



Telstra submission: ACMA Draft Five-year spectrum outlook 2025–30 and 2025–26 work program.

Public submission

17 April 2025



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1 Introduction

We welcome the opportunity to provide our comments to the Australian Communications and Media Authority (ACMA) in response to the Five-year spectrum outlook (FYSO) 2025–30 and 2025–26 work program Draft for consultation¹ (Draft consultation). The effective management and allocation of spectrum is critical to driving innovation, improving connectivity, and enhancing the digital experiences of Australians. We are committed to working with the ACMA and other stakeholders to ensure that Australia's spectrum resources are used efficiently and effectively to deliver the best possible outcomes for consumers and businesses alike.

The amount of data being consumed over mobile networks continues to grow at rapid pace. Certainty in the renewal of expiring spectrum licences (ESLs) process for licence holders will enable licence holders to effectively plan their future network investment to meet this demand. Alongside this, the increasing take-up of 5G, the likely commercialisation of 6G by the end of this decade, domestic implementation of Wi-Fi 6E and Wi-Fi 7, and the emergence of low-earth orbiting (LEO) satellite constellations are all factors that the Australian Communications and Media Authority (ACMA) needs to consider for the FYSO.

Prioritisation of the ACMA's work plan

Our number one priority is the renewal of ESLs and we consider the ACMA should have also have this as its highest priority to ensure Stages 3 and 4 are completed in sufficient time for the first bands that expire in 2028. Overall, we recommend the spectrum work program be prioritised as set out in Table 1 below, with further detail provided on each of the priorities in the body of our submission.

It is important to note that the priorities we recommend in Table 1 are not intended to represent a sequential work plan. They represent the importance of the activity or spectrum band to our business over the remainder of this decade. For example, we consider the 2 GHz MSS band more important than the 600 MHz band, because the former is required for LEO satellite Direct-to-Device (D2D) services, whereas 600 MHz will be a pioneer low-band for 6G technology. However, we note that a second digital dividend to free up 600 MHz spectrum will be a significant and lengthy undertaking, so it is imperative this work begins immediately. In this regard, we note that to achieve the required timelines, many of the activities in this table will need to be conducted in parallel.

¹ The ACMA, 2025, *Draft Five-year spectrum outlook 2025–30 – consultation*, available at <https://www.acma.gov.au/consultations/2025-03/draft-five-year-spectrum-outlook-2025-30-consultation>



Table 1: Prioritisation of the ACMA's work plan.

Activity	Priority	Comment
Renewal of expiring spectrum licences	1	This should remain the ACMA's top priority. It is essential that Stages 3 and 4 are completed on the current ACMA schedule, to enable applications to be lodged no later than two years prior to expiry of the first licences to be renewed. This is to enable licensees to understand their renewal costs and the impact of any changes to their licence attributes and conditions, for example, introduction of a secondary licensing framework (SLF).
Implementation of the 'upper' 6 GHz band	2	The upper 6 GHz band should be the ACMA's second highest priority. This is not to say the ACMA should hasten its allocation of the bottom 160 MHz to RLAN. On the contrary, the ACMA should urgently reconsider its overall structure of work in the upper 6 GHz band, recognising that (a) there are multiple legitimate use cases and (b) the technical compatibility between these use cases must be fully resolved before any allocations take place.
2 GHz MSS band allocation	3	Any future spectrum that can be used for LEO D2D is important given continued evolution of technology and noting the Government's announcement of a Universal Outdoor Mobile Obligation (UOMO). The FYSO notes the ACMA will further consult on allocation in Q2 2025, and we urge the ACMA to prioritise the allocation of this spectrum by auction in 2026.
Allocation of 600 MHz (617-694 MHz) in 5-year horizon.	4	Low-band spectrum is vital for terrestrial coverage in regional and remote locations. A new low-band is required for the advent of 6G to avoid the need to refarm 4G and/or 5G spectrum, to meet traffic growth and to provide options should low-band spectrum prove to be important for LEO D2D services. We note the long lead time required to allocate this band and urge the ACMA to accelerate now with an allocation date of no later than 2032.
2.5 GHz Spectrum Licence Technical Framework (SLTF)	5	Beyond the renewal of ESLs, upper 6 GHz and the three new bands, we consider completing the "modernisation" of existing IMT bands to allow 5G and Active Antenna Systems (AAS) to be used, is the next highest priority. The 2.5 GHz band is the last band awaiting "modernisation", and ideally the review of the SLTF needs to be completed by the end of 2025.
1.8 GHz and 2.1 GHz outside Spectrum Licensed areas (Options Paper)	6	We welcome the ACMA's proposed timing of Q3 2025 for an outcomes paper following the 2024 consultation (and reply period) on the two bands.
Remove permanent restriction to protect Radio Altimeters.	7	We propose the ACMA should introduce a new item into its program of work to look at removing the permanent restriction (72 dBm EIRP limit) from the 3.7 GHz band. This licence condition complicates, and therefore is a barrier to, defragmentation.



