Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Globalstar, Inc. Petition for Notice of Inquiry	)	
Regarding the Operation of Outdoor	)	RM-11808
U-NII-1 Devices in the 5 GHz Band	)	

REPLY COMMENTS IN OPPOSITION – OPEN TECHNOLOGY INSTITUTE AT NEW AMERICA AND DYNAMIC SPECTRUM ALLIANCE

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I. Introduction and Summary

New America's Open Technology Institute ("OTI") and the Dynamic Spectrum Alliance ("DSA") submit these Reply Comments in joint opposition to the above-referenced Petition for Notice of Inquiry in which Globalstar, Inc. ("Globalstar") asks the Commission to initiate a proceeding to re-evaluate the continued spectrum sharing between licensed Mobile Satellite Services ("MSS") and outdoor Unlicensed National Information Infrastructure ("U-NII") devices operating in the 5150-5250 MHz "U-NII-1" band.[1]

Globalstar's petition, requesting a Notice of Inquiry ("NOI"), lacks sufficient evidence to merit any formal action under the current circumstances. The data Globalstar presents, even if it were not flawed, could not reasonably lead to a conclusion that its satellite services are experiencing either actual or imminent harmful interference due to unlicensed operations in the U-NII-1 band. Globalstar's mere assertion of hypothetical, future harm does not meet the standard required to reopen a well-settled set of rules the Commission adopted unanimously just four years ago. In essence, Globalstar is yet again reiterating its view that sharing the band will cause a modest increase in the noise floor, a risk that was well understood and accepted (including by Globalstar) at the time the Commission adopted the *2014 5 GHz Order*, rendering this Petition little more than an untimely Petition for Reconsideration.

OTI and DSA recognize and support the need to protect incumbent services when enabling shared use of spectrum resources, and the Commission established an appropriate plan for doing so in this band. For that reason, OTI and DSA urge the Commission to be certain that

[1] OTI's Wireless Future Project develops and advocates policies to promote universal, fast and affordable wireless broadband connectivity through the reallocation of robust unlicensed and shared spectrum. DSA's membership spans multinationals, small-and medium-sized enterprises, and academic, research, and other organizations from around the world, all working to create innovative solutions that will increase the amount of available spectrum to the benefit of consumers and businesses alike. A full list of DSA members is available on the DSA's website at www.dynamicspectrumalliance.org/members/.

corrective action is necessary as a prerequisite to opening a proceeding that will stoke regulatory uncertainty and undermine critical investments in next generation Wi-Fi. Any formal inquiry that revisits the rules for unlicensed use of the 5 GHz band would be extremely damaging to the public interest. The U-NII-1 band has proven critical to meeting the growing consumer demand for high-capacity Wi-Fi offload on mobile devices, as well as an important tool for fixed broadband deployment in rural and other underserved areas. From a consumer perspective, the higher-capacity Wi-Fi made possible by access to the U-NII-1 band is an essential component of the nation‘s fixed and mobile wireless ecosystem as it enables faster, more ubiquitous and more affordable broadband connectivity.

The Commission should maintain a high bar to revisiting its rules concerning shared access to unlicensed or other shared spectrum bands. Adopting Globalstar's petition would set a regrettable precedent that undermines longstanding efforts by the Commission – as well as expressions of clear intent this year by Congress and by the Administration – to encourage more efficient and effective spectrum sharing and utilization. The resulting regulatory risk will depress investment in 5 GHz and possibly in other shared bands.

The Commission has existing safeguards to protect Globalstar. A time-consuming formal inquiry would therefore be unnecessary and counter-productive at this time. A more appropriate first step would be for Globalstar to bring its measurement data directly to OET's Laboratory Division with a request that the agency's expert staff look into the matter.

