Australian Government | acma Australian Communications and Media Authority

Automatic Frequency Coordination-assisted spectrum sharing in the 6 GHz band

Discussion paper

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Executive summary

As foreshadowed in the ACMA's draft *Five-year spectrum outlook 2025–30*, we are in the process of exploring the introduction of an Automatic Frequency Coordination (AFC) system to enable standard-power outdoor operation of devices in part of the 6 GHz band (5925–6585 MHz). This would 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). While low-power indoor (LPI) and very-low-power (VLP) outdoor use of those technologies is already authorised under the Radiocommunications (Low Interference Potential Devices) Class Licence 2025 (LIPD class licence), higher power outdoor deployments require coordinated access to protect incumbent services, including fixed point-to-point links used by the telecommunications, utilities and transport sectors.

The purpose of this paper is to start a discussion on the possible technical and regulatory considerations for a potential AFC framework in Australia. Our goal is to enable greater spectrum efficiency, flexibility and innovation, including for wireless internet service providers (WISPs) who play a key role in regional and remote connectivity, while ensuring protection for incumbent users. The paper will address what AFC could mean for operators such as WISPs, how they operate today, and the potential benefits for industry and consumers if AFC was adopted. While we refer extensively to international deployment examples, our focus remains on what is practical and beneficial in the Australian context.

AFC provides a dynamic, database-driven mechanism for real-time or near-real-time coordination of spectrum access, helping to minimise the risk of harmful interference while maximising spectrum efficiency.

The development of this paper draws on multiple inputs, including:

- international regulatory frameworks implemented by the US Federal Communications Commission (FCC), and Innovation, Science and Economic Development Canada (ISED).
- discussions about, and operational parameters for, a scientific trial coordinated by the Wireless Internet Service Providers Association of Australia (WISPAU), with support from Cambium Networks, Qualcomm and participating regional WISPs.
- insights from previous ACMA consultations on Dynamic Spectrum Access (DSA), including our 2019 consultation *Spectrum sharing: Overview and new approaches*, the 2020 outcomes paper *New approaches to spectrum sharing: Next steps*, and the 2024 *Future use of the upper 6 GHz band* options paper.

This paper also outlines potential licensing models to authorise AFC use in Australia, highlighting key implementation considerations such as data integrity, device compliance, the authorisation of AFC operators and integration with the ACMA's Register of Radiocommunications Licences (RRL).

We believe that AFC provides significant opportunities for spectrum management in Australia, but that it also poses some significant challenges given its untested nature. We acknowledge that there is a broad range of potential different combinations of roles for government and industry in rolling out and managing AFC. Our preliminary view is that industry should play a leading role in the delivery of AFC services within a regulatory framework defined by ACMA, balancing commercial flexibility with safeguards to protect incumbents, promote competition, and ensure a sustainable, transparent system tailored to Australian needs. We are keen to hear industry views that either reinforce or challenge that preliminary position.

We hope a discussion around how the relevant technical, operational and regulatory elements might fit together will elicit the kind of input that will usefully inform a future options paper on AFC. In that context, this paper poses a number of intertwined questions. For example, planning considerations such as spectrum and geographic granularity/segmentation for AFC service areas will influence the complexity of arrangements, authorisation and regulation needed. However, those same considerations are also likely to be *influenced by* the scale of the market for AFC operators – fewer prospective operators should mean less complexity – but that market would itself be influenced by the regulatory complexity surrounding AFC.

It follows that questions posed in this paper are not exhaustive and instead are intended to represent a cross-section of considerations that we hope will provide a holistic picture of the future of AFC in Australia. All feedback is welcome, whether in response to those questions or any other insights that might be of use in better informing us on the below broad themes:

- Support for adopting AFC in the 6 GHz band, including expected benefits, concerns and impacts on service providers such as WISPs.
- Preferred licensing and authorisation models, and the respective roles of the ACMA, industry and AFC operators.
- Key technical and operational requirements (for example, data integrity, database accuracy, device compliance, authorisation).
- Risks to incumbents, including public safety and/or critical services, and how these risks could be mitigated.
- Alignment with broader spectrum management objectives, including whether a staged or segmented approach to AFC rollout might be appropriate.

