

Wi-Fi 6E Insights



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Editorial

by Alex Roytblat, Vice President of Worldwide Regulatory Affairs at Wi-Fi Alliance®

Welcome to the latest edition of the Wi-Fi 6E Insights newsletter. Wi-Fi 6E refers to Wi-Fi 6 services in the 5925-7125 MHz (the 6 GHz) frequency band. Written for policymakers and regulators in the EMEA region, this newsletter covers regulatory developments relating to Wi-Fi 6E and the views of key stakeholders.

By the end of 2023, there will be an extraordinary 19.5 billion Wi-Fi® devices in use, according to the latest estimates from IDC, reflecting the enormous global demand for this cost-effective and versatile technology. The research firm anticipates that 473 million Wi-Fi 6E devices will ship in 2023, underlining the growing need to make the 6 GHz spectrum band available to further boost performance and reduce congestion.

To that end, more and more governments are making part, or all, of the 6 GHz band license-exempt. Access to this spectrum enables Wi-Fi to deliver a significant change in capacity, while also opening up the wide channels that consumers and companies need to take full advantage of Wi-Fi 6E and the forthcoming Wi-Fi 7.

This is particularly true where regulators make the entire 5925-7125 MHz frequency band (“6 GHz band”) license-exempt. Importantly, the 6 GHz frequency band is the only spectrum to support the high data throughput and low latency capabilities of Wi-Fi 6E, Wi-Fi 7 and future generations of Wi-Fi. It will not be possible for Wi-Fi to deliver optimal performance without access to the entire 6 GHz band, and there is no alternative spectrum.

This fact is being recognized by governments across the world. Argentina and El Salvador are the latest countries to allow Wi-Fi operations in the entire 6 GHz band. Indeed, in preparations for the imminent World Radiocommunications Conference 2023 (WRC-23), the Inter-American Telecommunication Commission (CITEL) highlighted the importance of harmonizing unlicensed use of the 6425-7125 MHz band to create economies of scope and scale and produce a robust equipment market, benefitting consumers and national economies worldwide.

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News in Brief

Africa

In May, the **Independent Communications Authority of South Africa** (ICASA) released the lower 6 GHz spectrum band (5925-6425 MHz) to provide a “much-needed boost for the uptake of Wi-Fi services”. It noted that the spectrum can support more simultaneous connections, lower latency, and faster data speeds, while reducing interference, especially in potentially congested high-density areas and campus environments. “Overall, the implementation of the lower 6 GHz frequency band is expected to provide significant improvements, more robust and reliable wireless communications, and an enhanced user experience for both the consumers and businesses throughout the country,” ICASA added. “The introduction of the lower 6 GHz frequency band for the deployment of Wi-Fi services will also support the growth of the digital economy and help to address the digital divide by providing better, more reliable, and affordable connectivity to community access networks.”

In April, the government in **Namibia** amended its regulations to open up the lower 6 GHz band (5925-6425 MHz) to WAS/RLAN technologies, such as Wi-Fi 6E, for low power usage indoors and very low power usage outdoors. The Communications Regulatory Authority of Namibia noted that Wi-Fi 6E can support high-bandwidth applications with lower latency, higher throughput, and traffic offloading from mobile, fixed, and satellite networks.

The **Ghana** Chapter of Internet Society called for Ghana to urgently implement the African Telecommunications Union (ATU) recommendation to allocate part of the 6 GHz band for use by Wi-Fi and other unlicensed technologies. In an article in the Ghanaian Daily Graphic in May, the organization also made the case for making the entire 6 GHz band license-exempt.

The **Southern Africa Development Community** (SADC) preparatory meeting for WRC-23 in Mozambique didn't produce a common position with regard to the 6425-7025 MHz band or the 7025-7125 MHz band, ahead of WRC-23. That reflects the lack of a consensus among SADC member states on whether the spectrum should be identified for IMT. An online meeting of the **East African Communications Organization** (EACO) in mid June was also unable to reach a consensus, as some

administrations called for a No Change position that will protect their existing and planned fixed and fixed satellite services. The **Economic Community of West African States** (ECOWAS) meeting in Niger in early July agreed to support IMT in the upper 6 GHz band, but only if existing services can be protected.