Activity	Priority	Comment
1.5 GHz (1427–1535 MHz)	8	Commensurate with our comments on the 2 GHz MSS band, any future spectrum that can be used for LEO D2D is important. We welcome the ACMA's intention to release the outcomes paper (from the Oct 2023 consultation) in Q3 2025.
Monitoring of the 4400-4800 MHz, 7125-8400 MHz and 14.8-15.35 GHz.	9	A pipeline of future spectrum supply is essential to meet the demands of IMT growth in the next decade. This activity appears in ninth place, not because it is not important (on the contrary, new 6G spectrum is our critical long-term priority), but because the other activities with higher priorities (above) are relatively more important in the near term.
Power Class 1 and 1.5 user equipment in the 3.6 GHz band.	10	We suggest that ACMA consider a new project this year (2025) to raise the registration exemption limit for user equipment to include PC-1.5 and PC-1 devices for fixed wireless access.
More microwave bands/more flexibility in existing bands	11	There is an opportunity in the short-medium term to optimise some of the existing bands allocated to high-capacity fixed point-to-point links and we are proposing this as a new item of work.
Allocation of 40 GHz	12	The ACMA should continue to monitor developments globally in this band, with a view to ensuring a pipeline of future spectrum for IMT.

In section 4 of our submission, we identify several additional work items we consider the ACMA should add to its work plan. We have not offered a priority ranking relative to the major spectrum items covered in the table above, as these are smaller activities in comparison, and we consider these items could be progressed in parallel with the items in the table above.

Our submission focusses largely on the spectrum needs (and priorities) of International Mobile Telecommunications (IMT) bands. This does not mean that we consider other uses of radio-spectrum to be unimportant or less valuable. Indeed, Telstra is an extensive user of radio spectrum across a wide range of uses including satellite, fixed link and point-to-multipoint services. Our focus simply reflects where we consider the ACMA should prioritise its work program over the coming five years.



2 Detailed comments on individual activities in the Draft FYSO

This section of our submission provides detailed commentary on each of the items in Table 1.

2.1 Renewal of Expiring Spectrum Licenses

The foreword to the Draft FYSO makes it clear ESL is a key priority for the ACMA, and we support the ACMA's continued focus on this activity, given the capital investment costs for MNOs and the importance of the mobile network to Australian consumers and businesses.

Telstra welcomes the ACMA's Stage 3 consultation paper² on expiring spectrum licences providing its preliminary views and options on how these licences should be allocated, as these bands are fundamental to the delivery of wireless broadband services across Australia. Licensees should be provided with as much certainty as possible prior to the point at which renewal applications may be lodged (legislated as 2 years prior to expiry³). Telstra will respond to the Stage 3 consultation paper separately.

However, we are concerned about the time remaining for the ACMA to complete the ESL work. The Stage 2 ESL consultation paper⁴ showed Stage 3 originally commencing in Q4 2024 (Figure 1, p.7). After delays, Stage 3 only commenced this month, representing a slippage of around 4-5 months. If technical changes are required, which by definition are changes to licence core conditions, (e.g., introducing a 1 MHz downshift to the 850 MHz band), then these need to occur as a part of Stage 4 using a TLG-style process.⁵ Technical changes to a licence can be time-consuming to complete, and we are concerned that even if the ACMA is able to process the responses from Stage 3 quickly, such that Stage 4 starts before the end of this calendar year, there may be insufficient time to conduct Stage 4 on the first two renewal bands (850 and 1800 MHz) prior to publishing the Renewal Application Pack (RAP) by 18 June 2026, as per the ACMA timetable for ESL⁶. Telstra believes that the ACMA needs keep a sharp focus on the work in the remaining phases of the ESL process, to avoid falling further behind schedule.