Issues for comment

We invite comments on the issues set out in this paper, particularly in relation to the following:

1. Do you support the adoption of an AFC framework in Australia to enable outdoor standard-power operation in the 6 GHz band? What are the key benefits and concerns? In particular, who would the main beneficiaries be, and what would be the implications for consumers in the telecommunications market?
2. How might AFC change the way WISPs and other communications service providers operate, particularly in terms of supporting greater spectrum efficiency or service innovation?
3. Are there any alternatives to AFC that could support dynamic and efficient frequency assignments in the 6 GHz band?
4. Would established models in other jurisdictions such as the US and Canada, or aspects of these models, be appropriate for the Australian radiocommunications environment?
5. How much spectrum should be made available under AFC, and what bandwidths should be allocated to support individual AFC service offerings? Should part or all of the 6 GHz spectrum available for RLAN use be made available for AFC-enabled access by standard power devices, or is there a case for arrangements supporting a range of power levels above VLP/LPI and below/including standard power?
6. What degrees of geographic and spectrum segmentation should be considered when planning for individual AFC system deployments? For example, would planning for localised, self-contained areas or multiple sub-bands foster competition in the market for the provision of AFC services, or would that come at too much of a cost to spectrum efficiency (through the need for guard bands/spaces)?
7. What are the respective roles and responsibilities for industry and government in realising an AFC regime? Should AFC be operated by industry under government-set rules or should government play a more direct role in providing AFC services?
8. What role should databases such as the ACMA's RRL or other coordination mechanisms, such as those administered by the ACMA but used by accredited assigners, play in the process?
9. What is the need for, and potential structure of, a tiered access model for incorporating standard power RLAN devices in the 6 GHz band?
10. With respect to licensing, should individual AFC-coordinated devices be registered on the RRL or covered by broader system-wide licensing arrangements, or are there other authorisation models that we should consider?
11. What processes and safeguards would need to be established to accredit, audit and ensure ongoing compliance of industry-led AFC operators? What type of rules should be imposed on prospective AFC operators and how should those rules be codified?
12. What technical or administrative features (e.g., real-time geolocation, exclusion zones, device registration, database accuracy and latency) will be critical to the successful implementation of AFC?
13. How should data integrity, ownership, and update mechanisms be managed in AFC systems? Are ACMA's existing systems (such as the RRL) sufficient, or would changes or new systems be required to support real-time coordination?

14. What is the expected market for the provision of AFC services in Australia?
15. What standards or other mandatory specifications should be prescribed to ensure AFC-enabled devices comply with operational rules (for example, GPS accuracy, firmware requirements, revalidation intervals)? What are the implications for manufacturers and operators?

Introduction

With the accelerating pace of digital transformation and the proliferation of bandwidth-intensive applications, the efficient management of radiofrequency spectrum continues to be central to supporting innovation, productivity, competition and, ultimately, deriving public benefit from its use. The 6 GHz band (5925–7125 MHz) has emerged as a globally significant band for enabling next-generation wireless technologies, including Wi-Fi 6E, Wi-Fi 7, and future wireless broadband services such as the pending 6G family of technologies.

In Australia, the ACMA has already made available part of the 6 GHz band (5925–6585 MHz) for radio local area network (RLAN) operation under the Low Interference Potential Device (LIPD) class licence. This operation is limited to 'very low power' (VLP) or 'low power indoors' (LPI) transmissions by RLAN devices. While these measures support many consumer and enterprise applications, they do not currently accommodate outdoor 'standard power' (36dBm EIRP (4W)) uses that could significantly improve coverage and capacity for regional, rural and larger enterprise networks. WISPs, in particular, who often serve communities where fixed broadband infrastructure is limited, may benefit from a relaxation of the constraints under the current framework.

Automatic Frequency Coordination (AFC) is being considered to enable standard-power operations while ensuring protection of incumbent licensed services. By using cloud-based databases, geolocation reporting and propagation modelling, AFC systems authorise device transmissions dynamically, allowing subscribers to the system to benefit from higher power and wider area coverage without creating harmful interference. For WISPs, this could translate into more efficient spectrum use, greater service reliability and improved opportunities to deliver high-speed connectivity in underserved areas.

Internationally, regulatory authorities such as the FCC in the US and ISED in Canada have already authorised multiple AFC operators under their own regulatory frameworks. In May 2025, the Wireless Broadband Alliance Services (WBA Services) launched its commercial AFC platform in the US. This cloud-based system is FCC-certified and built on the OpenAFC specification. It supports dynamic frequency and power management for enterprise, smart city, industrial Internet of Things (IoT), and augmented reality/virtual reality (AR/VR) use cases. The United Kingdom has also commenced a consultation on expanding access to the 6 GHz band, including the potential use of AFC in the lower 6 GHz range.

