

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Space Bureau Opens New Docket to)	SB Docket No. 25-173
Explore EchoStar Corporation's Use of)	
2 GHz MSS Spectrum)	
)	
Monitoring DISH's Compliance with)	WT Docket No. 22-212
Conditions Granting an Extension of Time)	
to Complete Construction of Facilities and)	
Buildout Commitments)	
)	

COMMENTS OF ECHOSTAR CORPORATION

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COMMENTS OF ECHOSTAR CORPORATION

I. Introduction

EchoStar Corporation ("EchoStar") responds to the above-captioned public notices in addition to the letter Chairman Carr issued to EchoStar prior to their release (together, the "Public Notices") seeking further comment on (1) a petition for reconsideration of the Wireless Telecommunications Bureau's ("Bureau's") grant of the acceleration and conditional extension of the construction deadlines for certain EchoStar licenses¹ (a public notice issued eight months after the Bureau's September 2024 extension grant and five months after EchoStar met its accelerated conditions through significant investments);² and (2) the Space Bureau's request for

¹ Public Notice, Wireless Telecommunications Bureau Seeks Supplemental Comment on VTel's Petition for Reconsideration of the Extension of Construction Deadlines for Certain Licenses Held By EchoStar Corporation, WT Docket No. 22-212, DA 25-404 (May 12, 2025) ("[T]he Bureau seeks to develop a more fulsome record on whether it should reconsider its decision to grant an extension of the construction deadlines for certain licenses held by EchoStar, or whether there are other measures or actions that it should consider taking with respect to EchoStar's licenses.")

² See Construction Milestone Extension Request, DBSD Corporation, AWS-4, Lead Call Sign T070272001; Gamma Acquisition L.L.C., AWS-4, Lead Call Sign T060430001; Manifest

comment on the current status of EchoStar’s mobile-satellite service (“MSS”) operations in the 2 GHz band.³ EchoStar responds with a detailed demonstration of how its terrestrial and satellite services meet the commitments and obligations imposed on EchoStar, and how its deployment is advancing the public interest and America’s global wireless leadership.

The Public Notices are already harming EchoStar’s ongoing deployment and threaten its viability as a wireless provider as well as endanger the video and broadband satellite services upon which millions of consumers rely. Indeed, the possibility of reversing prior grants of authority related to spectrum for which EchoStar paid billions and in which it invested billions more, in contravention of long-standing Commission precedent, is already having a material negative effect on EchoStar. These actions have created a dark cloud of uncertainty over EchoStar’s spectrum rights and its Open Radio Access Network (“Open RAN”) 5G network. This cloud has effectively frozen EchoStar’s decision making—it cannot reasonably invest more capital into a buildout if the Commission indicates it may take away its licenses through unprecedented actions. The Public Notices also imperil the underpinning of Commission

Wireless L.L.C., Lower 700 MHz E Block, Lead Call Sign WQJY944; American H Block Wireless L.L.C., H Block, Lead Call Sign WQTX200; ParkerB.com Wireless L.L.C., 600 MHz, Lead Call Sign WQZM232; Northstar Wireless LLC, Lead Call Sign WQWQ558; and SNR Wireless LicenseCo, LLC, Lead Call Sign WQWQ819 (granted Sept. 20, 2024) (“2024 Extension Request and Grant”); Letter from Jeffrey Blum, EchoStar, to Joel Taubenblatt, FCC, WT Docket No. 22-212, at 1 (Mar. 17, 2025) (“EchoStar March 2025 Buildout Report”).

³ Public Notice, Space Bureau Opens New Docket to Explore EchoStar Corporation’s Use of 2 GHz MSS Spectrum, SB Docket No. 25-173, DA 25-405 (May 12, 2025) (“[W]e seek comment on the current status of EchoStar’s MSS operations in the 2 GHz band. In particular, we seek information on whether EchoStar is utilizing the 2 GHz band for MSS consistent with the terms of its authorizations and the Commission’s rules and policies governing the expectation of robust MSS. We also seek comment on steps the Commission might take to make more intensive use of the 2 GHz band, including but not limited to allowing new MSS entrants in the band.”) (“MSS Public Notice”). The 2 GHz band includes 2000-2020 MHz (Earth-to-space) and 2180-2200 MHz (space-to-Earth). The Public Notices were preceded by a May 9, 2025 letter from Chairman Brendan Carr to EchoStar Chairman Charlie Ergen, attached hereto as Exhibit 1.

spectrum auctions and policy—at no other time has the agency opened such inquiries after a company has invested billions into both acquiring spectrum *and* deploying a network in conformance with the agency’s requirements.

After years of building an Open RAN network, standardizing its spectrum into both radios on towers and in consumer wireless devices, deploying more than 24,000 5G sites, building out to offer service to more than 80 percent of the nation’s population, and driving the development of direct-to-device (“D2D”) satellite standards, EchoStar is gaining momentum in its efforts to attract subscribers and transition customers to its 5G network. But the Commission’s actions put all of that progress at risk.

For these reasons, EchoStar respectfully requests that the Commission extinguish the uncertainty its Public Notices have generated by immediately acting to:

- 1) Deny VTel Wireless, Inc.’s (“VTel’s”) petition for reconsideration;
- 2) Confirm that EchoStar has satisfied its December 31, 2024 commitments, thus triggering the extensions conditionally granted to EchoStar in the Wireless Bureau’s September 20, 2024 approval; and
- 3) Reaffirm EchoStar’s exclusive rights as the incumbent AWS-4 and MSS licensee in the 2000-2020 MHz and 2180-2200 MHz bands.

Just last week President Trump declared: “[w]e must maintain our status as the Worldwide Leader in WiFi, 5G, and 6G, connecting every American to the World’s BEST Networks, while also keeping everyone safe.”⁴ EchoStar and its 5G Open RAN network align with and further these important goals. And as the Department of Defense explained, Open RAN is America’s best technological innovation for 5G and 6G and could be the key to

⁴ Donald J. Trump (@realDonaldTrump), Truth Social (May 20, 2025), <https://truthsocial.com/@realDonaldTrump/posts/114541917095503331>.

America's wireless leadership and influence.⁵ EchoStar is the only company that has built an Open RAN 5G network in the United States. The Commission should do its utmost to preserve and enhance it, not destroy it.

But if the Commission were to instead reverse course by revoking EchoStar's conditional milestone extensions despite all the evidence that it has met its obligations, and despite the time, resources, and capital EchoStar has spent to fully satisfy those conditions; if the Commission were to arbitrarily create new obligations and measure EchoStar's performance by them; if the Commission were to treat EchoStar differently than all other similarly situated licensees; or if the Commission were to undo the exclusivity of EchoStar's licenses and bring about the demise of its terrestrial and satellite networks; then the Commission's actions would unlawfully harm EchoStar, the public, and the nation.

The Reversals Contemplated by the Public Notices Would Be Arbitrary and

Capricious: Reconsidering the grant of EchoStar's construction deadline extensions eight months after approval and five months after EchoStar met its accelerated commitments, or changing the 2 GHz band's sharing rules some twelve years after the Commission *assured* EchoStar that its operations would not face interference, would constitute an unlawfully retroactive, arbitrary, and capricious new rule.

⁵ See Press Release, Department of Defense, DOD Awards Project to Develop Open Radio Access Network Prototype at Fort Bliss (Nov. 4, 2024), <https://www.defense.gov/News/Releases/Release/Article/3955369/dod-awards-project-to-develop-open-radio-access-network-prototype-at-fort-bliss> ("The Open RAN project at Fort Bliss is a valuable opportunity for the DoD to explore the enhanced command and control capabilities that near-real time control of the RAN offers DoD. The DoD CIO will continue to prioritize the deployment of Open RAN architectures and 5G across the Department, leveraging these information communications technologies for strategic warfighter advantage.").

There is no legal basis to reconsider the conditional extensions. As EchoStar already explained in its opposition to VTel’s petition for reconsideration of the Bureau’s grant, the extensions are factually and legally sound and follow long-standing Commission precedent.⁶ The extensions are also fully consistent with the *T-Mobile/Sprint Order* and the U.S. Department of Justice’s (“DOJ’s”) Final Judgment, both of whose goal is the construction of a new facilities-based network by EchoStar to remedy the loss of competition that T-Mobile’s acquisition of Sprint caused in the wireless market. And it is unlawful to reconsider the extension of some milestones now that the public has already benefitted from EchoStar’s satisfying multiple accelerated deadlines and mere weeks before prior buildout deadlines would have come due.

The Commission similarly should not, and may not, give a different answer today than it has given repeatedly to the question posed by the MSS Public Notice—whether the 2 GHz band can accommodate additional MSS operators. The answer is still “no.” The harmful interference resulting from the introduction of new, independent 2 GHz MSS operations would cripple the nation’s only 5G Open RAN network. China would be pleased as the United States public and national security suffer if such operations were now suddenly permitted.⁷

Even aside from EchoStar’s MSS rights, the injection of another MSS operator in the 2 GHz band would directly conflict with the Commission’s *Supplemental Coverage From Space*

⁶ See Opposition of EchoStar Corporation to Petition for Reconsideration of VTel Wireless, Inc., WT Docket No. 22-212, at 19 (Oct. 31, 2024) (explaining that there is no Commission precedent to justify denial of EchoStar’s extension request, and substantial precedent to justify its grant).

⁷ Tim McDonald, *EchoStar’s Hidden Strategic Value*, Synthetic Wisdom (May 21, 2025), <https://trmcdonald.substack.com/p/echostars-hidden-strategic-value> (“Spectrum divestiture could lead to reduced domestic control over critical communications infrastructure. Echostar's status as a U.S.-based company with established security protocols and compliance frameworks ensures that its spectrum assets remain under U.S. jurisdiction and oversight. Divestiture could potentially lead to these assets being acquired by entities with less robust security practices or, in a worst-case scenario, by companies with ties to foreign governments.”).

(“SCS”) *Order*, under which an SCS license in a band licensed for terrestrial mobile service requires, first, that the SCS regime be extended to that band and, second, that the satellite operator obtain the consent of the terrestrial licensee for that band to the satellite operator’s use of the spectrum.⁸ That requirement was predicated on the recognition that, otherwise, catastrophic interference from one mobile service into the other would ensue.

Promoting 5G Open RAN deployment is important for the nation, and there is not the slightest indication in any statutory authority that the Commission could claim that Congress intends a crackdown on Open RAN 5G buildouts, or making the licensees’ obligations more stringent. To the contrary, Congress has already established the imperative of “ensur[ing] the security of next generation mobile telecommunications systems and infrastructure in the United States” to “reach and maintain United States leadership in 5th and future generations wireless communications systems and infrastructure security,”⁹ including by supporting Open RAN development.¹⁰ The Commission would be either improperly anticipating or proactively contravening the will of Congress by taking action to not only discourage such deployments, but actually undo them.

⁸ *Single Network Future: Supplemental Coverage from Space*, 39 FCC Rcd. 2622, 255 ¶ 23 (2024) (“SCS Order”).

⁹ See Secure 5G and Beyond Act of 2020, Pub. L. 116-129, 134 Stat. 223 (Mar. 23, 2020) (requiring the development a strategy to ensure the security of next generation mobile telecommunications systems and infrastructure in and to assist allies and strategic partners in maximizing the security of next generation mobile telecommunications); see also William M. Thornberry National Defense Authorization Act for Fiscal Year 2021, Pub. L. 116-283, 134 Stat. 3388 (Jan. 1, 2021) (providing \$750 million to support research and development of alternatives to Huawei and ZTE).

¹⁰ See *Promoting the Deployment of 5G Open Radio Access Networks*, Notice of Inquiry, 36 FCC Rcd. 5947, 5955 ¶ 22 (2021).

Today, because of EchoStar’s breakthroughs in technical standards for non-terrestrial networks, EchoStar is the best-positioned company to offer wideband mobile D2D services.¹¹ But these advancements did not just happen. They are the result of more than a decade of work that EchoStar has driven at global standards bodies, work that it undertook precisely *because* it was the exclusive licensee of this spectrum and had a vision for its future. EchoStar paid billions for its spectrum rights and invested billions more to make its exclusively licensed spectrum commercially viable: there is absolutely no basis for SpaceX to be granted the right to commandeer this band.¹² If the Commission does what SpaceX is seeking, it would cripple EchoStar, damaging competition in the market for D2D, among many other connectivity services.

The Commission should resist this attempt to undermine competition. The Public Notices come on the heels of a study that SpaceX has trumpeted but never published, and to

¹¹ Tim McDonald, *Is the FCC Trying to Kill Open RAN? Chairman Carr’s Letter to EchoStar Sends a Dangerous Signal*, Synthetic Wisdom (May 15, 2025), <https://trmcdonald.substack.com/p/is-the-fcc-trying-to-kill-open-ran> (“EchoStar’s Boost Mobile network is proof that Open RAN isn’t just a lab experiment. It’s real. It works. And it can scale. This network represents a national strategic asset—the *only* large-scale Open RAN deployment in the Western Hemisphere. It demonstrates that America can build telecom infrastructure without relying on Chinese vendors or outdated proprietary systems. It sends a powerful demand signal to the vendor ecosystem: the U.S. is serious about sovereignty in telecom.”) (emphasis added); *see also* EchoStar Corporation Q1 2025 Earnings Call (Mar. 9, 2025) (“[W]e have two other things that [] almost nobody else has. We are both a satellite operator, manufacturer, technology provider...And then we are also a 5G O-RAN national provider, the largest O-RAN provider in the world...So, marrying all of this together for us is just the most natural thing because we have it all in-house. We are the only company that can do it all in-house.”).

¹² MSS Public Notice at 2 (citing Letter from David Goldman, SpaceX, to Marlene Dortch, FCC, WT Docket No. 22-212, RM-11976, ICFS File No. SES-RWL-20241213-02647 (Apr. 14, 2025); Opposition to Renewal Application of Space Exploration Holdings, LLC, File No. SES-RWL-20241213-02647 (Dec. 16, 2024); Public Notice, RM-11976, Request for Comment on Petition for Rulemaking by Space Exploration Holdings, LLC, Regarding Revision of the Commission’s 2 GHz MSS Sharing, DA 24-299 (Mar. 26, 2024)).

which EchoStar has repeatedly responded.¹³ SpaceX simply compares the number of EchoStar’s customers to that of Verizon, T-Mobile, and AT&T (395 million in total); and it lumps in built and unbuilt territories to dilute the effects of EchoStar’s network use.¹⁴ SpaceX’s “revelation” that observed spectrum power levels reflect real-time customer usage is not a bombshell—it is how mobile phones work. And it is certainly not a reason to question EchoStar’s diligence, threaten its multi-billion dollar investments, or reverse long-standing Commission precedent.

The Reversals Contemplated by the Public Notices Would Undermine Key Commission Priorities and Position the United States as a Place Where Investments are Endangered and Innovation is Unwelcome: The actions contemplated by the Public Notices are also poised to harm the Commission’s own policy priorities, which closely align with the public benefits EchoStar is already providing to this nation and its people.¹⁵ They would hurt the Administration’s policy of promoting American investment and job creation. Depending on the involvement of other agencies, or private entities entwined with the government, they could also be an unconstitutional taking. Those harms would only multiply, as they would deter others, too: why would any company invest in domestic telecommunications—on earth or in space—if the Commission can change its mind on a whim and destroy a company simply for following the

¹³ See Letter from David Goldman, SpaceX, to Marlene Dortch, FCC, WT Docket No. 22-212, at 1 (Apr. 14, 2025).

¹⁴ *Id* at 2-3.

¹⁵ See Press Release, FCC, Chairman Carr Establishes New Council on National Security Within Agency (Mar. 13, 2025), <https://docs.fcc.gov/public/attachments/DOC-410155A1.pdf> (“Today, the country faces a persistent and constant threat from foreign adversaries, particularly the CCP. These bad actors are always exploring ways to breach our networks, devices, and technology ecosystem.”).

agency's instructions?¹⁶ Why would any company invest in American operations, jobs, or future spectrum auctions when faced with the unpredictability that such an abrupt reversal would bring? Last, but not least, such actions would trigger a domino effect of harm as they could require reopening the T-Mobile/Sprint merger, which two federal district courts found to be anti-competitive and unlawful without EchoStar's role as the nation's fourth facilities-based carrier.¹⁷

EchoStar Has Been More Than Diligent, Generating Enormous Benefits for the U.S. and Its Citizens: As part of its next-generation network deployment, EchoStar has met or exceeded all of the milestones, commitments, and obligations that the Commission imposed as conditions of its licenses. Indeed, EchoStar has been building this best-in-class network based on the direction it received from, and in extensive consultation with, the Commission. It has done so despite the worldwide disruptions caused by the COVID-19 pandemic and associated supply chain interruptions. It achieved these milestones in record time: in 2019, EchoStar did not have a single 5G site. Today, it has more than 24,000 (with over 144,000 radios deployed on

¹⁶ See McDonald, *supra* note 12 (“Carr’s letter is not just a legal warning. It’s a capital repellent . . . The FCC’s actions risk drying up investment in Open RAN vendors, integrators, and deployment partners. The cost isn’t measured in headlines. It’s measured in lost jobs, slowed innovation, and reduced resilience.”). The Commission itself has also long championed the idea of regulatory certainty for investors. See, e.g., *Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95, and 101 to Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services*, Notice of Proposed Rulemaking and Order, 25 FCC Rcd. 6996, 7018 ¶ 53 (2010) (“[P]roviding certainty to licensees, investors, and other interested parties . . . will facilitate business and network planning.”); *Service Rules for Advanced Wireless Services H Block—Implementing Section 6401 of the Middle Class Tax Relief and Job Creation Act of 2012 Related to the 1915-1920 MHz and 1995-2000 MHz Bands*, Report and Order, 28 FCC Rcd. 9483, 9571 ¶ 231 (2013) (Applying Section 1.955(a)(3) of the Commission’s rules to H Block licensees “will facilitate business and network planning by providing certainty to licensees and their investors.”).

¹⁷ *United States v. Deutsche Telekom AG*, No. 1:19-cv-2232, 2020 WL 1873555, at *6-7 (D.D.C. Apr. 14, 2020) (“DC District Court Memorandum Opinion and Order”); *New York v. Deutsche Telekom AG*, 439 F. Supp. 3d 179, 232-33 (S.D.N.Y. 2020).

those sites).¹⁸ As for EchoStar's two geostationary MSS satellites with coverage over the United States and other parts of the Americas, they have been operational without interruption since they were launched. Both satellites are in good standing under their two licensing administrations, Canada and the United Kingdom, exactly because they have been operational without interruption.¹⁹

In the face of these years of investment and deployment by EchoStar, the Public Notices seek to upend the very foundation of the Commission's licensing regime and undermine its public interest objectives. The mobile broadband market, the Department of Justice, and the public interest want the innovative solutions and the competitive presence EchoStar's 5G Open RAN network seeks to offer. The country's national security, meanwhile, needs the freedom from hostile nations' malicious interference and the advanced security regime that EchoStar's Open RAN deployment can provide. And American workers need the tens of thousands of jobs that EchoStar's buildout continues to create. Without EchoStar's 5G Open RAN network, America would suffer while its adversaries celebrate.

For the reasons discussed below, the Commission should mitigate the harms already generated by these Public Notices by immediately granting EchoStar's requested relief.

II. EchoStar Is an American Success Story

EchoStar is a uniquely American success story. It has been providing innovative services for over 45 years, including connectivity in the hardest-to-reach areas of the country. EchoStar

¹⁸ EchoStar Corporation, 5G Buildout Status Report, attached to Letter from Jeffrey Blum, EchoStar, to Joel Taubenblatt, FCC, WT Docket No. 22-212, at 2 (May 5, 2025) (showing that EchoStar achieved its commitment nearly two months ahead of schedule).

¹⁹ See TerreStar Networks Inc., File No. SAT-MOD-20070529-00075, Call Sign S2633 (grant Nov. 28, 2008); CANSAT-24x-30B, ITU Pub. AP30B/A6B No. 16 (Nov. 18, 2010); New DBSD Satellite Services G.P., File No. SAT-LOI-19970926-00163, Call Sign S2651 (granted July 17, 2021).

started with the sale of large and unwieldy C-band satellites. It then transformed into a DBS operator once it launched its first satellite in 1995, pioneering the transformation from analog to digital television. In 2015, it likewise pioneered the creation of a live streaming over-the-top (“OTT”) television service when it launched Sling TV in 2015. Where other companies may have stagnated in one business line, EchoStar recognized that the way consumers communicate was changing. So, in 2008, it participated in the terrestrial spectrum auction for 700 MHz licenses with the goal of assembling enough of these expensive airwaves to provide a facilities-based wireless service.

