

**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
)	
Petition for Rulemaking to Amend and)	RM-11791
Modernize Parts 25 and 101 of the)	
Commission’s Rule to Authorize and)	
Facilitate the Deployment of Licensed)	
Point-to-Multipoint Fixed Wireless)	
Broadband Service in the 3.7-4.2 GHz Band)	
)	
Fixed Wireless Communications Coalition,)	RM-11778
Inc., Request for Modified Coordination)	
Procedures in Band Shared Between the)	
Fixed Service and the Fixed Satellite Service)	
)	

COMMENTS OF CHARTER COMMUNICATIONS, INC.

Charter Communications, Inc. (“Charter”) supports the Commission’s efforts to explore the feasibility of allowing terrestrial wireless broadband services in all or part of the 3.7-4.2 GHz spectrum band (“3.7-4.2 GHz Band”) in order to increase the amount of spectrum available for the flexible use of wireless broadband services.¹ Nevertheless, as the Commission recognizes in its Notice, there are currently several incumbent licensees and registrants in the 3.7-4.2 GHz Band, including Charter, providing critical and popular services to consumers. Charter agrees with NCTA – The Internet and Television Association (“NCTA”) that any proposed changes to the 3.7-4.2 GHz Band must take into account the important existing uses already in these frequencies. The 3.7-4.2 GHz Band is a crucial component of Charter’s core video business with

¹ See *In re Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, Order and Notice of Proposed Rulemaking, GN Docket No. 18-122, FCC 18-91 (rel. July 13, 2018).

16.14 million residential video customers and 488,000 small and medium business customers across the country relying on this band to receive their daily news, sports, and entertainment. To ensure that these customers are not adversely impacted by any transition, incumbents must be relocated and fully reimbursed for relocation expenses that result from any changes that occur as a result of this proceeding.

Charter has made a substantial commitment to adding wireless and mobility services to its suite of service offerings by focusing on an “Inside-Out” strategy. Under this approach, Charter has focused first on wireless solutions inside the home and office, with the eventual expansion to outdoors. Charter currently provides wireless connectivity to over two hundred million wireless devices attached to its network, which carries approximately 80 percent of wireless traffic in the home and office. And earlier this year, Charter launched Spectrum Mobile, a mobile wireless service that brings new competition to that marketplace by merging Charter’s expansive Wi-Fi infrastructure with the nation’s largest and most reliable LTE network.²

Charter is also investing significant resources to explore the opportunities offered by innovative wireless technologies in mid-band spectrum in order to offer high capacity, low latency connectivity to its customers across the country.³ Charter is currently working with vendors to conduct 5G and 4G-LTE trials of wireless technologies in both indoor and outdoor locations. These trials are providing critical information to Charter, which could help spur the

² See Press Release, Charter Communications, Inc., Introducing Spectrum Mobile (June 30, 2018), <https://newsroom.charter.com/news-views/introducing-spectrum-mobile>; *The Race to 5G: Exploring Spectrum Needs to Maintain U.S. Global Leadership Before the S. Comm. on Commerce, Science, and Transportation*, 115th Cong. 3 (2018) (statement of Craig Cowden, Senior Vice President of Wireless Technology, Charter), <https://www.commerce.senate.gov/public/index.cfm/hearings?ID=BB7A0421-CD2B-41D7-ABF6-6241B29EF928>.

³ See *A Full Toolkit of Spectrum for 5G*, Charter Communications, Inc. Blog (Oct. 2, 2018), <https://policy.charter.com/blog/full-toolkit-spectrum-5g/>.

advancement of enhanced broadband services to geographically diverse areas across the country, including urban, suburban, and rural communities.⁴

While Charter is encouraged by the opportunities mid-band spectrum presents for next-generation wireless broadband services, Charter agrees with NCTA that the Commission must take appropriate steps to protect incumbent licensees and registrants prior to allowing terrestrial use in the band. As mentioned above, the 3.7-4.2 GHz Band is an essential element of Charter's core video business, ensuring quality, reliable service to millions of video customers across the country. Charter currently has over 700 receive only earth stations in the band, which are used to provide a substantial portion of Charter's video programming to its millions of subscribers. And because the 3.7-4.2 GHz Band provides one of the most reliable means for Charter to receive video programming, Charter uses these earth stations to help it deliver premium programming, most of its popular channels of national network programming, and "must have" regional news and sports programming. There are millions of video subscribers across the country who rely on this band to receive their daily news, sports, and entertainment. In order to ensure that these services are not interrupted or degraded, it is imperative that the Commission take steps to relocate and reimburse licensees and registrants in the 3.7-4.2 GHz Band prior to increasing the intensity of terrestrial use in the band.

As an incumbent with an interest in also providing next-generation wireless broadband services to its customers, Charter urges the Commission to thoroughly investigate a comprehensive set of solutions for the 3.7-4.2 GHz Band. For starters, the currently proposed

⁴ See *A Tremendous Potential of Citizens Broadband Radio Service (CBRS) Spectrum*, Charter Communications, Inc. Blog (Sept. 14, 2018), <https://policy.charter.com/blog/tremendous-potential-citizens-broadband-radio-service-cbrs-spectrum/>.

alternatives to the use of the 3.7-4.2 GHz Band are less reliable and cost effective. Use of alternative satellite spectrum, such as the Ku-band, is not as desirable, as this spectrum is much more susceptible to rain fade, potentially resulting in a poor customer experience.⁵ And fiber delivery is vastly more expensive than Charter's established earth stations, due to the need for multiple paths of redundancy, and the greatly increased expenses for installation and maintenance. Any alternatives must consider all such factors that impact consumers' viewing experience and prices.

Any solution also must include relocation of incumbents' existing services from the 3.7-4.2 GHz Band to other comparable spectrum bands or transmission methods (such as fiber), and full reimbursements to incumbents in the event that they are forced to modify services. Relocation is likely to impose a significant burden on incumbents given their extensive current use of the band and the expenses associated with transitioning to a new platform for the distribution of video programming—whether satellite or terrestrial. Moreover, any process enacted to transition any amount of spectrum, even if commercial in nature, must include appropriate FCC oversight to ensure protection of all incumbents, and must be fully funded to ensure consumers served by those incumbents are not harmed.

CONCLUSION

Charter encourages the Commission to continue exploring opportunities for making additional spectrum available for next-generation wireless broadband services. But as part of this process, the FCC must require adequate protections of incumbents, and the critical services they provide, prior to permitting any other use of the 3.7-4.2 GHz Band.

⁵ For this reason, all of Charter's premium channels rely on the C-band for its superior performance.

Respectfully submitted,

/s/ Howard J. Symons

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