

**Policy & Regulatory Affairs Work Group
Wireless Broadband Alliance**

06 May 2024

The Manager
Spectrum Licensing Policy Section
Australian Communications and Media Authority
PO Box 13112
Law Courts
Melbourne VIC 8010

Dear Spectrum Licensing Policy Manager:

Wireless Broadband Alliance (WBA) is a not-for-profit organization and has been active in Wi-Fi space since its inception in 2003. WBA's vision is to drive the seamless and interoperable services experience via Wi-Fi within the global wireless ecosystem for carriers, consumers, enterprises and cities. WBA is highly supportive of ACMA's 2024-2029 radio spectrum outlook planning initiatives in Australia. WBA would like to thank ACMA for their continued interest in 6 GHz spectrum policy¹ regarding license-exempt spectrum use as a key enabler of continued growth for connectivity technologies such as Wi-Fi. More radio spectrum for license-exempt use will keep Australia citizens at the forefront of wireless connectivity.

Five-Year Spectrum Outlook 2024–29

a. Closing the Gap with Wi-Fi

The role of Wi-Fi technology in Better Connectivity Plan for Regional and Rural Australia is highlighted in the State of Australia's Regions 2024 report.² It is also reported in Mapping the Digital Gap³ that Wi-Fi technology critically contributes to at least two out of three dimensions of digital inclusion, i.e. Access and Affordability. WBA agrees with ACMA to recognize Wi-Fi

¹ ACMA 2023-2028 spectrum policy consultation:

- Page 8: "We are continuing our work to make the 6 GHz band available. Following our work making the lower 6 GHz band (5925–6425 MHz) available for use by radio local area networks (RLANs), we are turning our attention to future arrangements in the upper 6 GHz band (6425–7125 MHz). This will take place after considerations at the International Telecommunication Union's (ITU) World Radiocommunication Conference (WRC) 2023 (WRC-23)."
- Page 28: [with regard to the 6 GHz band (5925 – 7125 MHz)], "Q2 2024 is targeted for consultation, noting RLAN access to the lower band (5925–6425 MHz) has already been made available in the LIPD class licence."

² <https://www.infrastructure.gov.au/sites/default/files/documents/state-of-australias-regions-2024.pdf>

³ <https://apo.org.au/sites/default/files/resource-files/2023-09/apo-nid324397.pdf>

technology as a market and technology-based driver of spectrum demand and enabler of advanced connectivity in the Australian communications market.

Having stated that, WBA believes that ACMA should consider a special priority in its spectrum management and accommodation of demand for LIPD Class Licence spectrum to facilitate Wi-Fi expansion in the 6GHz band and other potential bands in the future.

b. Contribution of Wi-Fi technologies to Net Zero Emission

According to Ofcom, around three-quarters of data connections in Europe were made over Wi-Fi⁴ (73% urban vs. 71% rural). Another survey conducted by Ofcom⁵ shows that up to 80% of mobile traffic is indoors vs 20% outdoors. According to NBN⁶, in Australia, an estimated 90% of data downloads are via home broadband connections and 80% of households already have access to 100-1000 Mbps broadband connection heavily relying on Gigabit fiber. Considering the energy efficiency of inherently indoor technologies to provide indoor connectivity, WBA believes that a short and mid-term forward looking spectrum policy in Australia to authorize additional LIPD Class Licence for Wi-Fi networks would greatly contribute to the Australian Government's commitment to achieving net zero emissions by 2050.

2024–25 Annual Work Program

c. Explanation of LIPD Class Licence in the 6GHz Band

Today, thousands of Wi-Fi 6E devices are in the market and widely available since Wi-Fi Alliance started certification of Wi-Fi 6E in 2021. Second generation of 6GHz enabled Wi-Fi devices is already in the market since January 2024 when Wi-Fi Alliance formally launched Wi-Fi 7.⁷ For the next phase, work is already under way to develop Wi-Fi 8 products, expected to be based on IEEE P802.11bn.^{8,9} A majority of these devices are believed to be capable of supporting the entire 1200MHz of radio spectrum in the 6GHz band.

