Australian Government | acma Australian Communications and Media Authority

New apparatus licensing arrangements for 1800 MHz rail services

Consultation paper

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Executive summary

After several rounds of stakeholder engagement, we have published the following:

- Expiring spectrum licences stage 4: Preferred views on bands licensing arrangements, and response to submissions (preferred views on band licensing arrangements paper).
- Expiring spectrum licences stage 4: Preferred views on pricing (preferred views on pricing paper).
- Outcomes from the 850 MHz and 1800 MHz band spectrum licences technical frameworks.

These papers express our views that ongoing use of the 1800 MHz band, for rail safety and control communication purposes, would best be authorised via apparatus licences after the existing spectrum licences held by state rail authorities expire. We believe that an apparatus licensing framework will provide a balance of certainty for ongoing rail operation and flexibility to migrate to upgraded systems as they become available over the next 8–10 years.

This paper continues work in our expiring spectrum licence (ESL) process, by providing a new licensing pathway for 1800 MHz rail services after the expiry of spectrum licences on 17 June 2028. The intent is to provide continued access to 1800 MHz band for rail services in the short-to-medium term while we undertake work to determine the best long-term use of this spectrum (which will be the subject of a separate consultation process).

We are finalising arrangements in the 1.9 GHz band for rail services. The 1.9 GHz band is harmonised in Europe and the United Kingdom for next-generation rail services. It will provide nation-wide access to spectrum to support the deployment of 5G-based railway mobile radio equipment, including devices that will meet the Future Railway Mobile Communication System (FRMCS) specifications being finalised in Europe.

The *Radiocommunications Act 1992* (the Act) sets out the legislative framework and requirements for dealing with ESLs. Licensees may apply for renewal of a spectrum licence beginning 2 years before the licence is due to expire. After receiving an application, we generally have 6 months to undertake all steps to consider and decide whether to renew a licence, although this may be longer for some licences where we request further information.

Although we have a policy preference for moving rail services to apparatus licences, existing spectrum licensees may apply for renewal of their spectrum licences. Renewal decisions will be made on a case-by-case basis, using our preferred views to help guide assessment of whether renewal is likely to:

- promote the long-term public interest derived from the use of the spectrum
- support identified Commonwealth communications policy objectives specified in the Radiocommunications (Ministerial Policy Statement – Expiring Spectrum Licences) Instrument 2024.

Proposed technical framework for rail 1800 MHz apparatus licences

We propose to use licensing and technical arrangements that already exist in the 1800 MHz band, currently used to authorise 4G/5G-based public and private networks, with some additions to better support rail use. These arrangements are intended to support ongoing access to the 1800 MHz band for rail services in the short-to-medium term.

While we propose to use a different licensing and technical framework for rail services in the 1800 MHz band, our intention is that access to spectrum, operational conditions and coexistence arrangements will be very similar to what is currently afforded/required under existing 1800 MHz spectrum licences.

Following previous consultations, and considering feedback from our high-level proposals in the *Consultation paper: Review of the 850 MHz and 1800 MHz spectrum licence technical frameworks*, we propose the following apparatus licence arrangements for rail services in the 1800 MHz band:

- Base stations would be authorised via a Public Telecommunications Service (PTS) Apparatus Licence, and mobile and remote stations (i.e. devices that communicate with base stations) be authorised via the Radiocommunications (Cellular Mobile Telecommunications Devices) Class Licence 2024.
- Licensing and coordination arrangements would be detailed in RALI MS34, with amendments to replicate many of the arrangements currently provided under 1800 MHz band spectrum licences, including:
  - Provisions that the issuing of PTS licences, in frequency ranges and areas currently authorised by spectrum licences held by rail authorities, will generally only be issued to those rail authorities.
  - Inclusion of unwanted emission limits, maximum transmit powers and channel plan arrangements specific to rail services.
  - Provisions to 'roll over' existing spectrum licence transmitter registrations to new PTS licences.
  - Additional coexistence arrangements to support higher levels of unwanted emissions for spectrum licensed transmitters (effective from 18 June 2028) falling into rail frequency ranges and areas.
  - A preference that PTS licences be issued for a maximum tenure of five years and will generally not be issued with an expiry date beyond 1 January 2037. The arrangement supports access in the short-to-medium term while we determine what the best long-term use of this spectrum is.
  - Utilising the existing licence tax rates for PTS licences in the 1800 MHz band, as per the Radiocommunications (Transmitter Licence Tax) Determination 2025.

A copy of the draft update to RALI MS34 (including tracked changes for ease of reference) is available on the website for this consultation process. We are now seeking comment on the implementation of these decisions, including updates to RALI MS34.