That goal has become a reality. To date, EchoStar has invested over \$43 billion dollars to deploy the first and largest 5G Open RAN network in both the nation and the world. EchoStar is known around the globe as the leading champion of Open RAN. EchoStar has helped keep the United States at the forefront of wireless leadership, with infrastructure free of Chinese vendors.²⁰ As one industry analyst explained, “[b]y pioneering the integration of Open RAN principles, cloud-native architecture, and satellite-terrestrial convergence, EchoStar is creating a blueprint for next-generation networks that could influence the evolution of telecommunications infrastructure globally.”²¹

²⁰ The Wilson Center, *Open RAN and 5G: Looking Beyond the National Security Hype* (Nov. 2, 2020), <https://www.wilsoncenter.org/article/open-ran-and-5g-looking-beyond-national-security-hype> (“Open RAN offers a solution for the untrusted vendor problem the U.S. faces with Chinese companies.”); Press Release, Troy Carter, Rep. Carter Introduces Open RAN Outreach Act to Improve Telecom Coverage in Rural America and Enhance National Security (March 20, 2025), <https://troycarter.house.gov/media/press-releases/rep-carter-introduces-open-ran-outreach-act-improve-telecom-coverage-rural> (“The shift to Open RAN technology not only enhances national security by reducing reliance on foreign-made equipment but also boosts American manufacturing and fosters innovation in 5G.”).

²¹ See McDonald, *supra* note 8.

EchoStar plans to continue investing billions more to expand its 5G network, including by launching a new wideband D2D service that will provide connectivity everywhere in the United States and across the globe. But EchoStar will not be able to keep building and investing if belated, unlawful, and unjustified Commission actions were singularly to cause it to fail.

EchoStar's planned investments come in addition to its \$30 billion-plus investment in spectrum,²² and over \$13 billion in additional capital and op-ex it has spent on real buildouts, including:

- Three in-orbit, operational MSS satellites (T1, T2²³ and D1), *see* Photos 1 and 2 in Section V;
- One in-orbit NGSO MSS satellite (Lyra) and other MSS satellites planned for launch this year, *see* Photo 3;
- Over 24,000 transmit sites (using over 144,000 radios), spread throughout the nation and covering more than 80% of the nation's population, *see* Exhibit 2; and
- Actual 5G Open RAN service, involving EchoStar transmitters, EchoStar airwaves, and EchoStar consumer equipment, to a rising number of Boost Mobile customers.

A. EchoStar Is Fulfilling Its Promise to Compete with the Three Wireless Incumbents

Out of more than 7 million customers, 1.3 million are now on EchoStar's Open RAN facilities-based network ("on net"), receiving service from its over 24,000 5G sites. When EchoStar purchased Boost as a condition to the approval of the T-Mobile/Sprint transaction, Boost had nine million pre-paid customers that operated on Sprint's legacy Code Division

²² EchoStar affiliates hold wireless licenses in the: 600 MHz (614-698 MHz), 700 MHz (698-746 MHz), AWS (1710-1755/2110-2155 MHz), AWS-H Block (1915-1920 MHz/1995-2000 MHz), AWS-4 (2000-2020/2180-2200 MHz), 3.5 GHz (3550-3700 MHz), and 3.7 GHz (3700 MHz-3980 MHz) bands.

²³ ECHOSTAR 21, also known as Terrestar 2 or T2, is a communications satellite operated by EchoStar, hosting an S-Band payload operating in the 2 GHz band to deliver mobile connectivity throughout Europe.

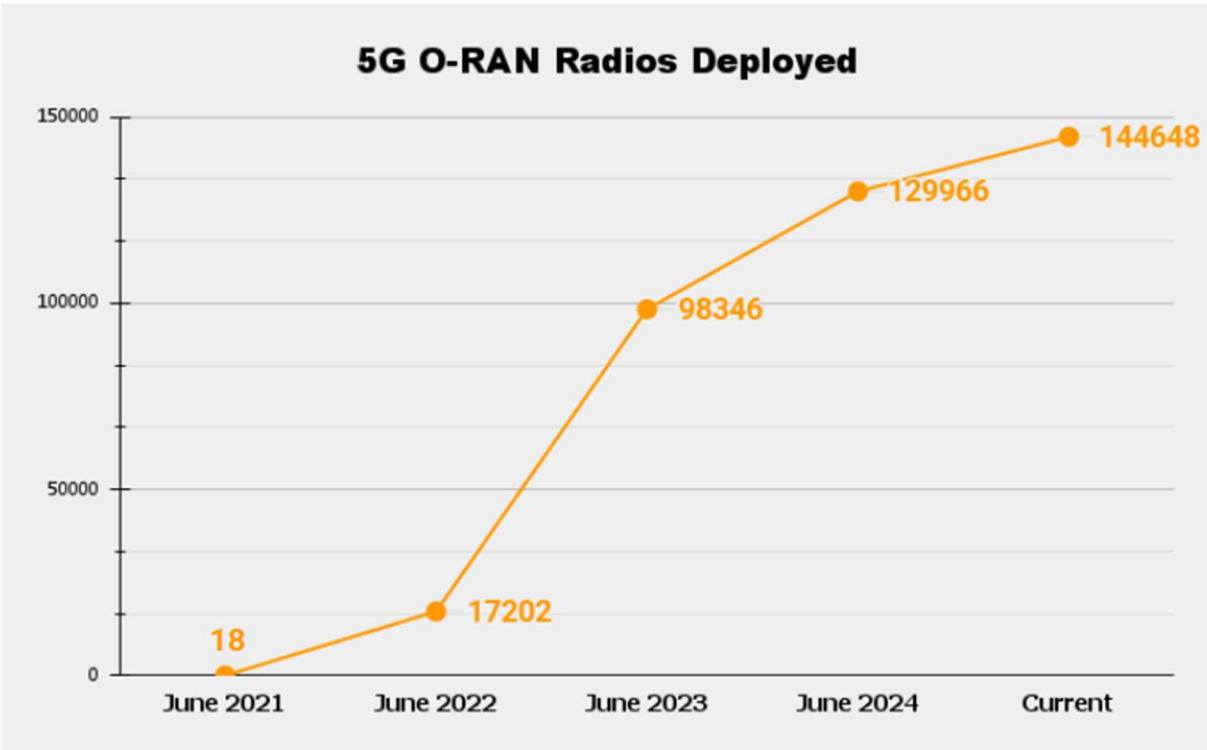
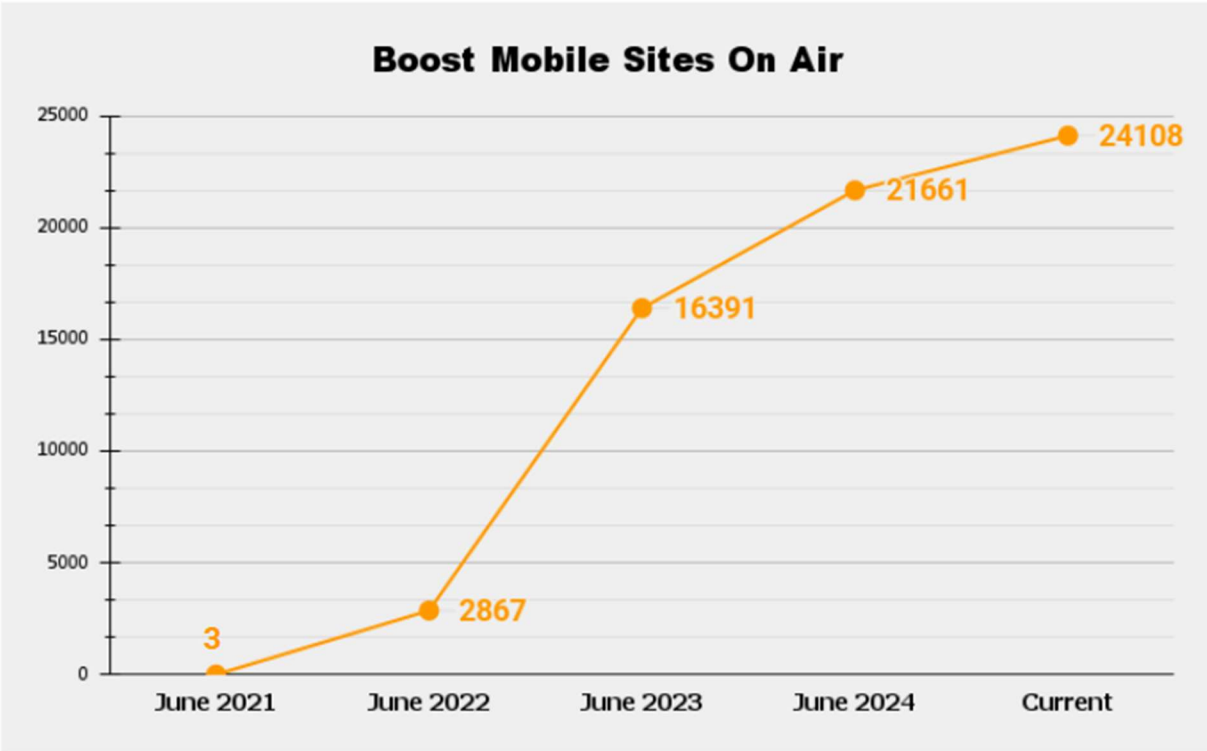
Multiple Access (“CDMA”) network.²⁴ Many of those customers were unprofitable, and records about the customer base were rife with waste, fraud and abuse.

Years of work to deploy a high-quality 5G network at scale have put EchoStar on a growth trajectory— and gaining momentum over the last year. In part, because of the availability of devices that are compatible with EchoStar’s 5G network, which only became widely available in the market in the last 18 months, EchoStar has started to expand both its customer base and the part of that base that uses EchoStar’s 5G network. These developments have given EchoStar real momentum, to the point where EchoStar:

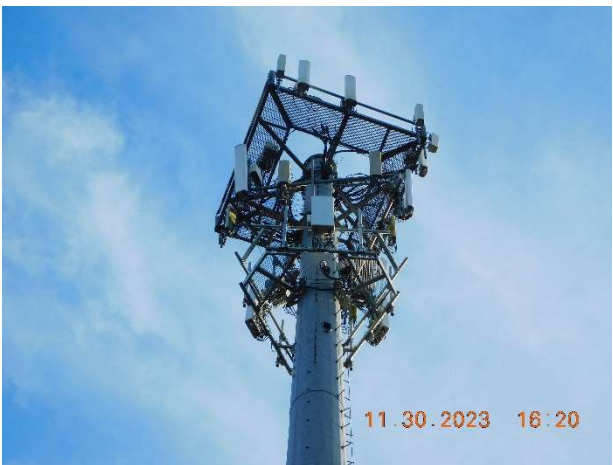
- has 1.3 million subscribers on net today;
- is activating more than 75 percent of new subscribers with compatible devices in the accelerated markets on its network;
- added 90,000 wireless subscribers in Q4 2024;
- added 150,000 wireless subscribers in Q1 2025; and
- added 88,000 wireless subscribers in April alone (extrapolated annually, this would represent over 1 million net adds).

EchoStar’s buildout has improved the lives of real people, including not only its customers, but also its employees, installers, builders, vendor partners, and other workers. EchoStar has not been idle, or even slow: it has been going at breakneck speed since 2020. The first chart below shows the growth in the number of deployed 5G sites on EchoStar’s network since 2021—from just 3 to over 24,000. And the second table shows the growth in the number of deployed radios on those sites—from 18 in 2021 to 144,648 in 2025.

²⁴ See *Applications of T-Mobile US, Inc., and Sprint Corp., for Consent to Transfer Control of Licenses & Authorizations*, Memorandum Opinion and Order, Declaratory Ruling, and Order of Proposed Modification, 34 FCC Rcd. 10578, 10878 (2019) (“*T-Mobile/Sprint Order*”).



The story is best told by the pictures of EchoStar's satellites, 5G transmit antennas, radios, and the thousands of American workers laboring on them. Below are pictures of just a few of EchoStar's 24,108 5G sites. With this filing, EchoStar is submitting tens of thousands of pictures including of all of its 5G sites, under a request for confidential treatment.







As any operator knows, a band must be standardized at 3GPP through a multi-year process before it can be included in a chipset. EchoStar did that work. But even with standardization, chipsets do not just appear in consumer devices; their inclusion still takes years of hard-fought development and negotiations with chipset vendors and original equipment manufacturers (such as Apple, Samsung, and Motorola). EchoStar did that work, too. A network operator cannot readily grow subscribers until enough devices are available at various price points. As of the end of 2023, a critical mass of compatible devices, including the iPhone 15 and subsequent iPhone models, became widely available to EchoStar customers.

EchoStar's diligence has paid dividends for the public interest already, and it continues to do so. The Big 3—T-Mobile, Verizon, and AT&T, with 131 million,²⁵ 146 million,²⁶ and 118

²⁵ See Press Release, T-Mobile Leads the Industry Once Again With Continued Durable Customer Growth, Including Best Ever Q1 Postpaid Gross and Net Additions, Translating to Outstanding Financial Growth (Apr. 14, 2025), <https://www.t-mobile.com/news/business/t-mobile-q1-2025-earnings>.

²⁶ Verizon, Fact Sheet (Apr. 22, 2025), <https://www.verizon.com/about/our-company/verizon-fact-sheet>.

million customers respectively²⁷—all still dwarf EchoStar. But growth takes time. T-Mobile, for example, also started from modest numbers, serving some 3.1 million subscribers in 2000.²⁸ Its success today is thanks to more than two decades of runway. It has not even been five years since EchoStar acquired the Boost brand. It is no surprise that the Code of Federal Regulations contains no rule dictating the number of subscribers a wireless carrier must have. Subscriber counts should be determined by the market, not by regulations or regulators.

B. EchoStar Has Led the Nation and the Globe Driving 5G Standardization of its Bands on the Ground and in Space

As explained above, simply acquiring licensed spectrum is not enough. For any communications service to actually come to life, spectrum must be globally standardized for deployment. As the sole nationwide licensee for the AWS-4 and AWS H Block spectrum, EchoStar therefore had to lead the development of terrestrial 5G standards for these and other licensed bands to permit radios that were ultimately deployed to actually reach consumer devices on this spectrum, a process that took years. Once that work was finally complete, EchoStar sprinted from zero 5G sites and on-net customers to a facilities-based network with 1.3 million customers (and growing) on it.

Non-terrestrial direct-to-device service was similarly a nonstarter without a 5G standard. So EchoStar again had to spearhead the development of a 5G standard for non-terrestrial network (“NTN”) D2D satellite links in the MSS 2 GHz/AWS-4 band. The NTN 5G standardization work started promptly after EchoStar’s acquisition of DBSD Corporation (“DBSD”) and

²⁷ AT&T, Financial and Operational Schedules & Non-GAAP Reconciliations at 6 (Apr. 23, 2025), https://investors.att.com/~media/Files/A/ATT-IR-V2/financial-reports/quarterly-earnings/2025/1Q-2025/1Q25_ATT_Financial_and_Operational_Schedules_and_Non_GAAP_Reconciliations.pdf.

²⁸ *VoiceStream’s Loss Widens*, CNN Money (Nov. 6, 2000), https://money.cnn.com/2000/11/06/technology/earns_voicestream.

TerreStar Networks (“TerreStar”) in 2012, and continued through 2023 and beyond.²⁹ By driving the development of these standards, EchoStar laid the essential foundation for integrating satellite technology into the broader terrestrial standards ecosystem, with consumer devices just now hitting the market. By spearheading them, EchoStar has produced benefits not just for itself but also for the entire nascent D2D ecosystem (including SpaceX). As SpaceX attacks EchoStar’s progress on MSS, SpaceX conveniently forgets that the D2D service it has been beta testing with T-Mobile likely could not exist without EchoStar’s contributions to D2D.³⁰

Since 3GPP adopted the NTN standard in 2023, EchoStar has been rapidly preparing its direct-to-device offerings along with other MSS services. Today, EchoStar provides commercial messaging and narrow-band D2D services in Europe and is in the process of commercializing similar services in the near future in the United States using its existing 2 GHz satellites. With D2D standards now complete, EchoStar has the global capability in terms of expertise, spectrum, and ITU priority to bring true wideband D2D connectivity to fruition.

²⁹ See Press Release, DISH Network, DISH Network Closes DBSD and TerreStar Acquisitions (Mar. 12, 2012), <https://about.dish.com/2012-03-12-DISH-Network-Closes-DBSD-and-TerreStar-Acquisitions>; Press Release, Hughes Network Systems, Upcoming 3GPP Release 17 to Include Satellite in Global 5G Standard (June 22, 2021), <https://www.hughes.com/resources/insights/5g/upcoming-3gpp-release-17-include-satellite-global-5g-standard>; Press Release, DISH Network, EchoStar Begins Construction of Global S-band Network (Feb. 1, 2023), <https://ir.echostar.com/news-releases/news-release-details/echostar-begins-construction-global-s-band-network>.

³⁰ Press Release, T-Mobile, T-Mobile Opens Registration for Direct-to-Cell Satellite Service Beta Test with Starlink (Dec. 16, 2024), <https://www.t-mobile.com/news/network/t-mobile-starlink-direct-to-cell-beta-registration>.

III. EchoStar Has Met or Exceeded Its 5G License Commitments

A. EchoStar Accepted Uniquely Onerous 5G Buildout Obligations to Advance Wireless Competition

Surprisingly, the Public Notices seem to quibble with the pace of EchoStar's buildout. But the speed at which EchoStar has deployed its network, including the pace of new towers, equipment, and on-net customers it has achieved, demonstrates otherwise.

EchoStar's construction of a greenfield, nationwide 5G network is a story of ambitious goals, relentless execution in the face of unprecedented global challenges, and an unwavering commitment to becoming America's fourth facilities-based wireless carrier. The company's buildout journey started in earnest with consummation of the T-Mobile/Sprint merger in 2020. In 2020, a federal district court in the District of Columbia agreed with the Department of Justice that the acquisition of Sprint by T-Mobile was anticompetitive and unlawful unless DISH Network Corporation ("DISH," which merged with EchoStar in December 2023)³¹ could be given the resources to become the nation's fourth facilities-based carrier. As the court explained, "[t]he ultimate goal of the proposed Final Judgment is for DISH to operate as a national facilities-based mobile wireless carrier, thereby ensuring that the number of these carriers remains the same."³² Similarly, the DOJ concluded, "[w]ithout the relief provided in the proposed Final Judgment, neither entry nor expansion is likely to occur in a timely manner or on a scale sufficient to replace the competitive influence now exerted on the market by Sprint."³³

³¹ Press Release, EchoStar Corporation, EchoStar Corporation Completes Merger with DISH Network Corporation, (Jan. 2, 2024), <https://ir.echostar.com/news-releases/news-release-details/echostar-corporation-completes-merger-dish-network-corporation>.

³² DC District Court Memorandum Opinion and Order at *2; *see also id.* at *5 ("Where once there was Sprint... will soon be DISH.").

³³ Competitive Impact Statement for the United States of America at 7-8, *United States v. Deutsche Telekom AG*, No. 1:19-cv-02232-TJK (D.D.C. July 30, 2019).

For DISH, becoming the remedy to the T-Mobile/Sprint merger's anticompetitive effects brought opportunity as well as responsibility. It meant that onerous conditions were imposed on DISH, instead of solely the parties creating the problems for competition. Commitments embedded in the Commission's order conditionally approving the merger³⁴ were superimposed on an overlapping set of conditions enshrined in the Final Judgment³⁵ and the consent decree,³⁶ which were themselves overlaid on the standard buildout milestone schedule imposed on Commission licensees.³⁷

Among other things, DISH committed to deploying 5G broadband service on its AWS-4, Lower 700 MHz E Block, and AWS H Block licenses to at least 20% of the United States population by June 14, 2022, and to deploy a core network by that date.³⁸ DISH also committed to deploying 5G broadband service on its AWS-4, Lower 700 MHz E Block, and AWS H Block licenses to at least 70% of the United States population by June 14, 2023.³⁹ DISH further committed by June 14, 2023: to provide download speeds of at least 35 Mbps to at least 70% of the United States population (as verified by a drive test); to deploy at least 15,000 5G sites; and to deploy at least 30 MHz of downlink 5G spectrum averaged over all DISH 5G sites deployed nationwide.⁴⁰

³⁴ *T-Mobile/Sprint Order*, 34 FCC Rcd. at Appendix H.

³⁵ *United States et al v. Deutsche Telekom AG*, No 1:19-cv-02232, 2020 WL 1873555 (D.D.C. Apr. 1, 2020) (the "Final Judgment").

³⁶ See Explanation of Consent Decree Procedures of the United States, *United States v. Deutsche Telekom AG*, No. 1:19-cv-02232-TJK (D.D.C. Jul. 26, 2019).

