

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

In the Matter of)	
)	
Expanding Flexible Use of the 3.7 to 4.2 GHz Band)	GN Docket No. 18-122
)	
Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz)	GN Docket No. 17-183
)	
Petition for Rulemaking to Amend and Modernize Parts 25 and 101 of the Commission’s Rules to Authorize and Facilitate the Deployment of Licensed Point-to-Multipoint Fixed Wireless Broadband Service in the 3.7-4.2 GHz Band)	RM-11791
)	
Fixed Wireless Communications Coalition, Inc., Request for Modified Coordination Procedures in Band Shared Between the Fixed Service and the Fixed Satellite Service)	RM-11778
)	

REPLY COMMENTS OF COMPETITIVE CARRIERS ASSOCIATION

Steven K. Berry
Alexi Maltas
Courtney Neville
COMPETITIVE CARRIERS ASSOCIATION
601 New Jersey Avenue NW, Suite 820
Washington, DC 20001

December 11, 2018

TABLE OF CONTENTS

I. THE COMMISSION SHOULD ADOPT POLICIES THAT PROMOTE FLEXIBLE USE OF 3.7-4.2 GHz SPECTRUM	3
II. THE FCC SHOULD CLEAR AT LEAST 320 MEGAHERTZ OF C-BAND SPECTRUM FOR FLEXIBLE USE.....	6
III. THE COMMISSION SHOULD EMPLOY PROCEDURES TO ENSURE COMPETITIVE PRICING AND FAIR OPPORTUNITIES TO ACQUIRE C-BAND SPECTRUM	8
IV. THE COMMISSION SHOULD ADOPT SERVICE RULES THAT WILL MAXIMIZE TERRESTRIAL DEPLOYMENT IN THE C-BAND	9
V. THE FCC SHOULD CURB ANTI-COMPETITIVE SPECTRUM AGGREGATION PRACTICES	11
VI. CONCLUSION	12

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

In the Matter of)	
)	
Expanding Flexible Use of the 3.7 to 4.2 GHz Band)	GN Docket No. 18-122
)	
Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz)	GN Docket No. 17-183
)	
Petition for Rulemaking to Amend and Modernize Parts 25 and 101 of the Commission’s Rules to Authorize and Facilitate the Deployment of Licensed Point-to-Multipoint Fixed Wireless Broadband Service in the 3.7-4.2 GHz Band)	RM-11791
)	
Fixed Wireless Communications Coalition, Inc., Request for Modified Coordination Procedures in Band Shared Between the Fixed Service and the Fixed Satellite Service)	RM-11778
)	

REPLY COMMENTS OF COMPETITIVE CARRIERS ASSOCIATION

Competitive Carriers Association (“CCA”)¹ submits these reply comments in response to the record and the Federal Communications Commission’s (“FCC” or “Commission”) Notice of Proposed Rulemaking (“NPRM”) seeking to expand flexible use of the 3.7-4.2 GHz Band (“C-Band”).²

¹ CCA is the nation’s leading association for competitive wireless providers and stakeholders across the United States. CCA’s membership includes nearly 100 competitive wireless providers ranging from small, rural carriers serving fewer than 5,000 customers to regional and national providers serving millions of customers. CCA also represents associate members including vendors and suppliers that provide products and services throughout the mobile communications ecosystem.

² *Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, Notice of Proposed Rulemaking, GN Docket No. 18-122 (rel. July 13, 2018).

INTRODUCTION AND SUMMARY

CCA appreciates the Commission's efforts to revitalize C-Band spectrum for a variety of stakeholders that are poised to invest in next-generation networks.³ Mid-band spectrum will play an important role in 5G deployment, and the record is clear that spectrum in the 3.7-4.2 GHz range presents a critical opportunity to make mid-band spectrum available for terrestrial uses. For these reasons, CCA joins commenters that encourage the Commission to repurpose as much of the band as possible for terrestrial services and to articulate reasonable timeframes to repurpose, repack, and transition the band. In CCA's view, the Commission should focus on clearing at least 320 megahertz of the C-Band (including a 20-megahertz guard band) for terrestrial wireless uses; any less would represent a lost opportunity to repurpose spectrum that has been used inefficiently for years and to accelerate the transition to 5G.

While CCA continues to evaluate all potential mechanisms for making the C-Band spectrum available for flexible uses, at this stage CCA has significant concerns about using a private sale approach to repurpose the spectrum. The record reflects widespread and legitimate concerns that a private process may not create fair opportunities for all interested parties to acquire this scarce public resource at competitive prices, and could generate an improper windfall for incumbent operators. By contrast, a Commission-led auction is more likely to employ procedures that will ensure competitive pricing, create fair opportunities for all interested parties to acquire spectrum, and generate revenues for the public benefit and the United States Treasury.

