

**STATEMENT OF
COMMISSIONER MICHAEL O'RIELLY**

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

Today is a fantastic day for unlicensed services and the millions of Americans who use them. Opening 6 GHz for unlicensed use has been a huge priority for me, culminating decades of my work on the broader issue. After personally championing 6 GHz for unlicensed use – and pushing for more unlicensed spectrum generally – for years, I am exceptionally pleased that we are finally taking appropriate and defensible steps to free up this needed spectrum resource. Except for one other smaller, but equally important, spectrum slice (5.9 GHz), there is no greater opportunity for expanding unlicensed services, especially Wi-Fi, given its close proximity to the 5 GHz band that most of us rely on every day for our home Wi-Fi systems. Along with 2.4 GHz, these two bands have carried the bulk of Wi-Fi and other unlicensed traffic for approximately two decades. Now, we add the *full* 1200 megahertz of 6 GHz spectrum for low-power indoor (LPI) devices that will be able to increase speed and capacity, relieve congestion, decrease latency, and bring about the next generation of unlicensed innovation, including Wi-Fi 6, in the near term. We also take the critical approach of authorizing standard-power unlicensed services, with higher-power limits than LPI, using an automated frequency coordination (AFC) system, which the Commission helped pioneer and with which it is very familiar.

While some argue that the unlicensed community doesn't need the full 1200 megahertz of spectrum, I strongly disagree. Instead of doling out unlicensed spectrum in slivers or piecemeal through some dividend mechanism, we have the chance to provide a huge, much needed infusion of wireless currency to American innovators and entrepreneurs, who will undoubtedly amaze us with their ingenuity. Moreover, to obtain unlicensed 5G-like capabilities, 160 megahertz channels, or eventually 320 megahertz under Wi-Fi 7, are absolutely necessary. Ultimately, this allocation will provide seven new and needed channels going forward, which can also be combined with the 5 GHz frequencies already in use. And this allocation for unlicensed services will accelerate, rather than compete with, the American effort to deploy nationwide 5G advanced wireless services. In sum, 5G will happen faster and more widely with our action here.

Today's action is also very timely, as the COVID-19 pandemic has demonstrated the importance of our Wi-Fi systems in keeping those in isolation connected to the outside world. This technology is right now permitting Americans everywhere to communicate with their loved ones, continue to attend school, work remotely, keep businesses up and running, order groceries and necessities, support their favorite local restaurants, and allow life to continue with as much normalcy as possible during this extremely difficult time.

Not to mention, the benefits extend well beyond our current circumstances. It is expected that unlicensed use will continue to experience tremendous growth in the coming years, which could lead to devastating congestion in our existing networks, if not for this additional spectrum. For instance, it is estimated that, in the U.S. alone, almost 76 percent of all mobile data traffic will be offloaded to Wi-Fi by 2022, that the amount of offloaded traffic will increase more than seven-fold between 2017 and 2022, that the total number of public Wi-Fi hotspots will increase by 300 percent during this same time period, and that almost 50 percent of total IP traffic will be Wi-Fi within the next two years.¹ This allocation will also facilitate other exceedingly important developments: providing affordable spectrum to expand broadband

¹ CISCO, VNI MOBILE FORECAST HIGHLIGHTS TOOL, UNITED STATES, MOBILE/WI-FI TRAFFIC PROFILES, https://www.cisco.com/c/m/en_us/solutions/service-provider/forecast-highlights-mobile.html# (“In the United States, 18.2 exabytes of mobile data traffic will be offloaded to Wi-Fi by 2022 compared to 2.5 exabytes in 2017.”).

networks to the unserved and most remote parts of this nation, expanding the Internet of things (IoT), and increasing the availability of industrial applications. Further, it is estimated that allowing unlicensed use in 6 GHz will result in a total economic value of over \$83 billion in GDP contribution, although every economic study of this type likely far underestimates the real value of such services and effects.²

All of these enormous benefits can only be realized by authorizing both standard-powered operations and LPI devices, which unlike the higher-power systems do not need an AFC. While there has been much debate about whether LPI use can cause interference to fixed networks, electronic news gathering, and other incumbent uses, the studies in the record and the analysis of the talented professionals in the Office of Engineering and Technology are quite clear: unlicensed use – with the technical rules set in this item – *can be introduced without causing harmful interference*.

In fact, today's item takes a very conservative approach and relegates some technical issues to the further notice section. I am very supportive of increasing the power spectral density of LPI devices from 5 to 8 dBm/MHz and introducing very low power (VLP) devices in the band with the appropriate technical parameters. While I was very hopeful that we would adopt these measures in today's order, I understand that our engineers would like to develop a more robust record on these issues. I firmly believe that increasing LPI power and VLP can be done while protecting incumbent users, and I assert that there are few greater priorities for the Commission than completing the further order this year.

I also appreciate that my suggested edits were accepted by my colleagues. These include setting the allowable client device power by rule instead of basing it on the actual transmittal power of an access point at any point in time, seeking comment in the further notice on the portable use of standard-power devices, and making the VLP section neutral so it does not steer commenters to certain conclusions. I know Commissioner Rosenworcel had similar concerns, and I thank her for her ongoing partnership on unlicensed issues. Further, I am pleased that, at my request, the item provides more structure and direction to the new multi-stakeholder group, including encouraging them to have processes if an incumbent reports harmful interference; clarifies that certain fixed client devices can operate at power limits similar to access points; and seeks comment on the possible use of higher-power limits for fixed point-to-point applications and directional antennas for standard-power access points; among others.

Now that this item is to be adopted, and the bulk of the work on the C-band proceedings is over, it is time to refocus our attention on 5.9 GHz band for unlicensed, the 3.1 to 3.55 GHz band for exclusive licensed use, and other bands that will be needed for commercial wireless use in the future. Broadly, our action here should allow the Commission to triple our efforts to identify and reallocate bands for new *licensed* services, and I will continue to push this Commission to do the hard work to find the next 5G bands. Let's roll up our sleeves and refill that pipeline.

² WiFiFORWARD, ASSESSING THE ECONOMIC VALUE OF UNLICENSED USE IN THE 5.9 GHZ & 6 GHZ BANDS, at 5 (April 2020), <http://wififorward.org/wp-content/uploads/2020/04/5.9-6.0-FINAL-for-distribution.pdf>.