Issue/s for comment

We invite comments on the issues set out in this paper:

1. What are your views on the proposed licensing arrangements for 1800 MHz band rail services?
2. What are your views on the proposed taxes for 1800 MHz band rail services?
3. What are your views on the proposed licence durations for rail services in the 1800 MHz band?
4. What are your views on the cell edge distance and proposed coexistence criteria for when relaxed unwanted emission limits for 1800 MHz band spectrum licensed transmitters should be permitted?
5. Do you agree with our preferred method for implementing unwanted emission limits for 1800 MHz band rail services?
6. What are your views on the proposed technical rules and device details for apparatus licensed rail services in the 1800 MHz band?
7. What are your views on the proposed operational restrictions for rail services in the 1800 MHz band?
8. Are there any comments on the proposed amendments to RALI MS34?

We also welcome feedback from stakeholders on any of the other issues and proposals raised in this consultation.

Introduction

Current spectrum licences in the 1800 MHz band will expire on 17 June 2028, with the application period beginning on 18 June 2026 for existing licensees seeking to renew their spectrum licence(s).

Following multiple rounds of stakeholder consultation, we published our:

- Expiring spectrum licences stage 4: preferred views on bands licensing arrangements, and response to submissions (the preferred views on band licensing arrangements paper) in December 2025
- Expiring spectrum licences stage 4: Preferred views on pricing (preferred views on pricing paper) in May 2026.

In broad terms, our preferred view relevant to the 1800 MHz band is that rail services, currently operated under spectrum licences in the 1800 MHz band, should instead be authorised by apparatus licensed arrangements post expiry (that is, we are not inclined to renew spectrum licences held by state rail authorities).[1]

We are now consulting on proposed apparatus licensing arrangements for rail services that will commence 18 June 2028, early in the spectrum licence renewal period, to provide rail authorities with certainty on the arrangements that would apply after spectrum licences expire. These arrangements would apply in relation to the spectrum covered by existing spectrum licences used for rail services that are not renewed.

Background

In February 2026, we released the *Consultation paper: Review of the 850 MHz and 1800 MHz spectrum licence technical framework paper* (the SLTF consultation paper). That paper sought feedback on the technical framework that would apply to renewed 850 MHz and 1800 MHz band spectrum licences. It also included our initial views on an apparatus licensing framework intended to provide continued access to the 1800 MHz band for rail services after the expiration of any non-renewed spectrum licences held by or on behalf of state rail authorities. After considering feedback, we released outcomes of the SLTF consultation paper in May 2026. However, we elected to consult of the apparatus licence framework for 1800 MHz band rail services in a separate process (this consultation process).

Comments from previous consultation

Stakeholder comments in response to the SLTF consultation paper have been considered in developing the proposals in this paper.[2] The wireless broadband sector was largely supportive of our proposed high-level licensing and technical arrangements for rail services in the 1800 MHz band. The rail industry raised concerns about the longevity and ongoing coexistence of rail services authorised by apparatus licences. Some of the key views from stakeholders are discussed further in the Proposed apparatus licence arrangements for rail services in the 1800 MHz band section of this paper.

[1] The state rail authorities are: Department of Planning Transport and Infrastructure (South Australia), Public Transport Authority of Western Australia, Queensland Rail Limited, Sydney Trains, Victorian Rail Track.
[2] Submissions to the SLTF consultation paper are available on the ACMA website.

Purpose

The purpose of this paper is to seek comment on proposed arrangements for rail services to be authorised under apparatus licences in the 1800 MHz band. These proposed arrangements aim to support current and future rail use in the short-to-medium term and provide measures to manage coexistence, ensuring a high degree of consistency with provisions applicable to spectrum licences.

The majority of the proposed arrangements discussed in this paper are planned to be implemented via updates to Radiocommunications Assignment and Licensing Instruction (RALI) MS34, referred to as RALI MS34 in this paper. A draft update of RALI MS34 is included in the key documents section of this consultation's web page (including tracked changes for ease of reference) and should be read in conjunction with this paper. We plan to update RALI MS34 to the new template before it is remade post consultation.

Other related matters

As detailed in the preferred views on band licensing arrangements paper, while we are of the view that use of the 1800 MHz band for rail services in the short-to-medium term is required, further work is needed to determine what the best long-term use of the 1800 MHz band is. That work will be the subject of a separate consultation process. This means that the proposed apparatus licensing arrangements discussed in this paper would provide ongoing access to the 1800 MHz band for rail services until the best long-term use has been established.

We have also been working towards new, internationally harmonised and Australia-wide arrangements for rail services in the 1.9 GHz band (1900–1910 MHz). In November 2025, we released the *Consultation paper: Implementation of the 1.9 GHz band planning outcomes* (the 1.9 GHz consultation paper) that proposed the licensing and technical framework that will support the deployment of modern 5G-based rail services. We are aiming to release the new arrangements for 1.9 GHz band rail services, and open over-the-counter applications for licences, in late June or early July 2026. Further details are on the ACMA website.

