



AUSTRALIA

Submission by Free TV Australia

ACMA consultation paper:

- **Expiring spectrum licences
Stage 2 consultation paper**

June 2024

Summary

- Free TV Australia welcomes the opportunity to respond to the Australian Communications and Media Authority (ACMA) on its March 2024 consultation paper, 'Expiring spectrum licences Stage 2 consultation'.
- The 2.5 GHz 'mid-band gap' spectrum licences are a special case and raise different public interest issues from other expiring spectrum licences.
- In construing whether an outcome 'supports relevant policy objectives,' in accordance with Public Interest Criterion 5, the ACMA should have regard to the following in the December 2022 Ministerial Statement of Expectations:
 - ‘... supporting the work to reform the media regulatory framework to support a viable, sustainable and diverse media sector that supports the public interest and meets the needs of Australian audiences.’
- Australian TV audiences depend on continuing dedicated access by broadcasters to Television Outside Broadcasting (TOB) spectrum to cover events of national significance, provide critical information in times of emergency and bring Australians together to witness moments in history, life changing occasions and times of national success.
- Use of the 2.5 GHz 'mid-band gap' is largely confined to areas within 200 km of 26 fixed receive sites, which are found in and adjacent to major cities.
- As the TV networks also share the 26 fixed sites and the receivers and filters located there, it would be impractical for some participating TV networks to move out of the 2.5 GHz 'mid-band gap' while others stayed. However, Free TV's understanding is that all four licensees would prefer to continue using the spectrum after September 2029.
- The TOB equipment used in 2.5 GHz relies on access to two other bands as well. This means the future utility of 2.5 GHz spectrum is closely bound up with future access to the 2 GHz and 2.2 GHz TOB assignments. The loss of any one band would trigger a requirement to replace the existing equipment.
- 2 GHz and 2.2 GHz spectrum is assigned under TOB Network apparatus licences. Free TV has previously invited the ACMA to consider adding the 2.5 GHz spectrum as a new assignment on the networks' apparatus licences.
- In response, we note the ACMA has flagged a concern that use of apparatus licences would reduce future flexibility to move the 2.5 GHz 'mid-band gap' spectrum to an emerging new use-case.
- While apparatus licences are in some respects less flexible than spectrum licences, they are in other respects more flexible.

- We should also clarify that Free TV did not reject the option of re-issuing spectrum licences. The potential concerns it expressed with spectrum licensing could be mitigated, for example by issuing licences with a duration of less than 20 years, or by modifying the Authority's usual historical practice of requiring the 100% up-front payment of the spectrum access charge.
- If the ACMA's concern is to maximise flexibility to accommodate alternative use-cases, it should meanwhile consider removing the current licence condition restricting use of the 2.5 GHz 'mid-band gap' spectrum to TOB. This need not wait till 2029.
- Globally, the 2.5 GHz 'mid-band gap' is commonly used for either wireless broadband using time-division duplexing (TDD) or for TOB. In Australia, the historical decision to allocate the remainder of 2.5 GHz for wireless broadband using frequency-division duplexing (FDD) has reduced the utility of the mid-band gap for wireless broadband.
- While there is a strong public interest in ensuring continuing TV access to adequate spectrum for TOB, we recognise that any emerging interest in using the 2.5 GHz mid-band gap for wireless broadband would set up a clash of competing public interest objectives.
- In this event, a holistic, viable and sustainable vision for the future of television outside broadcasting and electronic newsgathering should inform any final decision about future use of 2.5 GHz.

2. INTRODUCTION

Free TV Australia is the peak industry body for Australia's commercial free-to-air television broadcasters. We advance the interests of our members in national policy debates, position the industry for the future in technology and innovation and highlight the important contribution commercial free-to-air television makes to Australia's culture and economy.

Free TV proudly represents all of Australia's commercial free-to-air television broadcasters in metropolitan, regional and remote licence areas.



Our members are dedicated to supporting and advancing the important contribution commercial free-to-air television makes to Australia's culture and economy. Australia's commercial free-to-air broadcasters create jobs, provide trusted local news, tell Australian stories, give Australians a voice and nurture Australian talent.

The TV industry employs significant amounts of mid- and high-band spectrum for television outside broadcasting (TOB). Spectrum for TOB is critical to live coverage of breaking news and major sports. It supports the wireless cameras needed for free-to-air coverage of major events and allows TV to create temporary communication channels over long distances, crucial for bringing real-time images of breaking news stories to national audiences, however remote the location.