³ Comments of Competitive Carriers Association, GN Docket No. 18-122 (filed Oct. 29, 2018) ("CCA Comments"); Comments of Competitive Carriers Association, GN Docket No. 17-183 (filed Aug. 7, 2017) ("CCA BAC Comments"); Reply Comments of Competitive Carriers Association, GN Docket No. 17-183 (filed Nov. 15, 2017) ("CCA NOI Comments").

The FCC also should adopt rules that would promote efficient use of this band. The record confirms that the Commission should adopt appropriately tailored license sizes, such as Cellular Market Areas or county-sized licenses, to support current and next-generation wireless services. The FCC also should ensure interoperability across the C-Band, to prevent Balkanization of the band. Further, the Commission should curb anti-competitive aggregation practices by considering mechanisms to limit how much spectrum one provider can acquire at auction. Together, these policies will help to ensure that C-Band spectrum is used to deploy next-generation and advanced communications services across rural and urban markets alike.

CCA looks forward to working with the Commission to repurpose the C-Band for flexible terrestrial uses, and helping to maintain United States leadership in the transition to 5G.

DISCUSSION

I. THE COMMISSION SHOULD ADOPT POLICIES THAT PROMOTE FLEXIBLE USE OF 3.7-4.2 GHz SPECTRUM

As the transition to 5G looms on the horizon, consumer demand for wireless data continues to grow at a rapid rate. Mid-band spectrum will play an important role in meeting this growing demand and will support 4G and 5G deployments in both urban and rural America. The record is clear that mid-band spectrum will be vital for 5G deployment, and that the 3.7-4.2 GHz represents one of the only remaining opportunities to clear a substantial amount of these airwaves for next-generation use.⁴ Indeed, while CCA applauds the Commission's efforts to

⁴ See, e.g., Comments of T-Mobile US, Inc., GN Docket No. 18-122 (filed Oct. 29, 2018) ("T-Mobile Comments"); Comments of Ericsson, GN Docket No. 18-122 (filed Oct. 29, 2018) ("Ericsson Comments"); Comments of CTIA, GN Docket No. 18-122 (filed Oct. 29, 2018) ("CTIA Comments"); Comments of Qualcomm Inc., GN Docket No. 18-122 (filed Oct. 29, 2018) ("Qualcomm Comments"); Comments of Verizon, GN Docket No. 18-122 (filed Oct. 29, 2018); Comments of AT&T, Inc., GN Docket No. 18-122 (filed Oct. 29, 2018); Comments of Nokia, GN Docket No. 18-122 (filed Oct. 29, 2018) ("Nokia Comments").

revitalize other mid-band spectrum opportunities,⁵ the shared nature of the spectrum in the 3.5 GHz range and limited power levels permitted in that band mean that it is not a genuine substitute for full power, exclusively licensed spectrum.⁶ The record also confirms significant limitations on adjacent spectrum as a result of incumbent operations that will remain in the band on a primary basis.⁷ The FCC therefore should seize this opportunity to make the 3.7-4.2 GHz band available to a variety of stakeholders for flexible use.

The record establishes that the C-Band spectrum currently is not being deployed to its best and most efficient use. For example, the C-Band Alliance’s proposal to “quickly and economically” repurpose at least 200 megahertz of spectrum for flexible use only confirms that substantial portions of the band can be repurposed for other uses.⁸ CCA therefore agrees that the Commission should repurpose “hundreds” of megahertz for terrestrial, licensed flexible use on a nationwide basis.⁹ As discussed in more detail below, however, 200 megahertz is insufficient to ensure America’s leadership position in the race to 5G.

The Commission should decline to designate any portion of the 3.7-4.2 GHz band for a particular technology. The Commission seeks comment on authorizing fixed point-to-multipoint (“P2MP”) use in the 3.7-4.2 GHz band, partially in response to the Broadband Access Coalition’s Petition for Rulemaking.¹⁰ The FCC should reject such an approach. As T-Mobile

⁵ See, e.g., *Promoting Investment in the 3550-3700 MHz Band*, Report and Order, GN Docket No. 17-258 (rel. Oct. 24, 2018).

⁶ See, T-Mobile Comments at 24.

⁷ See, *id.* at 3.

⁸ Comments of the C-Band Alliance, GN Docket No. 18-122 at 10 (filed Oct. 29, 2018) (“C-Band Alliance Comments”).

