

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

In the Matter of	)	
	)	
Facilitating Shared Use in the	)	WT Docket No. 19-348
3.1-3.55 GHz Band	)	

**COMMENTS OF CTIA**

CTIA<sup>1</sup> respectfully submits these comments in response to the Notice of Proposed Rulemaking (“NPRM”) issued by the Federal Communications Commission (“Commission”) that proposes to remove existing non-federal secondary Radiolocation Service (“Radiolocation”) and Amateur Radio Service (“Amateur”) allocations in the 3.3-3.55 GHz band.<sup>2</sup>

**I. INTRODUCTION.**

CTIA applauds the Commission’s commitment to repurposing mid-band spectrum for commercial wireless use while protecting or accommodating incumbent services. The 3.1-3.55 GHz (“Lower 3 GHz”) band is well suited to help meet the growing demand for critical mid-band spectrum to enable next-generation wireless services. As such, CTIA supports the Commission’s proposal to prepare the band for possible expanded commercial wireless use by

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<sup>1</sup> CTIA – The Wireless Association® (“CTIA”) ([www.ctia.org](http://www.ctia.org)) represents the U.S. wireless communications industry and the companies throughout the mobile ecosystem that enable Americans to lead a 21st century connected life. The association’s members include wireless carriers, device manufacturers, suppliers as well as apps and content companies. CTIA vigorously advocates at all levels of government for policies that foster continued wireless innovation and investment. The association also coordinates the industry’s voluntary best practices, hosts educational events that promote the wireless industry and co-produces the industry’s leading wireless tradeshow. CTIA was founded in 1984 and is based in Washington, D.C.

<sup>2</sup> See *Facilitating Shared Use in the 3.1-3.55 GHz Band*, Notice of Proposed Rulemaking, WT Docket No. 19-348, FCC 19-130, ¶ 1 (rel. Dec. 19, 2020) (“*Lower 3 GHz NPRM*”).

removing existing non-federal secondary Radiolocation and Amateur allocations in the 3.3-3.55 GHz band and relocating incumbent non-federal operations out of the band.<sup>3</sup>

CTIA urges the Commission to work closely with the National Telecommunications and Information Administration (“NTIA”) to ensure that spectrum in the Lower 3 GHz band is made available for commercial use under a 5G-friendly framework that does not foreclose terrestrial access or hinder the utility of the spectrum for 5G. In expanding opportunities for commercial wireless use in the Lower 3 GHz band, the Commission and NTIA should provide the regulatory certainty needed to support commercial investment decisions and provide spectrum licensees with sufficient rights to warrant the investment necessary to deploy robust, next-generation networks. This will ensure that the Commission prioritizes solutions that meet the critical needs for spectrum to fuel America’s 5G economy and will create incentives for efficient, balanced spectrum use.

## **II. THE AVAILABILITY OF MID-BAND SPECTRUM IS FUNDAMENTAL TO DEPLOYMENT OF NEXT-GENERATION WIRELESS SERVICES.**

CTIA and its member companies are focused on ensuring that critical mid-band spectrum—with its favorable mix of coverage and capacity—is available for next-generation wireless use. The Commission’s efforts to make mid-band spectrum available for commercial wireless use, including the Lower 3 GHz band, have the potential to dramatically impact American consumers and businesses, the economy, and U.S. global competitiveness.<sup>4</sup> As the

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<sup>3</sup> *Id.*

<sup>4</sup> See, e.g., David Abecassis, Janette Stewart, and Chris Nickerson, *International Comparison: Licensed, Unlicensed, and Shared Spectrum, 2017-2020*, ANALYSYS MASON (Jan. 2020) (“International Comparison”) (demonstrating that additional licensed mid-band spectrum will be needed to keep up with demand and to make the spectrum investments made by our global rivals); David W. Sosa, *The Economic Impacts of Reallocating Mid-Band Spectrum to 5G in the United States*, ANALYSIS GROUP at 1 (Feb. 2019) (“Economic Impacts”).

Commission is well aware, a variety of nations across the globe are moving forward with launching next-generation deployments in these frequencies.<sup>5</sup> While CTIA applauds the Commission’s actions to date to keep the U.S. competitive (including auctioning 350 megahertz of mid-band spectrum this year),<sup>6</sup> more needs to be done to address the deficit of available licensed spectrum in the mid-band range, as described in greater detail below. Accordingly, it is imperative that the Commission continue to act expeditiously to make mid-band spectrum available for commercial wireless use.