³⁷ See, e.g., 47 C.F.R. § 27.14(q).

³⁸ *T-Mobile/Sprint Order*, 34 FCC Rcd. at 10740 ¶ 369.

³⁹ *Id.*

⁴⁰ *Id.*

DISH also agreed to offer 5G broadband service using its 600 MHz licenses to at least 70% of the U.S. population no later than June 14, 2023, and to have deployed a core network to at least 75% of the population in each Partial Economic Area (“PEA”) no later than June 14, 2025.⁴¹ Final construction milestones, expressed in terms of covering a percentage (70 or 75%) of the population of each Economic Area, were then conditionally extended to June 14, 2025 for the AWS-4, AWS-H block, and 700 MHz licenses. The Commission found that these commitments would “serve the public interest, convenience, and necessity.”⁴² Acting on the Commission’s authority, the Bureau adopted the proposed commitments in 2020.⁴³

B. EchoStar Satisfied Its Obligations

EchoStar went to work immediately. The company rose to the occasion, successfully navigating the demanding buildout schedule, even in the midst of a global pandemic, severe supply chain disruptions, and inflation. EchoStar continued building, even as it was forced to cope with the accelerated shutdown of T-Mobile’s CDMA network,⁴⁴ which threatened to leave

⁴¹ *Id.*

⁴² *Id.* at 10746-47 ¶ 386.

⁴³ *Applications of T-Mobile US, Inc., & Sprint Corp., for Consent to Transfer Control of Licenses & Authorizations*, Order of Modification and Extension of Time to Construct, 35 FCC Red. 9580, 9585 ¶ 10 (2020) (“[C]onsistent with the Commission’s determinations and directives to the Bureau in the *T-Mobile/Sprint-DISH Order* and based on the record before us, and in light of T-Mobile’s divestiture of Boost Mobile to DISH, we determine that the public interest, convenience, and necessity will be served by adopting the license modifications as the Commission proposed for all of the reasons that the Commission set forth in the *T-Mobile/Sprint-DISH Order*.”).

⁴⁴ See Order Denying Rehearing of Decision 22-11-005, Application No. 18-07-011 (June 9, 2023). T-Mobile decided to shut down its CDMA network less than two years after purchasing Sprint even though “T-Mobile[] ... made numerous statements to the [California Public Utilities Commission] regarding a three-year migration period for Sprint and Boost customers post-Divestiture. T-Mobile also acknowledged that the 800 MHz spectrum was used for CDMA and made statements that it intended to use the spectrum for at least three years, with an option to extend if deemed necessary. Thus, it was reasonable for [the CPUC] to interpret T-Mobile as committing to operate the CDMA network for three years.” *Id.* at 6.

EchoStar with millions of subscribers with phones that literally could not receive wireless service. To ensure continued wireless connectivity in the face of the CDMA network's shutdown, EchoStar had to upgrade its subscriber base before phones compatible with its own 5G network were readily available. So, in addition to forcing EchoStar to incur significant additional expense to upgrade those customer devices prematurely, this upgrade delayed customers from transferring to EchoStar's own 5G network, since their devices will have to be upgraded yet again before they can be transitioned on net.

Despite these additional hurdles, EchoStar accomplished the following in the three years following the Boost divestiture:

- By June 2022: EchoStar met its first major hurdle, offering 5G broadband service to over 20% of the U.S. population and deploying its core network for the AWS-4, Lower 700 MHz E Block, and AWS H Block licenses.
- By June 2023: EchoStar expanded its 5G broadband service to cover at least 70% of the U.S. population for its 600 MHz, AWS-4, and AWS H Block licenses, and a similar percentage for its Lower 700 MHz E Block licenses. Simultaneously, EchoStar met stringent nationwide 5G commitments by deploying at least 15,000 5G sites and ensuring an average of 30 MHz of downlink 5G spectrum across these sites.

In 2023, after reviewing EchoStar's detailed submissions, the Bureau *confirmed* that EchoStar had successfully met these commitments:

[B]ased on our analysis of DISH's submission, we find that, as of June 14, 2023, DISH has met its commitments: (1) with respect to its 600 MHz licenses, to deploy a core network and to offer 5G Broadband Service to at least 70% of the U.S. population; (2) with respect to its AWS-4 and AWS H Block licenses, to offer 5G Broadband Service to at least 70% of the U.S. population (analyzed on a band-specific basis); and (3) with respect to its Lower 700 MHz E Block licenses, to offer 5G Broadband Service to at least 70% of the U.S. population covered by those licenses. We likewise find that DISH met the contingency for automatic, two-year extensions of its final construction milestones—until June 14, 2025—for each of its AWS-4, AWS H Block, and 700 MHz E Block licenses).

In addition . . . we find that DISH has deploy[ed] a nationwide 5G network using DISH's spectrum with . . . (B) At least 15,000 5G sites deployed; and (C) At least 30

[megahertz] of DISH's downlink 5G spectrum averaged over all DISH 5G sites deployed nationwide.⁴⁵

In other words, in a finding *unchallenged* by anyone before the Commission or the courts, the Bureau concluded that EchoStar had abided by the terms of the 2020 *T-Mobile/Sprint Order*. The Bureau also certified EchoStar's methodology for demonstrating compliance with the drive test parameters of EchoStar's obligations.⁴⁶

In March 2024, EchoStar submitted the detailed results of the independent drive tests overseen by a third-party monitor, which confirmed that DISH had met its Bureau-imposed obligation to provide at least 35 Mbps to 70 percent of the population. The Monitor:

(1) [] reviewed the selection of the drive test routes and stationary locations; (2) [] reviewed the vehicles, drive testing equipment, placement of the equipment within the vehicles, and instructions provided to the drive test teams; (3) reviewed the conduct of the drive testing, including watching a sampling of drive tests; and (4) reviewed the test data and post-processing of data.⁴⁷

Those results were similarly never challenged.

IV. The Bureau Properly Granted Extensions in 2024 and There Is No Legal Basis to Reverse or Reconsider Those Grants

The next set of deadlines was to come due in June 2025. But, in order to build on its success and realize the vision of the Final Judgment and *T-Mobile/Sprint Order*, and in light of all of the unanticipated headwinds that had affected its deployment, EchoStar needed to strategically allocate its capital in order to optimize and enhance its network in markets where it had already deployed. Doing so would let the company build on its accomplishments to provide

⁴⁵ Letter from Joel Taubenblatt, FCC, to Jeffrey Blum, DISH, WT Docket No. 22-212 (Sept. 29, 2023).

⁴⁶ *Id.* at 1 (“[T]he Bureau accepts DISH’s proposed drive test methodology for verifying compliance with the remaining nationwide 5G commitment.”).

⁴⁷ Letter from Jeffrey Blum, DISH, to Marlene Dortch, FCC, WT Docket No. 22-212, at Confidential Attachment C (Mar. 13, 2024).

a more competitive service. That, in turn, would require a targeted extension of the buildout milestones in certain other markets.

On September 17, 2024, EchoStar submitted an acceleration and extension request.⁴⁸ This was no simple plea for more time. Instead, EchoStar made a comprehensive proposal to optimize its buildout for maximum competitive impact. This new framework affirmatively served the public interest by allowing EchoStar to deploy a more optimized and higher quality service, improving quality and pricing for consumers nationwide. And, because EchoStar has agreements with two network partners, customers *nationwide*, including in the areas of the extended milestone licenses, would receive the benefit of EchoStar's presence in the market and the competitive prices that presence brings.

In particular, EchoStar undertook the initiative of accelerating its deployment of its Open RAN network so that it would cover over 80% of the United States population by the end of 2024 (representing 30 million *more* pops than its 2023 70% commitment) and accelerate and expand the milestones for over 500 licenses.⁴⁹ In other words, for those licenses, EchoStar agreed to *make the milestones both sooner and more difficult*. The request also was accompanied by a suite of new, substantial public interest commitments. These included:

- a nationwide affordable 5G plan and device to consumers;
- deployment of 24,000 5G sites by June 14, 2025 (9,000 more sites than the 15,000 2023 obligation);
- having the network be 3GPP Release 17 compliant by June 14, 2025 (two releases beyond the 3GPP Release 15 commitment);
- loading at least 75% of new subscribers with compatible devices on EchoStar's MNO network in the accelerated markets; and

⁴⁸ See 2024 Extension Request and Grant.

⁴⁹ *Id.* at 2.

- permitting small carriers and tribes to lease EchoStar’s spectrum in the license extension areas.

This was far from a token set of commitments. It is illustrative of its breadth that EchoStar agreed to accelerate the final milestone date from June 14, 2025, to December 31, 2024 and expand the final population coverage requirements from 70/75% to 80/85% across 39 states, as shown below:

Accelerated Markets: State and City Listing

State	Markets	State	Markets
Alabama	Montgomery, AL	North Dakota	Bismarck, ND Fargo, ND
Arizona	Phoenix-Mesa, AZ Tucson, AZ	Nebraska	Lincoln, NE Omaha, NE
California	Fresno, CA Los Angeles, CA Oakland, CA San Diego, CA San Francisco, CA	New Jersey	Atlantic City, NJ
Colorado	Colorado Springs, CO Denver-Boulder, CO Fort Collins, CO Pueblo, CO	New Mexico	Albuquerque, NM Las Cruces, NM
Washington DC	Washington, DC	Nevada	Las Vegas, NV
Florida	Fort Lauderdale, FL Fort Myers-Cape Coral, FL Miami, FL Orlando, FL Sarasota-Bradenton FL Tampa-St. Petersburg, FL	New York	Buffalo, NY New York, NY
Georgia	Albany, GA Augusta, GA Savannah, GA	Ohio	Cincinnati-Hamilton, OH Cleveland-Akron OH Columbus, OH Dayton-Springfield OH
Iowa	Cedar Rapids, IA Davenport, IA Des Moines, IA Waterloo, IA	Oklahoma	Oklahoma City, OK
Idaho	Boise City, ID	Oregon	Portland-Salem, OR
Illinois	Bloomington, IL Chicago-Gary-Kenosha, IL Peoria, IL Rockford, IL	Pennsylvania	Harrisburg-Lebanon-Carlisle PA Philadelphia, PA Pittsburgh, PA
Indiana	Indianapolis, IN	South Carolina	Charleston-North Charleston, SC Columbia, SC
Kansas	Wichita, KS	South Dakota	Sioux Falls, SD
Kentucky	Louisville, KY	Tennessee	Memphis, TN Nashville, TN
Louisiana	Baton Rouge, LA New Orleans, LA	Texas	Amarillo, TX Austin-San Marcos, TX Brownsville, TX Corpus Christi TX Dallas, TX El Paso TX- Houston-Galveston-Brazoria, TX Laredo, TX Lubbock, TX McAllen-Edinburg-Mission, TX Odessa, TX San Angelo, TX San Antonio, TX Waco, TX Wichita Falls, TX
Massachusetts	Boston-Worcester, MA	Utah	Salt Lake City-Ogden, UT
Maryland	Baltimore, MD Frederick, MD	Virginia	Norfolk-Virginia Beach, VA Richmond, VA Roanoke, VA
Michigan	Detroit-Ann Arbor-Flint, MI	Washington	Bellingham, WA Seattle-Tacoma-Bremerton, WA Spokane, WA
Minnesota	Minneapolis-St. Paul, MN Rochester, MN	Wisconsin	Appleton, WI Madison, WI Milwaukee-Racine, WI
Missouri	Kansas City, MO Springfield, MO	Wyoming	Casper, WY
North Carolina	Hickory, NC Lexington, NC Raleigh, NC Salisbury, NC Winston-Salem, NC Charlotte-Gastonia, NC/SC Fayetteville, NC		

The targeted extensions EchoStar proposed would only go into effect if EchoStar fulfilled accelerated and expanded milestones and reached 80% 5G population coverage by December 31, 2024.⁵⁰ Specifically, for the AWS-4, AWS H Block, Lower 700 MHz E Block, and 600 MHz licenses, the final construction milestones would be extended from June 14, 2025, to December 14, 2026. Similarly, for AWS-3 licenses EchoStar holds, the final construction milestone would be extended from October 27, 2025, to December 14, 2026. The framework also included a provision for the December 14, 2026 deadlines to be extended further to June 14, 2028, if EchoStar successfully fulfilled all seven of its new public interest commitments by June 14, 2025. The Bureau granted the extensions, subject to the proposed commitments.⁵¹ Notably, the grant was consistent with hundreds of prior Bureau grants over the last decade, as evidenced by the list compiled in Exhibit 3.

In the eight months since the extensions were granted, EchoStar successfully fulfilled its new commitments *ahead of schedule*. To date, EchoStar has deployed more than 24,000 5G sites and has upgraded its deployed 5G sites to 3GPP Release 17.⁵² EchoStar also submitted extensive filings in January 2025 demonstrating that it had met the commitments due by December 31, 2024, and repeatedly met with the Bureau to walk through these showings and

⁵⁰ See 2024 Extension Request and Grant (“This extension request is granted contingent on the applicant meeting in full the commitments that it made in Exhibit 1 that was filed with this application.”).

⁵¹ *Id.*

⁵² See EchoStar Corporation 5G Buildout Status Report, attached to Letter from Jeffrey Blum, EchoStar, to Joel Taubenblatt, FCC, WT Docket No. 22-212 (May 5, 2025); EchoStar March 2025 Buildout Report; EchoStar Corporation 5G Buildout Status Report, attached to Letter from Jeffrey Blum, EchoStar, to Joel Taubenblatt, FCC, WT Docket No. 22-212 (Jan. 10, 2025) (“EchoStar January 2025 Buildout Report”).

provide whatever other support the Bureau desired for those filings, consistent with the Bureau's routine practice when reviewing buildout showings.

As of December 2024, EchoStar's greenfield Open RAN 5G network covered over 268 million Americans, or over 80% of the country's population.⁵³ Out of the more than 7 million Boost customers, 1.3 million customers are on net, a number that continues to grow thanks to the momentum described above. As explained above, last quarter, EchoStar saw an increase of 150,000 wireless customers, a 67% increase over the prior quarter, an accomplishment that is especially notable given the difficulties associated with upgrading consumer devices (a consumer must hold a device certified on EchoStar's 5G Open RAN network before it can be activated on net). And, Boost Mobile has gained customers in two consecutive quarters.⁵⁴ On top of that, in April 2025 alone, EchoStar added over 88,000 wireless subscribers (extrapolated annually, this would represent over 1 million net adds).

Fulfilling the pro-competitive vision of the Bureau's extension grant, EchoStar's 5G Open RAN network is rapidly improving, so much so that EchoStar has received a growing number of accolades for its wireless network's coverage and reliability. According to Open Signal's latest report, EchoStar has the best coverage and most reliable network in fifteen of the nation's major cities.⁵⁵ In another seven major U.S. cities, OpenSignal named Boost Mobile

⁵³ See EchoStar January 2025 Buildout Report.

⁵⁴ See Press Release, EchoStar, EchoStar Announces Financial Results for the Three and Twelve Months Ended December 31, 2024 (Feb. 27, 2025), <https://ir.echostar.com/news-releases/news-release-details/echostar-announces-financial-results-three-and-twelve-months-5>.

⁵⁵ Monica Allevan, *Boost boasts better 5G in 15 major US cities*, Fierce Network (May 13, 2025), <https://www.fierce-network.com/wireless/boost-boasts-better-5g-15-major-us-cities> (the major cities are: Atlanta, Charlotte, Cleveland, Columbus, Dallas, Fort Worth, Detroit, Houston, Miami, New York City, Orlando, Philadelphia, Raleigh, St. Louis, and Denver); see also Open Signal, *Local Ratings: USA (Cities)* (Jan. 2025),

(powered by EchoStar's 5G Open RAN network) number one in 5G coverage and 5G availability.⁵⁶ Another third party, umlaut, also rated EchoStar's network as the best in New York City.⁵⁷ These validations of quality show that the September 2024 buildout framework is already paying dividends for the public interest.

EchoStar is also adding much needed price competition to a 5G broadband market known for three price-hiking incumbents.⁵⁸ Boost Mobile offers unlimited data at \$25 per month with no future price increases,⁵⁹ and consumers can upgrade their iPhone or Samsung Galaxy device every year for a total bill of \$65 per month.⁶⁰ Unlimited data from EchoStar, a facilities-based carrier, is cheaper or better than the discount brands owned by the Big 3: unlimited data is \$25 per month through Verizon's Visible, but with no price lock-in;⁶¹ \$25 per month from AT&T's Cricket, if you prepay a full year;⁶² and \$25 per month from Metro by T-Mobile if a customer

[https://cdn.opensignal.com/public/pdfs/USA\(Cities\)_Mobile_Network_Experience_Local_Ratings_0125%20\(4\).pdf](https://cdn.opensignal.com/public/pdfs/USA(Cities)_Mobile_Network_Experience_Local_Ratings_0125%20(4).pdf).

⁵⁶ Press Release, Boost Mobile, Boost Mobile Rated No. 1 in 5G Coverage and 5G Availability Across Seven Major U.S. Cities (May 22, 2025) <https://ir.echostar.com/news-releases/news-release-details/boost-mobile-rated-no-1-5g-coverage-and-5g-availability-across>.

⁵⁷ Press Release, Boost Mobile, Boost Mobile Recognized as the #1 Mobile Network in New York City (Jan. 27, 2025), <https://ir.echostar.com/news-releases/news-release-details/boost-mobile-recognized-1-mobile-network-new-york-city>.

⁵⁸ See, e.g., Kelcee Griffis, *AT&T, Verizon will Pass Cell Phone Tariff Costs on to Customers*, Bloomberg (Apr. 23, 2025), <https://www.bloomberg.com/news/articles/2025-04-23/at-t-verizon-will-pass-cell-phone-tariff-costs-on-to-customers>; Jeff Carlson, *Learn Which T-Mobile Plan Prices Are Going Up Again and Why*, CNET (Apr. 15, 2025), <https://www.cnet.com/tech/mobile/learn-which-t-mobile-plan-prices-are-going-up-again-and-why/>.

⁵⁹ Boost Mobile, Unlimited Plans, <https://help.boostmobile.com/docs/unlimited-plans> (last visited May 27, 2025).

⁶⁰ Boost Mobile, Infinite Access Plans, <https://help.boostmobile.com/docs/infinite-access-plans>.

⁶¹ Visible by Verizon, Plans, <https://www.visible.com/plans> (last visited May 24, 2025).

⁶² Cricket Wireless, Rate Plan Info, <https://www.cricketwireless.com/support/plans-and-features/plans> (last visited May 24, 2024).

brings their own phone, but \$50 per month if they do not.⁶³ Of course, the AT&T, Verizon, and T-Mobile brands that are EchoStar's main facilities-based competitors are far more expensive.⁶⁴ EchoStar is delivering the procompetitive pricing benefits that the Commission and Department of Justice envisioned when they facilitated EchoStar's entry as the nation's fourth facilities-based carrier.⁶⁵

EchoStar's deployment also creates American jobs. EchoStar has thousands of employees across the country, and thousands of small business retailers across America sell EchoStar's services. Its 5G network deployment includes over 70 key partners, predominantly American companies, who are vital to its network's operation and progress. These partners supply essential components and services for EchoStar's 5G infrastructure, ranging from RF radio units and antennas to advanced software and servers. They also provide crucial backhaul solutions, cloud platform services, field test support, robust network security, and engineering support.

Key collaborators include Amazon Web Services and Wind River for cloud services; Cisco and Dell for network hardware; Fujitsu, Samsung, Mavenir, and MTI for radio access network equipment and Open RAN technology; Palo Alto Networks for security; Viavi and

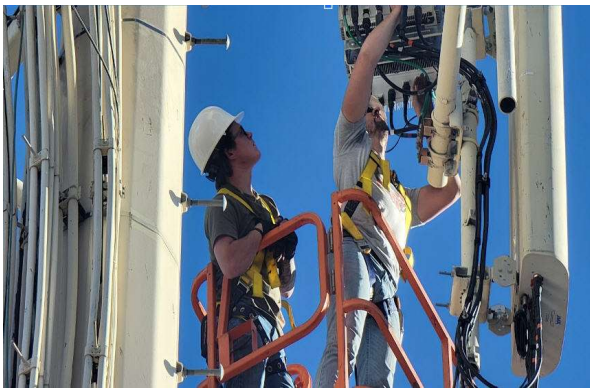
⁶³ Metro by T-Mobile, Choose Your Plan, <https://www.metrobyt-mobile.com/cell-phone-plans> (last visited May 27, 2025).

