



ENSURING U.S. LEADERSHIP IN 5G

America has an opportunity to unlock the power of the 12 GHz band for 5G, giving us an edge: an edge over competitors like China who threaten our leadership in 5G; an edge for innovation and new technologies to revolutionize the way we live, work, and learn; and an edge for consumers through more competition and choices.

The US ranks last among 13 major wireless markets in licensed mid-band spectrum, which is essential for 5G. The 500 megahertz of licensed terrestrial spectrum in the 12 GHz band will catapult the United States back to its place as a global leader in telecommunications. The 12 GHz band is unlike any other. It's a large swath of a precious finite resource. It's unencumbered from federal users. And its power is ready to be unleashed immediately.

In order to drive this technological revolution, a multilateral coalition of 5G leaders has joined together to work as swiftly as possible, across government agencies and between the public and private sectors, to ensure the U.S. does not fall behind on the 5G race because of outdated rules and regulations. The stakes are high, but the upside is higher – and the key is cohesive direction from federal lawmakers and regulators. By joining forces and working towards this shared goal of unlocking mid-band spectrum, we can secure U.S. leadership on the global stage, spur competition, and provide next-generation connectivity for all Americans.

MISSION

To unleash the power of 5G, the FCC must move forward with its Notice of Proposed Rulemaking to modernize rules and open up the 12 GHz band, securing America's global leadership to protect national and economic security interests while bolstering competition and choices for the American public and businesses.

GUIDING PRINCIPLES

- 1) The FCC must act now to unlock the 500 MHz of existing terrestrial licenses in the 12 GHz band to successfully ensure America's edge over China in the race to 5G. U.S. national security and economic interests depend upon it.¹
- 2) The FCC must eliminate barriers to meeting the full potential of 12 GHz by aligning federal regulations with today's realities to empower an ecosystem where mid-band spectrum drives innovation, new technologies, and next-generation connectivity for American businesses.
- 3) The FCC should promote competition in mobile and satellite broadband through the expansion of 12 GHz, delivering more choices and lower costs for consumers.
- 4) The FCC can and should expand the use of the band while protecting existing users.
- 5) The 12 GHz band offers the FCC opportunities to expand opportunistic uses of attractive spectrum critical to advancing 5G.



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KEY POINTS

1. The FCC must act to unlock the 500 MHz of existing terrestrial licenses in the 12 GHz band to successfully ensure America's edge over China in the race to 5G. U.S. national security and economic interests depend upon it.

- The U.S. has historically led the globe in telecommunications advancements, but our posture today is diminished. According to a recent study completed for CTIA, the U.S. currently ranks last among 13 major wireless markets in 5G mid-band spectrum.
- Even after the C-band auction, the U.S. will remain behind China – 450 MHz to 480 MHz respectively of re-allocated mid-band spectrum.
- Allowing for flexible-use licenses for two-way broadband by swiftly modifying the 500 megahertz of existing licenses in the 12 GHz band allows the U.S. to overtake China (950 MHz) immediately and propels the U.S. from 13th place to 2nd place behind Japan (1000 MHz).
- Without timely action by the FCC to create policies that accelerate deployment of 5G through mid-band spectrum, America could lose the race to China. Over the last 15 years, Huawei has been an integral part of China's strategy to employ economic and technical supremacy as tools of national power. As [a report from The MITRE Corporation says](#), "5G is an active front in the growing great power competition between the U.S. and China." And a report from the Carnegie Endowment for International Peace says, "China is eclipsing the United States as the world's largest overall (public and private) R&D investor."
- National security is more than just planes and tanks and ships. The growth of our 5G networks and the new capabilities they will provide will be critical to defending our nation from threats of all kinds.
- The country that wins the 5G race will have an outsized role in determining the standards and security of the 5G infrastructure that will be deployed throughout the globe.
- But the expansion of 5G is not just crucial for the national defense; it will also enable the United States economy to lead in new technologies and services.



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2. The FCC must eliminate barriers to meeting the full potential of 12 GHz by aligning federal regulations with today's realities to empower an ecosystem where mid-band spectrum drives innovation, new technologies, and next-generation connectivity for American businesses.

