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September 13, 2019

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

**Re: Notice of *Ex Parte* Presentation, IB Docket No. 11-109; IBFS File Nos. SES-MOD-20151231-00981, SAT-MOD-20151231-00090, and SAT-MOD-20151231-00091, SAT-AMD-20180531-00044, SAT-AMD-20180531-00045, SES-AMD-20180531-00856**

Dear Ms. Dortch:

Ligado takes this opportunity to respond to the filing made by Iridium Communications, Inc. and other entities representing GPS and satellite communications interests (“Iridium Coalition”) on September 6, 2019.<sup>1</sup> The Iridium Coalition Letter repeats again issues they have raised previously about the pending license modification applications (“Applications”) and that Ligado has effectively answered. This most recent iteration from the Iridium Coalition is noteworthy for *what it does not say*. First, it fails to mention that the power levels in the Applications are based on the recommendation of the Federal Aviation Administration (“FAA”) on what power level is necessary to protect aviation interests and safety. Second, it fails to reveal that the Department of Transportation ABC Study it cites deliberately does not address “harmful interference”; that is a convenient omission since it would destroy the filing’s main assertion. Third, it neglects to acknowledge that the leading 5G equipment manufacturers in the world recognize how this lower mid-band spectrum can contribute to 5G and instead arrogates to the Iridium Coalition, *none of whom* are actually in the terrestrial mobile business, what spectrum will be and will not be useful for 5G. Instead of deferring to the supposed expertise of Iridium and others, Ligado prefers to let the market decide. But that may be what is most concerning to Iridium: that the market may decide which service providers best meet their needs using 21st Century technology.

***The Proposed Power Levels in the License Modification Applications Are Based on the FAA’s Recommendation.*** While the Iridium Coalition Letter discusses concerns over the impact Ligado’s proposed operations could have on the aviation industry, it fails to acknowledge what

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<sup>1</sup> See Letter from Brian Traymont, Counsel to Iridium Communications Inc. to Marlene H. Dortch, Secretary, FCC, IB Docket Nos. 11-109 and 12-340 (filed Sept. 6, 2019) (“Iridium Coalition Letter”).

Ligado has made explicit in the docket: that the proposed power levels are based on recommendations made by the FAA—the expert agency charged with protecting flight safety.<sup>2</sup>

Ligado spent nearly a year in discussions with the FAA, and that process yielded a detailed, workable approach to ensuring that Ligado’s proposed operations complied with all applicable FAA standards. That process was then followed by the Department of Transportation’s analysis, which concluded that an EIRP limit of 9.8 dBW (10 W) (cross-polarized) at 1531 MHz will protect certified aviation receivers operating in accordance with applicable MOPS even under “the most restrictive of the certified aviation scenarios examined.”<sup>3</sup> Accordingly, Ligado amended the Applications to request a maximum EIRP of 9.8 dBW (10 W) (cross-polarized) for the 1526-1536 MHz band, a level that was uniformly lower than the number settled on by the FAA. The operating parameters Ligado proposed in its Amendment thus reflect the extensive analysis that the DOT and the FAA undertook with regard to the protection of aviation devices—an analytical process that the aviation interests were fully aware of and participated in extensively. This omission from the Iridium Coalition Letter indicates that they are trying to have the Commission second-guess the judgment of the FAA and DOT.

***The DOT ABC Study Does Not Address Harmful Interference, the FCC’s Standard, But Instead Analyzes a New Metric of Its Own Making.*** The Iridium Coalition Letter asserts that “[t]he *DOT ABC Study* found that Ligado’s service would cause harmful interference for all classes of GPS . . . .”<sup>4</sup> That is not true, and no amount of hand waving and spin can make it so. Despite the efforts of many who tried to persuade DOT to use the metric of harmful interference relevant to FCC deliberations, the *DOT ABC Study* refused to analyze and report on harmful interference and instead focused on something they refer to as “interference protection criteria”—which is decidedly not the same as harmful interference.<sup>5</sup> Indeed, as Ligado has documented in the docket, the chief scientists at Volpe who oversaw the Study stated publicly at a DOT Workshop that the Study was not interested in analyzing harmful interference.<sup>6</sup> Consequently, the statement from the Iridium Coalition Letter is flatly wrong, and even a casual reading of the *DOT ABC Study*, or of the docket, would establish that fact.

