

INCOMPAS has 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. Connecting our nation’s citizens to high-speed internet service will take an “all of the above” approach and require federal agencies to promote policies that prioritize investment in, and the deployment of, next-generation networks to enable broadband competition. Such competition is the leading driver for faster and more affordable service and is key to ensuring that residential and business customers will have access to the broadband provider and online services and applications of their choice. It is in this spirit that the association and its members commend NTIA for its commitment to developing a national spectrum strategy and identifying 1,500 megahertz of spectrum that can be studied “to determine whether the spectrum can be repurposed to allow more intensive use,” including the delivery of high-speed broadband. One specific way to increase competition for broadband is through the broader use of mid-band and millimeter wave spectrum. To that end, INCOMPAS urges NTIA to consider the 12.2-12.7 GHz band, the 12.7-13.25 GHz band, and the 37.0-37.6 GHz band as potential spectrum bands to be added to the nation’s spectrum pipeline.² As NTIA develops its spectrum strategy, INCOMPAS urges NTIA to incorporate opportunities for licensed and unlicensed spectrum allocations.

I. THE FEDERAL GOVERNMENT SHOULD PROMOTE BROADBAND COMPETITION BY EXPANDING THE 12.2-12.7 GHZ BAND FOR MORE FLEXIBLE USES

INCOMPAS commends the Federal Communications Commission for its efforts to reduce barriers to deployment in the fixed and mobile markets and identifying spectrum that can

² NTIA’s inclusion of these bands should not impose any encumbrance on the FCC to proceed in its decision making in the Commission’s ongoing proceedings.

be repurposed for the delivery of high-speed broadband using advanced wireless technology.³ Each of the bands identified in our comments are the subject of active proceedings at the FCC and are therefore ripe for further study by NTIA. First, INCOMPAS believes the FCC needs to take immediate action in the 12.2-12.7 GHz proceeding to modernize its rules to permit mobile 5G and two-way terrestrial uses in the band. This band has no federal encumbrances, does not require an auction, and can be put to immediate use by current licenses. The FCC's proceeding has the potential to promote mobile market competition, enhance flexibility in the 12 GHz band and add 500 megahertz of contiguous spectrum to the U.S. 5G spectrum inventory and make more efficient use of the spectrum in this band. Modernizing the decades-old rules in the 12 GHz band will unlock critical capacity and allow the 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 has been 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 federal agencies 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.

³ See, e.g., *Expanding Flexible Use of the 12.2-12.7 GHz Band*, Notice of Proposed Rulemaking, 36 FCC Rcd. 606 (2021) (determining whether terrestrial mobile wireless service could coexist with existing operations in the 12.2-12.7 GHz band) (“12 GHz Notice”); *Expanding Use of the 12.7-13.25 GHz Band for Mobile Broadband or Other Expanded Use*, Notice of Inquiry and Order, GN Docket No. 22-352, FCC 22-80 (rel. Oct. 28, 2022) (“Upper 12 GHz NOP”) (exploring repurposing spectrum in the 12.7-13.25 GHz band for next-generation wireless technologies).

Additionally, leveraging 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, NTIA should urge the FCC to reconsider the outdated rules that currently govern the services in the band. Under the current framework, the co-primary uses of the band— Fixed Satellite Service limited to non-geostationary orbit systems (“NGSO FSS”) and Multi-Channel Video and Data Distribution Service (“MVDDS”)—are allocated on a non-harmful interference basis with respect to Direct Broadcast Satellite (“DBS”), and spectrum sharing between the services is achieved “using a combination of technical limitations, information sharing, and first-in-time procedures.”⁴ The conservative technical requirements the Commission adopted for the band in 2002 no longer reflect the technological developments surrounding spectrum sharing and 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.

⁴ *12 GHz Notice* at para. 5.

In fact, the spectrum-sharing environment has changed dramatically since the rules governing this spectrum were enacted in the pre-iPhone era and this proceeding can represent a win-win situation for 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.”⁵ 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—using unlicensed and sharing techniques—and protect existing licensees from harmful interference. INCOMPAS is confident it is possible to:

- Put the 500 megahertz 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 FCC’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.

⁵ See Ex Parte Notice of RS Access, WT Docket No. 20-443 (filed Mar. 15, 2021), at Exhibit B (“RS Access Ex Parte”).

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 FCC's reconsideration of decades-old rules that would allow the commercial incumbents to deploy this next generation service. Given the technical analyses that show that coexistence in the band between terrestrial, satellite, and unlicensed uses, the government should act quickly to add 12 GHz to the spectrum pipeline and expand its use for 5G.

II. THE 12.7-13.25 GHz BANDS REPRESENTS AN OPPORTUNITY TO ADD 1050 MEGAHERTZ OF CONTIGUOUS SPECTRUM TO THE NATIONAL SPECTRUM PIPELINE

Similarly, INCOMPAS members urge the government to bring the 550 megahertz of mid-band spectrum in the 12.7-13.25 GHz band to market for mobile and fixed broadband use as well as other terrestrial uses. The FCC has a pending *Notice of Inquiry* on whether the 12.7-13.25 GHz band is suitable for mobile broadband and other expanded use and how the Commission can make more efficient use of the band.⁶ Adopting service rules in the 12 GHz band that permit flexible use on the basis of the robust facts in that proceeding would lay the predicate for the FCC to explore in the *Upper 12 GHz NOI* a very real opportunity to make over 1000 megahertz of contiguous spectrum between 12.2-13.25 GHz available for two-way terrestrial services and mobile broadband. In any case, it will be easier for the FCC to make concrete proposals about how the 12.7-13.25 GHz band is to be shared, licensed, and protected once the Commission has resolved any pending issues in the 12 GHz band proceeding.

