

The logo for Optus, consisting of the word "OPTUS" in a bold, teal-colored, sans-serif font.

Submission in response to  
ACMA Discussion Paper

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

Public Version

January 2026

## EXECUTIVE SUMMARY

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Optus supports the adoption of an Automated Frequency Coordination (**AFC**) framework below 6425MHz in Australia to enable outdoor standard-power operations in the lower 6 GHz band subject to consultation on, and the introduction of, suitable coordination and protection criteria for licenced services. AFC is essential to expanding Wi-Fi capability to standard power RLAN while ensuring robust protection for incumbent services – particularly fixed point-to-point backhaul links that support critical mobile infrastructure and emergency services.

Standard power RLAN has the potential to deliver public and industry benefits. Importantly, AFC provides access to these benefits without the need for end-user licensing, aligning with community expectations formed under the existing Low Interference Potential Device (**LIPD**) class licence for VLP/LPI devices.

The introduction of an AFC regime should be modified specifically for the Australian radiocommunications environment. While overseas models provide useful guidance, Australia requires a customised approach that reflects local licence conditions and band plans – particularly the need to protect future IMT use in the upper 6 GHz band.

### **Frequency coordination requirements must be clearly determined**

Optus considers that the priority is to develop the appropriate spectrum framework to define the coordination requirements in the band to manage interference and protect incumbent users. As existing fixed links are used to support public safety and critical services, it is imperative that coordination guidelines based on robust theoretical, practical and trial results are developed to ensure that potential impacts are identified. To date, Optus is not aware of any operators of fixed point-to-point (**PTP**) links being invited to participate in the trial of AFC in the 6GHz band.<sup>1</sup>

### **Incumbent licence holders require access to configuration and location data for all AFC controlled standard power RLAN devices**

Optus prefers that transmitter device data is contained in a single database such as the Register of Radiocommunications Licences (**RRL**) or equivalent, so that it is clear to all users where transmitters are being deployed, either under formal licences or by users operating under an AFC scheme. Noting that the implementation of the replacement for the RRL database system is currently in progress, this represents an opportunity to embed the required AFC functionality and minimise investment in tools by the ACMA. A separate AFC database is an acceptable interim option.

AFC systems should synchronise with the RRL at least every 24 hours, providing updated device location, configuration information and operational records to support transparency and effective interference investigation.

With appropriate safeguards and a strong regulatory framework, AFC has the potential to significantly enhance both spectrum efficiency for RLAN users and consumer outcomes while preserving the integrity of Australia's critical telecommunications infrastructure and protecting licenced users in the 6 GHz band.

Optus notes that all comments on this discussion paper are restricted to the lower 6 GHz Band and do not apply to the upper 6 GHz Band. The Optus position remains that the upper 6 GHz Band should be allocated for IMT use.

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<sup>1</sup> ACMA, November 2025, *Automatic Frequency Coordination-assisted spectrum sharing in the 6 GHz band – Discussion paper* p12.

# OPTUS RESPONSES TO CONSULTATION QUESTIONS

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The following section sets out Optus' responses to the specific questions posed by the ACMA in the discussion paper.

**Q1. 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?**

It is essential for the ACMA to adopt an Australian AFC framework to enable outdoor standard power wireless access operations in the lower 6 GHz Band.

Since 'very low power' (**VLP**) and 'low power indoors' (**LPI**) RLAN devices are under the Low Interference Potential Device (**LIPD**) class licence, it is likely that there will be a similar expectation in the community that standard power RLANs are also exempt from registration. AFC has the ability to meet the ACMA's specified band coordination requirements for individual operation without needing to engage in formal licencing administration.

The key benefits of AFC are:

- a) Protects incumbent licenced users (including PTP links) via coordination procedures
- b) Avoids the need for licencing requirements for standard power RLAN use
- c) Improves spectrum utility by allowing additional users in areas with low spectrum demand from incumbent licensees

There are some areas of concerns that will need to be addressed:

- a) A robust technical and policy framework needs to be developed to protect incumbent PTP users from harmful interference.
- b) Adequate reporting into the ACMA RRL database or equivalent is required to ensure visibility of standard power RLAN devices and to assist incumbent operators with interference or potential interference investigations.