***The Market, Instead of Iridium and its Coalition Members, Will Decide What Spectrum Can Play a Role in the Nation’s 5G Future.*** The Iridium Coalition Letter repeats again a refrain

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<sup>2</sup> See, e.g., Amendment to License Modification Applications, IBFS File Nos. SES-MOD-2015-1231-00981, SAT-MOD-20151231-00090, and SAT-MOD-20151231-00091.

<sup>3</sup> U.S. Department of Transportation, *Global Positioning System (GPS) Adjacent Band Compatibility Assessment Final Report*, at 158 (April 2018), <https://www.transportation.gov/sites/dot.gov/files/docs/subdoc/186/dot-gps-adjacent-band-final-reportapril2018.pdf> (“*DOT ABC Study*”).

<sup>4</sup> *Id.* at 5.

<sup>5</sup> See *id.* at 44; Letter from Gerard J. Waldron, Counsel to Ligado Networks LLC, to Marlene H. Dortch, Secretary, FCC, IB Docket No. 11-109, IBFS File Nos. SES-MOD-20151231-00981, SAT-MOD-20151231-00090, and SAT-MOD-20151231-0009, at 2 (Apr. 12, 2018).

<sup>6</sup> During DOT’s final workshop on the ABC Report in March 2017, one of the authors of the ABC Report clarified: “Again, we mentioned multiple times that we were looking at 1 dB as a protection criteria, *not necessarily as the harm criteria . . .*” Statement of Hadi Wassaf at the March 30, 2017 Workshop (the sixth workshop on the Compatibility Assessment) (emphases added).

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from an old song that “Ligado is not 5G,”<sup>7</sup> apparently because Iridium and the aviation companies are experts on 5G and mobile terrestrial spectrum. We think that instead of listening to these companies, none of whom operate mobile terrestrial networks, the Commission should give weight to two of the leading 5G equipment manufacturers, Nokia and Ericsson, which have analyzed this lower mid-band spectrum and concluded it can play a role in the development of 5G.<sup>8</sup> The effort these market leaders have made in analyzing the lower mid-band spectrum demonstrates how it supports the 5G transition. And instead of heeding the views of the self-appointed 5G experts in the Iridium Coalition, the Commission should take note of NTIA’s recently-released Annual Report on the Status of Spectrum Repurposing, which expressly discusses Ligado’s License Modification Applications.<sup>9</sup> Importantly, that report was issued by NTIA in response to a Presidential Memorandum “to maintain the U.S. position as a global leader in pioneering and sustaining technological and economic leadership in developing and deploying spectrum-dependent products and services, [including] 5G wireless systems . . . .”<sup>10</sup>

Of course, in the end, the market will decide what spectrum is the most useful to deliver services to consumers. And fear of the market may be what is driving Iridium, which could face a competitor with a unique satellite and mobile capability.

Please address any questions to the undersigned.

/s/ Gerard J. Waldron  
Gerard J. Waldron  
Ani Gevorgian  
Counsel to Ligado Networks LLC

cc: Aaron Goldberger  
Erin McGrath  
Umair Javed  
Will Adams  
Randy Clarke

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<sup>7</sup> Iridium Coalition Letter at 5–6. *See, e.g.*, Letter from Brian Traymont, Counsel to Iridium Communications Inc. to Marlene H. Dortch, Secretary, FCC, IB Docket Nos. 11-109 and 12-340, at 3–4 (filed Aug. 26, 2019), *available at* [https://ecfsapi.fcc.gov/file/10826702716321/Iridium%20ex%20parte%20letter%20\(8.26.19\).pdf](https://ecfsapi.fcc.gov/file/10826702716321/Iridium%20ex%20parte%20letter%20(8.26.19).pdf).

<sup>8</sup> For a more detailed discussion of these efforts, see Letter from Gerard J. Waldron, Counsel to Ligado Networks LLC, to Marlene H. Dortch, Secretary, FCC, IB Docket No. 11-109, IBFS File Nos. SES-MOD-20151231-00981, SAT-MOD-20151231-00090, and SAT-MOD-20151231-0009, at 5–8 (Aug. 6, 2019).

<sup>9</sup> Wilbur L. Ross and Douglas W. Kikoph, U.S. Dep’t of Commerce, *Annual Report on the Status of Spectrum Repurposing* 14–16 (Aug. 2019).

<sup>10</sup> *Id.* at 2.