⁶⁴ AT&T, Plans for Every Need, <https://www.att.com/plans/wireless/> (\$65.99 per month for one line on AT&T's basic unlimited plan) (last visited May 27, 2025); Verizon, Mobile Plans, <https://www.verizon.com/plans/unlimited/> (\$65 per month for one line on Verizon's basic unlimited plan) (last visited May 24, 2025); T-Mobile, Phone & Discount Plans, <https://www.t-mobile.com/cell-phone-plans> (\$60 per month for one line on T-Mobile's basic unlimited plan) (last visited May 27, 2025).

⁶⁵ See *T-Mobile/Sprint Order*, 34 FCC Rcd. at 10583 ¶ 12 (“[W]e conclude that significant public interest benefits would flow from DISH's deployment of 5G broadband services over its spectrum holdings[.]”).

Keysight for testing and measurement; Amdocs, PI Works, and Infovista for network optimization; BLiNQ Networks for indoor RF solutions; Nokia and Oracle for core network solutions; RADCOM for service assurance; Accuver Americas for network testing and analysis; JMA and CommScope for antennas; and Matrixx, DigitalRoute, Hansen, Blue Planet, and ServiceNow for operational software. This extensive and diverse ecosystem highlights EchoStar's deep partnerships, which are critical for the successful development, deployment, and continuous enhancement of its growing 5G network. A diverse vendor ecosystem like EchoStar's is one of Open RAN's greatest advantages.

EchoStar also has agreements with dozens of tower companies and over 25 general contractors/tower climbers across the country to continue deploying its 5G network. Installers, builders and other workers have all been putting in a hard day's (and many nights') work to build EchoStar's nationwide network. And that work is not yet done. Here are some of them:





A. The Bureau Properly Granted the Conditional Extensions and There is No Legal Basis to Revisit Its Grant

EchoStar’s October 2024 opposition to VTel’s petition for reconsideration explained in detail why the Bureau should not reconsider its correct decision to grant extensions of certain construction deadlines for EchoStar’s AWS-4, Lower 700 MHz E Block, 600 MHz, AWS-3, and AWS H Block licenses.⁶⁶ The Bureau was factually and legally correct in its decision to extend EchoStar’s construction deadlines in certain areas, while requiring the company to accelerate its deployment in other areas. Commission rules specify that the Bureau “acts for the Commission under delegated authority, in all matters pertaining to the licensing and regulation of wireless telecommunications[.]”⁶⁷ EchoStar’s buildout commitments are a matter pertaining to the licensing and regulation of wireless telecommunications. Therefore, the Bureau can act on them through delegated authority.

The Bureau’s adjudicatory powers are not its only possible source for granting EchoStar’s bargained-for extension. The Bureau may also “act[] on waivers of rules[.]”⁶⁸ The

⁶⁶ See *Opposition of EchoStar Corporation to Petition for Reconsideration of VTel Wireless, Inc.*, WT Docket No. 22-212 (Oct. 31, 2024).

⁶⁷ 47 C.F.R. § 0.131(a).

⁶⁸ *Id.*

word “rules” in this particular regulation is undefined, so its plain meaning applies. As Webster’s Dictionary explains, a plain definition for the word “rules” is “prescribed guide for conduct or action”⁶⁹ rather than a provision of the code of federal regulations, as VTel would have it.⁷⁰ Since a buildout requirement is a guide for conduct or action, the Bureau can waive it.

The extensions are also fully consistent with the *T-Mobile/Sprint Order* and the DOJ’s Final Judgment, both of which share the goal of EchoStar constructing a new network to remedy the loss of competition in the wireless market caused by T-Mobile’s acquisition of Sprint.⁷¹ Nothing in the *T-Mobile/Sprint Order* prohibits the Bureau from extending EchoStar’s construction deadlines. To the contrary, in the *T-Mobile/Sprint Order*, the Commission expressly directed the Bureau to modify DISH’s licenses consistent with its determination that the public interest would be served by enabling DISH to become a fourth facilities-based nationwide wireless competitor: “[a]ccordingly, we are not herein granting DISH’s requests for extension of time, nor modifying DISH’s licenses, *but are directing WTB to do so* consistent with this MO&O upon DISH’s consummation of its agreements with the Applicants.”⁷²

⁶⁹ *Rules*, <https://www.merriam-webster.com/dictionary/rules>, Merriam-Webster (last visited May 14, 2025).

⁷⁰ See Petition for Reconsideration of VTel Wireless, Inc, WTB Docket No. 22-212, at 13 (Oct. 21, 2024).

⁷¹ *T-Mobile/Sprint Order*, 34 FCC Rcd. at 10583 ¶ 12; see generally Final Judgment.

⁷² *T-Mobile/Sprint Order*, 34 FCC Rcd at 10745 ¶ 382 (emphasis added) see also *id.* (“We direct WTB to add a special condition to the DISH 600 MHz, AWS-4, Lower 700 MHz E Block, and AWS H Block licenses that DISH is obligated to provide 5G Broadband Service over such licenses, to extend the construction dates for the DISH AWS-4, Lower 700 MHz E Block, and AWS H Block licenses consistent with our conclusions above, and to modify the DISH 600 MHz, AWS-4, Lower 700 MHz E Block, and AWS H Block licenses consistent with our proposed license modifications above and the requirements of section 316 of the Communications Act and section 1.87 of our rules.”); *id.* at 10739 ¶ 365 (“We expect that on the current record these modifications will serve the public interest. However, we direct WTB to make a final public interest determination following the protest period in accordance with the

Granting EchoStar’s extension request does just that; the Bureau’s grant has helped, and will continue to help, EchoStar provide facilities-based service to more consumers nationwide, enabling consumers to benefit from the lower prices, higher quality service, and wireless innovations that result from EchoStar’s unique deployment and continued presence in the market.⁷³

B. Reconsidering or Reversing the Bureau’s 2024 Actions Would Be Unlawful Now That EchoStar Has Met its Accelerated Commitments

As noted above, the Bureau’s grant of the conditional buildout was proper and there is no legal basis to reverse it. Just as importantly, the milestone extensions that EchoStar received were *in exchange* for the acceleration of the milestones of other licenses as well as substantial new commitments. It would be unlawfully retroactive to reconsider the extension of the former milestones now that EchoStar has provided the public with the benefit of the countervailing acceleration of the latter.

The Due Process Clause of the Constitution protects the “fundamental notions of justice” that may be upset by retroactive laws.⁷⁴ The Supreme Court’s skepticism toward retroactivity ranges from a total prohibition to a presumption against it (which presumption exists to stop “the unfairness of imposing new burdens on persons after the fact.”).⁷⁵ Justice Scalia identified two

procedures in section 316. These extensions, commitments, and proposed modifications will not take effect unless and until consummation of the Boost Mobile divestiture by DISH. Moreover, the proposed modifications will not become final until adequate time for protest has passed under our rules.”).

⁷³ It was of course entirely proper for EchoStar to consult with the Wireless Bureau, as licensees routinely do in support of their own extension requests.

⁷⁴ *E. Enterprises v. Apfel*, 524 U.S. 498, 532 (1998).

⁷⁵ *Landgraf v. USI Film Products*, 511 U.S. 244, 270 (1994).

kinds of retroactivity.⁷⁶ Retroactivity in the “primary” sense—altering the legal consequence of past actions—is prohibited unless Congress has expressly conveyed such a power.⁷⁷ Indeed, “even where some substantial justification for retroactive rulemaking is presented, courts should be reluctant to find such authority absent an express statutory grant.”⁷⁸ Retroactive enforcement of a rule is improper where “the ill effect of the retroactive application of the rule outweighs the mischief of frustrating the interests the rule promotes.”⁷⁹ There is no more textbook example of unlawful retroactivity than reversing the Bureau’s buildout framework now that EchoStar has already met its terms.

C. The Commission Should Not Be Undermining 5G Open RAN Deployment When the Only Discernible Congressional Intent Is to Promote It

Congress has not empowered the Commission to obstruct 5G Open RAN deployments (of which EchoStar is the leader). On the contrary, Congress has already acted in the opposite direction on this significant question for the nation. It is Congress that urged the promotion of “competitiveness in the fifth-generation (commonly known as ‘5G’) and successor wireless technology supply chains that use open and interoperable interface radio access networks.”⁸⁰ And it is Congress that has specifically mandated the promotion of Open RAN.⁸¹ Any action by

⁷⁶ *Bowen v. Georgetown University Hospital*, 488 U.S. 204, 220-21 (1988) (Scalia, J., concurring).

⁷⁷ *Id.* at 223-224 (Scalia, J., concurring).

⁷⁸ *Id.* at 208-09.

⁷⁹ *Maxcell Telecom Plus, Inc. v. FCC*, 815 F.2d 1551, 1554 (1987).

⁸⁰ William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, Pub. L. 116-283 § 9202(a)(1)(C)(i), 134 Stat. 3387, 4788 (2021).

⁸¹ *See, e.g.*, James M. Inhofe National Defense Authorization Act for Fiscal Year 2023, Pub. L. 117-263 § 234(a)(2)(C), 136 Stat 2395, 2487-88 (2022) (requiring plans to “accelerate . . . the maturation and acquisition of fifth generation information and communications capabilities *that use the open radio access network approach*[.]”) (emphasis added); National Defense

the Commission to discourage 5G Open RAN buildouts or indeed undo them would seem to either improperly substitute for, or affirmatively contravene, Congressional intent.⁸²

V. EchoStar Has Met or Exceeded Its MSS Obligations

EchoStar has met or exceeded all of the obligations imposed by the Commission under its MSS authorizations for the 2 GHz band. The two North American EchoStar satellites in Photos 1 and 2 below, TerreStar T-1 (held by EchoStar subsidiary Gamma Acquisition L.L.C.) and DBSD G-1 (held by EchoStar subsidiary DBSD Corporation), became operational in the 2 GHz band upon their reaching orbit in 2009 and 2008 respectively, and have operated under the terms of their licenses ever since.⁸³ This is what the Commission's rules require.⁸⁴ The Commission

Authorization Act for Fiscal Year 2024, Pub. L. 118-31 § 1526(a)(1), 137 Stat. 136, 558 (2023) (mandating implementation of “a strategy for deploying to military installations and other facilities of the Department of Defense private wireless networks that are... based on fifth generation information and communications capabilities *and Open Radio Access Network architecture[.]*”) (emphasis added).

⁸² Cf. *W. Virginia v. EPA*, 597 U.S. 697, 722-23 (2022); *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 125 (2000).

⁸³ See *Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands*, Report and Order and Order of Proposed Modification, 27 FCC Rcd. 16102, 16108 ¶ 10 (2012) (“*AWS-4 Order*”) (“DBSD and TerreStar launched their satellites in April 2008 and July 2009, respectively, and met their operational milestones in May 2008 and August 2009, respectively.”) (citing *Amend. of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 Ghz for Mobile & Fixed Servs. to Support the Introduction of New Advanced Wireless Servs., Including Third Generation Wireless Systems*, Fifth Report and Order, Eleventh Report and Order, Sixth Report and Order, and Declaratory Ruling, 25 FCC Rcd. 13874, 13877 ¶ 7 (2010)); see also *Hughes Network Systems*, Declaratory Order, 26 FCC Rcd. 8521, 8526 ¶ 17 (2011) (considering whether the operations proposed by Hughes would cause harmful interference into DBSD's G-1 satellite, because the satellite “is operating...1.95 degrees from Hughes' proposed orbital location.”).

⁸⁴ See 47 C.F.R. § 25.164 (“The recipient of an initial license for a GSO space station... must launch the space station, position it in its assigned orbital location, and *operate it in accordance with the station authorization* no later than five years after the grant of the license[.]”). In lieu of adopting other specific operational requirements, the Commission found that adopting milestone requirements for licensees in the 2 GHz would “ensure timely construction of systems and deployment of service” because these milestones “provide the necessary incentive for system

has *repeatedly* affirmed that the authorizations for these satellites are valid and active.⁸⁵ As Commission precedent and its rules make clear, the applicable standard here is continued operation, not commercial service.⁸⁶ In fact, both satellites are in good standing under the licenses of their respective administrations. As EchoStar partner Terrestar Solutions, Inc. (“TSI”) explains in its submission filed today, “the Canadian administration has duly and timely notified the ITU of the satellite being brought into use and has obtained and ensured the continued registration of the satellite on the Master International Frequency Register.”⁸⁷ This is because bringing into use a satellite has the same meaning under the International Radio Regulations: operation rather than commercial service. There is no legal basis for the Commission to introduce a radically divergent standard now.

operators to seek attainable non-service links in a reasonable time or risk the loss of service link spectrum.” *Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, Report and Order, 15 FCC Rcd. 16127, 16150 and 16157 (2000) (“2 GHz MSS Order”).

⁸⁵ *DBSD Corporation Renewal of Mobile-Satellite Service Earth Station Authorizations*, Order, 39 FCC Rcd. 7448, 7450 ¶ 6 (2024) (“*DBSD Renewal Order*”); Gamma Acquisition L.L.C., Radio Station Authorization for Renewal of License, File No. SES-RWL-20230926-02119 (granted April 17, 2024) (“*Gamma Renewal Grant*”).

⁸⁶ *DBSD Renewal Order*, 39 FCC Rcd. at 7450 ¶ 6 (“DBSD[’s]...*already licensed and operating* earth stations [] do not impact the current operating landscape. Therefore, the earth stations were eligible for renewal, the grants were in the public interest, and SpaceX has not demonstrated otherwise.”); *Gamma Renewal Grant* at § H A-55379 (“The Licensee has asserted in its Reply, and there is no evidence to the contrary, that this earth station *remains operational and thus is eligible for renewal*.”). T-1, the satellite operated by Gamma, is a Canadian-licensed satellite. EchoStar has satisfied all the requirements of the Canadian authorization under which the satellite is authorized. See *TerreStar Networks Inc.*, File No. SAT-MOD-20070529-00075, Call Sign No. E S2633 (grant Nov. 28, 2008); CANSAT-24x-30B, ITU Pub. AP30B/A6B No. 16 (Nov. 18, 2010). That authorization has consistently been, and remains, in good standing. Even if the satellite was authorized under a U.S. license, the applicable milestones would be satisfied by operations under Section 25.161 of the Commission’s rules.

⁸⁷ Comments of Terrestar Solutions, Inc., SB Docket No. 25-173, WT Docket No., 22-212 at 2 (May 27, 2025).

Photo 1: Terrestar T-1



©2009 ESA-ARIANESPACE / Optique vidéo du CSG - JIM GULLON

Photo 2: DBSD G-1



A. EchoStar Has Pioneered Technical Standards to Support Mass Market D2D Services

EchoStar's work did not stop after it satisfied its MSS obligations. It has been planning extensive additional services in the band: EchoStar is expanding its 2 GHz MSS operations in the United States and globally, accelerated by the recent finalization of 3GPP NTN standards that will allow MSS satellite services in the band to be adopted at scale in the mass market. Today, EchoStar provides commercial messaging and narrow-band D2D services in Europe and supports MSS services in Canada offered through its partner TSI. Since 2020, TSI has been using capacity on the T-1 satellite to offer a retail MSS service called Strigo, which supports

texts, emails, photos, and over-the-top voice calling using a proprietary mobile device that connects to other mobile devices via Wi-Fi.⁸⁸

EchoStar is testing and developing additional NTN services for the United States using its current geostationary assets, T-1 and G-1, which will include D2D services compatible with currently available mobile handsets. In addition, the development of EchoStar's Lyra NGSO satellite constellation, designed to support Internet of Things ("IoT") and other data communications services using the 2 GHz S-band in the United States and globally, enables EchoStar to validate new use cases from low-earth orbit. The first Lyra satellite (in Photo 3 below) is in orbit, and EchoStar has already received experimental authorization from the Commission to operate that satellite in the 2 GHz band in the United States.⁸⁹ More Lyra 2 GHz satellites are scheduled for launch this year.

⁸⁸ *Id.* at 2-3 ("Since 2020, Terrestar provides to Canadian consumers and businesses a retail MSS service under the Strigo brand name. This modest bitrate service is provided by way of Terrestar's exclusive ownership of the Canadian capacity of the Terrestar T-1 [satellite] . . . The Strigo service, which supports texts, emails, photos and over-the-top voice calling, among other activities, is currently provided using a proprietary mobile device that connects to other mobile devices via Wi-Fi.").

⁸⁹ Application of EchoStar Global Australia Pty Ltd., File No. 0114-EX-CN-2024 (granted Feb. 14, 2025).

Photo 3: First Lyra satellite



EchoStar is also preparing its next-generation wideband 5G NTN standardized offering using a new LEO constellation. Commercial 5G/NTN direct-to-device service is, of course, EchoStar's long-held goal. Wideband D2D will provide much greater functionality than some of the nascent narrow-band D2D services (e.g. texting, SOS, etc.). Wideband D2D will allow consumers to have true mobile connectivity across the globe. But this required standardization of the NTN link. With hybrid 5G/NTN-capable devices beginning to hit the market, EchoStar can further invest in 2 GHz satellite resources with the confidence that an ecosystem of devices (especially smartphones) contains the required hardware. EchoStar's timeline for launching and activating its satellite constellation is optimally synchronized with growing availability of compatible mobile devices that can take advantage of the service, resulting in the highest capital and operational efficiency.

As with EchoStar’s terrestrial license milestones, its history in the 2 GHz band and the MSS arena explains where it is today, and where it is heading tomorrow. Commercial service using non-standard devices is a sure roadmap to failure, as examples like Clearwire’s CLEAR service have demonstrated.⁹⁰ A 5G standard was essential for enabling mass-market consumer devices to make use of a direct-to-device MSS service; as an NTN pioneer, EchoStar therefore had to spearhead and achieve the introduction of a 5G standard for direct-to-device satellite links in the band, too.

B. EchoStar Spent Years Developing the 3GPP NTN Standards Adopted in 2024, and Is Ramping Up Its 2 GHz MSS Operations Based on Those Standards

EchoStar specifically recognized the potential of delivering satellite connectivity directly to handheld devices over a decade ago. The 2 GHz MSS spectrum presented a unique opportunity to support satellite to mass-market handheld devices and complement terrestrial service with satellite coverage. EchoStar was one of the early pioneers in favor of satellite-terrestrial integration and worked within 3GPP to incorporate satellite technology into global standards. Despite the technical challenges, 3GPP not only standardized satellite support for 5G New Radio but also extended it to IoT technologies, including NB-IoT—marking a milestone in the integration of satellite and mobile communications in both 5G and IoT.

⁹⁰ Tim McDonald, *The Rise and Fall of Clearwire*, Synthetic Wisdom (Apr. 17, 2025) (“Clearwire’s decision to adopt WiMAX [] technology represented a critical strategic choice that initially provided advantages but ultimately contributed to the company’s challenges... [because] the global telecommunications industry increasingly standardized around LTE, creating an ecosystem advantage for Clearwire's competitors. This industry convergence meant that device manufacturers, infrastructure vendors, and technology developers increasingly focused their R&D investments on LTE rather than WiMAX [and so] the economies of scale that developed around LTE equipment reduced costs for Clearwire's competitors while WiMAX equipment remained relatively more expensive [while] the device ecosystem for WiMAX remained limited, with fewer smartphones, tablets, and other consumer devices supporting the technology compared to LTE.”).

These efforts were initially met with skepticism, but gradually gained strong support from major infrastructure providers, device manufacturers, and chipset vendors. EchoStar successfully incorporated two MSS NTN spectrum bands as part of 3GPP Release 17: the S-band (n256) and L-band (n255). EchoStar also initiated the definition of a dedicated NTN band specifically for Region 2 (the Americas), aligned with both Commission and Canadian MSS licensing frameworks. This new NTN band, n252/band 252, now nearing completion, will combine with n256/band 256 to enable the global deployment of a LEO satellite constellation designed to support, among many other applications, D2D connectivity.