Differing international experiences also means that there is a range of terminology used to describe the various elements of AFC. For the purposes of this paper:

- **AFC operators** means authorised AFC system controllers. Depending on the type of regulatory model adopted, AFC operators may simply make frequency allocation decisions for entry into a database – be it the ACMA's Register of Radiocommunications Licences (RRL) or a separate service provider's own database – or alternatively may double-up as service providers themselves.
- **AFC subscribers** means end-users seeking access to spectrum via an AFC system. The types of devices that a subscriber may use are technology-agnostic but are anticipated to be similar to the types of devices authorised for access to the 6 GHz band in the LIPD class licence (that is, RLAN devices such as Wi-Fi and NR-U technologies).
- **Standard power** means the power permitted for subscriber devices. This is internationally accepted to be 36 dBm (4W) EIRP, which is higher than the VLP and LPI permitted for uncoordinated devices authorised in the LIPD class licence. AFC may also be used to authorise devices operating at power levels higher than VLP/LPI (for outdoor/indoor operation respectively) levels but below standard power.

Lastly, the ACMA has issued a scientific licence to support a trial of AFC to test technical performance and operational models in real-world conditions. Lessons learned from trials such as this, along with the abovementioned international experiences and, in particular, feedback received in response to this discussion paper, will be invaluable in determining how AFC might ultimately be deployed in Australia.

Background and international trends

What is Dynamic Spectrum Access (DSA)?

Dynamic Spectrum Access (DSA) is a modern approach to spectrum management that allows wireless devices to access frequency bands dynamically based on real-time conditions. Unlike traditional models, where specific frequencies are assigned to users, DSA enables temporary or shared use of underutilised spectrum. DSA will therefore be better suited to some frequency bands/use cases than others – it might be considered as particularly beneficial in bands where demand for access is high, but usage is often inconsistent (geographically and/or temporally).

DSA can operate in several ways. Some systems use spectrum sensing, where devices scan the airwaves to detect available channels. Others rely on centralised databases, such as those used in TV white space or 6 GHz AFC systems internationally, which inform devices of available frequencies at their location. More advanced models involve cognitive radios that adapt automatically to changing environments, learning how to avoid interference over time.

The key advantage of DSA is its ability to make spectrum use more efficient, potentially supporting technologies such as 5G, IoT and Wi-Fi without needing to allocate new spectrum bands. It can also help to ensure that incumbent users, which include broadcasters, fixed link operators and satellite operators, retain priority access while enabling new users to transmit only when conditions permit.

On the other hand, DSA also presents challenges. It requires accurate, up-to-date data and robust coordination processes to prevent interference. Fitting it into legislative and regulatory frameworks presents its own set of challenges – indeed regulatory frameworks are still evolving internationally to support its widespread use, reflecting a need to balance agile and flexible access by new services with certainty and protection for existing users.

But there is no doubt that automating the coordination and authorisation workload could save on administrative costs, allow for denser, more efficient spectrum usage and enable near-instant authorisation of new devices or changes. For AFC specifically, this could also allow higher transmission power and more spectrum access based on real-time usage, rather than more conservative, static processes. Furthermore, band managers – whether that be the ACMA or industry-appointed operators – could gain precise data on spectrum usage trends, enabling continuous improvement in coordination and access methods.

While a need to potentially support standard power Wi-Fi in the 6 GHz band has led to a focus on AFC at this time, ‘true’ DSA remains a possible future consideration in our domestic spectrum landscape.

What is Automated Frequency Coordination (AFC)?

AFC is essentially a sub-type of DSA that enables devices, most often outdoor transmitters, to automatically and dynamically select operating frequencies and power levels based on their location, in a way that avoids interfering with existing licensed users (such as fixed microwave links). It works by querying a database (either a central database like the ACMA's RRL or a deployed database focusing on the local spectrum environment) to identify available spectrum at that location and to calculate appropriate operating parameters for the AFC-enabled device that will ensure coexistence with incumbent services.

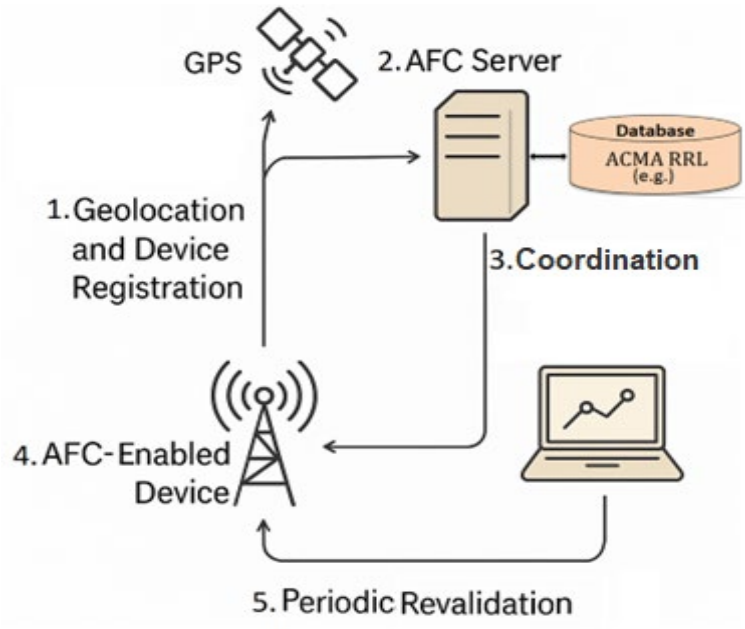
The database contains details of all devices which are to be afforded both access and interference protection by the system, including:

- each device's geographic location
- information in the database about nearby licensed devices
- a predefined calculation method and set of parameters for protecting licensed devices.

