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

In the Matter of	)	
	)	
Expanding Flexible Use of the 12.2-12.7 GHz Band	)	WT Docket No. 20-443
	)	
	)	
Expanding Flexible Use in Mid-Band Spectrum Between 3.7-4.2 GHz	)	GN Docket No. 17-183
	)	

JOINT COMMENTS OF INCOMPAS AND CCIA

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INCOMPAS and the Computer & Communications Industry Association ("CCIA"), by their undersigned counsel, hereby submit these comments in response to the Federal Communications Commission's ("Commission" or "FCC") Notice of Proposed Rulemaking on how best to maximize efficient use of 500 megahertz of mid-band spectrum between 12.2-12.7 GHz ("12 GHz band").[1] INCOMPAS and CCIA urge the Commission to update its restrictive rules for MVDDS licensees and expand terrestrial use of the shared band for two-way communications and mobile services that will spur more competitive choice and 5G opportunity.

I. INTRODUCTION AND SUMMARY

INCOMPAS, the internet and competitive networks association, is the preeminent national industry association advocating for competition policy across all networks. INCOMPAS represents competitive broadband companies that are building networks of the future, including fiber and mobile networks that connect residences, businesses, and community anchor institutions, such as schools and hospitals. INCOMPAS members are catalysts for

[1] *Expanding Flexible Use of the 12.2-12.7 GHz Band, Expanding Flexible Use in Mid-Band Spectrum Between 3.7-24 GHz*, Notice of Proposed Rulemaking, 36 FCC Rcd 606 (rel. Jan. 15, 2021) ("*12 GHz Notice*").

creating economic growth and improving the quality of life of all Americans through technological innovation, new services, and greater choice for consumers and businesses. These companies offer a wide array of broadband voice, video, Internet, and data offerings, using both wireline and wireless networks to reach their customers. Among the state-of the-art solutions they deliver are managed services, cloud computing, data storage, over-the-top content and streaming, and unique applications that are developed and deployed via broadband networks.

CCIA is an international, not-for-profit trade association representing a broad cross section of communications and technology firms. For nearly fifty years, CCIA has promoted open markets, open systems, and open networks. CCIA members employ more than 1.6 million workers, invest more than $100 billion in research and development, and contribute trillions of dollars in productivity to the global economy.

INCOMPAS and CCIA have been active in promoting the growth of next generation networks through pro-competition policies that have unleashed trillions of dollars in investment, and will pave the way for the critical deployment of fiber and 5G. It is in this spirit that the associations and their members commend the Commission for initiating a proceeding that can enhance flexibility in the 12 GHz band and add 500 megahertz of contiguous spectrum to the U.S. 5G spectrum inventory. The Commission's instant proceeding has the potential to promote mobile market competition and make more efficient use of the spectrum in this band. Primarily, the joint commenters view this rulemaking as an opportunity for the Commission to modernize decades-old rules while unlocking critical capacity in the 12 GHz spectrum band to be utilized for the next generation of two-way terrestrial networks and services, like 5G.

In recent years, the American telecommunications industry has made significant investments and technological innovations in 5G, and companies have enthusiastically responded

to every effort that the Commission has taken to open up new spectrum for this paradigm-shifting service. Taking action to modernize the rules in the 12 GHz band and make spectrum available for mobile broadband offers the promise of reliable and affordable connectivity for U.S. consumers and increases the ability of the Commission to address the digital divide. Increased competition in broadband through the broader use of mid-band spectrum will also encourage more innovation, more choices, and greater opportunities for the customers that stand to benefit. Additionally, leveraging the Commission's flexible use policies for the 12 GHz band will enhance U.S. leadership in 5G and strengthen key economic and national security interests.