Notwithstanding these timelines, we are mindful that some time-critical rail communications infrastructure investments (e.g. to support the 2032 Olympic games) will require early certainty of access to spectrum. We will be open to early-access requests, on a case-by-case basis.

We are of the view that the 1.9 GHz band is the primary band for broadband rail services, given its long-term certainly, Australia-wide availability and alignment with international arrangements.

RALI MS34 already contains licensing and coordination instructions for 1800 MHz band PTS apparatus licensed services in remote areas. The changes to RALI MS34 proposed in this consultation process are primarily applicable to the inclusion of arrangements for rail services in metropolitan and surrounding areas. We note that our ongoing review of 1800 MHz band arrangements in remote areas may consider updates to other parts of RALI MS34 that are unrelated to proposed new rail arrangements.

Proposed apparatus licence arrangements for rail services in the 1800 MHz band

As detailed in the preferred views on band licensing arrangements paper, we propose that rail services in the 1800 MHz band be authorised via apparatus licensing arrangements after spectrum licences expire. This section contains a detailed overview of the proposed licensing and technical arrangements for the authorisation of 1800 MHz band for rail services from 18 June 2028.

While we propose to use a different licensing and technical framework for rail services in the 1800 MHz band, our intention is that access to spectrum, operational conditions and coexistence arrangements will be very similar to what is currently afforded/required under existing 1800 MHz spectrum licences.

We propose to implement arrangements for rail services by amending RALI MS34 to include provisions which support rail services. We intend to update RALI MS34 in advance of the upcoming spectrum licence renewal period. However, licences would generally not be issued before 18 June 2028, when the existing spectrum licences are due to expire. This is discussed further in the Assignment restrictions section.

Proposed licensing options and taxes for 1800 MHz band rail services

We propose that rail service base stations would be authorised under PTS licences, specifically the public mobile telecommunications services Class B (PMTS-B) licence sub-type. We also propose that mobile and remote stations (i.e. devices that communicate with base stations, including GSM-R mobile transmitters and cab-radios) be authorised via the Radiocommunications (Cellular Mobile Telecommunications Devices) Class Licence 2024 (cellular mobile class licence). This is a similar approach to that used for both public and private wireless broadband services in the 1800 MHz and 2 GHz bands. As per existing PTS arrangements, we are not proposing to impose a maximum power limit on mobile transmitters operated under the cellular mobile class licence. We also do not foresee any interference scenarios that would warrant introducing a power limit. However, we note that these devices operate on a ‘no interference/no protection’ basis. We do not consider that any changes are required to the cellular mobile class licence for this purpose.

The Radiocommunications (Transmitter Licence Tax) Determination 2025 (the tax determination) sets tax rates for transmitter licences, including the PMTS-B licence type. The tax determination provides tax rates for PMTS-B licences on a frequency band basis in Part 9 of Schedule 1. The existing base rate for the 1800 MHz band is $0.01/MHz/population of the HCIS block, which is consistent with our views in the preferred views on pricing paper.

As noted in the tax determination, the annual amount for access to the spectrum is the sum of the results of performing the following calculation for each Level 2 HCIS block:

- half the bandwidth of the spectrum access (in MHz)[3]; multiplied by
- the base rate for the Part 9 licence ($0.01 for 1800 MHz band); multiplied by
- the population of the HCIS block.

Table 1: Example annual taxes for PTS licences

Level 2 HCIS blocks	Population	Example annual apparatus licence tax (assuming a 10 MHz paired bandwidth)
KX3K, KX3O, KX3L, KX3P, LX1I, LX1M, LX4A, LX1N, LX4B, LX4C	4,676,611	$467,661
MV9E, MV9J, MV9K, MV9F, MV9O, MV9L, MV9P, MW3D, MW3H, MW3L, NV4O, NV7B, NV7C, NV7F, NV7I, NV7M, NW1A	5,449,062	$544,906
NT8H, NT8L, NT9E	1,302,765	$130,277
BV1K, BV1L, BV1P, BV2M, BV2M, BV4C, BV4D, BV4H, BV4K, BV4L, BV5A	2,024,378	$202,438

As outlined in the SLTF consultation paper, our view is that the 1800 MHz band PMTS-B licence tax rate would not be prohibitive to the operation of rail services. Having a single tax rate for all PTS licences in the 1800 MHz band, including rail services and both public and private 4G/5G networks, would provide an equitable basis for access to this spectrum and we therefore do not propose to introduce rail-specific tax rates in the 1800 MHz band.