3. DISCUSSION

3.1 Outcomes of Stage 1

In December 2023, the ACMA published a document **Expiring Spectrum Licences - Finalised Framework and Response to Submissions**. The paper observed that Free TV was alone among spectrum licence incumbents in not identifying spectrum licence renewal as the optimum outcome for its members.

Free TV's reasons for raising the alternative of apparatus licensing reflect the unusual TOB use case compared to most other spectrum licences, and include:

- While it is needed for the foreseeable future, TV broadcasters may not require 2.5 GHz 'mid-band gap' spectrum for the 20-year typical life proposed for future spectrum licences.
- New and better TV outside production technologies, using either different dedicated bands, wireless broadband spectrum licensed to MNOs, or more likely some combination of the two, are expected to become available in that time-frame. In the likely event dedicated bands are a continuing requirement, other spectrum than 2.5 GHz may in future be sufficient.
- Broadcasters would prefer to pay an annual charge for spectrum access, as they do for the TOB apparatus licences that provide access to their other TOB assignments. While the ACMA has discretion about when and how spectrum access charges for spectrum licences are paid, its usual practice to date has been to require up-front payment for the entire life of spectrum licences.

- The Janteq TOB equipment used by TV networks relies on access to all three of the 2 GHz, 2.2 GHz and 2.5 GHz bands. If, in future, the 2 or 2.2 GHz bands were converted to other uses, 2.5 GHz would be of no use to TV either. It follows that inclusion of the 2.5 GHz spectrum as a new assignment in existing TOB Network apparatus licences would be an acceptable outcome for TV networks as well as a logical one for the regulator.

In summing up Free TV's submission, the ACMA paper flagged a potential concern with this outcome as follows:

One stakeholder indicated that the broadcasting licensees it represents are interested in the potential to align licensing arrangements with their existing apparatus licensing arrangements in other bands. This would reduce costs and allow for annual renewals. This was the only submission that did not expressly convey that renewal was the optimal outcome for their licences, although we note that this suggested outcome would not necessarily facilitate alternative uses or users for the spectrum.

Free TV did not argue that apparatus licensing would reduce costs, nor did it completely rule out the alternative option of spectrum licensing. It said:

... very long-term renewal of the current 2.5 GHz spectrum licences may not be the preferred outcome for TV licensees. Preferable options might include use of the current TOB Network (apparatus) licences to authorise 2.5 GHz use, or the issue of spectrum licences for shorter periods or for an annualised fee.

If, after consideration of submissions to Stage 2, the Authority were inclined to extend broadcaster access to the 2.5 GHz 'mid-band gap', any concerns about flexibility to accommodate alternative uses could be mitigated. For example:

- The ACMA could remove the primary impediment to alternative uses of the 2.5 GHz 'mid-band gap,' which is the special condition in clause 8 of Schedule 4 of current spectrum licences. This clause restricts use of the licences to television outside broadcasting. Although broadcasters did not object when this condition was imposed, they did not seek it either. It is difficult to argue that it supports the object of the *Radiocommunications Act 1992*. If inflexibility of use is of concern to the ACMA, the condition should be removed.
- If there were a view that spectrum licensing, rather than apparatus licensing, was better able to facilitate alternative uses after 2029, the ACMA could consider issuing spectrum licences subject to an annual, rather than an up-front, charge, or for less than the 20-year permitted maximum duration.

Lastly, at least in the special case of the 2.5 GHz 'mid-band gap,' it's debatable whether long-duration spectrum licences would necessarily be the most flexible arrangement after 2029. Replacement of the 2.5 GHz 'mid-band gap' licences with apparatus licences would have an important offsetting advantage in terms of retaining flexibility: it would allow access to ACMA's powers in Part 3.6 of the *Radiocommunications Act 1992* to reallocate encumbered spectrum. Unlike 20-year spectrum licences, apparatus licences can be terminated by following the processes in 3.6.

Free TV would welcome further discussion with the ACMA if it has any ongoing concerns regarding apparatus licensing.

3.2 The ACMA's initial views on the uses of the 2.5 GHz 'mid-band gap'

The Stage 2 discussion paper notes the 2.5 GHz 'mid-band gap' is used globally for both wireless broadband (WBB) and TOB, and that 'further consideration needs to be given to whether WBB use is an alternative or complementary use of the band.' While recognising the utility and value of TOB use of the spectrum, the paper adds:

However, harmonisation, standardisation, the ecosystem and some global environmental factors are also consistent with potential WBB use (though there is a substantive question about the relevance of some of these factors to Australian arrangements due to coexistence with WBB in the 2.5 GHz band).