A subscriber device seeking access must report its location to the AFC system, which then determines which channels that device is able to use, and the maximum allowed power on each of those channels. Those results are sent back to the device, which must then operate within those restrictions. As well as protecting existing licensed devices, an AFC system allows interference to be more easily traced when it occurs.

The AFC implementation model shown in Figure 1 illustrates how the system operates in practice, showing how devices interact with the AFC server and central database. Appendix A contains further detail on how AFC technologies operate.

Figure 1: AFC implementation model and how AFC works



1. **Device registration and location determination**
   AFC devices must register with an AFC system and provide accurate geolocation and operational parameters.
2. **Database of protected incumbents**
   The AFC system maintains a database of incumbent users, such as fixed microwave links, fixed satellite services (FSS), mobile satellite links, radio astronomy.
3. **Interference protection calculations (coordination)**
   Using propagation models, the AFC calculates exclusion zones and safe power limits for the device based on location and terrain.
4. **Frequency and power assignment**
   The AFC returns a list of permissible frequencies and power levels, which the device must adhere to.
5. **Periodic revalidation**
   Devices must periodically revalidate with the AFC system to adapt to any changes in the spectrum environment.

International trends

International approaches, particularly in the US and Canada, provide useful examples of how AFC systems can enable higher power outdoor operation while protecting incumbent services. The detail on overseas approaches has been streamlined here to highlight only the most relevant elements for Australia, including how AFC is authorised, how databases operate and what lessons can be drawn for an Australian framework.

In the US, the FCC permits AFC use in the 6525–6875 MHz band and approved 7 applications for Wi-Fi management systems operating in the 6 GHz band in 2024.[1] In Canada, AFC operates in 5925–6875 MHz. AFC systems are also in use in Saudi Arabia. While these deployments are relatively recent, consultation with industry has been ongoing since November 2020 in Canada, and September 2021 in the US.

The US model for AFC is based on a decentralised, market-driven structure. The FCC accredits multiple AFC system operators who are responsible for deploying and managing their systems, performing coordination functions, and maintaining operational compliance. These operators typically work on a commercial basis, servicing equipment manufacturers or service providers and are encouraged to compete on capability, responsiveness and innovation. The FCC maintains regulatory control by setting the technical and performance parameters that operators must adhere to, and does not manage AFC services directly. This model enables rapid innovation and cost distribution across industry, while ensuring protection of incumbent spectrum users through a common regulatory baseline.

In Canada, ISED also authorises multiple commercial AFC operators to support standard-power Wi-Fi operation in the 5925–6875 MHz band. Their model for AFC shares the decentralised structure of the US, but places greater emphasis on regulatory alignment and standardisation. Authorised operators work independently but must adhere to a more directive technical and policy framework developed by ISED, including strict protection criteria and defined coordination procedures. While much of the work is still undertaken by industry, the Canadian model relies more on regulator-defined uniformity to ensure national consistency and to safeguard incumbents, offering a lower degree of market-driven differentiation than in the US.

While both the US and Canadian models rely on third-party operation, they differ in the business relationship between the regulator and industry. The US model supports greater market flexibility and innovation, with lower regulatory friction, whereas the Canadian model reflects a more structured, compliance-based business environment.

We are interested in views on whether established models in the US and Canada, or aspects of these models, would be appropriate for the Australian radiocommunications environment.

[1] US Wi-Fi Management Systems

Current status of AFC and the 6 GHz band in Australia

The 6 GHz band (5925–7125 MHz) has been the subject of increasing global interest for enabling next-generation wireless services, including Wi-Fi 6E, Wi-Fi 7 and 6th generation wireless broadband (6G) technologies standardised by the 3rd Generation Partnership Project (3GPP). In Australia, this band currently contains a mix of apparatus-licensed fixed services (including high-density point-to-point microwave links) and some satellite earth stations, as well as emerging class-licensed RLAN uses and future wide area wireless broadband (WA WBB) services, most likely 6G, in the 6585–7100 MHz range.