II. Globalstar's Petition Does Not Meet the Standard for a Formal Inquiry at this Time

Section 1.407 of the Commission's rules requires that a "petition disclose sufficient reasons in support of the action requested to justify the institution" of an inquiry.[2] Globalstar's petition,[3] which requests a Notice of Inquiry ("NOI"), lacks sufficient evidence to merit any formal action under the current circumstances. An assertion of hypothetical, future harm does not meet the standard required to reopen a well-settled set of rules just four years after the Commission adopted it with the support of all five commissioners.[4]

First and foremost, the evidence the company presents could not reasonably lead to a conclusion that its satellite services are experiencing either actual or imminent harmful interference due to unlicensed operations in the U-NII-1 band. The data presented by Globalstar has severe flaws and provides grossly insufficient support for a claim that U-NII devices are currently or even imminently responsible for degrading its MSS operations. Further, the Commission has existing safeguards to protect Globalstar, making a time-consuming formal inquiry unnecessary and counter-productive at this time.

A. There is Insufficient Evidence that Wi-Fi Is Causing Harm

The Commission could not reasonably conclude from the data in Globalstar's petition that Wi-Fi is currently causing, or is likely to cause, harmful interference to the company's MSS

[2] 47 C.F.R. § 1.407 (emphasis added).
[3] *Petition for Notice of Inquiry of Globalstar, Inc.*, RM-11808 (May 21, 2018) ("Petition"); Public Notice, Consumer & Governmental Affairs Bureau Reference Information Center Petition for Notice of Inquiry, Rep. No. 3092 (rel. June 6, 2018). References to "Comments" refer to this proceeding unless otherwise specified.
[4] First Report and Order, *Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, 29 FCC Rcd 4127 (2014) ("*2014 5 GHz Order*").

service. OTI and DSA agree with other commenters that Globalstar's "evidence"—which is based on faulty data, as will be detailed further below—fails to meet the evidentiary standard needed to reopen a well-settled set of rules.[5] Globalstar itself acknowledges it is not experiencing interference, but that its limited measurements occasion a fear that "it will suffer severe harmful interference in the future."[6] However, the company does not provide any evidence that Wi-Fi devices and other U-NII band users are actually harming Globalstar's MSS services today, or that any such harm is imminent or even likely. Instead it warns that it could *potentially* be harmed in the future. That slight risk was known at the time the Commission adopted the *2014 5 GHz Order*, rendering this Petition little more than an untimely Petition for Reconsideration.

B. Globalstar's Data Is Faulty

Globalstar hyperbolically warns that the Commission "failure now to take 'corrective action' will lead to harmful interference to the company's operations" not only in the U.S., but across North America and South America, resulting in a violation of the treaty-level ITU Radio Regulation, Resolution 229.[7] However, not only do the petitioners fail to provide evidence that they are currently being harmed by U-NII-1 band users, the record shows that the evidence they provide to justify fears they could *possibly* be harmed in the future is based on faulty data.[8]

First, Globalstar argues that the measured increase in the noise floor could potentially cause harmful interference with their MSS operations in the future.[9] OTI and DSA agree with

[5] *See generally* Comments of NCTA–The Internet and Television Association ("NCTA"); Comments of the Wireless Internet Service Providers Association ("WISPA"); Comments of Cisco Systems Inc. ("Cisco"); Comments of the Wi-Fi Alliance. References to comments relate to this proceeding unless noted otherwise.
[6] Petition at 2; *see also* Comments of NCTA at 4.
[7] Petition at 2-3.
[8] Comments of NCTA; Comments of Wi-Fi Alliance; Comments of Cisco; Comments of WISPA.
[9] Petition at 12-17.