2.2 Implementation of the 'upper' 6 GHz band

The upper 6 GHz band is an extremely important band with a complex range of aspirational use cases and incumbency use. We recognise the ACMA is treating this band as a high priority, as illustrated by the ACMA's consultation on changes to the LIPD licence to augment RLAN capacity. However, Telstra strongly recommends the ACMA undertake a strategic forward planning approach for this band. The entire package of work, including IMT, RLAN, TOB, incumbent PTP and FSS use, geographic areas and frequencies needs to be considered, prioritised and sequenced appropriately. Australia's market size also means it is imperative the ACMA takes note of and follows other jurisdictions to ensure we leverage global device economies of scale. The most relevant jurisdiction to the Australian case is the European Conference of Postal and

² The ACMA, April 2025, *Expiring spectrum licences, stage 3 Consultation paper*, available at [Expiring spectrum licences stage 3 - Consultation paper.pdf](#)

³ See section 77A(3) of the Radiocommunications Act 1992.

⁴ The ACMA, March 2024. *Expiring spectrum licences (stage 2) – information gathering, and views on uses of frequency bands and alternative licence conditions*. Available at: <https://www.acma.gov.au/consultations/2024-03/expiring-spectrum-licences-stage-2-information-gathering-and-views-uses-frequency-bands-and-alternative-licence-conditions>

⁵ It is possible the 1 MHz downshift may require changes to the technical characteristics of a licence, such as out-of-band emissions (OOBE) and/or interference coordination mechanisms as specified in a Radiocommunications Advisory Guideline (RAG). Making such changes requires a Technical Liaison Group (TLG) to afford stakeholders the opportunity to contribute to the design of those changes.

⁶ Draft FYSO, p54



Telecommunications Administrations (CEPT), as they have previously allocated the 'lower' 6 GHz to RLAN and are now conducting co-existence studies which will inform efficient use of the 'upper' 6 GHz band. We note:

- CEPT understand that, to achieve an efficient allocation outcome, both RLAN and IMT must be studied together. RLAN and IMT impact one another, and it is not possible to study or allocate them in isolation;
- CEPT is studying RLAN and IMT use of the upper 6 GHz band scheduled for completion in 2027, and no allocation decision for either RLAN or IMT will be made ahead of completing the studies; and
- Studies are deliberate, detailed and comprehensive, and have the following status at present:
 - Spectrum sharing between RLAN and IMT has been studied in detail⁷. The report is currently open for consultation⁸. The study shows that, while theoretically possible, implementation realities make sharing practically infeasible because extensive adaptation to both RLAN and IMT equipment, 3GPP / IEEE specification work and standards harmonisation are required; and
 - A mandate⁹ has been issued by the European Radio Spectrum Policy Group (RSPG) to the CEPT to study coexistence options between adjacent RLAN and IMT, and if options can be identified, develop technical parameters to maximise the efficient use of spectrum. The mandate identifies three tasks to be delivered in a phased approach, with the final deliverable scheduled for July 2027.
 - Importantly, it is the intention of the RSPG that implementation decisions are not made until at least the task) on identifying options is completed and the associated report has been sent from the CEPT to the European Commission.
 - The European Commission issued requirements to ETSI to adopt stronger RLAN filtering requirements in 2014¹⁰. It is recognised that these requirements are not sufficient and further filtering requirements have been proposed¹¹. These will be adopted by ETSI standards as the upper 6 GHz arrangements are finalised.

While Ofcom is contemplating a different approach in the UK (currently consulting¹² on introducing RLAN up to 6585 MHz), we note Ofcom is ultimately subject to CEPT decisions and depends upon the standardised European ecosystem harmonised by ETSI. We also note that Brexit means Ofcom is no longer a member of

⁷ CEPT, January 2025, *Draft ECC Report 366, Feasibility of a potential shared use of the 6425-7125 MHz frequency band between Mobile/Fixed Communications Networks (MFCN) and Wireless Access Systems including Radio Local Area Networks (WAS/RLAN)* <https://cept.org/files/2099/Draft%20ECC%20Report%20366%20.docx>

⁸ CEPT, January 2025, *PT1#80 completed the technical studies on the shared use of the upper 6GHz*, available at <https://www.cept.org/ecc/groups/ecc/ecc-pt1/news/pt180-completed-the-technical-studies-on-the-shared-use-of-the-upper-6ghz>

⁹ European Commission, RSPG. Dec 2024. *Mandate to the CEPT to study feasibility of, and develop least restrictive harmonised technical conditions for the potential shared use of, the 6425-7125 MHz frequency band*. Available at: <https://cept.org/files/1412/Mandate%20to%20CEPT%20upper%206%20GHz%20band.pdf>

