

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

In the Matter of

Facilitating Shared Use in the 3.1 – 3.55 GHz
Band

WT Docket No. 19-348

REPLY COMMENTS OF 5G AMERICAS

5G Americas, the voice for 5G and LTE in the Americas, submits these reply comments in response to the Commission’s Notice of Proposed Rulemaking (“*Notice*” or “*NPRM*”) in the above-referenced proceeding on facilitating shared use of the 3.1 – 3.55 GHz band. Currently chaired by AT&T, 5G Americas has a broad membership of leading wireless operators and vendors of 5G core and radio access network and other equipment. 5G Americas facilitates and advocates for the advancement and transformation of LTE, 5G and beyond throughout the Americas.¹ 5G Americas applauds the Commission for beginning the process of implementing the 2018 MOBILE NOW Act by proposing to relocate the non-federal secondary users out of the 3.3 – 3.55 GHz band, and supports that proposal.² Ultimately, spectrum made available in that range for commercial wireless services should be done on a licensed basis, with channel sizes, power limits, and other 5G-friendly rules. With major countries around the world making

¹ 5G Americas Board of Governors include AT&T, Cable & Wireless Communications, Ciena, Cisco, Commscope, Crown Castle, Ericsson, Intel, Mavenir, Nokia, Qualcomm, Samsung, Shaw, Sprint, T-Mobile USA, WOM, and Telefónica.

² See Consolidated Appropriations Act, 2018, Pub. L. No. 115-141, Division P, The Repack Airwaves Yielding Better Access for Users of Modern Services (RAY BAUM’S) Act, Title VI, The Making Opportunities for Broadband Investment and Limiting Excessive and Needless Obstacles to Wireless Act or MOBILE NOW Act, § 603(a)(1) (“MOBILE NOW”).

hundreds of megahertz of spectrum available for 5G in 3.3 – 4.2 GHz (#GPP’s Band 77), licensed spectrum in that range providing coverage and capacity with adequate bandwidth channelization in the range will allow the U.S. to reap manifold economic, security and technological benefits.

1. INTRODUCTION

The overwhelming number of industry participants that commented in the proceeding supported the Commission’s proposals to eliminate the secondary non-Federal allocations to amateur use and radiolocation (“radar”) in 3.3 – 3.55 GHz, including 5G Americas.³ On *where* to relocate the secondary amateur service, CTIA noted that Part 97 operations are currently available in numerous other bands.⁴ Most commenters urged that the Commission act expeditiously and in conjunction with NTIA and other Federal partners to prepare the band for commercial wireless services. Many commenters urged the Commission to continue to study the feasibility for commercial wireless in the entire Lower 3 GHz band, down to 3.1 GHz,⁵ and to work with NTIA to do so as well. The Commission certainly has enough support on the record

³ See Comments of Competitive Carriers Association at 4, WT Docket No. 19-348 (filed Feb. 21, 2020) (“CCA Comments”); Comments of the Wireless Internet Service Providers Association at 3-4, 5, WT Docket No. 19-348 (filed Feb. 21, 2020) (“WISPA Comments”); Comments of the Computing Technology Industry Association at 2, WT Docket No. 19-348 (filed Feb. 21, 2020) (“CompTIA Comments”); Comments of Federated Wireless, Inc. at 1, 2, 4, WT Docket No. 19-348 (filed Feb. 21, 2020) (“Federated Wireless Comments”); Comments of T-Mobile USA, Inc. at 2, WT Docket No. 19-348 (filed Feb. 21, 2020) (“T-Mobile Comments”); Comments of Dynamic Spectrum Alliance at 2-3, WT Docket No. 19-348 (filed Feb. 21, 2020) (“DSA Comments”); Comments of Nokia at 1, WT Docket No. 19-348 (filed Feb. 21, 2020) (“Nokia Comments”); Comments of CommScope, Inc. at 2, 3, WT Docket No. 19-348 (filed Feb. 21, 2020) (“CommScope Comments”); Comments of AT&T Services, Inc. at 3, WT Docket No. 19-348 (filed Feb. 21, 2020) (“AT&T Comments”); Comments of CTIA at 1-2, WT Docket No. 19-348 (filed Feb. 21, 2020) (“CTIA Comments”).

⁴ CTIA Comments at 6.

⁵ See, e.g., Nokia Comments at 2, 5; AT&T Comments at 3; WISPA Comments at 3; CompTIA Comments at 3, 4; Comments of 5G Americas at 5, WT Docket No. 19-348 (filed Feb. 21, 2020) (“5G Americas Comments”).

to eliminate the secondary non-Federal allocations in 3.3-3.55 GHz, and should vote to do so as soon as possible, and then issue a *Further Notice* on the rest of the Lower 3 GHz band.

