum use will increase the likelihood that carriers can satiate

³ See, e.g., *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, FCC Fact Sheet – Draft Fourth Further Notice of Proposed Rulemaking, WT Docket No. 14-177 (rel. July 12, 2018) (“Draft 39 GHz FNPRM”); *Transforming the 2.5 GHz Band*, Notice of Proposed Rulemaking, FCC 18-59 (rel. May 10, 2018) (“2.5 GHz NPRM”); *Auctions of Upper Microwave Flexible Use Licenses for Next-Generation Wireless Services: Comment Sought on Competitive Bidding Procedures for Auctions 101 (28 GHz) and 102 (24 GHz)*, Public Notice, AU Docket No. 18-85 (rel. Apr. 17, 2018) (“28/24 GHz Auctions Procedures Public Notice”); *Spectrum Horizons*, Notice of Proposed Rulemaking and Order, ET Docket No. 18-21 (rel. Feb. 28, 2018) (“Horizons NPRM”); *Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, Notice of Inquiry, Notice of Inquiry, 32 FCC Rcd 6373 (2017) (“Mid-Band NOI”); *Promoting Investment in the 3550-3700 MHz Band*, Notice of Proposed Rulemaking, 32 FCC Rcd 8071 (2017) (“3.5 GHz NPRM”); *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services et al.*, Report and Order and Further Notice of Proposed Rulemaking, FCC 16-89, 31 FCC Rcd. 8014 (2016) (“*First Report & Order*”).

⁴ Ericsson Mobility Report: June 2018 at 2, 4 (June 2018), available at <https://www.ericsson.com/assets/local/mobility-report/documents/2018/ericsson-mobility-report-june-2018.pdf> (noting that mobile broadband subscriptions are growing about 20 percent per year and predicting there will be one billion 5G subscriptions for enhanced mobile broadband by 2023).

⁵ *Id* at 14, 21.

consumer desires for data-intensive wireless services as they migrate to the deployment of next-generation technologies. When exclusive licensing is not possible, the Commission should, therefore, take advantage of spectrum sharing opportunities. Ligado’s Amendment adopts the Federal Aviation Administration’s (“FAA”) recommendations and exemplifies Ligado’s ongoing commitment to minimizing the possibility of interference with adjacent spectrum users. Granting Ligado’s Amended Applications will foster efficient spectrum use, boost the United States economy, and is supported by the record.

I. MID-BAND SPECTRUM IS CRITICAL TO SATISFY CONSUMER DEMAND FOR ADVANCED MOBILE SERVICES

Releasing 35 MHz of spectrum will enable more efficient use of mid-band spectrum, which is necessary to meet sharply escalating consumer demand for mobile broadband services and prepare for the deployment of 5G services, resulting in substantial consumer welfare benefits. As Ligado explains, “[a]t a time when our country’s leadership in 5G is threatened and spectrum resources are scarce, the Commission has before it the opportunity to make 35 megahertz of mid-band spectrum available to drive forward the transition to 5G and hasten development of the [IoT]. By approving the Amended Applications, first submitted by Ligado in 2015, the Commission would open the door to billions of dollars in consumer benefits and thousands of new American jobs.”⁶

As the Commission is aware, shared federal and commercial use of spectrum could produce significant public interest benefits, including more services for competitive wireless carriers to provide mobile broadband services for their customers, reduced prices for consumers, and increased opportunities for innovation. As Teleworld Solutions states in response to

⁶ Comments of Ligado at ii–iii, IB Docket No. 11-109 (filed July 9, 2018) (“Ligado Comments”).

Ligado’s Amendment, “[a]dditional spectrum that is dedicated to wireless use can fulfill [the growing demand for new wireless services], enable the development of those new services, and open the doors to further innovation in the wireless space.”⁷ The Information Technology & Innovation Foundation (“ITIF”) also supports Ligado’s Amendment by noting that “[w]ith a combined satellite and terrestrial network, even at the low power levels proposed, Ligado would be able to deliver industrial IoT services that would bring incredible value to the U.S. economy.”⁸ CCA agrees that releasing mid-band spectrum is especially critical, as the United States attempts to compete in the race to 5G and to reap the full economic reward that advanced deployments will offer.

