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LATHAM & WATKINS^{LLP}

December 18, 2017

VIA ELECTRONIC FILING

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

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Re: Iridium Applications to Modify Its Existing Blanket Earth Station Licenses, IBFS File Nos. SES-MOD-20170413-00388 and SES-AMD-20170726-00812; SES-MOD-20170413-00389 and SES-AMD-20170726-00813

Ligado Modification Applications, RM-11681; IB Docket No. 11-109; IBFS File Nos. SES-MOD-20151231-00981, SAT-MOD-20151231-00090, and SAT-MOD-20151231-00091

Dear Ms. Dortch:

On December 14, 2017, representatives of Ligado Networks Subsidiary LLC (“Ligado”) met with the International Bureau staff copied below to discuss the above-referenced proceedings, including Iridium’s applications for authority to operate a new “one-size-fits-all” terminal type (the “Certus Applications”). The Ligado representatives in attendance included: Valerie Green, Executive Vice President and Chief Legal Officer; Bill Davenport, Senior Vice President and Deputy General Counsel, Regulatory Affairs; Maqbool Aliani, Senior Vice President, Spectrum Standards and Technology; and Gerry Waldron of Covington & Burling LLP and the undersigned as outside counsel to Ligado.

During the meeting, Ligado explained the inconsistencies in the positions taken by Iridium in the Certus Applications proceeding and in the Ligado license modification proceeding—both of which require the Commission to evaluate the extent to which Ligado and Iridium can coexist as adjacent operators. Ligado observed that the positions taken by Iridium in the two proceedings are fundamentally at odds, and cannot be reconciled or simultaneously accurate. Most significantly, while Iridium has claimed in the Ligado license modification proceeding that Iridium’s terminals *would not* be able to coexist with Ligado’s proposed operations, Iridium has made the *opposite* assertion in the Certus Applications proceeding.

Specifically, in this proceeding Iridium has claimed that its new receivers can peacefully coexist with any adjacent operator that meets the out-of-band emissions (“OOBE”) mask set forth in Section 25.202(f) of the Commission’s rules. Of particular note:

- **Iridium has acknowledged that Section 25.202(f) establishes the operating environment in which the company is expected to operate.** Iridium has correctly observed that “Section 25.202(f) of the rules specifies limits for out-of-band MSS emissions in the bands adjacent to Iridium’s Big LEO frequencies, and these limits establish the coexistence environment in which receivers in adjacent bands”—including Iridium terminals in the Big LEO band—“must operate.”¹ Iridium has also confirmed explicitly that it is “not seeking additional protection for Iridium Certus terminals” and “is satisfied with the protection afforded by Section 25.202(f).”²
- **Iridium has asserted that its proposed terminals are capable of coexisting with adjacent operations that are Section 25.202(f)-compliant.** Iridium has stated that “[t]he technical specifications for Iridium Certus terminals ensure they can coexist with adjacent band services operating in accordance with the OOBE limits specified in Section 25.202(f) of the Commission’s rules.”³
- **Iridium has explained that its existing and proposed terminals have similar ability to tolerate OOBE from adjacent operations.** Iridium has claimed that “[a]ll of Iridium’s terminals, *legacy and new, are designed to operate in the presence of transmitting terminals producing permitted OOBE in the Iridium band.*”⁴ Iridium has also argued that “the performance specifications Iridium and its manufacturing partners are required to meet for Iridium Certus receivers are every bit as stringent as the performance specifications for the receivers on Iridium’s already licensed products.”⁵

In the Ligado license modification proceeding, however, Iridium has told a story that is *based on the same facts* but completely different. In that proceeding, Iridium has raised concerns that “[OOBE] generated by Ligado’s proposed terrestrial operations will significantly interfere with Iridium’s operations in the adjacent 1617.775-1626.5 MHz spectrum band.”⁶ These claims are flatly inconsistent with Iridium’s assertions in the Certus Applications proceeding.

Critically, Iridium’s ability to tolerate OOBE in no way turns on the source of those emissions—*i.e.*, whether emissions come from mobile-satellite service (“MSS”) or ancillary

¹ Consolidated Response of Iridium, IBFS File Nos. SES-MOD-20170413-00388 and SES-MOD-20170413-00389, at 12 (Sep. 18, 2017) (“Iridium Consolidated Response”).

² Letter from Iridium to FCC, IBFS File Nos. SES-MOD-20170413-00388 and SES-MOD-20170413-00389, at 6 (Nov. 13, 2017) (“Iridium November 13 Letter”).

³ Iridium Consolidated Response at 5.