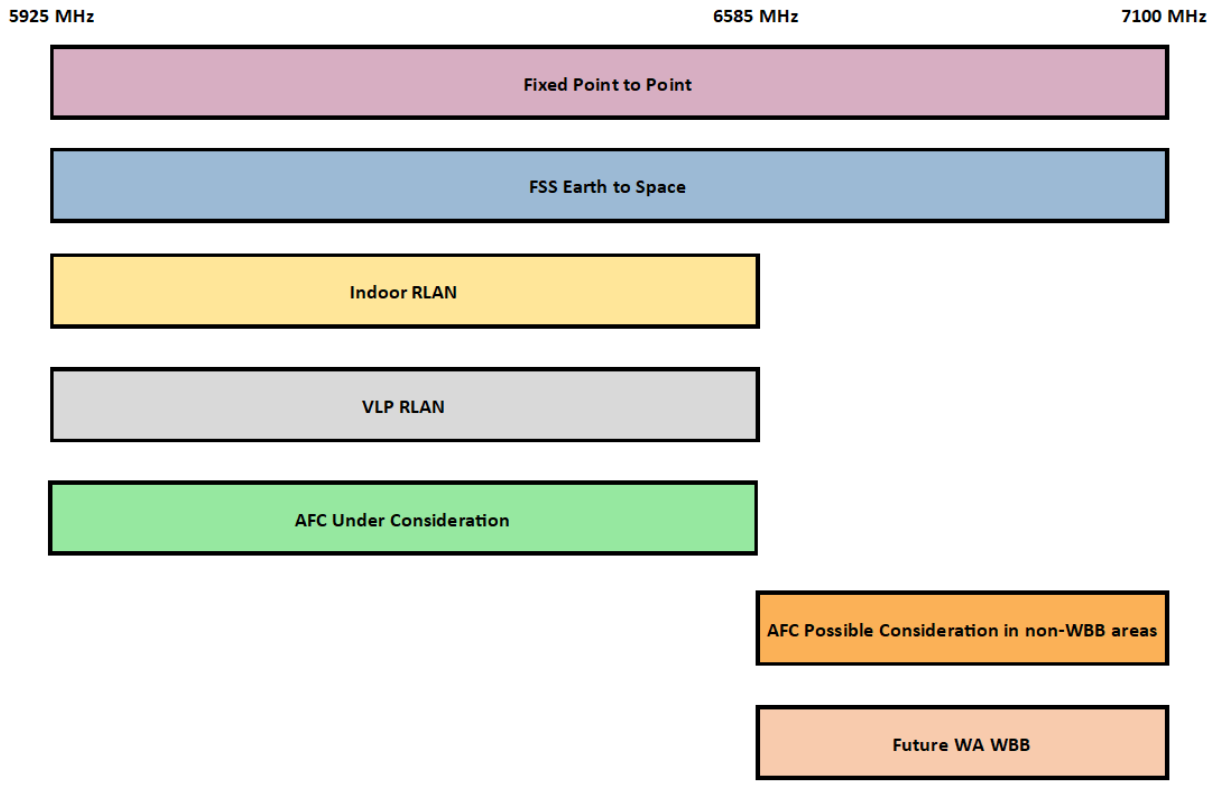
In October 2023, the ACMA updated the LIPD class licence to allow RLAN (Wi-Fi) operation in the 5925–6425 MHz range under 2 power settings:

1. 24 dBm EIRP (11 dBm/MHz) for indoor-only devices (low power indoor, or LPI)
2. 14 dBm EIRP (1 dBm/MHz) for very low power devices permitted in all locations (very low power, or VLP)

This frequency range was extended up to 6585 MHz in October 2025 as an enaction of planning decisions communicated in the December 2024 *Future use of the upper 6 GHz band* outcomes paper.

Figure 2 provides an overview of how the band is currently used and which segments are under consideration for AFC. The table outlines the regulatory status, incumbent services and potential considerations for AFC rollout across the different parts of the 6 GHz band.

Figure 2: 6 GHz band – use and regulatory status in Australia



While the RLAN uses in the band enable consumer and enterprise LPI and VLP outdoor connectivity, they are currently not permitted to engage in outdoor 'standard power' operation. This limits opportunities for WISPs, who often operate in regional and rural areas where alternative broadband options are limited and powers higher than VLP may be needed to cover their service areas.

We are keen to hear stakeholder views on the following questions:

- Is the introduction of AFC for the 6 GHz band in Australia generally supported?
- What benefits might AFC bring for operators and subscribers?
- Are there any alternatives to AFC that could support dynamic and efficient frequency assignments in the 6 GHz band?
- How might AFC change the way WISPs and other communications service providers operate? Could it support greater spectrum efficiency or service innovation?