Cisco that Globalstar has put forward a false cause-and-effect theory that a 2 decibel (dB) rise during 2017 (which itself is a dubious conclusion, as Globalstar admits that its equipment can only measure the noise floor in 1 dB increments +/- 0.5 dB)[10] can be blamed on radio local area network devices. Globalstar's claims suggest, at worst, a correlation between the noise floor and increased Wi-Fi deployments, but not causation. As Cisco states: "Globalstar does not explore noise sources from 5096-5150 MHz, adjacent spectrum uses, possible introduction of non-compliant equipment, or potential measurement errors and biases."[11] Further, Globalstar fails to prove that a rise in noise floor that it reports would actually cause the harms that Globalstar claims it would in the context of a system with significant capacity that is being used less and less over time as consumer demand for its service dwindles.[12]

OTI and DSA agree with NCTA's detailed account of how Globalstar's methodology has "significant flaws" and that the Commission therefore lacks the information it would require to know how much the noise has actually increased in the band since 2014, and whether any rise in noise floor actually comes from U.S. Wi-Fi or other unlicensed operations.[13] In particular, OTI and DSA agree with NCTA's assessment that Globalstar's data suffers from flaws due to the fact the company measures over too large a frequency range and geographic area, that it fails to take into account how Wi-Fi deployments vary in time and geography, and that Globalstar's starting noise floor baseline and its measurement resolution could lead to a significant overstatement of the measured noise.[14]

Globalstar argues that "an uncontrolled proliferation could result in the operation of tens of millions of unlicensed U-NII-1 transmitters (by cable providers, other broadband operators,

[10] *Id.*, Appendix A at 5; Comments of Cisco at 3.
[11] Comments of Cisco at 7.
[12] *Id.* at 8.
[13] Comments of NCTA at 5.
[14] *Id.* at 5-7.

and individual consumers) in the United States and, accordingly, much higher noise rises in Globalstar's *licensed* spectrum."[15] However, Globalstar conveniently does not reveal the mystery operators who are deploying millions of outdoor access points. Reflecting the fact that relatively little Internet data traffic (including less than 20 percent of *mobile* Internet data) is transmitted outdoors, most new Wi-Fi hotspots are indoor deployments. In 2014, by far the largest deployments of outdoor Wi-Fi access points were the product of the initial growth spurt of the then-rapidly-growing Cable Wi-Fi Consortium. However, as the trade press has recently reported, the Cable Wi-Fi Consortium appears to have reached 500,000 outdoor access points in 2016 and stayed roughly at that same level since.[16] Although Comcast has turned millions of its subscribers' indoor routers into dual-purpose gateways, it appears that nearly all the growth in cable Wi-Fi deployment has been indoors, not outdoors. Indeed, in general, extremely few homes or businesses have deployed Wi-Fi routers *outdoors* or in a way that could impact Globalstar's satellite operations.

However, *even if* Globalstar's measurements were accurate, the Roberson and Associates report attached to the petition does not prove that the 1-to-2 dB noise increase found by Globalstar is currently causing harmful interference or is likely to cause harmful interference to Globalstar's system.[17] Further, even if that measured rise in the noise floor is correct, Globalstar did not object to that noise floor when NCTA projected an increase of 1 dB back in 2014.[18] Similarly, Globalstar also did not object when NCTA posited that Globalstar's system had significant extra capacity to insulate Globalstar's satellites from any increase in the noise floor.[19]

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[15] Petition at 14.
[16] Mike Dano, "Cable Wi-Fi Consortium Stalls at 500,000 Units," *Fierce Wireless* (July 13, 2018), https://www.fiercewireless.com/wireless/cable-wifi-alliance-stalls-at-500-000-hotspots
[17] Comments of NCTA at 8.
[18] Comments of Cisco at 7.
[19] *Ibid*.

Now Globalstar is arguing that a rise of 2 dB that may be only 0.5 dB above the non-harmful level it accepted in 2014 is potentially fatal to its services across two continents (since, as previously noted, Globalstar admits it can measure only in 1 dB increments, plus/minus 0.5).