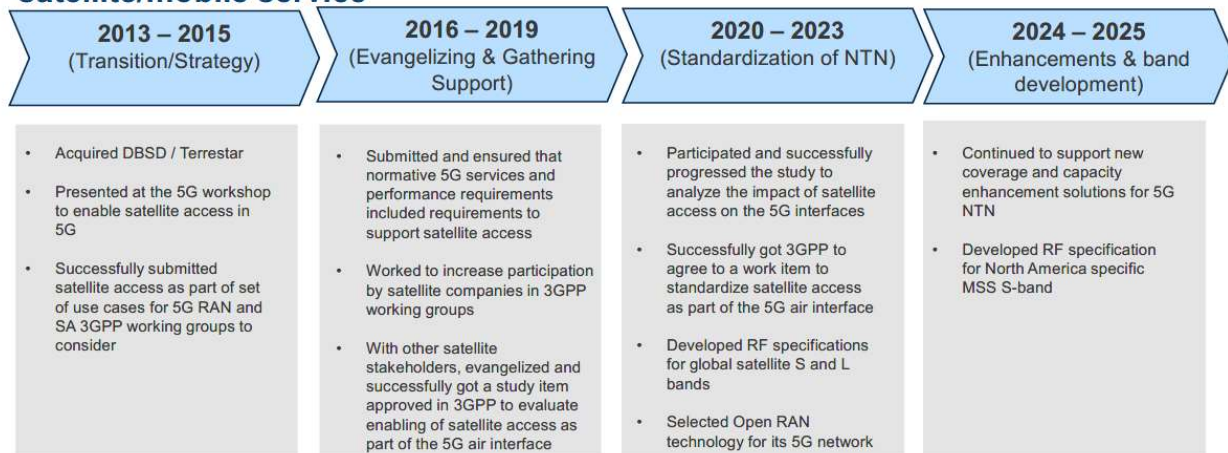
And while the first 3GPP NTN standard (Release 17) laid the foundation for integrating satellite technology into the broader terrestrial standards ecosystem, the specifications were primarily focused on basic capabilities and were not optimized for large-scale commercial deployment. Recognizing this, EchoStar has been leading further enhancements in Releases 18 and 19 which will ensure that NTN networks can be deployed efficiently, both in space and on the ground, while significantly improving the quality of service.⁹¹ These technical enhancements, together with finalizing the dedicated North American NTN band (n252/band 252), are paving the way for EchoStar's substantial new investment in a new NTN-LEO constellation. EchoStar anticipates resolving all outstanding technical issues soon and

⁹¹ Advancements in Release 18 include uplink coverage improvements, enabling regular smartphones to establish reliable connections with satellites even under limited power conditions (e.g., Power Class 3 devices with -5.5 dBi antenna gain). Release 19 introduces critical downlink coverage enhancements aimed at increasing network capacity and improving synchronization between user equipment (UE) and satellites—especially when employing beam-hopping techniques to boost efficiency. See 3GPP, Release 18, <https://www.3gpp.org/specifications-technologies/releases/release-18>; 3GPP, Release 19, <https://www.3gpp.org/specifications-technologies/releases/release-189>.

proceeding toward launching a commercially viable, global LEO system that will include direct-to-smartphone connectivity.

The following chart illustrates the path to NTN standardization that EchoStar has travelled. After years of leading the necessary standards development and continuously operating in the band, EchoStar is poised to deliver next-generation wideband NTN and DTD services.

EchoStar has expended significant effort over the years to commercialize and enable economies of scale for Direct to Device and integrated satellite/mobile service



VI. SpaceX Is Trying to Commandeer EchoStar’s Spectrum by Misleading the Commission

Despite this progress, one entity is agitating for EchoStar’s licenses: SpaceX.

Apparently recognizing the value of EchoStar’s decade of hard work, SpaceX has repeatedly tried to undermine EchoStar’s use of the band so that it can take the spectrum for itself.

Unfortunately, SpaceX’s persistent, misleading, and anti-competitive campaign appears to have influenced the Public Notices. SpaceX already possesses licenses for 25,500 MHz of spectrum, which it got without paying a single penny to the U.S. Treasury.⁹² As SpaceX is introducing its

⁹² Comments of DISH Network Corporation, WT Docket No. 20-443, GN Docket No. 17-183, at 45 (May 7, 2021).

own D2D in the United States (with T-Mobile) and other foreign carriers,⁹³ it wants to cripple EchoStar’s ability to offer a competing D2D service. SpaceX has announced D2D partnerships based on agreements it has reached with terrestrial mobile licensees of spectrum bands in many countries already, including Australia, Canada, Chile, Japan, New Zealand, and Peru.⁹⁴ There is no basis for SpaceX to pirate EchoStar’s 2 GHz spectrum.

The Public Notices were issued shortly after SpaceX touted the results of its opaque, never published “study” that purportedly concluded that EchoStar makes little use of its spectrum.⁹⁵ But the metrics SpaceX uses in its study are irrelevant. Specifically, SpaceX says

⁹³ *Space Exploration Holdings, LLC*, GN Docket No. 23-15, Order and Authorization, DA 24-1193 (Nov. 26, 2024).

⁹⁴ See Letter from Sharon Zhang, SpaceX, to Marlene Dortch, FCC, GN Docket No. 23-135, at 1 (Dec. 20, 2024) (“SpaceX hereby certifies that it has obtained all necessary authorizations to initiate communications with devices in Australia with its local mobile partner, Telstra (‘Telstra’), under SpaceX’s SCS authorization.”); Press Release, Rogers, *Rogers Signs Agreement With SpaceX to Bring Satellite-to-Phone Coverage to Canada*, Apr. 26, 2023, <https://about.rogers.com/news-ideas/rogers-signs-agreement-with-spacex-to-bring-satellite-to-phone-coverage-to-canada> (“Rogers and SpaceX will offer satellite-to-phone technology in Canada using SpaceX’s Starlink low earth orbit satellites and Rogers national wireless spectrum.”); Letter from Sharon Zhang, SpaceX, to Marlene Dortch, FCC, GN Docket No. 23-135, at 1 (Apr. 11, 2025) (“SpaceX hereby certifies that it has obtained renewal of the necessary authorizations to initiate communications with devices in Chile with its local mobile partner, Entel PCS Telecomunicaciones S.A (‘Entel’), under SpaceX’s SCS authorization.”); Letter from Sharon Zhang, SpaceX, to Marlene Dortch, FCC, GN Docket No. 23-135, at 1 (Dec. 20, 2024) (“SpaceX hereby certifies that it has obtained all necessary authorizations to initiate communications with devices in Japan with its local mobile partner, KDDI Corporation (‘KDDI’), under SpaceX’s SCS authorization.”); Letter from Sharon Zhang, SpaceX, to Marlene Dortch, FCC, GN Docket No. 23-135, at 1 (Dec. 11, 2024) (“SpaceX hereby certifies that it has obtained all necessary authorizations to initiate communications with devices in New Zealand with its local mobile partner, One New Zealand (‘One NZ’), under SpaceX’s SCS authorization.”); Letter from Sharon Zhang, SpaceX, to Marlene Dortch, FCC, GN Docket No. 23-135, at 1 (Mar. 11, 2025) (“SpaceX hereby certifies that it has obtained all necessary authorizations to initiate communications with devices in Peru with its local mobile partner, Entel Peru S.A (‘Entel’), under SpaceX’s SCS authorization.”).

⁹⁵ See Letter from David Goldman, SpaceX, to Marlene Dortch, FCC, WT Docket No. 22-212, at 1 (Apr. 14, 2025).

that because its (unverified and un-produced) satellite readings show that EchoStar’s power spectral density (“PSD”) is smaller than the Big 3’s PSD, SpaceX should be able to use its spectrum.⁹⁶ That argument is obviously wrong, and SpaceX knows it. It is spectrum 101 that PSD is influenced by the amount of traffic on the network. AT&T, T-Mobile, and Verizon have *over 100 million wireless customers each*, plus more fixed wireless customers, in addition to MVNO customers of other companies (including EchoStar) riding on their networks. Their PSD readings will obviously exceed EchoStar’s, which currently has 1.3 million customers on its facilities-based network. SpaceX intentionally exacerbates this difference further by lumping built and unbuilt territories to dilute the effects of EchoStar’s network use. It is also spectrum 101 that spectrum is used more in deployed markets than in areas still under construction. As SpaceX well knows, nothing about these power levels suggests that EchoStar is not using, or is improperly using, its spectrum. They just confirm what everyone already knows—the Big 3 incumbents have such a commanding lead that the industry badly needs a fourth competitor.

SpaceX has also made at least six repetitive and false filings.⁹⁷ SpaceX’s consistent pattern of conduct fits into its broader campaign designed to derail EchoStar’s progress in developing its 5G Open RAN network and competing with SpaceX for D2D services. The

⁹⁶ *Id.* at 2.

⁹⁷ See e.g., Petition for Reconsideration of Space Exploration Holdings, LLC, File Nos.: SES-RWL-20230227-00219 (Apr. 23, 2023); Opposition to Renewal Application of Space Exploration Holdings, LLC, File No. SES-RWL-20230926-02119 (Sept. 28, 2023); Opposition to Renewal Application of Space Exploration Holdings, LLC, File No. SES-RWL-20240105-00013 (Dec. 28, 2023); Letter from David Goldman, SpaceX, to Marlene Dortch, FCC, WT Docket No. 22-212 (Mar. 20, 2025); Letter from David Goldman, SpaceX, to Marlene Dortch, FCC, WT Docket No. 22-212, RM-11976, File No. SES-RWL-20241213-02647 (Apr. 14, 2025); Application of Space Exploration Holdings for Modification of Authorization for the SpaceX Gen2 NGSO Satellite System to Add a 2 GHz Mobile-Satellite Service System, SAT-MOD-20250514-00119 (filed May 14, 2025).

Commission has consistently and correctly rejected these repeated attempts to usurp EchoStar's spectrum rights:

- In February 2023, SpaceX filed a modification application for its Gen2 Starlink system to provide MSS in the 2 GHz band. The Bureau dismissed this application as unacceptable for filing because “the 2 GHz bands are not available for licensing an additional MSS system[.]”⁹⁸
- In April 2023, SpaceX filed a petition for reconsideration of the Bureau's grant of three routine DBSD earth station renewal applications, claiming that EchoStar's rights in the 2 GHz band have expired.⁹⁹ The Bureau denied SpaceX's petition as contrary to the public interest, and because the earth stations were “already licensed and operating.”¹⁰⁰
- In September 2023, SpaceX filed an opposition to a routine earth station renewal application for Gamma, an EchoStar subsidiary.¹⁰¹ The Bureau denied SpaceX's opposition as contrary to the public interest, and because “the earth station remains operational and thus is eligible for renewal.”¹⁰²
- In December 2023, SpaceX again opposed a routine earth station renewal application for DBSD.¹⁰³ The Bureau denied SpaceX's identical objection without any comment.¹⁰⁴
- In April 2023, Sateliot filed a petition for declaratory ruling that opportunistically parroted the same baseless claims in SpaceX's 2 GHz application. After the Bureau dismissed SpaceX's application as unacceptable for filing, Sateliot amended its

⁹⁸ *Space Exploration Holdings, LLC Application for Modification of Authorization for the SpaceX Gen2 NGSO Satellite System to Add a Mobile-Satellite Service System*, Order, 39 FCC Rcd. 3007, 3013 ¶ 12 (2024).

⁹⁹ *Petition for Reconsideration of Space Exploration Holdings, LLC*, File No. SES-RWL-20230227-00219 (Apr. 23, 2023).

¹⁰⁰ *DBSD Renewal Order*, 39 FCC Rcd. at 7450 ¶ 6.

¹⁰¹ *Opposition to Renewal Application of Space Exploration Holdings, LLC*, File No. SES-RWL-20230926-02119 (Sept. 28, 2023).

¹⁰² *Gamma Renewal Grant* § H A-55379.

¹⁰³ *Opposition to Renewal Application of Space Exploration Holdings, LLC*, File No. SES-RWL-20240105-00013 (Dec. 28, 2023).

¹⁰⁴ *DBSD Corporation, Radio Station Authorization for Renewal of License*, File No. SES-RWL-20240105-00013 (granted Jan. 25, 2024).

petition to try to escape the same fate. But the Bureau dismissed Sateliot's application as unacceptable for filing in January 2025.¹⁰⁵

SpaceX is still wrong. The only difference is how far SpaceX is going to mislead the Commission into manipulating the market and harming its competitor. Rather than allocate spectrum based on SpaceX's brazen attempts to stymie a competitor, the Commission should follow its own long-held conclusions that sharing the 2 GHz band is not technically possible (as discussed below).

VII. Sharing the 2 GHz Band Will Cause Harmful Interference to Existing and Future Operations

The MSS Public Notice requests comment on whether to allow new MSS entrants to the band.¹⁰⁶ The answer is "no." The Commission's carefully considered framework, upon which EchoStar has relied, was specifically designed to mitigate the interference risk of another operator in the band—a framework that remains as vital today as when it was established.

The 2 GHz band cannot sustain additional MSS operators without causing widespread harmful interference and jeopardizing the substantial public interest benefits flowing from EchoStar's use of the band. For over a decade, the Commission has consistently found that co-frequency sharing between separate MSS operators, and between MSS and terrestrial mobile service in the band, is technically infeasible due to the severe risk of harmful interference.

This is not a theoretical concern; it is a fundamental constraint of physics in the band. Math does not lie. Two separate consumer mobile services cannot coexist, and have never coexisted, in the same frequency and area. For that reason, an independent 2 GHz MSS network cannot feasibly share frequencies with EchoStar's AWS-4 and MSS frequencies without

¹⁰⁵ *Satelio IoT Services USA, Inc. Petition for Declaratory Ruling to Serve the U.S. Market Using the Sateliot System*, File No. SAT-APL-20240403-00074, Order, DA 25-20 ¶ 8 (Jan. 8, 2025).

¹⁰⁶ MSS Public Notice at 2.

obliterating EchoStar's service. In contrast to EchoStar,¹⁰⁷ neither SpaceX nor any other party has *ever* submitted technical evidence demonstrating that separate operator sharing in the 2 GHz band is feasible. Introducing another MSS operator would lead to unacceptable interference that would damage EchoStar's existing MSS and AWS-4 services, harming American consumers and undermining the billions EchoStar has spent in investment-backed reliance on the Commission's rules. The Bureau should decisively reject any calls for new MSS entry as it would compromise the integrity of EchoStar's services and the Commission's own well-established policies.

EchoStar, as the incumbent 2 GHz MSS operator, is uniquely positioned to bring new competition in terrestrial and satellite services in the AWS-4 band. Only EchoStar, as the single operator of MSS and terrestrial services, can self-coordinate, in real time, to mitigate interference and make maximum use of the spectrum. EchoStar, through its 24/7 network operations awareness, knows the immediate details of its deployed spectrum, coverage, real-time network utilization, and attached consumer devices. It knows the exact geographical footprint and power levels of the individual beams on its GSO and NGSO S-band satellites today and on its future NGSO-LEO constellation. Through this dynamic awareness, EchoStar can mitigate interference in advance (through network design) and in real time (through dynamic spectrum resource management). Two separate operators without a commercial coordination or sharing agreement, on the other hand, are blind to each other's operations. An independent third-party MSS operator does not know where EchoStar's 5G network has coverage, the real time location and behavior of devices on EchoStar's terrestrial network, or the specific spectrum resources blocks

¹⁰⁷ Comments of DISH Network Corporation, WT Docket No. 12-70, ET Docket No. 10-142, WT Docket No. 04-356 (May 17, 2012), Ex. 1, Richard Barnett & Michael Dellomo, *The Technical Basis for Requiring Control of Satellite and Terrestrial Operations in the 2 GHz Band by the Same Operator*.

carrying traffic at any given time. The result would be severe degradation or loss of both terrestrial and MSS services in the S-band.

A. SpaceX Cannot Change Physics—Separate Operators Cannot Share the 2 GHz Band According to the FCC Itself and Engineering Experts

The Commission’s policy limiting the 2 GHz band to a single, integrated operator is not an arbitrary restriction. Rather, it is rooted in well-established and repeatedly affirmed findings that sharing the band between separate, co-frequency MSS operators, or between MSS and ubiquitous terrestrial mobile operators, is technologically infeasible.

In 2000, the Commission took a significant step towards delivering the benefits of MSS by establishing policies and rules for MSS use in the 2 GHz band.¹⁰⁸ Looking to “encourage utilization of 2 GHz spectrum,”¹⁰⁹ the Commission chose to segment the band, dividing it evenly between licensees.¹¹⁰ The Commission noted that this approach would “provide[] certainty for qualified operators to pursue financing and design systems.”¹¹¹ Because of the enormous difficulties with co-frequency MSS-to-MSS coordination, the Commission sought to avoid inter-system coordination between two widely distributed consumer services in the same band.

Even before the addition of primary terrestrial service into the 2 GHz mix, when the Commission first granted ancillary terrestrial rights to MSS operators in the 2 GHz band, it concluded that “same-band, separate operator sharing is impractical and ill-advised” because

¹⁰⁸ *See generally* 2 GHz MSS Order.

¹⁰⁹ *Id.* at 16127 ¶ 1.

¹¹⁰ *Id.* at 16138-44 ¶¶ 16-30.

¹¹¹ *Id.* at 16144 ¶ 30.

both MSS and terrestrial services are mobile.¹¹² Due to the long propagation range of 2 GHz spectrum, it found there was no chance of rain fade, atmospheric absorption, or other factors constraining signals to make sharing possible, as it sometimes works in higher-frequency bands.¹¹³ It was on this basis that the Commission granted ancillary terrestrial rights to existing MSS operators.

Of them, only DBSD and TerreStar progressed.¹¹⁴ ICO, the predecessor to DBSD, developed a global voice service in the S-band. It subsequently began developing and testing a GSO satellite that would operate in the AWS-4 band/2 GHz band to support direct-to-device and video broadcast communication. Significantly, ICO helped lead the standardization for the relevant 3GPP protocol. TerreStar also built and launched a 2 GHz satellite.

While both DBSD and TerreStar launched satellites, their consumer offerings were unsuccessful and both landed in bankruptcy. DISH purchased both companies' assets.¹¹⁵ To

¹¹² *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands*, Report and Order and Notice of Proposed Rulemaking, 18 FCC Rcd. 1962, 1991 ¶ 49 (2003).

¹¹³ The Commission distinguished the feasibility of satellite-terrestrial sharing in the 2 GHz band from potential sharing opportunities in higher frequency bands on this basis. *Id.* at 1991-92 ¶ 49. As the Commission explained, sharing in the 12 GHz band between Fixed-Satellite Services using NGSO, DBS, and the Multichannel Video Data and Distribution Service ("MVDDS") services is an entirely different case than sharing between separate MSS and terrestrial operators in the 2 GHz band: "In the MVDDS Order, for example, the Commission concluded, after several years of study, that sharing is possible between geostationary DBS satellites, which provided links to fixed earth stations, and MVDDS systems, which employ highly directional fixed antennas. Yet the mere existence of other sharing arrangements in other bands by other operators with other system geometries, other deployment patterns, other terminal types and other power levels – without more – says nothing about whether and how parties to this proceeding might overcome the particular technical hurdles to workable sharing arrangements applicable to this case." *Id.* at 1992 ¶ 50.

¹¹⁴ *AWS-4 Order*, 27 FCC Rcd. at 16107 ¶ 9.

¹¹⁵ Press Release, DISH Network, DISH Network Closes DBSD and TerreStar Acquisitions (Mar. 12, 2012), <https://about.dish.com/2012-03-12-DISH-Network-Closes-DBSD-and-TerreStar-Acquisitions>.

facilitate a viable service offering in the 2 GHz band and boost competition, the Commission introduced the terrestrial AWS-4 wireless service into the band in 2012. With the *AWS-4 Order*, the Commission created that service as co-primary, and reaffirmed the futility of separate operator MSS and terrestrial sharing in the band.¹¹⁶ The Commission explained that its approach was “incompatible with deployment of additional MSS systems in the band” and that “therefore we do not anticipate accepting applications for new or modified MSS operations, except from an incumbent operator or its assignee or transferee.”¹¹⁷ The Commission even directed the International Bureau to dismiss a then-pending petition for reconsideration seeking access to the band.¹¹⁸

B. Forcing A New MSS Operator in the 2 GHz Band Would Significantly Harm EchoStar’s Terrestrial Network

The Space Bureau has consistently articulated the proper standard for changing the one-operator status of the 2 GHz band: “changed circumstances.”¹¹⁹ But circumstances have not changed. The *AWS-4 Order* found that separate operator signals will *indisputably* cause

¹¹⁶ *AWS-4 Order*, 27 FCC Rcd. at 16167 ¶ 169.

¹¹⁷ *Id.* at 16164 ¶ 160 n.468.

¹¹⁸ *See id.* (“[W]e delegate authority to the International Bureau to dismiss . . . the [petition of Inmarsat Ventures Limited and Inmarsat Global Limited] . . . [which] sought reconsideration premised on the deployment of an additional MSS system in the 2 GHz MSS bands.”); *see also Use of Returned Spectrum in the 2 GHz Mobile Satellite Service Frequency Bands*, Order, 28 FCC Rcd. 7522 (2013) (dismissing, based on the *AWS-4 Report and Order*, Inmarsat’s petition for reconsideration). The International Bureau had initially dismissed Inmarsat’s petition for market access in 2005 because the “Commission concluded that the public interest would be served by reserving the available spectrum for use by [the predecessors in interest to the two DISH entities that hold AWS-4 authorizations].” *Inmarsat Global Limited Petition for Declaratory Ruling to Provide Mobile Satellite Service to the United States Using the 2 GHz and Extended Ku-Bands*, Order, 20 FCC Rcd. 19409, 19410 ¶ 3 (2005).