⁴ Iridium November 13 Letter at 4 (emphasis added).

⁵ Iridium Consolidated Response at 13.

⁶ Letter from Iridium to FCC, IB Docket Nos. 11-109, 12-340; IBFS File Nos. SES- MOD-20151231-00981, SAT-MOD-20151231-00090, and SAT-MOD-20151231-00091, at 2 (Mar. 27, 2017) (“Iridium March 27 Letter”).

terrestrial component (“ATC”) transmissions does not matter. Indeed, the *2003 ATC Order* applies Section 25.202(f) to ATC operations and concludes that ATC operations that comply with the Commission’s ATC rules *necessarily* would comply with Section 25.202(f) and pose *less* of an OOB concern than MSS terminals operating in the Big LEO band or adjacent bands.⁷ The attached slides, which were presented at the meeting, show that Ligado’s ATC operations would produce OOB at levels well below the Section 25.202(f) limit, as well as those produced by MSS terminals (including those of Iridium), as described in the *2003 ATC Order*.

Ligado also pointed to Iridium’s varying descriptions of its deployment plans. In the Certus Applications proceeding, Iridium has suggested that its Certus terminals would generally not operate near GPS users—even though Iridium seeks authority that would allow MSS operations on a ubiquitous basis.⁸ In the Ligado proceeding, by contrast, Iridium has asserted that its terminals are used throughout urban and suburban areas.⁹ Again, Iridium has not explained this inconsistency. Iridium cannot claim in one proceeding that its devices would generally not be proximate to GPS devices, yet claim in another proceeding that its devices are and will be ubiquitous in urban and suburban areas, presumably near those same GPS devices.

Ligado urged the Commission to resolve inconsistencies in Iridium’s positions *before* acting on the Certus Applications. Ligado noted that granting the Certus Applications without resolving such inconsistencies could prejudice the outcome of the Ligado modification proceeding. Among other things, authorizing Iridium to deploy up to 100,000 Certus terminals (and potentially millions of associated end devices) would exacerbate any incompatibility between Iridium and Ligado operations and thus make it more difficult to identify and implement a constructive solution to address any such incompatibility. Furthermore, it would be far more difficult for Iridium to make any terminal design improvements necessary to facilitate compatibility with Ligado *after* the Commission has authorized, and Iridium has deployed, tens of thousands of those terminals (and made associated capital commitments).¹⁰

For these reasons (among others), Ligado reiterated that *if* the Commission otherwise decides to grant the Certus Applications, it should explicitly require that Iridium’s Certus terminals must tolerate the operating environment described in paragraph 178 of the *2003 ATC*

⁷ See *Flexibility for Delivery of Communications by Mobile Satellite Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Band*, Report and Order and Notice of Proposed Rulemaking, 18 FCC Rcd 1962, at ¶ 178 (2003) (“*2003 ATC Order*”).

⁸ See, e.g., Iridium Consolidated Response at 10.

⁹ See, e.g., Letter from Iridium to FCC, IB Docket Nos. 11-109, 12-340; IBFS File Nos. SES- MOD-20151231-00981, SAT-MOD-20151231-00090, and SAT-MOD-20151231-00091 (filed Aug. 3, 2017).

¹⁰ See Iridium March 27 Letter at 2 (“Iridium has sunk billions of dollars of investment into its second-generation Iridium NEXT constellation in reliance upon this legal framework and the conclusion that it would be protected against the type of ATC interference Ligado proposes.”).

Order—*i.e.*, such terminals must be capable of tolerating OOBE in the 1610-1626.5 MHz band “that range from -47 dBW/4KHz to -58 dBW/4kHz.”¹¹ In other words, although Iridium would not be *required* to design or manufacture its receivers to this specification, it would not be entitled to protection from OOBE at these levels or lower.

Finally, Ligado expressed concern about the potential impact of the Certus terminals on other services in the L band. As noted above, Iridium seeks authority to operate up to 100,000 Certus terminals. These terminals would operate at up to 80 times the power levels of Iridium’s existing MSS terminals. This raises two potential issues. First, the Certus terminals would generate higher in-band power spectral density levels and therefore potentially higher OOBE than Iridium’s legacy devices. These OOBE could cause interference to the MSS operations of Ligado and other L-band MSS operators. Second, a large number of high-power terminals could overload other L-band satellite operations by either driving satellite feed element Low Noise Amplifiers (LNAs) into non-linearity or impacting other elements in the receive chain. We discussed the potential for Iridium’s new terminals to cause interference to Ligado’s uplink transmissions, which is being evaluated by Ligado based on relevant technical data. Ligado encourages the Commission to require Iridium to coordinate with other MSS operators and provide more information about its planned use cases to ensure that the Certus terminals do not harm other L-band operators.