¹⁰ European Commission, April 2014. *Directive 2014/53/EU on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC*. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0053>

¹¹ CEPT, May 2024, *ECC Recommendation (24)01, Receiver resilience to transmission on adjacent frequency ranges*, Annex 6. Available at <https://docdb.cept.org/download/4491>

¹² Ofcom, February 2025. *Consultation: Expanding access to the 6 GHz band for commercial mobile and Wi-Fi services*. Closes, 8 May 2025. Available at: <https://www.ofcom.org.uk/spectrum/innovative-use-of-spectrum/consultation-expanding-access-to-the-6-ghz-band-for-commercial-mobile-and-wi-fi-services/>



the European Radio Spectrum Policy Group (RSPG). So, we urge caution in interpreting Ofcom commentary as being definitive, particularly where it differs significantly from CEPT / RSPG positions. Further to this, the EU with a population that is approximately 6.5 times that of the UK, lessens the ability of Ofcom to influence outcomes in this process.

With these comments in mind, we consider the ACMA's approach to allocate RLAN spectrum:

- a) ahead of IMT spectrum is out of step with the European Commission, CEPT and best practice;
- b) without having contemplated the technical parameters around RLAN / IMT coexistence, is creating the risk of inefficient spectrum use in highly desirable and important mid-band spectrum; and
- c) without consideration for Australia's reliance on globally harmonised ecosystems in both RLAN and IMT, will lead to non-standard RLAN and IMT equipment requirements.

To underscore the point: upon reading CEPT literature including ECC Report 366, it becomes abundantly clear that CEPT will ultimately recommend a coexistence solution that imposes requirements on both RLAN and IMT equipment. A premature allocation decision in Australia will lead to commercial Wi-Fi equipment that is incompatible with the European ecosystem, meaning that Australian Wi-Fi equipment would be unable to make effective use of any spectrum allocated above 6425 MHz, not to mention significant impacts on Australian IMT deployments.

The European situation contrasts with the US, in which the FCC allocated the entire 6 GHz band to RLAN equipment in 2020¹³. While this decision was welcomed by the US Wi-Fi community, the US now face great difficulties in securing IMT spectrum suitable for 6G in time for a 2030 commercial launch. 7-8 GHz is the US' best option, but it is well understood that this band is heavily incumbered by defence, aviation and satellite services. In addition, 6 GHz Wi-Fi equipment manufactured for the US market is designed for the full 1200 MHz bandwidth and does not include adequate filtering for coexistence with IMT in the upper 6 GHz band.

The ACMA has also foreshadowed further permutations for the upper 6 GHz band, including standard-power RLAN devices,¹⁴ dynamic access using AFC,¹⁵ and apparatus licensing for RLAN equipment in regional and remote parts of Australia¹⁶.

We urge the ACMA to adopt a more structured and sequenced approach to the allocation of upper 6 GHz spectrum:

- Remake the LIPD class licence with no modification to 6 GHz frequency ranges, noting that the LIPD is reviewed regularly¹⁷.
- Commence a Technical Liaison Group (TLG) in Q3 2025 taking note of outcomes from the May CEPT coexistence studies. This will inform guard band (if required) size, OOB requirements and will also inform receiver filter requirements to avoid receiver blocking (especially for RLAN equipment).

¹³ FCC, <https://www.fcc.gov/document/fcc-opens-6-ghz-band-wi-fi-and-other-unlicensed-uses>

¹⁴ Draft FYSO, p.51.

¹⁵ Draft FYSO, bottom of p.51 and p.52.

¹⁶ Draft FYSO, bottom of p.42.

¹⁷ Draft FYSO, p.56, footnote 41



- Holistically consider all proposed and incumbent use, including standard-power RLAN devices, dynamic access using AFC, and apparatus licensing for RLAN equipment in regional and remote parts of Australia.
- Gather information and analyse TVOB requirements at the top of the upper 6 GHz band (up to 7250 MHz) and involve the TV industry in planning for future use of this spectrum;
- Consider geographic requirements and ongoing incumbent use; and
- Determine appropriate clearance dates (as required) for incumbent users of the upper 6 GHz band to give industry certainty.

Once the strategic planning and TLG is complete, then and only then, commence allocation processes to enable full access from 2030, with possible early access mechanisms in place from 2028.

