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Australian Communications and Media Authority

Frequency coordination and licensing procedures for point-to-multipoint system licences in the 3400–3475 MHz and 3950–4000 MHz bands

RALI: MS 50

DATE OF EFFECT: 29/09/2025

Amendment history

Date	Comments
29/09/2025	Initial release

Suggestions for improvements to Radiocommunications Assignment and Licensing Instruction MS 50 may be addressed to:

The Manager, Spectrum Planning Section
Australian Communications and Media Authority
PO Box 78
Belconnen ACT 2616

or by email to: freqplan@acma.gov.au.

Please notify the ACMA of any inaccuracy or ambiguity found in this RALI, so that it can be investigated and appropriate action taken.

Contents

1 Introduction

1.1 Purpose

The purpose of this Radiocommunications Assignment and Licensing Instruction (RALI) is to set out arrangements for point-to-multipoint system (PMPS) licensing in the 3400-3475 MHz frequency range in defined urban areas, and 3950-4000 MHz band in defined metropolitan and regional areas.

Arrangements for PMPS are intended to support the deployment of localised private and enterprise networks, such as services provided to warehouses, factories, airports, ports, transport hubs, hospitals, schools and smart buildings. It is expected to enable the use of new technologies to support the internet of things, intelligent transport systems, smart cities, smart utility applications and other Industry 4.0[1] opportunities.

The information in this document reflects the ACMA's statement of current policy in relation to PMPS licensing in the 3400-3475 MHz and 3950-4000 MHz bands. In making decisions, accredited persons and ACMA officers should take all relevant factors into account and decide each case on its merits. Issues relating to this document that appear to fall outside the enunciated policy should be referred to:

The Manager, Spectrum Planning Section
Australian Communications and Media Authority
PO Box 78
Belconnen ACT 2616

or by email to: freqplan@acma.gov.au.

1.2 Scope

This RALI sets out the steps necessary for frequency coordination of PMPS licences. This includes frequency coordination requirements with other in-band and adjacent band licensed services.

In the event interference occurs after a licence is issued and this cannot be resolved between the affected parties, licensees can expect the ACMA to have regard to this RALI and relevant legislative instruments in dealing with the dispute.

[1] Industry 4.0 or the fourth industrial revolution refers to the transformation of how businesses operate by connecting the physical with the digital world. Artificial intelligence, advanced automation and robotics are examples of Industry 4.0 technologies.

2 Assignment rules and licence conditions

2.1 Assignment rules

The general assignment rules that apply to PMPS licences subject to this RALI are:

- The frequencies and areas available for PMPS licensing are detailed in Appendix A.
- Until further notice, a PMPS licence must not be issued[2]:
    - On a frequency in the 3950–4000 MHz band within a 10 km radius
        - of a landing end coordinate[3] of an identified runway specified in Appendix G of RALI MS 47,
        - or the coordinates 33° 53' 30.66"S, 150° 41' 44.63"E and 33° 52' 30.13"S, 150° 43' 48.96"E.[4]
- A licensee is restricted to a PMPS licence in only one of either the 3400-3475 MHz and 3950 MHz bands at each controlled premises[5].
- A 5 MHz-based channel raster applies in the 3400-3475 MHz and 3950-4000 MHz bands. 5 MHz channels may be aggregated as required to form larger channels. Channels are defined by the following equations, where ‘n’ is the channel number:
    - 3400-3475 MHz: channel ‘n’ centre frequency is (3402.5 + 5(n-1)) MHz
    - 3950-4000 MHz: channel ‘n’ centre frequency is (3952.5 + 5(n-1)) MHz
- Assignments in the 3460-3475 MHz band are restricted unless there is agreement with the adjacent frequency spectrum licensee. The licensee of any PMPS licence issued in the 3460-3475 MHz band takes on the risk that they may have to modify or cease operation at any time to manage interference with other PMPS licensees or adjacent area/frequency spectrum licensees.

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[2] This restriction may be lifted at a later date pending consideration of compatibility with aeronautical services.

[3] landing end coordinate, for an identified runway, has the meaning given by Appendix G to RALI MS 47.

[4] Landing end coordinates of Western Sydney International Airport runways 05/23

[5] A controlled premises means premises that are owned or under the control of:

(a) the licensee;

(b) a person authorised by the licensee under section 114 of the Act to operate radiocommunications transmitters under the licence; or

(c) a person who has an agreement or arrangement with the licensee or an authorised person for the provision of radiocommunications services at the premises.

