**Dynamic Spectrum Alliance**
http://www.dynamicspectrumalliance.org

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RSPG Secretariat
Office L-51 05/DCS
Commission Européenne
1049 Bruxelles, BELGIQUE
cnect-rspg@ec.europa.eu

**Re: Draft RSPG Opinion on Long-term vision for the upper 6 GHz band**

Dear RSPG Secretariat,

The Dynamic Spectrum Alliance[1] (DSA) appreciates the opportunity to provide comments on the Radio Spectrum Policy Group (RSPG) Draft Opinion on the Long-term vision for the upper 6 GHz band (6425–7125 MHz). As a global organization committed to advancing spectrum policies that enable innovation and connectivity, the DSA advocates for licence-exempt access to the entire 6 GHz band (5945-7125 MHz) across Europe with the same access conditions for LPI and VLP use as the lower 6 GHz band. This approach will maximize regulatory simplicity, ensure Europe can take advantage of a globally harmonized equipment ecosystem, and position Europe as a leader in next-generation wireless technologies, including Wi-Fi 8.

We recognize that full-band designation for licence-exempt operations under the same access conditions as in the lower 6 GHz band may be considered infeasible by the RSPG due to national regulatory considerations. In such case, with respect to a possible band split, the DSA recommends designating at least 320 MHz of contiguous spectrum at the bottom of the upper 6 GHz band for licence-exempt use with the same access conditions for LPI and VLP use as the lower 6 GHz band. This would preserve capacity for a variety of local broadband use cases, while avoiding spectrum fragmentation that could diminish spectral efficiency and reduce both consumer and enterprise benefits. The DSA also recommends further flexibility as part of any band split option to allow member states to be able to designate additional parts of the upper 6 GHz band for WAS/RLAN use based on their national circumstances.

The DSA remains committed to supporting the RSPG's efforts to establish a forward-looking and harmonized spectrum framework that balances innovation with incumbent protection. We welcome continued dialogue and stand ready to provide technical insight, deployment case studies, and stakeholder perspectives to assist in shaping an inclusive and future-proof policy for the upper 6 GHz band.

Sincerely,

Dr. Martha Suárez
President
Dynamic Spectrum Alliance

[1]The DSA is a global, cross-industry, not for profit organization advocating for laws, regulations, and economic best practices that will lead to more efficient utilization of spectrum, fostering innovation and affordable connectivity for all. Our membership spans multinationals, small-and medium-sized enterprises, as well as academic, research and other organizations from around the world all working to create innovative solutions that will benefit consumers and businesses alike by making spectrum abundant through dynamic spectrum sharing. A full list of DSA members is available on the DSA's website at: https://www.dynamicspectrumalliance.org/members.

## 1. RSPG recommendation on the upper 6 GHz band (Section 5)

The DSA urges RSPG to prioritize licence-exempt access for WAS/RLAN operations across the full upper 6 GHz band with the same access conditions for LPI and VLP use as the lower 6 GHz band. By making the full 6 GHz band accessible to WAS/RLAN devices, Europe has the opportunity to:

- **Enable Multi-Gigabit Connectivity**: WAS/LAN supports ultra-high capacity, low-latency use cases essential for enterprises/public institutions/homes, emerging technologies, such as AR/VR, AI-driven robotics, and next-generation IoT ecosystems.
- **Drive Ecosystem Growth**: Wi-Fi 6E/7/8 device production at a global scale will lower costs and accelerate deployment.
- **Promote Global Harmonization:** More than 75 countries[2] have already adopted licence-exempt policies for the 6 GHz band, contributing to a harmonized international market for devices, equipment, and services. This global momentum has catalyzed a thriving ecosystem of Wi-Fi 6E and Wi-Fi 7 products, resulting in lower device costs, increased innovation, and faster adoption.
- **Provide Competitive Ecosystem:** Provide European business the opportunity to unleash the benefits that other major economies (e.g. USA, Canada, South Korea, Japan, etc.) will achieve using the upper 6 GHz band for WAS/RLAN.

If segmenting the upper 6 GHz band is considered unavoidable by the RSPG, the DSA recommends that at least 320 MHz of contiguous spectrum at the bottom of the upper 6 GHz band for licence-exempt use with the same access conditions as the lower 6 GHz band to ensure sufficient capacity for wide channels (160 and 320 MHz), which are critical for Wi-Fi 7. Should a band segmentation approach be adopted, the DSA urges the RSPG to permit WAS/RLAN access to any unused, non-prioritized spectrum in the upper 6 GHz band by leveraging existing, proven coexistence mechanisms (see Section 3 below). The DSA further calls on the RSPG to give due consideration to those enterprise applications that require reliable licence-exempt WAS/RLAN operation across the entire upper 6 GHz band.