APAC

In May, the **Singapore** Infocomm Media Development Authority (IMDA) said it will allocate more spectrum to facilitate advanced Wi-Fi connectivity, complementing Singapore's Nationwide Broadband Network and 5G mobile networks. It allocated the lower 6 GHz band (5925-6425 MHz) to provide an additional 500 MHz of contiguous spectrum and pave the way for the deployment of Wi-Fi 6E technology, that supports usage of wider Wi-Fi channels. It noted that 160 MHz channels can deliver faster theoretical maximum speeds of up to 9.6 Gbps and can support lower latency use cases. IMDA expects Wi-Fi 6E-enabled equipment and devices to be commercially available in Singapore by the third quarter of 2023.

The Office of The National Broadcasting and Telecommunications Commission in **Thailand** has made the 5925-6425 MHz band license-exempt. It is monitoring international developments, including the outcome of WRC-23, before making a decision on the future of the 6425-7125 MHz band. Using a regulatory sandbox mechanism, Thailand is also running trials of both 5G and Wi-Fi 6E in this spectrum. The Wi-Fi 6E trials involve medical use cases, such as using extended reality and holograms to support education in clinical anatomy.

The **Taiwan** Ministry of Digital Affairs (MODA) has just run two consultations on the future of the 6 GHz band. The first of these consultations called for opinions on allowing part or all of the 6 GHz band to be available for unlicensed low power wireless information transmission equipment, such as Wi-Fi 6E. The administration proposed enabling 5945-6425 MHz to be used for indoors/outdoors low power wireless information transmission without causing harmful interference to existing authorized communications and without protection from any interference caused by existing authorized communications. The second consultation proposed that 6425-7125 MHz could be used for experimental network trials, for example, mobile communications,

technology research and development, product development, and application services of unlicensed low power wireless information transmission. The Ministry said a further review on the use of 6425-7125 MHz will be conducted once it is certain of international communication technology trends and demand for service use of this frequency band.

The Americas

Argentina has made the full 6 GHz band available on a license-exempt basis, enabling Wi-Fi 6E to access spectrum between 5925 MHz and 7125 MHz. At the announcement, Argentina's Minister of the Economy, Sergio Massa, highlighted the importance of this measure to the development of the country's knowledge economy and its ability to further export services to the rest of the world. He said the decision will also benefit Argentina's small and medium enterprises and individual developers.

El Salvador's telecommunications regulatory agency, SIGET (Superintendencia General de Electricidad y Telecomunicaciones), has introduced a resolution to make the entire 6 GHz band (5925-7125 MHz) license-exempt. The resolution also establishes operational limits by restricting usage to indoor environments, while prohibiting implementation in vehicles. This move by SIGET recognizes the potential of the 6 GHz band to enable Wi-Fi 6 networks to provide faster speeds, lower latency, and higher device capacity compared to previous Wi-Fi generations.

Following a meeting in Mexico City in May, the **Inter-American Telecommunication Commission** (CITEL) published a proposal for no change to the Table of Frequency Allocations in 6425-7125 MHz to harmonize unlicensed use of the band. CITEL noted that regulatory harmonization will create economies

of scope and scale and produce a robust equipment market, benefitting consumers and national economies worldwide. "Given the existing mobile allocation, administrations may deploy and operate systems and applications of the mobile service (e.g., IMT or RLAN) based on their national priorities and requirements," it added.

Middle East

The **Arab Spectrum Management Group** (ASMG) has yet to reach a decision on whether it will support an IMT identification of the upper 6 GHz band or no change at WRC-23. The working party for the relevant agenda item will meet in mid-July, which will be followed by an online ASMG preparatory meeting in mid-August, and an in-person meeting in mid-September in Bahrain.

Saudi Arabia has opened the entire 6 GHz band for license-exempt use, while some Arab administrations have concerns about the potential impact of commercial IMT services on existing satellite and fixed wireless services in the band.