2.2 Licence conditions

The *Radiocommunications Licence Conditions Determination (Fixed Licence) Determination 2025* ("the Fixed Licence LCD 2025"), as in force from time to time, or any instrument made to replace it (as in force from time to time) applies to all fixed (including PMPS) licences. Part 10 of this determination sets out conditions that apply to all PMPS licences in the 3400-3475 MHz and 3950-4000 MHz bands. Prospective PMPS licensees should familiarise themselves with these conditions. A brief description of some of these conditions (and associated section in the Fixed Licence LCD 2025 follows):

- Section 33: PMPS licences authorise the operation of transmitters within an area defined on the licence. In this case the area is defined by a combination of both the following:
  - a radius of 100m from the location recorded on the licence; and
  - the confines of a controlled premises[6].
- Section 35 An in-band power spectral density (PSD) limit of 17 dBm/MHz equivalent isotropically radiated power (EIRP) applies to all transmitters.
- Section 36: Limits on unwanted emissions are defined for all transmitters. These are based on limits defined for 5G equipment in 3GPP[7] Technical Specifications 38.101-1 and 38.104. This includes limits on the EIRP of unwanted emissions of base stations and supplementary base stations within the 4200-4400 MHz as detailed in Section 42.
- Section 38: Radiocommunications devices operated under a PMPS licence operate on a 'no interference and no protection' basis with respect to other radiocommunications devices operated under other PMPS licences. While there are technical arrangements in place to reduce the likelihood of interference (i.e. an in-band PSD limit, unwanted emissions limits and synchronisation requirements), these do not remove the risk of interference in all circumstances. It is the responsibility of PMPS licensees to work with each other to manage interference if and when it occurs. This is irrespective of who deployed services first-in-time. To the extent possible, prospective licensees should design their networks to minimise the risk of causing and receiving unacceptable levels of interference. Further guidance on this issue is provided at Appendix C.
- PMPS licensees are required to synchronise their time-division duplex frame structures with area-wide transmitter licences (AWL Tx), 3.4 GHz band spectrum licences and other PMPS licences. Licensees should ensure any equipment deployed can implement the required frame structures and timing defined, if and when required. Prospective licensees should refer to Part 10 of the Fixed Licence LCD 2025 for full details. For convenience, a summary of the synchronisation requirements that apply follows:
  - Section 40 - 3400-3475 MHz frequency range: PMPS licensees are required to synchronise the operation of their services with the adjacent area 3.4 GHz band spectrum licence services. It is incumbent on PMPS licensees to adopt the frame structure that the adjacent area

[6] This requirement is provided in section 41 of Part 10 of the Fixed Licence LCD 2025

[7] Technical standards developed by the 3rd Generation Partnership Project (3GPP) are available free of charge from the website www.3GPP.org

spectrum licensee is using. In the event the spectrum licensee changes frame structures (e.g. to support a migration from 4G to 5G), PMPS licensees will be required to follow suit. 3.4 GHz band spectrum licensees have committed to provide the ACMA with a minimum 3 months notification of any planned change. The ACMA will then notify PMPS licensees and accredited persons of the planned change. This is intended to provide time for licensees to implement any changes required.

  - Section 39 – 3950-4000 MHz frequency range: The same fallback synchronisation requirement as specified for AWLs in the 3.4-4.0 GHz applies. This means that, in the event of interference, where there is no agreed method on how to resolve it, PMPS licensees will need to synchronise their services with other PMPS licences or AWLs.

- Section 41: Base stations and supplementary base stations in the 3400-3475 MHz band may only be deployed indoors[8]. However, remote stations and remote mobile stations may operate outdoors. Both indoor and outdoor operation is supported in the 3950-4000 MHz band.

  Radiocommunications devices operating under a PMPS licence in the 3400-3475 MHz band operate on a 'no interference and no protection' basis with respect to radiocommunications devices operated under a 3.4 GHz band spectrum licence. In order to manage interference, PMPS licensees are required to either modify or cease operation of radiocommunications devices to rectify the issue.

- Section 9: Operation of radiocommunications transmitters under a PMPS licence within the spectrum space of a spectrum licence is prohibited.

Prospective licensees should familiarise themselves with the relevant conditions that apply to PMPS licences. This includes those defined in Part 10 of the Fixed Licence LCD 2025.

[8] Indoor means a space that is: (a) enclosed by permanent walls on all sides, a permanent roof and a permanent floor; and (b) permanently fixed to a location.

3 Frequency coordination procedures

3.1 Interference scenarios

This RALI sets out coordination procedures for proposed PMPS licences with other licensed services detailed in Table 1. The same coordination procedures can be used when coordinating proposed new services of the type listed in the Table below with existing PMPS licences.

The remaining sections in this chapter detail operational requirements and general information/criteria to use when coordinating PMPS with other services.

Table 1 Summary of services to consider when coordinating proposed new PMPS licences

Service/Scenario	Section containing coordination procedures
Remote, remote mobile and supplementary base stations	3.2
Other PMPS licences	3.3
Point-to-point links (PTP) (3590-4200 MHz)	3.4
Amateur services (3300-3600 MHz)	3.5
Earth station protection zones (ESPZs) (3400-4200 MHz)	3.6
Fixed satellite services (3400-4200 MHz)	3.7
Radiolocation services (3100-3500 MHz)	3.8
Area-wide transmitter licences (AWL Tx) (3400-4000 MHz)	3.9
Spectrum licences (3400-3800 MHz)	3.10
PMP licences (3400-4000 MHz)	3.11

For the purposes of this RALI:

- Unless otherwise stated, direct coordination both to and from PMPS base stations is conducted using the location proposed to be recorded on the licence.
- Technical parameters of individual HL WBB stations are not required to be recorded on the Register of Radiocommunications Licences (RRL). However, notional values for the transmitter power, antenna gain and EIRP are to be included on PMPS licences as these are required for coordination with other licenced services. Base stations operating under the PMPS licence must operate at or below the notional parameters on the licence.
- Coordination is not required between apparatus licences held by the same licensee.
- For indoor PMPS deployments, a standard 14 dB building penetration loss (BPL) can be incorporated when calculating propagation losses. Where

real-world BPL information is available, a higher BPL can be considered via an out-of-policy request to the ACMA. Any request should include information on how the BPL was determined.