⁹ See, e.g., Ericsson Comments; T-Mobile Comments; AT&T Comments; CTIA Comments; Qualcomm Comments; Verizon Comments.

¹⁰ NPRM ¶ 116.

explains, “[l]imiting spectrum to a single use case is contrary to the public interest and the Commission’s practice to allow licensees to provide a variety of service.”¹¹ A variety of additional commenters, including GCI, Nokia, AT&T, CTIA, and Qualcomm likewise oppose authorizing a fixed P2MP service in the C-Band.¹² The Commission’s recent history of promoting flexible use of radiofrequency spectrum bands has been successful, and the Commission should continue to focus on allocating a sufficient amount of spectrum for flexible use to promote innovation in the band.

Finally, while the Commission works to clear incumbent users and repurpose the spectrum for terrestrial services, it should acknowledge legitimate concerns raised in the record regarding unique issues in Alaska and other distinct areas.¹³ For example, GCI explains that the company “must utilize a variety of technologies in order to provide dependable services, and often must do so in innovative ways. This includes using FSS in conjunction with its terrestrial mobile and fixed wireless networks, largely in areas where fiber deployment is not possible.”¹⁴ The FCC should pay appropriate consideration to incumbent operations in Alaska and other

¹¹ T-Mobile Comments at 21.

¹² *See, e.g.*, Comments of General Communication Inc., GN Docket No. 18-122 at 21 (filed Oct. 29, 2018) (“GCI Comments”); Comments of the American Cable Association, GN Docket No. 18-122 at 13 (filed Oct. 29, 2018) (“ACA Comments”); C-Band Alliance Comments at 5; CTIA Comments; AT&T Comments at 13; Qualcomm Comments at 6; Nokia Comments at 9; Comments of the Satellite Industry Association, GN Docket No. 18-122 at 2 (filed Oct. 29, 2018) (“SIA Comments”).

¹³ *See, e.g.*, GCI Comments; ACA Comments; Comments of NCTA – The Internet and Television Association, GN Docket No. 18-122 (filed Oct. 29, 2018) (“NCTA Comments”); Comments of the National Association of Broadcasters, GN Docket No. 18-122 (filed Oct. 29, 2018) (“NAB Comments”); Comments of Charter Communications, Inc., GN Docket No. 18-122 (filed Oct. 29, 2018) (“Charter Comments”).

¹⁴ *See*, Comments of General Communication Inc., GN Docket No. 17-183 at 2 (filed Oct. 2, 2017) (“GCI NOI Comments”).

related areas when adopting policy changes to this spectrum band, and if necessary, restrict any changes in the C-Band to the continental United States.¹⁵

II. THE FCC SHOULD CLEAR AT LEAST 320 MEGAHERTZ OF C-BAND SPECTRUM FOR FLEXIBLE USE

Because of the important role that the C-Band can play for 4G and 5G services, the Commission should focus on clearing the maximum amount of C-Band spectrum possible for terrestrial services. In CCA's view, the FCC should, at an absolute minimum, aim to clear at least 320 megahertz of spectrum for terrestrial services, including a 20-megahertz guard band. Any less than 300 megahertz of C-Band spectrum for terrestrial services would represent a missed opportunity for United States leadership in 5G. Allocating at least 300 megahertz of spectrum for terrestrial services, coupled with appropriately sized licenses, also would promote competition by increasing the likelihood that multiple parties could obtain licenses.

To clear the maximum amount of C-Band spectrum for terrestrial services, the Commission not only should consider mechanisms to repack existing users, but also should evaluate how to incentivize some or all existing users to transition out of the band altogether. Some proposals in the record, including from the C-Band Alliance, focus on preserving all incumbent operations in their existing form.¹⁶ The C-Band Alliance understandably is not incentivized to explore proposals that might result in transitioning its members' customers to

¹⁵ CCA also supports further discussions regarding repacking plans with adequate compensation to critical existing users that are required to, or voluntarily agree to, move channels and need to maintain current capabilities and service.

¹⁶ *See*, C-Band Alliance Comments at 4-5. *See also*, Comments of Intel, GN Docket No. 18-122 (filed Oct. 29, 2018) ("Intel Comments"); Comments of Eutelsat, GN Docket No. 18-122 (filed Oct. 29, 2018) ("Eutelsat Comments"); Comments of Cisco Systems, GN Docket No. 18-122 (filed Oct. 29, 2018) ("Cisco Comments"); Comments of Telecommunications Industry Association, GN Docket No. 18-122 (filed Oct. 29, 2018) ("TIA Comments"); Comments of the Information Technology and Innovation Forum, GN Docket No. 18-122 (filed Oct. 29, 2018) ("ITIF Comments").

alternative distribution methods. But to ensure the most efficient use of this spectrum, the Commission should explore all options, including the possibility of transitioning some or all incumbent users to alternative delivery options. CCA also supports using some of the proceeds of an auction to ensure that existing users are fairly reimbursed for repacking and/or transitioning out of the band altogether.