To facilitate a viable 5G service in the 12 GHz band, the Commission will need to reconsider the outdated rules that currently govern the services in the band. However, such reconsideration will still allow the Commission to match the original intent of the rules which were "designed to enable more efficient and intensive spectrum use through increased spectrum sharing."[2] By allocating the band on a co-primary basis to Direct Broadcast Satellite ("DBS"), Fixed Satellite Service limited to non-geostationary orbit systems ("NGSO FSS") and Multi-Channel Video and Data Distribution Service ("MVDDS"), the Commission demonstrated an early willingness to maximize the efficiency of the band subject to certain limits that prevent harmful interference. Under the current framework, both NGSO FSS and MVDDS are allocated on a non-harmful interference basis with respect to DBS, and spectrum sharing between the two services is achieved "using a combination of technical limitations, information sharing, and first-in-time procedures."[3]

[2] Petition of MVDDS 5G Coalition Petition for Rulemaking, RM-11768 (filed Apr. 26, 2016), at 2 ("MVDDS 5G Coalition Petition").

[3] *12 GHz Notice* at para. 5.

In fact, the Commission was ahead of its time when it adopted rules for the band in 2002,[4] but technology has developed in a way that make many of the limits set on MVDDS providers unnecessary. In an effort to protect DBS, the Commission adopted "very conservative" technical requirements for MVDDS, "including prohibitions on using MVDDS spectrum for two-way communications and offering mobile service, stringent limitations, and extensive and exhaustive coordination procedures."[5] These requirements, which no longer reflect the technological developments surrounding spectrum sharing, have constrained MVDDS providers' efforts to offer service using the band (despite significant outlays for licenses and operations).

The need for additional mobile broadband spectrum has underscored the importance of increasing the efficiency of previously allocated spectrum wherever possible. Present-day systems can identify other spectrum users' actual usage across multiple dimensions, including time, frequency, power, and other measures, and exploit idle frequency assignments in the same spectrum. Furthermore, technological innovations make it possible to alter spectrum assignments in response to conflicts, which allow systems to avoid interference and, not incidentally, eliminate the need for inefficient, command-and-control spectrum models that characterized early frequency assignments.

In these comments, INCOMPAS and CCIA demonstrate that the spectrum-sharing environment has changed dramatically since the rules governing this spectrum were enacted in

[4] *Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band with Frequency Range*, Memorandum Opinion and Order and Second Report and Order, 17 FCC Rcd 9614 (2002) ("*MVDDS Second R&O*").

[5] MVDDS 5G Coalition Petition at 5.

the pre-iPhone era and that this proceeding can represent a win-win situation for the U.S. and accommodate satellite and terrestrial operations in the 12 GHz band. The MVDDS providers that sought a rulemaking in this proceeding have indicated that their "preliminary engineering analysis indicates that spectrum sharing with SpaceX and other NGSO FSS licensees is feasible" and that "[t]echnical innovations have created new possibilities for sharing between terrestrial and satellite."[6] By allowing industry to bring its sharing technologies to this mid-band spectrum, the Commission can expand its flexible use of the band, connect more Americans to the next-generation of technologies, and protect existing licensees from harmful interference. In this proceeding, the joint commenters urge the Commission to take the following actions:

- Put the 500 MHz of existing terrestrial licenses in the 12 GHz band to their highest and best use by updating its rules for MVDDS licensees and increasing terrestrial use of the shared band for two-way communication, and mobile and fixed service. Doing so is consistent with the Commission's current approach of carefully examining each spectrum band to maximize its benefit and will successfully ensure America's edge in the race to 5G.

- Eliminate overly-restrictive limits on MVDDS licensees use of the 12 GHz band by aligning federal regulations with today's spectrum-sharing realities to empower an ecosystem where mid-band spectrum drives innovation, new technologies, and next-generation connectivity for American businesses.

- Promote competition in mobile and satellite broadband by increasing the efficiency of use of the 12 GHz band. Expanding the use of the band is in the public interest as it will deliver more choices and lower costs for consumers in every corner of the nation.

- Establish a spectrum sharing regime in the 12 GHz band. Spectrum sharing by heterogeneous networks is both possible and practical because an array of technological advances allows for more accurate and timely knowledge of spectrum occupancy as well as increased spectrum agility than ever before possible.

