



Submission in response to
ACMA Public Consultation

**Proposed updates to the
LIPD Class Licence for 6
GHz RLANs**

Public Version

December 2021

Proposed updates to the LIPD Class Licence for 6 GHz RLANs

Optus response to Consultation Paper (December 2021)

Executive Summary

Optus welcomes the opportunity to provide comment on the Australian Communications and Media Authority (ACMA) Public Consultation Paper: *Proposed updates to the LIPD Class Licence for 6 GHz RLANs*.

Optus supports the ACMA's ongoing work investigating the 6GHz band. We also support the ACMA's proposed revisions to the *Radiocommunications (Low Impact Potential Devices) Class Licence 2015* to authorise the operation of RLAN in the lower 500MHz of the 5925 – 6425MHz band. The use of IMT in the 6425 – 7125MHz band should be part of these deliberations.

Optus anticipates that demand for 5G services in sub-1GHz ("mid-band") spectrum will continue to grow exponentially. As such, Optus wishes to express a very strong preference for delay in the allocation of the upper 600MHz in the 6GHz band, preferably until after the outcomes of WRC-23 are known. This means that we oppose any decision being made on these matters prior to WRC-23.

In summary,

- Optus is strongly in favour of delaying a decision on the upper 600MHz until after WRC-23 has made its recommendations
 - There is no urgent need to release this spectrum as current demand for RLAN can be serviced by a lower 500MHz allocation
 - Delaying will provide additional time for studies into
 - Effectiveness of AFC or other interference management and coordination techniques in other markets before deciding on what to do in Australia
 - Interworking between IMT/Wi-Fi and satellite
 - Allow ecosystems and use cases to develop further so that the HVU can be more accurately determined for the band
 - Reduce the likelihood of an early decision that cannot be undone, leading to sub-optimal allocations in this or other bands
- We oppose the use of high gain antennas as described in the paper under class licences
 - The proliferation of 6GHz P2P links for Optus and Telstra and the need for their ongoing protection should be taken very seriously
- Consideration of and AFC into this or any band needs to
 - Function effectively to provide the protections required to other users in the band
 - Be carefully considered alongside preferable, complementary and alternative methods of providing protection to incumbents and new entrants, including apparatus licensing and device registrations
- Optus strongly recommends a review of the +24dBm EIRP limit in the 6GHz band for indoor WAN devices and we propose a limit of +30dBm EIRP. Indoor Wi-Fi Access Points currently deployed in the 5GHz band may only form a single 160MHz channel in the low power UNII-1 and UNII-2 low power band (limited to +23dBm EIRP). Based on our own testing, this EIRP provides poor, short range propagation within a home

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Optus will continue to support and actively participate in further discussions on alternate options to achieve the best outcome, HVU and most efficient allocation in the 6GHz Band.

Responses to Specific Questions

A number of the questions posed by the ACMA seem to operate on the assumption that the respondent is in favour of the early allocation of the upper 600MHz (i.e. before WRC-23 outcomes are known). As stated above, Optus does not support this approach and our responses to the ACMA's questions reflect this position.

Lower 6 GHz band/proposed update to the LIPD Class Licence

1. **Are the proposed out-of-band emission limits of -37 dBm/MHz for outdoor very low power (VLP) devices and -27 dBm/MHz for low power indoor devices suitable, both in terms of protecting intelligent transport systems (ITS) services and their effect on the operation of RLAN devices near/adjacent to the 5925 MHz boundary?**
2. **Is the specification of contention management protocols in the LIPD Class Licence necessary to enable equitable access between potentially competing technologies such as RLANs and 5G new radio-unlicensed (NR-U) services? If so, is the proposed condition, and the language used to express it, appropriate?**
3. **Are there any broader comments on the proposed update to the LIPD Class Licence?**

Optus supports the AMTA position in relation to questions 1-3.

Upper 6 GHz band/higher power RLAN devices

4. **Should the ACMA make arrangements that permit high-gain directional antennas (for example, for wireless internet service providers in remote areas) under a class licensing regime?**

Optus opposes the use of high gain-direction antennas in this band for the provision of WISP services under class licences.

5. **If 'high power' class-licensed devices were to be introduced under an AFC system, what aspects of the system would need to be considered in setting it up? Is there interest from industry in administering such a system?**

Optus prefers to wait until the outcomes of WRC-23 are known before responding fully to this question. However, any system considered would need to demonstrably work and provide the appropriate levels of protection to incumbent 6GHz P2P links.

6. **If 'high power' class-licensed devices were to be introduced under an AFC system:**
 - a) **Is there interest from industry in administering such a system?**
 - b) **Are there any impediments to developing and/or operating a system in Australia? What could be done to help enable, or otherwise encourage, the development and/or operation of a system in Australia?**

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- c) To what extent would an Australian system need to be aligned with those to be implemented elsewhere? What scope could there be for customisation in an Australian system?
- d) What aspects of an AFC system would need to be considered in the design, establishment, and ongoing operation, of such a system, including:
 - a. regulator and industry commitments
 - b. technical spectrum coordination and coexistence rules – for example, a tiered hierarchy framework for spectrum uses
 - c. IT infrastructure and system design, including security and system reliability issues
 - d. communication interfaces between an AFC system, the ACMA's Register of Radiocommunications Licences (RRL) and devices
 - e. ongoing interaction between the ACMA and system operators

Optus prefers to wait until the outcomes of WRC-23 are known before responding fully to this question. Optus does not support the introduction of high-power class-licensed devices.

7. **If 'high power' devices were to be introduced under a manual registration process, what might those arrangements look like? Would the introduction of apparatus licensing for such devices be an appropriate option?**

Optus prefers to wait until the outcomes of WRC-23 are known before responding fully to this question. However, apparatus licensing is a more sensible option.

8. **Would there be advantages in implementing different licensing and/or access management arrangements in different geographic areas for the use of high power RLAN devices?**

Optus prefers to wait until the outcomes of WRC-23 are known before responding fully to this question.

9. **Are there additional sharing scenarios and/or studies relevant to this band that have not been identified in this paper?**

Optus prefers to wait until the outcomes of WRC-23 are known before responding fully to this question.

5 GHz band

10. **In addition to comments made to the April 2021 consultation paper, do you have any comments on the other proposals for updates to the 5 GHz band listed in this paper?**

Optus supports the ACMA position to not consider making changes at this time.

11. **If outdoor and/or higher power RLAN devices were authorised in parts of the 5 GHz band (for example, 5150–5250 MHz), would it be appropriate to implement measures similar to those being considered for high power devices in the 6 GHz band (for example, a registration system, or apparatus licensing)?**

Optus supports registration of outdoor devices under this scenario.

12. **If high power devices were to be authorised in both the 5 GHz and 6 GHz band, would it be appropriate to use the registration/authorisation method and system for both?**

Optus suggests that this would only be required for outdoor devices.