The record contains a variety of proposals to free up more spectrum, such as transitioning some incumbent operations to fiber or alternative wireless distribution methods. For example, T-Mobile references a study by Roberson and Associates, LLC, that suggests that traffic received by earth stations “can be accommodated by relocation of the incumbent licensees in the band... [including] additional alternatives to continuing to receive content via backhauled satellite transmissions. For example, users could receive content through fiber links,” which would ultimately bypass the use of earth stations altogether.¹⁷ In urban areas like Chicago, Illinois, specifically, fiber may well provide an alternative means to distribute video content in a cost-competitive manner, and in more rural areas, some users could be transitioned to Ku-band or microwave transmission.¹⁸ Still other users could move their earth stations to more efficient locations to reduce interference. The Commission should aggressively investigate *all* potential mechanisms to minimize interference and maximize clearing in certain areas where fiber can replace current Fixed Satellite Service (“FSS”) services.¹⁹

¹⁷ T-Mobile Comments at 10.

¹⁸ *See, id.*

¹⁹ For example, the Commission also could further explore whether to facilitate sharing through co-channels.

III. THE COMMISSION SHOULD EMPLOY PROCEDURES TO ENSURE COMPETITIVE PRICING AND FAIR OPPORTUNITIES TO ACQUIRE C-BAND SPECTRUM

The Commission should adopt policies that foster robust participation and competitive pricing for stakeholders seeking to acquire C-Band spectrum. The Commission's recent auctions have been carefully designed to include transparent procedures that have promoted fair-market pricing and widespread participation. For example, because of policies that the Commission adopted for the recent 600 MHz incentive auction, CCA members represented a substantial majority of winning bidders. The result was the second-largest auction in FCC history with more than \$19.8 billion in gross revenue, and a wide variety of successful bidders.²⁰

While CCA appreciates the efforts of the C-Band Alliance to put forth a private sale proposal, the record at this stage fails to establish how a private sale would ensure similar procedural protections to a Commission-led auction, while fostering competitive pricing and opportunities to acquire spectrum in urban and rural markets. The C-Band Alliance's approach invites substantial uncertainty, in part because it is effectively proposing an unprecedented process to allocate new terrestrial rights that the incumbent operators do not possess.²¹ The Commission has never before permitted private parties to sell new spectrum rights that the Commission has not yet created and that the seller does not actually possess. The private sale approach unsurprisingly remains opaque along key dimensions such as pricing and competitive bidding procedures. And it may create incentives that do not align with the public interest; for example, incumbent satellite service providers may not be incentivized to make as much spectrum as possible available today, and instead might believe that slowly selling portions of

²⁰ FCC Fact Sheet, "Incentive Auction by the Numbers" (rel. Apr. 13, 2017), *available at* <https://www.fcc.gov/document/fcc-announces-results-worlds-first-broadcast-incentive-auction-0>.

²¹ C-Band Alliance Comments at 8.

the band over time might maximize their returns. Because 5G remains an emerging technology, a dynamic and consumer-focused wireless marketplace tomorrow depends on today's reliable and transparent procedures, implemented by a neutral administrator, to ensure fair access to this spectrum.

There is no real evidence that a private sale process could make spectrum available for terrestrial services any more quickly than a public or hybrid auction, and any purported speed benefits must be balanced against procedural fairness and inclusive participation. An FCC-led auction-based mechanism or hybrid approach appear more likely to efficiently achieve these goals.²² The Commission should be skeptical of any proposals that do not clearly demonstrate how they would attain similar public interest benefits. The FCC also should proceed with caution when exploring any private sale approach that could degrade Commission authority to manage spectrum for the public benefit.

IV. THE COMMISSION SHOULD ADOPT SERVICE RULES THAT WILL MAXIMIZE TERRESTRIAL DEPLOYMENT IN THE C-BAND

The Commission should adopt appropriately tailored licenses sizes for C-Band spectrum consistent with the needs of a variety of stakeholders. Specifically, the FCC should consider adopting Cellular Market Area-based licenses²³ or county-based licenses²⁴ to ensure carriers of all sizes can invest in the band. As the Commission itself notes, in addition to being consistent with its approach in other bands used to provide terrestrial fixed and mobile services, appropriate

²² See, T-Mobile Comments at 2-3; US Cellular Comments at 4; Comments of Google LLC, GN Docket No. 18-122 at 10 (filed Oct. 29, 2018) (“Google Comments”).