- *Cull frequency* means the frequency range for which coordination of a proposed new service with an existing service needs to be considered. It is expressed as either:
  - A defined frequency range; or
  - The frequency separation between an existing and proposed new licence, where the frequency separation is measured between the two closest frequency limits (lower or upper frequency limit) of an existing and proposed new licensed service.
- *Cull distance* means the maximum separation distance between an existing and proposed new licence within which coordination is required. It generally refers to the separation distance between the location to be recorded on the RRL for the proposed PMPS licence and the location of the licensed transmitter/receiver being coordinated with. For AWL Tx, AWL receive only (AWL Rx) and spectrum licences it refers to the distance from the geographical boundary of those licences.
- The *Fixed Licence LCD 2025* means the *Radiocommunications Licence Conditions Determination (Fixed Licence) Determination 2025*, as in force from time to time, or any instrument made to replace it (as in force from time to time).
- *RAG Tx* means the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters — 3.4 GHz Band) 2015*, as in force from time to time, or any instrument made under section 262 of the *Radiocommunications Act 1992* to replace it (as in force from time to time).
- *RAG Rx* means *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers — 3.4 GHz Band) 2015*, as in force from time to time, or any instrument made under section 262 of the *Radiocommunications Act 1992* to replace it (as in force from time to time).
- *ULOI Determination* means the *Radiocommunications (Unacceptable Levels of Interference - 3.4 GHz Band) Determination 2015* as in force from time to time, or any instrument made under section 145(4) of the *Radiocommunications Act 1992* to replace it (as in force from time to time).

3.2 Remote, remote mobile and supplementary base stations

The Fixed Licence LCD 2025 authorises the operation of remote, remote mobile[9] and supplementary stations under PMPS licences. The location of remote stations and supplementary base stations are not recorded on the licence or in the RRL. For this reason, the Fixed Licence LCD 2025 provides that remote stations, remote mobile stations and supplemental base stations must not cause interference to another radiocommunications service.

[9] In the context of a PMPS licence a remote and remote mobile station includes user terminals and other devices that communicate with a base station or supplementary base station.

3.3 PMPS

No coordination procedures are defined between PMPS licences. However, as detailed in section 2.2, Part 10 of the Fixed Licence LCD 2025 places various conditions on the operation of devices under a PMPS licence. This includes, but is not limited to, synchronisation requirements (with defined frame structures), an in-band PSD limit and unwanted emissions limits. Furthermore, devices operated under a PMPS licence operate on a 'no interference and no protection' basis with respect to devices operated under other PMPS licences. For further guidance on how to manage interference with other PMPS licences refer to Appendix C.

3.4 PTP (3590-4200 MHz)

3.4.1 PMPS Tx → PTP Rx

- Cull frequency: Second adjacent channel. The channel size is based on the larger of the (licensed/proposed) bandwidths of the two services being coordinated.
- Cull distance: 65 km
- Minimum separation distance: 2 km
- Protection criteria is contained in RALI FX3 *Microwave Fixed Services Frequency Coordination*.

3.4.2 PTP Tx → PMPS Rx

- Cull frequency: First adjacent channel. The channel size is based on the larger of the (licensed/proposed) bandwidths of the two services being coordinated.
- Cull distance: 60 km
- Minimum separation distance: 2 km
- Protection criteria are set out in Tables 2 and 3.

Table 2 Protection criteria for PMPS with bandwidths < 20 MHz

Frequency offset from licence edge	Protection criteria (at the input of the receiver)
Co-channel	–110 dBm/MHz
< 5 MHz	–47 dBm/5 MHz
≥ 5 MHz	–38 dBm/5 MHz

Table 3 Protection criteria for PMPS with bandwidths ≥ 20 MHz

Frequency offset from licence edge	Protection criteria (at the input of the receiver)
Co-channel	–110 dBm/MHz
< 20 MHz	–47 dBm/20 MHz
≥ 20 MHz	–38 dBm/20 MHz

3.5 Amateur service (3300-3400 MHz)

The *Australian Radiofrequency Spectrum Plan* allocates the 3300–3600 MHz frequency range to the Amateur service on a secondary basis. This means that incumbent Amateur services must not cause interference to a primary service and cannot claim protection from interference from a primary service. PMPS licences are considered a primary service.

Coordination is, however, required between PMPS and Amateur Beacons and Repeaters to assess the potential for interference to and from these services.

