



Submission in response to ACMA
Consultation Paper

**Response to the
implementation of the
Spectrum Pricing Review
(part 2)**

Public Version

December 2021

EXECUTIVE SUMMARY

1. Optus welcomes the opportunity to provide a submission in response to the ACMA's consultation on the proposed second tranche of reforms following the Spectrum Pricing Review – *Response to the implementation of the Spectrum Pricing Review (part 2) – consultation 38/2021*.
2. Optus understands that the focus of this second tranche of reforms is to respond to Recommendation 7 of the Government's Spectrum Pricing Review report which recommended that:

*The ACMA should undertake a detailed review of the administrative pricing formula's parameters including density areas, the number of pricing bands and the number of power categories. The ACMA should implement regular updates to the location and band weightings to reflect changes in density, demography and demand.*¹
3. To this end, the ACMA proposes to implement the following set of changes to the current set of location weightings that underpin the administrative pricing formula used to calculate the tax payable on apparatus licences:
 - (i) Amalgamate the three spectrum location bands between >30 to 403 MHz to form a single band.
 - (ii) Increase weightings for the 2,690 to 5,000 MHz spectrum location band for high and medium density geographic areas to reflect the relatively large increase in demand in this spectrum and higher prices for spectrum in these areas.
 - (iii) Introduce a new spectrum location band for services above 100 GHz, for which the amount of tax will be the minimum tax payable for any licence (currently, \$41.37).
 - (iv) Cease annual consumer price index (CPI) updates to taxes, and instead update taxes based on population growth specific to density areas.
 - (v) Update the density area definitions for Perth and Adelaide.
4. The location weightings used in the administrative pricing formula are out of date and in many cases, no longer reflect the value of the spectrum that may be the subject of the tax. Optus generally welcomes the amendments to the Radiocommunications (Receiver Licence Tax) Determination 2015 and the Radiocommunications (Transmitter Licence Tax) Determination 2015 to give effect to the above changes. Optus sets out its feedback to consultation questions relevant to Optus and reiterates points that it made in its submission to the ACMA's consultation on the first tranche of reforms in February 2021.

¹ Australian Government, Department of Communications and the Arts, Spectrum Pricing – review; p.9; available at: [Spectrum pricing—review \(infrastructure.gov.au\)](https://www.infrastructure.gov.au/spectrum/pricing/review)

PROPOSALS FOR UPDATING THE TAX FORMULA

Do you have any comments on the proposal to increase location weightings for the high and medium-density areas in the >2,690 to 5,000 MHz range?

5. Optus acknowledges the ACMA's comment to the effect that during the period 2005 to 2020, new assignments in the > 2,690 to 5,000 MHz range have been significantly higher than in other spectrum locations. The demand for this spectrum reflects its high utility for the delivery of new data intensive services, including 5G services. Optus commends the ACMA for prioritising the consideration of the reallocation of key spectrum bands, such as the 3400 – 3575 MHz and 3700 – 4200 MHz ranges, as indicated in the forward allocation workplan set out in the Five-Year Spectrum Outlook 2021-26.²
6. Given the high demand for spectrum in the > 2,690 to 5,000 MHz band, the ACMA is proposing to increase the medium-density area location weighting from 0.751 to 1.243 (65.5% increase) and the high-density area location weight from 1.853 to 2.689 (45.1% increase). Optus notes the ACMA's comment that as a result of the proposed changes to the location weightings, *"the ACMA expects that around 26 apparatus licensees in these band locations will face tax increases of \$1,541 on average, affecting mostly earth receive services"*.³
7. Optus supports changes that seek to optimise the use of spectrum in high demand frequency ranges. Optus considers that the proposed changes should assist in reducing the potential for congestion in the >2,690 to 5,000 MHz range and ultimately supporting any reallocation of key spectrum to maximise its use for 5G services. Accordingly, Optus supports the ACMA's proposed changes to the location weightings in these spectrum locations.

Do you have any comments on the appropriateness of the proposed spectrum location weighting for frequencies above 100 GHz?

The minimum tax in the proposed band above 100 GHz is intended for services exhibiting limited interference potential to other services. Should the ACMA restrict the minimum tax above 100 GHz to services, such as optical communications, with known limited spectrum denial?

8. Optus supports the proposal to create a new band above 100 GHz and set tax rates for these services at the minimum tax rate. Optus notes the observation in the Five-Year Spectrum Outlook 2021-26, that *"the amount of spectrum available and its potential for sharing due to propagation characteristics, has opened significant new opportunities for spectrum availability in these bands, subject to further technology advances and the development of commercial use-cases"*.⁴
9. Optus agrees there is a lower interference potential in these frequency ranges and considers that the proposed amendment will facilitate greater access to frequencies above 100 GHz and ultimately support the business case for technology onboarding in high band spectrum across Australia.