Additionally, OTI and DSA urge the Commission to take account of the in-depth arguments of NCTA that highlight that:

1) A decrease in capacity would only affect Globalstar and its subscribers if Globalstar is operating near full channel or power capacity;

2) The analysis appended to Globalstar's petition assumes improbable Wi-Fi deployment numbers and operating parameters; and

3) Globalstar fails to discount the real-world operational environment such as foliage clutter and limited Wi-Fi frequency range, which results in an overstated possibility of interference.[20]

The Wireless Internet Service Providers Association (WISPA) also highlighted several areas where Globalstar's data and arguments prove insubstantial and insufficient to justify the burden a formal inquiry would impose on small-business WISPs, other ISPs, and on consumers. First, Globalstar is authorized to operate in the 5096-5250 MHz band, so it is possible that the signals the company is reporting are coming from outside the 5150-5250 MHz band.[21] Second, Globalstar only conducted measurements for two minutes at a time a few times per month, and the company should further explain how this sample constitutes an accurate representation of the situation.[22] Third, Globalstar measured the supposed interference from a single location at Lincoln, Kansas, while signals detected from other Globalstar satellites showed drastic variations

[20] Comments of NCTA 8-12.
[21] Comments of WISPA at 3.
[22] *Ibid.*

in the signal levels detected.[23] Finally, WISPA questions Globalstar's claim of a jump in measured noise from 1 dB in February 2017 to 2 dB in August 2017, which would assume a 25 percent increase in outdoor access points in a short period of time, raising the question of how it determined there was such a large corresponding increase in outdoor access points.[24]

In general, the basic premise of Globalstar's findings is anomalous at best. Globalstar argues that in the nearly three-year period between May 2014 until February 2017, it detected no increase in noise level.[25] Then, Globalstar reports, in February 2017, the first satellite measured a 1 dB increase at 5096- 5250 MHz; and then, just one month later (in March 2017), the first Globalstar satellite measured a 2 dB noise rise.[26] OTI and DSA believe Globalstar should provide a more convincing answer as to what would explain how after nearly three years of measuring no increase there was a sudden 2 dB spike in the noise floor in just one month.

Altogether, not only does the data behind Globalstar's petition have significant flaws, but even if that data were accurate the conclusions drawn from them are dubious, and do not meet the standard to initiate a formal Notice of Inquiry at the Commission. OTI and DSA agree with Cisco's explanation that Globalstar "has not fulfilled its basic responsibility to establish that there is something genuinely amiss before seeking to upend a spectrum sharing arrangement that is delivering significant benefits to American consumers."[27]

C. There Are Existing Safeguards, Rendering an NOI Unnecessary

The record also reflects that even barring the merits of Globalstar's petition, there are existing safeguards designed to protect the company from such interference from the *2014 5 GHz*

[23] *Id.* at 3-4.
[24] *Id*. at 4.
[25] Petition at 21.
[26] *Ibid.*
[27] Comments of Cisco at 9.

Order.[28] The Commission rejected Globalstar's argument that the agency should "numerically define 'harmful interference'" and instead stated it would monitor the band informed by certain reporting requirements.[29] OTI and DSA agree with NCTA that a more appropriate first step would be for Globalstar to bring its measurement data directly to OET's Laboratory Division and request that the agency's expert staff look into the matter.[30] This is the recourse the Commission contemplated in its *2014 5 GHz Order*.[31] In 2014, the Commission declared that the reporting requirement provides it "a means to identify readily the largest deployments of U-NII access points, in the unlikely event the number of installations reaches a point where aggregate noise does cause harmful interference to Globalstar and we must take action to avoid such a result."[32]

Further, as Globalstar itself notes, the company has the power to ask the Commission for "immediate regulatory relief from the harmful effects of unlicensed operations."[33] However, NCTA reports that it has no knowledge of any Wi-Fi operator being asked to reduce or cease operations in U-NII-1 based on a complaint from Globalstar to date.[34] Globalstar has not used any of the proper channels to address the harms it purports to be experiencing due to Wi-Fi operations, and until it chooses to do so, a formal inquiry from the Commission on a matter decided unanimously at the Commission a mere 4 years ago is premature. It's obvious from the

