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| ***FCC - News from the Federal Communications Commission***  **Media Contact:**  Neil Grace, (202) 418-0506  neil.grace@fcc.gov  **For Immediate Release**  **FCC PROPOSES MORE SPECTRUM FOR UNLICENSED USE**  WASHINGTON, October 23, 2018—The Federal Communications Commission today proposed to make up to 1200 megahertz of spectrum available for use by unlicensed devices in the 6 GHz band (5.925-7.125 GHz). Unlicensed devices that employ Wi-Fi and other unlicensed standards have become indispensable for providing low-cost wireless connectivity in countless products used by American consumers.  The proposed rules are designed to allow unlicensed devices to operate in the 6 GHz band without interfering with the operation of the licensed services that will continue to use this spectrum. In those portions of the 6 GHz band that are heavily used by point-to-point microwave links, the Commission proposes to allow unlicensed devices to operate where permitted by an automated frequency coordination system and invites comment as to whether this is necessary for devices operated only indoors. In the other portions of the band where licensed mobile services, such as the Broadcast Auxiliary Service and Cable Television Relay Service, operate, the unlicensed devices would be restricted to indoor operations at lower power.  These proposed rules will allow a valuable spectrum resource to be more intensively used to benefit consumers while allowing the existing licensed uses of the 6 GHz band to continue uninterrupted.  Action by the Commission October 23, 2018 by Notice of Proposed Rulemaking (FCC 18-147). Chairman Pai, Commissioners O’Rielly, Carr, and Rosenworcel approving and issuing separate statements.  ET Docket No. 18-295; GN Docket No. 17-183  ###  **Office of Media Relations: (202) 418-0500**  **ASL Videophone: (844) 432-2275**  **TTY: (888) 835-5322**  **Twitter: @FCC**  **www.fcc.gov/media-relations**  *This is an unofficial announcement of Commission action. Release of the full text of a Commission order constitutes official action. See MCI v. FCC, 515 F.2d 385 (D.C. Cir. 1974).* |

**STATEMENT OF  
CHAIRMAN AJIT PAI**

Re: *Unlicensed Use of the 6 GHz Band*, ET Docket No. 18-295; *Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, GN Docket No. 17-183.

If I asked you for 1989’s great accomplishments, you might say the fall of the Berlin Wall, the launch of the Batman film series, and the beginning of the 2.4 and 5 GHz unlicensed bands . . . in that order.

And in the last three decades, unlicensed devices have proliferated (as have Batman movies). From Wi-Fi routers to connected home appliances to retro cordless phones for those of us who still have landlines, we use devices that connect via unlicensed spectrum every day. Indeed, they’ve become so popular that there is now a shortage of airwaves dedicated for their use.

So today, we address this problem by proposing to open up 1,200 megahertz of spectrum in the 6 GHz band for different types of unlicensed uses. And we seek to do so in a way that will protect incumbent licensed operations in the band.

This decision will help us meet the mandate set forth in RAY BAUM’S Act to make more spectrum available for unlicensed use. It is also part of our aggressive and balanced spectrum strategy: pushing more licensed and unlicensed spectrum into the commercial marketplace and including a mix of low-band, mid-band, and high-band spectrum. And with the massive amount of wireless traffic that is off-loaded to Wi-Fi, opening up this wide swath of spectrum for unlicensed use could be a big boost to our nation’s 5G future.

We look forward to compiling a robust record and then acting quickly to make more 6 GHz spectrum available for unlicensed uses. Indeed, I’m optimistic that we should be able to get the job done before the next Batman movie is released.

Thanks to the staff who worked on this item. In particular, thanks to Bahman Badipour, Brian Butler, Rashmi Doshi, David Duarte, Michael Ha, Ira Keltz, Julie Knapp, Paul Murray, Nicholas Oros, Aspasia Paroutsas, Barbara Pavon, Siobahn Philemon, Jamison Prime, Karen Rackley, Hugh Van Tuyl, and Aole Wilkins El from the Office of Engineering and Technology; John Evanoff, David Furth, Lauren Kravetz, and Michael Wilhelm from the Public Safety and Homeland Security Bureau; Jose Albuquerque, Christopher Bair, and Jennifer Gilsenan from the International Bureau; Chris Andes, Stephen Buenzow, Lloyd Coward, Peter Daronco, Thomas Derenge, Ariel Diamond, Charles Mathias, Aalok Mehta, Roger Noel, Charles Oliver, Matthew Pearl, Paul Powell, Blaise Scinto, Jeffrey Tignor, Brian Wondrack, and Stephen Zak from the Wireless Telecommunications Bureau; Thomas Horan, John Wong, and Sean Yun from the Media Bureau; Maura McGowan from the Office of Communications Business Opportunities; and David Horowitz, Keith McCrickard, and Bill Richardson from the Office of General Counsel.