The introduction of AFC to support standard power RLAN will benefit consumers and the telecommunications industry as a whole. Standard power RLAN has the advantage of providing greater coverage and higher speeds, potentially reducing congestion on 2.4 GHz and 5 GHz bands and supporting outdoor operation.

**Q2. How might AFC change the way WISPs and other communications service providers operate, particularly in terms of supporting greater spectrum efficiency or service innovation?**

Optus cannot comment on the operation of other providers.

**Q3. Are there any alternatives to AFC that could support dynamic and efficient frequency assignments in the 6 GHz band?**

We are not aware of any viable alternatives for AFC that could support dynamic frequency assignments in the 6 GHz band.

**Q4. Would established models in other jurisdictions such as the US and Canada, or aspects of these models, be appropriate for the Australian radiocommunications environment?**

Optus considers that any established model would require customisation to incorporate the specific requirements for coordination under Australian licence conditions and the Australian band configuration. We suggest that this customisation requires local expertise and that the ACMA would need to ensure that the resulting programming is compliant either using ACMA resources or engaging an existing, experienced Accredited Person (**AP**).

It is imperative that incumbent operators have confidence that the AFC is working correctly to protect existing essential services.

**Q5. 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?**

As standard power RLAN creates an interference risk for general VLP/LPI Wi-Fi and public hotspot applications, it will be necessary to limit the bandwidth available for standard power Wi-Fi services. Optus notes that the administrations in the US and Canada have taken this approach.

Optus suggests that the lowest 500 MHz (5925 – 6425 MHz), in the 6 GHz band is the maximum which should be considered for developing a standard power allocation plan. This is to provide a 160 MHz guard band protection for future IMT in the upper 6 GHz band.

Furthermore, it is important to ensure ongoing operability and performance of VLP/LPI services (e.g., home Wi-Fi) in the presence of standard power RLAN networks, particularly since Wi-Fi calling is also used for emergency call access in home applications. Therefore, additional bandwidths need to be reserved for VLP/LPI below 6425 MHz. Assessment of demand for standard power access points combined with VLP/LPI use will provide further guidance on the appropriate amount of bandwidth that should be allocated.

**Q6. 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)?**

Coordination requirements to incumbent spectrum use must be developed in accordance with established engineering practices and applied consistently across all deployed AFC systems. This assessment must be based on the actual location and configuration of the standard power RLAN. If the configuration changes, then the assessment is updated, and the appropriate band and power settings are applied to the standard power RLAN. As part of the definition of the coordination framework, use cases considering both the operation of standard power RLANs and the likely location and configuration of users will need to be considered.

We do not consider there is a requirement for geographic and/or spectrum segmentation for AFC systems within standard power RLAN, as our understanding is that Wi-Fi devices do not require coordination amongst themselves. As Wi-Fi operates on a contention-based protocol, Automatic Channel Selection (**ACS**) is an inherent Wi-Fi capability. Assigning frequency segments would result in spectrum inefficiencies and additional administrative burdens.

A guard band is required between standard power RLAN operation and the upper 6GHz band to protect IMT services. Optus considers that a 160 MHz (6425 – 6485 MHz)<sup>2</sup> guard band is appropriate to provide sufficient protection for IMT services in the upper 6 GHz Band as well as allowing VLP/LPI Wi-Fi devices to operate without standard power interference.

**Q7. 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?**

Optus is comfortable with either approach providing there are ways for incumbent operators to locate a potential interferer, including contact information and that the ACMA have sufficient powers to enforce compliance.

It is for the ACMA to determine the appropriate operational framework. We anticipate that the introduction of an AFC will involve comprehensive engagement with all stakeholders to mitigate the inherent risks associated with its implementation.

Significant consultation with the mobile industry, NBN, APs and other experienced and incumbent spectrum users and managers is required to ensure the specifications, measures of success, compliance, escalation and all other aspects of a spectrum management regime are present and adequately enforced.

**Q8. 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?**

Optus considers that it is best practice to hold all data used for frequency coordination in a single database. Having one database removes the complexities in coordination between multiple databases and ensures calculations, propagation models and interference management are standardised, repeatable, testable and visible to all users of the database or AFC system. Ideally the RRL or its replacement should be the single source of data for any system of this nature.