### **III. THE LOWER 3 GHZ BAND IS A PRIME OPPORTUNITY TO MAKE MID-BAND SPECTRUM AVAILABLE FOR 5G.**

CTIA supports the Commission’s proposal to prepare the Lower 3 GHz band for possible expanded commercial wireless use.<sup>7</sup> Congress, the Commission, federal partners, and the commercial wireless industry are all evaluating the Lower 3 GHz band for next-generation wireless use due to its proximity to other wireless services and international uses. It is directly adjacent to the Citizens Broadband Radio Service (“CBRS”) band (3.55-3.7 GHz) and, combined with the C-band (3.7-4.2 GHz), would allow the wireless industry to aggregate significant amounts of contiguous spectrum. Internationally, several countries are exploring spectrum down

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<sup>5</sup> See, e.g., Letter from CTIA to FCC, WT Docket No. 19-348 *et al.*, at 1 (filed Feb. 7, 2020) (highlighting that “[i]n the first six months of 2019, 30 of the 36 operators’ 5G deployments launched in other nations relied on mid-band spectrum” and that countries like Japan and South Korea are already assigning considerable mid-band spectrum to their national carriers).

<sup>6</sup> See Remarks of FCC Chairman Ajit Pai at the Information Technology and Innovation Foundation, Washington, D.C. (Feb. 6, 2020), <https://docs.fcc.gov/public/attachments/DOC-362334A1.pdf> (noting plans to auction 70 megahertz of priority access licenses in the 3.5 GHz band in June 2020 and draft rules that would repurpose 280 megahertz of airwaves in the C-band for 5G); see also The C-Band, Repurposing Mid-Band Spectrum for 5G, Fact Sheet (Feb. 6, 2020), <https://docs.fcc.gov/public/attachments/DOC-362335A1.pdf> (proposing that the Commission begin the C-band auction on Dec. 8, 2020).

<sup>7</sup> See *Lower 3 GHz NPRM* ¶ 1.

to 3.3 GHz,<sup>8</sup> and many have made mid-band spectrum available in the 3.4-5.0 GHz range via exclusive wide-area licenses.<sup>9</sup>

A number of steps have already been taken by Congress, NTIA, and the Commission toward making the Lower 3 GHz band potentially available for advanced wireless services. Congress has required several studies of the Lower 3 GHz band for future commercial wireless use. The 2015 Pipeline Act, for instance, requires additional reports on two 50-megahertz spectrum bands below 6 GHz by January 2022 and January 2024.<sup>10</sup> Additionally, the 2018 MOBILE NOW Act mandates that NTIA, in coordination with the Commission, submit a report by March 2020 on the feasibility of sharing the full Lower 3 GHz band with commercial wireless services.<sup>11</sup> In February 2018, NTIA announced that it would first study the 3.45-3.55 GHz band as a potential band for wireless broadband use pursuant to the MOBILE NOW Act.<sup>12</sup> Accordingly, NTIA published a report on the 3.45-3.55 GHz band in January 2020, announcing progress in finding potential spectrum sharing options for this band segment.<sup>13</sup>

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<sup>8</sup> *Id.* ¶ 8 (“We note that 3.3-3.55 GHz has been the focus for 5G use by standards setting organizations and in other countries, and we thus believe our focus on this band would promote international harmonization.”).

<sup>9</sup> See International Comparison at 1.

<sup>10</sup> Spectrum Pipeline Act of 2015, Pub. L. No. 114-74, § 1006, 129 Stat. 621, 625 (2015), as amended by the RAY BAUM’S Act of 2018, Pub. L. 115-141, § 614, 132 Stat. 1080, 1109 (2018).

<sup>11</sup> MOBILE NOW Act as incorporated in the Consolidated Appropriations Act, 2018, Pub. L. No. 115-141, 132 Stat. 348, Division P, Title VI, § 605(a) (2018).

<sup>12</sup> See David J. Redl, Assistant Secretary for Communications and Information and NTIA Administrator, *NTIA Identifies 3450-3550 MHz for Study as Potential Band for Wireless Broadband Use*, NTIA (rel. Feb. 26, 2018), <https://www.ntia.doc.gov/blog/2018/ntia-identifies-3450-3550-mhz-study-potential-band-wireless-broadband-use>.

<sup>13</sup> Edward Drocella, Robert Sole, Nickolas LaSorte, *Technical Feasibility of Sharing Federal Spectrum with Future Commercial Operations in the 3450-3550 MHz Band*, NTIA Technical Report 20-546 (rel. Jan. 2020) (“NTIA 3.45 GHz Report”).