**STATEMENT OF**

**COMMISSIONER MICHAEL O’RIELLY**

*Re: Unlicensed Use of the 6 GHz Band, ET Docket No, 18-295; Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz, GN Docket No. 17-183.*

Many people tout particular technologies and/or economic studies showing the value of new use cases to support allocating additional unlicensed spectrum. But, I have never focused intently on such points. While informative, I tend to agree with a previously quoted former employer that the beauty of unlicensed spectrum is that no one can predict what American innovators and creative geniuses will think up next. It’s really up to them to turn our efforts into products, services, and endless possibilities for the benefit of our people.

Further, it is undisputed that the exponential growth of wireless data, especially over unlicensed networks, has led to severe congestion in our highly-prized unlicensed spectrum bands, primarily 2.4 and 5 GHz. Consider that total U.S. Internet traffic is estimated to increase three-fold between 2016 and 2021, and Wi-Fi networks will grow to carry almost 52 percent of this traffic.[[1]](#footnote-1) For these reasons, I pushed early in my term to make additional bands available to the unlicensed community – a view also shared by Congress, including in the enacted MOBILE NOW Act. Accordingly, I was one of the first voices to advocate for allowing unlicensed use in 6 GHz and supporters have been able to cajole skeptics to jump on board and help move this Notice forward.

To be clear, this is a prime location for unlicensed services for multiple reasons, but particularly because it is adjacent to 5 GHz and compliments the forthcoming clearing efforts in the C-band downlink band (3.7-4.2 GHz). Moreover, studies in the record demonstrate that unlicensed spectrum at 6 GHz can likely be done without causing harmful interference to existing incumbents. Now, if we could only open up the 5.9 GHz Band for unlicensed use as well, for which I believe there are four solid votes in favor, we would really be on to something special, as it’s the missing link between the 5 GHz and 6 GHz bands.

Since today’s Notice takes a giant step to open a large swath of spectrum needed for increased capacity, higher speeds, and lower latency for unlicensed 5G or technologies not yet envisioned, it has my full support. I look forward to exploring the issues raised in it, including the best means to protect incumbents from harmful interference. I thank the Chairman for bringing this to a long-awaited vote and all my colleagues for agreeing to add questions at my request, such as those pertaining to low-power indoor use in the newly-minted UNII-5 and UNII-7 bands, including seeking comment on permitting such operations without an automatic frequency coordinator, and the use of portable devices. I know these ideas, and many others in the Notice, may raise initial concern from some, but these are discussions that need to be had and everyone will have an opportunity to express their views.

**STATEMENT OF  
COMMISSIONER BRENDAN CARR**

Re: *Unlicensed Use of the 6 GHz Band, ET Docket No. 18-295; Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz, GN Docket No. 17-183.*

Drop it like it’s hot … spot.

Abraham Linksys.

John Wilkes Bluetooth.

Wu-Tang LAN.

Pretty Fly for a Wi-Fi.

These are some of the more creative (or at least punny) names you might see when searching for a Wi-Fi connection. And the sheer number of network names that pop up confirms what the data tell us. Your neighbors, your family, and nearby businesses are all competing for a relatively limited amount of unlicensed spectrum. And those spectrum bands are getting congested.

After all, Wi-Fi networks are the workhorses of our connected lives. We hear so much in telecom about the difficulty of connecting the “last mile.” And when we are at home or at work the final few feet of that last mile are often spanned by Wi-Fi, Bluetooth, or another unlicensed technology. Few realize that without Wi-Fi and the unlicensed spectrum it uses, even the best commercial wireless networks would strain to keep up with consumer demand. In fact, a study out last week shows that even among Americans with unlimited mobile data plans, two-thirds of their data still rides on Wi-Fi.

And it’s surprising that so much is done with so little. The 2.4 GHz band is home to some of the original Wi-Fi devices, cordless phones, baby monitors, and Bluetooth devices that came to market nearly 20 years ago. Two decades of devices send and receive information over just 83 MHz of spectrum in that band. The 5 GHz band, which is used to transmit at a faster rate and to relieve congestion in 2.4, adds only 150 MHz.

As we move towards 5G, demand on our unlicensed bands will only increase. From the Internet of Things to smart ag to new telehealth applications, we need more spectrum to connect billions of new devices to the Internet. That’s why today’s proceeding is so important. It proposes to add 1,200 MHz of prime mid-band spectrum for unlicensed use—that’s five times the spectrum available today in the 2.4 and 5 GHz bands.