In the event that coordination indicates that interference may occur, it is recommended that the prospective PMPS licensee notify[10] and make reasonable efforts to work with the affected Amateur licensee(s) to enable coexistence and prevent harmful interference from occurring. However, in the event there is no practical solution, services operated under a PMPS licence have priority.

Proposed new PMPS licences are not required to be coordinated with class-licensed Amateur services. Operation of class or apparatus licenced Amateur services in metro and regional Australia is not authorised in the 3400-3600 MHz frequency range.

3.5.1 PMPS Tx → Amateur Rx

- Cull frequency: 40 MHz
- Cull distance: 1 km
- Assume Amateur beacon or repeater receivers have the notional receiver performance levels and compatibility requirement set out in Schedules 1 and 2 to the RAG Rx. Alternatively, if more reliable or accurate parameters for the amateur system are known, then these can be used for coordination purposes.

3.5.2 Amateur Tx → PMPS Rx

- Cull frequency: 40 MHz
- Cull distance: 2 km
- The same protection criteria used for PTP Tx → PMPS Rx applies in this case.

3.6 ESPZs (3400-4200 MHz)

PMPS licences are restricted from being issued within an ESPZ defined in RALI MS44 *Frequency coordination procedures for the earth station protection zones*.

[10] Refer to Appendix B for details of the notification requirements.

Proposed PMPS licences within 50 km of a coordination point defined in Appendix A of RALI MS44 must follow the coordination criteria set out in that RALI.

3.7 Fixed satellite services (3400-4200 MHz)

3.7.1 3400-3600 MHz band

As detailed in the *Australian Radiofrequency Spectrum Plan*, the fixed satellite service (FSS) operates on a secondary basis in the 3400-3600 MHz band. The same procedures for coordination with earth receive licences in the 3600-4200 MHz band apply to this band. However, in this case the 'Cull frequency' is set to 3400-3600 MHz.

In the event coordination indicates that interference into an FSS earth station may occur, prospective PMPS licensees must notify[11] and make reasonable efforts to work with the affected earth receive licensee(s) to enable coexistence. If there is no practical solution, services operated under a PMPS licence have priority.

3.7.2 3600-4200 MHz band

Earth receive licences

- Cull frequency: all earth receive licences in the 3600-4200 MHz frequency range
- Cull distance:
  - Co-channel: 60 km
  - Adjacent channel:
    - PMPS in 3400-3475 MHz → 2 km
    - PMPS in 3950-4000 MHz → 5 km
- Protection requirements are contained in Parts 4.3 and 4.4 of the RAG Tx. For the purposes of compliance with the RAG Tx, the PMPS transmitter should be considered as a radiocommunications transmitter operating under a spectrum licence in the 3.4 GHz band.
- Minimum separation distance:
  - channel edge frequency separations < 5 MHz: 350m
  - channel edge frequency separations ≥ 5 MHz: 220m

AWL receive only (AWL Rx)

- PMPS licences cannot be issued within the spectrum space of an AWL Rx unless agreed by the AWL licensee(s).
- Cull frequency: all AWL Rx frequencies within the 3750-4000 MHz frequency range
- Cull distance: 60 km from the geographical boundary of an AWL Rx licence area (co-channel only considered)
- Protection requirements for AWL Rx:
  - Co-channel: Transmitters operating under a PMPS licences are required to meet the device boundary criterion detailed in the ULOI at the boundary of an AWL Rx. Transmitters operating under a PMPS

[11] Refer to Appendix B for details on the notification requirements

licence will not be considered to cause interference into receivers operating under an AWL Rx if they meet this device boundary criterion.
    - Adjacent channel: Coordination is only required with receivers that have their details recorded on the licence. Protection requirements are contained in Part 4.5 of the RAG Tx. For the purposes of compliance with the RAG Tx, the PMPS transmitter should be considered as a radiocommunications transmitter operating under a spectrum licence in the 3.4 GHz band.
- Minimum separation distance from earth receive stations recorded on the licence:
    - channel edge frequency separations < 5 MHz: 350m
    - channel edge frequency separations ≥ 5 MHz: 220m

Additional notes

A licence (PMPS, AWL Rx or earth receive licence) would not normally be issued for services that fall within the minimum separation distance, without further consideration by the ACMA. For proposed PMPS licences, this would involve an applicant providing a detailed assessment of inference for out-of-policy consideration. For proposed FSS ES licences, it could involve a more detailed assessment of interference or agreement to not operate on a "no protection" basis from specified PMPS licences.

3.8 Radiolocation services (3100-3500 MHz)

High power radiolocation services are operated by the Department of Defence in the 3100-3500 MHz band on an itinerant basis. These radiolocation services have the potential to disrupt the throughput of receivers operating in-band or adjacent band to radiolocation services, particularly on the uplink channel (base station receiver).

The Department of Defence is expected to take all reasonable measures to minimise the impact of radiolocation services to other in-band and adjacent band services. However, there will be occasions when interference cannot be fully mitigated.

