

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of)	
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Transforming the 2.5 GHz Band)	WT Docket No. 18-120
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COMMENTS OF CHARTER COMMUNICATIONS, INC.

Elizabeth Andrion
*Senior Vice President, Regulatory
Affairs*
Colleen King
Vice President, Regulatory Affairs
CHARTER COMMUNICATIONS, INC.
601 Massachusetts Avenue, NW
Suite 400W
Washington, DC 20001
(202) 621-1900

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I. INTRODUCTION AND SUMMARY.

Charter Communications, Inc. (“Charter”) files these comments in response to the Federal Communications Commission’s (“Commission”) Notice of Proposed Rulemaking seeking comment on facilitating more effective and efficient use of the 2496-2690 MHz Band (“2.5 GHz Band”).¹ Charter appreciates the Commission’s ongoing efforts to explore additional spectrum bands for wireless broadband services. Increasing the amount of frequencies available to established providers and new wireless entrants alike, and encouraging the efficient use of spectrum, will help spur the development and deployment of innovative wireless services, including 5G.

This is particularly true for Charter, which recently launched a mobile service, Spectrum Mobile, combining Charter’s extensive Wi-Fi infrastructure with the nation’s most reliable 4G-LTE network.² Charter is also actively undergoing trials to examine the use of the 3550-3700 MHz Band (“3.5 GHz Band”), and has seen promising results for both mobile and fixed wireless services, which could enable the expansion of improved broadband services to urban, suburban, and rural communities across the country.

Access to 2.5 GHz Band spectrum will bolster efforts to deploy innovative wireless services in both urban and rural areas because it provides more bandwidth than lower band spectrum and ample coverage, which is ideal for deploying broadband in urban, as well as rural and underserved areas. The Commission should adopt policies that promote efficient use of the

¹ *In re Transforming the 2.5 GHz Band*, Notice of Proposed Rulemaking, FCC 18-59 ¶ 1 (rel. May 10, 2018) (“2.5 GHz NPRM”).

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) (“Charter Senate Hearing Testimony”).

band in order to maximize its utility in the progression towards the next generation of wireless broadband and connectivity. To do so, it should clarify the existing uses of the band and increase the amount of spectrum available commercially. By pursuing these objectives, the Commission will not only foster new opportunities in the 2.5 GHz Band, including 5G, but will also ensure more intensive and effective use of the band.

II. RATIONALIZING EXISTING SPECTRUM HOLDINGS IN THE 2.5 GHz BAND WILL ENABLE MORE EFFICIENT USE OF THIS SPECTRUM.

Charter supports the Commission's efforts to facilitate more efficient use of the 2.5 GHz Band. This band offers enormous potential for existing licensees and new entrants alike. As the Commission notes, the 2.5 GHz Band represents "the single largest band of contiguous spectrum below 3 gigahertz," and this spectrum is expected to be a key component in next generation wireless services, like 5G.³ Because of this as well as its capacity advantages in comparison to lower spectrum bands, Charter is excited about the opportunities the 2.5 GHz spectrum offers.

As the Commission acknowledges, however, "[s]ignificant portions of [the 2.5 GHz] band . . . lie fallow across approximately one-half of the United States, primarily in rural areas."⁴ The Educational Broadband Service ("EBS") portion of this spectrum is currently licensed by irregular, non-uniform areas, making it difficult to understand where existing services operate and potentially creating inefficiencies in the use of this valuable spectrum. Because of this, Charter supports rationalizing the geographic service areas ("GSAs") of existing EBS licensees. Developing a consistent geographic licensing area in the 2.5 GHz Band will facilitate additional commercial entry and foster more intensive use of this spectrum so as to help usher in the next generation of wireless services. The Commission has long recognized that spectrum policy that

³ 2.5 GHz NPRM ¶ 1.