The 1.9 GHz band consultation paper also proposed an equivalent tax arrangement for 1.9 GHz band rail services. Some respondents suggested that taxes based on population may not be appropriate for rail services that don't provide public coverage over broad areas and included questions about potentially using a smaller HCIS block size at a reduced tax rate for underground services. While we acknowledge these proposals about taxes for underground services and the potential use of a smaller HCIS block size for calculating tax rates for rail services, our current licensing system does not support implementing these changes. We may reconsider these proposals at a later date.

It should also be noted that the annual tax rate for PMTS-B licences covers any number of transmitters that operate within the frequency range and area authorised by the licences (i.e. taxes are calculated on the basis of HCIS areas, not the number of transmitters operated in those areas). This means that there would not be an additional amount of tax for underground transmitters if the licensee already holds a PMTS-B licence covering the relevant area.

[3] In effect, the annual amount is calculated based on the bandwidth of the spectrum access used by the transmitting station only.

Assignment restrictions

We propose that PTS licences for rail services will only be issued within frequency ranges and geographic areas as found in Appendix A (the frequency ranges and areas in Appendix A are identical to those authorised by spectrum licences held by or on behalf of the rail authorities). This will preserve the exclusive access to these frequency ranges and areas as currently authorised under spectrum licences held by or on behalf of the rail authorities.

Typically, we would not issue a PTS licence before 18 June 2028 as the frequency range is still subject to spectrum licensing.[4] However, we are supportive of maintaining continuity of existing services where possible and relevant rail licensees (i.e. existing spectrum licensees) should reach out to us early discuss options for potentially issuing PTS licences before 18 June 2028. We consider that this provision might provide certainty where investment decisions are time-critical; for example, to support the rollout of networks ahead of the 2032 Olympic games in Queensland.

Question 1

What are your views on the proposed licensing arrangements for 1800 MHz band rail services?

Question 2

What are your views on the proposed taxes for 1800 MHz band rail services?

Licence duration

In previous consultations, we acknowledged the need for access to the 1800 MHz band for rail services in the short-to-medium term and the uncertainty about the technology environment. Current usage of the 1800 MHz band for rail services also varies across states, from minimal to no current usage in some states to the operation of established GSM-R based networks in others. In recognition of these aspects, the SLTF paper considered a combination of:

- Setting a preferred upper-bound on licence duration. For example, we proposed generally not issuing licences that would expire after 1 January 2037. This would set an initial maximum term for apparatus licences for rail services in the 1800 MHz band while we undertake work to determine the best long-term use of the band. Subject to the outcome of that work, we may change this preference (that is, issue licences beyond 1 January 2037) if, for example, rail use of the 1800 MHz band is found to provide the best long-term public benefit.
- Setting a preferred maximum duration of issued licences. For example, we proposed generally not issuing licences that exceed a 5-year term (however, licences may be renewable until the upper-bound duration date, if appropriate). Submissions to our previous ESL consultations indicated that rail networks in state jurisdictions are at different life-cycle stages, ranging from no current deployments to mature GSM-R based networks. One licensee commenced acquiring and testing equipment in the band during the ESL process after a long period of not using the spectrum. In some cases, issuing long-duration licences that are likely to remain unused may result in inefficient spectrum management and deny access to other potential spectrum uses.

[4] Section 105 of the Act only permits the issuing of an apparatus licence in a frequency range and area subject to a spectrum licence in limited circumstances.

Feedback to the SLTF consultation paper was varied on the tenure of apparatus licences for rail services in the 1800 MHz band. Respondents from the wireless broadband (WBB) sector preferred shorter licence durations with some also suggesting a reducing renewal cadence, meaning that each time a licence is renewed, the maximum renewal term becomes shorter, for rail service PTS licensing. In contrast, the rail industry stated that 20-year licences would support investment certainty and more broadly support the public interest, with some stakeholders suggesting that the spectrum should be allocated to current users indefinitely.

While we acknowledge the concerns about investment certainty, we remain of the view that issuing short-to-medium term apparatus licences is appropriate, given that the best long-term use of this spectrum is yet to be determined. We also note comments about reducing the cadence of licence terms after the initial 5-year period to encourage migration of rail services to the 1.9 GHz band. However, such an approach may be unwarranted before the long-term use question has been answered.

Considering these comments, we are of the view that licence durations proposed in the SLTF consultation paper (and replicated in the above dot points) present the appropriate balance of short-to-medium term certainty, while providing flexibly for us to optimise the use of the 1800 MHz band once we have determined its best long-term use.

Therefore, we propose to include provisions in RALI MS34 to state a policy for the duration of PMTS-B licences for rail services to be for a 5-year term maximum duration, with the licences to be renewable until 1 January 2037.[5] This policy would ensure rail authorities can access 1800 MHz band spectrum for up to 8.5 years (from 18 June 2028 to 01 January 2037), to support ongoing use for the short-to-medium term, where needed. It will also offer rail authorities the flexibility to transition to the 1.9 GHz band at a time that aligns with network life-cycle stages and infrastructure funding.