## 2. Benefits of Licence-Exempt Use (Section 4.5)

- **Rising Demand for High-Capacity Indoor Networks:** Over 90% of in-home and enterprise broadband traffic in the EU is carried over Wi-Fi[3]. As fibre-to-the-home (FTTH) penetration grows, Wi-Fi will remain the de facto access layer for Europe's digital economy. Over 200 million homes in Europe are expected to have FTTH coverage by 2029. Wi-Fi will remain the de facto local wireless broadband connectivity standard for the vast majority of users.[4]
- **Modern Enterprise and Industrial Use Cases:** Licence-exempt access to the full 6 GHz band enables cutting-edge applications in enterprise, industrial, and smart-city environments:
  - ✓ **Smart Glasses & AR/VR for Training:** Meta (in partnership with Ray-Ban) has integrated upper 6 GHz Wi-Fi connectivity for its next-gen smart glasses, enabling advanced AI interactions such as live translation, real-time speech translation, contextual visual assistance, and remote collaboration. An IEEE-led trial at Thailand's Ramathibodi Hospital deployed AR/VR devices over the full 6 GHz band to support remote medical training and live HD video transmission. The

[2] https://6ghz.info/#MAP
[3] https://6ghz.info/wp-content/uploads/2022/09/6-GHz-Infographic-Europe.pdf
[4] https://techblog.comsoc.org/2022/05/24/57-of-european-homes-can-now-get-ftth-b-internet-access-50-growth-forecas

hospital's pilot showed the need for 7×160 MHz channels (only available across the full 6 GHz band) to maintain optimal AR/VR user experience under load.[5] With nearly 15,000 hospitals across the EU,[6] access to the full upper 6 GHz band will be critical to support innovative solutions across patient care, medical training, and emergency response.

- ✓ **Public Wi-Fi in Smart Cities:** At Extreme Connect 2024,[7] Pharr, TX became one of the first U.S. cities to activate outdoor Wi-Fi 6E using the full 6 GHz band using Extreme Networks' AP5050 access points. This network provides high-capacity public Wi-Fi, citywide video surveillance, and supports future AR navigation apps in parks and other public spaces. Doubled bandwidth capacity and reduced interference support smart city applications such as license plate recognition systems. For Smart Cities like Tokyo, Barcelona and others, a seamless transition between networks enables reliable, continuous connectivity for citizens and devices alike, supporting applications like real-time traffic monitoring, public safety systems, and IoT-based services. Municipalities and public Wi-Fi providers are expected to prioritize Open Roaming to enhance user experience, simplify network management, and foster more data-rich urban environments.[8] European cities will need access to the full 6 GHz band to deliver better services to citizens and reach European Green Deal objectives.

- ✓ **Sports and entertainment**: Notre Dame Stadium, with over 1,100 access points for its 80,000 seats, the University of Tennessee's Neyland Stadium, which also uses HPE Aruba Networking to enable over 102,000 fans, and many more arenas around the world take advantage of increased capacity, wider channels, and significantly reduced signal interference of 6 GHz when live streaming and uploading recorded content at games.[9] With over 650 sports venues, Europe will need access to the full 6 GHz band to modernize how fans engage and transform how venues operate.

- ✓ **Education**: The University of Michigan deployed the world's largest Wi-Fi 6E education deployment with more than 16,000 Wi-Fi 6E APs across two campuses to provide the ability to move an enormous amount of data, enabling 500 students in a classroom to connect via Zoom, share screens, record videos, and support projects simultaneously.[10] More 4,000 European higher education institutions[11] will stand to benefit from access to high speed connectivity offered by robust Wi-Fi campus networks to meet the growing demand for connectivity from students and staff alike.

- ✓ **Robotics & Factory Automation**: AT&T, CommScope (RUCKUS Networks), and Intel, together with the Wireless Broadband Alliance (WBA), have conducted real-world Wi-Fi 7 trials in enterprise environments to compare its performance with Wi-Fi 6E. The results highlight Wi-Fi 7's ability to power mission-critical applications, including XR, AI, cloud computing, and industrial IoT. Results show that, using the full 6 GHz band, Wi-Fi 7 delivers sustained 1 Gbps+ speeds at 40 ft, ultra-low latency and improved efficiency for AR/VR, video conferencing and automation,

[5] https://www.ofcom.org.uk/siteassets/resources/documents/consultations/category-3-4-weeks/consultation-expanding-access-to-the-6-ghz-band-for-commercial-mobile-and-wi-fi-services/responses/meta-platforms-ltd.pdf?v=397066
[6] http://www.hope.be/wp-content/uploads/2015/11/79_2009_OTHER_Hospitals-in-27-Member-States-of-the-European-Union-eng.pdf
[7] https://statetechmagazine.com/article/2024/04/extreme-connect-2024-agencies-can-use-wi-fi-6e-connectivity-outdoors
[8] https://wballiance.com/wi-fi-predictions-for-2025
[9] https://www.wi-fi.com/podcast/deploying-wi-fi-6e
[10] https://michigan.it.umich.edu/news/2022/06/28/u-m-first-in-nation-to-offer-wifi-6e-universitywide-accomplishment-is-an-investment-in-the-future
[11] https://ehea.info/Upload/Chapter_1_EHEA_key_data_1_.pdf

and greater network reliability for industrial IoT.[12] With over 2.4 million factories[13] across Europe, access to the 6 GHz band for WAS/RLAN will be crucial for automation, enabling greater flexibility, scalability, and efficiency in manufacturing.