When planning service deployments, PMPS licensees are urged to consider additional measures to reduce the likelihood of impact to services operating under their licence. If such measures are necessary, it is likely that they would only apply in specific areas that are subject to regular Defence operations. Additional measures may be in the form of additional RF filtering, network redundancy, or resilience of network configuration where vulnerabilities to radar signal interference are identified. The ACMA will work with Defence to make available, where feasible, any additional information that may assist existing or prospective PMPS licensees on this matter.

3.9 AWL Tx (3400-4000 MHz)

- PMPS licences cannot be issued within the spectrum space of an AWL Tx unless agreed by the AWL licensee(s).
- Cull frequency: all AWL Tx in the 3950-4000 MHz frequency range
- Cull distance: 60 km from the geographical boundary of an AWL Tx (co-channel only considered)

- Protection requirements for AWL Tx:
  - Co-channel: Unless there is an active agreement in place with the affected AWL Tx licensee(s), transmitters operating under a PMPS licences are required to meet the device boundary criterion detailed in the ULOI at the boundary of an AWL Tx. For the purposes of compliance with the ULOI, the PMPS transmitter should be considered as a radiocommunications transmitter operating under a spectrum licence in the 3.4 GHz band. Furthermore, the device boundary definition of 3.4 GHz band is taken to include the 3950-4000 MHz frequency range.
  - Adjacent channel: No coordination criteria defined.

In addition to the protection criteria set out in this section, PMPS licences are subject to the same synchronisation condition as AWL Tx in the 3400-4000 MHz band, which is contained in Part 10 of the Fixed Licence LCD 2025. Licensees only need synchronise to their services with other PMPS or AWL Tx licensees when interference occurs and there are no alternative agreed measures to manage it.

3.10 Spectrum licences (3400-3800 MHz)

- Cull frequency: requirements in this section apply to all proposed PMPS licences in the 3400-3475 MHz band.
- Protection requirements for spectrum licences are:
  - Co-channel: Unless there is an active agreement in place with the adjacent area spectrum licensee, proposed PMPS licences must not exceed a power flux density (PFD) limit of -99.9 dBm/MHz/m^2 at the boundary of urban areas at a height of 10 metres above ground level. Urban areas are defined as the outer extents of the Adelaide, Brisbane, Canberra, Melbourne, Sydney and Perth areas defined at Appendix A.
  - Adjacent channel: PMPS licence will generally not be issued within the 3460-3475 MHz frequency range unless there is agreement with the adjacent frequency spectrum licensee. Any licence issued in the 3460-3475 MHz frequency range must have advisory note MS50B attached to it (refer to section 4.3).

In addition to the protection requirements described above, Part 10 of the Fixed Licence LCD 2025 applies the following to PMPS licences in the 3400-3475 MHz band:

- PMPS licensees are required to synchronise the operation of their service with the adjacent area 3.4 GHz band spectrum licensee (refer also to section 3.3 for an overview of this requirement).
- PMPS devices must not cause harmful interference to radiocommunications devices operated under a 3.4 GHz band spectrum licence. In addition to this, PMPS devices are not afforded protection from interference caused by radiocommunications devices operated under a 3.4 GHz band spectrum licence.

3.11 PMP (3400-4000 MHz)

3.11.1 PMP Tx → PMPS Rx

> The same criteria as defined for PTP Tx → PMPS Rx applies, with the exception that the minimum co-channel and adjacent channel separation distances are 15 km and 2 km respectively.

3.11.2 PMPS Tx → PMP Rx

> No criteria are defined for this situation. Assessing the PMP Tx → PMPS Rx case is considered sufficient.

3.12 Site engineering considerations

At shared sites, or sites in close proximity to one another, a number of potential interference mechanisms not covered by coordination procedures in this RALI may occur. These include: intermodulation; transient and spurious emissions; receiver desensitisation; and blocking. These mechanisms are caused by non-linear and often complex processes that cannot usually be readily predicted based on information contained in the ACMA's RRL. Nevertheless, a number of "site engineering" methods can be applied to mitigate these potential interference scenarios. These include, but are not limited to, RF filtering, site shielding, frequency separation, site location and power reduction, which in some cases might require co-operation and co-ordination between licensees.

4 Licensing

4.1 Licence conditions

The operation of radiocommunications devices under a PMPS licence are subject to:

- conditions specified in the *Radiocommunications Act 1992* (the Act), including an obligation to comply with the Act;
- conditions specified in the *Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015* as in force from time to time, or any instrument made to replace it;
- the Fixed Licence LCD 2025, as in force from time to time, or any instrument made to replace it;
- Any other determinations made by the ACMA under section 110A of the Act;
- conditions specified in the licence; and
- any further conditions imposed by the ACMA under section 111 of the Act.

Prospective licensees should familiarise themselves with the relevant conditions that apply to PMPS licences. This includes those defined in Part 10 of the Fixed Licence LCD 2025.

4.2 Special conditions

Conditions of operation that apply to an individual licence will be printed on the licence under the heading 'Special Conditions'. Generally, the application of special conditions by the ACMA will be considered on a case-by-case basis.