This approach aims to be a temporary measure while we undertake work to determine the best long-term use of the band. We note that whilst these are our preferred licence durations at present, there is scope for adjustment when the long-term use of the 1800 MHz band is fully understood.

Question 3

What are your views on the proposed licence durations for rail services in the 1800 MHz band?

Technical rules and device details

RALI MS34 currently provides frequency coordination and licensing procedures for PTS licences in the 1800 MHz band. We are of the view that most aspects of RALI MS34 remain suitable for rail services. However, we propose including provisions in RALI MS34 that specifically accommodate rail services – these are discussed later in this section.

In most cases, the proposed provisions align with those currently applied under 1800 MHz spectrum licensing, ensuring continuity from spectrum licence technical frameworks to new apparatus licence arrangements. As a result, the proposed changes will support both legacy GSM-R and modern 5G-based FRMCS technologies, ensuring rail deployments are afforded

[5] See section 5.3 of the draft update to RALI MS34

equivalent conditions to those currently in place under spectrum licences, providing consistency for existing and future rail operations in the short-to-medium term.

Assignment

To support a smooth transition and avoid unnecessary administrative overhead, we propose that transmitters currently registered on the Register of Radiocommunication Licences (RRL), under spectrum licences, do not need to be re-coordinated prior to recording equipment details on a PTS licence, provided that transmitter details directly match existing registrations.

Power limits and channel arrangements

RALI MS34 currently recommends the inclusion of a condition that limits transmitters operated under PTS licences to a maximum power limit of 50 dBm/30kHz equivalent isotropically radiated power (EIRP). This is less than what is currently allowed under spectrum licences. We propose to include provisions that PTS licences for rail services generally include a condition allowing a maximum power limit of:

- 54.5 dBm/30 kHz EIRP for GSM-R transmitters.
- A total radiated power of 50 dBm/5 MHz for all other transmitters.

We also propose to not include EIRP limit provisions for non-metropolitan areas currently covered by spectrum licences, given that spectrum licences issued to rail authorities do not authorise the operation of transmitters in areas that are defined as non-metropolitan.[6]

As GSM-R uses 200 kHz channel spacing, we propose that rail authorities will not need to comply with the 5 MHz channel raster in RALI MS34.

The additions to RALI MS34 can be found in Section 4.14 of the draft update to RALI MS34.

Coexistence with spectrum licensed devices

Coordination arrangements

RALI MS34 already makes use of spectrum licence arrangements for managing interference between PTS licensed services and spectrum licensed services in adjacent frequencies and areas.

Adjacent frequency coexistence is managed via a first-in-time coordination, similar to coexistence between spectrum licensed devices, however as both spectrum licensed and PTS licensed services are frequency division duplex (FDD), the need for specific coordination is low.

Adjacent area coordination between PTS and spectrum licensed services also make use of the same provisions as detailed in the Radiocommunications (Unacceptable Levels of Interference – 1800 MHz Band) Determination 2023. We propose to modify Section 3.3.2 of RALI MS34 to make it clear that, if interference occurs between adjacent area PTS and spectrum licensed services, that spectrum licensees would not have priority over rail services provided using a PTS licence.

Additional measured linked to proposed core conditions on renewed 1800 MHz band spectrum licences

[6] Metropolitan areas means the Adelaide, Brisbane, Melbourne, Perth and Sydney areas of high mobile use as defined in Schedule 4 of the Radiocommunications (Unacceptable Levels of Interference - 1800 MHz Band) Determination 2023.

The outcomes from the SLTF consultation paper included some relaxations to unwanted emissions for spectrum licensed transmitters in the 1800 MHz upper band. These relaxations are intended to be included in renewed spectrum licences. However, we decided to maintain existing limits for unwanted emissions that fall within rail frequency ranges and areas. This decision recognises concerns about potential interference risks to rail services and that permitting higher levels of unwanted emissions may increase the risk of interference occurring.

To provide a more nuanced solution that aims to implement restrictions only in situations when they are needed, we intend that any renewed 1800 MHz band licences will also allow transmitters to exceed the stated unwanted emission limits (falling into the rail frequency ranges and areas) if either: [7]

- The spectrum licensee has an agreement with the relevant rail licensee.
- The spectrum licensee complies with all coexistence requirements specified in RALI MS34.

For the purposes of the above provisions, we propose including a table in RALI MS34 that defines the relevant rail licensee, and the applicable frequency ranges and areas for rail services. This can be found in Attachment 6 to the draft update of RALI MS34.

The primary interference scenario would be when a mobile rail receiver (e.g. a cab radio on a train) is operating at its cell edge (i.e. experiencing a low wanted signal level) while a frequency-adjacent base station is located nearby (introducing a comparatively high-interference signal level).