- **Device Ecosystem Maturity:** As of the end of 2024, more than 5,000 device models supported 6 GHz Wi-Fi, encompassing both Wi-Fi 6E and Wi-Fi 7 technologies. This rapid adoption underscores the significant market momentum behind these standards.[14] The Wi-Fi Alliance has forecasted that Wi-Fi 7 device shipments will reach approximately 2.1 billion units by 2028, highlighting the anticipated widespread adoption of this next-generation Wi-Fi standard.[15] Marquee devices with Wi-Fi 6E support – including the Apple iPad Pro, Google Pixel 7 and 7 Pro, and Samsung Neo QLED 8K TVs – will transform Wi-Fi experiences for users around the world. Devices like the Meta Quest Pro will help optimize VR, offer opportunities for deeper collaboration, and give users early access to the metaverse.[16]

- **Wi-Fi Standards Evolution:** Wi-Fi 6E, Wi-Fi 7, and in the future Wi-Fi 8 have been or are being developed to provide Wi-Fi networks with the capability of providing services to a larger number of clients with a more deterministic and seamless experience than previous standards. These new standards will enable a much better handover experience between access points and be capable of achieving both higher throughput and lower values for bounded latency and jitter. Access to the upper 6 GHz band will be crucial in the future (particularly for enterprise networks) for Europe to be able to fully benefit from these advancements in Wi-Fi standards and technology.

- **Socioeconomic Impact:** Access to the upper 6 GHz band for Wi-Fi and other licence-exempt WAS/RLAN technologies will continue to ensure that cost-effective enterprise network deployments for schools, universities, hospitals, factories, and homes are maintained and improved in Europe. Economic studies show that Wi-Fi contributes over €500 billion annually to global GDP and drives inclusive innovation.[17]

### 3. Impact on Incumbent Services and Coexistence (Section 4.5)

Real-world experience in addition to extensive studies (e.g., CEPT[18], FCC[19], ISED[20]) confirm that WAS/RLAN operations can safely coexist with fixed and satellite incumbents across the 6 GHz band through mitigation techniques such as:

- Indoor-only operation: Restricting devices to indoor use ensures significant building attenuation, which limits emissions escaping into outdoor environments and protects incumbent systems.

- Transmit Power Control (TPC): Adjusts device transmit power to the minimum required for reliable connections, minimizing interference risk to adjacent services.

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[12] https://wballiance.com/resource/wi-fi-7-trials-for-enterprise-scenarios-tt-commscope-and-intel
[13] https://www.hithorizons.com/eu/analyses/industry-statistics/manufacturing
[14] https://wifinowglobal.com/news-and-blog/massive-market-adoption-5000-wi-fi-devices-now-support-6-ghz-1230-support-wi-fi-7-intel-says/
[15] https://www.wi-fi.org/system/files/Wi-Fi_Alliance_Insider_202401.pdf
[16] https://www.wi-fi.org/news-events/newsroom/wi-fi-6e-momentum-underscores-need-for-entire-6-ghz-band
[17] https://6ghz.info/wp-content/uploads/2022/02/Global_Economic_Value_of_Wi-Fi_2021-2025_202109-1.pdf
[18] ECC Report 366: https://docdb.cept.org/document/28650
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[20] https://ised-isde.canada.ca/site/spectrum-management-telecommunications/en/spectrum-allocation/radio-local-area-network-rlan-6-ghz-band/decision-technical-and-policy-framework-licence-exempt-use-6-ghz-band

- Automated Frequency Coordination (AFC): Enables standard power devices to access available channels safely, based on geolocation databases and real-time spectrum availability. AFC systems are already successfully operating on a commercial basis in countries such as the U.S. and Canada providing a model for Europe.

These techniques should be leveraged to enable access by WAS/RLAN to any non-prioritized upper 6 GHz spectrum should band segmentation be necessary.

## 4. Conclusion and Recommendations

The DSA urges the RSPG to adopt a progressive and harmonized regulatory vision for the upper 6 GHz band. To support Europe's multi-gigabit future, licence-exempt access should be granted to the entire upper 6 GHz band. In scenarios where band segmentation is deemed necessary, at least 320 MHz of contiguous spectrum at the bottom of the upper 6 GHz band for licence-exempt use with the same access conditions for WAS/RLAN, enabling deployment of one additional 320 MHz or two 160 MHz channels. Furthermore, the regulatory framework should clearly define the scope and rights under non-prioritized access models to ensure predictable and stable coexistence and give due consideration to those enterprise applications that require reliable licence-exempt WAS/RLAN operation across the entire upper 6 GHz band. Europe should build upon international experience with AFC and other dynamic sharing tools to scale deployments effectively while safeguarding incumbent services. These measures will ensure Europe maintains its leadership in affordable, high-performance wireless broadband and fosters a digitally inclusive and competitive future.