Spectrum planning framework

Draft frequency coordination requirements review work program 2021–22

JULY 2021

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# Introduction

The Australian Communications and Media Authority (ACMA) is committed to continuously reviewing spectrum planning technical frameworks to ensure they are current and consistent with current technologies and operational practices. Broadly, this comprises 2 workstreams:

Ensuring currency of frequency coordination requirements for apparatus-licensed services. This material is predominately recorded in RALIs – Radiocommunications Assignment and Licensing Instructions.

Consideration of spectrum licence technical frameworks and ensuring the continuing appropriateness of spectrum embargoes are additional elements of this work program.

In 2020, we consulted on a program for reviewing spectrum licence technical frameworks. The updated work program is available on the [ACMA website](https://www.acma.gov.au/spectrum-licence-technical-framework-review). Therefore, spectrum licence technical frameworks are outside the scope of this consultation.

In the [draft *Five-year spectrum outlook 2021–2026*](https://www.acma.gov.au/five-year-spectrum-outlook) (FYSO), we committed to seek industry comment on a draft work program for updating frequency coordination arrangements in various bands. This document outlines the draft work program and we invite interested parties to provide feedback, including any additional items or specific issues that should be considered in the coming 12 to 18 months.

# Program of review

In Table 1 below, we outline the program of work that the ACMA intends to undertake to update our suite of frequency assignment and coordination rules. For completeness, it includes activities already identified in the FYSO. In some cases, the activities listed are consequential tasks from other projects or matters that have been separately raised with the ACMA.

There are currently 28 documents, primarily RALIs, that contain frequency assignment and coordination instructions (other RALIs that do not contain assignment and coordination instructions, for example, band plan RALIs, are outside the scope of this review). The proposed revision timetable is listed in Table 1 below, including whether items are currently flagged for revision (noting this may change because of stakeholder feedback). The proposed revisions are discussed in further detail in the following section.

Suggestions are invited for additional changes and improvements to our suite of frequency assignment and coordination documents in response to this draft work program. Any suggestions that might assist in the application, readability, clarity etc. of RALIs are welcome. However, please note that suggestions that would constitute a planning change, such as a change to the uses supported in a band, should be raised separately through the FYSO process.

While RALI MS03 – Spectrum Embargoes is not included in Table 1, we plan to undertake a modest review of this document across the next 12 to 18 months to ensure embargoes are still required and fit for purpose. Suggestions for improvement or changes to RALI MS03 are welcome in response to this consultation.

We have provided indicative timing of the review periods for the relevant RALI. Exact timings will be influenced by broader priorities and any issues identified during the consultation and review process.

The Regulator Performance Guide[[1]](#footnote-2) outlines the principles of best practice that underpin the government’s expectations of regulators and their performance. The principles are:

**Continuous improvement and building trust**: regulators adopt a whole-of-system perspective, continuously improving their performance, capability and culture to build trust and confidence in Australia’s regulatory settings.

**Risk-based and data-driven**: regulators manage risks proportionately and maintain essential safeguards while minimising regulatory burden, and leveraging data and digital technology to support those they regulate to comply and grow.

**Collaboration and engagement**: regulators are transparent and responsive communicators, implementing regulations in a modern and collaborative way.

To that end, we will look to identify opportunities to improve our suite of frequency assignment and coordination documents as part of this review, in collaboration with stakeholders. The improved frameworks will support ongoing industry innovation, including by facilitating the adoption of the latest technologies.

