



AUSTRALIA

Submission by Free TV Australia

ACMA consultation papers:

- **Proposed licensing arrangements for narrowband satellite services adjacent to the 2 GHz TVOB bands**
- **Review of the 2 GHz TVOB frequency band plan**

February 2022

Summary

- Free TV Australia appreciates the opportunity to respond to the Australian Communications and Media Authority (**ACMA**) consultation on:
 - Proposed licensing arrangements for 2 GHz narrowband mobile-satellite services and 28 GHz fixed-satellite services, Consultation paper, December 2021 ('Proposed licensing arrangements for narrowband satellite services adjacent to the 2GHz TVOB bands'); and
 - Replanning the 2 GHz band: Review of the 2 GHz Television Outside Broadcast Frequency Band Plan, Consultation paper, December 2021 ('Review of the 2GHz TVOB frequency band plan').
- Free TV Australia is the peak industry body for Australia's commercial free-to-air (**FTA**) television broadcasters. Our members 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.
- Spectrum for TV outside broadcasting ('TVOB') makes a huge hidden contribution to TV's capacity to bring Australians together around breaking news stories or major sports. TVOB technology using 2 GHz spectrum was crucial to the Nine Network's nation-stopping camera coverage of the Australian Open last month.
- We note with approval that both papers have as a core aspiration the preservation of TV's existing television outside broadcasting ('TVOB') arrangements in the 2 GHz band.
- Free TV supports the re-making of the 2 GHz TVOB frequency band plan.
- In relation to the proposed licensing arrangements for narrowband satellite services adjacent to the 2 GHz TVOB bands, it would be premature to authorise higher-power, higher duty-cycle earth station uplinks outside of metropolitan areas before the ACMA has developed and consulted on a workable mechanism to ensure there is no geographical leakage of the higher power devices into areas close to TVOB.
- If the ACMA gets this wrong, the TV industry would face a very expensive remediation process and the permanent loss of some useable TVOB spectrum.
- As an interim measure, TV would support an amended class licence that extended the proposed metropolitan power and duty-cycle limits to all areas.
- We support ongoing consideration of how higher power, higher duty cycle devices might be class-licensed in areas where it is safe to do so. If such devices were able to default to terrestrial wireless broadband, where available, we query whether this might be a better way to achieve geographical sequestration from TVOB.

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.

Spectrum for TVOB is critical to live coverage of breaking news and major sports. It supports the wireless cameras needed for free-to-air coverage of major sports, as we have most recently seen during the Australian Open. It allows TV to create temporary communication channels over long distances, crucial for bringing real-time images of major breaking news stories to national audiences, however remote the location.

Seven Network, Nine Entertainment and Network TEN have Australia wide licences in the bands 2010-2110 and 2200-2300MHz, as does the ABC. All operate in accordance with the ACMA's RALI FX21. In cooperation with the ACMA, Australian TOB licensees have developed and maintained internationally recognised best practices for the implementation and licensing of electronic news gathering and television outside broadcast coverage.

In recent years advanced technologies have been introduced to improve spectrum management to meet the spectrum demand for television news and outside broadcasting demand within these frequency ranges, including:

- high efficiency video coding,
- centralised management of Australia wide channel usage, and
- increased sub channel / time-based sharing between Seven Network, Nine Entertainment and Network TEN.

These advances reflect substantial peaks in the demand for television news and outside broadcasting by the public from Australian commercial television services.

3. Proposed licensing arrangements for narrowband satellite services adjacent to the 2 GHz TVOB bands

ACMA proposes to create a '2 GHz narrowband mobile-satellite service segment' (2005–2010 MHz paired with the frequency range 2195–2200 MHz) directly adjacent to the TV networks' TVOB 2 GHz licences (2010-2110 MHz and 2200-2300 MHz). Satellite operators would be able to obtain shared access, Australia-wide, to the new segment for narrowband uses such as telemetry, short messaging,

and low data rate services (for example satellite IoT applications). The *Radiocommunications (Communication with Space Object) Class Licence 2015* ('the CSO Class Licence') would be amended to authorise the new services.

The new services would be subject to technical restrictions to protect the TV industry's 2GHz TVOB licences. Of concern to TV, different levels of protection are proposed for metropolitan and regional areas. While the ACMA has offered a concrete proposal for metropolitan areas, it has called for further submissions on whether a less restrictive duty cycle and higher radiated power levels might be appropriate for services operating in regional areas.

To accompany its proposal the ACMA has also published a draft variation of the CSO Class Licence. Consistent with the consultation paper, the draft CSO class licence proposes limitations on duty cycle and radiated power levels that are specific to services in metropolitan areas. Presumably this is pending consideration of industry submissions. 'Metropolitan areas' are defined to include small areas around Sydney, Melbourne, Brisbane, Perth, Adelaide, Canberra, Hobart and Darwin.