The Commission has also acted to prepare the band for possible expanded commercial wireless use. In February 2019, the Wireless Telecommunications Bureau imposed a freeze on accepting and processing applications for new or expanded Part 90 Radiolocation operations in the Lower 3 GHz band to “maintain a stable spectral environment in a band that is under active consideration for possible alternative use.”<sup>14</sup>

Moving forward, CTIA looks forward to the full report on the entirety of the Lower 3 GHz band,<sup>15</sup> as mandated by the MOBILE NOW Act, and encourages the Commission to work closely with NTIA on a sharing framework that will enable commercial 5G use cases in some or all of the band while protecting federal incumbents. Specifically, the Commission should reach out to NTIA and federal incumbents to determine the feasibility of relocating incumbent operations, especially airborne radar systems, from the 3.45-3.55 GHz band as suggested in the NTIA 3.45 GHz Report,<sup>16</sup> and additional segments to the extent feasible. The Commission should also engage with NTIA to reexamine the report’s modeling assumptions to determine if the sharing outcome could be improved for other sharing mechanisms beyond time-based sharing and if airborne radar systems could share with terrestrial 5G networks at normal power levels and non-restrictive bandwidths.

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<sup>14</sup> See *Temporary Freeze on Non-Federal Applications in the 3100-3550 MHz Band*, Public Notice, DA 19-105, at 2 (rel. Feb. 22, 2019) (“Freeze Public Notice”); see also Letter from CTIA to FCC (dated Apr. 27, 2018) (requesting a freeze of non-federal applications in the 3.45-3.55 GHz band). CTIA filed comments in support of the Commission’s action and in opposition to a request to lift or waive the temporary freeze. See Comments of CTIA, WT Docket No. 19-39, at 1-2 (filed June 12, 2019).

<sup>15</sup> *Lower 3 GHz NPRM* ¶ 3 (“Of the frequencies between 3100 MHz and 3550 MHz, NTIA has identified the top 100 megahertz in the 3.45-3.55 GHz band as the most promising portion for sharing in the near term and is conducting a feasibility assessment in collaboration with the Department of Defense (DOD), and continues to study the feasibility of sharing in the entire 3.1-3.55 GHz band with existing and future federal users.”).

<sup>16</sup> See NTIA 3.45 GHz Report at Executive Summary, at x.

#### **IV. CTIA SUPPORTS THE COMMISSION’S PROPOSAL TO CLEAR THE 3.3-3.55 GHZ BAND OF EXISTING NON-FEDERAL USERS.**

CTIA supports the Commission’s proposal to remove the existing non-federal secondary Radiolocation and Amateur allocations in the 3.3-3.55 GHz band and to relocate incumbent non-federal operations out of the band to prepare for possible expanded commercial wireless use.<sup>17</sup> As noted by the Commission, non-federal use of the 3.3-3.55 GHz band is on a secondary basis, with only eight active Radiolocation licenses authorized.<sup>18</sup> The limited number of existing users should be transitioned to other spectrum in a reasonable timeframe to allow for unfettered access to the band for next-generation mobile services. As an added benefit, relocating high-powered weather radar systems in the 3.3-3.55 GHz band will mitigate potential interference to adjacent CBRS operations. And, while Amateur licensees have expressed a need to maintain their access to the spectrum band,<sup>19</sup> any Amateur radio operations in the band are allocated on a secondary basis and should not foreclose the potential use of this spectrum for 5G. The Commission’s rules are clear that stations of a secondary service “shall not cause harmful interference to stations of primary services to which frequencies are already assigned or to which frequencies may be assigned at a later date.”<sup>20</sup> In any event, Part 97 operations are available in numerous other spectrum bands in the Commission’s Table of Frequency Allocations.<sup>21</sup> The Commission should

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<sup>17</sup> *Lower 3 GHz NPRM* ¶ 1.

<sup>18</sup> *Id.* ¶ 5 (“Between 3.3 and 3.55 GHz, there are only eight active licenses being used for a variety of commercial and industrial radiolocation services, such as doppler radar to provide weather information to broadcast viewers.”).

<sup>19</sup> *See, e.g.*, Comments of Larry K Petty, WT Docket No. 19-348, at 1 (filed Jan. 24, 2020); Comments of Al Ward, WT Docket No. 19-348, at 1 (filed Feb. 1, 2020).