But the benefits of granting Ligado’s Amended Applications also go beyond the potential for a positive and enormous economic impact. Indeed, Teleworld Solutions explains that “[o]ptimizing this spectrum would not help just a single company but players across the wireless ecosystem, which would benefit from the new opportunities Ligado’s broadband deployment would generate.”⁹ And what’s more, “Ligado’s proposed terrestrial operations offer a concrete way to help address these needs,” because granting the Amended Applications “would maximize the potential of the prime mid-band spectrum.”¹⁰ It is time for the Commission to set the stage for economic growth and American wireless leadership.

⁷ Comments of Teleworld Solutions at 1, IB Docket No. 11-109 (filed July 6, 2018) (“Teleworld Comments”).

⁸ Comments of Information Technology & Innovation Foundation at 3, IB Docket No. 11-109 (filed July 9, 2018) (“ITIF Comments”).

⁹ Teleworld Comments at 1–2.

¹⁰ *Id.*

II. THE COMMISSION SHOULD GRANT LIGADO'S AMENDED APPLICATIONS AS THE AMENDMENT ADEQUATELY ADDRESSES GPS INDUSTRY CONCERNS

Since 2011, Ligado has gone to great lengths, working with the FCC, FAA, other relevant agencies, and industry stakeholders, to ensure that a new terrestrial broadband deployment would not interfere with the 1526-1536 MHz band. Specifically, “the Amendment caps Ligado’s power in [the band] at a level of 9.8 dBW,” which “codif[ies] the determination of both the [FAA] and the Department of Transportation (“DOT”) that [this power limit] will protect certified aviation GPS receivers, including helicopters, the most restrictive use case.”¹¹ Additionally, “Ligado’s coexistence agreements with major GPS manufacturers and thousands of hours of empirical testing further evidence that other classes of GPS devices will be protected by Ligado’s revised operational parameters.”¹² The record likewise supports this approach. As Metro Aviation concludes, “Ligado’s network operations will not interfere with the safe operation of helicopters, [but] will *assist* the aviation industry by providing much-needed specialized services that facilitate aviation operations. For instance, when patients are being transported to hospitals by aircraft, Ligado’s proposed operations will facilitate the delivery of key patient data to hospitals while the aircraft is en route.”¹³

Ligado has thoughtfully and collaboratively worked to resolve certain questions that have been posed in the record about potential interference concerns. As ITIF indicates, “[i]f the Commission is driven by worst-case-scenario thinking in attempting to minimize any possible interference, innovation and introduction of new services would grind to a halt.”¹⁴ This is

¹¹ Ligado Comments at 1.

¹² *Id.* at 17–18.

¹³ Comments of Metro Aviation at 1, IB Docket No. 11-109 (filed July 9, 2018).

¹⁴ ITIF Comments at 2.

especially true with the Amendment because Ligado voluntarily adopted reduced power limits that significantly minimize the potential for interference. Further, “[w]e are not talking about a massive deployment of base stations like a new mobile carrier, but targeted supplements to a largely satellite-based industrial IoT system. This allows for valuable technological advancement that will contribute to the economy and U.S. competitiveness while avoiding the risk of interference from a larger, broadband-focused business model.”¹⁵ The Commission should seize this opportunity to promote more efficient use of spectrum by granting Ligado’s requests.

III. CONCLUSION

For the foregoing reasons, CCA urges the Commission to grant the Amended Applications to ensure the United States is at the forefront of the race to 5G. Freeing up 35 MHz of mid-band spectrum will benefit consumers, whose demand for advanced wireless services underscores the need for efficient, productive spectrum use, while adding billions of dollars to the United States economy.

Respectfully submitted,

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¹⁵ *Id.*