Radio Spectrum Policy Group

12 August 2022

Dear Sir/Madam,

Public Consultation on the Draft RSPG Opinion on ITU-R World Radiocommunication Conference 2023

Policy Impact Partners (PIP) is a global consultancy focused on connectivity and digital policy issues, with a particular focus on advocating policies and conducting analyses that promote the efficient utilisation of the radio frequency spectrum. PIP works on behalf of several companies in the internet ecosystem to raise awareness of the importance of Wi-Fi connectivity and the need for a balanced regulatory approach between licence-exempt and licensed spectrum to address the needs of all stakeholders involved. Since 2017, PIP, together with locally based consultants and client companies, has been actively promoting spectrum sharing technologies and solutions, including licence-exempt access to the 6 GHz band, to enable digital innovation that benefits citizens and industry.

Therefore, PIP welcomes the RSPG's invitation to provide a written response to public inquiry on the opinion with respect to the Agenda Items to be discussed at the World Radiocommunication Conference 2023 (WRC-23).

Executive Summary Position

PIP respectfully companies respectfully ask the Radio Spectrum Policy Group to recommend Option 2 on the band 6 425 - 7 125 MHz - “No IMT identification”.

I. Wi-Fi is integral to the European Commission’s objectives.

Opening the upper 6 GHz band for licence-exempt use would mean that the European Union member countries would be ready to take advantage of a new generation of digital services which can be accessed cost-effectively in the home and the enterprise because of the latest Wi-Fi 6E and 7 standards.

With access to the entire 1200 MHz, Wi-Fi could employ multiple non-overlapping channels of 160 MHz and 320 MHz bandwidth. Access to these wider channels would increase spectrum efficiency while maintaining the ability to share spectrum with incumbents and other licence-exempt deployments. Next generation Wi-Fi, known as Wi-Fi 7, will employ 320 MHz channels to improve further latency, throughput, reliability, and quality of service.

Unlike previous generations of Wi-Fi, Wi-Fi 6/6E and Wi-Fi 7 are based on OFDMA technology, enabling them to achieve very high quality of service (QoS) levels, particularly in managed networks. In other words, Wi-Fi has evolved to a point where it can address the most demanding enterprise use cases assuming there is access to sufficient spectrum.

It would make access to the coming augmented and virtual reality services feasible at home. Currently consisting primarily of game applications, these will soon extend to the use of public services such as health and education. In the enterprise sector, access to the upper 6 GHz band will be vital on business sites for the efficient deployment of advanced robotics and crucial for production-related augmented and virtual reality-based services.

For enterprise applications (such as large public venues, healthcare, education, hospitality, logistics, and manufacturing), more channels and channel widths (from 20 MHz – 320 MHz) will enable performance enhancements and new services and architectures. Examples include multi-layer operation, service segmentation and prioritisation, context-aware wireless networks, and hyper-aware access points.

II. IMT identification is neither needed nor beneficial to Europe.

It is worth observing that not having an IMT identification under WRC-23 Agenda Item 1.2 does not necessarily represent challenges in the deployment of cellular mobile services, as we have seen in Europe for the L-band and C-band in CEPT countries.

This means that countries interested in deploying cellular mobile do not need to wait for IMT identification to proceed.[1] If the upper 6 GHz band were to receive an IMT identification in Region 1, regulators would have to spend considerable time and resources to develop licensing frameworks that would facilitate cellular mobile deployment whilst ensuring coexistence with the incumbents. The restrictions on 5G deployments required to coexist with incumbents (e.g. separation distances from fixed links and deployment density) would make using the band commercially challenging for mobile operators. In turn, these challenges would significantly impact the revenue governments would raise from the actioned licenses.

Overall, IMT identification would cause a predictable delay in using the band, followed by low deployment of IMT services only in specific and limited locations when equipment is available in the market. The outcome of the great effort in opening the band for cellular mobile services would not be worth the loss in GDP provided by the Wi-Fi equipment already available in the countries that have opened the band for licence-exempt use and that account already for 30% of global GDP.

III. Supporting No Change provides flexibility for Region 1.

We believe that supporting ‘No Change’ instead of ‘IMT identification’ of the upper 6 GHz band would provide Region 1 with maximum flexibility and enable new users to access the band without delay.

Opening the upper 6 GHz band (6425 - 7125 MHz) to licence-exempt use in addition to the lower 6 GHz band (5925 - 6425 MHz) would enable much more extensive use of Wi-Fi-enabled products that are already on the market today. In addition, being licence-exemption technology neutral, other technologies that can comply with the rules will be able to access the band (such as 5G NRU). Finally, those countries still wishing to deploy cellular mobile services in the band can do so if they are willing to wait for IMT equipment capable of using the band and are prepared for the cost of

[1] A view of the pros and cons of IMT identification is presented in “IMT Spectrum Identification: An obstacle for 5G Deployments?” by Mohamed El-Moghazi and Jason Whalley. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3426808

setting up the licensing framework and deploying more expensive equipment than Wi-Fi – which in turn will have an impact on the cost of mobile services for citizens and businesses.

IV. Studies support licence exemption for Europe.

Two recent studies discuss the advantages of opening the 6 GHz band to licence-exempt use:

"Socio-economic benefits of IMT versus RLAN in the 6425-7125 MHz band in Europe".

This report found the additional spectrum would bring about capacity and quality of service improvements that will benefit construction, manufacturing, education, and public services.

"How do Europeans connect to the Internet? 2022"

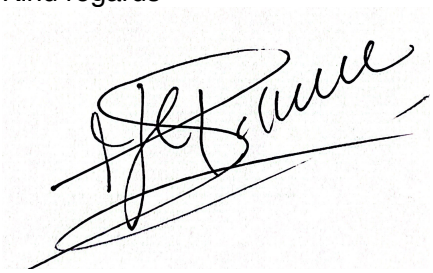
This report looks at the comparative efficiency of Wi-Fi compared to mobile for handling data traffic. It notes, for example, that mobile networks in Germany delivered 5.2 GB per Hz of spectrum allocated, while Wi-Fi (operating exclusively in the 2.4 GHz and 5 GHz bands during 2021), delivered approximately 167 GB per Hz.

Both the above reports can be found on the Dynamic Spectrum Alliance website.

Additionally, a full evidence-based repository of policy reports, economic analyses, and technical studies on license-exempt access to the 6 GHz band is available at www.6ghz.info.

In conclusion, PIP respectfully asks the RSPG to adopt Option 2 of their proposal, i.e. "No IMT identification" for the 6425-7125 MHz band to enable European citizens and businesses to enjoy the socio-economic benefits that Wi-Fi delivers.

Kind regards



Herman Schepers

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