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The Manager
Spectrum Planning Section
Australian Communications and Media Authority
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Re: *Automatic Frequency Coordination-assisted spectrum sharing in the 6 GHz band* Discussion Paper

Comsearch¹, an ANDREW company, submits these comments in response to the Consultation released November 5, 2025 requesting views on 6 GHz band spectrum sharing for Automatic Frequency Coordination². Comsearch is a pre-eminent global provider of spectrum management and wireless engineering products and services. We have developed industry-standard interference analysis and interference mitigation processes and procedures, and we maintain state-of-the-art software and comprehensive databases used in the design of complex wireless systems. Comsearch is an approved AFC system operator in the US and Canada and a member of the Wireless Innovation Forum (WInnForum).

The following are the responses to the issues identified for comment in the consultation.

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?

Comsearch supports the adoption of an AFC framework in Australia to enable outdoor standard-power operation in the 6 GHz band.

The primary benefits of an AFC framework are improved spectral efficiency and increased sharing of the 6 GHz spectrum. AFC enables higher-power outdoor use while dynamically coordinating access to frequencies, allowing multiple services to coexist without harmful interference.

A key concern with permitting standard-power outdoor operation is the need to protect current and future licensed users of the 6 GHz band, including fixed microwave links and other incumbent services. AFC directly addresses this concern by ensuring that

¹ Comsearch, an ANDREW company, is a leading provider of spectrum management and wireless engineering products and services to the commercial and federal market. Andrew is a leading U.S.-based telecommunications infrastructure provider for wireless broadband networks, helping companies around the world design, build, and manage their wireless networks.

² Australia Communications and Media Authority, *Views on 6 GHz band spectrum sharing for Automatic Frequency Coordination*, available at <https://www.acma.gov.au/consultations/2025-10/views-6-ghz-band-spectrum-sharing-automatic-frequency-coordination>

unlicensed devices operate only on frequencies and at power levels that avoid interference with protected services, based on up-to-date databases and propagation modelling. As such, AFC provides a robust, scalable, and future-proof mechanism for fixed microwave link protection while still enabling expanded access.

The main beneficiaries of an AFC-enabled framework would be consumers, enterprises, and service providers that rely on high-performance Wi-Fi and fixed wireless access.

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?

The introduction of an AFC framework would significantly improve how WISPs and other communications service providers operate by enabling access to additional 6 GHz spectrum at higher power levels for outdoor use.

By allowing standard-power operation under AFC control, providers could deploy higher-capacity links with better coverage, reliability, and quality of service, particularly in outdoor, regional, and hard-to-serve areas. AFC also enables more efficient use of spectrum by allowing providers to dynamically access frequencies that are available at a given location, rather than relying on conservative power limits or static spectrum allocations.

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?

The established models in the United States and Canada would be appropriate for the Australian radiocommunications environment.

In practice, the US and Canadian approaches are closely aligned, with Canada largely following the US AFC framework and regulatory rules and augmenting them with key technical specifications found in WInnForum's TS-1014³ (TS-1014) specification.

Adopting a similar approach in Australia would promote international harmonization, reduce complexity for equipment manufacturers and service providers, and support economies of scale. Importantly, leveraging a proven and mature framework would allow Australia to enable standard-power outdoor operation in the 6 GHz band on a more expedited timeline, while minimizing regulatory and technical risk.

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

³ Wireless Innovation Forum (WInnForum), *WINNF-TS-1014-V1.5.0: Functional Requirements for the U.S. 6 GHz Band under the Control of an AFC System*, 25 April 2025. Available at: https://winnf.memberclicks.net/assets/work_products/Specifications/WINNF-TS-1014.pdf.

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?

Comsearch supports aligning the VLP and LPI spectrum (5925–6585 MHz) with AFC-enabled access by standard-power devices. This represents a pragmatic and effective starting point, as it enables the provision of four contiguous 160 MHz channels or two contiguous 320 MHz channels, supporting high-throughput applications and efficient spectrum use. To the extent that ACMA allows AFC in spectrum above 6585 MHz in non-WBB areas, expanding AFC into that segment is easily accommodated within the AFC.