Current status of frequency assignment and coordination documents

|  |  |  |  |
| --- | --- | --- | --- |
| Identifier | Title | Revision required? | Expected timeframe for undertaking revision |
| FX01 | Frequency assignment requirements for narrowband fixed and mobile services with wideband fixed services in the 403–420 MHz band | No | - |
| FX03 | Microwave fixed services frequency coordination including information on RPE data files | Yes | Q3–Q4 2021 |
| FX14 | Point-to-multipoint fixed services in specified parts of the 3.4–3.5 GHz band | Planned for suppression | 3400-4000 MHz TLG process commenced Q2 2021, finishing Q4 2021 |
| FX16 | Point-to-multipoint fixed services in the VHF high, 400 MHz and 800 MHz bands | No | - |
| FX17 | Frequency assignment requirements for narrowband single channel 2 frequency point-to-point services in the VHF high and 400 MHz bands | No | - |
| FX19 | Frequency coordination and licensing procedures for apparatus licensed broadband wireless access services in the 1900–1920 and 3575–3700 MHz bands | Yes | 3400-4000 MHz TLG process commenced Q2 2021, finishing Q4 2021 |
| FX20 | Millimetre wave point-to-point (self-coordinated) stations operating in the 58 GHz, 75 GHz and 85 GHz bands | No | - |
| FX21 | Television outside broadcasting services in the bands 1980–2110 MHz and 2170–2300 MHz | No | Update finalised April 2021 |
| FX22 | Frequency assignment requirements for the fixed service in the 800 MHz band | Yes | Q3–Q4 2021 |
| FX23 | Frequency coordination and licensing procedures for point-to-multipoint services in the 5.6 GHz band | Yes | Q3–Q4 2021 |
| LM02 | Paging services | No | - |
| LM05 | Frequency assignment procedures for land mobile services adjacent to TV channels 2, 3 and 6 | No | - |
| LM08 | Frequency assignment requirements for the land mobile service | Yes | Q1–Q2 2023 |
| LM09 | Frequency assignment procedures for apparatus licensed wireless audio devices | No | - |
| MS31 | Notification zones for apparatus licensed services around radio astronomy facilities | No | - |
| MS32 | Coordination of apparatus licensed services within the ARQZWA | No | - |
| MS33 | Frequency coordination and licensing procedures for apparatus licensed PTS in the 2 GHz bands | Yes | Q4 2021–Q1 2022 |
| MS34 | Frequency coordination and licensing procedures for apparatus licensed PTS in the 1800 MHz bands | Yes | Q4 2021–Q1 2022 |
| MS35 | Coordination of 2.5 GHz band spectrum licensed transmitters with radiodetermination stations operated by the Department of Defence in the 2700–2900 MHz band | No | - |
| MS37 | Coordination of spectrum licensed devices operating in the 2.3 GHz band with SRS earth stations in the 2290–2300 MHz band | No | - |
| MS38 | Coordination between earth station transmitters in the fixed-satellite service and other services in the 25.5–30 GHz band | Yes | Q3–Q4 2021 |
| MS39 | Frequency coordination and licensing procedures for apparatus licensed public telecommunications services in the 3.5 GHz band | Planned for suppression | 3400–4000 MHz TLG process commenced Q2 2021, finishing Q4 2021 |
| MS43 | Coordination procedures between New Norcia earth station and other services in the bands: 7145–7235 MHz, 8400–8500 MHz, 25.5–27.0 GHz, 31.8–32.3 GHz, and 34.2–34.7 GHz | Yes | Q3-Q4 2021 |
| MS44 | Frequency coordination procedures for the earth station protection zones | Yes | Q3-Q4 2021 |
| MS45 | Frequency coordination requirements between microwave fixed point to point links and FSS earth stations | Yes | Q4 2021-Q1 2022 |
| MS46 | Licensing and coordination procedures for area-wide apparatus licensed services in the 26/28GHz bands | Yes | Q3-Q4 2021 |
| SM26 | Restrictions on Apparatus Licensing in Spectrum Licensed Spaces | No | Created May 2021 |
| SP 4/93 | Coordination procedures for the licensing of services sharing the 857–861 MHz band | No | Due for suppression by 30 June 2023 |

## Frequency coordination requirements (RALIs)

### FX03

RALI FX03 details arrangements for microwave fixed services frequency coordination. A significant update of RALI FX03 is planned during Q3 and Q4 2021. One consultation process will be conducted to consider a range of updates, some of which stem from recent ACMA band reviews. The update will include:

implementation of relevant outcomes of the 3700–4200 MHz review. These are outlined in the [Replanning the 3700-4200 MHz band: Outcomes paper](https://www.acma.gov.au/consultations/2020-07/planning-options-3700-4200-mhz-band-consultation-222020) and involves reviewing arrangements for point-to-point services in the 3.8 GHz band

implementation of relevant outcomes of the 2 GHz band (1980–2010 and 2170–2200 MHz) review. These are outlined in the [*Replanning the 2 GHz band (1980–2010 and 2170–2200 MHz): Outcomes paper*](https://www.acma.gov.au/consultations/2020-07/replanning-options-2-ghz-band-consultation-232020) and involves reviewing 7.2 GHz television outside broadcast (TOB) arrangements to reflect current digital technologies used, including development of coordination arrangements to support the transition of 2 GHz TOB licensees

consideration of new channel arrangements of 56 MHz and 112 MHz in the 14.5–15.35 GHz band (the 15 GHz band) and consideration of arrangements for channel aggregation more broadly across point-to-point bands

review of the minimum front-to-back (F/B) ratio requirements

consideration of additional information regarding transmitter/antenna/polarisation diversity.