2.3 2 GHz MSS band allocation (auction)

Telstra supports the ACMA undertaking a public consultation on allocation, licensing and technical matters for the 2 GHz spectrum in Q2 of 2025, which will help inform the planned allocation instrument consultation in Q4 2025¹⁸. As stated in our previous submission to the draft FYSO 2024-29¹⁹, Telstra considers satellite delivery to be an important evolution in the provision of mobile services, and the 2 GHz MSS band has been identified as a possible candidate for this purpose.

We reiterate the importance of recognising that demand for 2 GHz MSS spectrum is likely to outstrip supply, meaning that allocation by auction will be necessary. We urge the ACMA to prioritise an auction in 2026 to secure the availability of this spectrum. We also highlight the importance of sovereign ownership of MSS spectrum, noting that mobile network services are now considered critical infrastructure by government and the community, reflected in the Government's recent UOMO announcement. For these reasons, participation in the 2 GHz MSS spectrum auction should be limited to domestic operators.

2.4 Allocation of 600 MHz (617-694 MHz) in 5-Year horizon

The ACMA notes²⁰ the Government is proposing to explore future options for television broadcasting, which may include considering future spectrum needs. As we mentioned in our 2024 FYSO submission, this band will be required by the IMT industry, most likely for 6G deployment, around the end of this decade. We highlight the increasing pressure on low-band spectrum, particularly in regional Australia, with MNOs juggling the needs of 4G, 5G, 6G and possible future LEO D2D / NTN solutions to meet a possible UOMO.

The ACMA should be mindful of the long lead time to implement a wholesale re-engineering of the terrestrial broadcast network and should therefore increase focus and momentum with a view to developing policy for the future use of this band. We are encouraged by recent broadcast technology

¹⁸ Draft FYSO, pp 29-30

¹⁹ Telstra, 2024, *Telstra Group Limited, Five-Year Spectrum Outlook 2024-2029*, available at <https://www.acma.gov.au/consultations/2024-03/2024-29-draft-five-year-spectrum-outlook>

²⁰ Draft FYSO, p.31



developments, already deployed in other countries²¹, which will facilitate the freeing up of 600 MHz spectrum.

We would like to draw the ACMA's attention to the 2021 report by Kordia and JedTech²², commissioned by the Government to provide technical advice on the potential consolidation of television broadcast spectrum. The report concluded that all scenarios modelled would allow free-to-air television services to be delivered using less radiofrequency spectrum than is currently used. The report also concluded that a reduction in spectrum of up to 84 MHz is possible in some scenarios in the 610-694 MHz band, which accommodates the APT600 band.

We encourage the ACMA to work with the Government (the Department of Infrastructure, Transport, Regional Development, Communications and the Arts) to develop a program of work that would facilitate reallocation of the 600 MHz band to IMT by the end of the decade. The work should target full IMT access by 2032, at which time 6G rollout will be targeting regional Australia. While we have set this at a lower relative priority to the previous activities, we see no impediment to this occurring in parallel with many of the priorities we have outlined above.

2.5 2.5 GHz SLTF

The 2.5 GHz band is the last IMT band remaining to have its technical characteristics modernised to accommodate 5G and Active Antenna Systems (AAS). Such equipment is already commercially available from vendors and is necessarily part of the evolution from 4G to 5G technologies in this band. This work follows on from similar work done by ACMA in collaboration with industry stakeholders on most of the other spectrum licenced bands. We note the ACMA has scheduled a TLG on the 2.5 GHz band to commence this quarter,²³ and we welcome the opportunity to work with the ACMA to modernise this band.

2.6 1.8 GHz and 2.1 GHz outside Spectrum Licensed areas (Options Paper)

The ACMA consulted with industry stakeholders regarding the future of these two bands in Q3 2024. While the ACMA offered three main options in this consultation, the Australian mobile industry presented a fourth viable solution to managing the disparate use cases and deployment scenarios in these two bands²⁴. Telstra looks forward to the release of ACMA's outcomes paper and the opportunity to work with the ACMA on an efficient long-term future for these two bands. We consider the priority for this work should be placed after the modernisation of the 2.5 GHz band.

2.7 Remove permanent restriction to protect Radio Altimeters.

The permanent restriction of 72 dBm/5 MHz EIRP for WBB deployments above 3700 MHz should be revisited in late 2025, and if there is no empirical evidence of interference to Radio Altimeters, the permanent restriction should also fall away with the interim measures on 31 March 2026.