More broadly, AFC-enabled access should be designed to support all relevant IEEE Standard 802.11be™⁴ and 3GPP 5G NR-U⁵ channelization applicable to the band. This will ensure technology neutrality, promote innovation, and allow service providers and equipment manufacturers to optimize deployments based on evolving standards and market needs. At a minimum, the regulatory framework should explicitly reference support for these established international standards.

Regarding the case for arrangements supporting a range of power levels above VLP/LPI and below/including standard power, the AFC accomplishes this by providing the allowed power to protect incumbent systems on each channel requested.

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)?

Comsearch considers that geographic or spectrum segmentation for individual AFC system deployments is neither necessary nor desirable. Experience in other jurisdictions demonstrates that a national, non-segmented approach is more effective in promoting both competition and spectrum efficiency.

In the United States and Canada, approved AFC system operators are authorized to operate across the entire country and across the full portion of the 6 GHz band that is designated for standard-power use. There is no geographic partitioning or sub-band allocation between AFC providers. Instead, multiple AFC system operators are approved to operate in parallel, all using the same spectrum and geographic footprint.

This model has proven effective in fostering competition and choice among AFC service providers without compromising spectrum efficiency. AFC operators compete on service quality, system performance, reliability, cost, and value-added features, rather than through exclusive access to spectrum or geographic areas. Importantly, this avoids the need for guard bands or spectrum carve-outs, which would otherwise reduce usable spectrum and undermine the benefits of dynamic sharing.

⁴ IEEE Standard 802.11be™-2024 — IEEE Standard for Information Technology—Telecommunications and Information Exchange Between Systems Local and Metropolitan Area Networks—Specific Requirements — Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications – Amendment 6: Enhancements for Extremely High Throughput (EHT) (Wi-Fi 7). *Institute of Electrical and Electronics Engineers (IEEE)*, 2024

⁵ 3GPP TS 38.211: “5G; NR; Physical channels and modulation”, 3GPP Release 16 (and later).

7. What are the respective roles and responsibilities for industry and government in realizing 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?

Comsearch supports an AFC regime in which AFC systems are operated by industry participants under a regulatory framework established and overseen by government.

International experience in the United States and Canada demonstrates that this model is both effective and efficient. In these jurisdictions, AFC systems are developed and operated by industry, while the regulatory authorities set the rules governing system approval, technical requirements, data protection, and incumbent protection. Regulators retain oversight and enforcement powers and are able to adjust the regulatory arrangements as required to protect current and future licensed users, promote competition among AFC providers, and support the broader public interest.

This division of responsibilities has proven successful in practice. Industry-led AFC deployment enables innovation, scalability, and responsiveness to technological change, while regulatory oversight ensures consistency, transparency, and robust protection of incumbent services. The approval of multiple AFC operators for commercial service in the US and Canada demonstrates that industry-operated AFC systems can deliver reliable outcomes within a government-defined framework.

Comsearch considers that a similar approach would be well suited to Australia. Allowing industry to operate AFC systems under clear, government-set rules would minimize regulatory burden, avoid duplication of infrastructure, and foster competition in the provision of AFC services, while ensuring that government retains appropriate control over spectrum management and incumbent protection outcomes.

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?

Comsearch considers that existing databases and coordination mechanisms administered by the ACMA—particularly the Radiocommunications Licensing and Registration System (RRL)—should play a central role in supporting an AFC regime in Australia.

Consistent with approaches adopted in the United States and Canada, the ACMA's RRL should be leveraged as an authoritative source of information on licensed incumbent services that require protection. This information should be made available to approved AFC system operators on a regular and timely basis to ensure that AFC calculations accurately reflect current licensing arrangements and provide effective interference protection.

To support efficient operation, licensed system data should be provided in a structured and targeted manner. In particular, datasets supplied to AFC operators should include only those licensed systems that are relevant to AFC-managed spectrum—such as co-channel or otherwise affected services—rather than the entirety of licensed assignments.

To the extent possible, the licensed system data should be accurate and complete. This includes all technical parameters necessary for reliable interference analysis and protection, such as geographic location, antenna height, antenna patterns, transmission line loss, operating frequencies, and bandwidths. High-quality and up-to-date data is critical to ensuring confidence in AFC determinations and safeguarding incumbent services.

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?

Comsearch considers that a tiered access model is appropriate for incorporating standard-power RLAN devices in the 6 GHz band, and that the model described in the consultation paper accurately reflects established arrangements in the United States and Canada.