Unlike other spectrum bands that must be reallocated for 5G use that have involved other governmental agencies, expanding the flexible use of the 12 GHz band requires only the

[6] *See* Ex Parte Notice of RS Access, WT Docket No. 20-443 (filed Mar. 15, 2021), at Exhibit B ("RS Access Ex Parte").

Commission's reconsideration of decades-old rules that would allow the commercial incumbents to deploy this next generation service. Given the technical analyses that will be submitted during this comment round showing that interference issues can be successfully managed, the Commission should act quickly to expand the 12 GHz band for 5G.

II. THE COMMISSION SHOULD UPDATE ITS RULES FOR MVDDS LICENSEES AND EXPAND TERRESTRIAL USE OF THE 12 GHZ BAND.

a. Reconsideration of the Current Framework for the 12 GHz Band is Warranted Given the Technological Advances That Make Coexistence Between Terrestrial and Satellite Operations Practicable.

Significant technological advances in spectrum sharing and band co-existence made by satellite and terrestrial providers in the 12 GHz band should give the Commission confidence that it can increase opportunities for shared use of the band while protecting incumbents from harmful interference. The 12 GHz band is allocated on a co-primary basis to DBS, NGSO FSS, and fixed services (MVDDS), with the latter two services gaining priority on a "first-in-time, first-in-right" approach with priority afforded to whichever service was deployed earlier.[7] With these co-primary designations, the original precept that the Commission set for the band is that these services can co-exist. That has not changed in the nearly twenty years since the Commission adopted rules for MVDDS providers, and given the fact that the services operate in such a fundamentally different way, the opportunity for coexistence continues to exist even once the FCC permits two-way transmission by terrestrial licensees.

What has changed is the ability of incumbents in the band to better protect other licensees from interference. The original petition for rulemaking was filed in 2016 by a group of service licensees requesting modification to the Commission's rules to allow them to provide two-way

[7] *See* 47 C.F.R. § 101.103(f)(1).

terrestrial service in the 500 megahertz of spectrum in the band. At the time of the filing, the MVDDS 5G Coalition submitted two studies indicating that the rule modification it sought would at least protect DBS providers in the 12.2-12.7 GHz band.[8] In the intervening years since the original MVDDS 5G Coalition Petition for rulemaking was filed, the original petitioners have detailed the development of spectrum-related innovations and posited that co-existence in the band between satellite-based and terrestrial services is now practicable,[9] and today they are submitting analyses that confirm that sharing can be implemented that allows for multi-uses of the band.

Terrestrial systems have undergone significant changes to create more focused transmissions reducing the likelihood of emissions into NGSO FSS receivers that caused the Commission to put power restrictions on terrestrial services in the first place. Specifically, the technologies and techniques that are used to mitigate interference between NGSO FSS and MVDDS have evolved and been used successfully in other bands like the Citizens Broadband Radio Service ("CBRS") that are designated for sharing among incumbent users, priority licensees, and users with generally authorized access.[10] DBS and NGSO FSS services can also be protected by terrestrial services' use of advanced antenna techniques, like beamforming and

[8] *See* Comments of MVDDS Coalition, RM-11768 (filed June 8, 2016), at Attachment I.

[9] *See* Ex Parte Notice of Federated Wireless, RM-11768 (filed Jan. 6, 2021) (offering to lend the company's "experience in implementing shared spectrum solutions in other bands to the challenges of the 12 GHz band"); Letter of DISH Network L.L.C., RM-11768 (filed Oct. 27, 2020) (discussing the development of spectrum-related innovations, such as Multiple Input Multiple Output antennas, channel bonding, and Dynamic Spectrum Sharing).

[10] *See Promoting Investment in the 3550-3700 MHz Band*, Report and Order, 33 FCC Rcd 10598 (2018), at 47 (discussing how automated frequency coordinators, known as Spectrum Access Systems ("SAS") will dynamically reassign users according to their priority) ("*CBRS Order*").

beamsteering, which are enabled by phased array antennas that focus power where it is wanted and reduce power where it is not. As a result, NGSO FSS customers that utilize a dish to receive service are unlikely to experience harmful interference from MVDDS operations.