4.3 Advisory notes

4.4.1 Mandatory advisory notes

The following advisory notes must be applied to all PMPS licences:

Advisory note FX: radiolocation services

Allocations exist in the Australian Radiofrequency Spectrum Plan for the Radiolocation service in the 3100–3300 MHz and the 3300–3600 MHz bands on a primary or co-primary basis under the AUS 1 and AUS11 footnotes respectively. The licensee is advised that the operation of Radiolocation devices by the Department of Defence in these bands may result in interference to receivers which may reduce system performance.

Advisory note MS50A: Renewal

In deciding whether to renew this licence:

1) *the ACMA will have regard to whether and how the spectrum has been used during the term of the licence, and if there is demand for alternative use in the band; and*
2) *the ACMA may request information from the licensee on the use of the licence during the licence term, and any future deployment plans.*

The following advisory note must be applied to all PMPS licences in the 3400-3475 MHz band:

Advisory note MS50B: operation on a no interference and no protection basis

Radiocommunications devices operated under this licence must not cause harmful interference to, and are not afforded protection from, radiocommunications devices operated under a spectrum licence in the 3400-3800 MHz frequency range or another fixed licence (point-to-multipoint system).

4.4.2 Location-based advisory notes

Advisory note FY must be attached to all PMPS inside and within 100 km of the Woomera Prohibited Area described in embargo 52:

Advisory note FY: operation near Woomera Prohibited Area

Defence may transmit on this frequency from time-to-time within the Woomera Prohibited Area. These activities may result in interference that may reduce system performance.

5 Exceptions

Exceptions to the requirements of this RALI for prospective assignments require case-by-case consideration by the Manager, Spectrum Planning Section.

A request for exemption from the requirements of this RALI would need to be accompanied by evidence to support the request.

All requests for exemptions should be submitted to freqplan@acma.gov.au.

6 RALI Authorisation

Approved 29/09/2025

Manager
Spectrum Planning Section
Spectrum Planning and Engineering Branch

Communications Infrastructure Division
Australian Communications and Media Authority

Appendix A: Spectrum space identified for PMPS licensing

The geographical areas identified for PMPS licensing in the 3400-3475 MHz and 3950-4000 MHz frequency ranges are detailed in the table below.

The Australian Spectrum Map Grid (ASMG) is used to define the geographical areas. The Hierarchical Cell Identification Scheme (HCIS) is a naming convention developed by the ACMA that applies unique 'names' to each of the cells that make up the ASMG. The ASMG and HCIS are described in detail in the document *The Australian spectrum map grid 2012*. The HCIS coordinates can be converted into a Placemark file (viewable in Google Earth) through a facility on the *Convert HCIS area description to Placemark* facility on the ACMA website.

Table 4 Spectrum space identified for PMPS licensing

Frequency range	Area name	HCIS
3400-3475 MHz	Adelaide	IW3N, IW3O4, IW3O5, IW3O7, IW3O8, IW6B1, IW6B2, IW6B3, IW6B5, IW6B6
	Brisbane	NT9B, NT9C, NT9D, NT9E, NT9F, NT9G, NT9H, NT9K, NT9L, NT8H3, NT8L2, NT8L3, NT8L5, NT8L6, NT8L8, NT8L9, NT9A6, NT9A7, NT9A8, NT9A9, NT9I1, NT9I2, NT9I3, NT9I4, NT9I5, NT9I6, NT9J1, NT9J2, NT9J3, NT9J4, NT9J5, NT9J6, NT9J9, NT9N5, NT9N6, NT9N8, NT9N9, NT9O4, NT9O7, NU3B2, NU3B3, NU3C1, NU3C4
	Canberra	MW4D, MW4H, MW5A, MW5B, MW5E, MW5F, MW2M5, MW2M6, MW2M7, MW2M8, MW2M9, MW2N4, MW2N5, MW2N7, MW2N8, MW2N9, MW4L1, MW4L2, MW4L3, MW4L5, MW4L6, MW5I1, MW5I2, MW5I3, MW5I4, MW5I5, MW5I6, MW5J1, MW5J2, MW5J4, MW5J5
	Melbourne	KX3P, KX3L6, KX3L7, KX3L8, KX3L9, KX6D1, KX6D2, KX6D3, KX6D5, KX6D6, LX1M, LX1I7, LX1N4, LX4A1, LX4A2, LX4A3, LX4A4, LX4A5, LX4B1
	Perth	BV1M, BV1N, BV1O, BV4A, BV4B, BV4C, BV1L5, BV1L8, BV1P1, BV1P2, BV1P4, BV1P5, BV1P7, BV1P8, BV4D1, BV4D2, BV4E1, BV4E2, BV4E3, BV4F1, BV4F2, BV4F3, BV4G1, BV4G2, BV1P9, BV4D3, BV4D4, BV4G3
	Sydney	NV7G, NV7H, NV7J, NV7K, NV7L, NV7M, NV7N, NV7O, NV7P, NW1A, NW1B, NW1C, NW1D, NW1E, NW1F, NW1G, NW1H, MV9P2, MV9P3, MV9P5, MV9P6, MV9P7, MV9P8, MV9P9, MW3D1, MW3D2, MW3D3, MW3D5, MW3D6, MW3D8, MW3D9, MW3H2, MW3H3, MW3H5, MW3H6, MW3H9, MW3L2, MW3L3, NV4O7, NV4O8, NV4O9, NV4P7, NV7F6, NV7F8, NV7F9, NV7I6, NV7I8, NV7I9, NW1I1, NW1I2, NW1I3, NW1J1, NW1J2, NW1J3, NW1K1, NW1K2, NW1K3, NW1L1, NW1L2, NW1L3