[28] *2014 5 GHz Order* at ¶¶ 38-40; *see also* Comments of WISPA at 5-6; Comments of NCTA at 14-17.
[29] *Id.* at ¶ 38.
[30] Comments of NCTA at 15 ("Pursuant to 47 C.F.R. § 15.407(j), which the Commission adopted specifically in order to protect Globalstar's operations, the OET lab has contact information for every entity that has deployed more than 1,000 outdoor access points in U-NII-1. The letters submitted by operators acknowledge that "should harmful interference to licensed services in this band occur, they will be required to take corrective action . . . includ[ing] reducing power, turning off devices, changing frequency bands, and/or further reducing power radiated in the vertical direction.").
[31] *2014 5 GHz Order* at ¶ 46 ("We note that Globalstar has the capability to monitor increases in noise levels at its satellites, and anticipate that Globalstar will report to us any significant changes in the noise levels and provide specific details as to how it is affecting its operations.")
[32] *Id.* at ¶ 38
[33] Comments of NCTA at 16; Petition at 3.
[34] Comments of NCTA at 16.

fact that Globalstar has petitioned for a "Notice of Inquiry" that it realizes it has no basis at this time for regulatory relief from a harm that remains as hypothetical as it was in 2014.

III. A Premature Inquiry into Unsubstantiated Interference Claims Would Harm the Public Interest

The U-NII-1 Band has proven critical to meeting rapidly growing consumer demand for high-capacity Wi-Fi. Any formal inquiry that revisits the rules for unlicensed use of the 5 GHz band would be extremely damaging to the public interest. OTI and DSA agree with the Wi-Fi Alliance that the issuance of a formal Notice of Inquiry would be "highly disruptive to the future of the Wi-Fi industry."[35] NCTA also correctly warns of the harmful effects on the industry.[36] The *2014 5 GHz Order* recognized that then-future – and now current – applications will rely on wider bandwidth channels and outdoor deployments that are supported best by greater harmonization of the technical parameters permitted across the 5 GHz sub-bands.[37] That Order also adopted strong protections for Globalstar's dwindling satellite operations.[38] In the four years since the Commission's Order, the U-NII-1 and U-NII-3 segments of the 5 GHz band have become the backbone of high-capacity Wi-Fi connectivity and a critical part of the nation's 4G ecosystem.

From a consumer perspective, the higher-capacity Wi-Fi made possible by access to the U-NII-1 band is an essential component of the nation's fixed and mobile wireless ecosystem as it enables faster, more ubiquitous and more affordable broadband connectivity. To keep pace with

[35] Comments of the Wi-Fi Alliance at 8.
[36] Comments of NCTA at 17-18.
[37] *2014 5 GHz Order* ¶ 9 ("In the NPRM, the Commission noted that this an opportune time for the Commission to re-examine the U-NII rules. A new Wi-Fi standard—IEEE 802.11ac—allows for wider bandwidth transmissions by devices that operate across more than one U-NII band, thus increasing use of the band for broadband services, permitting faster speeds, and easing Wi-Fi congestion.")
[38] *Id.* ¶¶ 25-37.

the surging demand for high-bandwidth applications, and advances in licensed cellular services, Wi-Fi users will need access to wider channels and more spectrum overall so that this complement to mobile networks remains a pillar of the emerging 5G wireless ecosystem.[39]

Both industry studies and the Commission itself have recognized there is a shortage of unlicensed spectrum expected to be as much as 500 megahertz by 2025.[40] Vast amounts of unlicensed spectrum will be needed for more than Wi-Fi, as tens of billions of devices are connected through a web of IoT applications and networks. Open wireless strategies (Wi-Fi and other unlicensed technologies) are already dominant in a number of industries that are rapidly incorporating wireless connectivity, making up 70 percent of smart grid communications, 80 percent of wireless healthcare solutions, over 90 percent of wireless tablet connectivity, nearly all RFID inventory and asset tracking, as well as a growing share of the emerging Internet of Things.[41]