Respectfully submitted,

/s/ John P. Janka
John P. Janka
Jarrett S. Taubman

Counsel to Ligado Networks Subsidiary LLC

Enclosure

cc: Thomas Sullivan
Jose Albuquerque
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Karl Kensinger
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Robert Nelson
Cindy Spiers (participating by telephone)
Troy Tanner

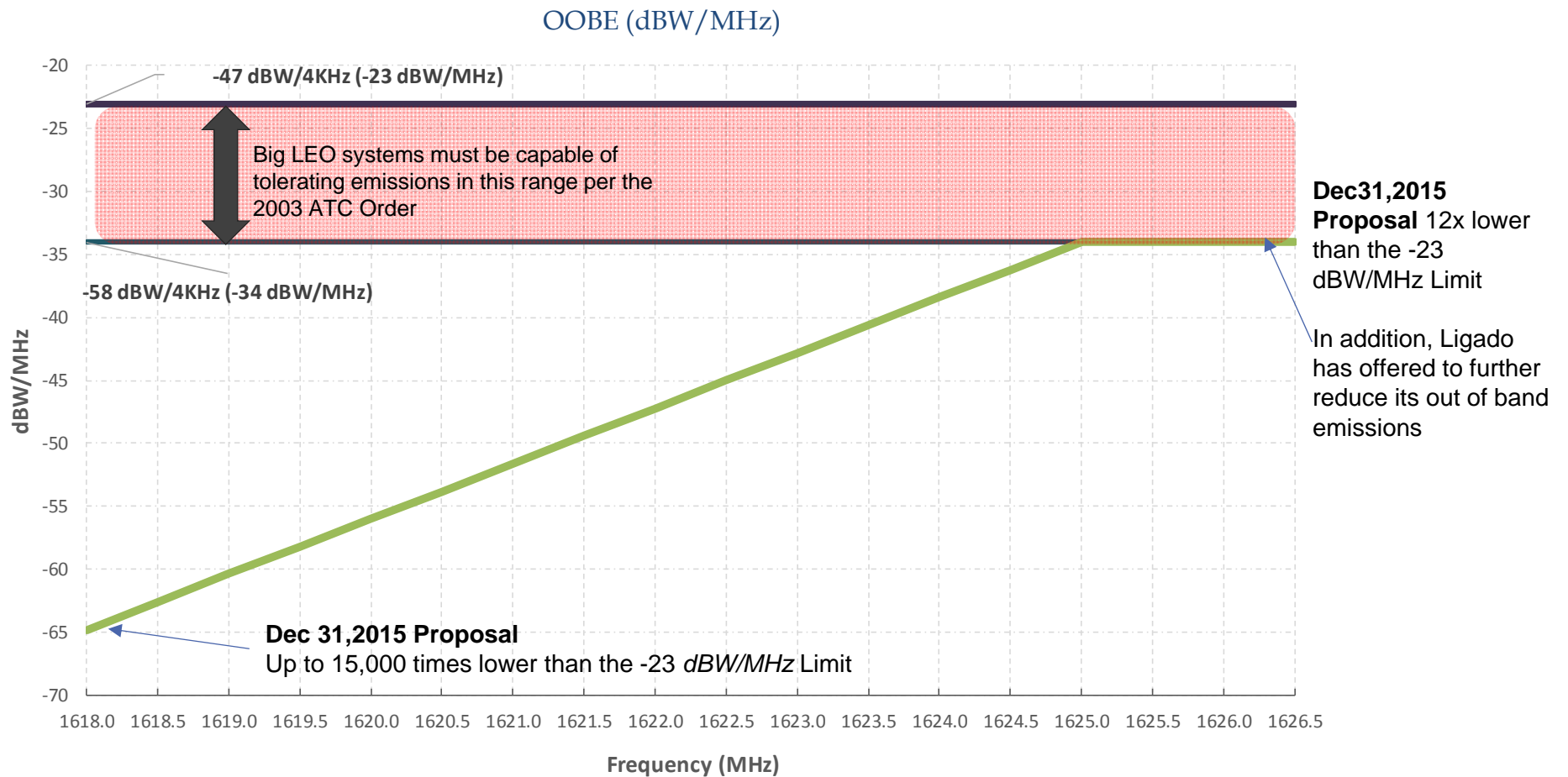
¹¹ 2003 ATC Order ¶ 178. Although the quote from the 2003 ATC Order refers to OOBE from METs, receiving systems react to OOBE in the same manner, whether the OOBE originate from MSS or ATC operations.