⁴ *Id.*

allows for flexible use in regular geographic areas promotes broadband deployment and innovation.⁵

Additionally, the Commission should ensure that rationalized EBS licenses correspond with the geographic areas where existing licensees currently provide service. The alternative of allowing existing licensees to expand their GSAs beyond existing service areas, even if to a defined geographic area, will not spur greater use of the 2.5 GHz Band or achieve the spectral efficiency outcome the Commission is seeking. Instead, the Commission will promote efficient spectrum management by allowing existing licensees to obtain an updated license that reflects their actual use of the 2.5 GHz spectrum, thereby ensuring that unused spectrum is not lying fallow and is put to its highest and best use.

III. MAKING THE 2.5 GHz BAND AVAILABLE FOR COMMERICAL USE WILL INCREASE UTILIZATION OF THIS BAND.

The Commission should adopt policies that encourage greater commercial use in the 2.5 GHz Band. As indicated above, the 2.5 GHz Band offers significant potential for next generation wireless services as it provides more bandwidth than lower band spectrum and ample coverage, which is ideal for deploying broadband in urban, as well as rural and underserved areas. Charter's ongoing testing in the 3.5 GHz Band suggests that the 2.5 GHz Band, with greater propagation, will be useful both for small cell deployment in more populated areas and fixed wireless deployment to more rural communities.

Charter has extensively investigated small cell technologies in the 3.5 GHz Band, testing more than 400 small cells in Charlotte, North Carolina and Tampa, Florida, and will continue this testing in Denver, Colorado; New York, New York; and Los Angeles, California. This

⁵ See *id.* ¶ 10.

extensive testing has demonstrated the many services that can be provided using small cells in the 3.5 GHz Band, and the 2.5 GHz Band, with similar characteristics, is likewise well suited for small cell deployment.

In addition, Charter is testing fixed wireless technologies in the 3.5 GHz Band to determine how its existing network could be extended to provide wireline-like high speed broadband connectivity to less densely populated areas. These tests are being conducted across the country in areas near Lexington, Kentucky; Bakersfield, California; Tampa, Florida; Denver, Colorado; Coldwater, Michigan; and more.⁶ Charter believes mid-band spectrum has the appropriate technical characteristics to both extend the reach of its network and provide customers with advanced communications services, especially in rural and underserved communities, at cost-effective rates.⁷ While these trials are still ongoing, Charter has seen promising results, including speeds that exceed the Commission's current definition of high speed broadband, which would allow for enhanced video streaming and the use of multiple apps simultaneously in areas that have previously received minimal service or no connectivity at all.⁸

As a result, Charter believes allowing for greater commercial use of the 2.5 GHz Band will serve the public interest by reaping similar rewards as the 3.5 GHz Band, especially in less densely populated areas across the country.

IV. CONCLUSION.

For the foregoing reasons, the Commission should continue on its path to facilitate

⁶ See, e.g., FCC Experimental Special Temporary Authorization, CCO Fiberlink, LLC, File No. 1683-EX-ST-2017, Call Sign WM9XCU (granted Jan. 2, 2018) (authorization to conduct experimental testing in 3.5 GHz Band in Tampa, FL); FCC Experimental Special Temporary Authorization, CCO Fiberlink, LLC, File No. 0296-EX-ST-2018, Call Sign WM9XLR (granted Mar. 23, 2018) (authorization to conduct experimental testing in 3.5 GHz Band in Lexington, KY).

⁷ See Charter Senate Hearing Testimony at 4.

⁸ See *id.*

greater use of the 2.5 GHz Band. The 2.5 GHz Band has the potential to be a key component of delivering next generation wireless broadband services, but to achieve this result, the Commission must first rationalize the GSAs of existing EBS licensees to defined geographic areas that reflect actual use, and then expand the amount of commercial use in the band. In doing so, the Commission will satisfy its objectives to both increase the amount of spectrum available for flexible use, and help further the deployment of next generation wireless technologies across the country.

Respectfully submitted,

/s/ Elizabeth Andrion

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*Senior Vice President, Regulatory
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