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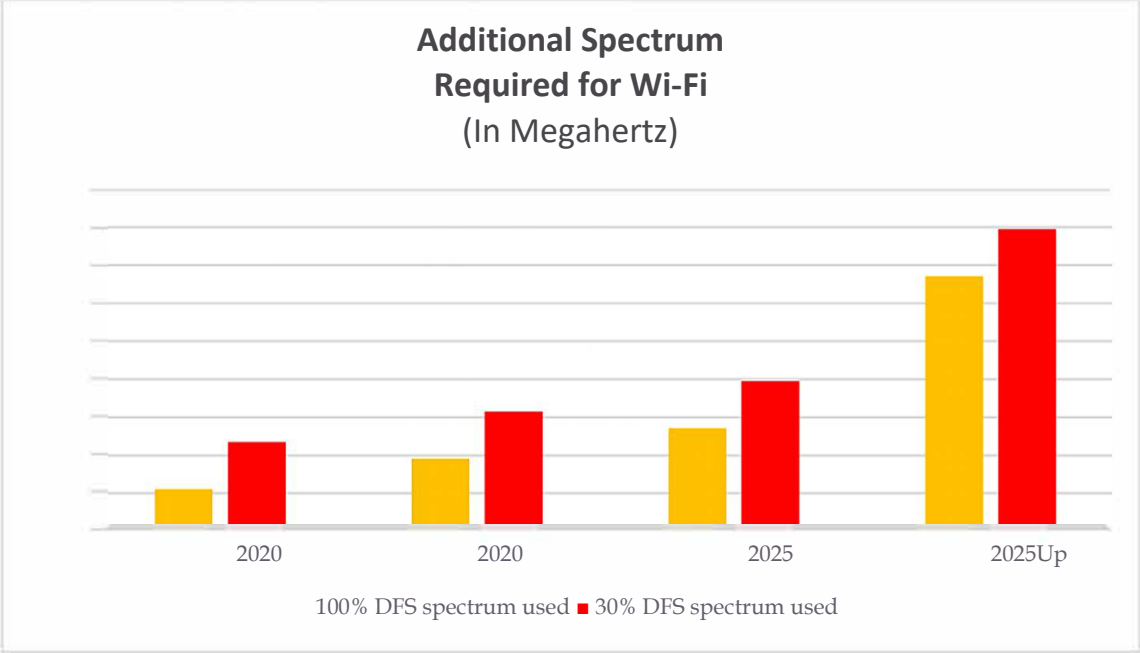
[39] See Reply Comments of New America's Open Technology Institute and Public Knowledge, GN Docket No. 17-183, (Nov. 15, 2017), at 10-15, https://ecfsapi.fcc.gov/file/11162291701183/Mid-Band%20NOI_ReplyComments_OTI-PK_FINAL_111517.pdf.

[40] *See* Steve Methley & William Webb, Quotient Assocs. Ltd., Wi-Fi Spectrum Needs Study 29 (Feb. 2017) ("[B]etween 500 MHz and 1 GHz of new spectrum will be needed in 2025 to satisfy the anticipated busy hour."); Rolf de Vegt et al., Qualcomm Techs., Inc., A Quantification of 5 GHz Unlicensed Band Spectrum Needs 5 (2017). *See also* Commissioner Michael O'Rielly, A Mid-Band Spectrum Win in the Making, FCC Blog (July 10, 2017, 2:30 PM), https://www.fcc.gov/news-events/blog/2017/07/10/mid-band-spectrum-win-making ("Study after study has shown that the U.S. is going to need multiple gigahertz of licensed and unlicensed spectrum just to keep up with current growth patterns"); Commissioner Jessica Rosenworcel, Bringing the Connected Future to All Americans, May 11, 2012–January 3, 2017, FCC Blog (Dec. 30, 2016, 5:30 PM), https://www.fcc.gov/news-events/blog/2016/12/30/bringing-connectedfuture-all-americans-may-11-2012-%E2%80%93-january-3-2017 ("Moreover, as any wireless user can attest to, the airwaves used for Wi-Fi today are getting crowded—putting a premium on identifying additional spectrum for unlicensed growth.").

[41] Yochai Benkler, Open Wireless vs. Licensed Spectrum: Evidence from Market Adoption, 26 HARV. J. L. & TECH. 1 (Fall 2012), at p. 72.