The twin facts of international harmonization of the 2.5 GHz 'mid-band gap' for wireless broadband (using time-division duplex, or TDD) and the historical decision to allocate the surrounding 180 MHz for wireless broadband services (using frequency-division duplex, or FDD), are central to any consideration of future arrangements for the band in Australia. While introduction of the 5G family of technical standards is seeing bands above 3 GHz migrating from FDD to TDD use, there is no sign 2.5 GHz will follow suit. We expect ongoing use of 2.5 GHz for FDD to continue to reduce the utility of the 'mid-band gap' for TDD, compared to a hypothetical all-TDD scenario for the entire block of spectrum between 2.5-2.69 GHz. Indeed, the original preference of Australian mobile network operators for an FDD configuration, combined with lack of interest in the 2.5 GHz 'mid-band gap', was presumably a factor in the original decision to move TV's TOB operations to 2 GHz, 2.2 GHz and 2.5 GHz spectrum.

The ACMA's Stage 2 process is designed to flush out any interest from prospective alternative licensees. The existence or non-existence of other interest in the 2.5 GHz 'mid-band gap' will be material to how the ACMA should proceed.

- If there proves to be little other interest in the band, then the public interest in continuation of TOB services in the band should be obvious. If the ACMA has concerns about the ability of the spectrum to move to another use, we have suggested some mitigations at 3.1.
- If, on the other hand, the Stage 2 process discloses serious interest from other potential users or use-cases – most likely to be wireless broadband - there will be public interest arguments both ways about the best course of action post-2029.

The second outcome would trigger the need for further, careful consideration of TOB's longer-term spectrum options.

3.3 The need for holistic approaches to future TOB spectrum requirements

Commercial TV broadcasters and their contractors currently use spectrum at 2 GHz, 2.2 GHz, 2.5 GHz, 7.2 GHz and 13 GHz for television outside production and electronic newsgathering, though primary reliance is on the first three of these bands, which the ABC also uses.

Free TV has previously submitted that a holistic, viable and sustainable vision for the future of television outside broadcasting and electronic newsgathering should inform any process for settling the future of the 2.5 GHz 'mid-band gap' licences after 2029. Such a vision informed government and ACMA approaches to the clearance of TOB services from most of the 2.5 GHz band, between 2010 and 2014. At that time, TV broadcaster TOB services were using spectrum in the range 2.5-2.69 GHz. As there was international agreement on an IMT identification for this band, the ACMA's 2010 discussion-

paper identified at the outset the twin goals of finding the best use for the 2.5 GHz band and securing long-term certainty for broadcaster TOB operations¹.

In so doing, the ACMA set out to retain for TOB all the functionality it enjoyed with its previous 2.5 GHz allocation. While the ACMA went on to auction most of the 2.5 GHz for wireless broadband, the four affected TV networks were each allocated spectrum licences, by the administrative process of licence conversion, over the 2.5 GHz 'mid-band gap'. They were also issued their current 2 GHz and 2.2 GHz allocations on terms similar to their previous 2.5 GHz licences. The 2 GHz, 2.2 GHz and 2.5 GHz 'mid-band gap' spectrum, taken together, allowed broadcasters to continue TOB operations, with no loss of their previous technical capability.

TV broadcasters once again face emerging uncertainty about longer-term future access to two of their current assignments, 7.2 GHz as well as the 2.5 GHz 'mid-band gap'. The ACMA (and ITU) processes giving rise to this uncertainty, while otherwise separate, raise inter-related issues for TV networks. As they participate in each of these discussions, TV networks will be seeking confidence about which equipment they can rely on to continue to work, and which TOB bands they can safely invest in going forward into the long-term future. Hence Free TV's request that any consideration of clearance of TOB from a particular band should be informed by a holistic view of TOB's long-term spectrum requirements.

3.4 Information requested from incumbent licensees

1. Public interest criterion 1: facilitates efficiency

➤ *Evolving use of the spectrum*

As September 2029 is still several years away, only preliminary observations are possible about the situation after the 2.5 GHz 'mid band gap' spectrum licences expire.

- The Janteq equipment currently used by all four TOB licensees depends on access to all three of the 2 GHz, 2.2 GHz and 2.5 GHz bands, with 2.5 GHz spectrum most frequently used to provide the back-channel to the news or production team operating in the field.
- The 2.5 GHz 'mid-band gap' has the great advantage over other bands of being available for use, including by helicopters, virtually Australia-wide. However, the future utility of 2.5 GHz spectrum for TOB will depend on continuing access to 2 GHz and 2.2 GHz spectrum.
- There is no pressing need to replace the Janteq equipment, which is doing its job well. As this equipment nears its end-of-life, however, TV broadcasters expect to replace it and will be seeking long-term certainty about which band or bands will continue to be available for TOB.

