

12 May 2023

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 2023-2028 radio spectrum outlook planning initiatives in Australia. WBA will like to thank ACMA for their continued interest in 6 GHz spectrum policy¹ areas and that aligns with our view of licence-exempt spectrum use as key to continued growth for connectivity technologies such as Wi-Fi. More radio spectrum for licence-exempt use will keep Australia citizens at the forefront of wireless connectivity.

Following points are key guiding points that we look for an opportunity to expand on when ACMA is ready to open up consultations, and think that they should drive ACMA's decisions on the 6 GHz band. Please note that positions stated represent a majority of the WBA members, and not all members support all stated points.

- 1) Additional radiofrequency spectrum is needed to enable higher Wi-Fi data rates and higher deployment density
- 2) Opening up lower half of the 6 GHz band (5925 - 6425 MHz) is a great step forward in providing additional access capacity, but it is not a complete solution because it doesn't enable new capabilities. All 1200 MHz (5925 - 7125 MHz) are needed for higher data

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."

rates that will enable new capabilities for residential, typical enterprise, and stadium scenarios

- 3) For residential scenarios, device to device networking (e.g., very low power portable (VLP) and certain enterprise scenarios, 320 MHz channels are expected to be the prevailing configuration to preserve battery life and lower latency. Opening only the lower 6 GHz band can accommodate only one 320 MHz channel, which is not sufficient to create a resilient network
- 4) For typical carpeted enterprise scenarios, it typically takes a minimum of seven channels to ensure limited channel overlap. With only the lower 500 MHz, this would mean that enterprises would be limited to 40 MHz channels, which they are able to do today in 5 GHz band. If the whole 6 GHz band is opened, then such enterprises can enable 160 MHz channels, which will quadruple network capacity, provide higher reliability, and lower latency for various enterprise applications. We note that the difference between lower band only and full 6 GHz band will enable asymmetric capabilities for enterprises located in the US, Canada, and S. Korea versus ones in Australia
- 5) For stadium deployments, it typically takes a minimum of 14 different channels for appropriate network planning. This means that stadiums are limited to 20 MHz channels in 5 GHz band today. If only the lower 6 GHz band is opened, then stadium deployments would be limited to 20 MHz channels in 6 GHz as well. If the entire 1200 MHz is made available for Wi-Fi, then 80 MHz channels could be used in many stadiums, which would quadruple the capacity compared to only the lower half of 6 GHz band in stadiums and would not enable the applications that are planned for immersive fan experiences Wi-Fi 6E with 160 MHz channels is available today with over 1200 products already available or announced. Wi-Fi 7 with up to 320 MHz channels will more than double the data rate per channel achievable versus Wi-Fi 6E
 - o Note that Wi-Fi 7 products are already being announced
- 6) Low Power Indoor (LPI), Very Low Power (VLP), Standard Power (SP), and client-to-client connectivity rules are needed to enable all product types
- 7) Wi-Fi in the upper half of 6 GHz band is better suited for coexistence with fixed satellite services (FSS) versus IMT
- 8) Upper half of the 6 GHz band should be left as 'no change' in World Radiocommunication Conference 23 (WRC-23) for future consideration and decision making

WBA will look for a future consultation opportunity to share our comments in more detail. Please reach out in the meantime should there be anything that we can address.

Sincerely,
Policy & Regulatory Affairs Work Group
Wireless Broadband Alliance