At the same time, the satellite industry has made significant advances with respect to system architecture that should open the 12 GHz band and others to more spectrum-sharing opportunities. The "mega constellations" that make up NGSO FSS systems allow for a level of satellite diversity that was not contemplated either by the Commission in 2002 when it adopted the current rules or by the MVDDS 5G Coalition when it submitted its petition in 2016. The presence of hundreds to thousands of satellites in orbit means that NGSO earth stations do not need to track satellites from horizon to horizon. As a result, these earth stations no longer employ low look angles (where terrestrial systems historically operate) when locating a satellite because multiple satellites always appear and are available overhead. Also, the availability of phased array antennas, beamforming, and beamsteering improve gain and sidelobe performance of earth stations antennas. Because these techniques are able to more precisely control the energy of satellite antennas at desired location, NGSO satellites can direct transmissions away from terrestrial receivers.

That the Commission is now considering changes based on these new developments should not come as a surprise to NGSO FSS users, as the Commission conditioned the licenses that these companies received upon the outcome of the MVDDS petition for rulemaking and new rules that could be set by the agency.[11] Indeed, it would be in the public interest to update the

[11] *See 12 GHz Notice* at para. 15 (indicating that subsequent space station grants to OneWeb, Kepler Communications and SpaceX were "subject to modification to bring [the grants] into conformance with any rules or policies adopted by the Commission in the future") *see, e.g.*, *Space Exploration Holdings, LLC*, Order and Authorization et al., IBFS File No. SAT-MOD-

operational rules to provide two-way mobile/fixed broadband service and update the MVDDS technical rules to enable a 5G mobile service throughout the 12 GHz band.

Reconsideration of these outdated rules is also consistent with the Commission's long advocated flexible use rules that allow spectrum to be put to its highest and best use. The Commission has stated its preference for periodically reviewing its spectrum allocation decisions, arguing that "the failure to revisit historical allocations can leave spectrum handcuffed to particular use cases and outmoded services."[12] Installing more flexible spectrum rights in the 12 GHz band will ensure that MVDDS users can quickly and readily deploy valuable 5G services.

b. Modifying Existing Terrestrial Licenses and Updating the Antiquated MVDDS Rules Will Ensure Rapid, More Intensive Use of the 12 GHz Band and Increase U.S. Leadership in 5G

Despite the progress that has been made that will enable coexistence in the band, certain 12 GHz operators are urging the Commission to maintain the status quo and the unnecessarily restrictive requirements for MVDDS.[13] Thus, making the 12 GHz band more effective for broadband, including for terrestrial 5G, for satellite, or for both, will require changes to the rules. Additional mid-band spectrum is critical for domestic providers hoping to add 5G capacity, and as has been noted by stakeholders in this proceeding, the 12 GHz band possesses important

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20200417-00037, FCC 21-48 at para. 50 (rel. Apr. 27, 2021) ("SpaceX proceeds at its own risk [in the 12 GHz band].") ("SpaceX Mod3 Grant").

[12] FCC, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN, at 78-79 (2010).

[13] *See* Notice of Ex Parte Communication of OneWeb, WT Docket No. 20-443 (filed Mar. 10, 2021), at 1-2 (urging the Commission not to alter the current spectrum allocations in the 12 GHz band); Notice of Oral Ex Parte Presentation of SES, WT Docket No. 20-443, et al. (filed Mar. 30, 2021), at 3; Letter from David Goldman, Director of Satellite Policy, SpaceX, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 20-443, at 1 (filed Mar. 22, 2021).