² Five-year spectrum outlook 2021–26 work program, September 2021, p.43

³ Response to the implementation of the Spectrum Pricing Review (part 2); Consultation on the second tranche of reform proposals; October 2021, p.8

⁴ fn 2; p.12 citing OfCom's [Statement: Supporting innovation in the 100-200 GHz range](#), 2020

10. Optus notes that, in general, 100 GHz is at such a high frequency, antenna performance is excellent and propagation losses are high, so provided some power limits are adopted that allow economic use of the band, Optus considers there may be no reason to limit use to optical devices.

Do you have any comments on the proposed method to update taxes by reference to population change, rather than annual adjustments based on the consumer price index?

11. In principle, the tax levied on apparatus licences allows the ACMA to create economic incentives for efficient use of the spectrum. It also encourages licensees to use the minimum amount of bandwidth for their needs, to move to less congested bands, and to surrender licences that are no longer needed.
12. As noted in our February 2021 submission, it is Optus's view that "In general, fees for apparatus licences should be based solely on the ACMA's administrative costs, and only where there is excess demand, a component to represent the opportunity cost of the use of the spectrum." The current Apparatus Licence Fee Schedule sets out the "assigned licence tax formula":⁵

The annual tax is calculated by multiplying the factors listed below:

	Normalisation factor
	Bandwidth
x	Power
	Location weighting
	Adjustment factor
=	Annual tax

13. The normalisation factor is currently listed as "0.28209675121524" with the description that "the constant converts the relative spectrum values provided by the rest of the formula to an actual dollar figure. It is updated by CPI adjustments every year to keep licence taxes constant in real terms."⁶
14. The consultation paper states that "a better approach to regularly updating taxes includes the following:
- Removing the link between the normalisation factor and adjustments to CPI.
 - Introducing unique normalisation factors for high, medium, low and remote-density areas and Australia-wide linked to adjustments in population.
 - Adjusting each normalisation factor annually on a more granular level by changes in area-specific population for each density classification.
 - Using Australian Bureau of Statistics (ABS) dataset 'Population estimates by significant urban areas' to track annual changes in area-specific population.

⁵ Apparatus licence fee schedule July 2021, p.38

⁶ Ibid

15. Optus agrees in principle with the proposal to change the method of calculating the assigned licence tax formula. Optus considers that the proposed change should help achieve the stated objective of ensuring that the applicable tax will better reflect demand for spectrum in a specific area which ultimately should promote the highest value use of spectrum in affected areas. Further, given that population change in an area tends to be relatively gradual, the amount of tax applicable to the licence should be more consistent than the changes that may flow from CPI fluctuations. Optus also agrees that the proposed change may help avoid any disproportionate increase in licence tax for areas of lower demand that may arise from applying CPI across all licences.
16. That said, on the basis of the information available, Optus considers that there remains insufficient transparency over how the proposed change may impact the annual tax for assigned licences, including those set out under “annual licence tax tables” included in relevant Divisions of the Apparatus Licence Fee Schedule. For example, it remains unclear to Optus what the numerical value of the new “unique normalisation factors” for high, medium, low and remote density areas, as well as Australia wide are. As a matter of good practice, Optus would expect to be consulted on the actual numerical value of the normalisation factors before forming a final view.
17. Further, Optus also notes that introducing unique normalisation factors based on the area density would appear to potentially duplicate the role of location weightings in the calculation of the applicable tax. A similar argument may be made in relation to the adjustment factor applicable to Division 4 “Assigned licences in high demand frequency”.⁷ At the very least, the proposal may further complicate the calculation of the applicable tax, which in Optus view, is an outcome that is unlikely to be conducive to efficient spectrum assignment.
18. Optus has previously raised concerns that many of the assumptions underpinning the licence tax formula, hence the resulting tax schedules, remain complex, unclear and non-transparent.⁸ Similarly, Optus does not consider that the proposal as currently described, aligns with the stated focus on “Transparency and ease of calculating taxes”.⁹ If in fact the normalisation factors are determined by references to the new proposed population and assignment density metrics,¹⁰ then this should be made abundantly clear, with further explanation as to how this will apply in the calculation of tax.
19. While Optus agrees in principle that the introduction of normalisation factors reflecting local population density and ultimately spectrum demand should help promote the efficient use of spectrum, this support is conditional on the ACMA providing greater transparency over what the normalisation factors will be and how the annual adjustments may be made and communicated.

