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National Telecommunications
and Information Administration
1401 Constitution Ave., NW
Washington, DC 20230

Re: *Development of a National Spectrum Strategy – Docket No. NTIA-2023-0003*

Consumer Technology Association (“CTA”)¹ submits these comments in response to the National Telecommunications and Information Administration’s (“NTIA’s”) Request for Comments on the development of a National Spectrum Strategy.² CTA commends NTIA for seeking input on this critical topic. CTA members are accelerating the pace at which they develop innovative connected consumer products and services, and these innovations depend on the availability of sufficient spectrum. CTA agrees with NTIA that access to more spectrum “will help the United States continue to lead the world in advanced technology and enhance our national and economic security.”³

Developing a Spectrum Pipeline with a Roadmap Is a Must for the U.S. to Maintain Its Wireless Leadership.

NTIA sets out three pillars to guide its development of a National Spectrum Strategy. The first pillar, appropriately, is the development of a spectrum pipeline.⁴ A spectrum pipeline is a critical part of the National Spectrum Strategy because the billions of connected devices entering the consumer products market rely on spectrum, and wireless networks will need greatly increased capacity and access to a variety of additional low-, mid- and high-band spectrum subject to a variety of licensing, sharing and coexistence approaches to accommodate these devices.

¹ As North America’s largest technology trade association, CTA® is the tech sector. Our members are the world’s largest innovators—from startups to global brands—helping support more than 18 million American jobs. CTA owns and produces CES®—the most influential tech event in the world.

² NTIA, Department of Commerce, *Development of a National Spectrum Strategy*, Request for Comments, 88 Fed. Reg. 16244 (Mar. 16, 2023) (“RFC”).

³ See RFC at 16245.

⁴ *Id.*

Innovation relying on a wide variety of spectrum resources has never been more on display than earlier this year at CES 2023 in Las Vegas. Walking the show floor, visitors saw a vision of the connected world that was jaw-dropping in its expanse and potential: multitudes of devices communicating with each other to improve quality of life across many metrics, with enormous promise to transform our lives and society.⁵ Smart home technology is getting even smarter, with systems that not only remotely control lights but that schedule when certain outlets draw power by “controlling the breakers, switcher and outlets” to save energy when certain devices are not in use.⁶ CES 2023 also saw major advancements in the realm of extended reality (“XR”), with XR technology now certified for use by surgeons in the operating room.⁷ TV manufacturers, meanwhile, showed us the future of wireless TVs.⁸ Moreover, for several years now, CES has been home to showing some of the greatest innovations in the auto sector. These improvements are leading to truly autonomous vehicles, safer driving and lives saved.

The innovations at CES 2023 are only the beginning. Consumer demand to communicate, consume content and connect devices is stretching the limits of current communications technologies and networks. Next-generation technologies and Internet of Things devices are being widely adopted and becoming integral to consumers’ daily lives. With that, demand for bandwidth, which already is extraordinary, is expected to significantly increase in the coming years.⁹ Connected devices of tomorrow will require significantly more network capacity to meet connectivity needs.¹⁰ To enable continued innovation in new products and services that utilize 5G, 6G and future generations of Wi-Fi, the federal government must continue to identify a wide array of suitable, licensed, unlicensed and shared spectrum for commercial use, while ensuring that federal missions continue to be met.

NTIA should utilize an all-of-the above approach when identifying bands to study as part of the National Spectrum Strategy but should make clear that a decision to study a band does

⁵ See Gary Shapiro, *Tech is Making our World Healthier, Safer and More Accessible*, LinkedIn (Jan. 26, 2022), <https://www.linkedin.com/pulse/tech-making-our-world-healthier-safer-more-accessible-gary-shapiro> (“From AI and digital health to transportation and smart cities, technology innovations are helping us to tap into the ingenuity of humankind and make our world healthier, safer and more accessible for millions.”).

⁶ Eric Franklin, *The Most Noteworthy Tech at CES We Couldn't Ignore*, CNET (Jan. 14, 2023), <https://www.cnet.com/tech/the-most-noteworthy-tech-at-ces-2023-we-couldnt-ignore>.

⁷ *13 Products From CES 2023 That Have Tech Leaders Buzzing*, Forbes (Mar. 8, 2023), <https://www.forbes.com/sites/forbestechcouncil/2023/03/08/13-products-from-ces-2023-that-have-tech-leaders-buzzing/?sh=608ea8e87bab>.

⁸ *The best of CES 2023*, Engadget (Jan. 6, 2023), <https://www.engadget.com/best-of-ces-2023-winners-220009997.html>.

⁹ See Ericsson, *What do next wave 5G consumers want?*, <https://www.ericsson.com/en/reports-and-papers/consumerlab/reports/5g-next-wave> (last visited Apr. 17, 2023) (describing consumer interest in next generation wireless networks).

¹⁰ RFC at 16245 (Pillar #1, Question 2).

not indicate an assumption that the band is suitable for auction. 5G and 6G networks and the next generation of applications and features will continue to rely on low-, mid- and high-band spectrum subject to a full complement of licensing approaches.¹¹ In particular, CTA encourages NTIA to specifically identify additional mid-band frequencies that can be repurposed for commercial use and suggests that the lower 3 GHz band (3.1-3.45 GHz) should be one such band. Another potential area for study is the spectrum above 231.5 GHz, which may have various commercial use cases including, but not limited to, short range radio location services for automotive radar.