Multiple provider coexistence in the 12 GHz band, which has only a limited number of satellite companies seeking protection from new terrestrial services, can also serve as a blueprint

⁶ *Expanding Use of the 12.7-13.25 GHz Band for Mobile Broadband or Other Expanded Use*, Notice of Inquiry and Order, GN Docket No. 22-352, FCC 22-80 (rel. Oct. 28, 2022).

for the Upper 12 GHz band. The 12.7-13.25 GHz band is currently allocated on a primary basis for non-Federal use to fixed services, (primarily broadcasters), satellite services, and mobile services and according to the *Notice*, the band has thousands of licensed users.⁷ NASA is the lone Federal user of the band and uses this spectrum to operate a receive-only earth station. Therefore, spectrum sharing in the Upper 12 GHz band will require the government to adopt a framework that accommodates terrestrial and satellite users, with consideration given to the federal incumbent. Implementation of the changes in the 12 GHz proceeding should necessarily inform action in the Upper 12 GHz band. Given the number of incumbent licensees in the band, it will be easier for the Commission to establish a method for spectrum sharing that includes 5G and satellite services after it implements the framework that enables two-way terrestrial and satellite coexistence in the 12 GHz proceeding.

III. FIXED WIRELESS SERVICE CAN BE DELIVERED THROUGH THE 37.0-37.6 GHz BAND

Finally, INCOMPAS urges NTIA to study the potential to repurpose the 37.0-37.6 GHz band (“Lower 37 GHz band”) for the delivery of high-speed broadband using advanced wireless technology. As with the 12 GHz band and Upper 12 GHz band, the FCC has an active proceeding aimed at determining whether the band can be made available for commercial use.

In 2016, the FCC decided to allow coordinated shared access between fixed and mobile terrestrial operations in the 600 megahertz of spectrum in the Lower 37 GHz band.⁸ This spectrum has significant potential to enable widespread deployment of fixed wireless broadband

⁷ See *Upper 12 GHz NOI* at para. 4.

⁸ *Use of Spectrum Band Above 24 GHz, et al.*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014, 8059-61, paras. 111-117 (2016) (“*Spectrum Frontiers R&O and FNPRM*”)

service in urban and rural communities across the country. In addition to bridging the digital divide in unserved and underserved rural communities,⁹ stakeholders have also indicated that the band can be used to deliver broadband services in multiple tenant environments in urban and suburban areas.¹⁰ Consumers living and working in these areas continue to “face obstacles to obtaining the benefits of competitive choice of fixed broadband, voice, and video services.”¹¹ Making the Lower 37 GHz band available for fixed wireless applications would allow providers to offer a more affordable, robust commercial alternative to the incumbents’ networks and open new markets for both wired and wireless deployments.

While there is widespread agreement that the band should be expanded for “high rate data services, and other innovative uses and applications,”¹² a licensed framework must be finalized for the Lower 37 GHz band before it can be made available for commercial use. INCOMPAS has urged the FCC to adopt a straightforward and technology-neutral sharing framework proposed fixed wireless providers, like Starry, Inc., which “builds off decades of Commission experience with site-based licensing” and would maximize the use of the spectrum for both

⁹ See Notice of Ex Parte Communication of WISPA—Broadband Without Boundaries, ET Docket No. 18-295, GN Docket No. 14-177 (filed Aug. 1, 2022) at 1-2.

¹⁰ See Notice of Ex Parte Communication of New America’s Open Technology Institute, GN Docket No. 14-177 (filed Feb. 27, 2022) at 1.

¹¹ *Improving Competitive Broadband Access to Multiple Tenant Environments*, GN Docket No. 17-142, Report and Order and Declaratory Ruling, FCC 22-12, para. 1 (rel. Feb. 15, 2022) (adopting prohibitions and disclosure requirements on certain commercial arrangements between providers and building owners that undermine agency rules promoting competition in MTEs).

¹² *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, 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*, Third Report and Order, Memorandum Opinion and Order, and Third Further Notice of Proposed Rulemaking, 33 FCC Rcd. 5576, para. 28 (2018).

commercial and federal users.¹³ This flexible approach, which would leverage existing coordination tools through objective protection criteria not only addresses sharing concerns in the near term, but also contemplates “layering on additional tools” as needed to enhance the sharing framework over time.¹⁴ Starry’s proposed sharing framework would simultaneously open available spectrum to commercial use as soon as possible and meet the needs of new entrants who are developing innovative, future uses for the band. The Commission already has existing coordination tools in place to enable this framework to work. Thus, the opportunity is ripe to make the Lower 37 GHz band available for innovative, commercial use in the near-term.

Respectfully submitted,

INCOMPAS

/s/ Angie Kronenberg

Angie Kronenberg
Christopher L. Shipley
INCOMPAS
1100 G Street NW
Suite 800
Washington, D.C. 20005
(202) 872-5746

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¹³ See Letter of Virginia Lam Abrams, Starry, Inc., to Marlene Dortch, Secretary, FCC, GN Docket No. 14-177, IB Docket No. 15-259, RM 11664, WT Docket No. 10-122, IB Docket No. 97-95 (rec. July 14, 2017) at 2 (“2017 Starry Letter”); see also Letter from Virginia Lam Abrams, Starry, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177 (filed July 16, 2021).

¹⁴ 2017 Starry Letter at 6.