The current RRL database may not be equipped to deliver the required functionality and should be reviewed in light of this proposed new purpose. It may therefore be necessary to provide the standard power RLAN locations and configurations in a separate database as an interim measure. The preferred solution is to have the RRL (or equivalent) containing the records of the operational standard power RLAN deployments. This would be managed by scheduling regular (most likely daily) data uploads/downloads between the AFC database and the RRL to ensure data alignment.

**Q9. What is the need for, and potential structure of, a tiered access model for incorporating standard power RLAN devices in the 6 GHz band?**

A tiered access model is appropriate to support AFC coordination rules. We agree with the ACMA's proposed hierarchical structure:

- 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.

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<sup>2</sup> Based on Question 5 response, standard power RLAN be allowed to operate only in the lowest 500 MHz in the 6 GHz band (5925 – 6425 MHz)

Incumbent users of licenced spectrum should be afforded the highest priority. Optus currently uses the lower 6 GHz band for fixed backhaul links that are designed for 99.995% reliability to support the critical infrastructure of mobile networks. These links provide backhaul connectivity and Triple Zero services to Australians. As such, it is appropriate to ensure greater interference protections than other services.

**Q10. 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?**

Optus considers that the closest licencing framework for standard power RLAN is the LIPD class licences used for VLP/LPI devices. As such, no licence should be needed for the operation of standard power RLAN.

Optus recommends that the AFC-coordinated devices are simply recorded in the RRL, without authorisation or licencing. An up-to-date record specifying the location, height and relevant AFC parameters is required for incumbent licensees to determine whether any observed change in performance may be attributable to interference.

As the AFC downloads RRL data each 24 hours, the AFC should also upload the standard power RLAN device details back into the RRL database at the same time.

This approach has the benefits of not requiring any licencing administration activities, providing visibility of use and supporting a wider range of use cases for the available spectrum.

**Q11. 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?**

It will be important to develop an AFC framework that suits the needs and demands of the Australian market, leverages the strengths of the existing regulatory environment, and sufficiently shields the incumbent ecosystem from interference risks. The processes, safeguards and subsequent compliance requirements would need to address two aspects: mitigation of interference risks, and facilitation of effective investigations and resolution of interference issues.

Optus considers that any AFC system should be accredited by the ACMA to ensure that the system is compliant with the Australian licensing framework. We suggest that existing experienced APs can also be engaged for further feedback on the structure, safeguards, reliability, integrity, operation and compliance aspects of any AFC or similar construct that is fit for purpose.

**Q12. 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?**

A prerequisite to the implementation of AFC is the specification of an appropriate coordination framework. Optus suggests that a Technical Liaison Group (TLG) is best placed to achieve this outcome.

Standard power RLAN trials which include recommendations on coordination requirements must involve the participation of incumbent operators in the relevant frequency bands. It is not acceptable to conclude that a successful standard power RLAN implementation is based on no reports of interference from parties who have not been engaged in the trial. Only the victim network can measure any interference impacts on existing incumbent services. A particular focus on risks to and potential impacts on existing fixed links and their ability to reliably carry

emergency calls is required. It is also important to include tests which specifically target corner cases and loading on each system.

Optus supports the inclusion of the coordination requirements to be added to Radiocommunications Assignment and Licensing Instruction (RALI) FX3 Microwave Fixed Services Frequency Coordination, which should include as a minimum:

- Limit on maximum EIRP and elevation angle to protect fixed satellite services
- Interference protection parameters
- Propagation models
- Method for addressing adjacent channel operations
- Minimum required distance separation
- Minimum AFC performance requirements - Maximum permissible EIRP, down to minimum level, including step size

As incumbent registrations have fixed locations and configurations due to the acquisition constraints, there is little change in the fixed users of the spectrum. When new PTP services are registered on the RRL, this occurs during the planning stage of site deployment and therefore there is a lag between the registration of the device and operation. Because of this, accessing the RRL data once every 24 hours is a reasonable procedure.

