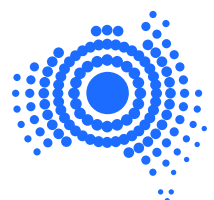


ACMA, Views on 6 GHz band spectrum sharing for Automatic Frequency Coordination

Submission of NBN Co

6 February 2026

Public



nbn welcomes the Australian Communications and Media Authority's (**ACMA**) invitation to comment on the topic of Automatic Frequency Co-ordination (**AFC**) and the 6 GHz band. Specifically, the possible technical and regulatory considerations for a potential AFC framework in Australia with the ACMA exploring the introduction of an AFC system to enable 'standard-power' outdoor operation of devices in part of the 6 GHz band (5925 - 6585 MHz). It is intended that an AFC system may support deployment of next-generation wireless technologies such as Wi-Fi 6E, Wi-Fi 7 and 5G/6G technologies standardised under 3GPP (3rd Generation Partnership Project).

Our key interests regarding the ACMA's consideration of AFC in part of the 6 GHz band area are as follows:

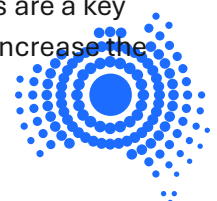
- nbn is one of the primary holders of point-to-point apparatus licences in both the lower and upper 6 GHz band (5925 MHz – 6425 MHz and 6425 MHz – 7110 MHz frequency range respectively) with ~ 280 links nationally, however there are often multiple channels registered per link. Given this, nbn is primarily concerned with the protection of, and implications for, the deployed infrastructure that form a critical part of nbn's fixed wireless network.
- Wi-fi networks play an important role in shaping how end users experience the internet at home or work. Noting this focus, nbn supports the existing planning arrangements for the band with the recent updates to LIPD and believes any further changes to the planning arrangements should adequately assess the potential for negative impacts to wi-fi networks as used for in-home / indoor connectivity.

The role of nbn's fixed wireless network in connecting people and powering progress

nbn was established in 2009 as a Government Business Enterprise and is a wholly-owned Commonwealth company. The principal responsibility of nbn is to operate and continue to expand and upgrade the nbn network in accordance with the Government's Statement of Expectations (**SoE**). nbn's purpose is to elevate Australia by connecting people and powering progress. nbn aims to achieve its purpose by providing fast, reliable and affordable connectivity via wholesale broadband services which meet the current and future needs of Australian households, communities and businesses.

nbn's fixed wireless network plays a fundamental role in enabling nbn to meet the Government's SoE, taking into account the multi-technology mix model and anticipated future demand for services. nbn's fixed wireless network is also essential to nbn's ability to meet the Government's obligations as the default Statutory Infrastructure Provider across all of Australia under the *Telecommunications Act 1997 (Cth)*.

nbn continues to upgrade and improve nbn's network with the aim of enhancing service quality and consumer experience, improving network reliability and meeting both current and future consumer demand. The regional benefits that nbn's fixed wireless network provides are a key focus, with nbn recently delivering on its commitment to expand the coverage and increase the



speed and capacity of its Fixed Wireless network. This was enabled through a \$750 million fixed wireless and satellite upgrade program, which was supported by \$480 million in funding from the Australian Government and an additional \$270 million from nbn. As at 30 June 2025, almost 800,000 homes and businesses can access faster speeds on this network, benefitting customers across regional Australia. Having upgraded ~2,300 towers, the Fixed Wireless network now offers increased network capacity and peak download speeds up to five times faster than previously available.

The wholesale supply of nbn's fixed wireless product offerings to retail service providers are contractually managed under nbn's wholesale supply agreements. As part of these contractual agreements, nbn makes a number of commitments regarding the performance of its fixed wireless product offerings. nbn is expected to meet retailer expectations, and to uphold the expectations for reliability and service quality that are collectively held by the customers jointly served on the ~400,000 active fixed wireless services.