¹¹⁹ Space Exploration Holdings, LLC, File No. SAT-MOD-20230207-00022, *Order*, DA 24-300 ¶ 8 (Mar. 26, 2024).

interference with EchoStar’s wireless operations.¹²⁰ Thus, as the Commission recognized, the successful management of interference between two mobile services in the band requires a single operator,¹²¹ and frequency segmentation would cripple the terrestrial services by depriving them of adequate channel bandwidth.¹²²

Now that EchoStar has widely deployed its 5G network, the interference environment has become even worse since for same-band, separate-operator sharing.¹²³ For instance, in the 2000-2020 MHz band, the interference scenario that the Commission had viewed as problematic in adopting the *AWS-4 Order* was simpler than today: it involved interference from a second operator’s MSS consumer terminal uplinks into AWS-4 base station receivers, as it was contemplated the band would be used for AWS-4 uplinks (consumer terminals to base stations). In 2013, one year after the AWS-4 service was established, the Commission granted EchoStar’s request for a waiver to allow reverse-band-working use of the 2000-2020 MHz band for AWS-4 downlinks (base stations to consumer terminals) rather than uplinks.¹²⁴

¹²⁰ *AWS-4 Order*, 27 FCC Rcd. at 16171 ¶ 181.

¹²¹ *Id.* at 16167 ¶ 169.

¹²² *Id.* at 16118 ¶ 42 (“[S]pectrum bands of this size will encourage technologies that utilize wider bandwidth, and will encourage the adoption of and use of next generation technologies. This is particularly the case in a band, such as this one, where large contiguous blocks are readily configurable. We expect that use of wide, contiguous blocks of spectrum will support continued innovation and deployment of mobile broadband technologies, such as Long Term Evolution (‘LTE’), to meet higher data rates and wider bandwidths. Additionally, 10 + 10 megahertz blocks allow for the possibility that multiple providers may make use of the spectrum (including through the operation of secondary markets), but can also be used as a single 20 + 20 megahertz block if a single operator controls both blocks in a market.”).

¹²³ See Opposition of EchoStar Corporation, RM-11976, at 3-6 (Mar. 12, 2024).

¹²⁴ See *DISH Network Corporation Petition for Waiver of Sections 27.5(j) and 27.53(h)(2)(ii) of the Commission’s Rules and Request for Extension of Time*, Memorandum Opinion and Order, 28 FCC Rcd. 16787, 16787-88 ¶ 1 (2013).

The interference scenarios that would arise from a new entrant's invasion of the 2 GHz band for MSS along with EchoStar's MSS and terrestrial mobile service would include:

- In the 2000-2020 MHz band, a second operator's MSS consumer terminal uplinks would cause interference into AWS-4 consumer terminals, which receive communications in this band; these uplinks would also interfere with the existing operator's MSS receive antennas on-board its satellites; and
- In the 2180-2200 MHz band, the new operator's MSS downlinks would cause interference into the antennas of AWS-4 base stations, as well as into the existing operator's MSS consumer terminals. In fact, even before the Commission had introduced terrestrial service in the 2 GHz band, it had segmented the band among the MSS licensees, in recognition of, among other things, the enormous difficulties of co-frequency MSS-to-MSS coordination between different operators' services.¹²⁵

In the 2000-2020 MHz band, the threat of harmful interference is in fact even more dire today than it was in 2013: SpaceX consumer uplinks would interfere into EchoStar AWS-4 consumer devices rather than AWS-4 base stations, as was thought then. But mobile devices make coexistence *even less possible* because they are more ubiquitous, and more vulnerable, than fixed base stations. Similarly, any other operator's MSS downlinks in the 2180-2020 MHz band would interfere into EchoStar's MSS consumer devices.

SpaceX also alleges that the Commission has “determined that sharing between separate MSS and terrestrial mobile operators is not only possible, but encouraged.”¹²⁶ Nothing is further from the truth. In fact, the Commission's *SCS Order*, on which SpaceX relies, affirms emphatically the imperative of unified operator control in mobile-terrestrial sharing scenarios. That *Order* is premised on the same well-settled understanding that separate offerings by terrestrial 5G providers and MSS operators in the same band are not technically feasible.¹²⁷ The

¹²⁵ 2 GHz MSS Order, 15 FCC Rcd. at 16142-43 ¶¶ 26-27.

¹²⁶ Letter from David Goldman, SpaceX, to Marlene Dortch, FCC, SB Docket No. 25-173, WT Docket No. 22-212 (May 22, 2025).

¹²⁷ See generally *SCS Order*, 39 FCC Rcd. 2622.

new SCS rules allow shared use of a frequency between a terrestrial wireless provider enjoying exclusive use of the band and a separate satellite provider.¹²⁸ But, crucially, the Commission conditioned SCS licenses on a commercial lease agreement or arrangement between the terrestrial license and the satellite operator.¹²⁹ The Commission did so precisely in light of the importance of “a single SCS network—maintained by a single controlling terrestrial licensee or satellite operator[.]”¹³⁰ Adding another MSS operator to the 2 GHz band now while EchoStar remains the terrestrial licensee is a nonstarter— it is technically infeasible for an additional MSS operator to provide service without interfering with EchoStar’s terrestrial network. As discussed above, only EchoStar, as the sole operator of MSS and terrestrial services in the band, can mitigate interference through real-time self-coordination. The band cannot be opened to *additional* MSS operators.

The recent ITU Agenda item for the 2027 World Radiocommunications Conference recognizes the need for the same requirement.¹³¹ Adopting separate-operate sharing for the 2 GHz band would turn these findings on their head, upsetting the careful balance struck both by the Commission and other international administrations.

¹²⁸ *Id.* at 2630-31 ¶ 18 (“[the] SCS framework enable[s] the rapid deployment of [satellite-to-device connectivity systems] while recognizing that the technical and legal complexities involved in allowing satellite transmissions on spectrum allocated for terrestrial service calls for an incremental approach.”).

¹²⁹ *Id.* at 2652-54 ¶¶ 69-73.

¹³⁰ *Id.* at 2665 ¶ 103.

¹³¹ ITU Resolution 813 § 1.14 (WRC-23) (“[R]esolves . . . to consider possible additional allocations to the mobile-satellite service, in accordance with Resolution COM6/10 (WRC-23)”); ITU Resolution 254 § (b)(3) (WRC-23) (“[R]esolves to . . . complete in time for the 2027 world radiocommunication conference . . . studies on possible technical, operational and regulatory measures that ensure the protection of existing services and their continued operation and future development without imposing additional regulatory or technical constraints on those services, while ensuring their protection from harmful interference, when considering possible additional allocations to the MSS[.]”).

C. Other Countries Confirm that the 2 GHz Band Cannot be Feasibly Shared

Scores of expert regulators all agree that there is nothing faulty about the Commission's single operator policy in the 2 GHz band. That is because they have reached the same conclusion as the Commission did in 2012: that separate-operator sharing in the 2 GHz is not feasible. In 2019, the ITU found:

...co-coverage, co-frequency deployment of independent satellite and terrestrial IMT components is not feasible unless techniques, such as the use of an appropriate guard band or other mitigation techniques, are applied to ensure coexistence and compatibility between the terrestrial and satellite components of IMT, but that co-coverage, co-frequency deployment of terrestrial and satellite components of IMT could be feasible if deployed as integrated networks supported by a system providing the management of frequency utilization by both components[.]¹³²

The ITU clearly had not found anything to warrant reconsidering its 2003 holding that “the sharing of the same frequency band between the terrestrial component [] and the MSS... is not feasible over the same geographical area.”¹³³ The consistency of treatment of the band internationally makes sense: LEO satellites require worldwide operation.

In fact, even before the Commission's 2012 decision, the European Commission had already found that “sharing between the Mobile-Satellite Service and the Fixed Service...systems in [the 2 GHz band] is not feasible” and that “the coexistence of systems capable of providing MSS and systems providing terrestrial-only mobile services in the same spectrum in the 2 GHz bands without harmful interference is not feasible in the same geographical area.”¹³⁴ Many other administrations, including Saudi Arabia, the European

¹³² ITU Resolution 212 (Rev. WRC-19).

¹³³ Report ITU-R M.2041, Sharing and Adjacent Band Compatibility in the 2.5 GHz Band Between the Terrestrial and Satellite Components of IMT-2000 § 3 (2003).

¹³⁴ ECC/DEC/(06)10, ECC Decision of 1 December 2006 on Transitional Arrangements for the Fixed Service and Tactical Radio Relay Systems in the Bands 1980-2010 MHz and 2170-2200 MHz in order to Facilitate the Harmonised Introduction and Development of Systems in the

Union, Brazil, Australia, and Mexico have consistently determined that two widely deployed services—MSS and terrestrial mobile—cannot share the 2 GHz band without a common operator or a commercial agreement and close collaboration between operators.¹³⁵ For the reasons

Mobile Satellite Service (Dec. 2006); 2007/98/EC, Commission Decision of 14 February 2007 on the Harmonised Use of Radio Spectrum in the 2 GHz Frequency Bands for the Implementation of Systems Providing Mobile Satellite Services (Feb. 2007); *see also* ECC Report 45, Sharing And Adjacent Band Compatibility Between Umts/IMT-2000 In the Band 2500-2690 MHz and Other Services § 3.1 (“[T]he sharing of the same frequency band between the Terrestrial component of IMT-2000 and MSS... is not feasible within the same geographical area. This conclusion has been endorsed by ITU-R and CEPT. Studies indicate that co-frequency co-coverage sharing of IMT-2000 and MSS is not feasible.”); CEPT Report 013, Harmonised Technical Conditions for the Use of the 2 GHz Bands for Mobile Satellite Services in the European Union § 7.1 (July 2006) (“Studies conducted within ITU-R and the CEPT11 confirm that frequency sharing between MS operators using independent ground components and MSS operators with the same geographical coverage area is impossible because of interference between the two systems. Operating a network of ground stations independently from an MSS system in the same band would create significant interference problems.”).

¹³⁵ *See* Australia Communications and Media Authority, Replanning the 2 GHz Band (1980–2010 and 2170–2200 MHz), at 19 (Jan. 2021) (“Given the demand expressed in the consultation process for MSS is likely to exceed supply, as well as the challenges in coexistence between different MSS systems, the ACMA is of the preliminary view that the most appropriate mechanism to resolve competing demand in 1980–2005 and 2170–2195 MHz paired bands is a price-based allocation via auction. We recognize that auction of spectrum for satellite services is a rare activity, the last time being in 2001.”); National Agency of Telecommunications of Brazil (ANATEL) Report No. 819/2023/ORER/SOR, Analysis of Contributions on the Agency's Intention to Grant Landing Rights in the S-Band Frequency Bands at 2, (Apr. 2023) (“It should be noted that the coordination between different mobile satellite systems operating in the same bands (co-channel coexistence), covering the same regions and with earth stations that make use of non-directional antennas, without the capacity to keep pointing to the satellite corresponding to their network, is very complex or even unfeasible in some cases.”); Instituto Federal de Telecomunicaciones (IFT Mexico), Bases of the Public Bidding to Grant A Concession for the Use, Development And Commercial Exploitation of the Radio Electric Spectrum Segment Available In The 2483.5 - 2495 MHz Frequency Band for the Provision of the Complementary Terrestrial Service of the Mobile Satellite Service § 4.5 (2024) (“The elements of the Complementary Terrestrial Component must be compatible with the network and infrastructure elements of the Satellite System, regardless of the technology available, that is, the elements of the Complementary Terrestrial Component must be connected without any physical or logical impediment to the network elements of the Satellite System, *in order to carry out a coordinated resource management and operation for the provision of the service as a single network.*”) (emphasis added).

described above, no inquiry is necessary to revisit this broad consensus that sharing between two different MSS systems in the 2 GHz band is technically infeasible.

D. The Injection of Another MSS Operator in the 2 GHz Band Would Violate the Commission's SCS Rules

Aside from EchoStar's MSS rights, the insertion of a separate ubiquitous service from space interfering with EchoStar's terrestrial AWS-4 service would violate the Commission's SCS rules. Under these rules, the SCS licensing scheme must first be extended to a band.¹³⁶ Then, and only then, an SCS license is absolutely conditioned on a commercial arrangement with the terrestrial operator.¹³⁷ As the relevant rule states, "[a]n applicant for SCS space station authorization . . . must have a lease arrangement(s) or agreement . . . with one or more terrestrial wireless licensee(s) that hold, collectively or individually, all co-channel licenses throughout a GIA [Geographically Independent Area] in a [permitted band]."¹³⁸ The rule makes clear that the commercial agreement must be with the terrestrial licensee for the band in question—an agreement with the terrestrial licensee for an adjacent band is absolutely no substitute. And, crucially, the required consent is not just supplementing the terrestrial service, it is to the satellite operator's "use of the spectrum" in the first place. As the Commission explained, "a lease demonstrates that a terrestrial licensee consents to the satellite operator's use of the spectrum[.]"¹³⁹ No consent or commercial agreement to "the use of the spectrum" means no authority to use it.

¹³⁶ *SCS Order*, 39 FCC Rcd. at 2623 ¶ 3 ("In the future, as the marketplace for SCS develops, we plan to build on the framework we adopt today, to enable deployment of SCS in additional bands and scenarios."); *see also id.* at 2638 ¶ 40 ("In the future, as the marketplace for SCS develops, we anticipate that our framework will expand to include additional bands and scenarios.").

¹³⁷ 47 C.F.R. § 25.125; *SCS Order*, 39 FCC Rcd. at 2653 ¶ 71.

¹³⁸ 47 C.F.R. § 25.125(a).

¹³⁹ *SCS Order*, 39 FCC Rcd. at 2654-55 ¶ 72.

In fact, for a satellite service that does not even supplement terrestrial service, the need for consent to use of the spectrum is even greater. And the Commission went further: “[R]equiring grant or acceptance of a part 1 lease arrangement or agreement prior to granting a part 25 license or modification to provide SCS . . . will ensure that the terrestrial licensee’s rights are not infringed upon and create a safeguard against the risk of harmful interference.”¹⁴⁰ In other words, the reason why the Commission conditioned such authority on the terrestrial licensee’s consent to use of the spectrum is simple—to protect the terrestrial licensee from “harmful interference.” In the 2 GHz band, of course, the role of EchoStar as both the AWS-4 and MSS licensee is the equivalent of a commercial agreement between the two that is required under the SCS licensing regime.

Here, SpaceX is three times removed from SCS authority for the AWS-4 band: the spectrum is not included in the SCS licensing scheme; it does not even propose to supplement the terrestrial service in the band; and it does not have the terrestrial licensee’s consent to the use of the spectrum. Again, as explained above, SpaceX has commercial arrangements with T-Mobile and carriers in other countries to operate an SCS service.

Indeed, even SpaceX, while it urged different licensing frameworks on the Commission than the one adopted, itself acknowledged the need for an agreement with the terrestrial licensee before operations begin. SpaceX told the Commission: “[T]o ensure that the satellite operator has a partner before using any specific band domestically, the authorization would only permit operations on specific SCS frequency bands in the U.S. based on and subject to a subsequent spectrum access agreement timely filed with—and if necessary, approved by—the

¹⁴⁰ *Id.*

Commission.”¹⁴¹ SpaceX, too, believed it needed the terrestrial licensee’s consent to gain “access” to the spectrum. SpaceX cannot be heard to evade the Commission’s rules, and its own admission that an agreement is required, by a power grab.

VIII. Forcing EchoStar to Share the 2 GHz Band Would Be Unlawfully Retroactive, Arbitrary and Capricious, Discriminatory, And Would Effectively Revoke EchoStar’s Licenses

A. Introducing Sharing Would Be Arbitrary and Capricious

It is well-established that the adoption of an agency rule, or the departure from an established rule, must be “supported by substantial evidence.”¹⁴² Where an agency “departs from established precedent without a reasoned explanation, its decision will be vacated as arbitrary and capricious.”¹⁴³ An agency’s failure to “come to grips” with conflicting precedent constitutes “an inexcusable departure from the essential requirement of reasoned decision making.”¹⁴⁴

The Commission based its policy to bar separate-operator sharing in the 2 GHz band on extensive technical evidence in the record showing, without a doubt, that such sharing would not work—a record that the Commission has repeatedly re-affirmed and on which many countries agree. And yet, in all of its attempts to invade the 2 GHz band, SpaceX has not *once* provided *any* evidence sufficient to demonstrate that separate-operator sharing is feasible without destroying EchoStar’s terrestrial wireless network. It cannot. The Commission cannot “come to grips” with its “conflicting precedent” because its precedent is based on the objective, immutable

¹⁴¹ Comments of Space Exploration Holdings, LLC, GN Docket No. 23-65, IB Docket No. 22-271, at 8 (May 12, 2023).

¹⁴² *Pacific Ranger, LLC v. Pritzker*, 211 F. Supp. 3d 196, 211 (D.D.C. 2016).

¹⁴³ *ANR Pipeline Co. v. FERC*, 71 F.3d 897, 901 (D.C. Cir. 1995); *see also Ramaprakash v. FAA*, 346 F.3d 1121, 1124 (D.C. Cir. 2003).

¹⁴⁴ *Columbia Broad. Sys. v. FCC*, 454 F.2d 1018, 1027 (D.C. Cir. 1971).

physical characteristics of the 2 GHz band—and any attempt to change this precedent would thus be unlawful, arbitrary and capricious.

The Commission must also ground its fact-finding in existing Commission precedent.¹⁴⁵ The Commission’s conclusion that the 2 GHz band is infeasible for separate-operator sharing is founded on a long line of detailed technical precedent, both its own and that developed by international consensus. A departure from this standard—a departure of the Commission’s longstanding unified-operator policy without comprehensive and objective evidence incontrovertibly demonstrating its feasibility—would thus be arbitrary in itself.

B. Forcibly Introducing Sharing Would Effectively Revoke EchoStar’s 2 GHz Licenses

Under Section 312 of the Communications Act, a license may be revoked only for causes that are described restrictively, none of which are present here.¹⁴⁶ Because there is no way to mitigate the disabling effect that an independent MSS service would produce on EchoStar’s AWS-4 service and current and planned MSS operations, adopting separate operator sharing in the 2 GHz band would effectively revoke EchoStar’s licenses. The Commission has known this for over a decade, which is precisely why it has *always* precluded any independent co-frequency operations.

Nor could introducing an independent service in the band qualify as a license modification, even if it otherwise adhered to Section 316’s procedures.¹⁴⁷ Rather, it would be a

¹⁴⁵ *Huerta v. Ducote*, 792 F.3d 144, 153 (D.C. Cir. 2015).

¹⁴⁶ *See* 47 U.S.C. § 312(a).

¹⁴⁷ *See generally* 47 U.S.C. § 316.

fundamental license modification barred by Supreme Court precedent, which explains that the word “modify” in the Communications Act means modest, rather than radical, change.¹⁴⁸

C. Forcibly Introducing Sharing Would Violate the Prohibition Against Retroactive Rulemaking

EchoStar has invested billions of dollars in its terrestrial and satellite operations in the 2 GHz band in reliance on Commission rulings that have provided certainty about its rights. Core among these rights were the attendant protections against harmful interference. As explained above in connection with EchoStar’s satisfaction of its accelerated 5G commitments, here, too, EchoStar’s investments would be annihilated if the Commission retroactively contravened its own precedent and adopted separate operator sharing for the band. If the Commission allowed sharing into the 2 GHz band, it would punish EchoStar by dramatically reducing the value of its rights to use the band for MSS and terrestrial services. Because the Commission’s rules would be changed after EchoStar has invested in and deployed these services in the band, any decrease in the value of the 2 GHz band to EchoStar would be prohibited retroactivity.

Even when an agency rule only “alters the future effect, not the past legal consequences”¹⁴⁹ of an action, or “upsets expectations based on prior law,”¹⁵⁰ that rule is considered secondarily retroactive and will only be upheld if it is “reasonable, both in substance and in being made retroactive.”¹⁵¹ Where the Commission “significantly alter[s] . . . bargained-

¹⁴⁸ *PSSI Glob. Servs., L.L.C. v. FCC*, 983 F.3d 1, 7 (D.C. Cir. 2020) (quoting *MCI Telecomm. Corp. v. AT&T*, 512 U.S. 218, 227–29 (1994)).

¹⁴⁹ *Sinclair Broadcasting Group v. FCC*, 284 F.3d 148, 166 (D.C. Cir. 2002).

¹⁵⁰ *DIRECTV, Inc. v. FCC*, 110 F.3d 816, 826 (D.C. Cir. 1997).