3950-4000 MHz	Metro and regional Australia	BV, CV, DV, IV, IW, JV, JW, KQ, KV, KW, LR, LV, LW, LX, LY, MS, MW, NT, AU9, AV9, AW3, BU7, BU8, BW1, BW2, BW3, BW5, BW6, CW1, CW2, CW3, CW4, DW1, DW2, DW3, EV1, EV2, EV3, EV4, EV5, EV6, EV7, FV1, FV2, FV3, FV4, FV5, GV1, GV2, GV3, GV6, HV1, HV2, HV3, HV4, HV5, HV6, HV8, HV9, HW3, HW6, JX1, JX2, JX3, JX5, JX6, KO1, KO4, KO5, KO7, KO8, KP1, KP2, KP4, KP5, KP6, KP7, KP8, KP9, KX1, KX2, KX3, KX4, KX5, KX6, KX8, KX9, KY2, KY3, KY6, LP4, LP7, LQ1, LQ2, LQ4, LQ5, LQ7, LQ8, LZ1, LZ2, LZ3, MR1, MR4, MR5, MR7, MR8, MR9, MT1, MT2, MT3, MT6, MT7, MT8, MT9, MU1, MU2, MU3, MU4, MU7, MU8, MU9, MV1, MV2, MV4, MV5, MV6, MV7, MV8, MV9, MX1, MX2, MX3, MX4, MX7, MY1, MY4, MY7, MZ1, NS4, NS7, NS8, NS9, NU1, NU2, NU3, NU4, NU5, NU6, NU8, NU9, NV1, NV2, NV3, NV4, NV5, NV7, NW1, AU6I, AU6J, AU6K, AU6L, AU6M, AU6N, AU6O, AU6P, BU4H, BU4I, BU4J, BU4K, BU4L, BU4M, BU4N, BU4O, BU4P, BU5E, BU5F, BU5G, BU5H, BU5I, BU5J, BU5K, BU5L, BU5M, BU5N, BU5O, BU5P, BU9A, BU9B, BU9E, BU9F, BU9I, BU9J, BU9M, BU9N, MT4A, MT4B, MT4C, MT4D, MT4E, MT4I, MT4M, MT4N, MT5A, MT5B, MT5C, MT5D, MT5F, MT5G, MT5H, MT5J, MT5K, MT5L, MT5N, MT5O, MT5P, MU5A, MU5B, MU5E, MU5F, MU5I, MU5J, MU5M, MU5N, MU5O, MU5P, MU6B, MU6C, MU6D, MU6F, MU6G, MU6H, MU6J, MU6K, MU6L, MU6M, MU6N, MU6O, MU6P, MV3A, MV3B, MV3E, MV3I, MV3M, MV3N, NU7A, NU7B, NU7C, NU7D, NU7E, NU7F, NU7G, NU7H, NU7I, NU7J, NU7L, NU7M, NU7N, NU7O, NU7P, MT4F1, MT4F2, MT4F3, MT4F4, MT4F5, MT4F6, MT4F7, MT4F8, MT4G1, MT4J1, MT4J2, MT4J4, MT4J5, MT4J7, MT4J8, MT4J9, MT4O4, MT4O5, MT4O7, MT4O8, MT4O9, MT4P6, MT4P7, MT4P8, MT4P9, MT5E1, MT5E2, MT5E3, MT5E5, MT5E6, MT5E8, MT5E9, MT5I3, MT5I6, MT5I8, MT5I9, MT5M2, MT5M3, MT5M4, MT5M5, MT5M6, MT5M7, MT5M8, MT5M9, MU5C1, MU5C2, MU5C3, MU5C4, MU5C5, MU5C6, MU5C7, MU5D1, MU5D2, MU5D3, MU5D4, MU5D5, MU5D6, MU5K7, MU6A1, MU6A2, MU6A3, MU6A4, MU6A5, MU6A6, MU6A8, MU6A9, MU6E3, MU6E6, MU6E9, MU6I3, MU6I6, MU6I8, MU6I9, MV3C1, MV3C2, MV3C3, MV3C4, MV3C5, MV3C6, MV3C7, MV3D1, MV3D2, MV3D3, MV3D4, MV3D5, MV3D6, MV3D8, MV3D9, MV3F1, MV3F2, MV3F4, MV3F7, MV3J1, MV3J4, MV3J7, MV3J8, MV3O4, MV3O5, MV3O6, MV3O7, MV3O8,

Frequency range	Area name	HCIS
		MV3O9, MV3P2, MV3P3, MV3P4, MV3P5, MV3P6, MV3P7, MV3P8, MV3P9, NU7K1, NU7K2, NU7K3, NU7K5, NU7K6, NU7K7, NU7K8, NU7K9

Note: The HCIS coordinates can be converted into a Placemark file (viewable in Google Earth) through a facility on the ACMA website.