There are issues to be resolved in this proceeding, for sure. Would unlicensed use in the 6 GHz band cause harmful interference to incumbents? If so, how could we tailor protections that maximize use of the band? These are technical issues that require the input and engagement of all stakeholders. So I encourage parties to work with the Commission to develop appropriate rules. And we need to do so expeditiously. Few predicted how important the 2.4 and 5 GHz bands would be to the modern world when the FCC made them available more than 30 years ago. That history suggests the enormous potential value of the steps we take today.

So I want to thank the Office of Engineering and Technology and the Wireless Telecommunications Bureau for their work on this item. It has my support.

**STATEMENT OF  
COMMISSIONER JESSICA ROSENWORCEL**

Re: *Unlicensed Use of the 6 GHz Band, ET Docket No, 18-295; Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz, GN Docket No. 17-183.*

You may not know it, but your life runs on unlicensed spectrum. It might have been the laptop you popped open this morning to check your e-mail. Or it could have been the baby monitor you used to keep tabs on your little one last night. Maybe it was the fitness tracker you counted on to count your steps or the music you streamed through your phone to power you through a jog. Or it could have been the traffic application you checked before hitting the road for your daily commute after closing your garage door remotely with the press of a button. No matter who you are or where you live, the odds are good that you have benefited from unlicensed airwaves and Wi-Fi.

These conveniences are not the gifts of the spectrum gods. They are the byproduct of wireless policy choices that were made at the Federal Communications Commission more than three decades ago. A renegade band of engineers at this agency led the charge. They challenged the status quo by suggesting that spectrum that was not licensed to individuals could be useful for all. Instead of having the FCC dictate what could be done in certain bands, the agency would leave it up to the public. So the FCC opened a handful of underused frequencies—airwaves that were widely viewed as “garbage bands”—to anyone who followed some basic technical rules.

This was radical. It was edgy stuff. It was a bet that access to some airwaves by public rule rather than private license would lead to a whole new world of wireless uses.

It was a good bet. Because in time a standard was developed known as 802.11—and this is where Wi-Fi was born. Today, Wi-Fi adds more than $500 billion to the United States economy every year—and $2 trillion globally. It has democratized internet access, helped carriers manage their networks, and fostered all sorts of wild innovation. In fact, it’s the perfect sandbox for experimentation, because access does not require contract or permission.

As exciting as this is, it means the airwaves used by Wi-Fi are getting crowded. Already our current Wi-Fi bands are congested because they are used by more than 9 billion devices. By the end of the decade, we will see as many as 50 billion new devices connecting to our networks through the internet of things. Add this up. We’re going to need a significant swath of new unlicensed spectrum to keep up with demand.

Now is the time to do something about it. Earlier this year, Congress directed the FCC to increase the spectrum resources we devote to Wi-Fi. That opportunity could come from the 6 GHz band—the subject of our rulemaking today. It’s an ideal place to explore Wi-Fi expansion because it’s close to our existing Wi-Fi bands. It also offers an opportunity to introduce wider channels—channels that will be able to take advantage of the new 802.11ax or Wi-Fi 6 standard and deliver speeds even faster than 1 gigabit per second. In other words, this is how we develop next-generation Gigabit Wi-Fi.

I appreciate that my colleagues have made changes to this rulemaking at my request. In particular, I am grateful this effort now contemplates more opportunities for low-power, indoor Wi-Fi devices throughout the 6 GHz band. This will promote economies of scale and facilitate use of the same standards with the nearby 5 GHz band.

This last point is important. Because the demands on existing unlicensed airwaves are so great, we need an effort beyond the 6 GHz band. We need a fresh look at Wi-Fi opportunities in the 5.9 GHz band. This is overdue. It was back in 1999 when this agency set aside 75 megahertz of spectrum in this band for Dedicated Short Range Communications, or DSRC, which was designed to let cars talk to each other in real time to help reduce accidents. But in the nearly two decades since the FCC allocated this spectrum, that has not happened. Testing on DSRC continues, but only a few thousand vehicles have DSRC on board out of the more than 260 million cars on the road. That’s not surprising when you consider that autonomous vehicles have already moved on to newer technologies.

That’s why the FCC committed to completing tests by January 15, 2017 to address the safe operation of Wi-Fi devices in this band. But nearly two years later this agency is silent. No results have been released. No decisions have been made. And in the intervening time the market has mostly moved past the test plan we developed. Given these facts, it is time for the FCC to take a fresh look at this band and update our efforts.

Wi-Fi is a powerful force in the economy. It can foster innovation without license. It can offer a jolt to the internet of things. It can make our lives more connected and more convenient every day. It’s time for more of it—and the 6 GHz band and 5.9 GHz band are the right place to start. Let’s get to it.

1. Cisco, VNI Forecast Highlights Tool, United States, 2021 Forecast Highlights, https://www.cisco.com/c/m/en\_us/solutions/service-provider/vni-forecast-highlights.html# (last visited Oct. 23, 2018). [↑](#footnote-ref-1)