AFC systems should access each standard power RLAN device every 24 hours to:

- Receive the location and height of device
- Determine the frequency segments for use, using the coordination framework
- Instruct device on available frequency and power configurations
- Upload report standard power RLAN operations to RRL

In order to protect incumbents, standard power RLAN devices must revert to LPI/VLP power settings to meet the class licence conditions, under the following situations:

- Device not contactable by AFC
- Location of device has changed, and AFC has not communicated new settings
- Error conditions on standard power RLAN
- Error conditions on AFC

Figure 1 illustrates the suggested process for AFC coordination and record activities as described above.

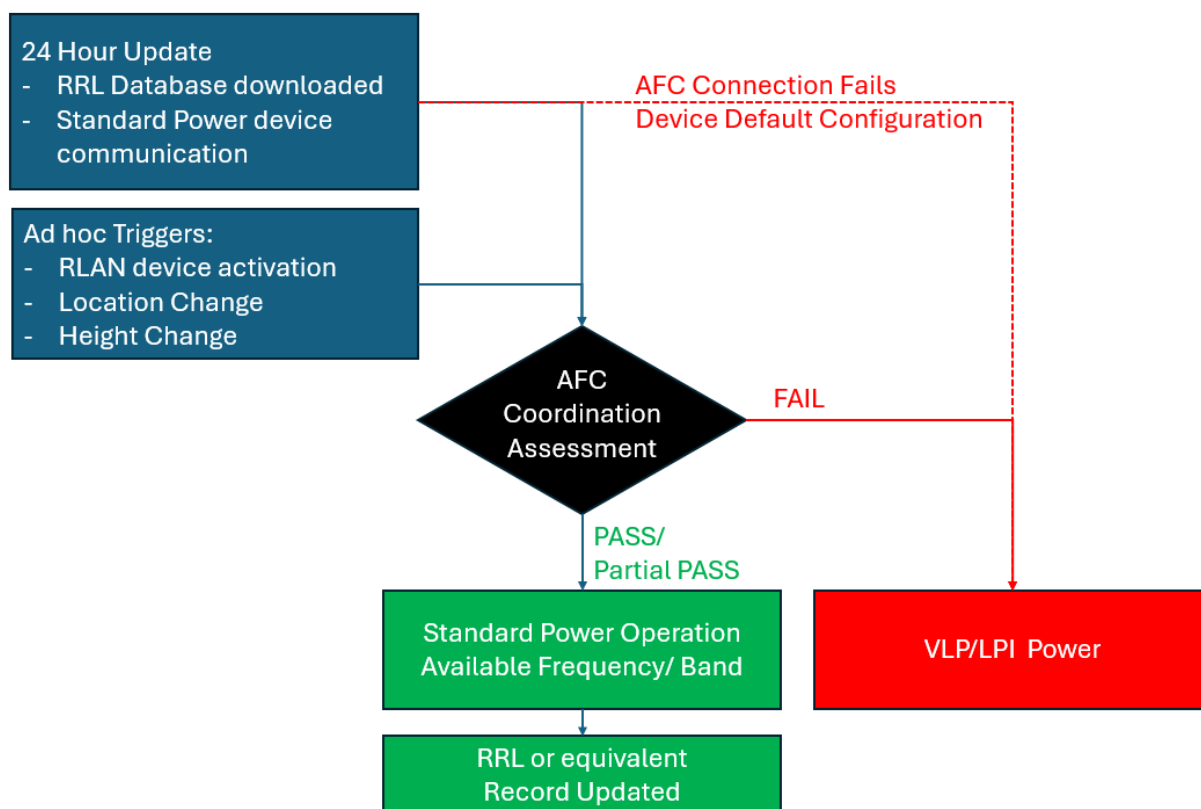


Figure 1: AFC Coordination Assessment Flow and record update

**Q13. 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?**

Optus believes that there must remain a single database for the device details and authentication information for any concerned stakeholder to refer to, and this database should be the RRL or a suitable equivalent, maintained under the sole authority of the ACMA. Further comments are included in Question 10.

**Q14. What is the expected market for the provision of AFC services in Australia?**

Optus cannot comment on the expected market for AFC services.

**Q15. 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?**

Any standards or specifications adopted should be commensurate with the criteria used to keep the RRL updated and fit for purpose. The specifics of any such standards are dependent upon the ACMA's chosen implementation, although any system should ensure adequate protections and record-keeping integrity for sources of interference to P2P systems to be readily identifiable.