¹⁵¹ *Celtronix Telemetry v. FCC*, 272 F.3d 585, 589–90 (D.C. Cir. 2001); see also *U.S. Airwaves, Inc. v. FCC*, 232 F.3d 227, 233 (D.C. Cir. 2000).

for benefits . . . [it] has undoubtedly created the kinds of secondary retroactive effects that require agency attention and balancing.”¹⁵²

Additionally, any change to the 2 GHz MSS rules resulting from this inquiry would be legally infirm as (1) Congress has not expressly granted the Commission the authority to promulgate retroactive rules in this situation; (2) the Commission has never previously indicated it would reconsider the rules in the absence of changed conditions that do not exist here; and (3) as described at length above, EchoStar has been operating under settled expectations for over a decade.¹⁵³ Disrupting 5G service to EchoStar’s subscribers, not to mention EchoStar’s

¹⁵² *NCTA v. FCC*, 567 F.3d 659, 671 (D.C. Cir. 2009); *see also Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95, & 101 to Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services*, Second Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd. 8874, 8876 ¶ 5 (2017) (“We find that adoption of uniform renewal rules will promote the efficient use of spectrum resources, serve the public interest by providing licensees certainty regarding their license renewal requirements, encourage licensees to invest in new facilities and services, and facilitate their business and network planning.”); *Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95, and 101 to Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services*, Notice of Proposed Rulemaking and Order, 25 FCC Rcd. 6996, 7018 ¶ 53 (2010) (“[P]roviding certainty to licensees, investors, and other interested parties . . . will facilitate business and network planning.”); *Service Rules for Advanced Wireless Services H Block—Implementing Section 6401 of the Middle Class Tax Relief and Job Creation Act of 2012 Related to the 1915-1920 MHz and 1995-2000 MHz Bands*, Report and Order, 28 FCC Rcd. 9483, 9571 ¶ 231 (2013) (applying Section 1.955(a)(3) of the Commission’s rules to H Block licensees “will facilitate business and network planning by providing certainty to licensees and their investors.”).

¹⁵³ *NCTA v. FCC*, 567 F.3d 659, 671 (D.C. Cir. 2009) (“Legitimate expectations . . . were left largely undisturbed, because the lawfulness of exclusivity clauses had been under [the Commission’s] active scrutiny for a decade, and both the Commission and several individual states had already taken similar actions.”). Any change to the 2 GHz rules is also easily distinguished from the Commission’s modification of incumbent rights in other instances such as the C-band relocation. There, the Commission found explicitly that, in migrating incumbent services to the upper 200 MHz of the C-band, the incumbent providers would be able to provide “the same services . . . as they are currently providing across the full 500 megahertz of C-band spectrum[.]” *See Expanding Flexible Use of the 3.7-4.2 GHz Band*, Report and Order and Order of Proposed Modification, 35 FCC Rcd. 2343, 2353 ¶ 20 (2020). Here, in contrast, the

reasonable investment-backed expectations, is exactly the type of alteration of bargained-for benefits that the prohibition against secondary retroactivity guards against.

IX. A Reversal on Buildout and 2 GHz Exclusivity Would Unlawfully Discriminate Against EchoStar

It is an axiom of administrative law that similarly situated entities should be treated the same.¹⁵⁴ A reversal of course to deny EchoStar a conditional extension would violate that principle when the Bureau has granted extensions to other licensees struggling with the impact of the pandemic,¹⁵⁵ and when the pandemic was just one of the many headwinds confronting EchoStar. Such a denial would be a sharp and discriminatory departure from the thousands of license extensions the Bureau granted in the last two administrations—often without conditions, without public notice, and with a mere stamp grant. There were 3,319 license extension grants in the first Trump Administration and 3,234 license extension grants during the last Administration. A sample of 300 of the 6,553 license extensions granted since 2017 are catalogued and itemized in Exhibit 3. And a reversal of course to rule that satellite operation is no longer enough to preserve a satellite authorization would also violate the non-discrimination principle when operators have been able to retain their licenses and receive extensions, without having to show

Commission and multiple international administrations have consistently affirmed that there is no viable coexistence scheme in the band.

¹⁵⁴ See *James B. Beam Distilling Co. v. Georgia*, 501 U.S. 529, 537 (1991) (“[S]elective prospectivity [] breaches the principle that litigants in similar situations should be treated the same, a fundamental component of *stare decisis* and the rule of law generally.”); *Northstar Wireless, LLC v. FCC*, 38 F.4th 190, 205 (D.C. Cir. 2022) (“It is black-letter law that agencies must treat like parties alike.”); *Kirk v. Commissioner of Social Security Admin.*, 987 F.3d 314, 321 (4th Cir. 2021) (“Indeed, a federal agency can be said to be at its most arbitrary when it treats similar situations dissimilarly.”); *Westar Energy, Inc. v. FERC*, 473 F.3d 1239, 1241 (D.C. Cir. 2007) (“A fundamental norm of administrative procedure requires an agency to treat like cases alike.”).

¹⁵⁵ See Exhibit 3.

service to one customer. In that respect, EchoStar has already attracted 1.3 million customers to its 5G network—a number comparable to the 1.4 million U.S. customers last claimed by SpaceX.¹⁵⁶

X. Conclusion

For the foregoing reasons, the Bureau should immediately deny VTel’s petition for reconsideration, and affirm that EchoStar has met its December 31, 2024 milestones, triggering the extension granted to EchoStar on September 20, 2024; and the Space Bureau should immediately affirm the existing regulatory structure for the 2 GHz band, dismiss calls for new MSS entry, and provide the continued regulatory certainty necessary for EchoStar to complete its network and advance its services for the benefit of Americans.

EchoStar has demonstrated its active and forward-looking stewardship of this spectrum through significant investments, the deployment of a nationwide 5G network, and pioneering efforts in next-generation satellite services like the Lyra constellation, the development of 3GPP NTN standards, and wideband D2D offerings to come. The Commission should let EchoStar keep investing, building, and innovating on Earth and in space.

¹⁵⁶ Letter from Jayson L. Cohen, SpaceX, to Marlene Dortch, FCC, GN Docket No. 22-352, at S-1 (Aug. 5, 2024).

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May 27, 2025

Respectfully submitted,

/s/ Pantelis Michalopoulos
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EXHIBIT 1



FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

Brendan Carr
Chairman

May 9, 2025

Mr. Charles W. Ergen
Chairman of the Board of Directors
EchoStar Corporation
9601 South Meridian Boulevard
Englewood, Colorado 80112

RE: EchoStar's Spectrum Licenses

Dear Mr. Ergen:

The FCC has an obligation to ensure that the companies we regulate comply with the terms of their federal spectrum licenses. As you know, EchoStar or its affiliated companies hold a large number of FCC spectrum licenses that cover a significant amount of spectrum. I am therefore writing to inform you that I have asked the FCC's staff to take several steps regarding spectrum licenses that your companies hold.

Specifically, I have directed agency staff to begin a review of EchoStar's compliance with its federal obligations to provide 5G service throughout the United States per the terms of its federal spectrum licenses.

As you know, buildout obligations are one way that the FCC can ensure that Americans, including those living in rural communities, have a fair shot at next-generation connectivity. After all, failure to meet buildout obligations leaves these communities behind.

In 2019, EchoStar's predecessor, DISH, agreed to meet specific buildout obligations in connection with a number of spectrum licenses across several different bands. In particular, the FCC agreed to relax some of EchoStar's then-existing buildout obligations in exchange for EchoStar's commitment to put its licensed spectrum to work deploying a nationwide 5G broadband network. EchoStar promised—among other things—that its network would cover, by June 14, 2025, at least 70% of the population within each of its licensed geographic areas for its AWS-4 and 700 MHz licenses, and at least 75% of the population within each of its licensed geographic areas for its H Block and 600 MHz licenses.

The terms of the deal were clear. The FCC structured the buildout obligations to prevent spectrum warehousing and to ensure that Americans would gain broader access to high-speed

wireless services, including in underserved and rural areas. To ensure that EchoStar's commitments were credible, the FCC provided that EchoStar's failure to meet its new buildout requirements could result in the loss of its spectrum licenses and significant financial payments. In the end, the Commission noted that the 2019 commitments would increase EchoStar's incentives to grow market share and provide robust competition.

Rather than abiding by the terms of that 2019 Commission-level decision, EchoStar negotiated behind closed doors during the previous Administration in September 2024. Under the terms of that bureau-level decision, EchoStar would no longer have to meet the June 2025 buildout obligations—meaning, its commitment to provide 5G to a broad swath of America. Nor would EchoStar have to face the agreed-upon consequences for failing to do so. Instead, EchoStar would generally kick the can down the road while agreeing to buildout milestones for some major-market licenses by December 2024, along with other commitments. Today, there are fewer Boost Mobile subscribers than when EchoStar acquired the company five years ago.

Of course, 2024 was not the first time EchoStar sought extensions or missed milestones. Neither was 2019. Earlier, in 2017, the company informed the FCC that it would not meet its interim coverage and service milestones for its AWS-4 and Lower 700 MHz E Block licenses. Then, in 2018, EchoStar informed the FCC that it would not meet its interim coverage and service milestones for its H Block licenses.

That history is relevant today. Currently before the FCC are filings from EchoStar that claim to satisfy the bureau's new December 2024 buildout obligation. But questions remain regarding these submissions. Accordingly, I have asked FCC staff to investigate EchoStar's compliance with its buildout milestones.

At the same time, a petition for reconsideration of the 2024 bureau-level extension of the 2019 Commission-level buildout obligations remains pending at the FCC. Given the issues raised in that filing, I have asked FCC staff to seek public comment on the petition and the bureau's 2024 extension of EchoStar's buildout obligations. More generally, to help inform the FCC's thinking about EchoStar's use of spectrum, I have also asked agency staff to issue a public notice seeking comment on the scope and scale of MSS utilization in the 2 GHz band that is currently licensed to EchoStar or its affiliates.

As I am sure you understand, the deployment of broadband service throughout the country, and the robust and efficient use of the nation's spectrum resources, is of paramount importance to the FCC.

Sincerely,

A handwritten signature in blue ink, appearing to read 'B. Carr', with a long horizontal flourish extending to the right.

Brendan Carr

EXHIBIT 2

Submitted Under Request for Confidential Treatment

EXHIBIT 3

	Date of Grant	Licensee	Date of Original Milestone	Date of Extended Milestone	Reference ID (DA/FCC or File Number)
1.	1/17/2017	Progeny LMS, LLC	7/19/2012	4/3/2023	DA 17-20
2.	1/24/2017	Waterleaf International LLC	2/3/2017	4/24/2017	0007621522
3.	1/26/2017	Cypress Creek Volunteer Fire Department	3/28/2017	7/26/2017	0007630787
4.	1/30/2017	GCI Communication Corp.	3/16/2017	3/16/2018	0007636281
5.	2/2/2017	Delmarva Broadcasting Company	1/17/2017	1/17/2018	0007619899
6.	2/7/2017	Neptune Technology Group, Inc.	1/30/2017	7/31/2017	0007636798
7.	2/9/2017	GCI Communication Corp.	1/31/2017	1/31/2018	0007636270
8.	2/10/2017	Virginia Electric and Power Company	2/24/2017	8/25/2017	0007654954
9.	2/10/2017	Chevron USA Inc.	2/9/2017	4/19/2017	0007655375
10.	2/10/2017	Otz Telecommunications Inc.	9/30/2016	9/29/2017	0007394344
11.	2/14/2017	Commonwealth of Virginia	2/11/2017	5/11/2017	0007741728
12.	2/15/2017	Chevron USA Inc.	3/3/2017	7/31/2017	0007656628
13.	2/15/2017	Dallas Fort Worth International Airport	3/17/2017	12/31/2017	0007656292
14.	2/17/2017	Bresnan Communications, LLC	6/13/2017	1/21/2019	DA 16-1429
15.	2/23/2017	Mountain State Communications, LLC	2/24/2017	6/29/2017	0007654847
16.	2/23/2017	Midwest Communications, LLC	2/24/2017	6/29/2017	0007655089
17.	2/28/2017	City of Roseville	3/3/2017	9/29/2017	0007669722
18.	2/28/2017	Seattle Public Schools	2/17/2017	8/17/2017	0007673345
19.	2/28/2017	United States Virgin Islands Bureau of Information Technology	3/21/2017	3/21/2018	0007668220
20.	2/28/2017	Phoenix Transit Authority	2/24/2017	8/28/2017	0007663583
21.	3/1/2017	Chevron USA Inc.	2/26/2017	4/15/2017	0007675797

	Date of Grant	Licensee	Date of Original Milestone	Date of Extended Milestone	Reference ID (DA/FCC or File Number)
22.	3/1/2017	Southern California Gas Company	3/1/2017	3/1/2018	0007679969
23.	3/6/2017	Henry K Zappia	3/3/2017	9/4/2017	0007683073
24.	3/7/2017	Lockheed Martin Corporation	3/7/2017	3/7/2018	0007687638
25.	3/9/2017	Neptune Technology Group, Inc.	3/4/2017	9/5/2017	0007682871
26.	3/10/2017	T-Mobile License LLC	2/18/2017	2/4/2018	0007693580
27.	3/10/2017	Broward County Board of County Commissioners	3/3/2017	12/31/2017	0007679818
28.	3/15/2017	State of Michigan	2/3/2017	2/5/2018	0007619893
29.	3/23/2017	State of Missouri	3/31/2017	5/31/2017	0007706548
30.	3/23/2017	New York State Unified Court System	3/24/2017	9/24/2017	0007706933
31.	3/23/2017	Pacific Gas & Electric	3/3/2017	9/3/2017	0007656769
32.	3/28/2017	FELHC	4/5/2017	6/30/2017	0007711054
33.	3/31/2017	AT&T Mobility LLC	9/13/2019	9/13/2021	DA 17-78
34.	4/3/2017	Archer Daniels Midland Company	4/18/2017	7/18/2017	0007719279
35.	4/4/2017	Cox Communications Hampton Roads, LLC	4/14/2017	7/14/2017	0007724272
36.	4/5/2017	Dalton Communications	4/5/2017	8/1/2017	0007726369
37.	4/17/2017	Chevron USA Inc.	4/15/2017	12/31/2017	0007737491
38.	4/17/2017	City of Columbia Board of Public Utilities	4/28/2017	7/31/2017	0007738626
39.	4/17/2017	Hess Corporation	4/20/2017	5/31/2017	0007739043
40.	4/19/2017	Commonwealth of Virginia	4/17/2017	10/31/2017	0007741728
41.	4/19/2017	King and Queen County	4/14/2017	4/14/2018	0007736198
42.	4/26/2017	Washington State Patrol	7/20/2017	8/1/2018	0007752053
43.	4/26/2017	Virginia Department of State Police	7/7/2017	1/31/2018	0007746652
44.	5/8/2017	County of Hood River	6/6/2017	6/6/2019	0007753161
45.	6/20/2017	Avista Corporation	7/21/2017	9/27/2017	0007818848

	Date of Grant	Licensee	Date of Original Milestone	Date of Extended Milestone	Reference ID (DA/FCC or File Number)
46.	6/29/2017	County of Douglas	6/30/2017	10/30/2017	0007831413
47.	7/5/2017	Inter Canyon Fire Protection District	6/23/2017	7/1/2018	0007825057
48.	7/6/2017	County of Palm Beach	7/7/2017	7/11/2018	0007842114
49.	7/10/2017	GTC Spectrum Corporation	7/7/2017	10/7/2017	0007843334
50.	7/11/2017	Onondaga County Sheriff's Office	7/7/2017	12/31/2017	0007843460
51.	7/13/2017	Avista Corporation	8/12/2017	11/12/2017	0007849298
52.	7/13/2017	Freeport LNG Development LP	8/18/2017	3/1/2018	0007852619
53.	7/13/2017	Pacific Gas & Electric	6/30/2017	1/6/2018	0007773502
54.	7/18/2017	Pennsylvania Turnpike Commission	8/4/2017	8/3/2018	0007852182
55.	7/18/2017	Valley Center Fire Protection District	7/26/2017	1/26/2018	0007852587
56.	7/18/2017	City of Phoenix	7/21/2017	6/30/2018	0007853197
57.	7/19/2017	Virginia Department of State Police	6/23/2017	8/30/2018	0007832456
58.	7/20/2017	Port Authority of New York and New Jersey	7/14/2017	3/31/2018	0007853812
59.	8/17/2017	Public Works Commission of the City of Fayetteville	6/2/2017	12/29/2017	0007794592
60.	11/27/2017	Cobb Electric Membership Corporation	4/30/2017	12/31/2017	DA 17-1139
61.	1/26/2018	FiberTower Spectrum Holdings, LLC	6/1/2012	6/1/2024	DA 18-78
62.	3/3/2020	National Railroad Passenger Corporation	12/31/2019	12/31/2020	0008896440
63.	3/3/2020	Portland General Electric	1/10/2020	6/30/2020	0008932195
64.	3/3/2020	City of Tacoma/Tacoma Public Utilities	4/24/2020	10/30/2020	0008966000
65.	3/3/2020	San Diego Gas & Electric Company	2/14/2020	2/15/2021	0008974184
66.	3/3/2020	Commonwealth of Pennsylvania	2/29/2020	6/5/2020	0008977136

	Date of Grant	Licensee	Date of Original Milestone	Date of Extended Milestone	Reference ID (DA/FCC or File Number)
67.	3/3/2020	Town of Cheshire	4/3/2020	3/1/2021	0008978754
68.	3/3/2020	County of Sublette	2/29/2020	2/28/2021	0008984339
69.	3/3/2020	County of Louisa	4/3/2020	12/4/2020	0008997047
70.	3/4/2020	Phillips 66 Communications Inc.	4/18/2020	12/31/2020	0008994278
71.	3/5/2020	County of Alleghany	5/2/2020	11/1/2020	0008998985
72.	3/6/2020	County of San Diego	11/29/2019	12/4/2020	0008894912
73.	3/11/2020	County of Butte	3/6/2020	9/20/2020	0009002350
74.	3/11/2020	Flood Control District of Maricopa County	3/13/2020	6/30/2020	0009006260
75.	3/12/2020	Extell	3/20/2020	7/31/2020	0009007299
76.	3/16/2020	County of Orange	3/20/2020	3/22/2021	0008984324
77.	3/16/2020	City of Oklahoma City	3/6/2020	9/6/2020	0008990132
78.	3/16/2020	PTI Pacifica Inc.	5/2/2020	10/31/2020	0008996996
79.	3/17/2020	City of Tacoma/Tacoma Public Utilities	3/20/2020	10/30/2020	0009012217
80.	3/18/2020	City of Grand Saline	3/27/2020	12/31/2020	0009005587
81.	3/18/2020	City of South Lake Tahoe	5/22/2020	12/31/2020	0009010818
82.	3/20/2020	L3Harris Technologies, Inc.	3/20/2020	3/21/2021	0009015216
83.	3/23/2020	Virginia Department of State Police	3/6/2020	9/6/2020	0008989647
84.	3/25/2020	Placer County Water Agency	3/27/2020	12/18/2020	0009015405
85.	3/25/2020	East Ohio Gas Company	3/27/2020	10/31/2020	0009021040
86.	3/27/2020	LSB Broadcasting, Inc.	1/10/2020	7/25/2020	0008940605
87.	3/31/2020	Puerto Rico Electric Power Authority	3/27/2020	9/30/2020	0009021585
88.	3/31/2020	City of Waco	3/27/2020	10/2/2020	0009023344
89.	3/31/2020	Chelan County PUD #1	3/20/2020	6/25/2020	0009023514
90.	4/6/2020	Greater Harris County 911 Emergency Network	4/24/2020	10/25/2020	0008985458
91.	4/6/2020	County of Los Angeles	5/2/2020	4/13/2021	0009032006

	Date of Grant	Licensee	Date of Original Milestone	Date of Extended Milestone	Reference ID (DA/FCC or File Number)
92.	4/6/2020	Southern California Regional Rail Authority	4/24/2020	10/30/2020	0009032301
93.	4/6/2020	Fox River Valley Park District	4/3/2020	10/4/2020	0009033228
94.	4/9/2020	New York Power Authority	8/23/2019	4/18/2021	0009034834
95.	4/10/2020	Town of Seekonk	5/2/2020	6/21/2020	0009036574
96.	4/14/2020	Progeny LMS, LLC	4/3/2021	4/3/2023	0009019921
97.	4/14/2020	City of Dallas	6/19/2020	4/1/2021	0009038804
98.	4/16/2020	Village of Freeport	4/18/2020	4/18/2021	0009043923
99.	4/27/2020	San Diego Gas & Electric Company	3/13/2020	3/17/2021	0009012803
100.	4/30/2020	TerreStar Corporation	4/23/2017	7/30/2023	DA 20-391
101.	5/5/2020	TerreStar 1.4 Holdings LLC	4/23/2017	7/30/2023	DA 20-391
102.	5/5/2020	County of Albemarle	5/15/2020	3/2/2021	0009054247
103.	5/5/2020	County of Orleans	5/2/2020	11/1/2020	0009062485
104.	5/13/2020	State of New Hampshire Department of Transportation, Division of Operations	6/11/2020	6/18/2021	0009069886
105.	5/29/2020	Rhode Island Department of Transportation	5/29/2020	11/1/2020	0009093312
106.	6/1/2020	State of Nevada, Dept. of Transportation	5/29/2020	12/3/2020	0009085368
107.	6/1/2020	City of Tracy	6/5/2020	12/10/2020	0009092096
108.	6/3/2020	CBS Communications Services Inc.	3/27/2020	9/23/2020	0009020267
109.	6/3/2020	Phillips 66 Communications Inc.	7/29/2020	12/31/2020	0009094775
110.	6/6/2020	Town of Salem	3/27/2020	5/31/2021	0009090457
111.	6/8/2020	A2G Communications LLC	6/26/2020	9/28/2020	0009031236
112.	6/9/2020	Maricopa County Office of Enterprise Technology	6/26/2020	6/29/2021	0009098998