The risks posed by 'standard power' outdoor wi-fi networks and associated costs and benefits

nbn considers that the costs to facilitate new technology including supporting systems should be weighed against the benefits provided by the relevant technology and ensure that the overall long-term public interest derived from spectrum is maximised consistent with the object of the *Radiocommunications Act 1992* and the ACMA's Statement of Expectations.

nbn submits that the ACMA needs to adequately assess the risks that 'standard power' outdoor radio local area networks (RLANs) (i.e. wi-fi networks) pose to the operation of point-to-point links and proximate indoor wi-fi networks. We note that studies indicate that there are real risks posed with potential coupling losses that can impact the operation of links at significant distances.¹

However, we also recognise that operation at 'standard power' levels could promote more capable indoor wi-fi networks and nbn supports evaluation of this use case. We understand that the existing ecosystem enables this use case and relies on an AFC system but introduces limits on accuracy, particularly location and local environmental modelling.

Areas for the ACMA's further investigation

In general, nbn acknowledges there may be market demand for 'standard power' outdoor wi-fi networks. Therefore, in order to balance the risks to point-to-point links and indoor wi-fi

¹ 'Sharing and compatibility studies related to Wireless Access Systems including Radio Local Area Networks (WAS/RLAN) in the frequency band 5925-6425 MHz', ECC Report 302, 29 May 2019. See <https://docdb.cept.org/download/1397>



networks, we have set out below some areas that we consider the ACMA should include in any further investigation of AFC implementation:

- Further engagement / consultation is needed on any proposed RLAN licencing approach that should define the following:
 - RLANs should not be protected from interference by other spectrum users, and the registration of ‘standard power’ wi-fi networks should not prevent any validly licenced devices from operating in accordance with their licence conditions or prevent the future registration (and subsequent operation) of devices under the spectrum management framework. The AFC should reconcile daily and if the Registration of Radiocommunication Licences (**RRL**) is unavailable for any period of time, the AFC should not allocate any channels.
 - The maximum permitted power with studies relevant to the incumbent users of the band in Australia and the deployed infrastructure. nbn would be willing to participate in such detailed studies based upon industry scenarios for demand for RLANs noting that RALI FX3 may be a suitable reference point.
 - The band segmentation required to ensure that there is sufficient unencumbered spectrum to support high speed indoor wi-fi networks, in addition to the outdoor wi-fi use case. nbn encourages further input and studies to ensure that in-home/indoor wi-fi networks can meet the expectations of consumers as the speed requirements for broadband continue to rise.
 - Equipment vendors are not unduly constrained with local requirements for products that may otherwise be global in nature and scale.
 - The geographic area segmentation that may be appropriate to meet the demand and further balance the risks to incumbent services. nbn recommends a regional or rural exclusion where such ‘standard-power’ RLANs would appear to be less useful/valuable than in more densely populated areas where alternative spectrum may already be fully allocated.
 - The performance and technical requirements of an AFC system and an evaluation and accreditation process. In particular - the location accuracy, height, power, azimuth, etc relevant to the authorisation are key parameters and their source will be essential to have confidence in the accuracy / validity of any ‘standard power’ operation of devices.
 - Audit trail requirements including records of authorised channels and times of operation.



- A suitable register of approved systems including audit and enforcement mechanisms, likely managed by the ACMA in a centralised manner given the need for any enforcement framework to be resourced and timely to be effective.
- Consideration of inclusion in the Radio Frequency National Site Archive.
- A single method to raise and investigate observed interference concerns caused by any / all AFC providers with suitable SLAs for acknowledgement and co-operation to resolve issues, with timely enforcement by ACMA if required.

nbn considers that an approach that results in multiple AFC systems should be balanced against the overhead and complexity of the ACMA accreditation and auditing activities that would be required to enable reliable and timely interaction with the RRL.

nbn appreciates the disclosure of the existing trial and requests that ACMA facilitate industry sharing of the trial parameters and results. Of particular interest is the operation of the request and response to available channels by the AFC, noting the proximity to nbn's existing links. It would also be beneficial to understand the nature and timing of actual use of the frequencies in this area to understand if any interference can be observed, even if within current / defined operating margins.