Under this approach, incumbent licensed services are afforded the highest level of protection, while standard-power RLAN devices operate as a secondary tier under the control of Automated Frequency Coordination (AFC) systems. This structure enables expanded access to the band while maintaining robust protection for current and future licensed users.

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?

Comsearch supports an authorization model in which AFC-coordinated standard-power devices are authorized under a license-by-rule or class-licensing framework, rather than being individually licensed or registered in the ACMA's RRL.

This approach is consistent with established practice in the United States and Canada, where standard-power devices operating under AFC control are authorized by rule in the same manner as LPI and VLP devices. Under this model, individual devices, including the actual channel(s) in use, are not recorded in a regulatory licensing database. Instead, operational information for each device—such as location, the list of authorized frequencies, and power levels—is maintained by the relevant AFC system operator.

In these jurisdictions, AFC operators are required to retain device registration and the permitted channels and powers within their own systems for a defined period (typically at least 90 days), enabling auditability, compliance monitoring, and investigation of interference issues where required. This ensures regulatory oversight and accountability without imposing the administrative burden associated with individual device licensing.

Comsearch considers that a similar approach would be well suited to Australia. A license-by-rule framework, supported by robust AFC system data retention and regulator access where necessary, would minimize regulatory complexity, reduce barriers to deployment, and support rapid uptake of standard-power services, while maintaining appropriate safeguards for incumbent protection and compliance.

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?

Comsearch supports an AFC accreditation, audit, and compliance framework for Australia that draws on the proven approaches adopted in the United States and Canada.

In the United States, the FCC established a comprehensive and highly structured approval process for AFC operators, supported by significant industry collaboration. WinnForum and the Wi-Fi Alliance played a central role in developing detailed laboratory test procedures, compliance matrices, and test vectors, all of which were reviewed and approved by the FCC. Independent test laboratories verified AFC system compliance using these procedures, and public trials were conducted to provide transparency and build confidence among licensed incumbents and other stakeholders. The FCC relied on the results of laboratory testing and public trials when determining whether to approve AFC operator applications. This approach delivered strong technical assurance, which was particularly important in establishing a new spectrum-sharing regime.

In Canada, ISED leveraged the extensive technical, regulatory, and operational groundwork established in the United States. Canada aligned its AFC framework closely with FCC rules and supplemented them with elements of the TS-1014 specifications. Rather than relying on applicant-submitted test reports from independent laboratories or public trial results, ISED required each AFC operator to generate and submit its own test vectors and results demonstrating compliance. In addition, ISED adopted a hands-on approach by requiring direct access to AFC systems, allowing the regulator to independently evaluate each AFC provider using its own test vectors and evaluation processes. This approach preserved strong regulatory control over validation outcomes while enabling a faster approval timeline.

The United States and Canada are broadly aligned in their approach to ongoing compliance. In both jurisdictions, AFC operators are required to obtain regulatory approval before making material changes to the algorithms used to calculate channel availability and power levels for standard-power devices.

For Australia, the most appropriate approval model depends on the level of regulatory involvement ACMA wishes to maintain:

- US-style model: Leveraging multi-stakeholder groups such as WinnForum to develop test vectors, compliance matrices, and expected results offers transparency and broad industry confidence, as well as strong technical assurance. However, this approach can be slower to implement due to the inherently deliberative nature of committee-based processes.
- Canadian-style model: This approach enables a faster evaluation and approval timeline, particularly for an initial tranche of AFC operators. It does, however, require the regulator to possess sufficient technical expertise and resources to independently develop test vectors, calculate expected outcomes, and confirm adequate test coverage to ensure compliance.

In summary, if Australia prefers a more hands-off approach that relies heavily on industry-led testing and validation, the US model is well suited. If, however, ACMA

seeks a more hands-on approval process and has the necessary technical capability, the Canadian model offers a more efficient path to implementation and would enable standard-power operation in the 6 GHz band to be realized more quickly.

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?

The successful implementation of an AFC regime will depend on a combination of robust technical capabilities and well-defined administrative processes that together ensure effective protection of incumbent services while enabling efficient access to the 6 GHz band by standard-power devices.