Analysis of existing base station deployments for rail services entered into the RRL shows that the maximum inter-site separation, between 2 adjacent base stations, is approximately 10 km (rounded up for conservative estimation). Based on this, we estimate that the worst-case cell edge distance would be approximately 5 km, assuming the coverage boundary is located at the midpoint between adjacent sites.

Based on this, we are of the view that if spectrum licensed base stations are located 5 km or more away from rail base stations, there will be a minimal risk that interference could occur. A relaxation of unwanted emission limits to align with the highest limits proposed to be included on renewed spectrum licences would be unlikely to pose an increased interference risk to rail services. We propose that spectrum licensed base stations located within 5 km of rail base stations must operate under unwanted emission limits stated on renewed 1800 MHz band spectrum licences.

We also propose that these requirements would be applicable to any rail base stations, existing or future. This will ensure that future rail deployments will be afforded the level of protection provided under renewed spectrum licences as rail networks are expanded. Under this approach, the spectrum licensee may be required to modify the unwanted emission from deployed transmitters due to a new rail base station being licensed (if located within 5 km of the transmitter). We are of the view that spectrum licensees will be able to assess this risk through discussions with the relevant rail licensee given that rail services will be predominately deployed along rail lines.

[7] Also see core conditions 4 and 5 of licence schedule 2 of the renewed spectrum licence template – Sample 1800 MHz band spectrum licence template.

The proposed arrangements are detailed in section 3.3.4 of the draft update to RALI MS34.

Unwanted emission limits for rail services

Typically, we do not include unwanted emission limit conditions on PTS licences. However, we note that RALI MS34 includes emission masks that licensees are expected to comply with.

Our preferred view is that current unwanted emission limits for PTS licensed rail transmitters in the upper frequency segment would be included in RALI MS34. This would slightly alter conditions currently applicable to rail services due to the limit being specified in a RALI (which is not binding) instead of a licence condition. However, this approach is consistent with typical coexistence measures implemented in apparatus licence frameworks.

An alternative option would be to carry over unwanted emission limits for transmitters in the upper frequency segment from rail service spectrum licences into PTS licences. This option would have the effect of maintaining the status quo, although this contrasts with how unwanted emission limits and coexistence criteria are generally implemented for apparatus licences. However, if considered desirable in particular cases, we could consider including a licence condition on a PTS licence that gives effect to the limit in RALI MS34.

The proposed unwanted emission limits can be found in Attachment 5 of the draft update to RALI MS34. We do not propose to carry over current conditions that apply to rail services under existing spectrum licences; rather, we propose to update conditions based on improvements that will be included on renewed spectrum licences and the different interference scenarios detailed in the SLTF consultation paper.

Unwanted emissions from rail base station transmitters that fall outside the frequency range applicable to rail services will fall into spectrum covered by spectrum licences (below 1865 MHz or 1870 MHz, depending on the geographic area and subject to renewal of those licences) or into spectrum used for Digital Enhanced Cordless Telecommunications (DECT) services above 1880 MHz. We propose a hybrid approach for specifying unwanted emission limits in the upper 1800 MHz frequency segment that aligns with the unwanted emissions permitted by any renewed spectrum licences, consisting of:

- Aligning with the 3GPP Category B Option 1 (CBO1) limits for unwanted emissions offset from the lower limit of the PTS licence and falling into the frequency range 1795–1880 MHz.
- Aligning with the 3GPP Category B Option 2 (CBO2) limits for unwanted emissions limits falling into the range 1880–1890 MHz.

The proposed changes impose two different limits on the upper and lower edges of the licensed PTS channel. However, we are interested to understand if compliance with the upper mask would simply carry over to the lower mask, making it unnecessary to implement an asymmetrical mask in RALI MS34.

Question 4

What are your views on the cell edge distance and proposed coexistence criteria for when relaxed unwanted emission limits for 1800 MHz band spectrum licensed transmitters should be permitted?

Question 5

Do you agree with our preferred method for implementing unwanted emission limits for 1800 MHz band rail services?

Question 6

What are your views on the proposed technical rules and device details for apparatus licensed rail services in the 1800 MHz band?

Operational restrictions

Rail safety and control communications

Under current spectrum licences, licences held by or on behalf of rail authorities (those in lower band 1775–1785 MHz and upper band 1870–1880 MHz) include a condition that limits operation for the provision of rail safety and control communications. We propose including this same condition on PTS licences issued within the full 15 MHz (lower band 1770–1785 MHz and upper band 1865–1880 MHz) in Brisbane, Melbourne, Perth and Sydney and 10 MHz (lower band 1775–1785 MHz and upper band 1870–1880 MHz) in Adelaide.