Do you have any comments on the density area framework, proposed density area definitions, or proposed changes to the Perth and Adelaide medium-density areas?

20. Optus wishes to reiterate that the experience of the pandemic has highlighted the essential nature of telecommunications services to many facets of Australia’s economy and society. In Optus view, the allocation of spectrum, together with the charging for access to spectrum, should reflect the impact it

⁷ Apparatus Licence Fee Schedule, July 2021

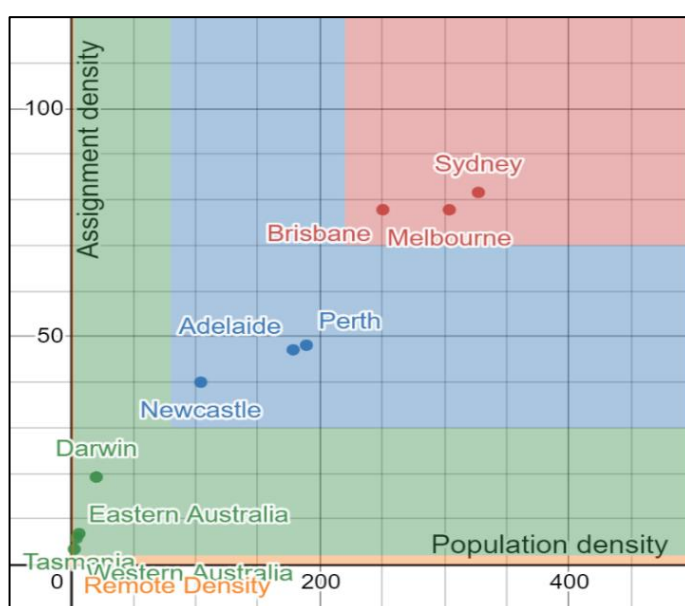
⁸ Optus June 2020 submission on the Implementation of the Spectrum Pricing Review

⁹ Focus Area 6

¹⁰ described on pages 13 and 14 of the Consultation Paper

has on the economics of mobile networks – and directly through to the affordability of essential mobile communications services for consumers.

21. While Optus understands the rationale for the proposed changes to geographic boundaries of the “medium density” areas applicable to Perth and Adelaide, as the ACMA acknowledges, these changes will inevitably result in higher taxes for the 216 Optus licences affected. This price increase may adversely impact Optus’ capacity to continue the industry leading levels of investment Optus made in mobile infrastructure during 2020-21.¹¹
22. Nevertheless, Optus acknowledges that the realignment of the geographic boundaries more accurately reflect the growth of Adelaide and Perth and results in a more up to date geographic area classification for these cities (as reflected in Figure 4 of the consultation paper and reproduced below):



23. Optus welcomes the publication of the population and assignment density metrics that the ACMA intends to use to classify geographic areas. However, Optus would welcome further information on the source of these definitions. It is Optus understanding that these metrics will not result in any further immediate changes to the density area boundaries (other than for Adelaide and Perth) set out in both Licence Tax Determinations.
24. While the ACMA may not intend to adjust the boundaries for other metropolitan areas at this time, Optus encourages the ACMA to commit to ensuring that the boundaries remain up to date and fit for the purpose of reflecting the spectrum demand in what may otherwise be less dense sections of “high density” areas. In particular, Optus submits that the classification of Wollongong and Geelong as part of the Sydney and Melbourne regions may warrant reconsideration.
25. As noted above, Optus also considers that it remains unclear how these metrics may be used in the assigned licence tax formula, if at all. Optus seeks further written explanation from the ACMA about these matters, including by way of explanatory guidelines or the explanatory statement to accompany the final draft of the amendment instruments. Optus urges the ACMA to improve the transparency of the assigned licence tax formula and application of the

¹¹ ACCC, Mobile Infrastructure Report, December 2021, p.11 [Mobile Infrastructure Report 2021.pdf \(accc.gov.au\)](https://www.accc.gov.au/publications-reports/mobile-infrastructure-report-2021)

proposed changes thereto in the final draft of the amendment instruments and would welcome further consultation on the proposed normalisations factors.

PROPOSAL TO ADJUST TRANCHE ONE REFORMS

Do you have any comments on these proposed adjustments to the tranche one reforms?