➤ *Bands used, geographic availability, and third party or sharing arrangements*

¹ ACMA, *Review of the 2.5 GHz band and long-term arrangements for ENG*, Discussion paper, January 2010, accessed here: http://www.acma.gov.au/webwr/assets/main/lib311275/2.5ghz_discussion_paper_ifc01-10.pdf.

2.5 GHz 'mid-band gap' licence usage is quite different from wireless broadband. The unique way the four licensees share their spectrum will also have important ramifications for any post-2029 spectrum access arrangements.

Although there are 420 discrete assignments on the current spectrum licences, almost all licensee use of the 2.5 GHz 'mid-band gap' licences is for communication with the 26 fixed sites shown at **Attachment A** to this submission. These sites are typically in raised locations within or overlooking the major metropolitan areas. Communication is typically with helicopters, OB vans or directly with camera-backs. Of these, communication with helicopters can be over a distance of as much as 150-200 km from the fixed site. Outside of this radius, broadcaster use of 2.5 GHz is rare. Of the many other assignments recorded on the current spectrum licences, some are located at sites, such as regional sports grounds, where scheduled outside production takes place from time to time. The third (and largest) category of sites are those no longer used or that no longer exist. We would be happy to provide further information about the current assignments shown if required.

Turning to the issue of sharing, the common equipment, fixed sites and facilities used by all four TOB operators mean it would be impractical for some participating TV networks to move out of the 2.5 GHz 'mid-band gap' while others stayed. However, Free TV's understanding is that all four licensees would prefer to continue using the spectrum after September 2029.

- *Anticipated trading or acquisition of spectrum through the secondary market*
- *Issues with current planning, licensing or technical arrangements that prevent efficient use of the spectrum*

Broadcasters have no current plans to replace their Janteq equipment or to sell or surrender their 2.5 GHz spectrum.

The condition at Clause 8 of Schedule 4 of the current licences currently restricts their use to TOB, as discussed at 3.1 and 3.2, above.

2. Public interest criterion 2: promotes investment and innovation

- *Current and planned investment in equipment and infrastructure to make use of the spectrum, including, but not limited to, base stations and underlying network infrastructure*

As TV networks have a large investment in equipment that relies on 2, 2.2 and 2.5 GHz spectrum, the investment in the three bands is best viewed together. In addition to the Janteq gear previously mentioned, the super-sensitive receivers at the 26 fixed sites are shielded by expensive filters at the band edges. As a guide to the cost of replacement, the filters cost approximately \$US 35,000 *per site* in 2014.

3. Public interest criterion 3: enhances competition

- *Facilitating opportunities for new entrants and use cases, including for LEOsats, that may reduce barriers to entry, and create entry points for new or emerging users or use cases*

Current and foreseeable usage patterns of the 2.5 GHz ‘mid-band gap’ make it well-suited to share geographically with compatible use cases, with potential also for chronological sharing. For example, the related Australia-wide TOB assignments of 2 GHz and 2.2 GHz spectrum have not prevented licensing of a range of Mobile Satellite Service (MSS) applications in those bands, with a variety of current coordination agreements permitting both geographic and, in a few cases, chronological sharing. Agreements with earth station operators at sites such as Peterborough, S Aust and Brocklehurst, NSW, are examples of geographic sharing as these sites are remote from almost all TOB usage. Agreements allowing the support of rocket launch activities at New Norcia, W Aust, and Abbotts Point, near Bowen in Queensland, are examples of sharing agreements that involve chronological coordination as well as a degree of geographical separation. The TV industry makes intensive use of 2.5 GHz along with other TOB spectrum in an around the largest cities, but no, or virtually no, use outside of helicopter range of the 26 fixed sites at Attachment A. TOB usage can be scheduled or unscheduled, and in the case of scheduled usage there is scope to coordinate with compatible use cases about periods of spectrum availability. Unscheduled use at any distance from the largest cities is most likely in connection with Electronic Newsgathering coverage of breaking news, such as a major bushfire, in which event the TV industry seeks priority for its communications.