characteristics that make it well suited to be allocated for new 5G services.[14] Furthermore, MVDDS spectrum meets the criteria the Commission established in the *Spectrum Frontiers* proceeding for evaluating the suitability of spectrum bands for 5G: (i) the band offers 500 megahertz of contiguous, mid-band spectrum above 6 GHz, (ii) it allows for a "flexible regulatory framework" that maximizes service options, (iii) it promotes international harmonization as this spectrum is allocated internationally for mobile services, and (iv) it enables 5G sharing with "existing incumbent license assignments and uses."[15] Additionally, as RS Access recently established in a meeting with the Commission, this block of spectrum "does not require impairing a single government incumbent . . . [n]or does accessing the band involve a complex, years-long relocation of commercial incumbents"[16] as these licensees can continue to use the spectrum licensed to them assuming the Commission updates its rules to permit 5G services. Put plainly, the 500 megahertz of spectrum from 12.2-12.7 GHz is ideally suited for 5G.

To that end, INCOMPAS and CCIA urge the Commission to modernize the long-outdated rules currently governing the 12 GHz band in a manner that will accelerate 5G deployment. Specifically, the Commission should modify the existing terrestrial licenses by updating the MVDDS operational rules to permit MVDDS licensees to provide two-way mobile

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[14] *See* MVDDS 5G Coalition Petition at 4 ("5G systems are expected to be used in areas of localized demand, where high system capacity in dense deployments will be needed to support very high data rates. Spectrum bands above 6 GHz meet these needs because they offer spectrum blocks of sufficient size—several hundred MHz or more—to provide high peak data rates.").

[15] *Use of Spectrum Bands Above 24GHz for Mobile Radio Services, Notice of Proposed Rulemaking*, 30 FCC Rcd 11878, 11887-89 at paras. 20-24 (2015) ("*Spectrum Frontiers*").

[16] RS Access Ex Parte at 3.

broadband service and updating the technical rules on transmit power and Equivalent Power Flux Density ("EPFD") levels to enable a 5G service while protecting other users from harmful interference. These outdated and restrictive rules have kept MVDDS providers from fully realizing the potential of the band, and updating the rules to permit two-way terrestrial use for the delivery of 5G services will enable the spectrum to be put to its highest valued use.

The U.S. needs more spectrum for 5G to innovate and compete with other nations that have already allocated significantly greater amounts of mid-band spectrum for 5G, and making modifications to the current allocations in the 12 GHz band is a sensible starting point. According to a recent study completed for CTIA, the U.S. currently ranks last among 13 major wireless markets in 5G mid-band spectrum.[17] Allowing for flexible-use licenses for two-way broadband by swiftly modifying the 500 megahertz of existing licenses in the 12 GHz band allows the U.S. to overtake China (950 MHz) immediately and propels the U.S. from 13th place to second place behind Japan (1000 MHz). Furthermore, it will allow the industry to address an unmet and rapidly evolving need for new spectrum that enables advanced wireless services, connects rural customers to broadband, and encourages game-changing innovation. Modernizing the long-outdated rules currently governing the 12 GHz band will accelerate 5G deployment throughout the country; enable more competitive broadband options; and improve how our children learn, how the public accesses healthcare, and how small businesses operate.

[17] *See* Janette Stewart, Chris Nickerson, Tamlyn Lewis, *5G Mid-Band Spectrum Global Update, Final Report for CTIA* (March 2020), *available at* https://api.ctia.org/wp-content/uploads/2020/03/5G-mid-band-spectrum-global-update-march-2020.pdf.

III. BRINGING THE SHARING REGIME BETWEEN FULL POWER TERRESTRIAL AND SATELLITE PROVIDERS UP TO DATE WITH CURRENT TECHNOLOGIES IS THE CORRECT APPROACH TO INCREASING SPECTRUM EFFICIENCY AND PROMOTING ECONOMIC INVESTMENT IN THIS BAND FOR THE BENEFIT OF CONSUMERS.