This is partially inconsistent with current arrangements, as spectrum licences for rail authorities in the lower band (1770–1775 MHz) and upper band (1865–1870 MHz) do not carry this condition. However, it reflects the intent of this apparatus licensing framework and is consistent with our view that rail services in the lower band 1770/1775–1785 and upper band 1865/1870–1880 MHz represent the optimal public interest use over the short-to-medium term.

To ensure that these arrangements are only used to provide rail safety and control communications, the following special condition is proposed to be included on PTS licences authorising rail service base stations in lower band 1770/1775–1785 MHz and upper band 1865/1870–1880 MHz:

> **Special condition [XXX]:** will be applied to all PTS licences in the 1800 MHz band authorised for rail services as defined in **Attachment 6**.
>
> > *A person must only operate a radiocommunications transmitter for the purpose of the provision of rail safety and control communications.*

Underground deployment

We note that RALI MS34 already provides for underground deployment and, due to the low potential for interference to services above ground, we have not proposed any changes for rail services operating underground.

Question 7

What are your views on the proposed operational restrictions for rail services in the 1800 MHz band?

Question 8

Are there any comments on the proposed amendments to RALI MS34?

Next steps

Subject to feedback we receive to this public consultation process, we propose to release our outcomes in Q3 2026.

Invitation to comment

Making a submission

We invite comments on the issues set out in this discussion paper.

Online submissions can be made by uploading a document. Submissions in PDF, Microsoft Word or Rich Text Format are preferred.

Submissions by post can be sent to:

The Manager
Wireless Broadband Section
Australian Communications and Media Authority
PO Box 78
Belconnen ACT 2616

The closing date for submissions is **COB, Wednesday 22 July 2026**.

Consultation enquiries can be emailed to freqplan@acma.gov.au.

Publication of submissions

We publish submissions on our website, including personal information (such as names and contact details), except for information that you have claimed (and we have accepted) is confidential.

Confidential information will not be published or otherwise released unless required or authorised by law.

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View information about our policy on the publication of submissions, including collection of personal information during consultation and how we handle that information.

Information on the Privacy Act 1988, how to access or correct personal information, how to make a privacy complaint and how we will deal with any complaints, is available in our privacy policy.

Appendix A: Proposed frequency ranges and geographic areas to be authorised under PMTS-B apparatus licensing to rail authorities

Area name	Relevant rail licensee	Base receive	Affected frequency range (base transmit)	Affected area (HCIS)
Adelaide	Department of Planning Transport and Infrastructure	1775–1785	1870–1880	IW3J, IW3K, IW3L, IW3N, IW3O, IW3P, IW6B, IW6C, IW6D, IW6F, IW6G, IW6H, IW3E5, IW3E6, IW3E8, IW3E9, IW3F4, IW3F5, IW3F6, IW3F7, IW3F8, IW3F9, IW3G4, IW3G5, IW3G6, IW3G7, IW3G8, IW3G9, IW3H4, IW3H5, IW3H6, IW3H7, IW3H8, IW3H9, IW3I2, IW3I3, IW3I5, IW3I6, IW3I8, IW3I9, IW3M2, IW3M3, IW3M5, IW3M6, IW3M8, IW3M9, IW6A2, IW6A3, IW6A5, IW6A6, IW6A8, IW6A9, IW6E2, IW6E3, IW6E5, IW6E6, IW6E8, IW6E9, JW1E4, JW1E7, JW1I1, JW1I4, JW1I7, JW1M1, JW1M4
Brisbane	Queensland Rail Limited	1770–1785	1865–1880	NT9, NT8C, NT8D, NT8G, NT8H, NT8K, NT8L, NT8O, NT8P, NU3A, NU3B, NU3C, NU3D, NU3F, NU3G, NU3H, NT5O4, NT5O5, NT5O6, NT5O7, NT5O8, NT5O9, NT5P4, NT5P5, NT5P6, NT5P7, NT5P8, NT5P9, NT6M4, NT6M5, NT6M6, NT6M7, NT6M8, NT6M9, NT6N4, NT6N5, NT6N6, NT6N7, NT6N8, NT6N9, NT6O4, NT6O5, NT6O6, NT6O7, NT6O8, NT6O9, NT6P4, NT6P5, NT6P6, NT6P7, NT6P8, NT6P9, NU2C1, NU2C2, NU2C3, NU2D1, NU2D2, NU2D3, NU2D5, NU2D6, NU2D8, NU2D9, NU2H2, NU2H3, NU3E1, NU3E2, NU3E3,