Free TV agrees there is a potential opportunity for a sub-set of low-interference services to make use of the 2 x 5 MHz of spectrum otherwise required to protect TV's critical TVOB operations from interference from MSS services proposed to be licensed in two adjacent parts of the 2 GHz band. The key issue for TV is the adequacy of the risk mitigation proposed.

While the consultation paper rightly identifies protection of TVOB as a core objective, we question the feasibility of permitting less restrictive duty cycles and higher radiated power levels outside of metropolitan areas, however defined, when the devices in question are proposed to be unknown numbers of ubiquitous, uncoordinated earth station uplinks that will be authorised by a class licence. Such devices will have an open-ended range of potential applications that are not necessarily restricted to some geographical areas. Before the ACMA proceeds further down this path, the TV industry needs to understand exactly how ACMA and satellite operators will ensure that the higher-powered devices with less restrictive duty cycles, proposed for regional and remote areas, are not installed or moved over time into metropolitan areas as well.

If the ACMA gets it wrong, the stakes for TVOB would be very high. A centrepiece of TV's investment in 2 GHz TVOB is the network of 26 main collection sites around the country. These are highly sensitive, omni-directional receivers, typically at elevated locations, able to receive signals from hundreds of kilometres away and each fitted with expensive filters at the band-edge. If interference from class-licensed devices in adjacent bands adversely affected these receivers, all broadcasters would feel the impact and not just the licensee closest to the band edge. Interference issues, by the time they emerged, would be irreversible. The only mitigation available to broadcasters would be swapping out the present band-edge filters, in essence to create a new, 5 MHz guard band within the industry's current 2 GHz allocation. In addition to the loss of spectrum available for TVOB, as a guide to the cost of remediation, the present filters cost approximately \$US 35,000 *per site* in 2014.

While class licensing is the wrong tool for the job of confining devices within geographical areas, to obtain the benefit of authorisation under the class licence, satellite operators would first need to obtain an associated apparatus licence – whether an earth station licence or an earth station receive licence. In theory at least, this could provide a potential opportunity for vetting proposals and seeking to ensure that there would be no leakage of higher power or higher duty cycle devices into metro areas. However, it appears the ACMA hasn't yet worked out how this might be done. Rather, is still at the stage of asking industry for suggestions:

If support for higher powers in some areas were further investigated, some form of additional assessment as part of the licence application for the associated space licence/space receive licence process would be prudent. We welcome comments on appropriate measures to assess licence applications and appropriate limits on radiated power and duty cycle.

If the ACMA doesn't yet know how it is going to prevent the spread of higher-powered, higher duty cycle devices into metropolitan areas, then the proposed metropolitan area power and duty cycle restrictions need to be extended to all areas until a failsafe way of geographically restricting those devices can be devised and properly evaluated through industry consultation. Until that time, Free TV can only support promulgation of the revised SCO class licence if the current metropolitan area restrictions are no longer geographically confined. We welcome further consideration of ways that devices with higher power limits and different duty cycles might be permitted in certain geographical areas, subject to appropriate enforcement mechanisms, while noting that attaching a restrictive condition to an apparatus licence is not the same thing as being willing and able to enforce it in practice.

At page 12 of the consultation paper, the ACMA identifies a second potential mitigation as follows:

Another additional mitigator is that some narrowband MSS systems are likely to offload traffic onto terrestrial mobile broadband networks when in their coverage area.

The implication is that satellite uplinks will have more potential uses in remoter areas where terrestrial back channels via terrestrial wireless broadband are not available. These areas will also have little TVOB use. We merely ask the question whether the non-availability of terrestrial wireless broadband might make for a more appropriate geographical boundary for higher power, higher duty-cycle devices, than 'metropolitan area' boundaries the currently proposed. Requiring such devices to be able to default automatically to terrestrial wireless broadband, when available, would also seem to offer a technical mechanism for confining the relevant satellite uplink transmissions to remoter areas.

4. Review of the 2 GHz TVOB frequency band plan

ACMA's stated intention is that there would be no change to current arrangements for TVOB in the TV industry's bands. The ACMA relevantly states:

This plan would give effect to the same arrangements for these frequencies as are specified in the current TOB band plan. While we have not modified the practical effect of the revised TOB band plan, it has been updated to reflect contemporary legislative drafting practices.

We have examined the re-drafted band plan. We consider it reflects and gives appropriate legislative underpinning to the policy intention of the relevant RALI FX 21 and Embargo 23. We support the making of this instrument.