Dear Sir/Madam,

The Dynamic Spectrum Alliance (DSA[[1]](#footnote-2)) respectfully submits its comments in response to the Public Consultation on the Proposed updates to the Five Year Spectrum Outlook, in particular ongoing plans for the ‘upper 6 GHz band’ (6425 – 7125 MHz).

While this paper does not follow the usual protocol for submissions on the FYSO, it does in our view contain valuable comments on the issues DSA members believe the ACMA should explore as part of future consultations on the upper 6 GHz band.

DSA appreciates the opportunity to participate in the FYSO consultation and to present our views and comments on the way forward. We are available to discuss these comments and provide any additional information.

Respectfully submitted,

Martha SUAREZ

President

Dynamic Spectrum Alliance

## The Wi-Fi environment

In the near future, tera-bit fibre connections can be expected, multi giga-bit wireless connections are already a reality. Recently[[2]](#footnote-3), NBN Co announced these technologies.

Whether the connection is provided by wireless technology or fibre, this data feed will require reticulation. To extract the maximum benefit from giga-bit or tera-bit feeds, the full 1200 MHz in the 6 GHz band will be needed to support Wi-Fi.

## How will this be used

All major Australian cities have hospitals, schools, universities, conference centres and large manufacturing hubs. The majority of regional centres have at least one hospital while many also have a university. Even in remote areas, there are large mines, massive agricultural enterprises, schools and clinics. All of these will benefit from the existing and emerging services supported by Wi-Fi 6 and beyond. Indeed, there will be new applications developed for this technology just as there were for earlier versions of Wi-Fi, all of which will and do contribute significantly to the economy throughout Australia.

## Areas the ACMA should explore

DSA suggests the ACMA explore a number of topics in their next consultation, these topics include:

* What is the economic benefit likely to be derived from allocating the full 1200 MHz to Wi-Fi?
* How will this allocation benefit the community?
* What will be the outcome if the upper 700 MHz of the 6 GHz band is not allocated?
* What is the ‘opportunity cost’ (benefit foregone) of such a decision?
* What will be the outcome if higher power levels are not enabled for the 6 GHz band?
* What are the alternative bands for Wi-Fi and IMT in the near future?
* What is the readiness of the technology eco-system for devices operating in 6 GHz band?

DSA also suggests the ACMA fully explore the benefits of Wi-Fi Standard Power (SP) under Automated Frequency Coordination (AFC) in the upper 6 GHz band:

* ACMA to initiate a consultation on AFC/SP for the entire band. Although only the lower band is currently authorized in Australia, the preparation for AFC/SP can assume applicability to the entire band.
* Recommend provisioning indoor SP with AFC Systems taking into account Building Entry Loss and metropolitan clutter considerations.

## Automated Frequency Coordination; Areas to Explore

* Should the ACMA operate their own AFC or open to the third parties?
* If open to third parties, should there be limitations on where the service should be hosted (data sovereignty)?
* Could multiple countries (e.g., New Zealand or Singapore) be supported from a single instance?
* What is the process to address interference complaints?
* What network information will be required?
* What are potential options to de-identify the captured information (e.g., encrypted hash vs actual network identifiers)?

## Summary

* Social benefit will be maximised via an allocation of 6 GHz to Wi-Fi technologies as these technologies will benefit all Australians.
* Wi-Fi 6 and beyond will support both existing and emerging applications as well as providing a platform for future innovation similar to that seen in 2.4 and 5.8 GHz LIPD bands.
* The opportunity cost of not allocating he upper 700 MHz to Wi-Fi 6 is difficult to calculate but it will in our view be far greater than the opportunity cost to IMT if it is.
* IMT has existing mostly un-used spectrum it can use at 26 GHz and emerging bands in 4400 to 4800 GHz, 7250 - 8400 MHz and 14.8 – 15.35 GHz that may be available soon subject to sharing studies.
* Wi-Fi is the logical application for the 6 GHz band.

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 www.dynamicspectrumalliance.org/members [↑](#footnote-ref-2)
2. See Communications Day, Monday 15 April 2024 ‘NBN Co preparing for multi-gigabit wireless’. [↑](#footnote-ref-3)