²¹ Wikipedia, March 2025, *List of digital television deployments by country*, available at [List of digital television deployments by country - Wikipedia](#)

²² Kordia, Jed Tech, November 2021, *Broadcast Spectrum Consolidation 2021 Prepared for: Department of Infrastructure, Transport, Regional Development and Communications*, available at [kordia-report-broadcast-tv-spectrum-consolidation-2021-final.pdf](#)

²³ Draft FYSO, p.51

²⁴ AMTA, September 2024, *1800 MHz and 2 GHz bands—Review of planning arrangements outside of spectrum-licensed areas: Options Paper*, available at <https://www.acma.gov.au/consultations/2024-06/1800-mhz-and-2-ghz-bands-outside-spectrum-licensed-areas-review-arrangements>



All the temporary mitigations²⁵ that apply to spectrum licensed transmitters operating above 3700 MHz will fall away after 31 March 2026, leaving only the 72 dBm/5 MHz EIRP permanent restriction. Telstra would like to see the ACMA revisit the permanent restriction in Q4 2025, and if there is no empirical evidence of interference from IMT base stations into Radio Altimeters, then Telstra requests that follow-up action be taken during 2025 to ensure the permanent restriction is also removed on 31 March 2026 (along with the temporary mitigations). Removal of the permanent restriction (along with the temporary mitigations falling away) removes a critical barrier to defragmentation of the 3.4 – 3.8 GHz spectrum.

2.8 1.5 GHz (1427–1535 MHz)

Telstra considers the 1.5 GHz band (1427–1535 MHz) should be a moderate priority for the ACMA work program to assist with creating a pipeline of spectrum for IMT. Telstra considers there is potential for this band to be re-farmed for WBB usage and for MSS that operates above 1518 MHz. As such, we propose the ACMA prioritise this band with a similar priority to the 2 GHz MSS band. Telstra looks forward to the ACMA releasing its outcomes paper on this band during Q3 2025.

Possible typo: We observe the draft FYSO says “In Q1 2025, we began consultation on options for use of the broader 1427–1535 MHz frequency range²⁶.” We suspect “began” is an incorrect reference, and that perhaps the ACMA had planned to commence the consultation last quarter. It would be helpful to update the Draft FYSO with the new planned date, noting that the 1.5 GHz Frequency Band Plan sunsets on 1 October 2025.

2.9 Monitoring of the 4400-4800 MHz, 7125-8400 MHz and 14.8-15.35 GHz

As we noted in our submission to last year’s draft FYSO, we would like to see the ACMA move these bands out of Monitoring into Preliminary Investigation. WRC-23 decided these bands should be studied under agenda item 1.7 at WRC-27,²⁷ and this work is now underway. By moving these bands into Preliminary Investigation, the ACMA can commence investigating the work required to clear these bands for IMT2030 use (6G). Simply leaving these bands in the Monitoring phase consigns Australia to observing what the rest of the world does, rather than developing a more nuanced and informed position based on Australia’s circumstances. Timely availability of sufficient spectrum for 6G will be a critical enabler of Australia’s 6G leadership; the cadence of WRC-27 in the lead up to 6G standardisation and the likely need for additional 6G spectrum in the early 2030s means that an increase in focus is required now to avoid lead time impacts in the future.

²⁵ The temporary mitigations are called out in the relevant [Radiocommunications Advisory Guidelines document](#) and are detailed in [RALI MS47](#)

²⁶ Draft FYSO, p37

²⁷ ITU, December 2023, *Final Acts WRC-23*, available at <https://www.itu.int/en/publications/ITU-R/pages/publications.aspx?parent=R-ACT-WRC.16-2024&media=electronic>



3 New work items, not currently in the draft FYSO

In this short section, we identify four items we consider could be added to the FYSO program of work. All of these items, while important, are a lower priority than the work activities identified in section 2.

3.1 Items for a 3.4-4.0 GHz TLG

AMTA's submission to this consultation identifies five changes the mobile industry would like to see for the 3.4-4.0 GHz band. In brief, those changes are:

- i. Move the boundary between the non-spurious and spurious emission domains to 4040 MHz (from its current position at 3840 MHz);
- ii. Introduce a mechanism between spectrum licensees and area-wide licensees to exceed the unwanted emissions limit, by agreement with their spectrum neighbour;²⁸
- iii. Confirm that renewal will not be offered to Urban Excise spectrum licences in 3400-3475 MHz;
- iv. Remove the EIRP limit of 72 dBm/5 MHz for transmitters operating in 3700-3800 MHz; and
- v. Introduce Power Class 1 / Power Class 1.5 higher-powered devices into the band by lifting the registration exemption threshold (see section 3.4 in our submission for more details).

