

October 25, 2019

**Ex Parte**

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12th Street SW  
Washington, DC 20554

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

Dear Ms. Dortch:

In 2018, the Federal Communications Commission (“FCC”) unanimously voted to approve a proposal to open the full 6 GHz band to unlicensed technologies while protecting incumbent operations. With this proposal the FCC will advance U.S. technology leadership and lay the foundation for the next generation of Wi-Fi for American consumers and businesses, as recognized by Chairman Pai and Commissioners O’Rielly and Rosenworcel.<sup>1</sup>

Nonetheless, Ericsson and Huawei have worked to oppose the Commission’s proposal in the international arena, pushing a procedural gambit for the World Radiocommunication Conference (“WRC”) aimed at delaying or denying access to the full band for unlicensed technologies.<sup>2</sup> Recently, Ericsson met with FCC staff<sup>3</sup> requesting that the Commission support a

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<sup>1</sup> See Ajit Pai, FCC Chairman, Testimony before the Senate Subcommittee on Financial Services and General Government Hearing on Oversight of the FCC (Oct. 17, 2019) (arguing that “American consumers can have the best of both worlds ... using the [6 GHz] spectrum ... they can have the benefit of unlicensed innovation”); Michael O’Rielly, FCC Commissioner, Speech Before the American Enterprise Institute 2 (Apr. 19, 2018) (saying that “the Commission should take the next steps to reallocate the 6 GHz band for unlicensed services”); *FCC Proposes More Spectrum for Unlicensed Use*, Notice of Proposed Rulemaking, 33 FCC Rcd. 10496, Statement of Commissioner Jessica Rosenworcel (rel. Oct. 24, 2018) (emphasizing that the 6 GHz band presents an opportunity to address the need for “a significant swath of new unlicensed spectrum to keep up with demand”).

<sup>2</sup> See, e.g., Proposal of the People’s Republic of China to Asia-Pacific Telecommunity, *Proposal for Preliminary APT Common Proposals on WRC-19 Agenda Item 9.1 (Issue 9.1.6 and 9.1.7)*, 10, at pp 4-10 (*Studies on frequency-related matters for identification of International Mobile Telecommunications in the frequency range of 5 925 – 7 125 MHz, or parts thereof, for the future development of International Mobile Telecommunications for 2020 and beyond*), APT Document No. APG19-5/INP-70 (July 24, 2019); Ericsson (Thailand) Limited, Ericsson Vietnam Co., Ltd., Huawei Technologies Co., Ltd., *Views For WRC-23 Agenda Item for Study IMT Identification Between 5 925 and 7 125 MHz, or Portion Thereof, for The Future Development of IMT*, APT Document No. APG19-5/INF-08 (July 24, 2019); Huawei, Ericsson, *Proposal for a New AI of WRC-23 to Study 5925-7125 MHz for IMT Identification*, RCC Commission on Satellite Orbits and Spectrum Management (May 28-31, 2019).

<sup>3</sup> See Letter from Jared M. Carlson, Vice President of Government Affairs and Public Policy, Ericsson, to Marlene H. Dortch, Secretary, FCC, ET Docket No. 18-295, GN Docket No. 17-183 (filed Oct. 16, 2019).

position at the upcoming WRC that advances Ericsson and Huawei's ITU strategy and opposes the Commission's pending 6 GHz proposal, despite the work of FCC staff and dozens of U.S. companies over several years.

We write today to ask the Commission to remain steadfast to the goal of opening the 6 GHz band to unlicensed use and to consistently work toward this goal with respect to both its domestic and international agendas. Ericsson's and Huawei's efforts to delay next-generation Wi-Fi—called Wi-Fi 6—by including the 6 GHz band in a four-year ITU study for “IMT,” an ITU acronym for International Mobile Telecommunication, is a procedural gambit that ultimately disadvantages American consumers. A technology is recognized as IMT through a formal, lengthy ITU process. As part of the U.S. Delegation to the WRC, the FCC should oppose including 6 GHz in an IMT study. A four-year ITU study will delay adoption of Wi-Fi 6 by other regions, denying American consumers the benefits of global economies of scale.

Our companies, all headquartered in the U.S., are pushing hard to preserve the nation's technological leadership. The U.S. is the world leader in unlicensed technologies, and specifically in Wi-Fi. Unlicensed technologies today contribute approximately \$2 trillion to the global economy and will contribute nearly \$1 trillion to the U.S. economy alone by 2023.<sup>4</sup> The contributions of Wi-Fi 6 have already begun. Apple has included it in the iPhone 11, Cisco, Hewlett Packard Enterprise, and Ruckus have successfully deployed large-scale Wi-Fi 6 networks, including on the campuses of multiple U.S. corporations, stadiums, and schools. The Wi-Fi Alliance has launched the Wi-Fi 6 Certification program, with U.S. companies Broadcom, Intel, Marvell, and Qualcomm being among the first with Wi-Fi 6 Certified products.