2. HIGH-POWER WEATHER RADAR RELOCATION

5G Americas supported the Commission’s proposal to relocate high-power weather radar out of the Lower 3 GHz in order to minimize potential harmful interference to Citizens Broadband Radio Service (“CBRS”).⁶ Several other commenters noted that the Commission should not authorize any more high-powered weather radar in the band.⁷ CTIA highlighted the Commission’s preparedness when the Wireless Telecommunications Bureau acted a year ago to freeze the acceptance or processing of applications for new or expanded Part 90 radar operations in the Lower 3 GHz band.⁸ Federated Wireless noted that relocating these high-powered weather radar out of the lower band that is adjacent to the CBRS spectrum will increase the band’s potential for commercial use.⁹ Federated Wireless stated “high-power weather radar stations operations using the secondary nonfederal radiolocation at 3.3-3.55 GHz create a significant risk of harmful interference to CBRS. These high-power, secondary, adjacent-band transmissions, particularly near the band edge at 3.55 GHz, have a high likelihood of harmful interference to CBRS frequencies, and could cause loss of Environmental Sensor Capability (“ESC”) sensitivity, receiver overload, and false positive incumbent detections, and thus threaten to significantly encumber the use of frequencies at the lower portion of the CBRS band,

⁶ *Facilitating Shared Use in the 3.1-3.55 GHz Band*, Notice of Proposed Rulemaking, 34 FCC Rcd. 12,662, 12,666 ¶ 11 (2019); 5G Americas Comments at 13 (“Notice”).

⁷ Informal Objection of the Wireless Innovation Forum at 1, ULS File No. 8282472 (Aug. 27, 2018), *as attached to* Comments of the Wireless Innovation Forum, WT Docket No. 19-348 (filed Feb. 10, 2020); CommScope Comments at 5.

⁸ CTIA Comments at 3.

⁹ Federated Wireless Comments at 1.

notwithstanding secondary users' obligation to cause no interference to primary services such as CBRS.”¹⁰

In its comments, 5G Americas disagreed with relocating these high-power weather radar into the lower portion of the band, into 3.1-3.3 GHz band.¹¹ So did other commenters, including the Dynamic Spectrum Alliance (“DSA”), Wireless Internet Service Providers Association (“WISPA”), Computing Technology Industry Association (“CompTIA”), Nokia, and AT&T.¹² Nokia noted that relocating non-Federal users from 3.3-3.55 GHz to 3.1-3.3 GHz would be contrary to the Commission’s ultimate intention to introduce next-generation services into the lower 3 GHz band.¹³ AT&T noted that removing and relocating non-Federal services from 3.1-3.3 GHz “would make it more likely that multiple carriers could accrue sizeable blocks. Because Band 77 supports channel sizes as large as 100 MHz, the Commission should strive to make as much spectrum available as possible in this band to permit as many carriers as possible to take advantage of and maximize its capabilities.”¹⁴

3. LICENSING FRAMEWORK FOR THE LOWER 3 GHz BAND

5G Americas cautioned in its comments against making the Lower 3 GHz band available through a framework similar to the three-tiered CBRS framework, with a generally authorized access underlay.¹⁵ Instead, 5G Americas urged that the spectrum in the 3 GHz range that is

¹⁰ In its comments, Federated Wireless attributes this explanation to a number of parties, including Nokia, CTIA and WinnForum, and reiterates these parties’ arguments on why relocation of high-power secondary weather radar from the 3.3 – 3.55 GHz would be helpful. *See* Federated Wireless Comments at 5-6.

¹¹ 5G Americas Comments at 13.

¹² DSA Comments at 5; WISPA Comments at 3; CompTIA Comments at 3-4; Nokia Comments at 2, 5; AT&T Comments at 3.

¹³ Nokia Comments at 5.

¹⁴ AT&T Comments at 3.

¹⁵ 5G Americas Comments at 1, 5, 6, and 13.

ultimately identified for commercial wireless use be done so on an exclusively licensed basis, even if in some instances the spectrum has to be shared with federal users.¹⁶ Many other commenters agreed that commercial use in the Lower 3 GHz be licensed through exclusive licenses.¹⁷

Even proponents of CBRS such as DSA, CommScope, WISPA, and WinnForum did not advocate per se for a bottom tier of generally authorized access (“GAA”) in the Lower 3 GHz Band.¹⁸ Instead, they noted that some of the lessons, technologies, and methods developed during the creation and certification of CBRS, such as dynamic protection areas for Federal incumbents that cannot be relocated from the Lower 3 GHz, may be helpful in enabling flexible use commercial services.¹⁹ Or they argued that the ecosystem for CBRS equipment can be easily modified to extend to the 3.1-3.55 GHz band even on a shared basis.²⁰ Only one commenter expressly advocated for GAA in the Lower 3 GHz.²¹ As the Commission moves forward with services rules, it should not impose a bottom GAA tier in the band. Such action would place the U.S. outside the global trend for exclusively licensed commercial wireless in 3.3 – 4.2 GHz, which is seeing increasing allocation and auction activity by other countries’ spectrum regulators.

4. GLOBAL HARMONIZATION IN THE 3 GHz BAND

In its comments, 5G Americas detailed the movement at last year’s World Radiocommunication Conference (“WRC”) by other governments in identifying spectrum in the

¹⁶ *Id.*

¹⁷ T-Mobile Comments at 7; Nokia Comments at 2, 5; AT&T Comments at 3, 4; CTIA Comments at 7-8.