We support these changes, and like AMTA, consider these changes are best introduced through a Technical Liaison Group (TLG). We propose the ACMA consider running a TLG on 3.4-4.0 GHz in the second half of 2025.

3.2 TFFL and TLMS links between 700 MHz and 850 MHz bands

AMTA's submission also calls for three actions in relation to legacy TFFL and TLMS links operating between the 700 MHz and 850 MHz bands (i.e., operating in 804-806 MHz), namely:

- i. introduce an obligation for better filtering requirements on fixed PTP link receivers in RALI FX 22 (to avoid receiver blocking);
- ii. cancellation of PMP arrangements in 805.5-806 MHz; and
- iii. adequately addressing fixed PTP links still under pre-transition arrangements.

We support these changes. More detail can be found in AMTA's submission.

3.3 Licensing support for D2D to islands in territorial waters

Existing licensing mechanisms for user terminals (in this case, regular mobile phones) within terrestrial (i.e., IMT, not NTN) bands do not cover handsets located on islands in territorial waters, where those islands are outside spectrum licence permitted propagation boundaries. The ACMA observes on page 14 of the Draft FYSO, "*We will continue to collaborate with government on spectrum management aspects of the UOMO, including examining how the provision of D2D services covered by the UOMO might work in the external territories **that are not subject to spectrum licensing***" [emphasis added]. We understand from this

²⁸ Note: the ACMA's document *Know your obligations—Spectrum licensees* already states that outside-the-band emission limits "may be varied through negotiated agreement with affected adjacent licensees", available at <https://www.acma.gov.au/sites/default/files/2019-08/Know-your-obligations-Spectrum-Licensing.pdf>. Because this document is in reference to spectrum licensees, we recognise adjacent channel spectrum licensees can reach mutual agreement, but no such mechanism exists between a spectrum licensee and an area-wide licensee.



observation that the ACMA is also alert to the issue of unintended consequences of restricting D2D for IMT bands, to use only with national spectrum licences.

We propose the ACMA should also work with licensees to develop a solution that: 1) reserves the spectrum used by the LEO satellite for that purpose in the external territories (to avoid a terrestrial apparatus licence being issued that would conflict with the LEO satellite); and 2) authorises communication between the LEO satellite and the user terminal.

We will engage with the ACMA separately in this regard.

3.4 Power Class 1/1.5 user equipment in the 3.4-3.8 GHz bands

We anticipate a requirement this calendar year to enable higher-powered user equipment (HPUE) in the 3.6 GHz band for fixed wireless access. We note the registration exemption threshold for user equipment is 28 dBm TRP, and we observe that 3GPP Power Class 1.5 (PC-1.5) is 29 dBm TRP and 3GPP Power Class 1 (PC-1) is 31 dBm TRP.

We would welcome the ACMA including a work item in 2025 to explore options to lift the user equipment registration exemption threshold to include PC-1.5 and PC-1 devices for fixed wireless access.

3.5 More microwave bands/more flexibility in existing bands

We believe there is an opportunity in the short-medium term to optimise some of the existing bands allocated to high-capacity fixed point-to-point links. We currently use the 6 GHz (5925 - 6425 MHz), 6.7 GHz (6425 - 7110 MHz), 8 GHz (7725 - 8275 MHz), 11 GHz (10.7 - 11.7 GHz) and 18 GHz (17.7 - 19.7 GHz) bands to provide backhaul capacity to support a range of services including USO services in regional and remote areas, and mobile and enterprise services in metro areas. We recommend the ACMA consider the introduction of 112 MHz channels in these bands. Wider channels will support higher capacity backhaul radio links (up to 4 times the capacity per link i.e. 4 x 28 MHz channel or 2 x 56 MHz channel) without the need for additional infrastructure and the extra cost. Several equipment manufacturers are already offering equipment supporting 112 MHz channels in the 6 GHz, 8 GHz, 18 GHz, 23 GHz and 38 GHz bands.

In addition, we note that channel size limitations in the 7.5 GHz (7425 - 7725 MHz) band restrict our ability to offer higher bandwidth on our legacy services. Currently the maximum channel size in the 7.5 GHz band is 14 MHz. Upgrading the capacity of these existing legacy links is an expensive exercise, essentially requiring new hardware and external plant to be installed. Providing the flexibility to aggregate 2x14 MHz channels as required (to make a 28 MHz channel) will allow our legacy services to also benefit from higher bandwidth without the need for hardware upgrades.