<sup>20</sup> 47 C.F.R. § 2.104(d)(3)(i).

<sup>21</sup> *See e.g.*, 47 C.F.R. § 2.106. *See also* 47 C.F.R. § 97.301 (listing the authorized frequency bands for Amateur stations, including a variety of Low Frequency (“LF”), Medium Frequency (“MF”), High Frequency (“HF”), Very High Frequency (“VHF”), Ultra High Frequency (“UHF”), Super High Frequency (“SHF”), and Extremely High Frequency (“EHF”) spectrum bands).

therefore complete its proposed change to the Table of Allocations to allow for commercial primary services rather than allowing this allocation to remain fallow to purportedly protect secondary Amateur use of the spectrum.

By making the 3.3-3.55 GHz band less encumbered, the Commission would be better positioned to allow for flexible use of the spectrum for 5G, without the need for onerous power limitations on the band. This action by the Commission will also enable greater coordination with federal partners to create opportunities for commercial wireless use in the 3.3-3.55 GHz band and later evaluation and development of the full Lower 3 GHz band.

**V. THE COMMISSION SHOULD ENSURE FUTURE ALLOCATIONS IN THE LOWER 3 GHz BAND ARE APPROPRIATELY BALANCED.**

In any future action to expand opportunities for commercial wireless use in the Lower 3 GHz band, it is critical that the Commission prioritize spectrum solutions that create incentives for efficient, balanced spectrum use. The United States should continue to prioritize licensed, exclusive-use spectrum that has proven to be the core of our nation’s successful spectrum policy.

A recent study of 14 leading countries found that the United States is an “outlier” in the amount of unlicensed and shared spectrum being made available.<sup>22</sup> Specifically, it found that the United States is the only benchmark country that has released mid-band spectrum in the 3 GHz range on a shared or unlicensed basis.<sup>23</sup> All other benchmark countries have made mid-band spectrum available (or will do so by the end of 2020) in the 3.4-5.0 GHz range via exclusive wide-area licenses.<sup>24</sup>

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<sup>22</sup> See International Comparison at 1.

<sup>23</sup> See *id.*

<sup>24</sup> *Id.* We note that Analysys Mason did not report any new spectrum below 3.4 GHz released, or scheduled to be released, in benchmark countries between 2017 and 2020 other than: (1) an auction of the 3.3-3.4 GHz range for indoor use by Hong Kong in November 2019, and (2) the China Ministry of

This imbalance in U.S. mid-band availability runs counter to the value of exclusive-use licensed spectrum. A recent study found that making 400 megahertz of licensed mid-band spectrum available for commercial 5G networks will add \$274 billion to the U.S. economy and create 1.3 million new jobs.<sup>25</sup> Additionally, exclusive-use licenses provide licensees with predictability and certainty that their investments will be protected against harmful interference and allow licensees to fully “mine” the spectrum, resulting in more intense and efficient utilization. The U.S. wireless industry relied upon these exclusive licenses as it migrated through four generations of technology, becoming the global leader in the provision of 4G service, and policymakers should continue to prioritize their use for the next generation of wireless services.

As noted above, the NTIA 3.45 GHz Report emphasizes future sharing arrangements in the band.<sup>26</sup> Any sharing approach recommended by the Commission and NTIA should provide spectrum licensees with sufficient rights and certainty to support commercial investment decisions and deploy robust, next-generation networks. Sharing policies should also adopt the most streamlined and unencumbered means of shared use possible—made possible through careful consideration of the underlying issues surrounding the use of the band. For that reason, the three-tiered sharing approach utilized in the CBRS band is unnecessary and should not be adopted.

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Industry and Information Technology confirmed in 2017 that 500 megahertz of spectrum (within the 3.3-3.6 GHz and 4.8-5.0 GHz ranges) would be released in China, with the 3.3-3.4 GHz range available for indoor use. *Id.* at 7. However, as noted above, nations other than those identified in the International Comparison are exploring spectrum down to 3.3 GHz. *See supra* note 8.

<sup>25</sup> *See* Economic Impacts at 1.

<sup>26</sup> *See* NTIA 3.45 GHz Report at 1.

**VI. CONCLUSION.**

CTIA commends the Commission for making repurposing mid-band spectrum for commercial use a top priority. The Commission should take the steps outlined herein to prioritize spectrum solutions in the Lower 3 GHz band that create incentives for efficient, balanced spectrum use.

Respectfully submitted,

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