26. Optus welcomes the “tranche one reforms” introduced through the Radiocommunications (Transmitter Licence Tax) Amendment Determination 2021 (No. 2), and the Radiocommunications (Receiver Licence Tax) Amendment Determination 2021 (No. 2), which came into effect on 12 July 2021. Optus commends the ACMA for introducing significant reductions in the tax regime for services above 5 GHz.
27. Optus also welcomes the Spectrum Pricing Guidelines and reiterates the need for continuing work to ensure that “the ACMA should apply opportunity cost pricing to a greater number of spectrum bands, especially where it is impractical to competitively allocate spectrum. This work should be identified in the ACMA’s annual work program. The ACMA should consider more time effective approaches to implement these, and review fees as market conditions change over time.” (Recommendation 8 of the Spectrum Pricing Review).
28. Optus has no comment in regard to the ACMA’s proposed further adjustments to the tranche one reforms relating to the definition of low-power and micro power spectrum and the earth station systems price other than to note that we agree with the ACMA’s view that the proposed amendment relating to the latter should allow operators for more flexibility in earth station system configuration.

OTHER PRICING ISSUES

Do you have suggestions for any additional pricing measures the ACMA could consider to encourage spectrally efficient technology deployments?

Are there any other comments that you would like to give relating to the proposals in this paper or other aspects of the apparatus licence tax regime?

29. Optus wishes to reiterate a number of points that it has raised in previous submissions relating to the Spectrum Pricing Review. These comments are made in the context of this consultation and the need to ensure the sustainability of the industry in light of lower revenues and higher investment costs demanded by next generation networks and services.
30. Optus stresses that spectrum pricing and tax arrangements serve as a tool to manage spectrum efficiently and effectively. Consistent with the requirements under the Radiocommunications Act, spectrum pricing should have no role other than to ensure the efficient allocation and use of spectrum; and to recover the cost of spectrum management.
31. Optus considers that market-based allocations, which allow the market to determine the opportunity cost of the spectrum, are the most effective at ensuring the scarce resource can be allocated to those parties that value its use the most. However, the licence hierarchy should be consistent with the pricing

approach and there remains a role for both market-based and administrative based allocations to continue to operate.

32. Licence fees should reflect the difference in licence conditions within the same frequency ranges. In general, fees for apparatus licences should be based solely on the ACMA's administrative costs, and only where there is excess demand, a component to represent the opportunity cost of the use of the spectrum. Where there is no excess demand opportunity cost will be zero.
33. The ACMA has stated that as part of "Focus Area 6" it will provide greater transparency to its previous decision making by providing more details of pricing decisions in its Apparatus Licence Fee Schedule. It is vital that operators are able to understand and plan network investment on the basis of clear and transparent information. Any unplanned uplift in taxes payable may have implications (through possible uplift in spectrum costs) for future network investment, innovation and the cost of new services to consumers.
34. Accordingly, the ACMA should seek to ensure that all fees and charges, including all taxes, are clear and transparent. While the proposed changes to the pricing formula are welcome in principle, for the reasons outlined above, Optus remains concerned about the level of clarity and transparency in the calculation of applicable taxes. The ACMA should seek to ensure the regulatory settings remain supportive of the roll out of 5G infrastructure and services. While acknowledging that there is increasing demand for spectrum from a wide range of sectors, mobile network operators remain key to delivering 5G due to the economies of scale and scope that can be achieved with size.

Scientific licences

35. Optus notes that licensees are strictly required not to use scientific licences for commercial purposes, and to not cause interference and also be afforded no rights to protection from interference while conducting testing. There is often no opportunity cost since the licences are temporary in nature. Therefore, the cost of scientific-assigned licences should be based on administrative costs only.
36. As noted in the FYSO, the ACMA is reviewing scientific assigned and non-assigned apparatus licensing arrangements. The broad objective of the review is to ensure that suitable, low-cost licensing arrangements are available for spectrum users to trial and assess new and innovative radiocommunications technologies. To ensure consistency, Optus supports the need to align the ACMA's pricing work program for scientific licences with its licensing review.

Remaining recommendations of the Spectrum Pricing Review

37. Optus acknowledges that some of the recommendations of the Spectrum Pricing Review, particularly recommendations 9, 10 and 11, concern changes to primary legislation, and are therefore matters for Government. However, the ACMA has noted that it believes it is able to implement aspects of these recommendations under the existing legislative framework and through the ACMA's Five Year Spectrum Outlook.
38. Optus supports the early and effective implementation of recommendations that simplify the requirements and processes and improve transparency over the charges applicable to spectrum access. The use of charges should be consistent with the Australian Government Charging Framework. Optus reiterates its view that reform guided by these principles will assist the ACMA and the Government to realise broader spectrum policy objectives.