Appendix B: Notification requirement

When notifying licensees, the following information (as a minimum) must be provided:

- The reason the licensee is being notified, for example:

  In accordance with section [section number] of RALI MS 50, [the licensee] is being notified of a proposed new area-wide licensed service that will be operated within [X] MHz of [one/a number] of your existing licensed point to multipoint services.

- Information identifying the affected licensed service or services (e.g., licence number, site ID)
- Details of the proposed area-wide licensed service required for the coordination of services (e.g., location, transmitter characteristics, receiver characteristics etc); and
- Contact details

Appendix C: Guidance on managing interference between PMPS licensees

Operation on a NINP basis with other PMPS licences

Arrangements for point-to-multipoint system (PMPS) licences have been implemented in the 3400-3475 MHz and 3950-4000 MHz frequency ranges in defined urban areas and metro/regional areas, respectively (refer to Appendix A of RALI MS50 for their definitions). There is a maximum 125 MHz of spectrum available in defined urban areas and 50 MHz in the remaining areas.

As stated in Part 10 of the *Radiocommunications Licence Conditions (Fixed Licence) Determination 2025* (the Fixed Licence LCD 2025), PMPS licences in these frequency ranges operate on a 'no interference and no protection' (NINP) basis with respect to each other. This means that, in the event of interference, it is the responsibility of PMPS licensees to work together to resolve the issue – irrespective of who deployed services first. The ACMA would generally only get involved if a licensee is not operating in accordance with the conditions of their licence.

To assist in the management of interference, if it occurs, possible options for licensees to consider are provided in this document.

Why has a NINP approach been implemented?

The arrangements for PMPS licensing in the 3400-3475 MHz and 3950-4000 MHz frequency ranges are intended to support highly localised enterprise applications and networks, including services at warehouses, factories, airports, ports, transport hubs, hospitals, schools and smart buildings. We expect that the licensing arrangements will enable the use of new technologies to support internet of things applications, intelligent transport systems, smart cities, smart utility applications and other Industry 4.0[12] opportunities.

The low power nature and small coverage area of PMPS licences means the risk of interference with other PMPS licences is generally low. Recognising this and that available spectrum is limited, the ACMA has implemented arrangements to simplify and improve access to this spectrum by multiple prospective businesses and operators.

Implementing a NINP approach avoids the need for time and resource-intensive allocation process such as application windows or market-based mechanisms (e.g. auctions) to allocate licences – especially during the initial release of spectrum. Instead, prospective licensees are able to apply for licences via the ACMA's standard, and much simpler, over-the-counter licence application process.

The NINP approach also reduces the risk of businesses being prevented from accessing spectrum by not acting fast enough to obtain licences. This is important as it

[12] Industry 4.0 or the fourth industrial revolution refers to the transformation of how businesses operate by connecting the physical with the digital world. Artificial intelligence, advanced automation and robotics are examples of Industry 4.0 technologies.

may take time for some businesses to understand the benefits and to develop business cases to invest in wireless broadband networks.

Measures to consider in the management of interference

Various restrictions are prescribed to reduce the risk of interference between PMPS licences, as specified in Part 10 of the Fixed Licence LCD 2025. These include a low in-band power limit, unwanted emission limits and synchronisation requirements with other PMPS licences. However, even with these measures, interference may still occur.

The highest risk scenario for which interference might occur is when PMPS services are deployed in the same or nearby location. In most cases, there will likely only be one entity at each controlled premises seeking access to or providing services. However, in the event two or more entities wish to deploy services in close proximity to one another, then PMPS licensees may need to either design their systems to minimise the risk of interference and/or implement additional measures to manage interference.

One option to avoid interference could be to deploy a single network solution for all entities involved. Other possible measures when deploying separate networks, could include lowering transmitter power, increasing antenna down tilt, lowering antenna height, considering what antenna system to deploy (directional, non-directional, distributed antenna system etc), considering the direction any antennas are pointing, locating base stations to take advantage of shielding from clutter such as buildings or walls, or segmenting access to the spectrum (for example, one operator could deploy in 3400-3475 MHz and another in 3950-4000 MHz).

If a licensee does not have a network deployed or has no plans to deploy (including if they do not have authority to deploy at within the service area of their licence), there is no need to manage interference with them.

We recommend that before applying for a licence, prospective licensees identify existing nearby PMPS licensees for whom further consideration of, or possible negotiations with, might be required. This could be achieved by:

- checking if proposed service area(s) overlap in any way and
- applying the coordination criteria defined for point-to-point links in section 3.4 of RALI MS50.