²³ US Cellular Comments at 12.

²⁴ See, Letter from Rebecca Murphy Thompson, EVP & General Counsel, CCA and Scott K. Bergmann, Senior Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 17-258 (filed. Apr. 20, 2018) (“CCA/CTIA 3.5 GHz Proposal”).

geographic area licensing “provides flexibility to licensees, promotes efficient spectrum use, and helps facilitate rapid assignment of licenses...”²⁵ This flexibility is especially important when considering that C-Band spectrum is adjacent to the 3.5 GHz band, for which the Commission recently revised its rules to increase the license size of Priority Access Licenses from census tracts to counties.²⁶

Additionally, the FCC should make available a sufficient number of licenses in each area to account for network capacity and geographic differences across various markets. Creating only a small number of licenses, relegating rural America to a lesser amount of spectrum, or failing to provide interoperability guidance, would risk having this spectrum allocated in a manner that would reduce rather than increase competition. A combination of flexible rules, interoperability requirements, and a sufficient number of geographic area licenses will satisfy and help to accommodate a multitude of stakeholders willing to invest in valuable C-Band spectrum.²⁷

Finally, the Commission should adopt appropriate in-band power limits that promote consistency with other 5G spectrum bands and encourage rapid deployment in the band. Already, the C-Band Alliance has begun to suggest that in-band power limits should be set at

²⁵ NPRM ¶ 138.

²⁶ *Promoting Investment in the 3550-3700 MHz Band*, Report and Order, GN Docket No. 17-258 ¶¶ 19-20 (rel. Oct. 24, 2018). Combining adjacent spectrum in these bands could enable a single installation over the same county to provide greater capacity. *See also*, Comments of the Broadband Access Coalition, GN Docket No. 18-122 at 25-27 (filed Oct. 29, 2018) (“BAC Comments”); Comments of Federated Wireless, Inc., GN Docket No. 18-122 at 2 (filed Oct. 29, 2018) (“Federated Wireless Comments”) (urging the FCC to leverage readily available dynamic spectrum sharing technologies); Comments of Motorola Solutions, Inc., GN Docket No. 18-122 (filed Oct. 29, 2018) (“Motorola Comments”).

²⁷ *See*, T-Mobile Comments at 22.

levels below this proposed in the NPRM.²⁸ The Commission should resist any calls to reduce power levels in this band and instead should focus on strategies that would minimize the risk of harmful interference and maximize terrestrial deployment.²⁹ At a minimum, power limits should be consistent with those previously adopted, such as in the millimeter wave spectrum bands, to foster equipment sharing and network integration.³⁰

V. THE FCC SHOULD CURB ANTI-COMPETITIVE SPECTRUM AGGREGATION PRACTICES

The Commission should adopt an appropriate aggregation limit to curb the amount of spectrum one provider can purchase at auction. The NPRM seeks comment on whether and how to address any mobile spectrum holding concerns involving 3.7-4.2 GHz spectrum. CCA agrees with a variety of commenters that encourage the FCC to adopt an appropriate spectrum screen that incorporates C-Band spectrum, such as US Cellular's proposal that the Commission adopt a one-third aggregation limit that any provider can obtain at auction.³¹ As the NPRM recognizes, the Communications Act requires the Commission to examine closely the impact of spectrum aggregation on competition, innovation, and the efficient use of spectrum to ensure it is assigned in a manner that serves the public interest, convenience, and necessity. Moving forward with policies that demarcate smart aggregation limits for purchase of spectrum at auction could maximize participation by a variety of entities eager to invest in next-generation deployments.

²⁸ C-Band Alliance Comments at 9.

²⁹ See T-Mobile Comments at 35.

³⁰ *Id.* at 4.

³¹ US Cellular Comments at 3.

VI. CONCLUSION

CCA commends the FCC's efforts to make a broad and diverse portfolio of spectrum available for current-generation and next-generation wireless services. The Commission should seize this opportunity to ensure that valuable mid-band spectrum in the 3.7-4.2 GHz band is freed up for advanced communications services. Thoughtful policies, including making at least 320 megahertz of spectrum available for flexible use through a fair and inclusive process, will help to secure the United States' position as a leader in 5G.

Respectfully submitted,

/s/ Alexi Maltas

Steven K. Berry

Alexi Maltas

Courtney Neville

COMPETITIVE CARRIERS ASSOCIATION

601 New Jersey Avenue NW, Suite 820

Washington, DC 20001

December 11, 2018