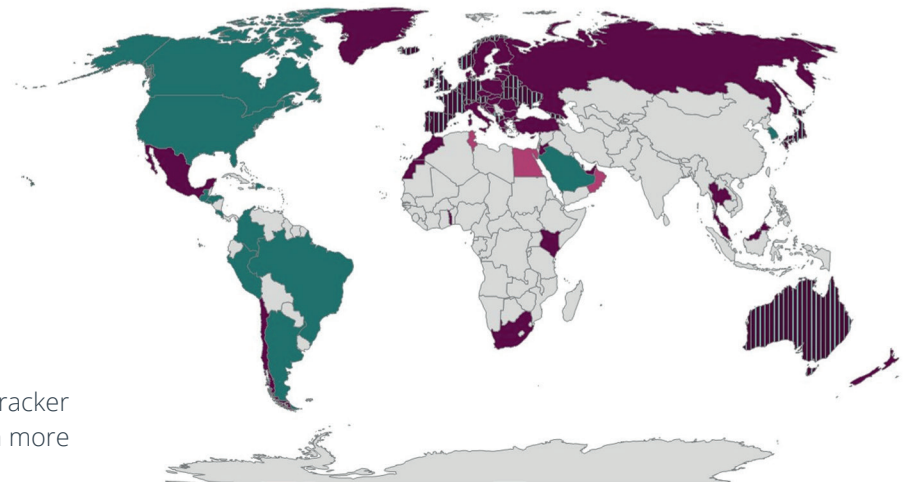
Europe

UK regulator Ofcom has launched [a consultation](#) on the possibility of enabling both licensed mobile and Wi-Fi users to access the upper 6 GHz band (6425-7125 MHz). The consultation, which closes on 15 September 2023, says Ofcom is considering identifying "appropriate hybrid sharing mechanisms" to facilitate coexistence between licensed mobile (IMT), Wi-Fi, and existing users of the band, while encouraging the development of technology-based coexistence solutions, such as managed databases and enhanced dynamic sensing.

For further updates on Europe see special feature.

Countries Enabling Wi-Fi 6E

- Adopted 5925-6425 MHz
- Adopted 5925-7125 MHz
- ▨ Adopted 5925-6425 MHz, Considering 6425-7125 MHz
- Considering 5925-6425 MHz



Wi-Fi Alliance maintains an up-to-date tracker on Wi-Fi 6E global developments. Learn more about [countries enabling Wi-Fi 6E](#)

Special Feature

The Road to WRC-23: Regional Bodies Debate the Future of the Upper 6 GHz Band

Across EMEA, governments are concerned about the implications of identifying the 6425-7025 MHz band for IMT.

The outcome of a major international conference later this year will help determine whether the world can fully harness the potential of Wi-Fi 6E to enhance the connectivity available to consumers and companies. At the World Radiocommunications Conference 2023 (WRC-23), national administrations will decide whether to identify the 6425-7025 MHz band for IMT in International Telecommunication Union (ITU) Region 1 – Europe, Middle East and Africa (EMEA) – and the 7025-7125 MHz band worldwide. Such an identification would mean that this spectrum

may not become available to unlicensed technologies, such as Wi-Fi, in parts of EMEA, even though it is license-exempt in most of the Americas, South Korea, and Saudi Arabia.

Although there are only a few months until WRC-23 gets under way in Dubai this November, regional groups in EMEA have yet to finalize their position on whether this spectrum should be identified for IMT. A major concern among many governments is the impact IMT would have on incumbent services, such as fixed satellite services (FSS) and fixed services – the microwave links that are used for a wide range of important services, such as public safety systems, management of electricity grids, and IMT backhaul. For more on the implications for the satellite industry, please see the interview with Paul Deedman of Viasat on page 4 of this newsletter.

[Read more](#)

The Road to WRC-23: The View from the Satellite Industry

In Discussion with Paul Deedman, Director, Spectrum Regulation, Viasat

Paul Deedman, Director, Spectrum Regulation at Viasat, a leading satellite company that has just acquired Inmarsat, explains the importance of the upper 6 GHz band in his sector.

[Read the full exclusive interview](#)



Research and Analysis

License-exempt 6 GHz is the sustainable choice

If the upper 6 GHz band isn't available to unlicensed technologies, connectivity-related energy consumption in Europe will be 16% higher in 2030 than it otherwise would have been, according to a new research paper by *WIK Consult*. The paper says a shortage of spectrum for Wi-Fi would drive more traffic on to energy-intensive mobile networks.

[Download full study](#)

[Download summary article](#)

Growth of global broadband subscriptions in Q1 2023

At the end of March 2023, global fixed broadband connections reached 1.377 billion, up 1.59% from the end of 2022, according to new report by *Point Topic*, which said FTTH/B now accounts for 66.7% of total fixed broadband subscriptions.

<https://www.point-topic.com/post/global-broadband-subscriptions-q1-2023>

Wi-Fi by the numbers

IDC Research has forecast that 3.8 billion Wi-Fi devices will ship in 2023 alone, contributing to 42 billion cumulative Wi-Fi shipments over the technology's lifetime. This year will also see 19.5 billion Wi-Fi devices in use, including access points, smartphones, laptops, security cameras, and smart plugs, according to IDC, which predicts 473 million Wi-Fi 6E devices will ship in 2023.

<https://www.wi-fi.org/beacon/the-beacon/wi-fi-by-the-numbers-technology-momentum-in-2023>



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