In addition to modifying the existing terrestrial licenses for MVDDS providers, the Commission should adopt a sharing framework that "expands the availability of spectrum for both fixed and mobile broadband deployments."[18] Taking this approach would be appropriate for a number of reasons. First, as noted above, there is a vast range of technologies and techniques that are available to providers for sharing. Second, given that NGSO FSS operators seeking to use the 12 GHz band also have access to spectrum in multiple other bands, sharing appears to be a workable solution. For example, the 500 megahertz of spectrum in the 12 GHz band represents approximately *three* percent of the total spectrum available to NGSO FSS provider SpaceX.[19] In other instances where competing operators seek to utilize shared spectrum, automated frequency coordinators can be used to find available channels to ensure that services are not impaired due to interference and transmit power issues. As it considers whether to make modifications to the band, the Commission should examine how to establish a sharing framework that would utilize these additional bands where NGSO FSS operators are authorized to provide service, particularly given the fact that the 12 GHz band represents such a small portion of their spectrum holdings.

[18] Letter of Public Knowledge, Open Technology Institute, *et al.*, RM-11768 (filed July 9, 2020), at 2 (calling on the Commission to add the 12 GHz band to the Commission's 5G FAST Plan noting that "more flexible spectrum use rights for existing licensees will promote competition in mobile broadband").

[19] *See* SpaceX Mod3 Grant at para. 3 (describing SpaceX's holdings and authority to offer NGSO FSS using the Ku-, Ka- and V-band). *See also Space Exploration Holdings, LLC*, Memorandum Opinion, Order and Authorization, 33 FCC Rcd 11434 (2018).

Finally, adopting a sharing framework would be appropriate given that operators in this band have complementary service orientations. SpaceX and other NGSO FSS licensees will most likely deploy service in rural or ex-urban areas not already served by high-performing, low-cost fiber, hybrid-fiber or terrestrial 5G radio networks. MVDDS licensees, by contrast, will most likely focus deployments on those areas where 5G network operations can rest atop existing cellular infrastructure and serve areas with capacity constraints, principally urban and suburban areas. These natural service orientations—with satellites focused on more rural areas and terrestrial infrastructure focused on more urban areas—do not mean the Commission must or should preclude urban deployments by satellite operators or prohibit rural deployments by 5G operators. These naturally occurring service orientations simply limit the number of occasions when heterogeneous network architectures are likely to land in close proximity to one another. In other words, sharing between heterogeneous networks such as NGSO FSS and 5G is rendered more practical than homogenous networks because the naturally occurring service orientations of each system architecture will tend to create natural separation and reduce the frequencies either system needs to rely on sharing policies to guide service.

With spectrum sharing resources, economics and technology should be permitted to drive each operator into different spheres that will make sharing easier over time (as noted above, terrestrial uses of the band will likely be more focused on urban areas, while satellite services will be more rural). Because satellite is highly localized, if one channel is occupied by an operator, providers need only to switch to another using real-time processing.

IV. MAINTAINING THE CURRENT FRAMEWORK WOULD ALLOW NGSO FSS PROVIDERS TO LOCK OUTDATED TERRESTRIAL RULES IN AMBER, CLOSING OFF INNOVATIVE USE OF THE SPECTRUM.

Given the advances in terrestrial and satellite system architectures, the diversity of allocations in the band, and the ability to maximize the spectrum's potential through sharing techniques, the Commission should resist calls from NGSO FSS incumbents that oppose modifying and updating the 12 GHz band's operational and technical rules. The 12 GHz Alliance, a group of NGSO FSS operators in the band, are encouraging the Commission to lock in the overly restrictive MVDDS rules that the agency adopted in 2002.[20] The Commission must see through these brazen efforts to entrench one service at the expense of the others. Essentially, the 12 GHz Alliance wants to lock in amber these outdated limits on terrestrial deployment and take advantage of the benefits of reduced participation in the band. Instead, INCOMPAS and CCIA urge the Commission to promote greater competition in the band through the aforementioned rule modifications as consumers are the ones that will benefit from the lower prices, faster service, and greater innovation that competitive providers bring to a market.