Technical Discussion of the Impact of Iridium's Certus Terminals

DECEMBER 14, 2017

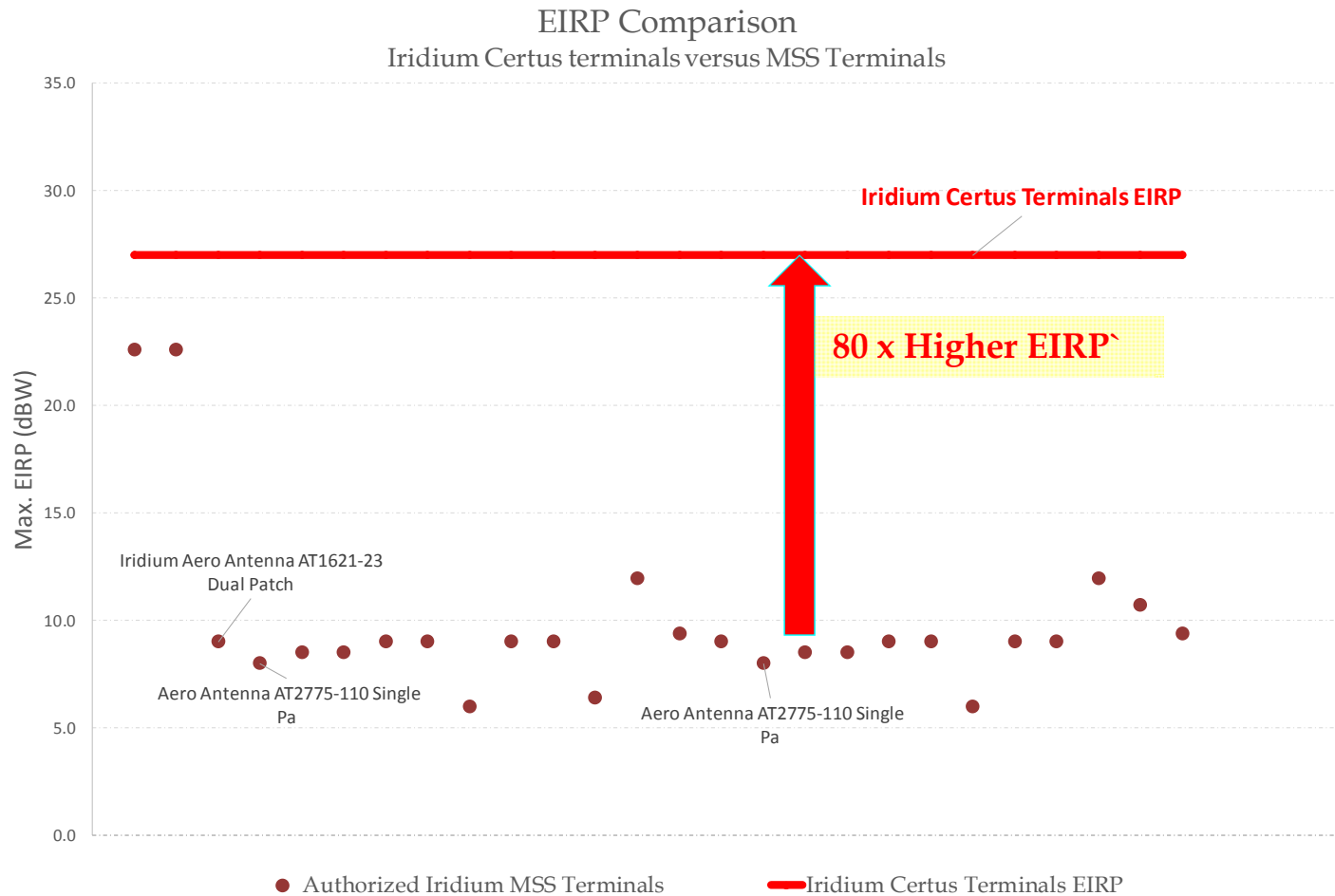


Ligado's ATC Emissions into Iridium's Band



EIRP Comparison of Certus versus Legacy Iridium terminals

Iridium's Certus terminals transmit at far higher power than existing authorized Iridium MSS terminals



Emission Mask Per 47 CFR 25.202(f)

Due to the formulation of 47 CFR 25.202(f), higher power terminals are allowed to have higher out of band emissions than lower power terminals