- As spectrum-sharing technology advances, it enables additional bands of spectrum to be opened up for new or more flexible uses. Outdated rules and regulations governing the use of these bands stifle innovation and prevent the development of cutting-edge new applications. The FCC must update the Multi-channel Video and Data Distribution Service (MVDDS) operational rules permitting licensees to provide two-way mobile/fixed broadband service. The Commission must also update the MVDDS technical rules to enable a viable 5G service while protecting DBS operations from harmful interference.
- Over the past two decades, the landscape has evolved on spectrum-sharing technology. In 2002, when the current FCC rules governing the 12 GHz band were written, Blockbuster Video was still dominating the movie rental market, Facebook and YouTube had not been invented, and most Americans still relied on landlines as their primary method of communication. Today, America faces an unmet and rapidly evolving need for new spectrum that enables advanced wireless services, connects rural customers to broadband, and encourages game-changing innovation. Modernizing the long-outdated rules currently governing the 12 GHz band will accelerate 5G deployment throughout the country and improve how our children learn, how we access healthcare, and how small businesses operate.
- This important action also comes at a time when American businesses desperately need a boost, following a devastating 2020 in which the COVID-19 pandemic caused financial strain across sectors and slowed the national economy to a crawl.

3. The FCC should promote competition in mobile and satellite broadband through the expansion of 12 GHz, delivering more choices and lower costs for consumers.

- Increased competition in mobile and satellite broadband through the broader use of mid-band spectrum supports free markets that encourage competition, more choices, and greater opportunities for American families.
- Maximizing the number of potential providers in the 12 GHz band also offers the best chance for consumers to access reliable, affordable broadband and mobile services throughout the United States.
- Leveraging 5G through increasing the US mid- band spectrum allocation is not only about faster speeds but also building next-generation networks that will transform the way American businesses serve American families. Building next generation 5G networks for enterprise will help modernize how hospitals, power grids, factories and farms operate. Doing so will allow these entities to deploy new automation tools to better serve hardworking Americans who rely on them.



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4. The FCC can and should expand the use of the band while protecting existing users.

- The Coalition believes that any change in the rules of the band should protect existing authorized users. That includes existing satellite television providers and other existing satellite services, such as the new broadband satellite services.
- But there are many ways to protect existing users while expanding the use of the band for 5G and other broadband services.
- Some authorized users say we should leave the band the way it is. But everyone agrees that it will take changes in the rules to use the band more intensively for broadband, including for terrestrial 5G, for satellite broadband, or for both. The only question is what the new rules should be.
- This includes companies like SpaceX that want to use the 12 GHz band to offer satellite broadband (through its Starlink service). But while SpaceX opposes a broad rule change, it has asked the FCC for waiver of existing rules for its own service. SpaceX argues it needs the waiver to improve Starlink's broadband service offering. The chief difference between SpaceX's waiver request and the changes in the rules sought by the 5Gfor12GHz Coalition is that SpaceX's rule change will only benefit Starlink, while potentially harming other incumbents and jeopardizing the potential for a win-win in the band to benefit all consumers.
- Everyone in the band should have a chance to succeed. All Americans benefit when we have multiple providers of advanced broadband services.

5. The 12 GHz Band offers the FCC opportunities to expand opportunistic uses of attractive spectrum critical to advancing 5G.

- The 12 GHz band offers new possibilities to expand unlicensed opportunistic spectrum access (meaning spectrum open to everyone, not just someone with an FCC approved license).
- People use spectrum opportunistically every day. We all use Wi-Fi to connect to the internet.
- Cellular companies use "Wi-Fi offload" to meet demand, and wireless ISPs (WISPs) creatively use spectrum to provide broadband access – particularly in rural areas.
- "Opportunistic" sharing technologies let multiple users share the same set of frequencies without interfering with each other.
- As part of exploring how to expand use of the 12 GHz band, the Coalition fully supports finding ways to maximize unlicensed opportunistic sharing in the band.
- These uses should be allowed to the extent they can coexist with existing and expanded licensed uses. This will promote innovation and better broadband access for all Americans.

1 <https://apictia.org/wp-content/uploads/2020/03/5G-mid-band-spectrum-global-update-march-2020.pdf>

2 <https://www.fcc.gov/document/fcc-annual-broadband-report-shows-digital-divide-rapidly-closing>

3 <https://venturebeat.com/2018/02/10/how-the-digital-divide-is-holding-the-u-s-economy-back/>