Providing estimated timing about the Administration’s activities to free up spectrum would give the industry and consumers useful information to plan commercial development and deployment of 5G and 6G wireless products and services that would utilize these bands. For those spectrum bands deemed appropriate for auction, CTA urges NTIA to create a roadmap that includes dates, in the near term, for holding spectrum auctions. Indeed, spectrum auctions have been a boon to both the American economy and treasury. It is imperative that the Federal Communications Commission (“FCC”) can continue to auction spectrum and, to that end, Congress should renew the FCC’s auction authority to provide certainty to stakeholders that auctions will continue and to signal to the rest of the world that the U.S. will continue to be a leader in wireless policy.

Industry would also benefit from setting goals for making spectrum bands available for use by unlicensed technologies or for sharing with spectrum incumbents. Greater planning and transparency will yield tremendous benefits to all participants in the wireless ecosystem. Recognizing that our nation’s spectrum policy should not end at the border, the US should support spectrum decisions at the ITU and in individual countries that support technologies that benefit US consumers and US companies—this includes a strong stance that the full 1200 MHz of the 6 GHz band should be unlicensed while protecting incumbent operations.

Long-Term Spectrum Planning Involves Improving Federal Users’ Spectrum Efficiency.

The National Spectrum Strategy can help address commercial spectrum needs by seeking to improve federal spectrum management and increase transparency regarding new spectrum that could be made available for future commercial use.¹² Beyond identifying bands to study, the National Spectrum Strategy should develop methods for ongoing measurement of federal spectrum utilization. By some accounts, the federal government occupies—either exclusively or on a primary basis—sixty percent of the spectrum best suited for mobile broadband.¹³ To help policymakers understand how, where and when the federal government

¹¹ *Id.* at 16246 (Pillar #1, Question 3).

¹² *Id.* (Pillar #2, Question 2).

¹³ See, e.g., Michael O’Rielly, *Enacting More “Sticks”: Spectrum Fees for Government Users*, FCC Blog (Sept. 8, 2015), <https://www.fcc.gov/news-events/blog/2015/09/08/enacting-more-sticks-spectrum-fees-government-users>.

is using spectrum resources, the National Spectrum Strategy should identify methods to measure the utilization of spectrum by the federal government. This measurement should happen on a recurring cadence to enable a predictable, ongoing assessment of whether spectrum is being used efficiently. Providing public transparency into federal spectrum use will allow for engagement on how to best utilize the nation’s limited spectrum resources while ensuring that federal agencies are able to meet their mission requirements.

The National Spectrum Strategy should continue to prioritize existing spectrum clearing efforts as well as explore new initiatives, such as those that provide incentives to incumbent federal operators to voluntarily clear spectrum in return for a portion of the proceeds realized by the auction of the cleared spectrum. CTA agrees with NTIA that where bands are shared, “incumbent users may need to vacate, compress or repack some portion of their systems or current use to enable optimum utilization while ensuring no harmful interference is caused among the spectrum users.”¹⁴ Where appropriate, spectrum-sharing technologies and techniques should be considered to maximize the use of the federal and commercial bands for next-generation technologies. All available tools for maximizing efficient spectrum use should remain on the table, with NTIA signaling openness to future innovative ways to unleash spectrum’s potential.

Continued Collaboration Between the FCC, NTIA and other Stakeholders Is Key to Creating and Implementing a Long-Term Strategy.

CTA commends the NTIA and FCC for updating the Memorandum of Understanding between the agencies.¹⁵ The NTIA and FCC should continue to prioritize communication to ensure that possible controversies between federal and commercial stakeholders are addressed early in the process. NTIA should also ensure that other federal stakeholders are working through NTIA’s process to express positions on spectrum policy. An uncertain environment may deter companies from investing in our economy if they worry that the regulatory rug may be pulled out from under them at the last moment.¹⁶

As Assistant Secretary Alan Davidson recently noted, done correctly, the National Spectrum Strategy will “keep the United States the leading innovator on spectrum-reliant services, allowing Americans to reap the benefits of next-generation technologies, and

¹⁴ RFC at 16246 (Pillar #1, Question 6).

¹⁵ NTIA, News Release, *FCC, NTIA Sign New Memorandum of Understanding on Spectrum Coordination* (Aug. 2, 2022), <https://ntia.gov/press-release/2022/fcc-ntia-sign-new-memorandum-understanding-spectrum-coordination>.

¹⁶ See J. David Grossman, *US 5G leadership depends on ending government infighting*, Light Reading (Mar. 31, 2022), <https://www.lightreading.com/regulatorypolitics/us-5g-leadership-depends-on-ending-government-infighting/a/d-id/776413>.

improving our economic security for years to come.”¹⁷ CTA looks forward to seeing how the National Spectrum Strategy develops and welcomes the opportunity to provide additional thoughts and assistance as the strategy is implemented.

Respectfully submitted,

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¹⁷ Alan Davidson, Assistant Secretary of Communications and Information, NTIA, Remarks at the National Spectrum Strategy Listening Session (Mar. 30, 2023), <https://ntia.gov/speechtestimony/2023/remarks-alan-davidson>.