AFC 6 GHz trial

Concurrent to this consultation process, a trial coordinated by WISPAU, in partnership with Cambium Networks, Qualcomm and selected WISPs, is being conducted under a scientific licence issued by the ACMA. The trial intends to evaluate the effectiveness of AFC in dynamically allocating frequencies and setting power levels based on real-time environmental and geolocation data from registered devices, while protecting incumbent users such as fixed point-to-point microwave links.

The trial involves AFC-enabled equipment (for example, Cambium ePMP 4600 and PMP 450V) and requires GPS-based location reporting. Participating WISPs are limited to a maximum of 4 access points and 24 subscriber modules per site. Spectrum availability is pre-assessed using LinkPlanner[2] integrated with Qualcomm's AFC system, referencing the ACMA's RRL database.

The trial is expected to provide useful practical insights into AFC system interactions with the existing RRL, test device compliance and behaviour in real-world deployments, and assess coordination effectiveness in shared spectrum. The findings will be valuable in informing consideration of future regulatory and technical frameworks, licensing models, AFC operational requirements and potential updates to the RRL and associated systems. The results will also help determine what safeguards and/or modifications may need to be taken into account when considering the broader adoption of AFC.

[2] LinkPlanner is a software tool from Cambium Networks designed for planning and optimising point-to-point (PTP) and point-to-multipoint (PMP) wireless networks

Considerations for AFC in the 6 GHz band in Australia

This chapter broadly considers how an AFC system could operate in Australia. The purpose is not to identify a particular solution, but to promote discussion on how AFC might operate in practice, including what benefits it could bring to the industry and how it could be integrated into the Australian regulatory environment.

Spectrum planning considerations

A key planning question is how much spectrum should be made available for AFC, and what bandwidths should be allocated to support individual AFC service offerings? Should part or all of the 6 GHz spectrum available for RLAN use be made available for AFC-enabled access by standard power devices, or is there a case for even more complex arrangements supporting a range of power levels above VLP/LPI and below/including standard power?

For example, there may be an argument for the adoption of a band segmentation strategy, similar to the FCC's approach,[3] where different portions of the 6 GHz band are available for various AFC-coordinated device transmission power levels and operation types. While the US example wouldn't align with planning arrangements in Australia – we don't have provisions for RLANs of any power level here above 6585 MHz as that spectrum has been set aside for WA WBB (setting aside potential provisions for AFC-enabled standard power deployments outside WA WBB defined areas) – there may be scope for modest segmentation similar to US arrangements. That is, while all of 5925–6585 MHz has been authorised for VLP/LPI use in Australia, allowing access to only part of that range for AFC-enabled higher (up to standard) power use may mean that, in areas of intensive higher power use, VLP/LPI RLAN devices operating under dynamic frequency selection (DFS)[4] protocols would retain some 'clean' channels to switch to, preserving the utility of the band for all of its intended (VLP, LPI and standard power) purposes.

Allocation considerations

Geographically, areas allocated to – and therefore served by – an AFC operator could be widespread, or it may be that a patchwork of localised arrangements is adopted, with each AFC maintaining its own localised data. This might be more computationally efficient than interrogating in its entirety each time an assignment is to be made. Conversely, geographic segmentation may require 'guard' or 'buffer' areas around the area controlled by an AFC system in order to manage potential interference with adjacent areas that are *not* coordinated by that AFC, which could detract from the efficiency gains resulting from the use of AFC.

[3] FCC Report and Order 20-51

[4] DFS, sometimes also known as listen-before-talk, is a device capability that monitors the frequencies is the device is able to operate on and select the channel(s) to use based on current channel occupancy. Along with transmission power control (TPC), it is commonly required by existing regulations for RLAN devices in the 5 GHz band and is expected to feature in 6 GHz deployments.

As mentioned above, we are also yet to decide on the amount of spectrum to be made available for AFC systems – it may be part(s) or all of the 6 GHz band, and similar to the range of potential geographic arrangements for AFC there may also be different band segments allocated to different (possibly geographically overlapping) AFC-served areas.

A granular approach such as this would align with international examples, particularly in the United States and Canada, where AFC is being implemented to manage access within designated sub-bands of the 6 GHz range. It is worth mentioning however that the markets for AFC operators and/or subscribers in those jurisdictions may differ significantly from Australia, which will also have implications for the level of/need for geographic and/or frequency segmentation.

In this context, we are interested in views on what degrees of geographic and/or spectrum segmentation should be considered when planning for individual AFC system deployments. For example, would planning for localised, self-contained areas and/or multiple sub-bands foster competition in the market for the provision of AFC services, or would that come at too much of a cost to spectrum efficiency?

Tiered access models

In Canada and the US, shared access is enabled according to tiered status, ranging (in descending priority) from incumbent licensed users, coordinated registered users (AFC subscribers), and low-power indoor users operating under unlicensed. As a starting point, informed by those examples, we assume that AFC systems will operate within a similar tiered spectrum access regime in Australia.