¹⁸ *See, e.g.*, CommScope Comments at 3.

¹⁹ *Id.* at 4; *see also* DSA Comments at 3.

²⁰ WISPA Comments at 3.

²¹ *See* Federated Wireless Comments at 2 (calling for an extension of the Part 96 rules to 3.45 – 3.55 GHz).

Lower 3 GHz Band, as well as up into the higher reaches of the globally harmonized 3.3 – 4.2 GHz band for mobile broadband.²² Other commenters noted this increasing worldwide trend as well.²³ T-Mobile reminded us that not just at last year’s WRC, but four years ago at WRC-15 the 3400-3600 MHz band was allocated to mobile services on a primary basis with an International Mobile Telecommunications (“IMT”) identification in Africa, the Americas, Europe, and the Middle East, in addition to several countries in the Asia Pacific Region, including China.²⁴ At WRC-19, this trend continued, with seventy-six countries designating the 3300-3400 MHz band for mobile services on a primary basis and/or identifying the band for IMT under specified conditions. The same 3300-3400 MHz band is now being studied internationally for potential new regional mobile allocations and IMT identifications at the next WRC in 2023.

CompTIA insightfully commented that global harmonization of spectrum allocations brings numerous benefits, including a broader ecosystem for technology and engineering expertise, reduced device complexity and cost, increased battery life, global interconnection and roaming, potential for interoperability, and economies of scale for device manufacturers.²⁵ For these reasons, and support in the record, the Commission should move expeditiously to eliminate the secondary non-Federal allocations in 3.3 – 3.55 GHz and issue a Further Notice to address the rest of the Lower 3 GHz band in a comprehensive manner.

5. 5G-FRIENDLY FRAMEWORK

²² 5G Americas Comments at 10-13.

²³ T-Mobile Comments at 5-6; CommScope Comments at 2-3; AT&T Comments at 2; CTIA Comments at 3-4; CCA Comments at 2; CompTIA Comments at 2.

²⁴ T-Mobile Comments at 6 (citing ITU Radiocommunication Section (“ITU-R”), Final Acts WRC-15, World Radiocommunication Conference, Geneva, at 26, 28-29 (2015) (“WRC-15 Final Acts”), https://www.itu.int/dms_pub/itu-r/opb/act/R-ACT-WRC.12-2015-PDF-E.pdf).

²⁵ CompTIA Comments at 2.

Several commenters urged, as did 5G Americas, that ultimately, the Commission’s technical rules for the Lower 3 GHz should allow the deployment of 5G services. In reference to NTIA’s initial finding that sharing between Federal and commercial systems at 3.45 – 3.55 GHz may only be feasible through time-based sharing, T-Mobile cautioned that while time-based sharing in the 3.45-3.55 GHz band may be possible, it will only be attractive to wireless service providers if the Commission adopts power limits and other technical rules that allow for full 5G deployments.²⁶ T-Mobile argued for other options, including having the Federal systems use only a portion of the Lower 3 GHz band and relocation of the Federal nationwide airborne systems, as did several other commenters.²⁷ T-Mobile further commented that technical limitations under the Commission’s CBRS rules impede that service’s full utility, such as low transmit power and limited channel bandwidth to support 5G.²⁸ Those limits should not be imposed on commercial wireless services in the Lower 3 GHz.

CTIA urged the Commission to adopt a “5G-friendly framework” for the Lower 3 GHz.²⁹ For an example of a 5G-friendly framework, AT&T urged that the Commission’s decisions ultimately allow multiple licensees to accrue large, contiguous blocks in the Lower 3 GHz band, reminding us that enhanced service quality can be provided using larger, contiguous blocks of spectrum.³⁰ CompTIA noted that combined with CBRS and C-Band, the Commission’s actions represent progress toward eventually permitting commercial access to a large, continuous band from 3100 to 3980 MHz.³¹ “Since a single radio could potentially operate across that entire band,

²⁶ T-Mobile Comments at 8.

²⁷ *Id.*; *see also, e.g.*, Nokia Comments at 5.

²⁸ *Id.* at 3.

²⁹ CTIA Comments at 2.

³⁰ *See* AT&T Comments at 3.

³¹ CompTIA Comments at 3.

such continuous access could potentially lead to greater interoperability and service reliability, and reduced costs. It could also potentially lead to the development of wider-band technologies beyond those currently envisioned.”³²

6. CONCLUSION

5G Americas thanks the Commission for moving forward on the critically important 3.3 – 3.55 GHz band, and for its recognition that the band, as well as the entire mid-band range up to 4.2 GHz, is being harmonized globally for 5G. Accordingly, 5G Americas not only supports the Commission’s proposal to relocate non-federal secondary allocations out of the band to prepare it for commercial wireless use, but advises that the Commission, when it does make the Lower 3 GHz band available for commercial use, does so under exclusive commercial licenses and with 5G-friendly rules. 5G Americas, like most industry participants in the proceeding, encourages the Commission to continue to review the rest of the Lower 3 GHz band that Congress directed it to study. This approach will best position the U.S. to lead the world in 5G.

Respectfully submitted,



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³² *Id.*