3.6 Allocation of 40 GHz

The 40 GHz band is further along the maturity curve than other mmWave bands and therefore should be progressed to the initial investigation stage ahead of others. Additional mmWave spectrum should be the lowest priority on the spectrum workplan for 5G and wide-area MBB. However, we note that this is a candidate band for future 6G services, so maintaining a monitoring position is appropriate.



4 Other matters

4.1 Universal Outdoor Mobile Obligation (UOMO)

The Draft Consultation notes that the Government intends to consult on and introduce legislation for the Uomo in 2025, with implementation scheduled for 2027. In the Draft Consultation, the ACMA says it will “*continue to collaborate with government on spectrum management aspects of the Uomo*”²⁹. Telstra considers that the ACMA need to collaborate with industry to ensure that the spectrum management aspects of the obligations consider the requirements of all stakeholders.

4.2 Secondary Licensing Framework (SLF)

The Draft FYSO discusses the possible creation of a SLF in the section on ESLs. The ACMA states, “*A secondary licensing framework, enabled by legislative change, would allow us to facilitate place-based services to use parts of the spectrum...*”. We agree with the ACMA’s observation³⁰ that the SLF, which will place apparatus licensed equipment across spectrum licensed space, requires legislative change. In her 28 February 2025 letter,³¹ the Minister notes the ACMA should “... *work with my Department to further explore the merits of a secondary licensing framework, including how it could be established ...*”. We expect that in part, the Minister’s encouragement to the ACMA to work with the Department is because it is the Department which is responsible for consulting on proposed amendments to the *Radiocommunications Act*.

We anticipate such changes will take time, including sufficient time for public consultation. If a consultation into the proposed SLF is not complete prior to the commencement of the Renewal Application Period for ESLs, it will introduce uncertainty into spectrum valuation, arising from the unquantifiable risk of secondary licensees being granted access to the spectrum.

We strongly encourage the ACMA to expedite work on exploring the merits and possibility of a SLF, such that it is concluded, including any necessary changes, prior to the commencement of the first Renewal Application Period.

4.3 Planning for 6G

The ACMA notes in its Draft Consultation that 6G will be here by the end of the decade³². For this to occur, the ACMA will need to develop, and publish, a clear spectrum pipeline to meet the increasing demand of mobile traffic. We note that the 600 MHz band will not be available until well into next decade, which will require re-allocation work to start immediately. We are also concerned that the ACMA seems to be unwavering in its intent to allocate at least part of the upper 6 GHz to other use cases such as RLAN. Without these bands, there will be no spectrum on which to deploy 6G. We urge the ACMA to take a holistic view of 6G, treating the multiple spectrum bands it will require as a package and ensuring the timing and capability of the package meet the needs of industry.

²⁹ Draft FYSO, p.14 and 22

³⁰ Draft FYSO, p.54.

³¹ Minister Rowland letter to ACMA Chair, Nerida O’Loughlin, 28 February 2025. Available at <https://www.acma.gov.au/publications/2025-03/report/minister-rowland-letter-acma-chair-expiring-spectrum-licences>

³² Draft FYSO, p.15



4.4 Spectrum Sharing

We question the ACMA's continued promotion of spectrum sharing opportunities and methodologies as a way to increase spectrum utilisation, even where such sharing models dilute spectrum licensees' exclusive right to use their spectrum which underpins mobile network operator investment. Spectrum sharing does not always achieve desired outcomes: examples such as Citizens Broadband Radio Service (CBRS) and the UK Shared Access Licence (SAL) have had little commercial success and are strongly underutilised.

Telstra observes in the Draft FYSO paper, the ACMA states it will continue to monitor innovations and advances that might allow for spectrum sharing *"as it presents a unique opportunity to allow a diverse range of licensees to access spectrum and help foster greater levels of industry partnerships citing that this approach might have benefits for regional and remote Australia"*³³. Telstra's position on this is clear, namely that spectrum allocated under a Spectrum Licence is for exclusive use by the spectrum licensee, i.e., it is not intended for prescriptive sharing models. If there is a legitimate case for spectrum sharing, then spectrum licensees would be able of their own choice to enable such activity through their licence rights under the *Radiocommunications Act*, by using available mechanisms such as third-party authorisation.

Telstra would appreciate an opportunity to discuss our perspective on the practical shortcomings of spectrum sharing with the ACMA, as a part of any initiative to introduce spectrum sharing schemes.

³³ Draft FYSO, p.24