	Date of Grant	Licensee	Date of Original Milestone	Date of Extended Milestone	Reference ID (DA/FCC or File Number)
113.	6/9/2020	Gadsden County Board of County Commissioners	6/5/2020	1/31/2021	0009099305
114.	6/9/2020	Washington County Department of Public Safety	7/3/2020	7/9/2021	0009100777
115.	6/9/2020	University of North Carolina	6/5/2020	12/11/2020	0009101407
116.	6/10/2020	Enterprise Products Operating, LLC	5/22/2020	9/25/2020	0009081543
117.	6/10/2020	LV Stadium Events Company, LLC	6/5/2020	7/10/2020	0009103118
118.	6/22/2020	RigNet SatCom, Inc.	7/24/2020	1/11/2021	0009083394
119.	6/24/2020	Anadarko Petroleum Corporation	4/18/2020	8/31/2020	0009106869
120.	6/24/2020	Riverside County Transportation Commission	8/29/2020	1/1/2021	0009122178
121.	6/26/2020	Commonwealth of Pennsylvania	6/5/2020	8/15/2020	0009078624
122.	6/30/2020	William Beaumont Hospital	8/7/2020	8/6/2021	0009123147
123.	7/6/2020	RigNet SatCom, Inc.	7/24/2020	1/15/2021	0009123285
124.	7/8/2020	Gray Television Licensee, LLC	6/5/2020	8/1/2020	0009101566
125.	7/21/2020	Progeny LMS, LLC	4/3/2020	10/3/2020	DA 20-755
126.	8/5/2020	Southern California Gas Company	5/29/2020	11/30/2020	0009095338
127.	8/7/2020	The Alaska Wireless Network, LLC	2/7/2020	2/7/2021	0009144465
128.	8/12/2020	Imperial Irrigation District	8/22/2020	12/28/2020	0009180217
129.	8/12/2020	Lower Colorado River Authority	8/7/2020	12/1/2021	0009181653
130.	8/12/2020	Los Angeles Regional Interoperable Communications System	8/7/2020	1/15/2021	0009129264
131.	8/13/2020	County of Schoharie	10/31/2020	8/31/2021	0009167092

	Date of Grant	Licensee	Date of Original Milestone	Date of Extended Milestone	Reference ID (DA/FCC or File Number)
132.	8/13/2020	Montgomery Metro Communications Cooperative District	9/12/2020	12/31/2020	0009180136
133.	8/18/2020	Baltimore Gas and Electric Company	8/15/2020	11/30/2020	0009185882
134.	8/19/2020	Southern California Gas Company	4/24/2020	9/23/2020	0009045899
135.	8/19/2020	Arlington County, VA	10/17/2020	1/15/2021	0009184107
136.	8/19/2020	State of California	8/15/2020	8/19/2021	0009184351
137.	8/19/2020	County of Kenosha	10/17/2020	1/14/2021	0009187767
138.	8/21/2020	City of Tacoma/Tacoma Public Utilities	9/26/2020	12/31/2020	0009191942
139.	8/26/2020	Carroll White REMC	11/14/2020	2/26/2021	0009198602
140.	8/27/2020	City of Oakland	6/19/2020	6/30/2021	0009197765
141.	8/27/2020	City & County of Honolulu, Department of Information Technology	9/5/2020	8/24/2021	0009198540
142.	8/28/2020	County of Prince William	9/5/2020	1/31/2021	0009199519
143.	9/8/2020	Town of Carlisle	12/27/2019	12/31/2020	0008920575
144.	9/11/2020	American H Block Wireless L.L.C.	4/29/2022	6/14/2022	DA 20-1072
145.	9/11/2020	DBSD Corporation	3/7/2020	6/14/2022	DA 20-1072
146.	9/11/2020	Gamma Acquisition L.L.C.	3/7/2020	6/14/2022	DA 20-1072
147.	9/11/2020	Manifest Wireless L.L.C.	3/7/2020	6/14/2022	DA 20-1072
148.	10/1/2020	Pine Cellular Phones, Inc.	1/9/2021	1/23/2023	DA 20-155
149.	10/9/2020	County of Auglaize	5/29/2020	5/31/2025	0009088747
150.	1/21/2021	City of Frisco	2/26/2021	2/20/2022	0009373454
151.	1/21/2021	Livingston, County Of	1/30/2021	12/31/2021	0009375428
152.	1/25/2021	Gadsden County Board of County Commissioners	1/30/2021	6/30/2021	0009379564
153.	1/27/2021	Spire - Alabama	4/10/2021	10/31/2021	0009385982
154.	1/28/2021	Charlotte County Public Schools	4/2/2021	9/30/2021	0009352499

	Date of Grant	Licensee	Date of Original Milestone	Date of Extended Milestone	Reference ID (DA/FCC or File Number)
155.	1/29/2021	Fairfax, County Of	3/5/2021	3/5/2022	0009390593
156.	2/2/2021	Santa Barbara, County Of	2/26/2021	3/3/2022	0009394819
157.	2/2/2021	Massachusetts Water Resources Authority	2/12/2021	2/12/2022	0009400554
158.	2/2/2021	Kitsap, County Of	2/6/2021	12/31/2021	0009398080
159.	2/4/2021	Massachusetts Water Resources Authority	2/12/2021	2/16/2022	0009396393
160.	2/4/2021	Commonwealth of Pennsylvania	2/6/2021	5/5/2021	0009400598
161.	2/5/2021	Franklin, County Of	2/20/2021	10/29/2021	0009402613
162.	2/8/2021	Broome County Emergency Services	2/20/2021	5/31/2021	0009402436
163.	2/11/2021	City of New York	3/3/2021	12/31/2021	0009408774
164.	2/17/2021	Orange, County Of	3/20/2021	3/22/2022	0009409938
165.	2/17/2021	Wyoming, State Of	2/26/2021	11/30/2021	0009410105
166.	2/17/2021	Georgia, State Of	4/2/2021	6/30/2021	0009410165
167.	2/17/2021	Shelby, County Of	3/26/2021	12/31/2021	0009411264
168.	2/17/2021	Prince George, County Of	4/23/2021	4/27/2022	0009417039
169.	2/17/2021	Santa Barbara, County Of	2/19/2021	4/16/2021	0009417273
170.	2/18/2021	Carroll Enterprises, Inc	3/5/2021	8/31/2021	0009401311
171.	2/18/2021	University of Vermont Health Network	2/20/2021	6/29/2021	0009415234
172.	2/24/2021	ConocoPhillips Communications Inc	3/5/2021	9/5/2021	0009426033
173.	3/1/2021	Anne Arundel, County Of	2/26/2021	2/23/2022	0009420506
174.	3/1/2021	T-Mobile License LLC	2/25/2021	3/12/2021	0009430208
175.	3/1/2021	Shenandoah, County Of	2/25/2021	2/25/2022	0009430216
176.	3/3/2021	Virigina Commonwealth of // DCR-LASP	3/3/2021	9/3/2021	0009434216
177.	3/5/2021	Regents the University of California	2/26/2021	10/31/2021	0009434904
178.	3/9/2021	Memphis, City Of	4/14/2021	12/31/2021	0009441498

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179.	3/10/2021	Los Angeles, County Of	4/10/2021	4/23/2022	0009442797
180.	3/10/2021	Los Angeles, County Of	4/10/2021	4/13/2022	0009442796
181.	3/10/2021	Anne Arundel, County Of	3/27/2021	9/30/2021	0009444983
182.	3/11/2021	New York Power Authority	4/17/2021	4/18/2022	0009447148
183.	3/15/2021	City of Dallas	5/29/2021	3/1/2022	0009448027
184.	3/15/2021	Fire Coordinator/Niagara County	3/27/2021	6/30/2021	0009448813
185.	3/16/2021	Palm Beach County Of	1/23/2021	8/31/2021	0009339701
186.	3/16/2021	State Board of Education (IEPBS)	4/23/2021	11/1/2021	0009399827
187.	3/16/2021	Chevron USA Inc.	12/5/2020	6/30/2021	0009400167
188.	3/16/2021	Michigan, State Of	4/10/2021	11/10/2021	0009453446
189.	3/16/2021	Millstone, Township Of	3/13/2021	3/11/2022	0009453563
190.	3/19/2021	Virigina Department of State Police	4/8/2021	9/8/2021	0009457239
191.	3/30/2021	Dartmouth Hitchcock Medical Center	2/20/2021	2/19/2022	0009375865
192.	3/30/2021	American Electric Power Service Corporation	4/23/2021	7/27/2021	0009449924
193.	3/30/2021	WV Division of Emergency Management	4/17/2021	4/30/2022	0009473833
194.	3/30/2021	California, State Of	4/2/2021	4/2/2022	0009473995
195.	3/31/2021	Long Island Power Authority	3/24/2021	9/24/2021	0009465456
196.	3/31/2021	Long Island Power Authority	6/25/2021	12/27/2021	0009467450
197.	3/31/2021	Amazon.com Services LLC	3/10/2021	6/30/2021	0009467930
198.	4/1/2021	Essex, County Of	4/3/2021	4/3/2022	0009474906
199.	4/6/2021	San Diego Gas & Electric Company	3/17/2021	3/17/2022	0009323053

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200.	4/6/2021	Southwestern Electric Power Company	1/16/2021	4/30/2021	0009376105
201.	4/6/2021	American Electric Power Service Corporation	1/30/2021	4/10/2021	0009387732
202.	4/6/2021	Cross Telephone Company, L.L.C.	4/8/2021	7/7/2021	0009464328
203.	4/6/2021	Washington Metro Area Transit Authority WMATA	4/9/2021	4/10/2022	0009482206
204.	4/8/2021	Florida, State Of	6/29/2021	9/30/2021	0009485610
205.	4/8/2021	WV Division of Emergency Management	4/23/2021	4/30/2022	0009485856
206.	4/9/2021	Jasper, County Of	4/9/2021	4/7/2022	0009488018
207.	4/12/2021	Board of Trustees Northern Michigan University	8/1/2021	2/1/2022	0009467720
208.	4/13/2021	San Diego Gas & Electric Company	2/12/2021	2/15/2022	0009323052
209.	4/14/2021	Gagne, Michael	2/12/2021	8/13/2021	DA 21-58
210.	4/14/2021	Michigan, State Of	5/7/2021	12/13/2021	0009492914
211.	4/14/2021	California, State Of	4/13/2021	4/13/2022	0009494018
212.	4/15/2021	Watsonville, City Of	4/17/2021	4/17/2022	0009495472
213.	4/23/2021	Shelby, County Of	6/16/2021	12/31/2021	0009500092
214.	4/26/2021	Michigan, State Of	5/22/2021	11/22/2021	0009510208
215.	4/28/2021	Los Angeles Regional Interoperable Communications System	5/12/2021	10/22/2021	0009517451
216.	4/29/2021	Fox Television Stations, LLC	3/31/2021	7/29/2021	0009449731
217.	4/29/2021	Los Angeles Regional Interoperable Communications System	5/22/2021	10/22/2021	0009517452
218.	4/29/2021	Dickson, County Of	5/28/2021	12/31/2021	0009530311
219.	4/29/2021	Montgomery, County Of	7/9/2021	12/31/2021	0009530549

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220.	4/30/2021	Commonwealth of Pennsylvania	2/6/2021	8/5/2021	0009531925
221.	4/30/2021	Greater Harris County 911 Emergency Net	5/14/2021	9/1/2021	0009532408
222.	5/3/2021	BP America Production Company	5/14/2021	4/15/2022	0009498835
223.	5/4/2021	Avista Corporation	4/2/2021	10/1/2021	0009457916
224.	5/4/2021	Oregon Department of Corrections	5/8/2021	11/8/2021	0009536377
225.	5/6/2021	Memphis, City Of	7/30/2021	12/31/2021	0009538474
226.	5/6/2021	State of Wyoming	5/7/2021	11/12/2021	0009539623
227.	5/12/2021	Steuben County	7/30/2021	1/31/2022	0009545568
228.	5/14/2021	Smithfield, Town Of	5/29/2021	12/1/2021	0009544176
229.	5/18/2021	American Electric Power Service Corporation	3/5/2021	9/30/2021	0009443238
230.	5/18/2021	Salt River Electric Cooperative	5/29/2021	12/31/2021	0009467512
231.	5/18/2021	Pacific Gas and Electric Company	4/15/2021	10/15/2021	0009493456
232.	5/18/2021	Telcom Rentals	5/7/2021	11/7/2021	0009500596
233.	5/18/2021	Allegheny Valley Railroad	5/13/2021	7/13/2021	0009533259
234.	5/19/2021	Premcor Refining Group, Inc.	5/7/2021	12/31/2022	0009504880
235.	5/27/2021	Citizens Utilities Rural Company, Inc., Debtor-in-Possession	3/9/2021	9/5/2021	0009444832
236.	5/27/2021	Metropolitan Transportation Authority	3/27/2021	12/31/2021	0009475653
237.	5/27/2021	Sam Houston Electric Cooperative Inc.	5/21/2021	6/30/2021	0009556980
238.	6/1/2021	Baylor Scott & White Health - Buda	6/19/2021	8/23/2021	0009568588
239.	6/1/2021	Baylor Scott & White Health - Austin Oak Hill	6/19/2021	8/23/2021	0009568589
240.	6/3/2021	Los Angeles, County Of	7/2/2021	6/4/2022	0009570180

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241.	6/4/2021	Tracy, City Of	6/6/2021	12/10/2021	0009573930
242.	6/7/2021	Los Angeles, County Of	6/6/2021	6/4/2022	0009570185
243.	6/7/2021	Prince George County	8/7/2021	6/22/2022	0009573911
244.	6/8/2021	Fresno MSA Limited Partnership (Verizon)	6/18/2021	10/18/2021	0009566910
245.	6/8/2021	Mason County Emergency Communication	8/7/2021	7/8/2022	0009577841
246.	6/10/2021	New York Public Radio	4/10/2021	10/7/2021	0009485982
247.	6/10/2021	New York Public Radio	4/10/2021	10/7/2021	0009485939
248.	6/10/2021	San Diego Gas & Electric Company	4/17/2021	10/16/2021	0009498895
249.	6/10/2021	University of North Carolina	6/11/2021	8/10/2021	0009579946
250.	6/16/2021	Maricopa County Office of Enterprise Technology	6/26/2021	6/28/2022	0009585715
251.	6/17/2021	Georgia, State Of	6/26/2021	8/30/2021	0009588090
252.	6/17/2021	City of Los Angeles - Los Angeles World Airports	7/30/2021	6/25/2022	0009588468
253.	6/22/2021	Bee Broadcasting Inc.	4/23/2021	7/31/2021	0009408822
254.	6/22/2021	Amazon.com Services LLC	3/5/2021	12/31/2021	0009591119
255.	6/23/2021	Gadsden County Board of County Commissioners	6/26/2021	8/31/2021	0009589369
256.	6/25/2021	Municipal Public Safety Communications Consortium of Palm Beach County	7/17/2021	7/16/2022	0009597145
257.	6/28/2021	State of Nevada, Dept. of Transportation	7/17/2021	7/17/2022	0009599851
258.	6/29/2021	Weaver Wind, LLC	6/26/2021	1/26/2022	0009578792
259.	6/29/2021	State of Nevada, Dept. of Transportation	7/17/2021	7/20/2022	0009595588

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260.	7/2/2021	Venture Global Calcasieu Pass, LLC	8/7/2021	2/10/2022	0009607364
261.	7/6/2021	Michigan, State Of	7/23/2021	10/27/2021	0009608189
262.	7/8/2021	State of Nevada, Dept. of Transportation	7/17/2021	7/17/2022	0009612931
263.	7/9/2021	Jacksonville State University	6/9/2021	7/9/2021	0009426590
264.	7/12/2021	California, State Of	7/23/2021	7/24/2022	0009616198
265.	7/15/2021	Oregon, State Of, Dept. of Trans.	7/17/2021	7/16/2022	0009621716
266.	7/15/2021	Irving, City Of	7/9/2021	12/17/2021	0009621881
267.	7/21/2021	Maricopa County Office of Enterprise Technology	7/30/2021	7/29/2022	0009627951
268.	7/21/2021	Jefferson, County Of	11/23/2018	12/31/2021	0009628401
269.	7/21/2021	Klein Independent School District	8/20/2021	2/21/2022	0009628940
270.	7/22/2021	Oneida, County Of	8/20/2021	8/21/2022	0009625868
271.	7/22/2021	King County Water District 49	8/27/2021	4/30/2022	0009630415
272.	7/26/2021	Commissioners of Fire District 1	7/23/2021	7/29/2022	0009632590
273.	7/27/2021	Columbia, County Of	7/30/2021	12/31/2021	0009635452
274.	7/27/2021	Pocahontas County Commission, E911	8/7/2021	11/26/2021	0009636215
275.	8/2/2021	Nucor Brandenburg	9/10/2021	1/16/2022	0009639166
276.	8/2/2021	Puerto Rico Electric Power Authority	7/30/2021	11/30/2021	0009640414
277.	8/4/2021	Eastern Gas Transmission and Storage, Inc.	7/23/2021	9/3/2021	0009538824
278.	8/16/2021	DTE Electric Company	7/23/2021	3/27/2022	0009608155
279.	8/16/2021	Mecklenburg Electric Cooperative	8/7/2021	12/15/2021	0009624321
280.	8/23/2021	Fairfax County Public Schools	9/3/2021	9/3/2022	0009620464
281.	9/27/2021	Southwestern Electric Power Company	6/26/2021	12/30/2021	0009599896
282.	10/14/2021	Apple Inc	5/22/2021	12/20/2021	0009560773

	Date of Grant	Licensee	Date of Original Milestone	Date of Extended Milestone	Reference ID (DA/FCC or File Number)
283.	11/16/2021	Southern California Gas Company	5/29/2021	11/30/2021	0009628594
284.	12/14/2021	Pine Cellular Phones, Inc.	1/24/2022	1/9/2023	DA 21-1553
285.	12/30/2021	American Electric Power Service Corporation	6/6/2021	12/30/2021	0009577149
286.	4/10/2023	Progeny LMS, LLC	4/3/2020	4/3/2021	DA 23-265
287.	4/11/2023	Progeny LMS, LLC	4/3/2020	10/3/2021	DA 23-265
288.	4/21/2023	Triangle Communication System, Inc.	4/2/2021	4/8/2027	DA 23-330
289.	7/10/2023	MDS Operations, Inc.	4/3/2016	11/18/2024	FCC 23-26
290.	7/10/2023	Braunston Spectrum LLC	4/3/2016	11/18/2024	FCC 23-26
291.	5/31/2024	Sensus Spectrum, LLC	10/27/2017	7/1/2024	0007975201
292.	9/3/2024	Sensus Spectrum, LLC	10/27/2017	10/1/2024	0007974832
293.	9/4/2024	Sensus Spectrum, LLC	10/27/2017	9/1/2024	0007975229
294.	9/16/2024	Sensus Spectrum, LLC	10/27/2017	9/1/2024	0007975276
295.	9/17/2024	Sensus Spectrum, LLC	10/27/2017	9/1/2024	0007975338
296.	9/24/2024	Sensus Spectrum, LLC	10/27/2017	10/1/2024	0007976841
297.	9/30/2024	Sensus Spectrum, LLC	10/27/2017	9/1/2024	0007978187
298.	10/4/2024	Sensus Spectrum, LLC	10/27/2017	11/1/2024	0007975047
299.	11/25/2024	New Cingular Wireless Services, Inc.	9/10/2021	3/13/2022	DA 24-1176
300.	1/8/2025	Newmont Communications, Inc.	4/30/2022	12/31/2024	0009928543