Our companies strongly support the identification of new spectrum bands for licensed services as part of a balanced spectrum policy that also includes unlicensed bands. While we do not advocate that there should be megahertz-for-megahertz equality between licensed and unlicensed identifications, good spectrum policy requires both of these successful allocation methods. Just as the 3 GHz band or various millimeter wave bands are essential to the deployment of 5G technologies and the development of new use cases, so too is the 6 GHz band necessary for Wi-Fi 6, the next generation of high performance Wi-Fi designed to work in a 5G environment and with the next generation of faster home broadband connections.

As the FCC proposal recognizes, a balanced spectrum policy supports opening the entire 1200 MHz of the 6 GHz band for Wi-Fi and other unlicensed technologies. In particular, the 6 GHz band is central to achieving the full potential of Wi-Fi 6. The next generation of wireless technologies require not only access to additional frequencies, but also wider channels to support the higher throughputs and lower latency consumers demand. But the U.S. lacks those channels today. The Commission has recognized that access to the full 6 GHz band is a necessary part of the answer to this challenge.

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<sup>4</sup> Dr. Raul Katz and Fernando Callorda, Telecom Advisory Services, *The Economic Value of Wi-Fi: A Global View (2018 and 2023)* 6-7, 34 (2018), available at [https://morningconsult.com/wp-content/uploads/2018/10/Economic\\_Value\\_of\\_Wi-Fi\\_2018.pdf](https://morningconsult.com/wp-content/uploads/2018/10/Economic_Value_of_Wi-Fi_2018.pdf).

Because of the importance of 6 GHz to U.S. technological leadership, facilitating wireless broadband for American consumers, and the historical role the FCC has played in advancing unlicensed spectrum across the world, the Commission should reject Ericsson's request. Notably, even Ericsson's home region of Europe has not supported the plan. Similarly, our neighbors in the Americas have not supported study of the band for IMT. And although China and Huawei have pushed for this ITU study to include 6 GHz, the larger Asia-Pacific region rejected its proposal.

The U.S. is the world's wireless technology leader because the FCC made new licensed and unlicensed spectrum available to support today's technologies. This commitment to balance empowered consumers and businesses to rely on Wi-Fi and other unlicensed technologies in every corner of the country—and mobile carriers to leverage unlicensed bands to offload huge percentages of their traffic. This tried and true model for U.S. leadership should continue for our domestic and international policies. We therefore urge that the U.S. oppose efforts at WRC to disrupt the U.S.-led ecosystem for Wi-Fi 6 and other unlicensed technologies by including 6 GHz in any mid-band study.

Pursuant to the FCC's rules, I have filed a copy of this notice electronically in the above referenced dockets. If you require any additional information, please contact the undersigned.

Sincerely,

Apple Inc.  
Broadcom Inc.  
Cisco Systems, Inc.  
Facebook, Inc.  
Hewlett Packard Enterprise  
Microsoft Corporation  
Ruckus Networks, a Business  
Segment of CommScope

Attachment

Cc: Aaron Goldberger  
Thomas Sullivan  
Julie Knapp  
Erin McGrath  
Will Adams  
William Davenport  
Umair Javed  
Michael Ha

**ATTACHMENT**

**ITU-R Chart on spectrum bands identified for IMT systems**

Frequency Bands identified for IMT (MHz)	Footnotes identifying the band for IMT in the Radio Regulations			Bandwidth
	Region 1	Region 2	Region 3	
<b>450-470</b>	5.286AA			20
<b>470-698</b>	-	5.295, 5.308A	5.296A	228
<b>694/698-960</b>	5.317A	5.317A	5.313A, 5.317A	262
<b>1 427- 1518</b>	5.341A, 5.346	5.341B	5.341C, 5.346A	91
<b>1 710-2 025</b>	5.384A, 5.388			315
<b>2 110-2 200</b>	5.388			90
<b>2 300-2 400</b>	5.384A			100
<b>2 500-2 690</b>	5.384A			190
<b>3 300-3 400</b>	5.429B	5.429D	5.429F	100
<b>3 400-3 600</b>	5.430A	5.431B	5.432A, 5.432B, 5.433A	200
<b>3 600-3 700</b>	-	5.434	-	100
<b>4 800-4 990</b>	-	5.441A	5.441B	190

Source: International Telecommunications Union – Radiocommunications Sector, ITU-R FAQ on International Mobile Telecommunications, FAQ #16 (Feb. 15, 2019), *available at* <https://www.itu.int/en/ITU-R/Documents/ITU-R-FAQ-IMT.pdf>.