As part of the review, the entire RALI will be considered to ensure it remains up to date, including references to external documents such as International Telecommunications Union Radiocommunication Sector (ITU-R) recommendations and reports. Stakeholders are invited to highlight any sections of RALI FX03 that may require updating in response to this consultation paper.

### FX14

RALI FX14 details arrangements for point-to-multi-point fixed services in specified parts of the 3.4–3.5 GHz band. The intention is to suppress RALI FX14 and absorb relevant content into a new RALI that includes apparatus assignment and licensing arrangements for wireless broadband services across the entire 3400–4000 MHz band. Consolidating arrangements for apparatus licensed wireless broadband use into a single RALI will help simplify access to this band by interested parties. This is expected to maximise the overall public benefit derived from use of the band allowing for a combination of uses and users, including both wide-area and local-area wireless broadband services. This work is part of the 3400–4000 MHz TLG process which commenced in Q2 2021 and is expected to conclude by the end of 2021.

### FX19

Frequency coordination and licensing procedures for apparatus licensed broadband wireless access services in the 1900–1920 and 3575–3700 MHz bands are outlined in RALI FX19. Existing material regarding the 3575–3700 MHz band will be removed and relevant content absorbed into a new RALI containing assignment and licensing arrangements for wireless broadband services across the 3400–4000 MHz band. Consolidating arrangements for apparatus licensed wireless broadband use into a single RALI will help simplify access to this band by interested parties. This is expected to maximise the overall public benefit derived from use of the band allowing for a combination of uses and users including both wide-area and local-area wireless broadband services. This work is part of the 3400-4000 MHz TLG process which commenced in Q2 2021 and is expected to conclude by the end of 2021.

At the same time, minor updates will be made to arrangements in the 1900-1920 MHz band to account for the removal of spectrum licences in metropolitan areas in this band.

There will also be a review of the 1880–1920 MHz band commencing in Q3 2021. The 1880–1920 MHz band may be a candidate for changes to support new technologies including DECT-2020, local area wireless broadband applications such as private networks and Future Rail Mobile Communications Systems. This may result in future changes to RALI FX19.

### FX22

RALI FX22 contains frequency assignment requirements for the fixed service in the 800 MHz band.

A technical liaison group (TLG) was established in December 2020 to consider technical frameworks to support the reallocation of the 850 MHz and 900 MHz bands.[[2]](#footnote-3) Feedback from the TLG highlighted a need to incorporate coordination arrangements to enable coexistence of fixed services in the 800 MHz band and services operating under the 850 MHz band spectrum licences. This RALI will be updated to take into account changes made to the 850 MHz and 900 MHz spectrum licence technical frameworks. Work is expected to occur across Q3 and Q4 2021.

### FX23

Frequency coordination and licensing procedures for point-to-multi-point services in the 5.6 GHz band are detailed in RALI FX23. We intend to make editorial updates and update Annex D which contains the locations and parameter values for potential sites for future weather radars. This will ensure the 5.6 GHz band is available for utilisation to its full potential by ensuring co-ordination with incumbent services is based on the most up-to-date technical characteristics. This work is expected to occur across Q3 and Q4 2021.

### LM08

RALI LM8 contains frequency assignment requirements for the land mobile service.

In November 2015, the review of the 803-960 MHz band was concluded with the publishing of a [decision paper](https://www.acma.gov.au/publications/2015-12/report/acmas-long-term-strategy-803-960-mhz-band-decision-paper).

One outcome of the 803–960 MHz review is that by 30 June 2023, RALI LM8 will be amended as follows:

Amend frequency limits for the 800 MHz trunked land mobile band in Annex A (Table A1) from 806–870 MHz to 806–854 MHz.

Remove Table B4.2, rename Table B4.2a as Table B4.2 (which will put into effect the removal of the allocation at 820–825/865–870 MHz) and change channel numbers from 201–440 to 1–240.

Remove Table B4.1, rename Table B4.1a as Table B4.1 and change channel numbers from 201–440 to 1–240.

Amend Annex E to reflect changes to adjacent services and operating frequencies.

Amend E4 to describe services conforming to technical frameworks to be developed for the 850 MHz expansion band, operating upper adjacent (that is, at the 809/854 MHz boundary).

Retain existing frequency-distance constraints and technical parameters for intermodulation checking purposes.