Under a tiered model, AFC is a central enabling mechanism, responsible for facilitating shared access for standard power users in coordination with other higher-tier licensed users. Tier 1 users, such as incumbent fixed microwave services, are afforded primary status, while standard-power devices registered through the AFC system must not cause harmful interference to higher-tier uses.

Our preliminary view is that a tiered framework would provide for the efficient reuse of spectrum, especially in mid-band spectrum where demand is intensifying, by enabling access to spectrum that might otherwise remain under-utilised due to coexistence concerns. The below example hierarchical structure is intended to guide discussion on what type of architecture would best suit the Australian radiocommunications environment:

- Tier 1: Incumbent non-AFC apparatus licensed users.
- Tier 2: Standard-power users coordinated through AFC (AFC subscribers).
- Tier 3: LPI and VLP devices operating under the LIPD class licence conditions.

We seek stakeholder views on the need for, and potential structure of, a tiered access model for incorporating standard power RLAN devices in the 6 GHz band.

Authorisation and delegation

A key question surrounding AFC is the potential licensing models to authorise AFC deployments. Authorisation in this context is a legislative requirement. The licensing model selected will have direct implications for AFC business and deployment models and the level of responsibility that is afforded to AFC operators. For example, the less interaction AFC-enabled services have with the RRL, the more of a delegated band management role is conferred on AFC operators, which in-turn requires those operators to establish and maintain their own databases of radiocommunications services within and proximate to their respective service areas.

While there could conceivably be any number of combinations of authorisation regime and operator autonomy, there are some obvious models that can be singled out as starting points for discussion. For example, at the more 'command and control' end of the spectrum, standard-power devices could be authorised via individual apparatus licences. In that case, each device would need to be registered on the RRL, and its operation would be coordinated via an accredited AFC, which would verify the device's location, technical parameters and available spectrum. This would offer strong regulatory oversight and high protection for incumbents, but at the cost of greater administrative burden and reduced scalability and flexibility. This model could be operated either solely by government, by government in partnership with an industry-based AFC operator, or solely by industry where the AFC operator is also an accredited person or secures the services of an accredited person.

Alternatively, instead of licensing each device individually, an area-based apparatus licence (for example, area-wide licence or fixed licence (point-to-multipoint station)) to authorise subscriber access could be issued. Each device would still coordinate through the AFC but would not require its own licence. This could reduce regulatory overhead, unburden the RRL (and likely be more computationally efficient at the AFC system end) while maintaining the same level of protection given to primary services through the coordination parameters defined in the AFC system. But, as mentioned above, this would require AFC operators to maintain up-to-date localised databases for coordination among both its own subscribers and other nearby licensed services.

While, in theory, this type of model could be implemented by government, it would better lend itself to industry operation under a regulatory framework set by the ACMA, similar to the FCC's approach in the US. This would shift much of the administrative responsibility to industry, fostering innovation, efficiency, scalability, flexibility and lower regulatory cost, but would also require a robust certification (system), authorisation (operators) and auditing regime to ensure effective operation and protection of primary services.

While the above discussion is for example purposes only, our preliminary view is that if AFC is to be rolled out in Australia, industry should play a key role as localised band managers, which will have implications for how these services might be licenced. The extent to which industry plays a role will also feed into what kind of AFC operator regulation might be needed. This would be subject to further consultation, however feedback in response to this paper would help us prepare for future consultation.

We're interested in stakeholder views on AFC licensing and how that will be influenced by the respective roles of industry and government. For example, should AFC be operated by industry under government-set rules or should government play a more direct role in providing AFC services? What role should databases such as the RRL or other coordination mechanisms, such as those administered by the ACMA but used by others, play in the process?

When it comes to licensing, should individual AFC-coordinated devices be registered on the RRL or covered by broader system-wide licensing arrangements, or are there other potentially useful authorisation models that we might consider?

Potential implementation issues

Interface with ACMA systems

As mentioned above, introducing AFC would require reliable and up-to-date data on licensed users and the extent of any interface(s) between AFC and ACMA systems will depend on the delivery model adopted. Questions of data integrity, ownership and update processes will need to be addressed, and we're interested in views on potential system-level challenges or impediments to deploying AFC, including the necessary governance, data integrity and operational arrangements to ensure confidence in AFC.

With respect to the currency of data, the RRL is updated daily rather than in real time, which could result in incomplete or outdated information on incumbent users. The implications of this for AFC in 6 GHz band include:

- Licence information may not reflect recent changes, potentially affecting AFC frequency allocation decisions.
- Delays in updating new or modified licences (for example, location or power changes) could reduce coordination accuracy and/or timeliness.
- Real-time spectrum availability cannot be assured, limiting responsiveness to dynamic network changes.
- Investigation of interference complaints may be affected by data latency.
- Stakeholder confidence in the AFC system's ability to protect incumbent users may be impacted.