Key technical and administrative features include:

- **Accurate device geolocation:** AFC operation relies on precise knowledge of device location to determine available frequencies and permissible power levels. Reliable geolocation mechanisms, with clearly defined accuracy requirements, are critical to ensuring correct AFC determinations.
- **Authoritative incumbent data and exclusion mechanisms:** AFC systems must incorporate accurate, up-to-date information on licensed incumbent services and apply appropriate exclusion zones, power limits, or channel restrictions to prevent harmful interference. This requires high-quality regulatory datasets and clearly specified protection criteria.
- **Database accuracy, timeliness, and latency:** AFC determinations are only as reliable as the data they rely upon. Licensed system information must be accurate and regularly updated, and AFC systems must process queries and deliver channel and power authorizations within defined latency limits to support practical deployment. For example, in the US and Canada, AFC system operators are required to update their databases with changes to the incumbent licensed systems on a daily basis, and standard power devices are required to request new channels and powers on a daily basis.
- **AFC system integrity and reliability:** AFC platforms should meet minimum performance, availability, security, and resilience requirements, including safeguards for data integrity, access control, logging, and auditability.
- **Device–AFC interaction and compliance:** Standard-power devices must be capable of securely querying AFC systems, complying with authorized channel and power lists, and re-querying at required intervals. While individual device registration with the regulator is not necessary, AFC operators should maintain device records for compliance and investigation purposes.

Comsearch notes that many of these technical and administrative requirements have already been comprehensively developed and validated through international processes. In particular, TS-1014, together with Canada's DBS-06⁶ and RSS-248⁷,

⁶ Innovation, Science and Economic Development Canada (ISED), *DBS-06 — Automated Frequency Coordination (AFC) System Specifications for the 6 GHz Frequency Band (5925-6875 MHz)*, available at <https://ised-isde.canada.ca/site/spectrum-management-telecommunications/en/devices-and-equipment/radio-equipment-standards/database-specifications-dbs/dbs-06-automated-frequency-coordination-afc-system-specifications-6-ghz-5925-6875-mhz-frequency-band>

⁷ ISED, *RSS-248—Radio Local Area Network (RLAN) Devices Operating in the 5925-7125 MHz Band*, available at <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf11750.html>

provide an excellent set of technical specifications and procedural guidance covering AFC system requirements, test methodologies, incumbent protection criteria, and device compliance obligations. These documents represent international best practices and have been successfully applied in live AFC deployments.

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?

Effective management of data integrity, ownership, and update mechanisms is fundamental to the reliable operation of AFC systems and the protection of incumbent services in the 6 GHz band.

Comsearch considers that ACMA should remain the authoritative owner and steward of licensed service data, including data relevant to 6 GHz incumbent systems. This aligns with international best practice, where regulators retain control over authoritative licensing datasets, while making relevant information available to approved AFC operators under defined governance arrangements.

Comsearch considers that regular updates are essential, and that daily updates from the RRL should be the minimum cadence to ensure that AFC systems reflect current licensing arrangements.

While ACMA's existing systems may be sufficient, some enhancements or interfacing mechanisms may be beneficial to support automated data distribution, timeliness, and consistency with AFC operational requirements, e.g. a filtered incumbent data set for AFC use. These changes would be incremental rather than structural and would build on ACMA's existing data governance frameworks.

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?

The Wi-Fi Alliance has established AFC Specifications and Test Plans⁸ that contain comprehensive specifications, certification programs, test plans, test vectors, and a test harness specifically for AFC-enabled devices operating in the 6 GHz band. These materials define how devices must demonstrate compliance with AFC operational rules, including:

- Minimum geolocation accuracy and integrity requirements;
- Secure firmware and software controls to prevent unauthorized modification;
- Mandatory AFC query and revalidation intervals; and
- Proper enforcement of AFC-authorized channel and power limits.

⁸ Wi-Fi Alliance, *Wi-Fi Alliance AFC Specifications and Test Plans*, available at: <https://www.wi-fi.org/6-ghz-afc-resources>

Comsearch appreciates the opportunity to contribute to this consultation and to share its experience and technical expertise in support of ACMA's work. We look forward to assisting ACMA in enabling efficient sharing of the 6 GHz band while ensuring robust protection of existing and future licensed services.

Respectfully Submitted,

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