Area name	Relevant rail licensee	Base receive	Affected frequency range (base transmit)	Affected area (HCIS)
				NU3E5, NU3E6, NU3E8, NU3E9, NU3I2, NU3I3, NU3J1, NU3J2, NU3J3, NU3K1, NU3K2, NU3K3, NU3L1, NU3L2, NU3L3
Melbourne	Victorian Rail Track	1770–1785	1865–1880	KX3J, KX3K, KX3L, KX3N, KX3O, KX3P, KX6B, KX6C, KX6D, KX6F, KX6G, KX6H, KX6J, KX6K, KX6L, LX1I, LX1M, LX1N, LX1O, LX4A, LX4B, LX4C, LX4E, LX4I, KX3F7, KX3F8, KX3F9, KX3G7, KX3G8, KX3G9, KX3H4, KX3H5, KX3H6, KX3H7, KX3H8, KX3H9, KX3M6, KX3M8, KX3M9, KX6A2, KX6A3, KX6A5, KX6A6, KX6A8, KX6A9, KX6E2, KX6E3, KX6E5, KX6E6, KX6E8, KX6E9, KX6I2, KX6I3, KX6I5, KX6I6, KX6I8, KX6I9, LX1E4, LX1E7, LX1E8, LX1E9, LX1J1, LX1J4, LX1J5, LX1J6, LX1J7, LX1J8, LX1J9, LX1K4, LX1K7, LX4F1, LX4F2, LX4F4, LX4F5, LX4F7, LX4F8, LX4J1, LX4J2, LX4J4, LX4J5, LX4J7, LX4J8
Perth	Public Transport Authority of Western Australia	1770–1785	1865–1880	BV1I, BV1J, BV1K, BV1L, BV1M, BV1N, BV1O, BV1P, BV2I, BV2J, BV2M, BV2N, BV4A, BV4B, BV4C, BV4D, BV4E, BV4F, BV4G, BV4H, BV4I, BV4J, BV4K, BV4L, BV5A, BV5B, BV5E, BV5F, BV5I, BV5J, BV1E7, BV1E8, BV1E9, BV1F7, BV1F8, BV1F9, BV1G7, BV1G8, BV1G9, BV1H7, BV1H8, BV1H9, BV2E7, BV2E8, BV2E9, BV2F7, BV2F8, BV2F9, BV4M1, BV4M2, BV4M3, BV4N1, BV4N2, BV4N3, BV4O1, BV4O2, BV4O3, BV4P1, BV4P2, BV4P3, BV5M1, BV5M2, BV5M3, BV5N1, BV5N2, BV5N3

Area name	Relevant rail licensee	Base receive	Affected frequency range (base transmit)	Affected area (HCIS)
Sydney	Sydney Trains	1770–1785	1865–1880	MV9I, MV9J, MV9K, MV9L, MV9M, MV9N, MV9O, MV9P, MW3C, MW3D, MW3G, MW3H, MW3K, MW3L, NV4N, NV4O, NV4P, NV5M, NV5N, NV5O, NV5P, NV7B, NV7C, NV7D, NV7E, NV7F, NV7G, NV7H, NV7I, NV7J, NV7K, NV7L, NV7M, NV7N, NV7O, NV7P, NW1A, NW1B, NW1C, NW1D, NW1E, NW1F, NW1G, NW1H, NW1I, NW1J, NW1K, NW1L, MV9D6, MV9D9, MV9E4, MV9E5, MV9E6, MV9E7, MV9E8, MV9E9, MV9F4, MV9F5, MV9F6, MV9F7, MV9F8, MV9F9, MV9G4, MV9G5, MV9G6, MV9G7, MV9G8, MV9G9, MV9H3, MV9H4, MV9H5, MV9H6, MV9H7, MV9H8, MV9H9, MW3B2, MW3B3, MW3B5, MW3B6, MW3B8, MW3B9, MW3F2, MW3F3, MW3F5, MW3F6, MW3F8, MW3F9, MW3J2, MW3J3, MW3O1, MW3O2, MW3O3, MW3P1, MW3P2, MW3P3, NV4I5, NV4I6, NV4I8, NV4I9, NV4J4, NV4J5, NV4J6, NV4J7, NV4J8, NV4J9, NV4K4, NV4K5, NV4K6, NV4K7, NV4K8, NV4K9, NV4L4, NV4L5, NV4L6, NV4L7, NV4L8, NV4L9, NV4M2, NV4M3, NV4M5, NV4M6, NV4M8, NV4M9, NV5I4, NV5I5, NV5I6, NV5I7, NV5I8, NV5I9, NV5J4, NV5J5, NV5J6, NV5J7, NV5J8, NV5J9, NV5K4, NV5K5, NV5K6, NV5K7, NV5K8, NV5K9, NV5L4, NV5L5, NV5L6, NV5L7, NV5L8, NV5L9, NV7A2, NV7A3, NV7A4, NV7A5, NV7A6, NV7A7, NV7A8, NV7A9, NW1M1, NW1M2, NW1M3, NW1N1, NW1N2, NW1N3, NW1O1, NW1O2, NW1O3, NW1P1, NW1P2, NW1P3