This is particularly important given the fact that, following the development of operational and technical rules in the band, NGSO FSS operators failed to deploy service in the band for more than eleven years. In 2001, the NGSO FSS allocation for the 12 GHz band took effect in the United States.[21] By 2005, all six NGSO FSS license holders had quit developing

[20] *See* Letter of OneWeb, SpaceX, SES, Kepler Communications, and Intelset, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 20-443 (March 12, 2021) (claiming that "ubiquitous two-way mobile services cannot successfully coexist with incumbent satellite operations that rely on co-primary access to the 12 GHz band). These companies together are recognized as the 12 GHz Alliance.

[21] *See Fixed Satellite Service and Terrestrial System in the Ku-Band*, 66 FR 10601 at para. 49 (2001).

their systems or had applications dismissed as defective.[22] It was not until 2016, that OneWeb requested Commission authority to deploy its new NGSO FSS system.[23] These satellite companies had finally realized the technical advances necessary to deploy "mega constellations" of hundreds to thousands of small satellites using various frequency bands, including 12 GHz. Recognizing the achievement that this represented, the Commission "updated its rules to enable the deployment of these systems."[24] While NGSO FSS licensees should be commended for the investments that they have recently made to bring satellite service to market, it is important to remember that the Commission preserved the ability of NGSO FSS operators to provide service in the band, even when these providers were not taking the requisite actions to establish service.

Now, when a similar technical leap forward with respect to spectrum sharing is presented to the Commission by MVDDS licensees, NGSO FSS operators are instead calling on the Commission to reject these preliminary conclusions outright. Instead, the Commission should stay the course and permit sharing throughout the 12 GHz band. The opportunity for sharing means that this proceeding does not have to be a winner-take-all situation, nor should it be given the Commission's historical interests in all three services offered in the band.

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[22] *See SkyBridge L.L.C. et al.*, Order and Authorization, 20 FCC Rcd 12389 at para. 3 (2005); Surrender Letter from Jeffrey H. Olson, Attorney for Skybridge L.L.C., to Kevin Martin, Chairman, FCC, IBFS File No. SAT-AMD-19970703-00058 (dated Aug. 17, 2005).

[23] *See* WorldVu Satellites Limited Petition for a Declaratory Ruling Granting Access to the U.S. Market for the OneWeb System, IBFS File No. SAT-LOI-20160428-00041 (filed Apr. 28, 2016).

[24] *See Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 7809 (2017) (recon. pending).

Finally, Commission action is needed to address this issue given that SpaceX's recently secured space station license modification complicates two-way terrestrial service, embeds Starlink, and, absent modification of MVDDS licenses, encumbers competitive broadband delivery in the band.[25] SpaceX wants to use the 12 GHz band to offer satellite broadband (through its Starlink brand service), but opposes a rule change to bring the two-decade old constraints on terrestrial operations into the present day. The surplus spectrum realized from advances in technology would instead go to NGSO FSS and not terrestrial uses. The recent license modification SpaceX secured was intended to improve Starlink's broadband service offering. The chief difference between Space X's request and the changes in the rules sought by the MVDDS licensees is that SpaceX's rule changes will apply only to Starlink. INCOMPAS and CCIA commend the Commission for conditioning the license modification on actions taken by the agency in the 12 GHz proceeding and encourage the Commission not to allow this modification to impact its assessment and willingness to consider changes to the MVDDS allocation.

The Commission can safeguard satellite operations against harmful interference while benefitting from increased terrestrial use. The Commission must act to ensure that all users in the band have a chance to succeed. All Americans benefit when multiple providers of advanced broadband services exist. But the Commission should recognize that updating the rules to permit 5G service in the band means updating the rules for everyone which *is* in the public interest.

[25] *See* SpaceX Mod3 Grant at para. 1.

V. CONCLUSION

For the reasons stated herein, INCOMPAS and CCIA urge the Commission to consider permitting flexible, two-way terrestrial use of the 12 GHz band, as recommended in these comments.

Respectfully submitted,

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