In addition to the above work scheduled for 2023, industry feedback is sought on potential opportunities to increase spectrum efficiency of RALI LM08 land mobile bands, including through adjusting frequency/distance reuse constraints and reviewing the enclosed and short-range digital service model which was introduced in October 2019. Depending on feedback and the level of specificity provided, the ACMA may decide to undertake this work on RALI LM08 separately and earlier than the other amendments outlined above to implement the outcomes of the review of the 803–960 MHz band.

### MS33

Frequency coordination and licensing procedures for apparatus licensed Public Telecommunications Services (PTS) in the 2 GHz bands are detailed in RALI MS33. This RALI will be updated to include support for active antenna systems (AAS). This work is planned to be conducted in parallel with updates to RALI MS34 in Q4 2021 and Q1 2022.

### MS34

Frequency coordination and licensing procedures for apparatus licensed PTS in the 1800 MHz bands are detailed in RALI MS34. This RALI will be updated to support active antenna systems (AAS) and review assignment priorities in remote areas. This work is planned to be conducted in parallel with updates to RALI MS33 in Q4 2021 and Q1 2022.

### MS38

Arrangements for coordination between earth station transmitters in the fixed-satellite service and other services in the 25.5-30 GHz band are outlined in RALI MS38. This RALI is linked to RALI MS46 and may be updated as part of any improvements made to RALI MS46 (see below). Work on this revision is planned to occur in Q3 and Q4 2021.

### MS39

RALI MS39 contains frequency coordination and licensing procedures for apparatus licensed public telecommunications services in the 3.5 GHz band. The intention is to suppress RALI MS39 and absorb relevant content into a new RALI that includes apparatus assignment and licensing arrangements for wireless broadband services across the entire 3400-4000 MHz band. Consolidating arrangements for apparatus licensed wireless broadband use into a single RALI will help simplify access to this band and allow for a combination of uses and users, including both wide-area and local-area wireless broadband services. This work is part of the 3400-4000 MHz TLG process which commenced in Q2 2021 and is expected to conclude by the end of 2021.

### MS43

RALI MS43 outlines coordination procedures between New Norcia earth station and other services in the bands: 7145–7235 MHz, 8400–8500 MHz, 25.5–27.0 GHz, 31.8– 32.3 GHz, and 34.2–34.7 GHz. Several updates are required to this RALI, including updating technical characteristics of some transmitters and receivers listed in the RALI and including arrangements for Tidbinbilla earth stations in the bands currently covered by the RALI, as well as the 22.55–23.15 GHz band.

Arrangements for the 25.5–27 GHz band are now covered under RALI MS46. The 25.5–27 GHz band will be removed from RALI MS43 to avoid potential inconsistencies/duplication.

This work will occur in Q3 and Q4 2021.

### MS44

RALI MS 44, which outlines frequency coordination procedures for the earth station protection zones (ESPZs), will be updated to extend eastern ESPZs to cover parts of the 3400–3575 MHz band that are not subject to spectrum licensing. These updates have been discussed within the recent 3.4 GHz TLG and supported by members. This update will occur across Q3 and Q4 2021.

### MS45

Frequency coordination requirements between microwave fixed point-to-point links and FSS earth stations is detailed in RALI MS45. This RALI will be further developed by the addition of arrangements in additional frequency bands, starting with additional Earth transmit bands. This work will occur in Q4 2021 and Q1 2022.

### MS46

RALI MS46 details licensing and coordination procedures for area-wide apparatus licensed services in the 26/28 GHz bands. The coexistence arrangements contained in this RALI include several new concepts which are used for the first time in Australia’s spectrum management regime. The ACMA plans to review this RALI to identify areas where updates can be made to improve its clarity and operation in Q3 and Q4 2021.

### SP 4/93

SP 4/93 contains coordination procedures for the licensing of services sharing the 857–861 MHz band. This document will be suppressed by 30 June 2023 as part of the implementation of the view of the 803–960 MHz band – the frequencies covered by this document have been reallocated for spectrum licensing, and assignment instructions for the relocated services are now contained in RALI FX 22.

# Invitation to comment

## Making a submission

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

[Online submissions](https://www.acma.gov.au/have-your-say) 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

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The closing date for submissions is COB, **8 August 2021**.

Consultation enquiries can be emailed to [freqplan@acma.gov.au](mailto:freqplan@acma.gov.au).

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1. Available on the [Department of Prime Minister and Cabinet website](https://deregulation.pmc.gov.au/sites/default/files/regulator-performance-guide.pdf). [↑](#footnote-ref-2)
2. See the [Radiocommunications (Spectrum Re-allocation—850/900 MHz Band) Declaration 2020](https://www.legislation.gov.au/Details/F2020L01407). [↑](#footnote-ref-3)