WBA, in its response to ACMA Five-year spectrum outlook 2024–29 and 2024–25 work program, offered justification for additional spectrum to address increasing demands for multi wide-channel (160MHz and 320MHz) frequency-planned networks for enterprise deployments, as well as the need for additional spectrum to improve spectrum availability from AFC systems for Indoors and outdoors Standard Power mode. Multi wide bandwidth (160MHz and 320MHz) channel deployments are also essential for Very Low Power (VLP) mode and Client-to-Client (C2C) operations to enable low latency high throughput Peer-to-Peer (P2P) communications applications.

⁴ https://www.ofcom.org.uk/_data/assets/pdf_file/0015/224070/mobile-matters-2021-report.pdf

⁵ https://www.ofcom.org.uk/_data/assets/pdf_file/0028/248770/update-on-upper-6hz-band.pdf

⁶ <https://www.nbnco.com.au/content/dam/nbn/documents/about-nbn/reports/reports-and-publications/accenture-2024-economic-and-social-impact-methodology-report.pdf.coredownload.pdf>

⁷ <https://www.wi-fi.org/news-events/newsroom/wi-fi-alliance-introduces-wi-fi-certified-7>

⁸ https://www.ieee802.org/11/PARs/P802.11bn_PAR.pdf

⁹ https://www.ieee802.org/11/Reports/tqbn_update.htm

WBA would like to use this opportunity to reiterate its proposal to ACMA to opening up the upper 6GHz (6425-7125MHz) for LIPD class licence during 2024–25 Annual Work Program.

d. Authorizing Standard Power Mode and Strat AFC System Certification in the 6GHz Band

As it is noted in the FYSO 2024-29, since ACMA last year consultation, considerable progress is made in US and Canada with regards to enabling of Standard Power mode. More specifically, majority of AFC System applicants in US and one system in Canada are certified based on Wi-Fi Alliance^{10 11} and Wireless Innovation Forum¹² compliance specification package. In addition, a number of Standard Power access point devices are certified in US and deployments of AFC systems are under way.

Considering ACMA Register of Radiocommunications Licences database¹³, WBA noted the operation of a number of terrestrial incumbent services in the 6GHz band including Fixed Point to Point, Satellite Earth Receiver stations, Fixed Earth stations and Radiodetermination facilities that are operating throughout the 6GHz band. AFC Systems are already designed to protect multiple types of incumbent systems such as Fixed Services and radio astronomy. In addition, the systems are typically designed flexibly to accommodate local customization through parameterization of protection criteria based on the type of incumbent services and the target level of protection. This flexibility can greatly facilitate co-existence with various incumbent services, including those in Australia, without causing any harmful interference into the services.

Considering the level of maturity in implementation, availability of AFC systems & devices and compliance methodology, WBA recommends ACMA immediately start authorization process of AFC systems and Standard Power access points and start the certification program for conclusion during 2024-25.

Conclusion

WBA thanks the ACMA for the opportunity to provide input to the FYSO 2024-29 consultation. WBA reiterates its recommendation to ACMA to extend the LIPD Class Licence status to upper 6 GHz band for RLAN use and start proceedings on regulatory technical conditions to authorize Standard Power mode, followed by certification of AFC systems' and devices' compliance.

Sincerely,
Policy & Regulatory Affairs Work Group
Wireless Broadband Alliance
(contactus@wballiance.com)

¹⁰ <https://www.wi-fi.org/file/afc-specification-and-test-plans>

¹¹ <https://www.wi-fi.org/discover-wi-fi/6-ghz-afc-resources>

¹² <https://6ghz.wirelessinnovation.org/baseline-standards>

¹³ <https://web.acma.gov.au/rrl/>