Clearly this would more heavily affect AFC operated under a model where each device is registered on the RRL than, say, the case where an AFC operator holds a system licence and instead records device information on their own, localised database. But even in that case, this data latency might affect that AFC operator's ability to coordinate subscriber devices with other users (that is, those not controlled by the AFC operator).

We're also in the process of implementing a new spectrum management system. What that will mean for potential future AFC services is yet to be established. However, responses to this consultation on database accuracy, latency and access needs might help shape our thinking on fit-for-purpose protocols for interfacing with our systems.

Legislative and regulatory issues

The current licensing framework may not be optimised to accommodate dynamic spectrum access models, which depend on real-time geolocation and database-driven coordination. Whether the necessary legislative provisions are in place for us to develop the necessary frameworks may depend on the model ultimately adopted.

However, the legislative and regulatory basis to support the development of rules governing the band management and coordination responsibilities that may be conferred on AFC operators is not as clear cut. The content of these rules also remains an open question. For example, would AFC subscriber equitability and/or prioritisation requirements (for example, 'first in time' access) be imposed on AFC operators, or would such matters be considered business decisions for those operators to define (and perhaps build into their fee structures)? These matters go beyond our existing regulatory frameworks and would necessarily be subject to extensive consultation. How and where such rules are codified (for example, in licence conditions or as part of any AFC operator authorisation process) would also need careful consideration.

We seek views on what type of rules should be imposed on prospective AFC operators, what access rules should be left to operator discretion, and how should those rules be codified?

Competition implications

As with many types of telecommunications service provision, monopolisation of the market for AFC services could lead to anti-competitive outcomes and higher subscriber access costs. Ideally, we would be able to authorise multiple AFC operators, similar to international examples. However, it isn't clear what the market for this type of service provision will look like and therefore what our expectations for competition should be. Stakeholder views on this would be welcome.

Device compliance

AFC relies on GPS-equipped devices reporting correct coordinates. Misconfigured devices could misinform coordination and cause interference as a result, so there may need to be a mandated standard or minimum performance metric. By extension, compliant devices could be registered (in the equipment conformity, rather than RRL context) with the ACMA or AFC operator, depending on the model adopted, so that only registered devices would be eligible to connect to the AFC system.

We seek input on what device standards and certification processes might be necessary.

Next steps

The ACMA is currently considering the feasibility of introducing AFC to enable standard-power outdoor operation of RLAN devices in parts of the 6 GHz band. To support this, these are our proposed next steps:

1. Review responses

Feedback to this consultation process will play a critical role in shaping the policy direction, identifying implementation challenges and working towards decisions on the appropriate regulatory and business models for AFC in Australia.

2. Trial monitoring and evaluation

The outcomes of the ongoing AFC scientific licence trial – led by WISPAU in collaboration with industry partners – will be assessed to evaluate the technical viability and performance of AFC systems under Australian conditions. These findings will help validate assumptions and identify any further technical or regulatory considerations.

3. Further consultation and framework development

Following a detailed review of insights gathered from consultation and trial results, we will consider the development of options for a regulatory and licensing framework for AFC. This may include options for licensing models, authorisation processes for AFC operators, technical and operational parameters, and data and compliance requirements. Responses to that process will inform our decisions on whether and how AFC is implemented.

In parallel to the above steps, we will explore how an AFC capability could be integrated into our licensing and spectrum management systems, including how to accommodate requirements to support automated queries, real-time data access and enforcement mechanisms. We will continue to monitor and engage with international regulators and standards bodies to align Australia's approach with global best practices and maintain device interoperability across markets.

Invitation to comment

Making a submission

We invite comments on the issues set out in this discussion paper.

- Online submissions can be made by uploading a document. Submissions in PDF, Microsoft Word or Rich Text Format are preferred.
- Submissions by post can be sent to:

  The Manager
  Spectrum Planning Section
  Australian Communications and Media Authority
  PO Box 78
  Belconnen ACT 2616

The closing date for submissions is COB, **30 January 2026**.

Consultation enquiries can be emailed to freqplan@acma.gov.au.

Publication of submissions

We publish submissions on our website, including personal information (such as names and contact details), except for information that you have claimed (and we have accepted) is confidential.

Confidential information will not be published or otherwise released unless required or authorised by law.

Privacy

View information about our policy on the publication of submissions, including collection of personal information during consultation and how we handle that information.

Information on the Privacy Act 1988, how to access or correct personal information, how to make a privacy complaint and how we will deal with any complaints, is available in our privacy policy.