4. Public interest criterion 4: balances public benefits and impacts

In considering which policy objectives are relevant to the expiry of the 2.5 GHz ‘mid-band gap’ licences, the ACMA should take into account the critical public services free-to-air broadcasting provides that TOB enables. This includes the coverage of live events and breaking news. From the Women’s FIFA World Cup to the big bushfires of 2019, Australians expect live, free-to-air coverage of the events that matter to them, and this contributes to the status of free-to-air TV as among our most trusted sources of news and information. Relevantly, policy objectives in the Minister’s December 2022 Statement of Expectations to the ACMA include:

- supporting the work to reform the media regulatory framework to support a viable, sustainable and diverse media sector that supports the public interest and meets the needs of Australian audiences.

Future arrangements for the 2.5 GHz ‘mid-band gap’ should take account of this objective.

Unlike other spectrum licences, the public interest in post-expiry arrangements for the 2.5 GHz ‘mid-band gap’ licences should not be solely concerned with the promotion of broadband connectivity across the continent or with the public interest benefits of spectrum moving to its highest value use. They should also take account of the public interest in a viable, sustainable free-to-air broadcasting sector that is able to bring breaking news and events of national significance into Australian homes as they happen.

See also our comments at 3.2, above.

5. Public interest criterion 5: supports relevant policy objectives and priorities (including regional, rural, and remote connectivity, investment and competition)

- *How does your current and planned use of the spectrum support regional, rural, and remote connectivity, investment and competition?*

While telecommunications and broadcasting are critical components of ‘digital inclusion,’ they can only ever provide the means to access news, information and entertainment. The public interest in spectrum access for television outside broadcasting is about meeting the expectations of Australians, wherever they live, for high-quality coverage of breaking news, live sports and other major events.

Attachment A

Locations of all fixed TOB receive sites

State	Site Name	ACMA Site ID	ACMA Radcomms RRL Address
NSW	Broadcast Australia	48711	ABC Tower 221 Pacific Highway GORE HILL
	TX Australia Tower	4045	TXA Artarmon Site Tower 192-196 Hampden Road ARTARMON
	MLC Centre	3351	MLC Centre 19-29 Martin Place SYDNEY
	Centre Point Tower	9002613	Centre Point Tower 112 Market St SYDNEY
	ATN7 Horsley Park	201854	Axicom 102.7m Lattice Tower 77-89 Border Rd HORSLEY PARK
	Level 29 (Tower 2), Westfield Shopping Centre	34680	Optus site Tower 2 Westfield Plaza 500 Oxford Street BONDI JUNCTION
	Kurrajong translator site	10143	Miles Comms Site 2 246 Buralow Road KURRAJONG HEIGHTS
ACT	ACTEW Mount Ainslie	9602	Ainslie Lookout MT AINSLIE
QLD	Broadcast Australia Mt. Coot-Tha	12752	BAI Comms Site 620 Sir Samuel Griffith Drive MOUNT COOT-THA
	TXA-T Site (Ch-10)	12749	TXA T-Site Tower 445 Sir Samuel Griffith Drive MOUNT COOT-THA
	QLD government building	52966	111 George St BRISBANE
	Gateway Building 7/10	142052	Gateway Building 50 Appel St Surfers Paradise
	Gold Coast Broadcast Tower Mt Tamborine	403573	GCT Mt Tamborine Site 103m Tower Golf Course Road MOUNT TAMBORINE
VIC	Broadcast Australia NTL/ABV2 Tower	12015	TXA Eyre Road Site Tower 8 Eyre Road MT DANDENONG

	TXA Ornata Road (GTV9 Ant)	12013	TXA Ornata Road Site Tower 12 Ornata Road MOUNT DANDENONG
	Rialto Tower	11599	Rialto Towers 525 Collins Street MELBOURNE
	BlueScope Steel Centre (building name can change). 120 Collins Street	11596	120 Collins Street MELBOURNE
WA	TXA Carmel	26624	TXA Carmel Site 255 Welshpool Road East CARMEL
	BankWest Tower	25931	Bank West Tower 108 St Georges Terrace PERTH
	Fremantle Hospital	27170	Fremantle Hospital Lot 1970 Alma Street FREMANTLE
TAS	BA/NTA Tower Hobart transmitter site	32830	Broadcast Australia Site Pinnacle Rd MT WELLINGTON
NT	NTD 8 Studios	1228	Lot 3119 Blake Street DARWIN
	Delorane Road Transmitter Site	139711	Broadcast Australia Site 100 Deloraine Rd SHOAL BAY
SA	Broadcast Australia NTL Tower Mt Lofty	23139	Broadcast Australia Site Summit Road CRAFERS
	Westpac Building	22170	91 King William Street Currie Street Frontage Santos House ADELAIDE
	TXA Crafers	23181	TXA Crafers Site Tower 115 Mount Lofty Summit Road CRAFERS