Wi-Fi spectrum gap analysis based on Quotient Associates' Figure-6-3 and Table 6-3.[42]



Expanding capacity for Wi-Fi is critical considering that broadband data usage is growing rapidly and is projected to continue doing so. Wi-Fi now serves as the onramp for a majority of all Internet access, with traffic from Wi-Fi and mobile devices accounting for over 60 percent of all IP traffic in 2016; by 2021, global mobile data traffic is expected to grow to 48 exabytes per month.[43] Even with the widespread adoption of smartphones and other data-intensive devices, Wi-Fi is critical to Americans connecting to the internet.[44] A majority of smartphone data traffic and 90 percent of tablet traffic traverses Wi-Fi, and not licensed mobile carrier networks, to get

[42] Methley and Webb, *supra* note 6, at 26.
[43] Comments of Wi-Fi Alliance at 5; Cisco, Cisco Visual Networking Index: Forecast and Methodology, 2016–2021 (Sept. 15, 2017), https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-indexvni/complete-white-paper-c11-481360.html.
[44] Reply Comments of New America's Open Technology Institute, GN Docket No. 17-199 (Oct. 6, 2017), at 7-9, https://ecfsapi.fcc.gov/file/1006003159531/OTI%20Section%20706%20Reply%20Comments%20Final.pdf.

online.[45] As mobile device capabilities improve, consumers are spending more of their time on mobile devices connected to fixed Wi-Fi networks, according to Open Signal.[46] The dependence of consumers on Wi-Fi networks for both fixed use and for mobile devices means that any undermining of Wi-Fi operations in the 5 GHz band would cause immense strain on mobile networks as well.

IV. The Commission Should be Skeptical of Incumbents Seeking to Undermine Band Sharing and More Intensive Spectrum Usage

The Commission should maintain a high bar to revisiting its rules concerning shared access to unlicensed or other shared spectrum bands. Adopting Globalstar's petition would set a regrettable precedent that undermines the Commission's (and NTIA's) longstanding efforts to encourage more efficient and effective spectrum utilization. If the Commission accepts a new, lower standard for revisiting its U-NII-1 rules, and takes action based on flawed analyses or mere allegations, the resulting regulatory risk will depress investment in shared bands. OTI and DSA also firmly agree with Cisco that "[o]therwise, sharing obligations will be constantly revisited by the parties, dragging down finite Commission resources and preventing work on other matters."[47]

As WISPA notes, the vast majority of wireless internet service providers (WISPs) using the 5 GHz band are very small businesses with 10 or fewer employees and less than 1,200

[45] Comments of INCOMPAS, GN Docket No. 17-199, (Sep. 21, 2017), Appendix A, David S. Evans, Economic Findings Concerning the State of Competition For Wired Broadband Provision To U.S. Households and Edge Providers (Aug. 29, 2017), at 16.
[46] Global State of Mobile Networks, Open Signal (February 2017), https://opensignal.com/reports/2017/02/global-state-of-the-mobile-network ("In general though, we see a high proportion of time spent on Wifi in the majority of the 96 countries we analyzed. Specifically, 38 of those countries had time on Wifi scores of 50% or greater, meaning in a large part of the world our users are spending as much time connected to Wifi networks as they are cellular networks. Rather than acting as a mere supplement to 4G networks, Wifi remains as important a technology as any cellular system in mobile communications.").
[47] Comments of Cisco at 9.

subscribers, and further inquiry from the Commission in this matter would require these businesses to spend a great amount of resources.[48] The Wi-Fi Alliance is correct that the issuance of a Notice of Inquiry would create regulatory uncertainty and that this would be "highly disruptive" to the future of the Wi-Fi industry.[49] Innovators and ISPs require stability and the assurance that they can rely on the *2014 5 GHz Order*. OTI and DSA also agree with the Wi-Fi Alliance that the Wi-Fi industry has devoted "significant resources to develop, manufacture, and market equipment that is compliant with the rules adopted in the *2014 5 GHz Order*. Any indication that the Commission is inclined to depart from its decisions regarding the U-NII-1 band will cause technology developers, manufacturers, and operators to re-evaluate their plans and investments in the U-NII-1 band."[50] Cisco similarly notes, "It is vitally important that in shared bands participants can continue to share successfully over time."[51]

Further, Congress and the Trump Administration have both fully endorsed and encouraged the Commission to expand shared spectrum use on both an unlicensed and licensed basis as evidenced this year by the recent keynote remarks of National Telecommunications and Information Administration Administrator David Redl,[52] the passing and signing of the Ray Baum Act of 2018,[53] and statements and testimony from Commissioners Michael O'Rielly,[54] Jessica Rosenworcel,[55] and Brendan Carr.[56]

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[48] Comments of WISPA at 4-5.
[49] Comments of Wi-Fi Alliance at 8.
[50] *Ibid.*
[51] Comments of Cisco at 3.
[52] David J. Redl, Assistant Secretary for Communications and Information, NTIA, NTIA Spectrum Policy Symposium Remarks of Administration (June 12, 2018) available at https://www.ntia.doc.gov/speechtestimony/2018/remarks-assistant-secretary-redl-ntiaspectrum-policy-symposium ("Now we are looking for new ways to share spectrum among incumbents and new users."). *See also* Comments of Cisco at 4-5; Comments of the Wi-Fi Alliance at 9.
[53] See Consolidated Appropriations Act, 2018, H.R. 1625, 115th Cong. § 618 (2018) (Section 618 adopting a U.S. policy favoring the availability of unlicensed spectrum) (including Division P and Repack Airwaves Yielding Better Access for Users of Modern Services (RAY BAUM'S) Act of 2018 (H.R.4986)).

V. Conclusion

DSA and OTI urge the Commission to reject Globalstar's unsubstantiated and untimely petition. Globalstar's petition bases it fear of future interference on data with severe flaws and inconsistencies. The Globalstar measurements could not reasonably lead to a conclusion that the Commission should revisit and change the rules it adopted four short years ago in the *2014 5 GHz Order*. The Commission has existing safeguards to protect Globalstar, making a time-consuming formal inquiry unnecessary and counter-productive at this time. Due to the lack of evidence and the high importance of unlicensed operations in the 5 GHz band for consumers and the broader public interest, the Commission should reject this petition and allow Wi-Fi providers and other unlicensed users the freedom to work within the strong framework adopted by the Commission in 2014.

Respectfully Submitted,

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[54] Commissioner Michael O'Reilly, Remarks Before CITEL PCC.II Delegation at 2 (June 26, 2017), available at https://transition.fcc.gov/Daily Releases/Daily Business/2017/db0626/DOC-345517A1.pdf ("as spectrum becomes more heavily utilized and shared between services, we need appropriate sharing mechanisms to protect users from harmful interference and provide a stable regulatory environment for those investing and deploying infrastructure in these bands").

[55] Commissioner Jessica Rosenworcel, Remarks to the Mobile World Congress at 1 (Feb. 27, 2018), available at https://www.fcc.gov/document/remarks-commissioner-rosenworcel-mobile-world-congress2018 (calling for "new models for spectrum access" involving sharing).

[56] *Oversight of the Federal Communications Commission: Hearing Before the Subcommittee on Communications and Technology, Committee on Energy and Commerce*, 115th Cong. 37 (2017), available at https://www.govinfo.gov/content/pkg/CHRG-115hhrg27889/pdf/CHRG-115hhrg27889.pdf (Statement of Commissioner Brendan Carr) ("we need to ensure that providers can choose from a mix of licensed, unlicensed, and shared spectrum bands to meet consumer demand.").

CERTIFICATE OF SERVICE

I, Amir Nasr, hereby certify that on this 23rd day of July, 2018, a copy of the foregoing "Comments" was sent by first class, postage prepaid mail to the following:

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